

## Contents

<b><i>CIMdata News</i></b> .....	<b>3</b>
ShareASpace: Leveraging Technology Pillars: Eurostep’s Collaboration Solution.....	3
Razorleaf: Making Complex Digital Transformations Work.....	4
Siemens Teamcenter Service Lifecycle Management: The foundation of a modern SLM solution.....	8
Getting and Staying Current on 3DEXPERIENCE: The SteepGraph Approach .....	12
<b><i>Acquisitions</i></b> .....	<b>16</b>
Accenture Announces Intent to Acquire BENEXT, Independent French Product Management Consulting Company .....	16
Lectra announces the acquisition of Gemini CAD Systems .....	17
<b><i>Company News</i></b> .....	<b>18</b>
Dr. Brent Stucker Joins 3D Systems’ Leadership Team as Chief Scientist .....	18
AVEVA Unified Learning Transforms Organizational Performance with Integrated SaaS Solution Available Anywhere, Anytime and On Any Device .....	19
AVEVA and Aramco Plan to Partner to Realize Key Sustainability Goals through Digitalization .....	20
Canvas GFX and Aras partner to deliver integration of Aras Innovator and Canvas Envision.....	21
DATADVANCE Joins Aras Partner Program .....	21
French Construction and Civil Engineering School ESTP Paris Partners with Dassault Systèmes to Advance Student Skills and the Future of Construction.....	22
ESI Group continues evolving its Board of Directors.....	23
Mitsubishi Electric partners with ModuleWorks on Machine Simulation.....	24
NEC Expands its Collaboration with AWS in Areas Including Global 5G and Digital Government .....	24
Oracle Offers Free Training and Certification for Oracle Cloud Infrastructure .....	25
TCS Positioned as a Leader in Life Sciences Operations Services by Everest Group .....	26
Tukatech Expands Digital Fabric Library for 3D with FABFAD.....	27
Wipro collaborates with Securonix to deliver managed security services - Express Computer .....	28
Wipro: AI Solutions Wins The Hackett Group's 2021 Digital Award for AI-led HR Automation .....	29
<b><i>Event News</i></b> .....	<b>30</b>
CGTech Highlights VERICUT 9.2 Simulation, Composites, and Additive Capabilities at CAMX.....	30
CONTACT Cloud Connect 2021 - The online event of the year for digital sovereignty and future-proof business .....	31
DXC Technology to Participate in Citi’s 2021 Global Technology Conference.....	32
PROS to Participate at the Jefferies Virtual Software Conference On September 15, 2021 .....	32
<b><i>Financial News</i></b> .....	<b>32</b>
Accenture to Host Conference Call Thursday, Sept. 23, to Discuss Fourth-Quarter and Fiscal Year 2021 Results .....	32
aPriori Raises \$30 Million Series D Investment to Further Capitalize on Strong Demand for Digital Manufacturing Solutions .....	33
<b><i>Implementation Investments</i></b> .....	<b>34</b>
Atlanta Public Schools Selects Infor .....	34
Atkins And Siemens To Support Aeralis In Implementation Of Its Digital Enterprise To Deliver Game-Changing Modular Aircraft.....	34
Flower distributor picks Infor CloudSuite Distribution to seamlessly manage seasonal peaks of many thousands of orders an hour.....	36

# CIMdata PLM Industry Summary

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German Premium Automobile Manufacturer Deploys Dassault Systèmes' Solution for Production Planning and Scheduling at E-Drive Production Sites in Europe .....	36
Howler Brothers Ride the Technology Wave to Efficiency with Centric PLM .....	37
LIM Group Selects Infor to Drive Digital Transformation .....	38
Shoppers Stop Selects Accenture to Help Advance Its Digital Commerce Transformation Journey .....	39
Tata Consultancy Services to Build a New Digital Core on Microsoft Azure, Helping the Airline Achieve Increased Agility and Operational Resilience, and Supporting Future Growth .....	41
TCS Signs 10-year Contract with Transport for London to Digitally Transform Taxi and Private Hire Vehicle Licensing Administration .....	42
<b>Product News .....</b>	<b>43</b>
3D Systems Advances Jewelry Design with Launch of VisiJet® Wax Jewel Red Material .....	43
Hexagon revolutionises autonomous reality capture with the launch of the Leica BLK ARC and Leica BLK2FLY .....	44
TCS' New MasterCraft™ DataPlus 3.0 Uses Machine Learning to Help Enterprises Further Strengthen Data Privacy .....	45

## CIMdata News

### ***ShareAspace: Leveraging Technology Pillars: Eurostep's Collaboration Solution***

9 September 2021

*Key takeaways:*

- *ShareAspace provides a fixed, consistent, and extendable data model based on the ISO PLCS<sup>1</sup> (Product Life Cycle Support) standard for all industrial companies.*
- *ShareAspace manages data from multiple sources over the product's lifecycle while ensuring that configurations are properly controlled yet easily consumed and reused.*
- *ShareAspace offers users a multi-faceted access interface with security levels that meet all relevant and complex security requirements.*

In today's competitive economy a critical aspect of business success for product manufacturing and operating companies is establishing and managing a productive supply chain. Companies face numerous challenges when collaborating with their supply partners. Difficulties often arise with disparate product data models and data formats. Companies struggle with controlling widely distributed product data in multiple repositories. Concerns over protecting intellectual property and in some cases ITAR<sup>2</sup> controls can force companies to spend non-productive hours monitoring data sharing. CIMdata views solving these challenges as critical to the success of products and the businesses that manufacture them.

#### ***ShareAspace***

Eurostep<sup>3</sup> has developed a solution, ShareAspace, that helps overcome these difficult challenges. By leveraging specific leading-edge technologies Eurostep has built ShareAspace on a number of core concepts (or technology pillars).

#### ***Data Model***

Defining the product's data model is a critical aspect of a product's development and operation. At its core ShareAspace uses the ISO PLCS information model for all customers without needing any customization. ISO 10303-239 (PLCS) is an international data standard that identifies the information necessary to define and support a product throughout its lifecycle. PLCS can represent product configurations, assemblies, and parts including product requirements and a historical record of the states of a product. PLCS can also contain management information, such as dates and approvals assigned to parts. This extensive, common core data model for all companies provides an important level of stability for the ShareAspace solution.

Because a company may not need the full richness of the PLCS data model, ShareAspace offers the "configuration" construct as a template atop the PLCS standard data model that represents each customer's specific part of the data model relevant to their domain—driving that user's database layer and ShareAspace APIs (application interface).

Within ShareAspace's software architecture at the configuration level the concept of "Soft Typing" provides a data layer for user company-specific data attributes. CIMdata welcomes this approach to customizing a data model without disrupting the core. In addition, it introduces a business domain

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<sup>1</sup> [http://docs.oasis-open.org/plcs/plcslib/v1.0/cs01/help/plcslib\\_overview\\_content.html](http://docs.oasis-open.org/plcs/plcslib/v1.0/cs01/help/plcslib_overview_content.html)

<sup>2</sup> ITAR—International Traffic in Arms Regulations.

<sup>3</sup> Research for this commentary was partially supported by Eurostep.

# CIMdata PLM Industry Summary

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language that is easy to use for domain experts as it hides the ISO standards vocabulary, something that sometimes comes across as too generic and hard to relate to for a given business.

## ***Consolidating Data Sets***

Manufacturing companies are painfully aware of the volume of data needed to design and produce a product, as well as the data generated to operate the product. Even in the best of circumstances, the same or related data is stored in different repositories and systems, including those across the supply and partner value chain. ShareAspace has the capability to consolidate datasets from different source systems and merge them in a controlled manner. ShareAspace consolidation copies the data into the hub. It is possible to link to source systems from ShareAspace to access additional information. CIMdata sees this capability as an important step toward building a Digital Twin of the product. The Digital Twins represented and embedded in ShareAspace are supporting different life cycle stages implying that the collaborative Digital Thread is also represented in ShareAspace.

## ***Security***

ShareAspace offers multiple secure ways to control what data an organization can access. This allows the manufacturing company to limit access to competing suppliers' information and to limit access to each company's intellectual property. These capabilities also act as a foundation for one of the prepackaged applications of ShareAspace—Export Control.

ShareAspace Export Control enables the sharing of data between product stakeholders subject to export control regulations, such as ITAR/EAR (Export Administration Regulations). This is of major importance in global value chains. It manages the data that needs to be controlled when exported and maintains records that are required by authorities.

Data covered by export control regulations requires a government issued license that defines who can see the data. ShareAspace has put in place additional controls so that only those entitled to see the data are granted access. Limitations are applied to ensure that specific data can only be extracted or copied in conformance with the relevant license. ShareAspace maintains an audit trail of all information that has been shared by whom and on what date.

## ***Architecture***

The ShareAspace software architecture is a layered stack built upon the platform of the ShareAspace core. A library of processes and constructs sits above the core. Atop that is the Extension Framework for any custom code need by an industry vertical or individual company. CIMdata sees this as a proper way to manage customizations ensuring smooth upgrades.

The ShareAspace solution is available to run in the cloud using Azure or on premise.

## ***Conclusion***

Supplier networks are critical to the success of product development and ongoing operation of the product. A collaboration solution must manage speed, agility, and at the same time quality. Eurostep's ShareAspace leverages pillars of technology to support an evolving network found in the supply chain with a standard data layer, distributed data resources, and ample security capabilities. CIMdata believes Eurostep's ShareAspace solution should be considered by any manufacturing or operation company with a global supply chain.

## ***Razorleaf: Making Complex Digital Transformations Work***

8 September 2021

# CIMdata PLM Industry Summary

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## **Key takeaways:**

- *Many factors are critical for digital transformations to deliver value, but a solid architecture implemented using a pragmatic approach helps ensure that solutions can evolve sustainably as technology, business processes, and products change over time.*
- *Managing the lifecycles of products as complex as a car or airplane, or as simple as an O-ring seal or consumer product, is always challenging, independent of organization size or industry, requiring consideration of many processes, functional areas, and related software solutions.*
- *Razorleaf, a vendor-agnostic consulting firm and systems integrator focused on PLM, has grown over the past 20 years to support a variety of PLM solutions and related applications. They've executed more than 5,000 projects at 1,500 industrial customers and U.S. government agencies and are leveraging the knowledge gained into practical applications that improve business performance.*
- *Razorleaf is large enough to support global projects with technology from Ansys, Aras Corporation, Dassault Systèmes, Infor, PTC, and Siemens Digital Industries Software, and is rapidly moving to offer packaged software solutions and managed services to help customers support their complex SaaS environments.*

## **Introduction**

Digital transformation is almost always a complex process and sometimes positioned as a lofty strategic concept. The goal is to successfully evolve an organization by ensuring the transformation concept has been implemented, adopted, and continuously improved. A big part of digital transformation is the integration of previously standalone information silos. Integrating the data from these siloes helps to build a digital thread to share data from one step in a process to the next step quickly, repeatably, and securely. The other important requirement for transformation is to be able to adapt the digital thread to changes. Those changes could be almost anything; product, process, business model, customer, industry, or regulatory requirements.<sup>4</sup>

In CIMdata's industrial PLM-related consulting engagements customer interest is growing in digital twin, model-based systems engineering (MBSE), mass customization, agile, test automation, and DevOps. These desired capabilities have two things in common: none are out-of-the-box (OOTB) solutions and they require multiple software solutions to work together. Enabling any of these capabilities requires a good solution design to ensure data and processes are integrated and stay current with both business processes and the underlying technologies.

To implement a digital transformation that meets expectations requires several elements. The business vision and strategy must be clear. The technology foundation is critical and has many characteristics that must be supported to ensure it can meet technical requirements and the non-technical (i.e., business) requirements. Successful implementation demands a methodology that is rigorous and proven but flexible and it must be well understood by all the stakeholders.

Transformation is hard and you need the right methodology. Many look to systems integrators to help them on this journey. You want someone with a breadth of experience, particularly on your chosen solution. Razorleaf is one such company.

## **About Razorleaf**

Based in Stow, Ohio, Razorleaf was founded in 2000 by Mr. Eric Doubell. Razorleaf has grown over the

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<sup>4</sup> Research for this commentary was partially supported by Razorleaf.

# CIMdata PLM Industry Summary

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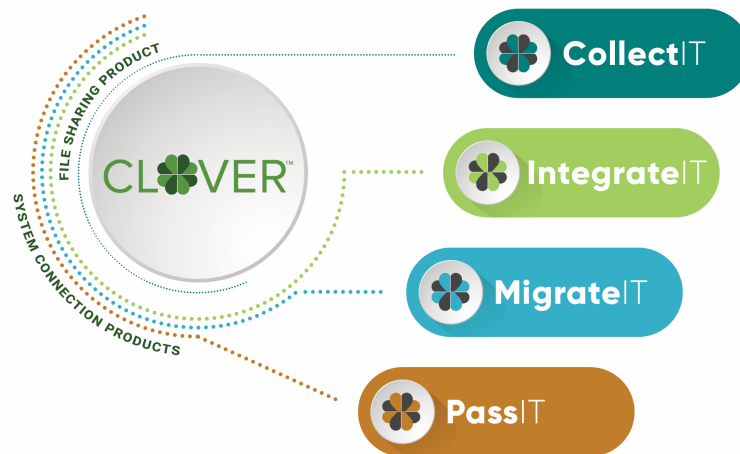
years to become a global provider of PLM-related software and services to both industry and government. Their technology expertise spans PLM, product data management (PDM), design automation, process management, business intelligence, systems integration, test automation, and data migration. Razorleaf works with PLM/CAD platforms from Aras, Autodesk, Dassault Systèmes, DriveWorks, Infor, PTC, OpenBOM, Microsoft, Siemens, and more. According to Razorleaf, since 2000 the company has completed over 5,000 PLM and design automation projects for companies of all sizes. They are big enough to support global projects, yet agile enough to support SMBs and fast-changing projects. Two things that impress CIMdata are their OnPoint methodology and their focus on solution adoption, including the ability to deploy organization change experts.

PLM projects often have fixed budgets and schedules, requirements that usually are not a good fit with agile approaches. Razorleaf's methodology leverages aspects of both agile and waterfall processes on enterprise PLM implementations so they can support budget and time constraints while still having the flexibility offered in agile. The agile aspects of getting working software in users' hands quickly and incrementally improving it help foster adoption. Ensuring that implementation goals are completed on time and on budget while supporting user adoption are critical to meeting executive expectations.

## ***Integration and Accelerator Software***

Razorleaf has developed products to speed implementation and improve solution capability and value based on their experience and best practices. CLOVER, shown in Figure 1, is an integration, migration and file sharing platform. Development started in 2015 and Razorleaf now has a suite of connectors for a wide variety of enterprise systems and file repositories from major vendors including Aras, Autodesk, Anark, ITI, Dassault Systèmes, SOLIDWORKS, PTC, Infor, Citrix, Salesforce.com, Microsoft, Oracle, NetSuite, and SAP packaged as IntegrateIT. CLOVER uses SOAP or REST APIs and connects to any type of system or SaaS provider, file system, or database. PassIT supports messaging systems such as MuleSoft, Microsoft Biztalk, Informatica, ION, and Jitterbit. Since Razorleaf developed their integrations to support PLM use cases the technology is already configured via its rules engine to support PLM capabilities such as parts and BOMs, document management, change management, issue management, and project management and extend them across various enterprise domains such as engineering, manufacturing, quality, and service. MigrateIT leverages the rules engine, integrations, and job scheduling functionality to reduce data migration complexity.

Furthermore, Razorleaf builds apps on the CLOVER platform to support requirements such as packaging and exchanging product data with CollectIT Technical data packages and bid specifications are extremely useful when working with a supply chain or customer asynchronously as they help ensure that properly configured data sets are shared.



**Figure 1—CLOVER PLM Job Platform Enables a Growing Variety of Capabilities**

The CollectIT product creates technical data packages for customers, suppliers, and employees. It supports templates and can consolidate BOMs, CAD files, and other technical data into a package in a variety of different structures including MIL-STD-31000B to support government and model-based enterprise (MBE) requirements. What makes CLOVER so powerful is its flexibility. It understands the richness and complexity of PLM data and processes reducing the effort to create and utilize the digital thread.

In addition to CLOVER, Razorleaf also develops accelerators based on their implementation experience. Manufacturing Suite for Aras Innovator includes productivity enhancements and adds capabilities for change, training, supplier, and project management, areas that are often customized in PLM implementations. By codifying their best practices and delivering them as a packaged solution PLM solution capability and feature gaps are minimized and implementations sped up. This helps small and large companies improve efficiency and lowers cost by integrating needed capabilities into the PLM platform rather than requiring yet another software platform.

### ***Government Business***

Supporting government entities is quite different from commercial companies so Razorleaf launched a government focused business in 2016. It is designated a small business (which can help the government entity get vendor approval), is US-based, and has security clearance. The government team has many successful enterprise deployments, often focusing on model-based enterprise transformations both in the government and in aerospace & defense (A&D). Their ability to deliver commercial PLM systems in complex and highly-governed IT environments has translated well into other industries such as transportation and high-tech.

### ***Managed Services***

SaaS is growing rapidly in the enterprise software market, and the approach has started to take off for PLM offerings. In CIMdata's consulting business more and more companies are specifying cloud-first for any new technology acquisitions. That said, getting SaaS support for multiple applications from multiple solution providers is complex, as each provider typically only provides support to the boundary of their own technology. A systems integrator must have the skillset to bridge across application boundaries and as solutions move to the cloud the complexity will grow as on-premise solutions also need to be integrated.

Razorleaf has provided helpdesk and support to clients for many years and has expanded and formalized

# CIMdata PLM Industry Summary

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their managed services offering. They provide helpdesk, infrastructure, hosting and cloud services, security, and application support services including customization, upgrades, and PLM test automation.

## **Conclusion**

As companies digitally transform they often need help. System integrators who execute transformations every day can provide the needed assistance. They develop best practices based on their experience. These best practices have a wide and deep scope from vision, strategy, and tactics to infrastructure, applications, and user support, but finding a system integrator with the right mix of best practice capability and compatibility with the industrial company can be tricky.

In its over twenty-year history, Razorleaf has successfully grown and evolved as technology has changed. They have experience in most discrete manufacturing industries and have deep experience on government and A&D programs. In addition to data and process management and automation, they also have experience in related tools such as SOLIDWORKS, DriveWorks, and ANSYS. We have followed Razorleaf for many years and talked with their customers who vouch for Razorleaf's skills and appreciate the pragmatic approach taken to solving business problems. Razorleaf is a systems integrator large enough to support global projects that can also effectively support smaller companies. CIMdata recommends that companies looking for a system integrator to support implementation or customizations consider Razorleaf to support their requirements.

## ***Siemens Teamcenter Service Lifecycle Management: The foundation of a modern SLM solution***

7 September 2021

### **Key takeaways:**

- *Service Lifecycle Management (SLM) continues to grow in importance for many businesses, often enabling new business models, as well as increasing profitability and customer loyalty.*
- *Successful SLM environments leverage a digital thread that provides end-to-end connectivity; feedback among design, production, and service organizations; and maintains a comprehensive, actionable digital twin that contains the up-to-date configuration of the managed asset.*
- *Siemens' Teamcenter SLM solution enables companies to create an effective collaborative and closed-loop feedback environment among product design, manufacturing, and service. It also enables OEMs, EPCs, and production line builders to plan for service optimization as they design and produce their products, and Owners/Operators to optimize their service time and activities.*

### **Introduction**

Today's products are becoming increasingly complex and are frequently part of expanding system of systems environments. Manufacturers of these complex products must often meet strict customer, regulatory, and serviceability requirements over extended periods of time—sometimes multiple decades. Ultimately, achieving business efficiency (and improving profitability) requires optimizing the in-service use of a company's operational assets.<sup>5</sup>

However, service is not always provided by the OEM who produced the asset—many third-party and home-grown solutions are often used as part of an overall SLM solution. This creates a very diverse, often widely distributed, service environment in which it can be difficult to gather and maintain updated

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<sup>5</sup> Research for this commentary was partially supported by Siemens Digital Industries Software.

# CIMdata PLM Industry Summary

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asset-specific information as services are performed. It's also difficult to provide service technicians the up-to-date asset configuration information, service materials (i.e., parts, kits, etc.), and technical documentation they need to perform rapid, right-the-first-time service.

To improve service and create profitable “asset-as-a-service” business models, companies need to implement modern, effective SLM solutions that enable their customers to achieve better utilization of in-service assets throughout their entire operational life. Effective SLM reduces warranty and inventory costs, predicts potential risks, helps optimize asset utilization, helps document compliance to regulatory authorities, and increases customer loyalty. An effective, modern SLM solution should also help close potential “skills gaps” (e.g., lack of trained, experienced service technicians) by enabling service personnel to more easily and quickly find needed information and be guided through the appropriate service process.

An effective, modern SLM solution must incorporate an end-to-end digital thread that spans the diverse service environment and provides up-to-date accurate configuration information of all the mechanical, electrical/electronic, software, and associated document-related components of each asset as well as the status and history of their operational use. It must also enable an open ecosystem of OEM, customer, and third-party applications and solutions that can work together to deliver effective service of managed assets.

## ***Defining a Modern SLM Solution***

In today's fast moving, highly competitive world, successful companies need service to be proactive, not reactive. They need to be able to plan maintenance when it will least disrupt their business operation and avoid costly, unplanned outages and downtime. And when the assets are up-and-running, ensure that they are at their peak performance.

Managed assets may be located close to service depots and personnel, or they may be in widely dispersed locations requiring significant travel by service personnel. Regardless of location, companies want performed services to correct all problems on a single call. They expect service technicians to have the knowledge, information, and equipment needed to get their asset back into productive use quickly.

To meet these expectations, businesses delivering services need to provide complete, accurate service information to field service personnel so they can consistently deliver a first-time fix. Needed information includes the up-to-date configuration of the asset, service-related technical documentation and processes, the operational and service history of the asset, the parts, kits, and software to be updated or replaced, and the tools needed to perform the required service. As the service is executed, all changes made to the serviced asset must be captured and managed, for example, tracking the updated configuration, replaced components, etc. Effective service must enable complete support for physical assets and support all phases and configurations of the asset. It must also manage the evolution of that physical asset, e.g. swap parts, overhauls, upgrades. This includes the mechanical, electrical/electronic, software, and document-related components of each asset.

Foundational to a modern SLM solution is enabling a digital thread that connects all aspects of service information across the extended service value chain regardless of location, information type, and enterprise IT boundaries. Typically, service-related information and materials such as technical documentation, initial configurations, spares and kitting, service processes, etc., are created by the asset manufacturers and provided to the appropriate service organizations. Service management applications then assign and manage the service activities (and history) performed on the asset over time. For any asset, multiple organizations, personnel, and applications may be involved throughout its service life. A modern SLM solution ensures all of this information, and all of these processes are connected.

# CIMdata PLM Industry Summary

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Traditionally, asset service information was recorded by service technicians as they performed their tasks. Unfortunately, with disconnected service applications and providers, that data was not always captured, consolidated, or managed, resulting in the data being “lost” or not available for planning and follow-on service. However, in today’s smart and connected world, assets may generate, maintain, and deliver (via IoT connections) significant service information to multiple service-related systems throughout the product and service lifecycle. Modern SLM solutions manage this information efficiently, and ensure it is leveraged in the right service activities.

A successful SLM environment must be built on a flexible, adaptable, scalable architecture that enables an enterprise to easily adapt their SLM solution to meet their changing business needs. It must provide the ability to create an open ecosystem of seamless connectivity to multiple sources of service data and processes across the extended enterprise. For example, connectivity between in-house and third-party service applications and solutions, whether run on-premises, in the cloud, or at the edge. Additionally, a true end-to-end SLM solution may need to include or be integrated with inventory, ERP, logistics, risk management, quality and reliability management, IIoT, service workload management, warranty and issue management, and other systems as required.

Enabling an open service ecosystem requires the implementation of a true digital thread and a comprehensive and actionable digital twin. The digital thread, enabled by PLM technologies, spans the extended value chain and enables the capture and management of product and service data from the right sources. A digital twin is a virtual representation of a physical asset or collection of physical assets that exploits data flow to and from the associated physical assets, continually evolving as it accompanies its real-world physical companion throughout its lifecycle.

Quickly resolving operational and service problems requires accurate knowledge of an asset’s complete configuration and usage. To maintain the accuracy of the digital twin, the SLM solution must fully and accurately manage an asset’s changing configurations and contextual information throughout its lifecycle (maintaining up-to-date, complete service and as-maintained BOMs). This includes providing the capabilities and tools to capture data from distributed assets and perform appropriate analyses on that data. This enables a company to use asset performance data to proactively manage service activities and optimize spare parts inventory (spares, number, location), among other things.

## ***Siemens Teamcenter SLM: The Foundation of a Modern SLM Solution***

Siemens has taken a pragmatic approach to developing and delivering the capabilities their customers need to create an effective, extended-ecosystem SLM solution. [Teamcenter SLM](#) is modular, so that customers can implement basic capabilities and grow the scope as business needs evolve, all while achieving value at each level of implementation. Siemens recognizes that no one solution provider can supply all the capabilities needed by every customer and therefore has (1) established relationships with leading SLM technology and [solution providers](#) (e.g., IBM Maximo and SAP Intelligent Asset Management); and (2) provides extensive open applications, e.g., Mendix and MindSphere, that can be used to quickly and easily integrate with third-party and in-house developed applications for creation of an open, adaptable service ecosystem.

Teamcenter SLM supports all aspects of the service lifecycle including the creation and management of more effective service plans, [physical asset configurations](#), service operations, and asset performance. It is built on the Teamcenter PLM platform, providing essential capabilities (i.e., product data management, security, reporting, process management, etc.) required for the management of serviceable assets.

Teamcenter SLM delivers the right information, in context, to both up- and down-stream systems and

# CIMdata PLM Industry Summary

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processes, and provides a common, logical source of information for all SLM related tasks including creating and maintaining service plans, full multi-domain asset (as-maintained) configurations, asset status and service/usage history, and other related data. Teamcenter SLM enables workers at all levels to find and re-use product data and knowledge from engineering and manufacturing to improve service planning and execution.

Additionally, Teamcenter SLM supports the enterprise digital thread needed to manage and optimize use of assets. It provides service feedback loops connecting design, engineering, and manufacturing. With Teamcenter SLM, service related information including technical documentation, service processes, and AR visuals is linked to product design, resulting in accurate and successful serviceability and reliability. This creates the necessary environment for continuous learning and product or asset improvement.

A key function of Teamcenter SLM is that it enables the communication and coordination of operational activities for greater compliance, faster service, and lower costs. One of Teamcenter's strengths is its ability to fully manage small to very large and complex asset configurations, including product and platform variants, incorporating mechanical, electrical/electronic, software, and documentation components, and making that information available as needed to any service related user or activity. It provides the extensive complete configuration management capabilities required to deliver successful, right first-time service in an effective SLM solution.

Designed to work with multiple partner solutions, Mendix can be used with Teamcenter SLM to quickly integrate with in-house and other third-party service execution components as-needed. MindSphere can also be used with Teamcenter SLM to enable interaction with [smart, connected assets](#), and provide comprehensive analytics on the asset data. Teamcenter SLM can be delivered via the cloud to provide global reach while decreasing IT costs. For ease of use and rapid adoption, it provides service information in context (role-based) to the user.

To learn more about how Teamcenter SLM and Siemens modern SLM strategy can enable companies to deliver more effective service to their customers and create a service-driven competitive advantage, please download and read the eBook titled "[Making Service Lifecycle Management A Profitable, Competitive Advantage.](#)"

## ***A SLM Case Study***

OneSubsea Processing, a Schlumberger company, is a manufacturer of industry-leading technologies, systems, and alliances for increasing subsea production and recovery of oil and gas. They manufacture and service complex equipment with lifespans of 20+ years under tough conditions. Needless to say, even a short downtime could potentially cause the loss of millions of dollars due to a non-functioning oil or gas drilling field. Also, it could sometimes be impossible to service their asset in the field, being at the bottom of the ocean.

OneSubsea has to plan for service as they design and manufacture their assets. After the asset is in production they always need to have clear and accurate visibility of its configuration in order to prevent problems from happening, and to handle any problems in the most efficient way. Many times, this has to be done remotely or through redundancy of parts and/or systems. Further, all actions must comply with strict regulations, and OneSubsea needs to be able to provide compliance proof at any time during the asset's production life span.

OneSubsea realized that by starting their PLM journey with SLM they would be able to obtain

The primary benefits OneSubsea achieved from implementing Teamcenter SLM include:

- Improved aftermarket efficiency and effectiveness
- Saved engineering time
- Obtained early involvement from manufacturing
- Created one source of information
- Reduced risk and cost
- Ensured compliance
- Worked smarter

# CIMdata PLM Industry Summary

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immediate value to their business. A key requirement was to be able to plan for service throughout their design and manufacturing process. With such visibility they could fulfil this requirement and deliver value to both design and service engineering. In case of an un-planned problem, they can respond immediately, knowing exactly how their subsea asset is configured and what serialized parts it contains. They are also able to achieve 100% proof for regulatory compliance. At a later phase they have implemented ERP and expanded their PLM usage with their physical asset configuration as their master data.

## **Summary**

Today's complex physical assets must be operated efficiently and meet strict customer, regulatory, and serviceability requirements, often over many decades of useful life. To improve service, companies need to implement modern, effective SLM solutions to achieve better utilization of in-service assets throughout their entire operational life. Effective SLM reduces warranty costs, helps optimize asset utilization, and increases customer loyalty.

An effective, modern SLM solution must incorporate a comprehensive digital thread that spans the diverse, extended enterprise service environment and provides up-to-date accurate configuration information of all the mechanical, electrical/electronic, software, and document components of each asset. It must also enable an open ecosystem of OEM, customer, and third-party applications and solutions that can work together to deliver effective, quality service of managed assets.

The Siemens Teamcenter SLM solution is a modern, integrated suite of software and services augmented by key relationships with third-party service application providers. Teamcenter SLM provides a comprehensive enterprise backbone that manages a complete digital thread of service-related information and enables a comprehensive digital twin. Key is Teamcenter's leading ability to manage large, complex, multi-variant configurations of any serviceable asset, and manage the processes needed to optimize service and asset availability across an open service ecosystem that incorporates both Siemens, in-house, and third-party solutions.

CIMdata believes that Siemens' pragmatic approach to delivering an open SLM solution provides the breadth and depth that enterprises need to create comprehensive, actionable digital twins and manage the complete service lifecycle across a heterogenous set of extended enterprise solutions and needs, while protecting their service-related investments. Companies looking to optimize and expand their service capabilities should include Siemens's Teamcenter SLM in their evaluation of solutions for implementing a modern, flexible, adaptable, open SLM environment.

## ***Getting and Staying Current on 3DEXPERIENCE: The SteepGraph Approach***

9 September 2021

### *Key takeaways:*

- *Deploying or upgrading enterprise software, including PLM, is often a complex, expensive, and risky process, but necessary to get access to the latest features which often have significant business value.*
- *SteepGraph, a systems integrator focused on supporting products from Dassault Systèmes and Aras Corporation, has significant migration experience and many products and services focused on the Dassault Systèmes' 3DEXPERIENCE platform.*
- *The industry-specific implementation accelerators developed by SteepGraph help customers implement or reimplement the 3DEXPERIENCE platform by delivering a pre-packaged solution*

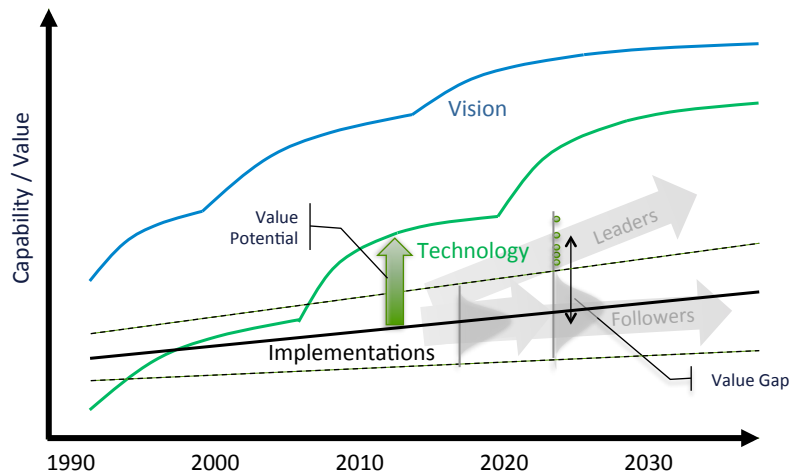
# CIMdata PLM Industry Summary

*letting customers focus on their core business, not on setting up IT solutions.*

- *The well-defined upgrade process based on SteepGraph's experience is augmented by a series of tools built by SteepGraph that help automate upgrades, shortening timelines and improving quality.*
- *SteepGraph's 3DX Migration Framework and 3DX Automated Test Suite are their tools for migration support, helping customers upgrade to a stable, reliable implementation and keep it that way.*

## **Introduction**

Both CIMdata's research and consulting work identify companies that are on older versions of their chosen PLM solution, often well behind the current version. We believe this is a significant issue keeping companies from reaching their full potential. In **Figure 1**, based on CIMdata's research, the green curve illustrates how solution providers improve their solution technology over time.<sup>6</sup> The solid black line suggests the value typically achieved by companies from their implementations. The value gap is the distance between the solid black line and green curve at a point in time. From the data generated by the research we were able to identify "leaders" (represented in the upper grey arrow), successful companies using PLM as a competitive weapon and getting better value from their implementations than the "followers" who had a larger value gap. One takeaway from this model is if you don't upgrade you can't move along the green curve and the black curve stays horizontal (at a fixed capability level) resulting in little or no improvement over time.<sup>7</sup>



**Figure 1—The Value Gap from CIMdata's Research**

PLM solution providers invest millions of dollars annually in R&D to improve their products. They release major and minor updates regularly delivering capability, performance, and stability improvements. When customers have questions about software capabilities or issues, a common response is "it's in the next release," so staying current is important. While bug fixes, security patches, and performance improvements are necessary, capability improvement is essential to improve business performance. New capabilities introduced anywhere in the lifecycle—concept through design, manufacturing, sales, and service—can positively impact business performance and are often what

<sup>6</sup> <https://www.cimdata.com/en/resources/complimentary-reports-research/white-papers> (scroll down or search on page for "value gap")

<sup>7</sup> Travel and other expenses related to this commentary were provided by SteepGraph.

# CIMdata PLM Industry Summary

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enables a digital transformation because it is easier to implement new product concepts.

## ***Why is Upgrading Difficult?***

Most enterprise software applications including PLM solutions are complex. Several factors drive complexity but, at the core, PLM solutions require a lot of intricate software code to address the complexity and scope of challenges faced by the target business. Solution providers regularly improve their products to meet ever changing capability, performance, and stability requirements. While the updates generally improve the solution, they can cause issues ranging from minor to show-stopping.

The highest risk changes a solution provider can make is when they change the underlying software product architecture. The improvements brought by these changes are usually both necessary and welcome but can come at a cost. Data from the original version may not be compatible and customizations for automation or integration often need recoding or even rearchitecting. A further non-code impact driven by architecture is licensing. Most solution providers have a module or capability-based approach to licensing. Rearchitecting can also change the licensing approach. What sometimes happens is rather than enhancing an existing capability a new module is created and licensed separately adding additional cost to an upgrade.

Data model changes are perhaps the most common type made by solution providers happening with minor and major updates. CIMdata defines a data model as the definition of all data elements (and their relationships) to be maintained within a PDM solution. The data model defines the database schema for the PDM solution.<sup>8</sup> When customers extend the data model or manipulate the data model via customizations in ways the solution provider did not anticipate it can adversely affect the upgrade.

PLM solutions take advantage of third-party technical components such as software libraries and applications such as web servers and reporting services. When those components change, it can have a material effect on how the PLM or PDM solution functions impacting upgrades. Beyond technical components hardware and software infrastructure such as network accelerators, operating systems, and database versions can also impact upgrades.

The real fun begins when customers implement software. At CIMdata we have a saying: “even a sustainable solution can be implemented as an unsustainable configuration.” Customers often customize and integrate their solutions to fit their businesses and improve employee performance, but these actions can make upgrades much more difficult. Integrations must be configured or customized to map data from one solution to the other, so when one solution changes its data model it can have cascading effects. The other issue is software interfaces or APIs. Over time, standards change and APIs evolve often affecting integrations. Additionally, software from the solution providers doesn’t always meet the customer needs so they create new solutions with different APIs. Finally, upgrades can also have issues caused by data errors. Users often enter bad data; the classic data entry errors come from misspellings in freeform text entries.

While most enterprise implementations have the problems described above, the **3DEXPERIENCE** platform has several specific issues that need to be properly managed to minimize the disruption and cost caused by an upgrade. Dassault Systèmes has done some significant rearchitecting in recent years resulting in impacts on upgrades. For example, many customers experience difficulty moving their Designer Central-based data to the Unified Product Structure (UPS) data model. This migration is a complex and lengthy exercise.

## ***SteepGraph’s Approach to 3DEXPERIENCE***

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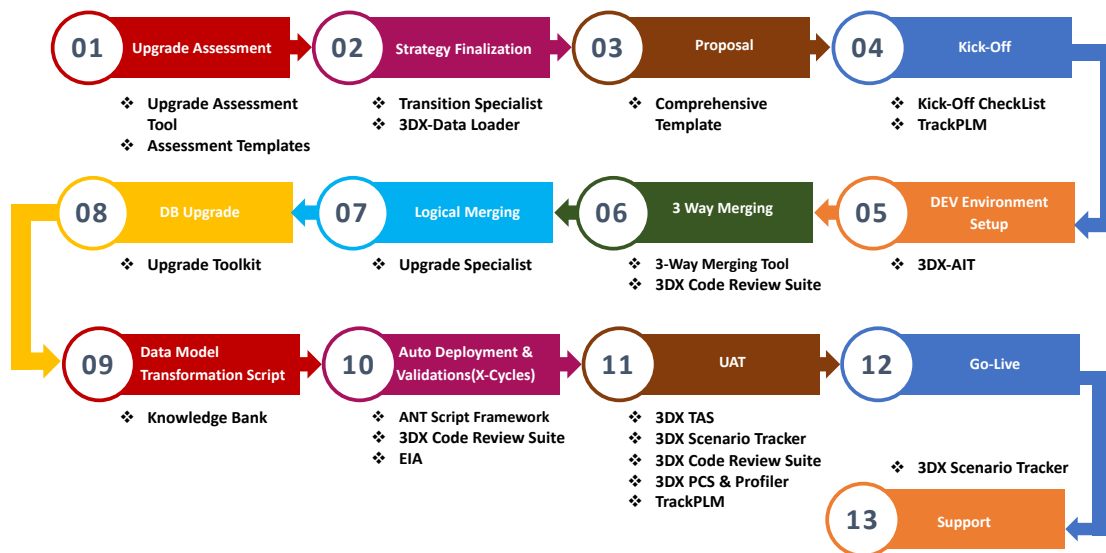
<sup>8</sup> <https://www.cimdata.com/en/resources/about-plm/cimdata-plm-glossary>

# CIMdata PLM Industry Summary

SteepGraph is a mid-sized global systems integrator headquartered in India with offices in the US and Europe. They support the Dassault Systèmes, Aras, and PTC customer bases. In business since 2009, they have especially deep expertise with Dassault Systèmes' **3DEXPERIENCE** platform and are often leveraged by other system integrators to support complex **3DEXPERIENCE** platform implementations, migrations, and upgrades.

SteepGraph's **3DEXPERIENCE** Implementation Accelerator automates repetitive tasks and provides a modeling studio for application developers that standardizes configuration and customization with best practices including agile development and user interface support. Having an integrated development environment (IDE) designed to support the **3DEXPERIENCE** platform helps ensure developers work with the same standards and processes reducing development timelines and making upgrades easier.

SteepGraph's upgrade process is shown in **Figure 2** and consists of thirteen steps that represent an upgrade lifecycle for the **3DEXPERIENCE** platform. SteepGraph developed a series of tools based on their experience to speed up and improve the quality of implementations, migrations, and upgrade processes. The tools are shown below each step in the figure. CIMdata is impressed by the formality of the process and the scope of the tools developed. Having a well-defined process helps ensure quality. Customization often inhibits migrations and a recent study performed by CIMdata found that customizations negatively impact upgrades at over 80% of the Dassault Systèmes user companies.<sup>9</sup> SteepGraph's 3DX Code Review Suite helps the SteepGraph team identify issues before the upgrade starts. Another useful tool developed by SteepGraph is the 3DX Test Automation Suite. It allows developers to run automated tests on customizations to help ensure that code changes don't cause quality regressions. This capability is starting to become more common in PLM implementations and it is good to see that SteepGraph has leading-edge tools.



**Figure 2—SteepGraph's 3DEXPERIENCE Upgrade Process and Related Proprietary Tools**  
(Courtesy of SteepGraph)

SteepGraph also supports the related process of data migration with their 3DX Data Migration Framework. Data migration is the process of moving data from one PLM solution or version to another. SteepGraph has migrated data from a variety of different solutions to the **3DEXPERIENCE** platform, including older versions of ENOVIA, and when consolidating multiple **3DEXPERIENCE** instances.

<sup>9</sup> <https://www.cimdata.com/en/news/item/15671-cimdata-publishes-ebook-plm-upgrade-study>

# CIMdata PLM Industry Summary

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As with upgrades, SteepGraph has a well-defined process and a series of custom tools to address the migration process and common issues. The framework is designed to address the following challenges:

- Source Data Complexity
- Data Quality Validations
- Data Migration—Roll Out Strategy
- Expected Data Model Evolution
- Existing Data Conflicts and Duplicate Data
- Operational and Planning Challenges

It has a full set of capabilities including extraction adaptors for many solutions, a transformation engine, a data validation module, and a data correction module.

While there are many more tools that can be discussed, TrackPLM, is very important to customer success. This tool can be used by PLM program team members to track the lifecycle of the PLM project. It has the usual project management tool capabilities, but they are configured to support PLM-specific tasks and connected to the Test Automation suite ensuring that a consistent process is followed. SteepGraph has an impressive framework of tools to support the **3DEXPERIENCE** platform that help customers dramatically shorten time to value, generating a better return on investment.

## ***Conclusion***

Successful digital transformations require continuous improvement to generate the best value. The improvement process requires regular software upgrades to stay current to ensure that the latest capabilities, features, and updates can be leveraged. Unfortunately, upgrading is often a complex and expensive process with the risk of significant short-term disruption. A skilled system integrator can reduce the cost and risk of implementing or upgrading if they have the right experience, tools, and methodology.

SteepGraph is a systems integrator with a deep background in Dassault Systèmes **3DEXPERIENCE** platform, has expertise, a well-defined process, and a broad suite of software tools to shorten the time to value when implementing or upgrading the platform. CIMdata recommends that companies looking for implementation or upgrade support for the **3DEXPERIENCE** platform consider SteepGraph to support this vital process.

## **Acquisitions**

### ***Accenture Announces Intent to Acquire BENEXT, Independent French Product Management Consulting Company***

8 September 2021

*Acquisition would bolster Accenture Cloud First services and skills in product management and agile transformation*

Accenture, has announced its intent to acquire [BENEXT](#), an independent product consulting company specializing in product management, agile coaching, cloud-based development and data science. Financial terms of the transaction are not being disclosed.

Founded in 2014 and based in France, BENEXT is a full-stack, product consulting company experienced in helping clients design, organize, deploy, and efficiently manage their digital products,

# CIMdata PLM Industry Summary

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while also enhancing the customer user experience. The company's approximately 160 highly skilled professionals would join [OCTO Technology](#), [already a part of Accenture since 2017](#), and more broadly expand the European and global capabilities of [Accenture Cloud First](#). OCTO Technology is a technology consultancy specializing in digital transformation and software development. The OCTO team is primarily located in France and also operates across Belgium, the Netherlands and Luxembourg.

"With many clients ramping up their multi-cloud environments, the need for new agile operating models and a seamless user experience across a multi-cloud network has never been greater. By tapping into the dynamic capabilities of the cloud, leading companies can reimagine their businesses from design to delivery," said Karthik Narain, global lead, Accenture Cloud First. "Acquiring BENEXT would be a valuable addition to help more clients truly operate in the cloud and become digital enterprises. For clients, this ultimately equates to reaching a tipping point of change and pivoting the entirety of their business toward new opportunities."

Powered by 77,000 cloud professionals and a \$3 billion investment over the next three years, [Accenture Cloud First](#) brings together unmatched depth and breadth of cloud expertise, industry cloud solutions, ecosystem partner capabilities, and assets that help clients realize greater value from cloud at speed and scale. Over the past 24 months, Accenture has made a number of strategic investments to expand and enhance its Cloud First capabilities. In France, recent acquisitions include [Linkbynet](#), [Gekko](#), and [Cirruseo](#).

Olivier Girard, market unit lead for Accenture France & Benelux, said "Together with BENEXT, we would bring more specialized skills to fulfill the growing demand for effective product management and agile methods by leveraging the use of the latest technologies such as cloud, artificial intelligence, data and DevOps. The unique combination of our product management, organizational and technology skills would generate more value to the French market in particular for our clients in the public sector, financial services, and the media industry."

David Robert, founder and president of BENEXT, said "We are excited about this opportunity based on our history and would accelerate our strategy. The combination of our two organizations' expertise allied with our deep product management expertise would enable us to take the services offered to our clients to a whole new level. Together, we can help clients reimagine their products, reengineer their product life cycles and optimize their customers' experiences."

The acquisition requires prior consultation with the relevant works councils and would be subject to customary closing conditions.

## ***Lectra announces the acquisition of Gemini CAD Systems***

8 September 2021

Lectra announces the signature of an agreement to acquire the entire capital and voting rights of the Romanian company Gemini CAD Systems. A major global player in the fashion, automotive, and furniture markets, Lectra designs and produces industrial intelligence solutions – software, hardware, data and services – for brands, manufacturers and retailers.

Founded in 2004, Gemini CAD Systems (Gemini) has developed several innovative software solutions, essentially Computer Aided Design (CAD), for small and medium-sized fashion companies. Thanks to its network of partners, Gemini is present in over 60 countries.

"We are thrilled to welcome the talented teams of Gemini who have created impressive software solutions that are relevant to the way fashion companies wish to work today. Gemini's product portfolio

# CIMdata PLM Industry Summary

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complements Lectra's software offers, which has already been strengthened by the recent acquisition of Gerber Technology," says Daniel Harari, Chairman and CEO, Lectra. "Together, we will create synergies between Gemini, Lectra and Gerber Technology's current offers and bring new, disruptive innovations to the fashion industry," he concludes.

This acquisition is in line with Lectra's strategy of developing its presence in the fashion market and enriching its value proposition.

"We are delighted to join Lectra's family. We are convinced that with Lectra's strong leadership, its unparalleled expertise in the fashion industry and the strength of its teams, we will be able to boost our customer's competitiveness and help them accelerate their digital transformation," states Traian Luca, CEO and founder of Gemini.

The transaction concerns the acquisition of 60% of Gemini right now for 7.6 million euros. The acquisition of the remaining capital and voting rights will take place in two steps, in September 2024 and September 2026. The total consideration for the acquisition of 100% of Gemini's capital will depend on Gemini's revenue growth, and should be comprised of between 13 and 20 million euros.

## Company News

### ***Dr. Brent Stucker Joins 3D Systems' Leadership Team as Chief Scientist***

8 September 2021

In another step to expand its thought leadership in additive manufacturing, [3D Systems](#) is pleased to announce that Dr. Brent Stucker is joining the company to serve in the newly created role of Chief Scientist. Dr. Stucker was previously employed by Ansys, Inc, a leader in engineering software solutions, where he served as Director of Additive Manufacturing and as Distinguished Engineer. He joined Ansys following their acquisition of 3DSIM in 2017, a software simulation company that he co-founded and led as CEO. 3DSIM was the first AM simulation company and a pioneer in the use of simulation for process control and optimization of 3D printing.

Dr. Stucker's distinguished career has ranged from the development of advanced materials and printing technologies, spanning healthcare, industrial and biomedical markets, to software for process control and simulation. He has become an icon in the AM industry, publishing more than 200 peer-reviewed journal articles, while co-authoring the leading textbook on 'Additive Manufacturing Technologies,' which is used in over 600 Universities worldwide, with over five million copies sold or downloaded since first publication.

In addition to his personal achievements, Dr. Stucker's service to the entire AM industry has been distinctive. He was the founding Chairman of the international standards committee for Additive Manufacturing (ASTM-F42) and served on the Board of ASTM. He is the recipient of numerous industry awards and is actively involved with major Government and private agencies focused on the industrialization and expansion of additive manufacturing.

In commenting on the addition of Dr. Stucker to the 3D Systems Leadership Team, Dr. Jeffrey Graves, president and CEO of 3D Systems, commented, "Brent is a rare individual whose intellect, experiences, and technology leadership skills offer a tremendous benefit to a company driven by innovation such as ours. Having focused his distinguished career on additive manufacturing, he will be a key leader for us, helping to not only introduce new technologies but to understand and address the full spectrum of needs that our customers have as they rapidly move AM into full-scale production environments. With Brent now joining Dr. David Leigh, our Chief Technology Officer for Additive Manufacturing, as key

# CIMdata PLM Industry Summary

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members of our leadership team, 3D Systems will continue to champion efforts that not only benefit 3D Systems but also advance the entire additive industry.”

## ***AVEVA Unified Learning Transforms Organizational Performance with Integrated SaaS Solution Available Anywhere, Anytime and On Any Device***

7 September 2021

[AVEVA](#), a global leader in industrial software, driving digital transformation and sustainability, has announced the launch of [AVEVA™ Unified Learning](#) as part of AVEVA’s portfolio available on [AVEVA Connect](#), common cloud platform. The new cloud-based employee development solution helps AVEVA customers advance industrial workers from novice to expert by using blended custom and generic experiential training modules, including AVEVA’s [Process Competency Training](#), Pipeline Competency Training, and The Operations Excellence Group’s [OEG Knowledge Library](#).

Harpreet Gulati, Senior Vice President, Planning, Simulation and Optimization Business, AVEVA commented, “Effective training programs are essential to help prevent industrial accidents and ensure safety, especially when the workforce is inexperienced or unaccustomed to new plant technologies. As the name suggests, AVEVA Unified Learning combines a set of development elements within one cloud-based platform so training managers can customize learning development to each member of their workforce wherever they are. Experiential learning can now be delivered in safe, simulation-based environments while workforce competence and operational excellence can be tracked at the same time.”

AVEVA Unified Learning drives competency and consistency through experiential learning on a single platform, serving as a unique offering at a time when companies are focused on improving skills to contend with radically altered business environments and an influx of new staff. Without AVEVA Unified Learning, training leaders face major challenges in managing learning programs across a diverse and dispersed workforce with varying skill levels. By eliminating deployment hurdles and simplifying program management, AVEVA empowers customers to improve the learning experience and extract greater value from their training investments.

AVEVA Unified Learning closes the competency gap between a retiring workforce and the new generation of connected workers. Overall, employees are empowered to perform better in a shorter time, thanks to targeted eLearning, video content, and simulation-based learning programs.

Since AVEVA Unified Learning simulators are entirely cloud-based and offered as Software-as-a-Service, organizations benefit from global accessibility and scalability. With training delivered directly to each worker’s device, cost, time and energy outlays are reduced alongside the organization’s carbon footprint.

AVEVA Unified Learning provides access to AVEVA’s vast portfolio of training and simulation applications in a single hub on AVEVA Connect. It is licensed via [AVEVA FLEX](#), a flexible subscription program designed to simplify license purchase, usage and management. The product leverages AVEVA’s digital twin technology for ongoing operational excellence including operator training simulators and 3D virtual reality environments, delivering these on the Cloud.

The launch of AVEVA Unified Learning responds to a growing demand for learning solutions aimed at a digitally native workforce. By 2030, the bulk of the workforce will be made up of Generations Y and Z, most of whom are only familiar with a digital-first, mobile-first world. For these digital natives, workplace technology is now a factor in the choice of job. Over 90% of Generation Z – people born after 1996 – say technology offered by an employer influences their job choice.

# CIMdata PLM Industry Summary

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For more, please visit the [AVEVA Unified Learning](#) page.

## ***AVEVA and Aramco Plan to Partner to Realize Key Sustainability Goals through Digitalization***

9 September 2021

*Partnership would leverage digital transformation to support Saudi Arabia's Energy Transition and expand its knowledge economy*

[Aramco](#), one of the world's largest integrated energy and chemicals companies, and [AVEVA](#), a global leader in industrial software, digital transformation and sustainability, have today announced their intention to form a strategic alliance. Focused on driving sustainability in the region through digital transformation, the partnership will help enable AVEVA to establish their largest digital hub, with an R&D capability, in the Middle East, headquartered in Saudi Arabia. This partnership will represent a significant investment for AVEVA which is also looking to create up to 300 high skill new jobs in the Kingdom by 2030.

This transformative and groundbreaking partnership is designed to foster a working relationship between the two companies in the deployment of various digital technologies including Artificial Intelligence (AI), Machine Learning (ML), and Data Management. AVEVA and Aramco aim to work together to unlock the benefits of these technologies in line with the Kingdom's move towards industrial sustainability. One of the key focus areas of the partnership would be to utilize digital technologies to support the development and implementation of blue hydrogen and decarbonization facilities in Saudi Arabia in line with the Kingdom's energy transition strategy. Another area in which the companies intend to work together is in the implementation of cutting-edge predictive analytics technology across Aramco's operating facilities. This would be one of the largest deployments of such technology in the region and the main goal is to further improve the reliability, performance, and safety of Aramco's operation.

A key offering for customers in the region through this new hub is intended to be AVEVA's trademark [Digital Twin](#) technology which combines asset design and predictive analytics in order to create a fully integrated, real-time data visualization center that reveals functional insights, unlocks efficiencies, and identifies new pathways to optimize performance. The new hub, through its R&D capability, would contribute to enriching Saudi Arabia's knowledge economy incorporating world-class research at prominent universities across the Kingdom.

Commenting on the initiative, Ahmad Al-Sa'adi, Senior Vice President of Technical Services, Aramco, said "One of the key pillars for realizing the Kingdom's Vision 2030 is Digital Transformation. Digital technologies have the potential to accelerate the transformation of the industrial sector and drive it towards more efficient and sustainable operations. Establishing partnerships with leaders in industrial digital software, such as AVEVA, is one of the main elements in our digital transformation strategy and we believe will help us realize our mission of leveraging digital solutions to deliver tomorrow's energy more sustainably, efficiently, and safely. The regional hub that would be established by AVEVA would contribute to Aramco's 'In Kingdom Total Value Add' program goals and will facilitate Saudi Arabia's path to realizing the benefits of a digital economy."

AVEVA's CEO Peter Herweck also commented, "AVEVA is proud to be working with Aramco towards an agreement to facilitate its digital transformation journey. Through this partnership the vision of our companies is to play a fundamental role in industrial sector decarbonization within Saudi Arabia and the delivery of its sustainable goals, bringing capabilities to optimize every aspect of the value chain

# CIMdata PLM Industry Summary

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with sophisticated imaging, data analytics and deep-learning technologies that this initiative would bring. Through this initiative AVEVA aims to contribute to creating job opportunities in the Kingdom and throughout the Middle East region.”

## ***Canvas GFX and Aras partner to deliver integration of Aras Innovator and Canvas Envision***

9 September 2021

- New integration allows Canvas Envision users to work directly with data stored on the Aras Innovator platform
- Partnership creates opportunity due to customer overlap between Canvas and Aras
- Canvas Envision combines a powerful and intuitive graphics app with cloud-based collaboration and viewing

Canvas GFX, Inc, the leading provider of visual communication solutions to the manufacturing and technical industries today announced that it has partnered with Aras, provider of a digital transformation platform to enable the resilient enterprise to deliver an integration between Canvas Envision and the Aras innovator platform.

The integration enables end users to access data stored on Aras Innovator directly from the Envision Creator desktop graphics application, allowing frictionless creation of product documentation containing rich visualizations of 3D models. Visualizations and documents can be easily saved back to Aras Innovator from within Envision.

Launched in July 2021, Canvas Envision bridges the divide between technical and creative visual communication solutions. It makes sophisticated 3D CAD visualizations available to anyone involved in creating product documentation, without the need for prior CAD training or a technical background. Envision combines a lightweight graphics application with cloud-based documentation storage, access, and collaboration.

“I am excited to be announcing this partnership with our friends at Aras,” said Pat Hume, CEO, Canvas GFX. “Our intention is for Envision to become one of the core software solutions on which manufacturing organizations depend – and that requires it to combine seamlessly with other critical solutions to drive increased value for end users. Canvas and Aras share not only customers but also a commitment to delivering rapid innovation and return on investment and I look forward to a winning partnership.”

John Sperling, SVP of Product Management at Aras added: “We are continuously searching for ways to add value to our customers and Canvas Envision is highly complementary to the end-to-end PLM capabilities of Aras Innovator. Effective communication that leverages 3D and 2D assets throughout the product lifecycle is essential for efficient product development.”

## ***DATADVANCE Joins Aras Partner Program***

8 September 2021

DATADVANCE, an independent software developer of design space exploration, predictive modeling, automation and integration solutions, announces joining the partner program at [Aras®](#), the only resilient platform provider for digital industrial applications. As a systems integration partner, DATADVANCE will combine the methodologies, development skills and specialized vertical expertise to deliver Aras-based services and solutions to both companies’ customers.

# CIMdata PLM Industry Summary

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“We are integrating Aras’ resilient platform with pSeven, our powerful Process Integration and Design Optimization (PIDO) platform, to provide customers with the advantages of an integrated Simulation Process & Data Management (SPDM)-PIDO system. Key advantages of SPDM-PIDO integrated system implementation are the reduction of development time due to easy access and transfer of information and using fast Machine Learning (ML)-based models; getting optimal and safe designs thanks to optimization methods; simulation democratization with every domain expert having access to of industry-specific workflow-based applications,” said Sergey Morozov, President of DATADVANCE.

Aras Simulation Management connects simulation best-practices to the Digital Thread of product data managed in Aras Innovator, enabling simulation to become an integrated, traceable, and repeatable step in the development, manufacture, and support of complex products. The pSeven platform complements Simulation Management by fully automating analysis and search of the optimal designs and reducing the development time by replacing heavy simulations with fast and robust predictive models. pSeven democratizes the multidisciplinary analysis, enabling the publication of workflow-based applications with a user-friendly interface, available for any domain engineer in the extended enterprise.

“We are pleased to welcome DATADVANCE to the Aras partner program as a Systems Integrator. Aras’ simulation management technology and ML-based technology of DATADVANCE, along with more than 10 years of innovation expertise with leading businesses worldwide, are a valuable combination that will help us meet the needs of various industries in the implementation of strategic initiatives like digital twins,” said Andreas Mueller, SVP of Global Alliances at Aras.

## ***French Construction and Civil Engineering School ESTP Paris Partners with Dassault Systèmes to Advance Student Skills and the Future of Construction***

9 September 2021

- ESTP Paris will provide students with innovative learning experiences by integrating the 3DEXPERIENCE platform into its curricula
- Students can boost their employability by developing the knowledge and know-how needed for major projects and for accelerating the industry’s digital transformation
- 3DEXPERIENCE platform goes beyond BIM by enabling construction and operational virtual twins for sustainable built environments

Dassault Systèmes and [\*\*\*ESTP Paris\*\*\*](#), France’s leading engineering school in the construction and civil engineering sectors, today announced they have entered into a strategic partnership to enable students to develop new skills that will foster their employability and help accelerate the digital transformation of the construction industry.

ESTP Paris, which educates most professionals in the construction, spatial planning, real estate and energy efficiency sectors in France, will integrate Dassault Systèmes’ 3DEXPERIENCE platform on the cloud into three curricula: Virtual twin for construction, Construction 4.0 including modular construction, and Smart City. In addition, Dassault Systèmes and ESTP Paris will develop innovative courses in these domains that leverage the 3DEXPERIENCE platform.

These new learning experiences will equip students with the skills they need to manage the digital aspects of major construction and civil engineering projects once they enter the workforce. The 3DEXPERIENCE platform provides a virtual collaborative environment that transforms traditional construction processes with cloud-based experiences that advance the efficient, innovative and sustainable delivery of new structures and systems. It goes beyond BIM by enabling construction and

# CIMdata PLM Industry Summary

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operational virtual twins for sustainable built environments.

“The construction industry is undergoing profound transformation that requires knowledge and know-how to better respond to environmental and social challenges. Companies are relying on top schools like ESTP Paris to train this workforce,” said Florence Verzelen, Executive Vice President, Industry, Marketing & Sustainability, Dassault Systèmes. “Developing skills in schools and in continuing education with the 3DEXPERIENCE platform will accelerate this transformation and the delivery of resilient, optimized buildings and infrastructure that improve quality of life. ESTP Paris has understood this, and is leading the way by deploying the platform as the cornerstone of its curricula.”

“Digital technologies are facilitating the rapid development of intelligent buildings, smart cities, and sustainable infrastructure. It is imperative that our students master these technologies to become the senior managers needed to build the world of the future while addressing energy efficiency, connectivity, urban growth and other areas,” said Joël Cuny, Chief Executive, ESTP Paris. “The 3DEXPERIENCE platform will enable us to train our students on the latest technologies so that they become highly-skilled professionals with sought-after industry skills.”

## ***ESI Group continues evolving its Board of Directors***

7 September 2021

*Patrice Soudan, co-opted independent Director*

ESI Group announces the evolution of its Board of Directors to continue supporting the company’s transformation toward best-in-class international listed company. During its meeting of September 3rd, 2021, the Board of Directors co-opted Patrice Soudan as independent Director. He takes over the mandate of Vincent Chaillou, who resigned. Patrice’s mandate ends at the shareholders meeting of 2024.

As Director Patrice Soudan represents a valuable asset for ESI Group thanks to his expertise in leadership and financial management of global publicly listed industrial and technological companies. Patrice Soudan will be member of the Strategic Committee, the Audit Committee, the Compensation Committee and the Technology and Marketing Committee.

During these past months, the Group accelerated its transition towards best-in-class governance practices. The arrival of Patrice confirms this, as well as the Group’s ability to attract board members with relevant talent and experience. Patrice’s considerable experience in marketing, R&D, industrial and financial matters will be of great help to the Group and its management to reach the next level of performance. I also want to warmly thank Vincent Chaillou for his contributions to the Board of Directors during these past years.

### ***Alex Davern, Chairman of the Board of Directors of ESI Group***

Patrice Soudan, French citizen, was born on September 29, 1958. He joined Legrand in 1991, as Management Controller, then Director of Management Control, and finally Group Chief Financial Officer in 2001. Appointed Deputy CEO and member of the Legrand Executive Committee in 2008, he took over the management of the Group's main industrial division, and then of all the Group's industrial divisions and operations as of 2014. During this period, Legrand has enhanced growth profile by boosting new business segments, created product platforms and deployed a multipolar back office organization, all this contributing to its well-known long-term value creation.

### ***Patrice Soudan, Independent Board Member***

Happy to join a high potential company under the leadership of Cristel de Rouvray as CEO and Alex Davern as Chairman of the Board. I am committed to bring my knowledge and expertise in an industrial

global company to ESI board of directors and its executive team

This cooptation will be submitted to the vote of next Shareholders' meeting, planned in June 2022. The Board now consists of 8 members, including 6 independent members and 3 women.

## ***Mitsubishi Electric partners with ModuleWorks on Machine Simulation***

8 September 2021

As part of its e-F@ctory Digital Manufacturing initiative, Mitsubishi Electric is partnering with ModuleWorks to integrate the ModuleWorks machine simulation software into its CNC controls. The technology partnership enables users on the shop floor to benefit from powerful 3D graphical simulation with full-scene collision detection.

"The ModuleWorks simulation is part of our strategy of leveraging strong technology partnerships that add value to our numerical control equipment and enable us to continuously deliver the latest technology to our customers in the shortest time." ***NC-System Department at Mitsubishi Electric***

Integrated directly into the HMI, ModuleWorks machine simulation enhances the Mitsubishi controls with high-performance multi-axis milling and turning simulation including gouge and deviation analysis and collision detection with manual or automatic refinement of the simulation result. Workpiece coloring according to the sequence provides convenient visual analysis and enables operators to immediately identify and prevent potential collisions for safe and cost-effective machining.

"It's great to see how our technology takes leading CNC manufacturers like Mitsubishi Electric a step further in their digital manufacturing strategies to improve machining performance, efficiency and safety. We look forward to a continued successful partnership and new technological developments.

***Mark Foti, Head of Digital Factory at ModuleWorks.***

In the next stage of the cooperation, the two companies are extending the simulation with ModuleWorks collision avoidance logic that automatically chooses the best way to handle the detected collisions.

## ***NEC Expands its Collaboration with AWS in Areas Including Global 5G and Digital Government***

9 September 2021

[NEC Corporation](#) has expanded its collaboration with Amazon Web Services, Inc. (AWS) in areas that include global 5G and the digital government in support of accelerating digital transformation for customers.

In November 2020, NEC and AWS concluded a corporate-level strategic collaboration agreement, and have been developing offerings and strengthening delivery capabilities since then. NEC will now expand this collaboration and strengthen efforts in the following areas:

### ***Global 5G***

NEC aims to develop an end-to-end 5G offering and to provide it globally by combining NEC's high-performance cloud-native open 5G mobile core, OSS/BSS solutions, local 5G use cases etc., and AWS cloud and edge solutions. NEC will accelerate telecom carriers' cloudification of network workloads and enhance digital transformation for enterprises by deploying 5G-based infrastructure and applications at the network edge. This combined solution stack will be supported by NEC's system integration services to enable customers to efficiently deploy and scale 5G networks, enhance automation and drive significant improvement in operational economics.

## ***Digital government***

NEC has been certified as an AWS Government Competency Partner based on the strategic collaboration that started last year and its achievements for governments to date. Going forward, NEC will further strengthen its relationship with AWS and focus on developing and providing a menu of offerings to accelerate the digital transformation for government activities in Japan.

## ***Hybrid cloud***

By collaborating with AWS, NEC aims to develop and provide a menu of offerings that connects on-premises and cloud environments securely, at high speed, and with low latency. This will contribute to the acceleration of digital transformation through modernization that utilizes the customer's existing information technology (IT) assets.

To accelerate these initiatives, the NEC Group has increased the number of AWS-certified engineers to 2,000 at present, aiming for 3,000, double the number from the start of collaboration in 2020, and firmly maintains one of Japan's largest delivery capabilities for cloud projects. Going forward, NEC will continue to strengthen these positions and to ensure that it responds to customers' digital transformation demands.

Comments from both companies on this collaboration are as follows:

"NEC is pleased to announce the expansion of its strategic collaboration with AWS. Last year, NEC announced this global collaboration as the first of its kind between AWS and a Japanese company. It has been a great year, seeing many successes in the areas of government, modernization and in the skill enhancement of NEC engineers. NEC is now expanding the collaboration with AWS in the areas of global 5G, digital government and in enhanced hybrid cloud offerings. With the strong global support from AWS, NEC will help drive digital transformation in the government sector and across industries as part of orchestrating a brighter world." Toshifumi Yoshizaki, Executive Vice President at NEC Corporation

"We are delighted to deepen our relationship with NEC. AWS welcomes NEC's commitment and delivery of solutions built on AWS to deliver high-quality solutions that accelerate customers' digital transformations. We look forward to NEC's continued expansion of offerings and further expansion of delivery capabilities to optimize these transformations." Doug Yeum, Global Head of Alliances & Channels at Amazon Web Services, Inc.

## ***Oracle Offers Free Training and Certification for Oracle Cloud Infrastructure***

10 September 2021

*Global training program helps close skills gap and creates new career opportunities with Oracle's fast-growing cloud*

Oracle today announced it will offer [Oracle Cloud Infrastructure](#) (OCI) [training](#) and [OCI certification](#)\* testing for free worldwide. The new program includes Oracle's entire expert-created OCI learning curriculum for all skill levels and various IT roles. Through this program, learners have access to all OCI courses, delivered digitally, on-demand, and available in 13 languages. Oracle is also offering [Oracle Autonomous Database](#) and other certification exams free for a limited time\*.

Organizations are increasingly choosing to run their mission-critical workloads on OCI because of its ability to run any cloud workload with faster migration, lower cost to operate and on a more secure, globally available platform. As OCI customer adoption continues to grow, Oracle has increased investment in programs that provide support to customers and increase access to relevant, hands-on

# CIMdata PLM Industry Summary

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cloud skills training to help them get the most out of the Oracle Cloud.

Oracle's new training program enables people to gain valuable cloud expertise that can be applied to any industry, enabling them to enhance their value and grow their careers. The free training and certification also helps to expand the IT talent pool, making it easier for businesses to acquire or develop the skilled professionals they need to grow and innovate quickly.

"Throughout the pandemic, we've seen the IT skills gap become wider and more prominent than ever before due to our heightened reliance on high-tech and cloud skills. This gap not only impacts the people looking for meaningful careers but also companies seeking qualified professionals," said Damien Carey, senior vice president, Oracle University. "By providing free training on arguably the fastest growing cloud technology in the industry, Oracle is helping individuals build the skills they need for successful careers and making it easier than ever for our customers to maximize the value of their Oracle Cloud investment."

Oracle's new program will include:

- Access to the entire digital OCI training catalogue which includes courses for all levels and multiple roles, accessible anytime and anywhere with 13 languages supported
- Hands-on labs through the [Oracle Cloud free tier](#) to enable practice in a live environment
- An end-to-end Oracle certification experience — from preparation courses and practice exams to testing and credentialing
- Live sessions taught by Oracle experts who cover best practices and provide personalized feedback
- Career resources to support those who are seeking new job opportunities

\*Free OCI, Oracle Autonomous Database and other certifications will be available exclusively from Oracle University through December 31, 2021. Free OCI digital training will be available on-going. To learn more about the program, visit the [OCI free training and certification page](#).

## ***TCS Positioned as a Leader in Life Sciences Operations Services by Everest Group***

7 September 2021

*Tata Consultancy Services' End-to-End Services across the Complete Life Sciences Value Chain, TCS ADD Platform, and Strong Domain Expertise, Cited as Key Strengths*

Tata Consultancy Services (TCS), a leading global IT services, consulting and business solutions organization, has been positioned as a Leader in the Everest Group PEAK Matrix® for Life Sciences Operations Services.

In an assessment of 31 life sciences BPS providers, TCS was placed highest for Vision and Capability. According to the report, TCS is one of the largest providers of services in life sciences operations and offers end-to-end services across the complete value chain including pharmacovigilance, clinical data management, biostatistics, supply chain management, regulatory affairs, and medical writing.

Cited as a strength was [TCS' ADD platform](#) (driven by cognitive automation), for which strong use cases have been noted in the market. The company's significant investments in developing next-generation solutions and platforms for core R&D functions, including genomics secondary analysis and lab informatics, were highlighted as a key strength. The report goes on to say that clients have been very vocal about TCS' strong domain expertise, high quality of work, and leverage of automation tools and solutions (including ADD platform).

# CIMdata PLM Industry Summary

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*“TCS leverages its deep domain expertise and cutting-edge technologies to help life sciences customers reimagine, speed-up and scale mission critical pursuits across the value chain,”* said **Vikas Jain, Global Co-Head, Life Sciences, TCS**. *“This leadership position is a reflection of our vision, investments in innovative solutions, breadth of our services portfolio, and the trust shown by our clients.”*

TCS collaborates with leading life sciences companies to enable their digital transformation journey with a full set of advisory and services and solutions including data and analytics, predictive and prescriptive analytics, advanced cloud-based platform solutions, genomics research, cognitive search, and digital labs. Early investments in research and innovation around key trends and intellectual property, have helped TCS gain significant scale and depth across the life sciences value chain.

TCS offers a full set of business operations and transformation services and solutions including advisory services, predictive and prescriptive analytics, clinical operations, regulatory services, laboratory platforms, AI / ML solutions, pharmacovigilance, genomics research, blockchain, and medical articles and medico marketing.

TCS provides clinical research services such as clinical data management, regulatory affairs, pharmacovigilance, risk-based monitoring, biostatistics and programming, medical writing, medical affairs and medico marketing, and health economics and outcomes research.

The company’s extensive portfolio of intellectual property – including the award-winning TCS ADD platform suite, Real World Evidence platform, Decision Fabric™ engine, TCS Connected Clinical Trials™ platform and Translational Research Platform – helps customers achieve better speed to market and superior business outcomes. Other solutions include CDISC Review Assistant, Custom Functions Framework and eTMF Indexing Assistant for Clinical Trials, MLR automation and PromoRev for marketing and sales, analytics and compliance support, and Data and Analytics Target Operating Model (DATOM™) for operations spanning the complete supply chain.

The TCS ADD platform helps clients transform the entire clinical R&D value chain and makes clinical trials more agile and safe. Powered by a cognitive artificial intelligence engine, data-driven smart analytics and IoT, it drives superior business outcome such as optimized and safer operations.

*“The evolving landscape in the life sciences industry is giving rise to new operational challenges related to accelerated drug research, early AE detection, and building direct patient access. These challenges necessitate the development of new capabilities, prompting pharma and MedTechs to leverage third-party support,”* said **Manu Aggarwal, Partner, Everest Group**. *“TCS’ diversified coverage of the life sciences market combined with technology leverage, such as its AI-powered ADD platform, and domain expertise have led to its position as Leader on the PEAK Matrix® for Life Sciences Operations Services.”*

## ***Tukatech Expands Digital Fabric Library for 3D with FABFAD***

9 September 2021

*Visualize 3D garments, Fabric, Trims, and Prints instantly*

[Tukatech](#), the leading global fashion tech company and [FABFAD](#), Los Angeles’ leading digital printing and full service communal microfactory, revealed their latest collaboration today. The two companies have connected TUKA3D Designer Edition (DE) to over 100,000 unique fabric prints designed and sourced by FABFAD. This will allow fashion designers to visualize fabric prints on a 3D garment, and then have the approved 3D sample made in real life.

Designers can easily visualize FABFAD’s proprietary print library and develop 3D “look samples”

# CIMdata PLM Industry Summary

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using TUKA3D Designer Edition within minutes. Once the user has created their digital 3D look or collection and are ready to proceed, they can order sample or production yardage directly from FABFAD. “What used to take few months to develop and produce, we can now do in just a few days or even the same day.” says Sean Saberi, CEO of FABFAD.

Users can use Tukatech’s library of ready-made 3D garments, or find the model they want to design for, then shop styles made to fit that model. FABFAD’s high-quality images represent physical materials, so that after approval designers can order the same and achieve the exact same look in real life production.

“The process allows for Designers to visualize their new styles and concepts in 3D and with the assurance of those actual fabrics and prints being available to them at any quantity they wish.” says Chris Walia, Chief Operating Officer at Tukatech.

In July, Tukatech announced another parentship with Sowtex (the fastest-growing B2B textile marketplace). This was the first 100% digital connection for design and development by connecting TUKA3D DE users to over 10,000 plus textile manufacturers, reducing sampling turnaround time from weeks to hours.

FABFAD is also a Tukatech Communal Microfactory providing complete design, development and manufacturing space for rent. Rental offerings include, workspace, meeting rooms, 2D and 3D CAD systems, sample making, and cut and sew to finished product.

“Tukatech has redefined the entire digital design and development process.” says Ram Sareen, Founder and CEO of Tukatech. With the collaborative efforts with Sean Saberi and the FABFAD team, we are allowing designers to visualize virtually in real-time, with real fabrics and prints, create digital samples, and give them direct access to the supplier, FabFad. This is what you call quick, inexpensive, and sustainable!” continues Sareen.

## ***Wipro collaborates with Securonix to deliver managed security services - Express Computer***

8 September 2021

### *Partnership to Boost Wipro’s Global Prevention, Detection and Response Capabilities*

Wipro Limited, a leading global information technology, consulting and business process services company, announced a partnership with Securonix, a Gartner Magic Quadrant Leader SIEM (Security Information and Event Management) vendor, and provider of the Securonix Security Operations & Analytics Platform. The partnership brings together Securonix’s cloud-first SIEM, analytics-driven detection and automated response tools with Wipro’s global reach and cybersecurity intelligence capabilities to provide organizations with improved governance and security threat protection.

Cybersecurity today spans several niches including 24/7 security monitoring, incident response and digital forensics, security orchestration and automation, security data lakes, threat intelligence, vulnerability management, host and endpoint security, application security and network security, among others. Managed security services can enable CISO’s (Chief Information Security Officers) and Cyber Operations teams navigate challenges faced in these areas and beyond.

As an MSSP (Managed Security Service Provider) in the [Securonix FUEL](#) Partner Program, Wipro joins other global service providers in partnering Securonix to bolster their managed security offerings. Augmented with [Securonix Jupiter](#), Securonix’s end-to-end security operations platform delivers enhanced detection and response, improved user experience, and optimized cost and performance.

***Tony Buffomante, Senior Vice President and Global Head, Cybersecurity and Risk Services, Wipro***

# CIMdata PLM Industry Summary

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*Limited* said, “One of the largest risks to enterprises today is the lack of trained, experienced cybersecurity professionals. Wipro brings together best-in-class technology and people to solve cybersecurity issues and strengthen businesses’ overall security posture. Our partnership with Securonix -- a SIEM platform that’s trusted by half of the Fortune 500 -- is playing a key role in Wipro managed security services and underscores the larger industry need for real-time analytics combined with a world-class detection and incident response platform.”

“Wipro is recognized as a global leader in cutting edge business solutions. Its decision to partner with Securonix to enhance enterprise threat prevention, detection and response further validates the strength of our platform following our inclusion as a Leader in Gartner’s Magic Quadrant for SIEM and 5-Star rating from CRN in its 2021 Partner Program Guide. As we continue an aggressive investment strategy in India, Wipro will serve as a key partner enabling us to deliver the technologies and services organizations in the region need to succeed in combatting threats to their key infrastructure and cloud deployments,” said *Sachin Nayyar, CEO, Securonix*.

“Securonix’s tremendous success and growth this past year has stemmed from investments with our partners. Our collaboration with Wipro and expanding partner network are enabling us to help more businesses solve today’s advanced security threats by providing a unique partnership between technology and people,” said *David Wagner, Vice President, Global MSSPs & Systems Integrators, Securonix*.

Through the partnership with Securonix, Wipro aims to improve businesses’ cyber organizational effectiveness, resiliency, and achieve a cost-effective positive security posture. The services provided are backed by Security Operations Center (SOC) best practices, regulatory and compliance requirements, as well as cyber-risk advisory and assurance. These SOC services that empower organizational resilience can be delivered from Wipro’s global Cyber Defense Centers (CDCs), offshore or onsite operation and development centers (ODC), client SOC / CDC premises or through a hybrid model.

## ***Wipro: AI Solutions Wins The Hackett Group's 2021 Digital Award for AI-led HR Automation***

7 September 2021

*The award reinforces Wipro’s leadership in AI and automation*

Wipro Limited, a leading global information technology, consulting and business process services company, was recognized by The Hackett Group for innovation in Artificial Intelligence (AI) led automation, in human resources (HR) functions. Wipro won [The Hackett Group’s 2021 Digital Award](#) in the AI-led automation category for its “Hire-to-Retire – AI-led HR Automation for Employee Onboarding and Engagement” solution.

The use of innovative solutions in HR processes accelerates workflows and makes operations more efficient. The comprehensive AI-led transformation of Wipro’s internal Human Resources Shared Services (HRSS) function reduced employee-onboarding time from 7-8 days to 3-4 days, saved the center US\$ 25 million per year and helped its transformation into an intelligent enterprise by leveraging AI along the “hire to retire” lifecycle.

Wipro’s proprietary [Enterprise Intelligence Quotient](#) (E-IQ) framework was leveraged to reimagine user journeys and identify opportunities to integrate intelligence. The AI Solutions group implemented [Wipro Holmes](#), combined with computer vision and deep learning capabilities to realize the opportunities identified.

# CIMdata PLM Industry Summary

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“The Hackett Group’s Digital Awards celebrate organizations that use technology to solve business problems and create value through innovation. Wipro’s strong entry in the AI-led HR Automation category was a deserving winner for its ability to make AI an ally for enterprises around the world,” said **Vin Kumar, Managing Partner and Digital Operations Advisory Practice Leader, The Hackett Group**.

“We are excited to be recognized for our work in AI-led digital transformation. Wipro’s AI Solutions group built a combination of smart data capture, intelligent process automation, and chatbot solutions, supported by state-of-the-art data science and machine learning algorithms to secure these results. We will continue to push innovation in this dynamic sector to help clients and partners reinvent their operations,” said **Harish Dwarkanhalli, President - Applications & Data, iDEAS, Wipro Limited**.

“Partnering with the AI Solutions team helped transform the HR tech journey, specifically the complete H2R processes. With a focus on value generation and using AI/ML technologies, a significant efficiency improvement was realized by improving agility, and intelligence in people supply chain processes. The transformed HR processes have led to better employee experiences, financial control and regulatory compliances,” said **Putul Mathur, Vice President – Human Resources, Wipro Limited**.

The Hackett Group’s Digital Awards highlight innovative companies that operate at the cutting edge of digital transformation solutions, including automation, advanced analytics, and AI to hyper-automate end-to-end business operations..

## Event News

### ***CGTech Highlights VERICUT 9.2 Simulation, Composites, and Additive Capabilities at CAMX***

8 September 2021

CGTech will demonstrate VERICUT 9.2 at the Composites and Advanced Materials Expo (CAMX) from October 19 – 21 in booth W47. VERICUT is the industry standard for simulating CNC machines to detect errors in traditional machining such as milling or turning, as well as additive manufacturing and composites.

CAMX is the largest, most comprehensive composites and advanced materials event in North America. The expo is an opportunity for attendees to find solutions and products that are revolutionizing industries like aerospace, transportation, automotive, medical, and beyond.

The latest version of VERICUT brings improvements to performance and collision detection, enhanced support for cutting tools and tool reporting, and more options for optimization in both Force and OptiPath. Optimize NC programs by setting target Chip Thickness along with any combination of machining limits in Force such as maximum cutting forces or spindle power and tool deflection.

VERICUT’s additive module simulates and verifies the capabilities of additive and hybrid CNC machines such as laser activity, power, material feed, and gas flow. Detect collisions between the machine and the part while identifying errors, voids and misplaced material. VERICUT allows users to arrange additive and machining operations in any order to check that all setups and holding fixtures work while verifying the finished part matches the design.

VERICUT Composite Simulation (VCS) is a simulated work environment for automated composites manufacturing. VCS simulates NC programs on a virtual machine including head changes, probing, knife cutting, and more. The simulated material can be inspected for stack thickness, ply offset, ply

# CIMdata PLM Industry Summary

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angle, and other information to ensure that the program follows standards and requirements. VCS can automatically create a report showing simulation results and statistical information.

This year, the event will be extended through CAMX+. This digitally optimized event allows remote attendees to participate from anywhere in the world. Digital attendees can access the same content as in-person guests, and can view world-class educational sessions on demand.

CGTech's Barry Kennemer will provide an on-demand presentation titled: *Simulation Paves the Way for Productivity with Additive Manufacturing*. The presentation will cover the benefits of simulation software and additive manufacturing such as:

- How simulation software helps designers create parts to suit their additive manufacturing capabilities.
- Why simulating post-processed NC code on digital twin virtual machines is the best way to protect your investment into additive equipment.
- How simulation software can validate that planned operations and setups will work and those parts are producible.
- What a robust additive manufacturing software can do beyond "building a part."

"VERICUT's capabilities in simulating metal cutting, additive and composites lay-ups give our customers the ability to confidently build more complex parts in new and creative ways," says Gene Granata, VERICUT Product Manager. "Increased performance in simulation and collision checking better protects our customer's investments in expensive CNC additive and hybrid manufacturing, and composites machinery."

## ***CONTACT Cloud Connect 2021 - The online event of the year for digital sovereignty and future-proof business***

7 September 2021

On September 21st and 22nd, CONTACT Software, together with customers, partners and prominent guests, will present which competencies and technical skills are crucial for the successful digital transformation of companies.

Under the motto "Energizing digital sovereignty for your resilient business", the two-day online event shows how companies can act digitally with confidence in times of increasing dynamism and make the right decisions for the future viability of their business. The open low-code platform CONTACT Elements with application examples from the areas of IoT, PLM, project management and Software-as-a-Service (SaaS) will be presented as a flexible solution for maximum resilience and economic efficiency. Inspirational keynotes, base camps from selected partners and collaborative hands-on workshops complete the program.

In addition to specialist articles by CONTACT experts on digital solutions, renowned customers report exclusively on the practical application of the software in their production and work processes. SIG Combibloc, one of the leading manufacturers of carton packs and filling machines for the food industry, and HUBER + SUHNER, a global player in the field of electrical and optical connection technology, will be represented.

Other highlights are top-class keynotes from Bosch, Gartner and other top speakers. The event is rounded off by the possibility of an interactive exchange with the partner companies in the context of digital base camps as well as numerous hands-on workshops on the topics of IoT and PLM. The Cloud

# CIMdata PLM Industry Summary

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Connect will be streamed live from a television studio this year. TV presenter Susanne Schöne (Sat1-News) will host the program.

The Cloud Connect for the German-speaking area will take place from September 21 at 9:00 a.m. to September 22, 2021 at 12:30 p.m. Further information and the possibility to register for free can be found [here](#).

The event for the European / Asian as well as the American area will take place on October 26th. Further information and the possibility to register free of charge are available [here](#).

## ***DXC Technology to Participate in Citi's 2021 Global Technology Conference***

10 September 2021

[DXC Technology](#), a leading Fortune 500 global technology services company, will participate in Citi's 2021 Global Technology Conference on September 14, 2021. President and CEO [Mike Salvino](#) is scheduled to participate in a fireside chat at 9:40 a.m. EDT.

The presentation will be available on the "Events and Presentations" section of DXC's investor webpage at <https://investors.dxc.com>.

## ***PROS to Participate at the Jefferies Virtual Software Conference On September 15, 2021***

8 September 2021

[PROS Holdings, Inc.](#), a provider of SaaS solutions optimizing shopping and selling experiences, today announced that company management will participate virtually in a fireside chat as well as one on one meetings at the upcoming Jefferies Virtual Software Conference.

Event: Jefferies Virtual Software Conference

Participants: Alex Harrington, VP of Finance, and Belinda Overdeput, Senior Manager, Investor Relations

Date: Wednesday, September 15, 2021

Fireside Chat: 11:00 AM – 11:25 AM EDT

The live audio and archived webcast for the fireside chat will be available on the company's website at <https://pros.com/> in the "Investor Relations" section.

## **Financial News**

### ***Accenture to Host Conference Call Thursday, Sept. 23, to Discuss Fourth-Quarter and Fiscal Year 2021 Results***

7 September 2021

Accenture will host a conference call at 8:00 a.m. EDT on Thursday, Sept. 23, to discuss its fourth-quarter and fiscal year 2021 financial results. A news release containing these results will be issued before the call.

To participate, please dial +1 (877) 692-8955 [+1 (234) 720-6979 outside the United States, Puerto Rico and Canada] and enter access code 6450548 approximately 15 minutes before the scheduled start of the call. The conference call will also be accessible live on the Investor Relations section of the Accenture

# CIMdata PLM Industry Summary

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Web site at [www.accenture.com](http://www.accenture.com)

A replay of the conference call will be available online at [www.accenture.com](http://www.accenture.com) beginning at 11:00 a.m. EDT on Thursday, Sept. 23, 2021. The replay will also be available via telephone by dialing +1 (866) 207-1041 [+1 (402) 970-0847 outside the United States, Puerto Rico and Canada] and entering access code 6704907 from 11:00 a.m. EDT Thursday, Sept. 23 through Wednesday, Dec. 15, 2021.

## ***aPriori Raises \$30 Million Series D Investment to Further Capitalize on Strong Demand for Digital Manufacturing Solutions***

8 September 2021

aPriori Technologies, the leading provider of digital manufacturing software featuring design for manufacturability (DFM) and cost (DTC) solutions, announces today that the company has recently completed a Series D investment round of \$30 million. Co-led by Bruce Clarke of PBJ Capital and Gaurav Tewari of Omega Venture Partners, the investment brings the valuation for the company to \$280 million.

The digital transformation happening in manufacturing is driving significant demand for aPriori Cost Insight solutions that provide automated early design and production guidance through digital manufacturing insights critical across the product development and production lifecycle. BIS Research has estimated the market for DFM/DTC solutions at \$5 billion.

During the COVID-19 pandemic, aPriori cloud related Annual Recurring Revenue (ARR) grew by 400%. This growth was achieved in large part due to early market acceptance of aPriori's newest cloud-based product offering, Cost Insight Generate. This revolutionary product connects to a company's Product Lifecycle Management (PLM) system, automatically initiating a detailed manufacturability and cost analysis—with minimal interaction required by the end user—whenever a new or modified part is submitted to the PLM system. If Cost Insight Generate detects a potential manufacturability issue, the end user is notified via email, and can then utilize aPriori Cost Insight Design manufacturability guidance to quickly eliminate the problem.

“Cost Insight Design and Cost Insight Generate are just the first in a series of collaborative cloud-based applications that we are bringing to market. This new investment will be used to hire additional staff to further accelerate the development of this suite of role-based cloud applications for engineering, sourcing, and supplier teams,” said Stephanie Feraday, aPriori President and Chief Executive Officer. “The investment will also help to expand the company's sales and marketing organizations to enable broader penetration of the global manufacturing market, their supply chains, and government organizations such as the Department of Defense.”

“We have watched this market begin to heat up over the past year,” Bruce Clarke of PBJ Capital noted, “and we are optimistic that aPriori will continue to maintain its leadership position by introducing new manufacturing simulation technology that completely transforms how product innovations are delivered to market at maximum profitability.”

Gaurav Tewari of Omega Venture Partners elaborated on Bruce's comments: “As part of our due diligence, we interviewed a number of aPriori customers. The overwhelming consensus was that companies are saving millions of dollars on cost of goods sold (COGS) every year by leveraging aPriori's actionable insights and automation capabilities, which significantly improves product profitability,” he added. “Every CEO should be tasking a team to investigate how this technology can help improve competitiveness and the value of products they are delivering to market.”

# CIMdata PLM Industry Summary

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“The future for aPriori is incredibly positive,” said Bob Davoli, Chairman of the Board at aPriori and Director at Gutbrain Ventures. “During my career as an investor, I’ve never seen a company that delivers such a strong Return on Investment (ROI) to its customers. Even more remarkable is that no other player has the competitive offering aPriori has, giving them a dominant market position. Furthermore, the deployment process is designed so that Time to Value (TTV) is incredibly short. In just a few months, a customer has typically already earned back their original investment in aPriori, and everything after that contributes directly to reducing COGS and improving product profitability.”

## Implementation Investments

### ***Atlanta Public Schools Selects Infor***

9 September 2021

*Infor CloudSuite Public Sector to help school district through digital transformation*

Infor, the industry cloud company, today announced that [Atlanta Public Schools](#) has chosen to upgrade its current single-tenant system to Infor CloudSuite™ Public Sector. Atlanta Public Schools is one of the largest school districts in the state of Georgia, serving approximately 51,000 students across 87 schools and five programs. The district is organized into nine K-12 clusters with 64 traditional schools, 19 charter schools, six partner schools, two alternative schools and five alternative programs. With Infor’s cloud-based solutions, the district will have the ability to apply automated workflows and role-based security to tighten access to sensitive data, and allow its stakeholders to access data anytime, anywhere quickly and securely with Infor Go®, a native mobile application that provides a centralized access-point for Infor and proprietary apps with single sign-on (SSO).

“The journey to transform our enterprise resource planning (ERP) system has taken us a few years up to this point. We look forward to our continued partnership with both Infor and RPI Consultants Inc. to move our Global HR and S3 ERP systems to the new multi-tenant cloud platform,” said Olufemi Aina, executive director of information technology at Atlanta Public Schools. “During the upgrade process, we will be removing customizations that have been in place for years, therefore making it easier to test and deploy future upgrades.”

Infor CloudSuite Public Sector is a complete suite of applications made for all levels of government, including state, county, municipal, education, public safety, transit, and utilities. The purpose-built software includes solutions for budgeting, finance, procurement, public safety, asset management, human resources, payroll, governance risk and compliance, and community development and regulations. With Infor CloudSuite Public Sector, Atlanta Public Schools will help ensure that critical business functions continue to run smoothly and securely, while expanding cloud-based learning and performance management to deliver better and safer student and teacher experiences.

“The COVID-19 pandemic has created many challenges for school districts including shifting how teachers engage with students as well as budget uncertainties due to reduced tax rolls. As a result, many districts are accelerating their business and technology transformation efforts to better respond to the challenges of today’s changing world,” said Steve Potvin, Infor vice president. “With Infor, organizations can realize instant cost benefits, take advantage of the convenience of an always-connected system and remain at ease with more reliability.”

### ***Atkins And Siemens To Support Aeralis In Implementation Of Its Digital Enterprise***

## ***To Deliver Game-Changing Modular Aircraft***

8 September 2021

AERALIS, the transformational British Military jet developer, has today marked another key milestone in the development of its pioneering modular military aircraft, entering into strategic agreements with Atkins, a Member of the SNC-Lavalin Group, and Siemens Digital Industries Software. These agreements have been put in place to provide unmatched access to established UK aerospace resources, as well as accelerate digital transformation to become a fully integrated digital enterprise. Together these partnerships will provide AERALIS with the people and processes to develop its aircraft at pace.

Acting as AERALIS' Digital Technology Partner, Siemens will provide software applications from its Xcelerator Portfolio, a comprehensive and integrated portfolio of software and services. Built on a fully integrated digital infrastructure, Xcelerator will enable AERALIS' to connect a range of product lifecycle business processes to create AERSIDE, AERALIS's Smart Integrated Digital Enterprise. AERSIDE will connect to everything from aerospace vehicle design, production and assembly simulation, through maintenance, support modelling and training.

AERSIDE will be used by AERALIS, together with its Engineering Delivery Partner, Atkins, to design and develop its modular family of aircraft, starting with the first pre-production aircraft, set to fly in 2024. Atkins' Aerospace & Defence team will provide multi-layered support to AERALIS, from specialist recruitment to safety assessments and specification, integration and certification. As well as supporting the requirements, detailed engineering design and down-selection processes for developing the aircraft, Atkins will also provide ready access to its human factor specialists for the development of the conceptual cockpit and human performance data assimilation.

The partnership with Atkins has secured a wealth of resources which will enable AERALIS to continue expanding its horizons in the development of its cutting-edge aircraft and will build on Atkins and Siemens' existing commitment to the UK aerospace and defence sector, bringing proven experience in supporting many UK aerospace and defence companies and key programmes.

AERALIS has been using Polarion REQUIREMENTS™ software and Simcenter™ Amesim™ software, and the decision to implement additional elements from the Xcelerator portfolio solidifies this partnership and will enhance AERALIS' ability to deliver its first aircraft at pace in order to exploit modular design to support customer needs.

“We are delighted to announce our collaboration with Atkins and Siemens, whose resources and capabilities come highly respected in the industry. This enterprise relies upon a solid foundation of digital infrastructure and innovative engineering support, and represents a significant step forward in aircraft development. We are excited to be partnering with Atkins and Siemens in this endeavour, utilising a deep well of resources and support to redefine modern jet design.” *Tristan Crawford, AERALIS CEO*

“If agile, modular, commercially-driven aircraft design is to succeed, the need to quickly ramp up availability at commercial scale is going to be critical,” said Ben Sheath, VP and managing director UK for Siemens Digital Industries Software. “We are delighted to be able to support AERALIS in achieving its business goals and the positive impact this will have on the UK aerospace industry and supply chain.” *Ben Sheath, VP and managing director UK for Siemens Digital Industries Software*

“We're excited to be working with AERALIS to help shape the development of cutting-edge aircraft design. Our use of new and emerging technologies, such as digital twins, enables the team to test training jets virtually before they are built, in order to reduce risk and drive efficiencies.” *Dave Clark,*

*Vice President Aerospace & Defence at Atkins*

## ***Flower distributor picks Infor CloudSuite Distribution to seamlessly manage seasonal peaks of many thousands of orders an hour***

10 September 2021

Infor CloudSuite Public Sector to help school district through digital transformation

Infor, the industry cloud company, today announced that [Atlanta Public Schools](#) has chosen to upgrade its current single-tenant system to Infor CloudSuite™ Public Sector. Atlanta Public Schools is one of the largest school districts in the state of Georgia, serving approximately 51,000 students across 87 schools and five programs. The district is organized into nine K-12 clusters with 64 traditional schools, 19 charter schools, six partner schools, two alternative schools and five alternative programs. With Infor's cloud-based solutions, the district will have the ability to apply automated workflows and role-based security to tighten access to sensitive data, and allow its stakeholders to access data anytime, anywhere quickly and securely with Infor Go®, a native mobile application that provides a centralized access-point for Infor and proprietary apps with single sign-on (SSO).

“The journey to transform our enterprise resource planning (ERP) system has taken us a few years up to this point. We look forward to our continued partnership with both Infor and RPI Consultants Inc. to move our Global HR and S3 ERP systems to the new multi-tenant cloud platform,” said Olufemi Aina, executive director of information technology at Atlanta Public Schools. “During the upgrade process, we will be removing customizations that have been in place for years, therefore making it easier to test and deploy future upgrades.”

Infor CloudSuite Public Sector is a complete suite of applications made for all levels of government, including state, county, municipal, education, public safety, transit, and utilities. The purpose-built software includes solutions for budgeting, finance, procurement, public safety, asset management, human resources, payroll, governance risk and compliance, and community development and regulations. With Infor CloudSuite Public Sector, Atlanta Public Schools will help ensure that critical business functions continue to run smoothly and securely, while expanding cloud-based learning and performance management to deliver better and safer student and teacher experiences.

“The COVID-19 pandemic has created many challenges for school districts including shifting how teachers engage with students as well as budget uncertainties due to reduced tax rolls. As a result, many districts are accelerating their business and technology transformation efforts to better respond to the challenges of today's changing world,” said Steve Potvin, Infor vice president. “With Infor, organizations can realize instant cost benefits, take advantage of the convenience of an always-connected system and remain at ease with more reliability.”

## ***German Premium Automobile Manufacturer Deploys Dassault Systèmes' Solution for Production Planning and Scheduling at E-Drive Production Sites in Europe***

7 September 2021

- Rollout of Dassault Systèmes' DELMIA Quintiq applications completed at BMW Group's E-Drive production sites in Dingolfing, Leipzig and Regensburg, the first deployments in plants across Germany
- To better master the rapid evolution and perturbations of the complex automotive components production supply chain, Dassault Systèmes aims to empower better, faster decisions to improve

# CIMdata PLM Industry Summary

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manufacturing's key performance indicators

- The DELMIA Quintiq environment synchronizes demand from vehicle plants for components and increases productivity while reducing inventories and costs

Dassault Systèmes today announced that the program to optimize plant performance by digitally transforming production planning and scheduling is now live as part of its partnership with BMW Group. Dassault Systèmes' DELMIA Quintiq applications were successfully deployed to optimize the production and assembly of E-Drive components at the [BMW Group plants](#) in Dingolfing, Leipzig and Regensburg.

E-Drive component assembly lines are now connected to the DELMIA Quintiq virtual environment for production planning and scheduling. DELMIA Quintiq applications aim to help lower the cost of production by enabling reduced set-up time and inventories, and quick responses to disruptions.

DELMIA Quintiq applications will continue to be deployed by BMW Group to plan and optimize its in-house component production. This includes optimizing the production of all five press plants in Germany.

“End-customer demand for electric vehicles is rapidly increasing and puts OEMs under pressure to optimize their response to this new market with scarce resources. It is critical to ensure timely production of their specific components. Any missing component has a direct impact on car sales. The risk of such shortages can be reduced through a new approach to production planning that improves the agility and the efficiency of the component supply chain, to better master the vast amount of relevant data and synchronize all stakeholders,” said Laurence Montanari, Vice President, Transportation & Mobility Industry, Dassault Systèmes. “Dassault Systèmes enables BMW Group to empower better, faster decisions and productivity, and improve the precise key performance indicators that reflect its current business priorities.”

## ***Howler Brothers Ride the Technology Wave to Efficiency with Centric PLM***

7 September 2021

*Surf and fly-fishing apparel company continues their digital journey*

Howler Brothers, the outdoor apparel company, has selected Centric Software®'s Product Lifecycle Management (PLM) solution, Centric SMB for emerging brands. Centric Software provides the most innovative enterprise solutions to plan, design, develop, source and sell products such as apparel, footwear, sporting goods, furniture, home décor, cosmetics, food & beverage and luxury to achieve strategic and operational digital transformation goals.

Headquartered in Austin, Texas and founded in 2011, Howler Brothers was formed by friends Chase Heard and Andy Stepanian. The name of the company was inspired by the Howler monkeys they heard on their surf trips to Costa Rica. They set out to make apparel that fit with their fly-fishing, surfing lifestyle. Their designs are inspired by geography, fashion, water and art.

The company had data housed in multiple, siloed systems. Referring to the google docs and spreadsheets they were using, Alex Mette, COO at Howler Brothers says, “We weren't sure what was the most recent information. We're continuing to grow, so we need the ability to better plan and have insight into the future of the brand.”

They also wanted to improve efficiency by reducing redundancy and errors, plus collaborate better with their vendors and ramp up DTC via their website.

The pandemic brought changes to their business. Mette says, “Prior to the pandemic, we were about

# CIMdata PLM Industry Summary

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55% direct and 45% wholesale, but those [wholesale] accounts went dormant during the shutdown. The shift to e-commerce came and all of a sudden—there was a flood of traffic coming to our site. Thankfully in the fall, the wholesale accounts came back but it brought to light some opportunities in direct sales and strengthening partnerships in wholesale.”

In their search for a PLM solution, Howler Brothers evaluated several providers. “We wanted to make a big enough change in what we were doing to justify the time investment of our people. We saw a few systems that we didn’t feel were a significant enough upgrade over our existing processes,” says Mette. “Being able to get up and running on day one but then have the flexibility to go forward and build out new functionality as we need it with Centric was key for us.” Howler Brothers also took the opportunity to discuss Centric with some other brands that had similar products, and were able to get answers to questions they had. The implementation is fully remote.

Howler Brothers works with factories across multiple time zones and countries like China, Indonesia, Guatemala, Pakistan, Bangladesh. “We’re continuing to move from seasonal product in one collection, to rolling out more frequent, smaller collections throughout the year which is good from a customer perspective. But it’s really important to be able to execute on that, to have a good process all the way through,” says Mette.

Howler Brothers looks forward to improving visibility into product development. “Concept kind of happens in a silo and the rest of the team doesn’t have a ton of visibility until sample time. Not having visibility into the product pipeline creates some issues for marketing from a planning perspective,” says Mette. “Having that visibility from concept all the way through to PO placement is huge. Spending less time just catching up on what other departments are doing will allow us to ultimately put out better products.”

Chris Groves, President and CEO of Centric Software says, “We are happy to be partnering with Howler Brothers. They are a young, growing brand with a promising future and we are excited to play a part in their continued success.”

## ***LIM Group Selects Infor to Drive Digital Transformation***

9 September 2021

*Leading French manufacturer of quality riding saddles chooses Infor CloudSuite, a modern and scalable ERP solution designed for production and rental management*

Infor, the industry cloud company, today announced that [LIM Group \(Leather in Motion\)](#) has chosen its Infor CloudSuite, an ERP system designed for manufacturers, distributors and rental companies.

LIM Group was created in 2013 through the merger of CWD and Devoucoux, two of the brands in the Butet Group. LIM Group, which has 630 employees, designs, manufactures and distributes high-quality saddles for, among others, about a hundred of the world's top 250 riders. Labelled as a "Living Heritage Company," the brands of the LIM Group are recognised for their exceptional know-how. The group is present in 12 countries and has a strong presence in the Nouvelle Aquitaine region in France. To closely meet the expectations of its customers, LIM Group relies on a combination of innovation and know-how, as well as on the mastery of all functions: from design to distribution, including manufacturing. Today, the company is supported by Bpifrance, a French organization for the financing and development of companies, to allow the development of new products and the reinforcement of its production capacities.

Brice Cuenca, LIM Group’s head of information systems and e-commerce, says: "LIM Group is made

# CIMdata PLM Industry Summary

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up of a collection of entities, 15 subsidiaries in total, all of which interact strongly on a daily basis. However, with 70% of our business being exported — notably to Germany, Canada and the United States — we did not have the right solution to support our development, both in terms of functional coverage and in terms of a single repository and traceability, all of which are necessary factors for optimising the performance of our various activities.”

LIM Group has 12 manufacturing and after-sales service workshops, and the group controls the entire production of high-quality made-to-measure saddles, from the cutting of the leather to its processing, right up to the delivery of the finished product, using no intermediaries. It also produces and distributes riding equipment: 150 product lines and thousands of size/colour combinations. Additionally, LIM Group is developing a trade in business for second-hand saddles, which creates a high-potential circular economy activity, and has just launched a health activity with the marketing of connected devices for monitoring the well-being of horses and riders.

"Our digital transformation project started in 2017 following a scoping study that enabled us to identify 10 or so issues to progress and see how and in what way an ERP solution could respond to them, in part or in full," Cuenca explained. "After an evaluation that proved positive in almost all cases, the project was relaunched a few years later, on the basis of a call for tenders that brought together seven vendors and systems integrators. Then, the COVID crisis delayed our decision again. Ultimately, we chose the integrator Authentic, and then the Infor solution in March 2021.”

In addition to managing production via Infor M3 — the ERP on which Infor's CloudSuite is based — it was the solution's ability to manage the rental and distribution of saddles, as well as the associated service and maintenance activities, that led to this choice. Testimonials from other Infor customers also made the difference when compared to more traditional production management solutions.

In addition, as the saddler has many in-house software solutions that are maintained in-house, it wanted to streamline and integrate all of these applications, which a solution like M3 allows via the creation of application programming interfaces (APIs).

The Infor solution will include Infor Factory Track, a complete production automation solution that supports warehouse mobility and traceability, while providing tools for activity and time tracking.

The deployment is planned to go live in July 2022 in a on-premises environment and will initially be aimed at the production and administration functions (excluding the sales function, which has its own tool that will be interfaced to the Infor ERP) for around 100 users in Europe. It will then be extended at the end of 2022 to the United States for around 50 additional employees.

Fabrice Caumette, Authentic Group director of delivery, says: "We are very proud to accompany LIM Group, a great French company with strong values and renowned know-how, in the implementation of Infor CloudSuite. The project is of great scope as once the manufacturing sites in France and Morocco are up and running, the scope will extend to the distribution subsidiaries around the world."

Cuenca concludes: "Because of our history, we had significant legacy technology, with a lot of specific in-house developments to rationalise. Thanks to the functional richness and scalability of the Infor CloudSuite solution, Authentic and Infor have convinced us of their ability to support us over the long term, particularly in terms of our strategic ambitions, which are above all to develop our services activities.”

***Shoppers Stop Selects Accenture to Help Advance Its Digital Commerce***

## ***Transformation Journey***

7 September 2021

*Use of data and analytics to reimagine and enhance customer experience*

Shoppers Stop Ltd, one of India's leading retailer of fashion and beauty brands, is collaborating with Accenture to accelerate its digital commerce transformation across multiple retail channels. The program aims to enhance customer experience and profitability, as well as support Shoppers Stop's goal of being the go-to digital destination for customers through constant innovation.

“Omnichannel commerce has been a huge focus area for us as we seek to meet and exceed our customers' evolving needs and expectations,” said Venu Nair, Shoppers Stop's managing director and chief executive officer. “By collaborating with Accenture, we want to further strengthen our digital commerce strategy for greater reach and access and also improve the overall shopping experience of our customers. We aim to achieve significant profitable growth in our digital commerce revenues over the next three years.”

Since the second half of 2020, Shoppers Stop has embarked on a transformation of its omnichannel growth strategy. With Accenture's help, the company is strengthening its digital platform, powered by real-time data and analytics across the value chain – from customer experience and supply chain operations through to sales and last mile delivery. Providing a single view of customer and market insights for faster and informed decision-making, the platform optimises customer targeting and contextual marketing with the goal of improving customer satisfaction and revenue. Further, the advanced user interface and user experience are enabling Shoppers Stop customers with a seamless experience across the “browse, search, order and return” stages of the shopping lifecycle, helping bridge the gap between physical and digital touchpoints.

“The retail industry needs to constantly reset so it can stay relevant in the face of changing shopper expectations, and create experiences that engage and delight,” said Sameer Amte, a managing director at Accenture, who leads its retail practice in India, said, “This scalable digital commerce transformation program will help Shoppers Stop respond to emerging customer needs and realize new marketplace opportunities, while delivering superior customer experience. We are combining our deep retail experience with diverse capabilities across strategy, analytics, technology and digital marketing to help the company drive its omnichannel strategy.”

Piyush N. Singh, who leads Accenture's business in India, said, “Of the many shifts precipitated by the crisis, the acceleration of online consumption is one of the starkest. It is also an irreversible trend which has a long-term bearing on the consumer goods and retail industry. There is an urgent need to reimagine business models to stay on the path of growth and we look forward to collaborating with Shoppers Stop on its digital reinvention journey.

Shoppers Stop has been transitioning from being a brick-and-mortar to an omnichannel retailer, empowering customers with its digital initiatives to ensure a seamless shopping experience. Customers can shop safely, and at their convenience through WhatsApp, its website and application. During the first phase of the lockdown, Shoppers Stop unveiled the White Glove Service for remote assistance and sales. With this service and Endless Aisle, customers can shop easily from home. The brand has invested in meticulously training its personal shoppers and beauty advisors to ensure an engaging customer relationship over WhatsApp.

According to findings of a [global survey](#) from Accenture, the dramatic rise in e-commerce driven by the COVID-19 pandemic is likely to remain or accelerate further. For instance, the proportion of online

# CIMdata PLM Industry Summary

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purchases for products such as fashion, home décor, and luxury goods by previously infrequent e-commerce users has increased 667% since the outbreak in India.

Accenture's Retail industry group helps retail and their ecosystem partner companies adapt to change, remain resilient and stay true to their purpose in a [responsible](#) way. To learn more, visit <https://www.accenture.com/us-en/industries/retail-index>

## ***Tata Consultancy Services to Build a New Digital Core on Microsoft Azure, Helping the Airline Achieve Increased Agility and Operational Resilience, and Supporting Future Growth***

8 September 2021

Tata Consultancy Services (TCS), a leading global IT services, consulting and business solutions organization, has been selected by Avianca, one of the leading airlines in South America, as a strategic partner in its cloud transformation journey.

TCS will modernize Avianca's IT infrastructure and build a new future-ready cloud-based digital core on Microsoft Azure. Leveraging its deep domain knowledge of the airline industry and its extensive experience in successfully executing large transformation programs, TCS will help the airline migrate 129 core applications to the cloud and will also manage the new cloud estate.

TCS will leverage its proprietary automation tools and accelerators to drive this transformation, reducing the time-to-market and delivering superior business outcomes. These include TCS Cloud Counsel, a digitized cloud candidature assessment toolset, and TCS Cloud Mason which helps organizations rapidly define, design and deploy cloud foundational platforms.

The new digital core will provide an integrated environment that will enhance Avianca's business agility, operational resilience, adaptability and future-readiness. Additionally, the cloud-based infrastructure will have a significantly reduced carbon footprint that will help Avianca get closer to its sustainability goals.

*"Avianca is a valued customer of TCS, and we are thrilled to partner with them to advance their multi-horizon cloud transformation journey. The new cloud-based digital core that we design and build, will have a tremendous impact on their overall operations, sustainability and future growth,"* said **Sowmya Rajagopalan, Head of Americas, Travel, Transportation and Hospitality (TTH), TCS.**

*"Technology is undoubtedly a very important component of our new vision, that is why we want to provide the best technology available for our talent and customers,"* said **Michael Ruplitsch, Chief Information Officer, Avianca.** *"That's why our work to achieve a transformed IT infrastructure with TCS and Microsoft just makes sense; we look forward to continued innovation and modernization that will drive us into the future."*

*"We are pleased that TCS will deliver a Microsoft Azure powered cloud-based digital core that will enable Avianca to drive digital transformation, achieve their sustainability goals and realize business growth,"* said **Takuya Hirano, Vice President, Global System Integrator and Advisory Partners, Microsoft.** *"We look forward to collaborating with TCS to enable Avianca's migration to the cloud."*

TCS' Microsoft Business Unit works with customers worldwide to accelerate their multi-horizon cloud transformation journeys. TCS uses its deep industry knowledge and large and growing global talent pool of Microsoft-certified consultants to help customers leverage the power of AI, automation and cloud to enhance customer experience, reimagine employee empowerment, optimize operations and spur innovation.

# CIMdata PLM Industry Summary

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TCS has a strong portfolio of end-to-end services spanning the entire cloud lifecycle for private, public, hybrid and multi cloud environments. Services include hybrid cloud strategy, IaaS, legacy colocation, cloud foundation and PaaS, storage cloud, cloud migration, and DR as a service.

TCS is a Microsoft Gold Partner with over 1,000 successful Azure engagements for more than 225 global customers. TCS recently won the 2021 Microsoft Partner of the Year Awards for Azure Intelligent Cloud in France and Dynamics 365 Field Service in the US. Additionally, it is a designated Microsoft Azure Expert Managed Service Partner, recognizing TCS' proven expertise in delivering the highest quality of service on Azure.

TCS partners with leading TTH companies across the globe helping them digitally transform to adopt unique business models, enhance customer experience and drive growth. TCS' large and growing pool of functional and technical consultants have led some of the biggest IT transformation programs and pioneering technology initiatives for its over 100 customers the TTH industry. TCS' TTH innovation lab focuses on researching emerging trends, developing proofs of concepts, and co-innovating with clients. In addition, TCS works with leading industry bodies, to develop TTH-specific solutions, assets, and capabilities.

## ***TCS Signs 10-year Contract with Transport for London to Digitally Transform Taxi and Private Hire Vehicle Licensing Administration***

10 September 2021

*London's 115,000 Taxi and Private Hire Vehicles are Set to Benefit from a New Cloud-based Smart Mobility System Powered by Tata Consultancy Services' DigiGOV™ Framework*

Tata Consultancy Services (TCS), (a leading global IT services, consulting and business solutions organization, has been selected by Transport for London (TfL) to design, implement and operate a new smart mobility system that will reimagine the administration of taxi and private hire vehicles in London.

Over the course of the 10-year contract – which has the opportunity for a five-year extension – TCS will digitally transform taxi and private hire licensing and administration, as well as implement continuous improvements and innovation, responding to evolving industry trends and customer demands.

TCS will design and launch the new system using its DigiGOV™ framework for rapid digital transformation. The system will include an on-demand data and records management system that will enhance user experience by offering services like licensing payments and refunds to vehicle operators and owners through digital channels. Streamlined workflows link the user-friendly front-end interfaces with back-end activities such as bookings, personal detail processing and vehicle inspections. This digital shift by design, will encourage a self-service approach among licensees. Further, with data hosted on AWS cloud, the new solution will be scalable to accommodate future growth, and resilient so customers don't face outages during operational hours.

The new system will be flexible and extensible to comply with evolving policy requirements and legislation. As part of the change management, TCS will conduct in-depth training as part of the onboarding process.

*“TfL is the foremost transportation authority in the world with its innovative approach to managing urban transportation with the use of technology and data. The new TCS-designed technology system will meet TfL's key objectives, enhance customer experience and enable future requirements including connected, shared, electric, autonomous vehicle registrations. We are delighted to be appointed by TfL to deliver this transformation,”* commented **Amit Kapur, Country Head, TCS UK and Ireland.**

*Graham Robinson, General Manager of Taxi and Private Hire, TfL, said: “An efficient and effective licensing system is paramount for any regulator overseeing taxi and private hire operations in a world city. We are pleased to have signed this contract with TCS, as it ensures our business keeps pace with technological developments and gives the best possible service to licensees.”*

## Product News

### **3D Systems Advances Jewelry Design with Launch of VisiJet® Wax Jewel Red Material**

10 September 2021

**3D Systems** the jewelry market leader in 100% lost wax casting, today introduced [\*\*VisiJet® Wax Jewel Red\*\*](#) – the latest innovation to its materials portfolio that is transforming the art of jewelry production. VisiJet Wax Jewel Red enables jewelry manufacturers to design and produce more intricate, durable patterns - unlocking new design styles for 100% wax casting - as well as delivering improved production efficiency and reduced waste. This material in conjunction with 3D Systems’ wax 3D printing technology and additive manufacturing software integrates seamlessly into standard lost wax casting processes and delivers increased freedom of design with same-day pattern printing and casting while eliminating tooling time and costs.

*VisiJet Wax Jewel Red casting patterns enable the production of new jewelry design styles, opening up new possibilities in pure wax 3D printing*

Wax 3D printing has become the recognized standard for the production of patterns for jewelry casting. However, some styles and designs require fine meshes and intricate details that are difficult to achieve. 3D Systems’ new VisiJet Wax Jewel Red is engineered specifically to address the needs of casting houses producing jewelry patterns that include fusion and stone-setting designs. The company’s latest material delivers significantly increased flexibility which reduces breakage as a result of handling through the entire lost wax casting process, especially for features such as lightweight filigree and thin wire mesh designs. Casting houses using this breakthrough material as part of their workflow will be able to produce more durable, flexible patterns thus helping them reduce waste, time, and cost.

*From traditional jewelry designs to fine mesh, filigree designs and stone-in-place 100% wax casting patterns*

“Additive manufacturing has made its mark on the jewelry industry - allowing artisans to push the boundaries and take their creativity to new levels,” said Dr. Edwin Hortelano, senior vice president, materials engineering & development, 3D Systems. “We created VisiJet Wax Jewel Red as the next step in our 100% wax casting portfolio, specifically to enable the unmatched quality of lost wax casting for jewelry design styles with fine features. This addition helps artisans and casting houses deliver unique designs while improving productivity and reducing costs.”

*High throughput production of 100% wax jewelry casting patterns*

VisiJet Wax Jewel Red is the latest 3D Systems innovation to support the company’s efforts to advance applications for jewelry manufacturing. This material expands the applications that can be addressed with 3D Systems’ jewelry additive manufacturing solution which also includes the company’s [\*\*ProJet® MJP 2500W\*\*](#), [\*\*3D Sprint®\*\*](#), and [\*\*3D Connect\*\*](#). The complete solution was developed to produce jewelry casting patterns that integrate into standard lost wax casting processes and deliver high-quality, reliable output every time.

VisiJet Wax Jewel Red is planned to be available on September 20, 2021. For more information on this material, please visit the [3D Systems website](#).

## ***Hexagon revolutionises autonomous reality capture with the launch of the Leica BLK ARC and Leica BLK2FLY***

9 September 2021

Hexagon AB, a global leader in digital reality solutions, today announced the introduction of the Leica BLK ARC and the Leica BLK2FLY, extending its iconic and award-winning BLK series known for speed, portability and mobility with fully autonomous mobile reality capture. The autonomous reality capture solutions are the latest innovations in Hexagon's comprehensive portfolio of accessible, easy-to-use digital reality capture sensors.

The ***Leica BLK ARC*** is a laser scanning sensor purposely built to improve the autonomous navigation of robots and other carrier platforms to deliver fully autonomous mobile laser scanning. Combining its speed, accuracy, and versatility with robotics, the BLK ARC addresses the growing demand for autonomous solutions that can safely and repeatedly capture accurate 3D point clouds and panoramic images of changing environments with minimal user intervention.

The ***Leica BLK2FLY*** is the world's first fully integrated, autonomous flying laser scanning sensor. With a few simple taps on a tablet, users can quickly and easily scan structures and environments accurately and entirely from the air. The airborne scanning provides value across multiple industries in need of accurate data of inaccessible or hard-to-reach areas (e.g., façade projections, rooftops), ensuring complete capture of a structure's exterior features and dimensions.

The BLK ARC and BLK2FLY connect directly to Hexagon's cloud-based visualisation platform, HxDR, where immediate data upload from the field, AI-enabled cloud processing and storage of the captured data enables instant delivery of a purpose-built smart digital reality to anyone who needs it.

"The BLK2FLY and BLK ARC illustrate Hexagon's commitment to empowering an autonomous future with smart digital realities. The purposefully integrated sensor-software systems are tailored to bring autonomous agility and speed to any reality capture workflow," says Hexagon President and CEO ***Ola Rollén***. "The robots, sensors and software work together, dynamically adjusting reality capture missions to offer seemingly limitless business applications – from as-built site documentation for buildings to monitoring and situational awareness of remote or hazardous environments, such as mines, factory floors, off-shore facilities, fire investigations and more."

While the first robotic compatibility for the BLK ARC is with the Boston Dynamics Spot, it can be easily integrated with other autonomous robotic carriers. Enhancing Spot with autonomous reality capture technology, the BLK ARC delivers, for the first time, fully autonomous mobile laser scanning specifically designed for robots. Spot carries the BLK ARC through an environment while the BLK ARC improves Spot's navigation while capturing 3D data. The combination provides Spot greater autonomy with accurate laser scanning and navigation, enabling users to safely build 3D models of any area the robot can go.

The BLK2FLY introduces the next generation of flight safety with advanced autonomous obstacle avoidance. Sensor fusion of LiDAR, radar, cameras, and GNSS ensures optimal and safe flight paths. Users can seamlessly combine data from the BLK2FLY with interior scans of buildings and structures captured with the Leica BLK2GO, Hexagon's handheld 3D scanner. The resulting colourised 3D point clouds are instrumental to building information modelling (BIM) processes, including documenting site conditions.

## ***TCS' New MasterCraft™ DataPlus 3.0 Uses Machine Learning to Help Enterprises Further Strengthen Data Privacy***

10 September 2021

*Tata Consultancy Services' Latest Release of DataPlus Automates Data Discovery and Empowers Users with a More Intuitive Experience*

Tata Consultancy Services (TCS), a leading global IT services, consulting, and business solutions organization, released a major version of [TCS MasterCraft™ DataPlus](#), with a self-guided approach to building data privacy and data quality processes and Machine Learning (ML)-based sensitive data attribute discovery.

TCS MasterCraft DataPlus is an integrated data management software for data privacy, test data management, data quality management, data analytics and database modeling. It is industry-agnostic, delivering context-specific solutions to an enterprise's data management challenges. The software is backed by decades of relevant TCS expertise in helping global enterprises in their transformation and regulatory compliance programs. TCS MasterCraft DataPlus has been deployed across multiple geographies and business verticals, and has provided value to enterprises of varying scale, with its data privacy and data quality management capabilities.

The latest release, DataPlus 3.0 provides users a guided approach to building the required data privacy and data quality management processes, through ready-to-use process templates that are amenable to additional configuration. The new intuitive experience reduces the time taken to train and onboard new users as well as reliance on support teams. Through ML-based sensitive data discovery, DataPlus 3.0 intelligently learns to identify probable sensitive and personally identifiable data attributes, enabling privacy-safe data provisioning.

***Vijayalakshmi Gopal, Business Head, TCS MasterCraft***, said, “*Traditional data management software have limited ability to cope with the explosion in scale and variety of data resulting from enterprises' digital transformation initiatives. TCS MasterCraft DataPlus 3.0, our next generation data privacy and data quality management software, leverages machine learning to drive higher levels of automation and more effective data discovery. The new features make the software easier to learn and intuitive, enhancing the overall user experience.*”