PLM REPORT 2022

whichPLM

The INTERLINE

WELCOME TO

THE PLM REPORT 2022

I honestly can't believe it's been twelve years since WhichPLM produced our very first annual publication. I guess time really does fly when you're having fun. Our 2010 PLM Customer Survey was so successfully received by the Retail, Footwear and Apparel market that we decided to make it a permanent feature. In the years that followed we adapted the survey into what became our 'Annual Report' and later our 'Buyer's Guide', focusing not only on the core attributes of PLM, key vendors and consultants, but also on use cases, user guides, PLM editorial, and new process introductions.

And now, we find ourselves at a pivotal point when it comes to technology analysis, data gathering and reporting. The Fashion technology ecosystem has been changing for years, and we can no longer discuss PLM exclusively. More than two years on, and we still cannot ignore how the global pandemic acted as an accelerator for technological advancements in our industry. During those first, uncertain months, it was like the clock had been reset; retailers and brands were not able to get people into their offices anymore, so began scrambling to find new technologies that could be utilised for collaboration between remote teams, vendors and even customers.

Initially, many of these technologies were seen as a short-term fixes, but as we've travelled through the pandemic it's clear that the global business model is going through a seismic shift. Companies have found that the challenges of working remotely have in fact become what we now call 'the new normal'. Our industry and, indeed, many others has been pushed into a new chapter that is completely revolutionising and transforming the way that we work, now seamlessly from our homes, both internally and with our wider business partners.

We have arrived at a time when digital transformation is on the mind of every board member, every middle manager, and for that matter every person, involved in the digital thread from concept all the way to the consumer. Boards are waking up to technology being used as a tool in overcoming supply risks, linked to the pandemic and other current geopolitical problems. And it goes far beyond board members to shareholders, governments, NGOs, and consumers who are all pressuring retailers and brands to deliver on true transparency, especially as it relates to social and environmental concerns.

And, here at WhichPLM, we're adapting to our own 'new normal', too.

With this 'new normal' comes the need for software vendors to design their solutions to become far more efficient, and completely open and interoperable. And indeed many have gone into research and development overdrive, working hard to deliver against each new challenge that comes their way. There are also many newcomers to the market who, along with the established players, are delivering a broad range of exciting technology innovations.

And, here at WhichPLM, we're adapting to our own 'new normal', too.

Marked with this first, co-branded PLM Report, WhichPLM has begun a transition over to The Interline: an unparalleled voice in the wider landscape of technology for Fashion, that has grown rapidly since it's founding in 2020. Over the coming months, WhichPLM's entire publication will become part of this expanding publication, with the aim and ambition of connecting the digital thread between all technologies that coexist in our industry. PLM belongs right at the heart of Fashion's 'infinite technology loop'. As such, we hope that you will find this year's PLM Report of even greater value, brimming with content from the A-Z of technology for Fashion, supporting and driving the digital value chain.

Bringing PLM into the hub of digital transformation that is 'The Interline' will enable the team to discuss and connect the entire digital universe, supporting retail, footwear and apparel design, development, and sourcing. And this alignment will help this first, co-branded publication to reach an even wider global audience than ever before. When we launched The Interline, I knew that you, our community, would be gaining yet another priceless platform to help you and your businesses stay in tune with the growing pace of new technologies coming to the Fashion industry. And, today, we've arrived - with the two publications becoming a single entity, combining every piece of technology that operates in our industry, from concept to consumer!

If you have not done so already, I encourage you to visit The Interline, and immerse yourself in the vast knowledge vault that awaits you there.

Over the years, WhichPLM has gained recognition not only as *the* independent fashion and retail PLM authority, but also as a trusted advisor to many of the world's leading fashion retailers, brands, sourcing agents and manufacturers. Sharing our research, up-to-date analysis of the technology stack, new technology process introductions and expertise, auditing and advising retailers and brands on their technology projects. This includes scoping and designing new use cases, examining new software, and going into proof of concepts. In parallel we also work very closely with the leading technology vendors, experimenting with new technology start-ups, and sharing our thought leadership to the wider technology users and educationalist.

And this trusted status will continue to exist over at www.whichplm.com - in the form of **WhichPLM Advisory Services.** These services will continue to stay focused on PLM, with out new chapter pushing use case optimisations and best practices. Through our advisory services, we aim to spend more time looking into PLM as one of several critical foundational platforms that will need to move forward with each of their own new chapters related to seamless, frictionless, interoperability between every platform ecosystem.

WhichPLM is honoured and extremely grateful to continue to work as advisors to many of the world's leading businesses, and their amazing teams that continue to push the boundaries when it comes to evaluating and implementing tomorrow's technologies. This last year has yet again been an amazing year for innovation; we are working with some amazing partners that are at the bleeding edge of technology and, together, we are experimenting with technologies, open-interfaces and new process introductions that just two or three years ago would've seemed completely out of reach.

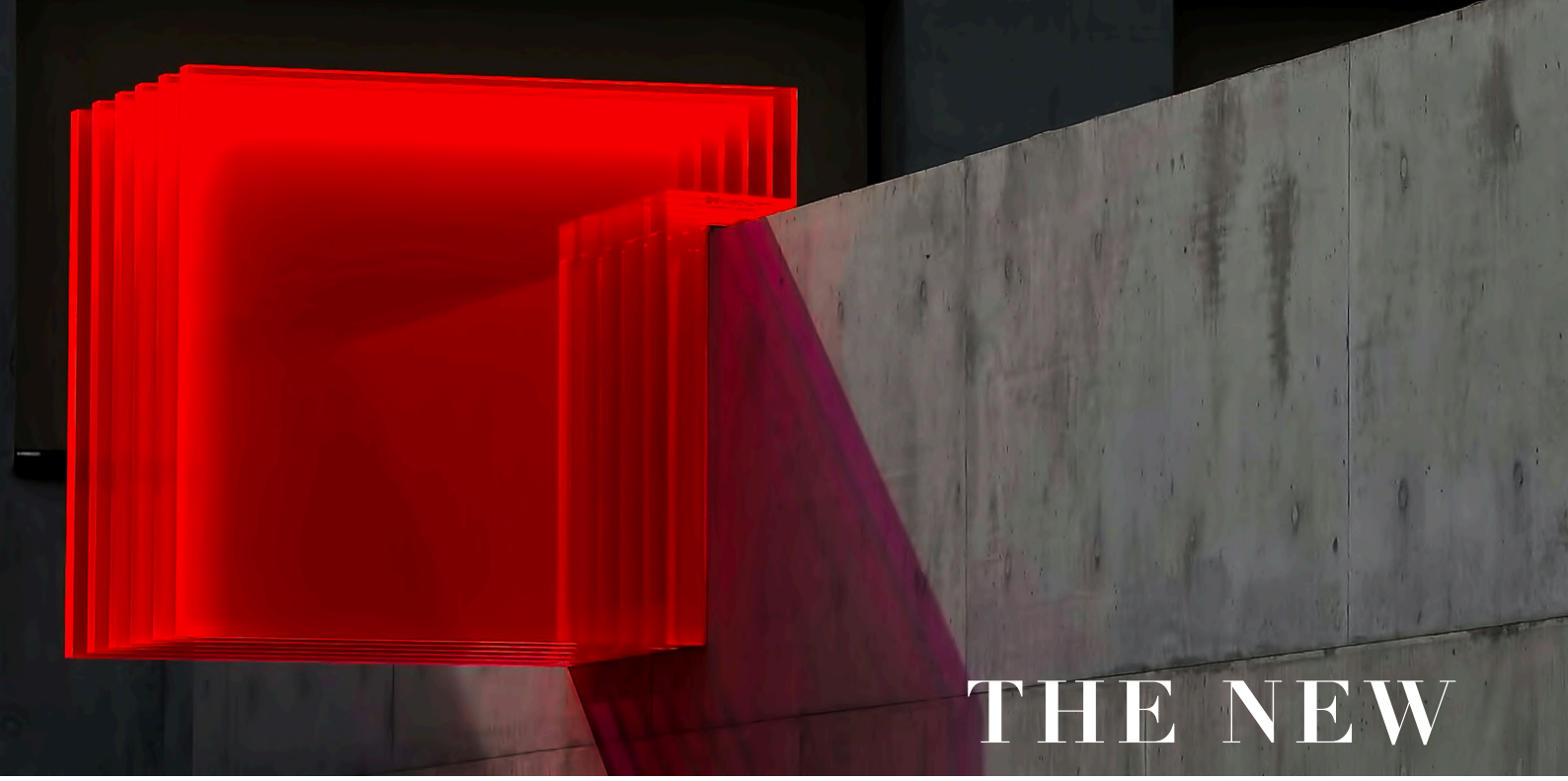
The number of emerging technology vendors continues to increase at pace and, at the same time, they amaze us with their expertise. Vendors continue to push the boundaries of what's possible, working hard to understand the current challenges of our industry. I have been working very closely over the last year with six of these businesses, educating, researching, developing new use cases, testing technology theories, evaluating hardware and software, and proving the benefits and ROI (return on investment) calculations that will help our industry to move forward. None of which would come to full fruition without the use of PLM.

I hope that you find this year's PLM Report of great interest and value. I welcome you to turn the pages for our featured editorial centred around FAQs for PLM selection and implementation, PLM vendor profiles and interviews, expert PLM analysis and predictions, horizons, and PLM trends to expect in 2022 and beyond.

But, first, I'm delighted to present an introduction from The Interline's current Editorial Director.

MARK HARROP

CEO & FOUNDER, WHICHPLM



THE NEW PLACE FOR PLM

The last two years have obviously been a time of unique upheaval. Everyone reading this, the first PLM Report to be jointly published by **The Interline** and **WhichPLM**, has emerged on the other side of something they had no frame of reference to deal with. New risks, new uncertainties, new opportunities, all washing over us personally and professionally week in and week out. It's been… a lot.

But it would hardly be right to call the decade before the pandemic period static either. We weren't living under the expanding envelope of disease, sure, but we were witness to a slow wrecking ball of digitisation working its way through the worlds of consumer and enterprise technology. And a lot of what's happening in tech today, in fashion and outside, is a result of us riding its wake.

When the first WhichPLM Survey was released, in 2010, anybody accessing the website to buy a copy through an iPad was a very early adopter; the first-generation hardware released only a couple of months prior. Four years later, the report received an iPad-native app version, to respond to both changing readership trends and to what looked very much like a general shift towards tablet-first consumption and bespoke, platform-locked apps for specific purposes.

Three years after that, the annual WhichPLM publication had grown to become an examination of not just the PLM market, but broader, industry-defining topics; there had been one dedicated to 3D, one to the Internet of Things,

and another to AI. Those three were what we saw as the major forces driving the future of digital transformation, and while the deep-dives we did into them were perhaps ahead of their time, those topics are as vital today as ever, and we're still unpicking their implications at The Interline right now.

> ***Today, the most widely-used and enduring enterprise software is universally accessible across devices. It's cheap to acquire, self-serve to deploy, and affordable to run.***

Eight years from that initial launch, after capturing the essence of some seriously sweeping technology changes, the annual publication refocused itself to become a true buyer's guide for PLM. Zeroing in on that specific purpose, it was redesigned to equip brand and retail organisations around the world with just the information they needed to make an informed buying decision, or to steer a PLM project with their eyes open. Sales figures, R&D investment, roadmap priorities and much more — the Buyer's Guide became an essential reference for all the datapoints that matter to anyone trying to make sense of which technology partner to trust with building one of their most foundational systems.

And while all this evolution of the publication was happening, the software industry around it was being transformed along very similar lines.

In the early 2010s, PLM, for all its potential as an engine for modernisation, was being deployed in a deeply traditional way. Long — often multi-year — implementation projects. On-premise hosting. Complex licensing agreements. Costly customisation and bespoke development. Dead-end upgrade paths. These were the costs the industry paid to obtain the results it wanted from its "single source of the truth".

Twelve years on, the picture could scarcely look more different.

PLM today is deployed remotely in the majority of cases, with minimal implementation and services (although digital transformation consultancy is on the rise, as we'll see in this year's market analysis), near-total, low-code configuration and modularity, on an affordable monthly subscription basis, with secure access from any device, anywhere.

This shift started well before COVID, of course. WhichPLM has been charting the PLM industry's steady evolution towards a multi-tenant SaaS model for years, but the sudden shift to remote work demonstrated just how necessary (and overdue, in some cases) that shift was. Today, it's difficult to find a PLM vendor — or a vendor of any enterprise software that doesn't require significant local processing power — that doesn't have a fully-featured, subscription based solution as their flagship offer.

And a similar sea-change also took place in the tug-of-war between proprietary systems and formats, and open integrations. At one point in the history of the PLM Report, it seemed all but certain that the future would be defined by platform-native applications for specific purposes, and that the vendor that developed the most of them, the quickest, would dominate. In reality, while the iPad might have accounted for more than 70% of Apple's overall computer sales in the last quarter of 2020, its lasting legacy on software was a drive towards responsive design and user experience trends, rather than to platform-locks and dedicated apps.

Today, the most widely-used and enduring enterprise software is universally accessible across devices. It's cheap to acquire, self-serve to deploy, and affordable to run. And, critically, it's available to even the smallest businesses without heavy compromises to core functionality.

In that context, it's little wonder that the pandemic era — once the initial shock was over — has seen investment in PLM increase, across a more diverse customer base than we've ever tracked before. More organisations than ever need what it does, and more digital transformation projects rely on the potential it offers to be the bedrock of the extended technology ecosystem.

From digital fashion to on-demand production wherever you look in fashion technology, PLM is there. And since The Interline covers it all, I'm excited that we're becoming the new home for fashion PLM putting it in its rightful place at the heart of digital transformation.

We've been on a journey together. The Interline might be a pandemic-era publication, but we have our roots in those topic-focused Annual Reviews from 2015, 2016, and 2017. They set the template for what we do every day: cover fashion technology in the detail it deserves.

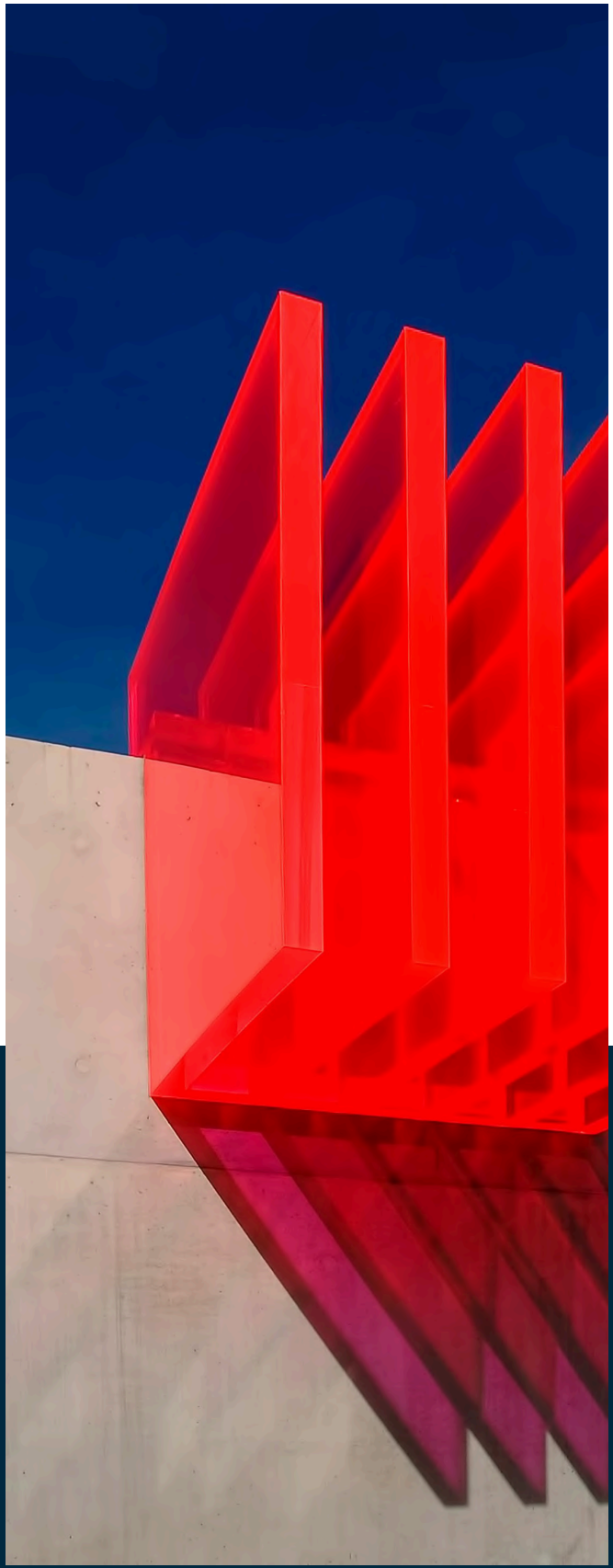
But there's still further to go. As more and more extended solutions across everything from digital product creation to supply chain transparency start to hinge on having access to centralised product data, PLM has a lot of distance left to run. We're thrilled to be part of the road it takes to get there.

Look for much more on PLM at The Interline from the second half of 2022 onwards.

Thanks for reading.

BEN HANSON

EDITOR-IN-CHIEF,
THE INTERLINE



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WHAT TO EXPECT FROM YOUR PLM JOURNEY

(FAQs)

Product Lifecycle Management (PLM) is a system or software platform that is first and foremost a methodology, used to support the way you manage a product from concept to consumer. PLM manages and integrates all the product data, processes, business systems, materials and, ultimately, people that will be operating across your extended value-chain. PLM, connected with ERP and other business systems, makes it possible to follow the lifecycle of each component and product, from concept to consumer, all the way to a product's disposal. PLM can be used for smarter decision making based upon real-time data feeds, highlighting problems, improving efficiencies, delivering faster product development, increasing sales at higher margins and reducing overall costs of goods sold (COGS).

In the following pages, we break down some common (and less common) FAQs around PLM implementations.

WHY DOES MY COMPANY NEED PLM?

One of the primary reasons for investigating PLM is a need for your business to become more efficient and move away from the Excel and email methods of working. We've all experienced some form of shortage in our lives especially during the last two years be it food or general household supplies, PPE products, services, entertainment, or the inability to source or replenish products for your customers. PLM helps your business to overcome these types of disruptions and will enable improved continuity across your supply chains.

Beyond the pandemic, today's customers (and certainly the next generation of customers) expect greater transparency and sustainability across the value-chain, whilst expecting quality products and unique experiences. Today's customers could be described as impatient, with shorter

attention spans and more choice than ever before. If your competition is ahead when it comes to digital transformation, you risk losing customers if you can't keep up.

Surviving and prospering in the digital future will require your business to launch new style options, services and varieties at a much faster pace and produce them leaner. This simply can't be achieved without the use of an integrated, multifunctional, enterprise-wide PLM solution. PLM can increase product variety without increasing staff, leading to higher sales and increased gross margins. PLM can help a business to reduce the cost of products and services by efficiently utilising (people & material) resources, improving efficiency, speed and product quality.

SO, WHAT ARE THE BASIC COMPONENTS OF PLM?

The exact elements of a PLM system will depend on the vendor in question. However, there is a range of typical components or modules found in an RFA (Retail, Footwear & Apparel) PLM solution. These include:

- PLM Libraries (seasons, measurements, trims, components, materials, suppliers, product types, templates, critical paths, colours, etc.)
- Story & Mode Boards
- Digital Asset Management (DAM)
- NPI (New Product Introduction)
- BOM (Bill of Materials)
- BOL (Bill of Labour)
- Costing
- Sourcing
- Document & File Management
- Release or Change Management
- Access or Organisation Management
- Product Configuration & Template Management
- Critical Path & Lifecycle Management

A PLM system should also offer integration with common systems, like 2D CAD, 3D CAD, ERP and other best-of-breed business systems.

WHAT IS A PLM STRATEGY?

A PLM strategy is about more than just selecting technology; it is a comprehensive understanding of the maturity of each module, process, organisational structure, product development strategy, and people required to make your business run. A comprehensive PLM strategy will guide you on your journey.

A PLM implementation is a unique journey with lots of learning and adjustment along the way, as each company will have different products and different cultures, and is a different organisation with different value-chain partners and working methods to manage.

Developing your PLM strategy is the first item on your project 'To Do List' and is the first step to developing your tactical path. Moving ahead without a carefully developed strategy and project plan will likely put you back many months; it's very easy to get lost in the sandbox of software complexities and ad-hoc developments and changes.

Your strategy should consist of a high-level set of deliverables that will help your business to overcome its current challenges. From there, you can move onto PLM

solution selection, the implementation and configuration of your chosen solution.

PLM software and resources are costly, so your company must keep a careful eye on the budget and of course on milestone achievements and benefits. Every time you tick off another milestone, you should carefully record those benefits that achieve the desired financial return on your PLM project investment (ROI).

HOW DO I KNOW HOW I CURRENTLY MANAGE MY PRODUCT LIFECYCLE?

It's very important to map what we call your 'as-is' lifecycle, taking a snapshot of your current methods and the time taken to get a product from concept to delivery. It's so easy to forget just how long things actually take after implementation.

To begin, you should first define your seasons (quarters, months, weeks or days) and it's worth noting that, today, your business may well be moving (or have moved) towards a data-driven, seasonless business. Once you have your seasonal durations (and your target lifecycle time estimates) in place, then it's time to move onto your main processes and sub-process again developing each task and estimated durations. Essentially these should cover trend analytics, design, development, sampling (be it physical or virtual), new product introduction and development, costing, sourcing, production capacity forecasting, sourcing and so on.

From here, you will need to map each of the processes within your PLM software and consider the handoffs (data outputs), integrations etc. There could be some overlaps with shared data and interfaces that may be shared, or in some cases replicated, but at some point you should design a process flow that brings the data back to a single source. The principle of a single source of data should be followed throughout your project and across all systems, by operating on a shared set of master data.

HOW CAN PLM HELP TO SUPPORT A DIGITAL TRANSFORMATION STRATEGY?

Quality master data is a basic requirement for any business that wants to implement digital transformation components that are (or will be) sharing a common set of data across the end-to-end value-chain. PLM provides a single organised version of the facts for this foundational data. Additionally, data gathered from multiple best-of-breed solutions including manufacturing IoT (Internet of Things) devices can be utilised to enable transparent product development by making the data available to all key stakeholders operating across the value-chain.

A digital transformation strategy is much more than PLM alone - it's the connection of multiple technologies, modules, processes and sub-processes that can utilise shared data inputs and outputs already in use within the value-chain.

A PLM strategy is about more than just selecting technology; it's a comprehensive understanding of modules, process, organisational structure, product development strategy, and people required to make your business run.

The journey to digital transformation begins with the identification and digitisation of the master data used across the end-to-end value-chain and is incomplete

without maximum digitalisation of all systems and processes. These include, but are not limited to:

- Scanning data of bodies (to generate avatars), footwear & materials
- CAM (pattern & marker making)
- 2D & 3D CAD solutions
- VR / AR / XR (Virtual Reality / Augmented Reality / Mixed Reality)
- Material platforms
- Colour solutions
- Digital printing & dyeing
- Inspection & sewing machines
- PLM (Product Lifecycle Management)
- ERP (Enterprise Resource Planning)
- CRM (Customer Relationship Management)
- E-commerce
- POS (Point of Sale)
- AI (Artificial Intelligence)
- ML (Machine Learning)
- IoT (Internet of Things)

These are just examples of where such data can be found; the objective of any digital transformation project is to identify and share this data seamlessly.

WHICH IS THE BEST PLM SOFTWARE FOR MY BUSINESS?

The answer to this question is relative. Is your business an SME that is fairly happy with using simple solutions (Adobe Illustrator, Excel, email, 3D, etc.)? Then you should perhaps investigate low cost, pre-configured, best-practice multi-tenant solutions. If you're a multi-national enterprise with a very large turnover, the answer will likely be quite different.

The first step in attempting to answer this question is for your business to define why it feels it needs a PLM solution in the first place? Once you can answer this (i.e., what it is that you are trying to resolve) it's then time to define a list of requirements and from there you can research the leading PLM providers. You also have the option to share your requirements with an advisor of WhichPLM, who can then help you to create a short-list, after understanding more about your business strategy and objectives and assessing your current challenges. From that point we can help your business to complete an RFI that will help you to shortlist those PLM vendors that can best match your critical requirements.

WHAT IS AN API INTEGRATION TO PLM?

Technically, API stands for Application Programming Interface. At some point or another, PLM companies will have developed multiple APIs for their customers, to link their PLM solutions to common solutions that are typically found within any fashion business solutions like e-Commerce, CRM and ERP.

One of the core functionalities of PLM software is to store, manage and share common data between each solution -

the likes of 2D CAD (pattern engineering & marker making), 2D creative solutions including technical and illustrative designs, 3D scanning and avatar engineering, AR/VR etc. These APIs can enable CAD tools that often share common integration standards or file formats (DXF, HPGL, AAMA, OBJ, U3M, etc.) to allow users to check-in and check-out files all sharing a common dataset during the design and development process, including version control and many other related functionalities.

These APIs allow users to search the same file data within the PLM software or within the CAD software bi-directionally and to operate seamlessly. The level of integration maturity will vary between best-of-breed solutions & PLM, relative to the level of software design and development completed by each of the vendors.

As your PLM implementation matures, your level of integration will increase so it's critical that, as an early part of your PLM journey, you should ensure that those vendors you're looking into offer mature interface(s) to your core solutions. You should also ensure they offer a 'future safe' interface engine, so that over time you can continue to rollout and integrate your chosen PLM solution to core supporting software(s) that enables the sharing of systems and data across your value-chain partners.

WHAT ARE SOME COMMON SOFTWARE INTEGRATIONS FOUND WITHIN LEADING PLM PLATFORMS?

PLM software can be integrated with almost all business systems, including: ERP, CRM, e-Commerce, Planning, Storyboards, Microsoft Office, Social Media (Instagram, Slack etc.), Adobe Creative Suite, 3D, Material Platforms, 2D CAD/CAM, Sourcing Platforms, Labour Costing, Machine IoT connections, 3D virtual simulation and many more.

The basic purpose of these integrations is to have a single source of data, which often originates in PLM systems and is typically found in the Tech-Pack. Most of the leading PLM vendors will offer multiple APIs, however it is very important that you carefully test the capabilities of each of these APIs to ensure that they meet with your specific needs when looking into PLM; some are less mature than others and this can be a very important factor in terms of the overall efficiency of the PLM platform linked to your best-of-breed solutions. It's also worth asking if the PLM vendor offers an API engine that will allow your IT team to develop future integrations on an 'as and when' required basis.

HOW IS PLM SOFTWARE DEPLOYED?

Traditionally, PLM software was deployed as an on-premise client-server model and accessed by logging in (using a user ID and password provided by the PLM system administrator).

Most PLM vendors now operate via on-cloud access, where you can open the software in an Internet browser. These two methods allow businesses to develop complex developments using configurations and customisations and tend to be used by medium-to-larger enterprises. There is also another cloud option: multi-tenant, which is a lightweight client architected solution that has been designed to offer pre-configured processes based upon best-practice methodologies, specifically developed for the Retail, Footwear and Apparel (RFA) sectors.

WHAT IS THE DIFFERENCE BETWEEN PDM AND PLM?

PDM was developed for the RFA sector by Microdynamics in the late 1980s. PDM is, in simple terms, a data repository storing product data within a database rather than within separate files. It operates within the confines of a business and in the main communicates via emailing documents. You will still find PDM systems in use today, but they are very limited when compared to modern PLM solutions.

Product Lifecycle Management (PLM) develops over time as intellectual data grows and is shared across multiple

best-of-breed solutions. This intellectual data is in the form of designs, drawings, Bills of Materials (BOM), Bills of Labour (BOL), measurements and make instructions (Tech-Pack), and anything that defines your product data.

PLM data is, in the main, non-transactional, whereas ERP systems operate on transactional data (orders, invoicing, payments) to support procurement, production, assembly, sales, finance, shipping and so on.

PLM uses real-time data and, as more functionality is added, automation is designed to 'push & pull' the data interchange - this includes Critical Path, Workflows, and Document Management. Whereas a PDM solution operates on static (manual) data and its output is often limited to a basic Tech-Pack (PDF). Output is shared via third party solutions, with email being the main choice to share outputs.

Beyond data, PLM integrates departments, people, and processes across the extended value-chain. Product Lifecycle Management (PLM) is a system or software that manages and integrates all the product data, processes, business systems and, ultimately, people in an extended enterprise. PDM is, today, a component of a modern PLM solution, which makes basic data management possible to automate in real-time.

IS THIS A GOOD TIME TO PURCHASE PLM?

Given the speed at which the PLM industry for retail, footwear, and apparel has advanced in the last few years, there has never been a better time to buy a new PLM solution. The COVID-19 pandemic has accelerated the need for digital working, and for investing in solutions like PLM.

Most modern PLM platforms have core functionality covered to a good degree, and there are several extremely strong solutions available on the market all of which demonstrate broad, mature feature sets, as well as

specialising in different areas. Whether your priority is a simple, easy-to-use OOTB (Out Of The Box) Technical Specification, or you have more complex requirements, there are no shortage of options and cost models for your business to choose from.

[The majority of key PLM players are featured later in this Report; you can study their profiles and CEO interviews for a rounded view of their operations.]

IS THERE AN ALTERNATIVE TO PLM?

If you are a fast-fashion business that primarily buys most of its merchandise from suppliers who are in turn responsible for the development of the product (block development, fitting, sampling, bill of materials, costings etc.) then perhaps you might want to consider a very light PLM. After all, detailed BOM functionality is unlikely to be of much use to you. You may even find that a 2D or 3D design solution that would allow you to share basic specifications would support your needs, although this is rare (at least, at the moment).

If you do go beyond pure design, into development, and source more than finished product then the answer is simple: you need PLM to be efficient and to stay competitive.

IS EVERY PLM SOLUTION SUITABLE FOR EVERY BUSINESS?

The short answer is no; there is no such thing as 'one size fits all'.

PLM solutions can be complex, and they come with a multitude of different options each with its own list of modules, main processes, sub-processes, features and functions. On average there are more than 40-50 different processes included in a typical PLM solution, each of which is likely to be of a different maturity level when compared to the industry average.

This is why it's important to do your research or enlist a qualified advisor to assist you.

CAN WE EXTEND PLM ACROSS OUR VALUE-CHAIN PARTNERS?

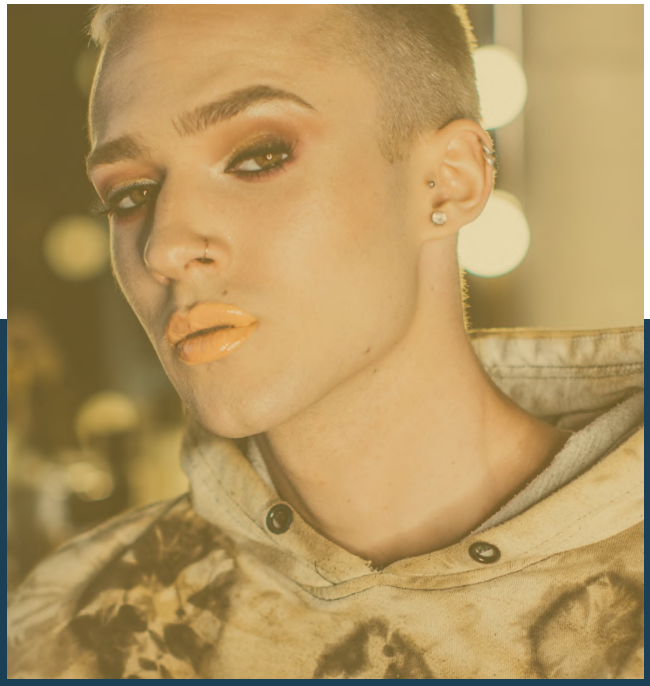
Until recently, technical specifications were typically shared between customer and supplier as a PDM Tech-Pack (PDF), via email. This process was replaced by dedicated vendor portals, introduced by PLM vendors as a way of bridging the gap between live PLM data and static email. Vendor portals essentially offered the same process but placed the Tech-Pack into a central location to be downloaded and uploaded by the supplier, with some level of accountability. More recently we are seeing customers and suppliers sharing the same PLM platform with the ability to work on a single style in real-time, with no 'dead' data, along with full access and restricted security. We would strongly recommend the latter as the best-practice

approach and while it may not always be feasible to make PLM accessible to your suppliers early in the project, this extension should be considered a priority for the next phase once your PLM solution is being used to its full potential in-house.

DO WE HAVE A CLEAR AND SOLID BUSINESS CASE FOR PLM?

If you're looking to start out on your PLM journey, but haven't yet developed a business case that is supported by an in-depth ROI (Return on Investment) analysis, then we suggest that you should avoid moving forward until you have completed one. Put as simply as possible: investing significant amounts of time and money even with low-cost subscription PLM being a viable option today with an uncertain return is not advisable.

DO WE POSSESS THE INTERNAL SKILLS TO DELIVER A PLM PROJECT?



There is no such thing as 'one size fits all'.

Your business will need to appoint a PLM project manager and user team with good project management skills people who ideally are already experienced in selecting and implementing technology solutions. This team will then require the support of someone (a user-champion) with a great deal of experience across the business covering both internal and supply chain processes. Together, this team should be able to deep-dive into all business processes and understand the impact that a PLM implementation will have on them.

Beyond the business you should be extremely careful when choosing a vendor to ensure that they know your area of business and, like your own team, they should also have the expert resources to put onto your project from the very first day to the very last day. Often the PLM vendor 'A-Team' is with you for the beginning of the project and then gets pulled off to other projects as new deals are signed, leaving less-experienced implementers or even third parties to deliver the later, even more critical, stages of the implementation. Both your in-house and your vendor's teams should remain consistent throughout the project; if either is in doubt, your implementation could suffer.

HOW LONG WILL IT TAKE TO IMPLEMENT A PLM SOLUTION?

This greatly depends on how complex your business is. Are you operating on an international level? Do you have multiple brands? Do you have a complex product range? The list of questions can go on and on. Assuming you're a medium-sized operation and you want to use a configurable, OOTB PLM solution, adhering to best practices, you will be looking at a duration of somewhere between four to six months. Note that this could be reduced or go much higher it's all relative to the complexity of each business.

DO WE HAVE THE REQUIRED EXPERTISE TO INTEGRATE PLM TO OTHER INTERNAL SOFTWARE SOLUTIONS?

In the vast majority of cases, a PLM implementation will include integrations to other business systems. In most cases this will mean linking PLM with ERP (Enterprise Resource Planning), but other common integrations include Merchandise Planning platforms, 2D CAD, 3D design tools and others.

If we look at ERP only, then we would estimate for an SME (small to medium) business that around 20-40 days would be required to document, configure and customise a bi-directional integration. If the PLM solution you have chosen is part of a portfolio that also includes ERP and other elements, then you may be able to reduce the cost of integrations via the vendor's own middleware integration engine.

I'M A FOOTWEAR, KNITWEAR OR TEXTILE BUSINESS - DOES PLM WORK FOR MY BUSINESS NEEDS?

It will be important that you look for a PLM vendor that specialises in your product sector. It's relatively easy for PLM vendors to develop aesthetically pleasing footwear, textiles or knitwear presentations, only for the prospective customer to dig a little deeper and find that they have no real product expertise or customer references in those fields. There are several specialised vendors that support footwear, knitwear or textile products, so make sure that you look at every vendor carefully and assess their credentials when it comes to supporting your unique business model.

These are just a short example of the many questions that you should be asking yourself and your team before starting out on a PLM journey. And while prospective PLM customers are becoming better educated, it remains common for selection teams to lack the experience and deep domain expertise to scientifically measure everything they need to take into account before making their choice.

This isn't to say that project teams do not understand their businesses most of them certainly do and that's going to be critical as part of any modern PLM implementation going forward. Keep in mind that the majority of the PLM vendors today offer OOTB solutions that can be easily configured compared to the previous generation of heavily customised PLM. But, even with that being the case, it's still not unheard of for a company to select an OOTB solution that comes complete with a long list of modules and best-practice processes, only to find that the vendor implementation team continues to follow the old method of the 'as-is' (your current methods) and 'to-be' (your future methods) process workshops that should no longer be required!

When you buy a smartphone, do you start by configuring and customising the screens and apps to do what you need them to do, or do you simply charge it and learn to use it? PLM in 2022 and beyond should be no different and enable a business to get up and running in record time - providing they stay with best practices and avoid too many configurations.

New PLM prospects should, therefore, be careful to ensure that they are not overpaying for long-winded and customisation-heavy implementations. Instead, PLM customers should be looking for solutions that come standard with fully documented best practice processes. Obviously, integrations to third party technologies will require some level of API customisations, but even then you should ask the vendor to confirm that your customisations can be developed in a framework that enables your PLM solution to take advantage of all future software upgrades at no extra cost or delay to your business.

PLM VENDOR PROFILES

For as long as we've been producing our annual publications beginning with our first Customer Survey back in 2010, then our Annual Reviews between 2012-2014, our 5th, 6th and 7th Editions in 2015-2017, and our Buyer's Guides from 2018-2021 they have been considered essential reading for any brand, retailer or manufacturer preparing for a PLM project, whether that's an all-new project, an upgrade with a current vendor, or a second (or third) PLM project but with a different vendor.

These publications are frequently referred to as the "PLM bible" a term that is, at least in part, down to the most comprehensive listings of key PLM vendors to be found anywhere.

For our first co-branded publication, WhichPLM and The Interline are thrilled to be able to publish the vendor listings that follow this introduction critical for project teams tasked with shortlisting and selecting a solution to the widest possible audience, allowing everyone to make the most informed choice possible.

Each profile contained in this section collects statistics, insights, and opinions exclusive to us, and are designed to collectively serve as an introductory tool for any fashion organisation looking to better understand the regional and multinational players that make up the PLM market in the financial year 2021/22.

To make this shortlisting exercise simpler, we apply stringent inclusion criteria to ensure that the vendors who appear in the pages that follow have played a demonstrable regional or global role in the RFA PLM market this year. So while smaller vendors may appear in the market itself (and may, indeed, be the right choice for a certain type of customer) these listings are purposefully confined only to those vendors who are making sufficient impact to actually steer the industry in a meaningful sense.

These publications are frequently referred to as the "PLM bible" – a term that is, at least in part, down to the most comprehensive listings of key PLM vendors to be found anywhere.

Whilst it may appear as though this kind of first-stage filtering serves to artificially reduce the pool of vendors to choose from, it's important to remember that of the forty or more software vendors that claim to sell PLM for fashion, only a fraction actually offer what WhichPLM and The Interline consider to be a modern PLM product, and only these merit inclusion in our publication(s). Some vendors, for example, continue to sell outdated PDM software with a PLM sales pitch, while others who advertise PLM functionality actually better qualify as providers of extended PLM particularly those in the area of supply chain management and planning. Other vendors whose software does meet the criteria we set out instead fell short of our minimum RFA sector turnover requirements, voluntarily excused themselves from listing, or were revealed during our advisory engagements to lack the apparel industry expertise or experience to merit inclusion on prospective customers' selection lists.

This section, therefore, is restricted only to those vendors who we know to be making continued research, development and investment efforts, and who are invested in the apparel industry either entirely, or as a strong element of a broader industry portfolio. For vendors that do cater to two or more different industries (i.e. another vertical alongside their presence in fashion and retail), the figures and opinions that appear in the following pages are confined to the sale, development and support of their core PLM solutions for the retail, footwear and apparel industry only. Similarly, where a vendor markets a range of products to the apparel industry - as is the case with vendors of CAD/CAM, pattern making software, three-dimensional design, and other components of the extended product development environment - we have disregarded data and resourcing that falls outside the scope of this section's PLM focus.

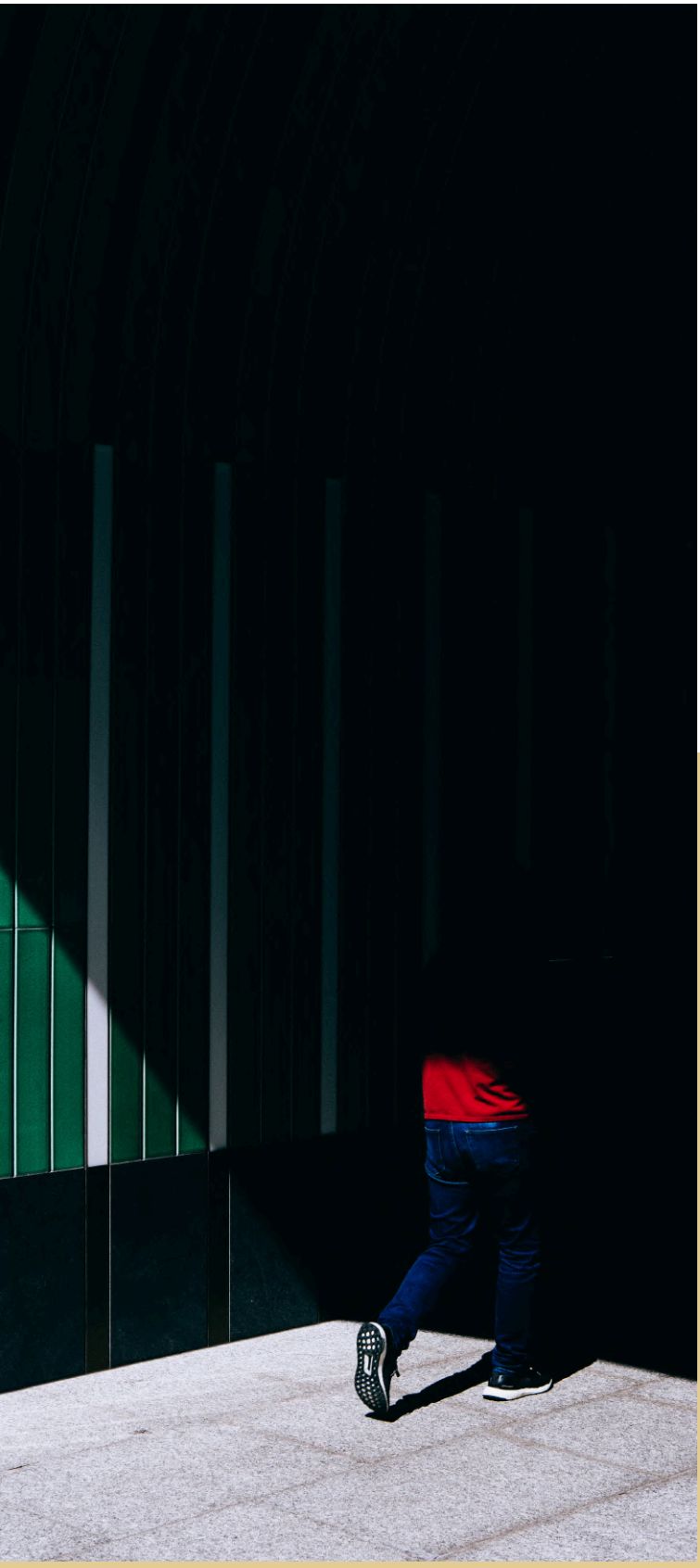
In the following pages, we present overall customer figures, resource allocation by region, and the ratio of internal to external users as supplemental to the core customer data that has always been the backbone of our vendor listings.

Returning readers will also note the addition of some new figures this year, notably: customer expansions, percentage of customers paying maintenance, the approximate geographical breakdown of users, and the average time taken for a PLM installation.

Where "N/A" appears, it denotes that the vendor in question was unable or unwilling to provide the relevant information. "N/A" should be read as "not publically disclosed".

Our vendor profiles also continue the tradition of asking each listed supplier to provide their own insight into what they feel has differentiated them from their core PLM competitors this year. And, new for 2022, vendors also share with us the active technology partnerships they have supporting their RFA PLM offering.

Where actual sales to new customers are concerned we remind readers that despite our best efforts towards verification and completeness, these lists cannot be exhaustive. Many of the suppliers listed here have made sales that have not been disclosed to the public, either through reasons of brand secrecy, or because those implementations have not yet reached agreed milestones at which they can be discussed in public forums. We have afforded suppliers the opportunity to number but not name these customers, provided their identities have been



disclosed to our internal teams under the terms of a non-disclosure agreement.

The final accuracy of these customer lists, too, remains the responsibility of each individual vendor. Just as we have in previous years, our team has rebuffed attempts by suppliers to pass off non-PLM customers, non-apparel or CPG crossover customers, and customers whose contracts were signed far outside the 2021/22 period as valid inclusions for these pages. We are happy to report, though, that this practice occurs less and less frequently with each passing year and has now reached a minimum. Where vendors chose instead to stand by their initial submissions, we hold written confirmation from each of these suppliers that the customer lists displayed in their vendor profile are accurate, despite our own misgivings.

What follows each vendor profile is the usual vendor advertisement and, new for this year, an interview with the CEO of each company or, where the CEO was for any number of reasons unavailable another top executive within the business. These interviews are designed to give you a little more 'meat on the bones' for each vendor.

Although we do thank the overwhelming majority of vendors for their honesty, nothing in the vendor profiles, advertisements or interviews that follow should be considered as an endorsement of any particular PLM vendor. Even today, when low-cost, low-risk subscriptions are becoming the preferred way to buy PLM, all prospective customers should be seeking a viable and sustainable long-term partner. This means shortlisting and selecting on the basis of financial stability, expertise, experience, and demonstrable investment in their PLM product. A vendor who is able to share these details and be candid about their performance and roadmap is clear about their willingness to engage in the kind of frank, open partnership that a truly successful PLM project demands.

Readers are invited, after finishing this section, to turn to 'The Consultant Perspective' to continue building their picture of the apparel technology landscape.

Financial Year 2021/22

www.aptos.com

+ 3

NEW CUSTOMERS OF RFA PLM, INCLUDING:

Eigerindo, HSE

97

OVERALL NUMBER OF ACTIVE CUSTOMERS

of PLM within the RFA industry, excluding customers cited as new in 2020/2021.

+ 10

NEW CUSTOMER EXPANSIONS

82%

of the overall number of active customers currently paying maintenance.

58

NUMBER OF RESOURCES SPECIFICALLY ENGAGED IN R&D

RESOURCES FOCUSED ON RFA, SEPARATED BY REGION:

(Excluding those cited as R&D-specific resources aside.)

North America:	Latin America:
0	0
EMEA:	**APAC:**
58	0

N/A

TOTAL NUMBER OF INTERNAL USERS WORLDWIDE

and where those users are located

North America:	Latin America:
N/A	N/A
EMEA:	**APAC:**
N/A	N/A

N/A

TOTAL NUMBER OF EXTERNAL USERS WORLDWIDE

and where those users are located

North America:	Latin America:
N/A	N/A
EMEA:	**APAC:**
N/A	N/A

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3-6 MONTHS
Average time taken for an RFA PLM installation (SME)

6-9 MONTHS
Average time taken for an RFA PLM installation (large enterprise)

90-95%
of installation time done digitally, on average (SME)

80-90%
of installation time done digitally, on average (large enterprise)

5
ACTIVE TECHNOLOGY PARTNERSHIPS
SUPPORTING RFA PLM.

TELL US WHAT YOU FEEL HAS CHANGED AND/OR ADVANCED IN YOUR PRODUCT OFFERING THIS YEAR TO DIFFERENTIATE YOUR COMPANY FROM OTHERS IN THE RFA PLM MARKET.

Renovated User Experience -The user experience in PLM has been completely renovated. All the technology used for information rendering has been renovated. All the visual functionalities have been rewritten with the support of UX guru, to combine look & feel and usability. The renovation of the user experience was planned to achieve important goals:

- Provide the newer technologies in term of architecture
- Includes new end user experiences that are more oriented to work with visuals (designers) or to work with numbers (Merchandisers and Buyers)
- Enhance the ability for end users to personalise the system with self-service and business-oriented features
- Enhance the possibility to browse, compere, amend and report information in the system
- Create a common Experience with other Aptos modules in order to enhance the seamless End-to-End experience

Capture catalogue - Capture of vendor catalogues that are in heterogeneous formats to create a clean and coherent set of information. This process is a precondition for a number of next steps including PIM, Assortment planning, and supplier rating.

aptos

PRODUCT LIFECYCLE MANAGEMENT

Completely Connected Collection Management

Digital Design, Collection Development, 3D Sampling, Quality Assurance, Sustainability, Line Planning, Supplier Collaboration

Aptos PLM uniquely combines digital design, 3D sampling and collection development with advanced line planning and the supply chain to compress time to market and minimize rework and waste.

- Digital sampling: no fabrics or manufacturing resources committed until the product is confirmed
- Creative collections that meet your business and strategic goals
- Collaboration, inside and outside your company walls
- Control the entire process

IN CONVERSATION WITH

RICHARD WILLIS, VP SOLUTION CONSULTING

aptos

How do you define PLM, and how has that definition changed as the fashion industry has evolved?

We consider PLM the nerve centre of a fashion company throughout the entire process of product design. Before products are purchased, the PLM solution collects all relevant information in order to orchestrate collaboration between internal and external stakeholders and to monitor progress, identify issues and compare targets with actual values.

Originally, PLM was simply a place in which to store, in a flexible way, heterogeneous information around products. Often referred to as the "tech-pack," PLM was the ideal destination for sketches, CAD information and technical remarks used to define product details for suppliers. But now, the increased variety of users and variables requires greater collaboration between the design team, the merchandising team, the QA team. More recently, incorporating the CSR and sustainability teams has further extended the required scope of the system. Modern PLM solutions must be able to improve the quantity of information and the ability to connect numerous people with rich data and timely updates. Including suppliers as an extension of the company required a technological change and the evolution of security to account for their presence within the network.

PLM is one of the key foundational technologies that can and will help to overcome the problems during and post-pandemic. Can you shed some light on how you see PLM supporting your 75+ customers during these challenging times?

PLM is the home of information for new products and collections. The technology improves collaboration across the extended product development lifecycle, making it possible to exchange information and communicate in a structured and digital way that provided critical support during pandemic-related lockdowns.

Working with PLM, all those involved in product development were able to contribute independently from their workplaces. Combined with advanced image rendering and multimedia content management, the technology was able to eliminate the need for on-premise meetings.

Even as lockdowns have eased and more people are able to travel, new and disruptive events continue to put pressure on supply chains and development lifecycles around the globe. These new challenges require the ability to identify alternatives and to extend the supply chain network in a more resilient manner. Once again, PLM can include this network information among the data required for product development. When an issue is identified, PLM data can be leveraged to identify and evaluate all possible alternatives to overcome the growing uncertainty.

Aptos has previously spoken about the time lost for designers when having to switch from one disconnected point solution (2D, 3D, CAD etc.) to another, in situations without a bi-directional integration between PLM and design software. Can you explain how extensive the integrations are between Aptos PLM and other solutions (Trend services, Adobe CS, Design CAD, Colour Management, CAM etc.)?

The world of design has recently seen some revolutionary advances in technology (3D being one of the most recent and exciting) that dramatically extend the capabilities inherent in original CAD systems. As a result, new actors became leaders in this vertical solution space alongside the existing traditional vendors.

Aptos PLM consolidates all the data from every actor in the new product lifecycle. The new vendors are completely open to native integration, and this makes it possible to build add-ins for a truly seamless work experience. A designer that creates a new sketch in Adobe Illustrator shouldn't have to separately access PLM to share the result of their work. Instead, Aptos PLM is accessible inside Adobe to automatically connect the sketch to the library. All authorized PLM users will immediately see the images and the colours generated by the designer and will be able to use them where necessary. The original Adobe file will be stored in PLM and is accessible by users that have the appropriate permissions.

All the information pertaining to the raw materials can be extended with all the parameters required to be used in the modern 3D CAD. The result of a 3D modelling can be published in PLM to have a "virtual prototype" on which to perform the first fitting. Technical information like notes and Bill of Material can be shared among the CAD and the PLM.

Between Aptos and the previously acquired TXT business, you have spent almost 30 years in retail planning, product design and software development. This expertise has been channelled into a modern technology platform for Retail. Are all of your solutions (planning, product development, design, sourcing) fully integrated into your main platform? And are they able to share data between areas like financial planning, assortment planning, design & development and, ultimately, sourcing?

The processes that our clients and the fashion market adopt to support the business are continuously changing and improving to follow innovation. The introduction of fast fashion, globalization and the pandemic are just a few examples of milestones that drive change and require businesses to react and adapt quickly.

Our suite is continuously advancing in technology, functionality, and process vision to anticipate the next needs. Integration between modules is also evolving so that, for example, an improvement in Assortment Planning will be captured in PLM as well. Merchandise and Financial Planning, Assortment Planning, Product Lifecycle Planning, Allocation Forecasting and Replenishment are connected by both functionality and data and this integration can be tuned based on the specific business context.

We defined a standard set of User Experience best practices that will ensure a seamless experience for every user, regardless of module. We are also enhancing the platform architecture to support what we call Reusable Business Assets. Each Reusable Business Asset (RBA) will focus on a specific set of processes and will be reusable in all of the modules of our suite. Completely accessible via APIs, these modules will be the centrepieces for complete Merchandise Lifecycle Management (MLM). Support for all business processes, including PLM processes, will be delivered via a combination of RBAs. When completed, we will no longer speak about "modules" but only processes and the integration will be simply a natural component of our architecture.

You offer a unique combination of PLM and Assortment Planning, to drive wholesale orders that flow seamlessly from product design to purchase order. Linked to our previous question, how extensive is your planning and PLM integration? Is it possible to support assignment planning, materials planning, and sourcing planning?

The integration of PLM and Assortment Planning is not a simple transfer of information and ownership. There are many touchpoints and the interactions between the various end users are very frequent and mission critical. The assortment strategy defines the targets for the collection to be sure, but it but also defines the guidelines for designers on PLM and it serves as an indirect input for raw material selection.

Colour palette and material palette are created in PLM and shared with AP as a guideline for the merchandiser during the definition of the merchandising plan. Carryover items are defined in AP based on historical performance figures and then published to PLM to inform the buyers of the products that should be reordered and checked.

New products (or variations of existing products) are defined in PLM and shared with AP to build the collection with all the items. The wedge is executed on AP along with target volumes that will be used in PLM for the RFQ.

Raw material requirements per unit are evaluated in PLM and target volumes from AP are used to calculate the total need. Evaluation of the material requirements curve over time is calculated in PLM based on the date of the first allocation of the products, the lead time of material manufacturing and the logistics lead time associated with the various suppliers.

The monitoring of this complex scenario is not part of one single module but is managed by the "control tower:" the MLM dashboard that summarizes the entire collection lifecycle status. As per the previous question on the evolution of our suite these activities will be seen as a continuous business process and we'll talk less about PLM and AP as modules but as a collection or assortment creation process.

It's encouraging to see that Aptos has integrated Higg Index standards (from the Sustainable Apparel Coalition) into its PLM solution. Can we ask you to share with our readers how this will enable your PLM customers to deliver impact measurements for their designs?

The Global Value project selected the Higg index as the most suitable tool to measure the impact on sustainable development. The index associates a synthetic evaluation of environmental impact to materials and products. The very complex supply chain in fashion, structured in multiple nested levels of subcontractors, can generate enormous difficulties for our clients when they need to provide transparency. The Higg Index provides the opportunity to ask for a material certification and use those values with a standard methodology to assess their impact on the environment.

This is very important in a moment in which the law is starting to identify specific requirements for the sustainability area.

How do you see PLM supporting fashion's wider recovery and its ongoing digital transformation over the next 2-3 years?

We do not see **the era of disruption** ending in the next 2-3 years. Therefore Aptos, as a software vendor, will be called to continue to enhance and extend our software to adapt to market changes. For our customers, adopting software as a service will help transform PLM into a more integrated part of a larger ecosystem of services.

The ability to strengthen the network of partners will be part of this process to ensure commitment to the same targets. Transparency for the supply chain will be a requirement for sustainability certification, and the ability to identify alternatives in case of unavailability from the preferred partner will become a standard rule in order to be competitive.

After the shock of the pandemic, digitalization has been greatly enhanced and now we see our customers wanting to more rapidly adopt modern technologies. PLM will continue to evolve to maintain its role as the collector of these technologies and information in order to support business requirement changes and to help retailers to adapt to them.

backbone

Financial Year 2021/22

www.backboneplm.com

+ 66

NEW CUSTOMERS OF RFA PLM, INCLUDING:

Age of Innocence, Aime Leon Dore, Alice James Global, Alton Lane, Bad Birdie, Baja Llama, Barry's Bootcamp, BeFulfilled, Birddogs, Business & Pleasure Co., Catbird NYC, Club Ride Apparel, Cosmopolitan, Crop Shop Boutique, Dagne Dovere, Destira, Donald Ross, Dovetail Workwear, ecofashionCORP, Elizabeth & Clarke, Fair Harbor, FHF Gear, Fish Hippie, For Days, Harbour Outdoor, Hope & Henry, Jaanuu, Jambys, JB Britches, Joybees Footwear, Judith Leiber, KADA, Khangri, Krstn Ndrsn, La Pere, Left on Friday, Lost Arrow Inc., Mons Royale, Muscle Republic, Navigare Sport, One Golden Thread, Outerknown, PACT, Popflex, Product Refinery, Project Halo, Pyer Moss, Rancourt, Random Golf Club, Schoffel Country, Saint Jane Beauty, Sensing Wear LLP, Sergio Tacchini, Stateless, Step 22, Steven Alan, Superfeet Worldwide, Syd & Rex, The Squad Nation, Truewerk, Twillory, Twisted X Global Brands, Universal Colours, Virus International, Warren Lotas, ZAEL

186

OVERALL NUMBER OF ACTIVE CUSTOMERS

of PLM within the RFA industry, excluding customers cited as new in 2020/2021.

N/A%

of the overall number of active customers currently paying maintenance.

8

NUMBER OF RESOURCES SPECIFICALLY ENGAGED IN R&D

RESOURCES FOCUSED ON RFA, SEPARATED BY REGION:

(Excluding those cited as R&D-specific resources aside.)

North America: **N/A**

Latin America: **N/A**

EMEA: **N/A**

APAC: **N/A**

1,385

TOTAL NUMBER OF INTERNAL USERS WORLDWIDE

and where those users are located?

North America: **1,159**

Latin America: **9**

EMEA: **81**

APAC: **136**

N/A

TOTAL NUMBER OF EXTERNAL USERS WORLDWIDE

and where those users are located?

North America: **N/A**

Latin America: **N/A**

EMEA: **N/A**

APAC: **N/A**

backbone

Financial Year 2021/22

www.backboneplm.com

A MATTER OF HOURS

Average time taken for an RFA PLM installation (SME)

45 DAYS

Average time taken for an RFA PLM installation (large enterprise)

100%

of installation time done digitally, on average (SME)

100%

of installation time done digitally, on average (large enterprise)

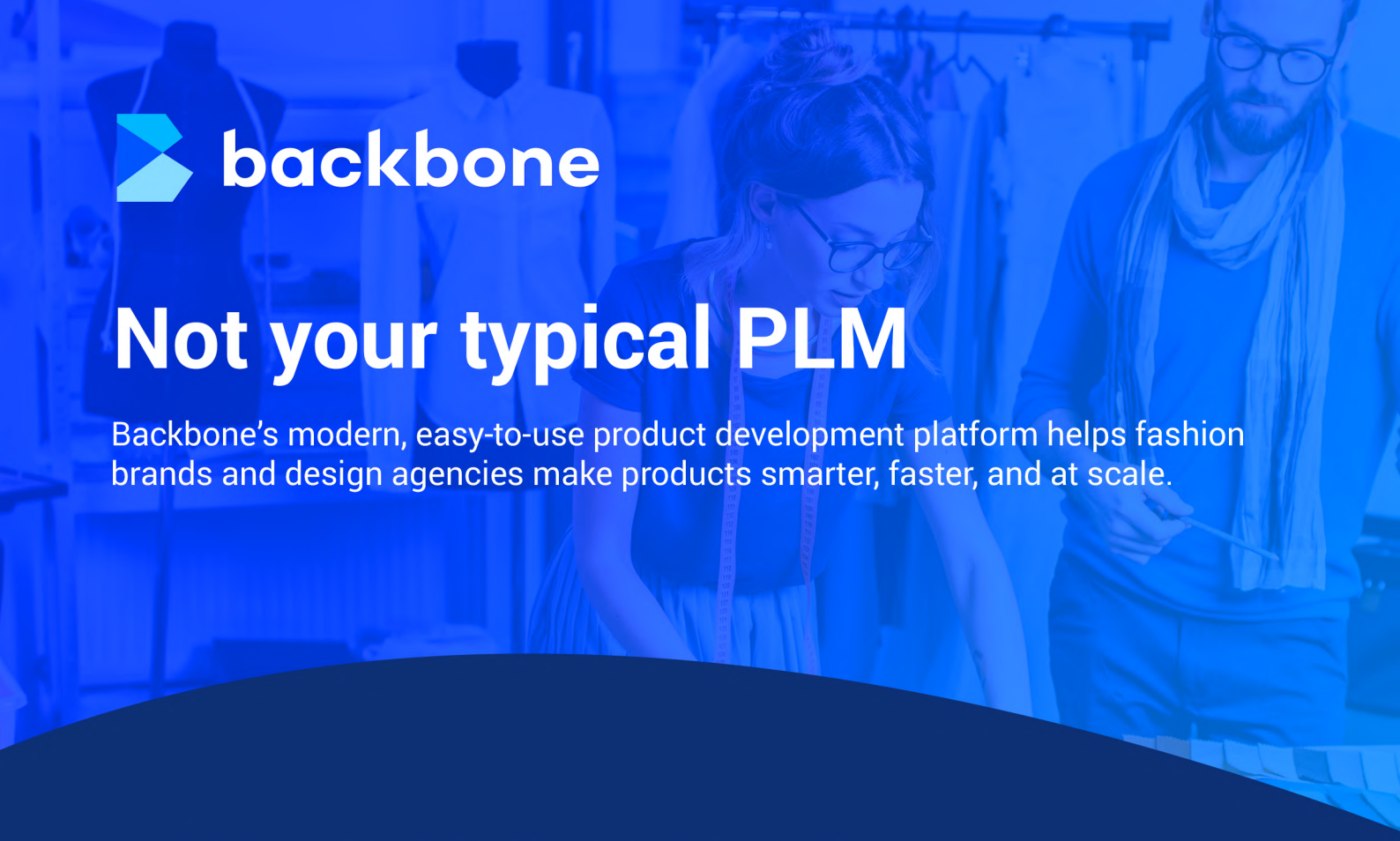
3

ACTIVE TECHNOLOGY PARTNERSHIPS SUPPORTING RFA PLM, INCLUDING:

Pantone Library (access to 11 Pantone Colorbooks within the Backbone Colorway Module), Adobe Illustrator, and Shopify.

TELL US WHAT YOU FEEL HAS CHANGED AND/OR ADVANCED IN YOUR PRODUCT OFFERING THIS YEAR TO DIFFERENTIATE YOUR COMPANY FROM OTHERS IN THE RFA PLM MARKET.

Backbone's mission is to empower brands to make products smarter, faster, and at scale. In the last year, we doubled down on efforts to make the platform a powerful tool for our core users, product designers, and developers. Our latest releases aim to solve some of their biggest challenges; providing a seamless integration to sync artboards with our new Adobe Illustrator plugin. This addition improves tech pack sharing with vendors and factories, enabling them to organize their custom fields in flexible ways. Our engineering and product teams have shipped over 50 different feature enhancements and releases over the last year, all with the goal of making Backbone more intuitive for our core users who depend on us to design products in the RFA and CPG space.



backbone

Not your typical PLM

Backbone's modern, easy-to-use product development platform helps fashion brands and design agencies make products smarter, faster, and at scale.

Professionalized Product Development

Create tech packs in minutes, standardize size specifications, reduce errors, and create professional line sheets.

Increase Speed to Market

Backbone's cloud-based system of interconnected libraries gives your team real-time access to updated product records to move at digital speed.

Empower Creativity

Powerful features like the Adobe Illustrator plugin save designers time, empowering them to do what they do best — design.

Growing Brands, Built with Backbone

SHINOLA Outdoor Voices Bad Birdie Rowing Blazers AIMÉ LEON DORE

/backboneplm

www.backboneplm.com

IN CONVERSATION WITH

JEFF FEDOR, CEO

backbone

How do you define PLM, and how has that definition changed as the fashion industry has evolved?

Traditional PLM systems are expensive and rigid engineering tools with lengthy implementations. They are IT-driven devices evaluated without the needs of designers and developers in mind. Legacy PLM tools create friction, forcing designers to drive creative work outside the system. These platforms are necessary to maintain a competitive edge, but they are out of reach for more than 900,000 fashion and apparel brands with a Gross Merchandise Value (GMV) of less than 10 million dollars.

Modern PLM tools provide a design and development solution to transform products from concept to creation, centralizing product data to streamline creative briefs, production schedules, supplier communication, and more. Fashion PLM software acts as a collaborative environment for designers and product developers to integrate colors, size specs, and materials. It also provides a platform to manage sample development and mitigate risks throughout the supply chain.

While the industry has evolved, the traditional apparel calendar is fading away in favor of a continuous production cycle. Supply chain constraints further compress development timeframes and leave no room for mistakes or miscommunication. Skyrocketing freight costs erode margins and place increased demands on product teams. What's more, looming legislation in the EU and USA, along with pressure from consumers, challenges brands to provide greater visibility into their sustainability practices, including ethically-sourced materials.

The need for accurate tech pack creation and effective vendor collaboration is more critical than ever for the following reasons:

- Traditional PLM is too slow to meet the needs of modern fashion and apparel brands.
- Traditional PLM is overbuilt and full of irrelevant features that do not benefit fashion and apparel companies.
- Modern organizations seek a single source of truth in their PLM solution that allows them to create professional tech packs and effectively communicate with suppliers.

How has your PLM solution filled a gap in the market and helped push your industry forward?

The legacy PLM platforms that used to contain everything from industrial tools to airplanes are slow and outdated, requiring a lot of customization to work for New Age fashion and apparel brands. In contrast, fashion PLM software like Backbone is designed with improved functionality, helping your design team unleash their true creativity and collaborate on new product ideas with the entire company.

There is a rising number of digitally native fashion startups requiring a digitally native PLM. Legacy solutions are unable to meet the needs of a modern retail brand, and today's fashion leaders want to create and collaborate at scale without getting lost in a complicated engineering tool that clashes with WMS or IMS systems.

Backbone is made for designers, by designers to bring a unique perspective to the PLM space.

Where do you believe PLM sits in the broader technology ecosystem for a brand or retailer? What does it deliver as a standalone solution, and what can it enable in terms of digital transformation elsewhere in the Enterprise?

In the fashion world, three vital parts make up a brand's tech stack:
1. Creation
2. Development
3. Commerce

Adobe Creative Cloud owns the initial creation step, and Shopify is the leading commerce solution for direct-to-consumer (DTC) fashion brands. But what about the development stage in the middle? You can choose between static spreadsheets and a centralized file system like Dropbox, or a dynamic, cloud-based PLM like Backbone.

A PLM solution is the nucleus of all product data, managing production processes and information throughout the development lifecycle.

When connected to a broader fashion ecosystem, PLM can circulate accurate product data around a community of apps that modern fashion and apparel brands use for planning, merchandising, supply chain, logistics, commerce, and more. PLM presents a unique proposition for a technological ecosystem because it should act as the single source of truth for the entire company.

Depending on its functionality, PLM can operate as a standalone solution or stand firmly planted on the front line. In the current fashion landscape, it has become increasingly difficult to establish an efficient flow of information as organizations scale their brand or product. Luckily, a PLM tool should connect to other solutions and allow product information to flow downstream with zero restrictions.

As we evolve into this digital-first world and navigate unknown terrain, we are discovering the need for things like 3D design to become a greater part of the product development lifecycle. Existing PLM devices have a tremendous opportunity to act first and become thought leaders with the tools they create to address these lingering needs.

Perhaps the two technology opportunities that have been accelerated the most by the disruption of the last two years are digital product creation and supply chain resilience/ agility. How do you believe PLM contributes to those goals?

The goal isn't to solve supply chain woes overnight, but rather to identify gaps within current development processes and reduce risks that are common to all types of product-related disruptions. Backbone PLM funnels product records into a single system of record that allows design and product teams to access reports in real-time, make changes, provide feedback, and assess sourcing, logistics, or manufacturing risks.

Backbone's interconnected product libraries save time during the sampling and revision process because all color swatches, fit samples, lab dips, and size specs are easy to access and organize. When your development teams can effectively communicate with suppliers, it's effortless to track requests, timelines, materials costs, and shipping or arrival times.

Supply chain disruptions are a challenge for the entire fashion industry, but Backbone empowers brands to operate at digital speed and develop products smarter, faster, and at scale. At Backbone, we believe in supporting the entire ecosystem of our industry, while helping

designers and developers enter a successful production cycle and improved manufacturing processes.

What are the biggest challenges/pressures facing fashion startups today? How does your solution respond to these challenges?

Traditional PLM tools are too rigid to meet the needs of today's fashion and apparel brands. Modern brands want to collaborate effectively and create products at scale. They don't want to battle an engineering tool that competes with their ERP. Additionally, external pressures such as supply chain instability coupled with natural crises like COVID-19 and ongoing labor shortages are forcing companies to reconsider their business model. Amazon and American Eagle are noteworthy retailers focusing on new methods to drive growth and diversify their business offerings. These organizations are diversifying vertically through the production process and into logistics. Essentially, everything in the industry is pointing toward logistics.

Logistics company → fashion brand that wants to be a logistics company → organizations buying logistics companies → resale brands adopting logistic techniques = Logistics 101.

Yet fashion startups find a way to respond to these unique challenges without the resources or connections of big retailers by implementing new solutions made for the next generation of technology. Platforms like Shopify are adopting a more logistical focus to circumvent issues with supply chain management and provide a centralized hub for smaller startups that might lack the resources to manage the complicated aspects of manufacturing, inventory management, and operations.

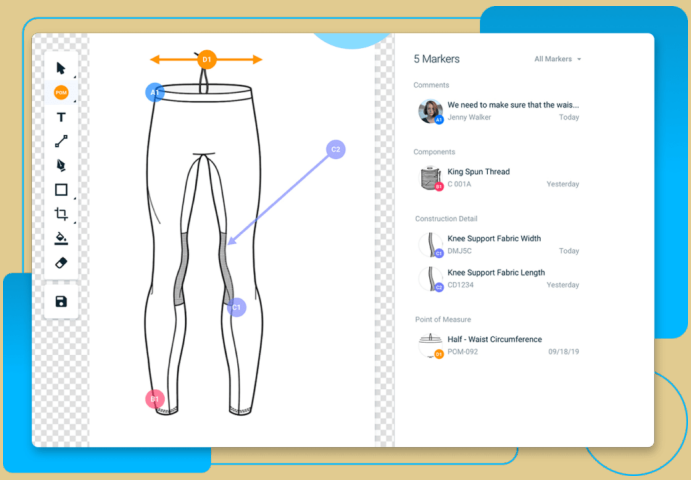
Backbone PLM provides designers and product developers with that centralized hub for concept, creation, development, and production needs at a price point a startup can afford. Additionally, RFA or CPG-specific PLMs provide an easy-to-use system controlled by the user with no costly RFPs required to customize the system to fit your brand's needs.

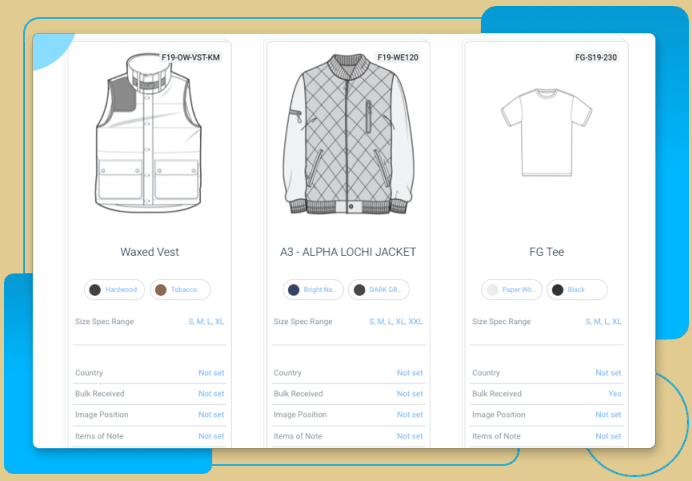
Other PLM solutions are retrofitted to the fashion and apparel space, but we have already seen a massive shift within the industry where digital-first strategies regarding sales, marketing, design, and development are taking precedence. Server-based computing systems are becoming obsolete for the next generation of fashion and apparel brands, and companies are unleashing more creativity in response to the market and recent industry uncertainty.

Are there any significant/noteworthy features that your product has? What implications does your product have for the future of your business/industry?

Design focused integrations and plugins:

- Adobe Illustrator Plugin: Backbone's two-way Adobe plugin enables designers to access and update files without worrying about the current artboard version. Changes sync seamlessly, taking the pain out of product revisions for your whole team.
- Pantone Libraries: Backbone allows you to manage product and component colorways, including custom palettes and Pantone libraries which are licensed and pre-populated in the Backbone system for no extra cost.





- Backbone Lite: Available on the Shopify app store, Backbone Lite provides the tools needed to professionalize the product development process, increase speed to market, and focus on constructing products that will grow their business.

Customization and giving the power back to brands:

- Unlimited Custom Fields: Backbone admins can create, edit, and manage custom fields specific to your brand's unique needs and goals. Our intuitive admin panel makes it easy for teams to configure brands, taxonomy, fields, and users.

How do you see PLM supporting fashion's wider recovery and its ongoing digital transformation over the next 2-3 years?

Fashion brands are no longer expected to pay thousands of dollars to purchase PLM licensing, implementation fees, training, data migration, and so on. With modern PLM tools and the emergence of SaaS solutions like Backbone, customers pay an affordable monthly fee to utilize the PLM, reducing implementation costs and onboarding time. For example, fashion startups adopting their first PLM can compile product information, onboard with Backbone, and be ready to create tech packs within a day or two. Plus, the low upfront costs ($199 per month) provide a tremendous value to smaller fashion startups looking to test the waters of PLM software.

A modern PLM software lowers development costs and increases productivity company-wide to correlate with your brand's projected return on investment (ROI). Design and development teams can build accurate tech packs, reduce manual data entry, and optimize sampling cycles to push products into production faster. If you look at the hours team members lose looking for lost product information, correcting user errors, and inputting product data by hand, you will quickly discover a telling figure for concrete ROI.

Major fashion brands are typically left with legacy PLM systems that lack the latest integrations needed to streamline product development tasks. However, because these traditional PLM models were so expensive and difficult to adopt, most fashion big-wigs are hesitant to replace these archaic systems, and efficiency is hindered for product developers. As a smaller fashion brand, you don't need to tie yourself down with an old-fashioned suite of complicated systems. Backbone PLM guarantees your brand's design sketches are well displayed, creating product specs is effortless, and tech packs are shared in just a few clicks.

For emergent fashion startups, purpose-driven brands are more impactful than transactional brands. According to a report by Time Marketing, purpose-driven brands show 60 percent greater customer engagement and 50 percent greater employee satisfaction compared to traditional fashion brands. The report also showed 16 percent more high-growth sales volume over the past three years.

Whether you want to operate a digital-only business or a healthy balance of digital, brick and mortar, and wholesale, listen to the market, understand where your business is going, and embrace dynamic technology that will give your brand a pivotal edge over the competition.

BAMBOO ROSE

Financial Year 2021/22

www.bamboorose.com

+ 9

NEW CUSTOMERS OF RFA PLM, INCLUDING:

Boots No 7

111

OVERALL NUMBER OF ACTIVE CUSTOMERS

of PLM within the RFA industry, excluding customers cited as new in 2020/2021.

+ 11

NEW CUSTOMER EXPANSIONS

99%

of the overall number of active customers currently paying maintenance.

124

NUMBER OF RESOURCES SPECIFICALLY ENGAGED IN R&D

RESOURCES FOCUSED ON RFA, SEPARATED BY REGION:

(Excluding those cited as R&D-specific resources aside.)

North America:	Latin America:
70	0
EMEA:	**APAC:**
24	30

120,500

TOTAL NUMBER OF INTERNAL USERS WORLDWIDE

and where those users are located?

North America:	Latin America:
62%	3%
EMEA:	**APAC:**
20%	15%

203,000

TOTAL NUMBER OF EXTERNAL USERS WORLDWIDE

and where those users are located?

North America:	Latin America:
10%	10%
EMEA:	**APAC:**
15%	65%

BAMBOO ROSE

Financial Year 2021/22

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6-8 WEEKS
Average time taken for an RFA PLM installation (SME)

3-6 MONTHS
Average time taken for an RFA PLM installation (large enterprise)

100%
of installation time done digitally, on average (SME)

100%
of installation time done digitally, on average (large enterprise)

10
ACTIVE TECHNOLOGY PARTNERSHIPS SUPPORTING RFA PLM, INCLUDING:

Columbus Consulting (2021), PWC (2021), Blue Yonder (2021), CLO (2021), QIMA (2021), TradelinkOne Technologies (2021), True Fit (2019), Microsoft (2019), Raistone Capital (2018), IBM (~2014)

TELL US WHAT YOU FEEL HAS CHANGED AND/OR ADVANCED IN YOUR PRODUCT OFFERING THIS YEAR TO DIFFERENTIATE YOUR COMPANY FROM OTHERS IN THE RFA PLM MARKET.

Updates to the Bamboo Rose PLM application centred on leveraging the platform's multi-enterprise architecture to connect teams and partners around challenges introduced by macro-market dynamics and impending regulations impacting RFA, CPG, food and formulated industries in 2022.

Enhancements to the RFA PLM solution focused on connecting design and sourcing processes for improved costing and project mgmt insights, updates to Point of Measure (POM) capability that automate and accelerate design cycles, and vendor mgmt. capabilities that help clients account for ESG initiatives and recommend partners that align with ESG goals. Updates in 2022 also support continued improvements to out of the box 3D tool integrations including the ability view CLO 3D attachments in the Material & Color library, search and access Bamboo Rose materials alongside CLO 3D attachments, and access Bamboo Rose colors with corresponding CLO 3D attachments using the CLO-Vise plugin. The system can now also recognize and manage SolidWorks 3D files for hardlines and general merchandise clients.

Enhancements to the food and formulated PLM solution introduced extended allergen traceability, packaging enhancements for selling into multiple international markets, recipe mgmt. updates that support diverse consumer delivery and packaging formats, and teams mgmt. improvements that connect and automate duplicate tasks across different product initiatives.

BAMBOO ROSE

PRODUCT LIFECYCLE MANAGEMENT

Connect your entire retail value chain to drive supplier collaboration and product development agility

- Drive brand and design agility to market trends and consumer expectations
- Cost products in real-time with visibility across design, sourcing, and supply chain
- Work transparently with suppliers to maintain surety of supply
- Augment and automate processes through data analytics and intelligence
- Integrate ESG initiatives across products, partners, and processes

Learn more at **bamboorose.com/product-lifecycle-management**

IN CONVERSATION WITH

NATE FLEMING, CMO

BAMBOO ROSE

Where do you believe PLM sits in the broader technology ecosystem for a brand or retailer? What does it deliver as a standalone solution, and what can it enable in terms of digital transformation elsewhere in the enterprise?

When Bamboo Rose first started engaging with retailers and brands on PLM initiatives, the system was viewed as a tool to provide product design and development capabilities that drove product innovation, managed development timelines, and maintained product quality. As macro-market trends have evolved and technology roadmaps have matured, the concept of a multi-enterprise PLM has emerged. This mix of technology and strategy is focused on connecting development decisions to customer expectations across markets, collaborative development with suppliers and downstream teams, and visibility into the impact of design decisions on sourcing compliance, logistics dynamics, and margins. As firms grapple with supply chain disruption, emerging environmental, social, and governance (ESG) requirements, and unstable global markets having full visibility across design and development teams, partners, and downstream processes has become business critical.

Bamboo Rose states that it offers "complete visibility across design, development and go to market". Can you elaborate on how extensively each of your modules is connected to your platform(s) and the types of data that are shared in real-time between each solutions and/or modules?

The Bamboo Rose platform and business applications are built on a single code base. The suite of business applications access the same shared libraries, reference data, intelligence and reporting capabilities, and underlying collaborative tools. The platform is truly a single source of truth for product, order, and business partner information across the supply chain from ideation to delivery. As the pace of business moves more and more quickly, retailers and brands simply can't afford to be working on siloed systems that impede collaboration and agility.

We note that you offer a Global Sourcing application. Is the costing module within the sourcing platform linked to your PLM solution, and are they both able to share the same source data?

The Global Sourcing application, which contains the costing capability and Should Cost extension, leverages the same data as used by the PLM application. The RFQ is in fact the same document as the Tech Spec, with extended attribution specific to sourcing. It invites suppliers into the process to provide offers, each of which as linked to but separately managed to provide a holistic view of the sourcing options. This arrangement is important to ensure the continued alignment between the intended design and the suppliers offers, to adapt to changes in design due to material or production availability and to ensure the final production is aligned to the final intended design.

With new environmental and sustainability laws coming into forces, ESG (or CSR) is a topic on the minds of most management teams within the retail, footwear, apparel and textiles sectors. Can you share with us how your solutions are able to deliver on scientific impact measurements, and share the typical drivers and key data types are in delivering these results?

Bamboo Rose offers many capabilities that enable retailers and brands to measure, inform and improve their performance against internally and externally mandated ESG initiatives. The CSR module provides detailed supplier performance and auditing data with tightly managed follow ups on corrective actions to drive compliance. The materials & packaging libraries provide in-depth sustainability and usage attribution to capture the impact of different materials within products. And our sourcing and global trade solutions provide the visibility necessary to assess environmental and social impact of different product, sourcing, and logistics decisions.

Are you able to utilise 2D and 3D design assets within your Virtual Showroom to support smarter supplier collaboration? If so, are the visual assets able to support additional metadata – for example, cost price and retail price?

Leveraging digital representations of products in the design process has become especially important for clients since the pandemic derailed traditional physical sampling processes. Bamboo Rose does support 2D and 3D assets in Virtual Showrooms and provides an embedded viewer to support annotation and interaction with these files to streamline vendor collaboration and design processes. Bamboo Rose currently has an established relationship with CLO and can support a variety of other 2D and 3D file types as well.

Perhaps the two technology opportunities that have been accelerated the most by the disruption of the last two years are digital product creation and supply chain resilience / agility. How do you believe PLM contributes to those goals?

As mentioned earlier in the conversation, there are major opportunities to leverage a PLM system integrated with sourcing and supply chain applications to provide downstream visibility that can ultimately drive agility and resilience to market disruptions. For example, within Bamboo Rose PLM designers can ensure they are aware of and are leveraging well sourced and available materials early in the design phase to avoid production delays. On the supply side, visibility into partner facilities, capabilities and capacity availability greatly reduce unexpected delays in production and provides opportunities to address disruptive events by suggesting alternate partners, facilities, or materials.

How do you see PLM supporting fashion's wider recovery and its ongoing digital transformation over the next 2-3 years?

Over the next 2-3 years, retailers and brands will continue to grapple with unstable global dynamics that disrupt access to finished goods and cause delays and shutdowns in supply chain operations. At the same time, they'll also grapple competitive pressures from eCommerce and Direct to Consumer (DTC) players as well as regulatory pressures related to ESG. All of these headwinds mean that established retailers and brands will need to get creative around partner ecosystem strategy, revenue channels, and technology roadmap. Successful retailers and brands will leverage a multi-enterprise PLM strategy that drives downstream visibility to manage many of these market dynamics in tandem. Bamboo Rose product development and costing capabilities help product teams account for market demand signals throughout the development, sourcing, and ordering process – supporting agility to shifts in consumer expectations. Additionally, the application allows clients to easily account for the cost, logistics, and compliance dynamics when bringing product to market across several distinct geographies and business models without introducing overhead administrative work and compliance risk. Finally, visibility across development, sourcing, and supply chain processes coupled with data intelligence tools allow clients to predict and respond quickly to potential disruptions – maintaining time to market and margin goals despite a volatile business climate.

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+ 10

NEW CUSTOMERS OF RFA PLM, INCLUDING:

Arena, DFI Retail Group, ICA, Lululemon, Pets at Home, Rusta, Tefron, William E Connor

92

OVERALL NUMBER OF ACTIVE CUSTOMERS

of PLM within the RFA industry, excluding customers cited as new in 2020/2021.

+ 6

NEW CUSTOMER EXPANSIONS

100%

of the overall number of active customers currently paying maintenance.

120

NUMBER OF RESOURCES SPECIFICALLY ENGAGED IN R&D

RESOURCES FOCUSED ON RFA, SEPARATED BY REGION:

(Excluding those cited as R&D-specific resources aside.)

North America:	Latin America:
23	0
EMEA:	**APAC:**
15	80

18,000

TOTAL NUMBER OF INTERNAL USERS WORLDWIDE

and where those users are located?

North America:	Latin America:
18%	0%
EMEA:	**APAC:**
32%	50%

32,000

TOTAL NUMBER OF EXTERNAL USERS WORLDWIDE

and where those users are located?

North America:	Latin America:
4%	2%
EMEA:	**APAC:**
4%	90%

Financial Year 2021/22

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3 MONTHS
Average time taken for an RFA PLM installation (SME)

5-10 MONTHS
Average time taken for an RFA PLM installation (large enterprise)

100%
of installation time done digitally, on average (SME)

100%
of installation time done digitally, on average (large enterprise)

10+
ACTIVE TECHNOLOGY PARTNERSHIPS SUPPORTING RFA PLM, INCLUDING:

OpenText (2010); Oracle, SAP, Dynamics 365 and NetSuite (2015-2022), Amazon (2016), Adobe (2017), Microsoft (2018), Tata Consultancy Services (2018), SGS (2019), Browzwear (2021), Amfori (2021), Bureau Veritas (2021)

TELL US WHAT YOU FEEL HAS CHANGED AND/OR ADVANCED IN YOUR PRODUCT OFFERING THIS YEAR TO DIFFERENTIATE YOUR COMPANY FROM OTHERS IN THE RFA PLM MARKET.

As is customary, we have introduced hundreds of new enhancements to CBX Cloud over the last calendar year. In direct support of the apparel and footwear ecosystem; significant improvements have come by way of dynamic 3D and 2D integrations with Browzwear and Adobe Illustrator, interactive and highly visual digital line sheets and style boards and an exciting new materials and trims management tool box. In support of the push for digital transformation of ESG initiatives, CBX Cloud now offers supply chain mapping tools exposing 3rd, 4th and 5th tier suppliers and service providers as well as connecting to several 3rd party sustainability databases and TIC's.

In support of quality assurance, mobile sample management tools have been introduced, the CBX mobile inspection app has been improved with numerous updates, and artificial intelligence (AI) and machine learning intelligence is used to aid quality managers in identifying anomalies in the inspection processes.

SCALE WITH CBX CLOUD

CBX Cloud streamlines the product development process, helping retailers and brands manage assortments, accelerate new products to market, and optimize product design and sourcing, all while eliminating redundancies and honoring your ESG initiatives.

CONNECTED SOLUTIONS. LASTING COST SAVINGS.

PLM is just the beginning. CBX Cloud compresses the timeline for key operations, eliminating manual handoffs and lost shipments. Critical Path Management tools ensure that everyone responsible for bringing new merchandise to market has access to the most current information, resulting in dramatically improved supply chain efficiencies and lower costs.

EASY DATA TOOLS

CBX Cloud creates visibility earlier in the supply chain, providing unparalleled insights and enabling retailers to make strategic data-driven decisions.

FASTER ROLLOUTS

CBX Cloud enables smooth, frictionless rollouts of new product ranges and line extensions.

ENSURED COMPLIANCE

CBX Cloud ensures your company lives up to its sustainability claims by facilitating supplier collaboration, creating transparency earlier in the supply chain and monitoring quality checkpoints.

FUTURE-PROOF YOUR BUSINESS. CONTACT US TODAY.

cbxsoftware.com

IN CONVERSATION WITH

ERIC LINXWILER SR. VICE PRESIDENT, RETAIL SOLUTIONS

How do you define PLM, and how has that definition changed as the fashion industry has evolved?

We feel that there are too many definitions of Product Lifecycle Management (PLM), which can mean different things to different people. So, to answer this question, we recommend defining PLM based on how it has been used by retailers and brands in the fashion industry. In the world of fashion, PLM installations have been (and still is) used by retailers and brands predominantly for management of product development e.g., capturing product specifications (techpack), collaborating, reviewing and tracking product assortments/lines, reviewing and approving samples, etc.

At CBX Software, Inc. (CBX), we feel product development is crucial but still only part of the extended supply chain that retailers and brands must get better at in order to compete in delivering products to market faster, at the right price and quality, and more than ever delivering products that are sustainable and socially responsible.

As the fashion industry continues to evolve, the leaders in the space are demanding much more from their PLM systems and this demand drives the roadmap for CBX Software as a company. CBX Cloud offers PLM and an extended supply chain management platform designed exclusively for Retailers, Brands and Trading Companies that are seeking a composable, multi-enterprise and integrated solution that extends well beyond traditional product development, materials management and supplier collaboration. The CBX Cloud footprint covers the full breadth of requirements needed to realize true extended supply chain optimization and automation from Product Concept to Delivery. Functional modules include supplier

and factory management, planning, product development, product information management, sourcing, buying, order visibility management, quality, testing and compliance management, work in process (WIP) tracking, logistics and payment.

Where do you believe PLM sits in the broader technology ecosystem for a brand or retailer? What does it deliver as a standalone solution, and what can it enable in terms of digital transformation elsewhere in the enterprise?

For tier 1 retailers and brands today, implementing a comprehensive PLM platform is by-itself, merely table-stakes. PLM is the catalyst that informs and supports digital transformation that is now required to meet corporate initiatives related to environmental social governance (ESG), responsible sourcing, global sustainability, higher standards for product quality & safety, recycle/reuse programs, competitive pricing models and voice of the customer (VoC) feedback loops.

PLM has traditionally focused on delivering only in the early stages of product ideation, creation, and specification (material, trims, colorway, etc.). The process today must include full circle consideration of where is raw material being farmed, who is spinning the yarn, how can we ensure that those tasked with cut and sew are minimizing waste. To know this, the PLM must be integrated with supply chain mapping and visualization systems that provide dynamic feedback to the design teams during the specification finalization process.

Perhaps the two technology opportunities that have been accelerated the most by the disruption of the last two years are digital product creation and supply chain resilience / agility. How do you believe PLM contributes to those goals?

While PLM solutions have been adopted for creation and management of product design/development over the recent years, retailers and brands now clearly recognized the bigger problem, the need for solutions to manage a more efficient, agile, sustainable, and global supply chain.

PLM solution providers should evolve to work hand-in-hand with extended supply chain solutions, e.g., solutions for managing of raw materials, production, inspections, shipments and visibility, finances and ESG. PLM must be a key contributor in satisfying the need to evolve digital product creation and support a more responsive and agile supply chain. At CBX we maintain a broad library of open API connectors to facilitate the dynamic exchange of data among all stakeholders responsible for bringing product to the customer. For example, as ideas, designs and specifications are emerging from the PLM, messages, alerts and requests are being exchanged with sourcing and transportation management personnel. In return comes up to date shipping cost and port conditions data as well as digital samples and factory capacity availability which helps to augment and often speed up the product finalization process being managed in the PLM system.

How do you see PLM supporting fashion's wider recovery and its ongoing digital transformation over the next 2-3 years?

As PLM systems continue to innovate into more real-time sharable information resources rather than data repositories, task management and calendaring tools; they will contribute opportunities to assist the Brands in being exactly what the customers of today are demanding, which is more transparency, 100% authenticity and progress towards a circular economy.

As retail continues to see recovery and even growth and stability in both on-line and in-store purchases, so too are the rising rates of merchandise returns. How does PLM play a role in helping brands rethink the management of product returns?

PLM is where new product begins and as such, all data relevant to decisions on design, materials, cost, quality, etc., should ultimately find its way back in the PLM as the product journeys though its lifecycle. Returns occur for any number of reasons as is well documented by multiple industry analysts and research firms (i.e., Gartner, IDC, Incisiv) and most are controllable by retailers. Challenges such as product quality, unsubstantiated sustainability claims, product fit, wear performance and more, all contribute to return volumes. Leading brands bring this data back into their PLM and incorporate the feedback into the design and sourcing process early in the development cycle of new styles with the intent being to minimize dissatisfaction and build customer loyalty.

The phrase "digital transformation" and the need for automation of the product development and supply chain execution process in retail is top of mind and discussion daily and yet we still see so many that are slow to respond, how do you see PLM solution providers playing a role in supporting transformation?

Retailers are generally risk adverse and change for most comes slowly, but it is not for lack of capability. For instance, consider all the talk and energy regarding curbside pick up in the years leading up to March 2020. Published reports and analysis (e.g., Retail Brew 2021) shows that nearly 44% of the top 245 retailers now offer curbside pick up, which is up from just 6.9% in 2019. Implementing the process and tools required to execute on curbside pick up had been talked about for years prior to Covid 19 with little progress. The retailers needed a push and that came from a loud and outspoken customer demanding a contactless experience, and as such many retailers had a service offering stood up in days. Was it perfect, no, but as the saying goes, "perfect is the enemy of good".

PLM and Sourcing systems need to be functional directly "out-of-the-box" and built on industry best practice that gives retailers confidence. Implementations should be swift, without customization and deliver immediate time-to-value. Solution providers that show up on day one, offering a flexible, iterative implementation methodology that drives users into production within the first 30 days of kickoff will result in faster decisions by retailers to commit to executing on their digital transformation journey.

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Financial Year 2021/22

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+ 143

NEW CUSTOMERS OF RFA PLM, INCLUDING:

437, 4T2D, 5.11 Tactical, allbirds, Alpinestars, American Textile, Ami Paris, Ana Luisa, Anta, Ask & Embla, Bangjie, Beach House Group, Beneunder, Bimba Y Lola, Blue Marble, Burton China, BN3TH, Callaway Golf, Castore, Chantelle, Charles Products Inc., Chaser Brands, Christian Moreau, Ciudadela, Coco et Rico, Cozy Earth, Deliago, Derewala, DM Drogerie, Dudley Stephens, Eileen Fisher, El Corte Ingles, English Home, Epic Designers, Eram - GEMO, Erdos - 1436, Ethnicity, Etnia Barcelona, F&F South Korea, Fam Brands, Fenix, Flexi, Fun Sun Young, Gentle Monster, Glory Apparel, Grupo Kyly, Gudrun Sjoden, Guess, GZ Sussi Fashion, Helinox Inc., Hengfeng Topsun, Howler Brothers, ICanIWill, Inspecs, IRO, Joelle Collection, Jolyn Clothing Company, Joseph France, Joules, Kashion, Kinco, Klingel Group, Kmart, Lake Pajamas, Lands' End, Lemahieu, Loghaus, Maisons du Monde, Manhao (myhome), Marubeni, MEC, Meeting Group, Melon Fashion Group (Love, Sela and Zarina), Monos Travel, Montane, Mothercare, Netthandelsgruppen, New Flame, New Wave Group, NoBull, Nomadic Research, Onward, Oros Apparel, OTS, Outer, Parade, Paramount Safety Products, PEP Stores/Pepkor Group, Permoda, Portwest, Posh Peanut, Pretty Lavish, Pure Table Top, Purple Brand, Qingdao Glamour, Qinxi, Rapha Racing, Rosa, Ruffle Butts, RYU Apparel, Sanliren/Bananain, Semir Group (Marcolor and Semir), SikSilk, Slingshot Sports, Spiraledge, SpiritJersey, Spruce International, Stella et Suzie, Surf 9 LLC, Tchibo, The Great, Thom Browne, Toteme, Travelway & Bugatti Groupe, Trent Limited, True Classic Tees, Truelove, Tufte Wear, Ubras, Vivobarefoot, Wildfang, Wilton Bradley, Yinger Fashion Group, Yutori Tokyo

+ 300

NEW CUSTOMER EXPANSIONS

568

OVERALL NUMBER OF ACTIVE CUSTOMERS

of PLM within the RFA industry, excluding customers cited as new in 2020/2021.

100%

of the overall number of active customers currently paying maintenance.

118

NUMBER OF RESOURCES SPECIFICALLY ENGAGED IN R&D

RESOURCES FOCUSED ON RFA, SEPARATED BY REGION:

(Excluding those cited as R&D-specific resources aside.)

North America: **110**

Latin America: **21**

EMEA: **150**

APAC: **110**

127,000

TOTAL NUMBER OF INTERNAL USERS WORLDWIDE

and where those users are located?

North America: **N/A**

Latin America: **N/A**

EMEA: **N/A**

APAC: **N/A**

N/A

TOTAL NUMBER OF EXTERNAL USERS WORLDWIDE

and where those users are located?

North America: **N/A**

Latin America: **N/A**

EMEA: **N/A**

APAC: **N/A**

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4-6 WEEKS
Average time taken for an RFA PLM installation (SME)

18-26 WEEKS
Average time taken for an RFA PLM installation (large enterprise)

100%
of installation time done digitally, on average (SME)

90%
of installation time done digitally, on average (large enterprise)

200+
ACTIVE TECHNOLOGY PARTNERSHIPS SUPPORTING RFA PLM, INCLUDING:

Adobe Illustrator; swatchbook, Vizoo, Solidworks, Browzwear, Optitex CLO 3D; 80+ ERP systems; HIGG, TrusTrace; Slack, Teams; numerous e-com integrations; 100+ APIs.

**80% of Centric PLM customers integrate with another solution.*

TELL US WHAT YOU FEEL HAS CHANGED AND/OR ADVANCED IN YOUR PRODUCT OFFERING THIS YEAR TO DIFFERENTIATE YOUR COMPANY FROM OTHERS IN THE RFA PLM MARKET.

We are proud to still be the #1 PLM with the highest adoption rate, number of PLM replacements and new customers worldwide. Why?

- PLANNING! A MAJOR HIGHLIGHT is the addition of a best-in-class retail planning solution. Data and visually-driven financial, merchandise and assortment planning as well as store and vendor forecasting are now integrated with Centric PLM for ground-breaking, seamless and fast, pre and in-season execution. Finally design & develop the right products for the right channels at the right time fast!
- Centric solutions continue to evolve but remain innovation focused, customer-centric and market-driven, even after over a decade on the market.
- 125+ customers went live in the past year with remote/hybrid implementations.
- Traditional PLM capabilities continue to deepen with numerous new features and tools introduced while the market faces unprecedented challenges like long-term remote/hybrid work, supply chain disruption, unified commerce and more.
- 3 new Centric PLM modules introduced; Change tracking, Packaging & proofing and Product presentations fed by live PLM data.
- Enriched 3D workflow with a full end-to-end virtual prototype process including non-3D users and external material libraries.
- Sustainability: connectors like HIGG and TrusTrace as well as sustainability capabilities.

CentricSoftware™

180+

bought Centric to replace a legacy PLM

99%	100%	97%
Customer Retention	Go-live	Customer Referenceability

IN OTHER WORDS:

THE BEST PLM

REQUEST A DEMO

Best Team.
Best Solutions.
Best Customers.

NOW INTEGRATED CENTRIC PLANNING

IN CONVERSATION WITH

FABRICE CANONGE, COO

CentricSoftware™

How would you define PLM? And how has that definition evolved as the industry has evolved?

Product lifecycle management (PLM) is the strategic process of managing a product's lifecycle from ideation, development, sales and even through to end of life. PLM software streamlines processes from end-to-end, which enables collaboration, innovation, strategic decision-making and reduces time to market.

Centric PLM™ helps companies introduce more products to the market with faster, better, easier and greener results, while producing better margins and reducing risk. The PLM landscape has changed drastically over the past 10 years and is now considered a mature and safe investment with measurable benefits. A modern PLM should be inclusive of ALL company sizes: small, medium, large, extra-large and all segments of fashion and consumer goods - Fashion, Sporting goods, Furniture, Home, Retail, Private Label, Cosmetics, Beauty, Food & Beverage, etc. as well as all players brands, retailers, manufacturers.

Today, many companies are still not equipped with modern PLM that covers the entire process and are now realizing that they still manage their planning, product development and sourcing with a myriad of spreadsheets, outdated systems, old generation of PDM/PLM or manual and sequential processes. While onboarding new clients, we often discover that their existing processes and environments are very fragmented and not integrated, making them slow, rigid and at risk.

As companies are pushed by their customers to introduce more products, with more colors, more styles, more variations and at a higher frequency, the number of SKUs to develop per year is increasing dramatically. Spreadsheets and manual processes can't support this level of growth and in turn, restricts the ability of these companies to scale fast enough to meet demand.

In addition to these complexities, companies face extreme pressure to lower costs, improve efficiencies, reduce environmental waste and maintain supply chain transparency.

Finally, the residual impact of COVID-19, including inflation and supply chain shortages are only adding to the growing list of instabilities obliging companies to invest in PLM and conduct the change quickly if they want to survive.

At Centric, we are replacing this chaos with the best-in-class Cloud PLM platform, single version of the truth enabling internal and external teams to collaborate effectively. We provide turnkey solutions to execute day-to-day operations and help companies make the best decisions possible to successfully face these complexities, instabilities and operational challenges.

We've been tracking the PLM market for many years. And it's no secret that Centric has shown exponential growth over the last few years. Do you think that the market has entered a new phase of acceptance? Have we entered into an understanding that, essentially, everybody needs PLM now?

I agree that everybody needs PLM now. It's becoming a must-have. Companies know that there's a proven return on investment when they invest in Centric. We recently announced our 600th customer, a significant increase from the 500 clients we had in September. It's an avalanche! And I think the reason why companies are massively selecting Centric Software is our very high customer satisfaction rate.

COVID-19 has only further reinforced this. Companies are under increasing pressure, they are closing stores, facing supply chain disruptions, shutting down factories and combatting increasing costs for transportation and raw materials. Their teams can't travel anymore, many confined to working from home, the demand and supply is volatile. So, they need a system to improve collaboration and efficiency quickly but also to provide agility, resilience and speed immediately. These companies don't have time to try a new PLM that's not completely ready with promises for the future where nobody knows if/when it will work. They need security for their IT foundation, meaning PLM/ERP master data, and security in PLM today is Centric. Centric has a 100% go live rate and 97% satisfaction rate. It's proven, it's easy to use, and it's easy to implement.

COVID has of course accelerated the need for that kind of supply chain transparency in relation to sustainability and agility, as well as things like digital product creation. These are all much more in demand than they might have been before. How do you see PLM contributing to something like supply chain agility?

It's pretty interesting because our customers have taken advantage of Centric during this pandemic. Inside our Centric PLM we have an incredible sourcing module where users can simulate costing scenarios and very quickly evaluate multiple suppliers and options for their supply chain. In the past, customers worked with several preferred suppliers that experienced little to no change in their daily operations. Fast-forward to today, they are closing stores here, opening others there, getting caught in the middle of a war in Europe, seeing factories close in China over COVID-related concerns and so on. As such, we're seeing companies forced to quickly evaluate more suppliers and prepare for future geographical or strategic change as well as for sustainability and ethical requirements. And so, they need a tool and new processes to support this. It can be very intense and tedious to evaluate and onboard new suppliers and their multiple factories, evaluate and iterate with each of them around thousands of prototypes for each new collection multiple times a year. If you have high number of SKUs to develop or require changing your sourcing strategy quickly and adapting your supply chain, you need an agile system and fast processes in place to be able to do it right without compromising on risk.

Sustainability brought its own deep requirements for traceability and transparency throughout the product development and sourcing processes. In Centric PLM you can monitor your carbon score which can sometimes become as important as monitoring margins!

In the large sustainability topic, PLM has its role to play because PLM owns 90% of the authority of the product information early in the process. This is where you select fabric, material, trims, vendors, factories, etc. If you really want to make the right decision about your new products while being sustainable, you need to know the carbon score or green score of your choices before it goes to your ERP and manufacturing/SCM system.

Centric PLM facilitates the implementation of new sustainability processes. It's easy to see why companies don't want to take a risk by implementing a PLM that's not proven; they have so many initiatives to drive like

sustainability, and there's no time to waste on implementing the wrong PLM when there are more pressing matters to attend to.

Centric offers a special sustainability PLM program for its customers based on five pillars: carbon footprint, waste packaging management, supply chain certification, circular economy and social responsibility. Furthermore, Centric PLM is integrated with the Higg Index, TrusTrace, GreenScore and many other services that provide calculations and compliance information. We are a pioneer in this domain; the message from our Group CEO, Bernard Charlès, is that we are putting sustainability as our number one major initiative - bringing science, art, innovation and human intelligence, at the service of our customers for a better, greener world.

PLM is obviously one of the only systems out there that can give you that kind of visibility across the supply chain, and, show you how to reduce waste. Could you share with our readers some information on your planning module and how it's integrated into the PLM solution? In terms of financial planning, assortment planning, and development planning. And why is it so important to link planning with PLM?

With the boom of eCommerce due to COVID-19, we've seen that companies have had to completely redesign the way they were forecasting and planning their collections because they can't rely on the last two years' worth of data. With stores closing due to the pandemic, re-opening during recovery, and supply chain challenges that have followed in the wake of these troubling times, companies are facing major issues with inventories and markdown. There is a huge need to better predict what to buy and align the plan with actuals. This where it is super interesting to have planning, assortment planning and replenishment integrated into the PLM.

There is also a need to accelerate and run planning & PLM processes in parallel instead of sequentially. There is a desire to plan, design, develop, source and sell faster, and perhaps skip some of the steps to respond faster to the demand. If you combine planning, 3D prototyping and selling quickly i.e. on your website, Shopify or Amazon you can very quickly test the concept, test the demand, connect with your customers and then develop in parallel. Those are the needs of the world we live in today not just for fashion but for all types of consumer goods.

There's a huge appetite to link the planning process into PLM. This has driven our decision to offer integration at multiple levels; we're building integration to exchange placeholder and product information; as well as to exchange sales and targets for each collection. We facilitate visual planning so that the images contribute to making the right decision. We are regenerating the entire process from design and sourcing to planning and buying. It's a huge opportunity for customers for additional value creation and competitive differentiation.

Today, Centric is combining the best-of-breed PLM with Centric Planning to achieve these goals.

Let's talk about 3D the adoption of which has been famously slow for Fashion, but is now well established. Where do you see 3D working with PLM? And how does PLM support 3D and vice versa? What do you see with the use of 3D across your global install base?

Certainly, 3D has been slow to ramp up. Everybody wanted to embark on their 3D journeys years ago, but in reality, only a small portion of products were designed using 3D. It's now ramping up much faster around the world. The reality is that our customers are using multiple 3D systems and still using 2D processes; there is no one leader in the domain. There are new technologies emerging all the time so, at Centric, we have decided to stay agnostic regarding 3D and to build a platform that we call 'Centric PLM 3D enabled', meaning that customers can use any type of 3D tools they want, and they will be connected to Centric. When you're in Centric you can then visualize your 3D asset, manage, manipulate, comment your 3D materials and view the life of all your product (3D and 2D) on the same platform. We're seeing that as a journey where our customers are now accelerating - and they love the Centric 3D strategy. We have a lot of customers using CLO, Browzwear, Optitex or SOLIDWORKS - we are integrating all these 3D assets into our Centric PLM repository to manage their lifecycle.

We're also discussing multiple initiatives with our customers to link 3D to the Metaverse. The Metaverse is a bit abstract for many people, but a lot of customers are seeing Centric as a key partner in that space. We can't disclose too much but we are working in several initiatives linking 3D and the Metaverse. This is exciting and we can imagine seeing users interacting with their 3D assets in the Metaverse, ordering product with everything made in

Centric PLM and shipped to the person. There are a lot of scenarios where companies are investigating, where they see 3D and PLM as repositories for all their assets that they may then push to the real world or to the Metaverse world.

Centric has been a pioneer in the integration between 3D and PLM. We are permanently listening to our customers' initiatives in that domain, and we accelerate with them. Between our 600 customers, there is no consensus on which direction 3D we go, so we are staying open, and our innovation will be based on initiative.

The Metaverse is obviously a relatively new concept for the Fashion space. We've talked a lot about the past including COVID, and how it's changed the way we work. But if we look to the future, how do you see PLM supporting the recovery of the industry?

It may seem surprising but there are still more than 80% of companies across the globe that have not yet implemented PLM, and if you look at where companies have actually implemented the full scope of PLM that number is probably closer to 90%. So, there are still a great deal of Excel spreadsheets, first generation inefficient PDM systems and PLM implemented with only a small portion of the tech pack, with no supplier collaboration, costing or planning.

Before you can run you have to walk. All these companies still must finalize their digital transformation in terms of planning, product development and sourcing. If they want to really achieve speed, efficiency and better collaboration with their suppliers and if they really want to go end-to-end with visibility and traceability, they need to put the right platform in place that will help in the short term, and scale with them in the longer term.

The future of PLM is bright because so many companies have not yet finalized their product development, sourcing or digital transformation. To give you an example, we're seeing a huge boom in the SMB market, which is an area that has been ignored by vendors for years. We're seeing a huge number of smaller companies jumping on Centric's PLM preconfigured on the cloud and within a couple of days, start designing and developing their collections. It's a reality that companies of all sizes will have to adopt PLM.

For medium, large and extra-large companies we're seeing a big wave of replacements of older PLM systems sometimes second or third PLM stories. Centric is there to provide them with the platform, the best practices and the security in terms of performance, speed and breadth of solution. We've seen a lot of disappointment in old systems, where companies have spent a lot of money on what's turned out to be a low performing PLM, where they're only using a portion of the product, but they want the full value. So, we still must equip (or re-equip) this industry.

Again, it's so important for companies to select the right platform first, for their need: basic, advanced or super advanced. They need to start off with the right partner so they can then scale and grow together. There will be a lot of new challenges coming in the next few years and your PLM partner should be there to listen, to innovate and to help you.

For those who already have a solid foundation, we are now going to the next level of optimization, by catering to multi-category businesses with one PLM. Providing sustainable products in the right channels at the right time for example, getting high-speed performance, parallel process optimization and new ways of merchandising and developing product.

Everybody wants to get into the Metaverse, into sustainability, into AI, into supply chain agility, and it's similar to how everyone wanted to get into 3D some years ago, but in reality, designing and working in 3D proved quite difficult to do. These new technologies are all incredibly interesting and they're allowing companies to go faster and make better decisions, but for people to get to that next step, the foundational / master data work between PLM and ERP must be done first.

There is still a lot of work to do on 'the basics'. So, let's walk and then run before we sprint. But the time to start is now.

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+ 12

NEW CUSTOMERS OF RFA PLM, INCLUDING:

Boohoo (Arcadia Group), Chef Works, CHF Industries, Dorfman Milano, Giant Tiger, International Intimates, Luca Falconi, Manhattan Beachwear

+ 4

NEW CUSTOMER EXPANSIONS

230

OVERALL NUMBER OF ACTIVE CUSTOMERS

of PLM within the RFA industry, excluding customers cited as new in 2020/2021.

100%

of the overall number of active customers currently paying maintenance.

65

NUMBER OF RESOURCES SPECIFICALLY ENGAGED IN R&D

RESOURCES FOCUSED ON RFA, SEPARATED BY REGION:

(Excluding those cited as R&D-specific resources aside.)

North America: 250

Latin America: 25

EMEA: 35

APAC: 100

9,650

TOTAL NUMBER OF INTERNAL USERS WORLDWIDE

and where those users are located?

North America: 65%

Latin America: 10%

EMEA: 15%

APAC: 10%

28,500

TOTAL NUMBER OF EXTERNAL USERS WORLDWIDE

and where those users are located?

North America: 20%

Latin America: 30%

EMEA: 20%

APAC: 30%

3 MONTHS
Average time taken for an RFA PLM installation (SME)

8 MONTHS
Average time taken for an RFA PLM installation (large enterprise)

100%
of installation time done digitally, on average (SME)

100%
of installation time done digitally, on average (large enterprise)

9
ACTIVE TECHNOLOGY PARTNERSHIPS SUPPORTING RFA PLM, INCLUDING:

Browzwear, Pantone, Adobe, Big Commerce, 3DLook, ThreeKit, Mushin, Vizoo, Syte

TELL US WHAT YOU FEEL HAS CHANGED AND/OR ADVANCED IN YOUR PRODUCT OFFERING THIS YEAR TO DIFFERENTIATE YOUR COMPANY FROM OTHERS IN THE RFA PLM MARKET.

BlueCherry® Next™ PLM is a highly configurable, no-code cloud solution designed to meet the needs of today's consumer brands, retailers and manufacturers. With it you can work anywhere, on any device, in any browser no software or apps to download. Suitable for SMEs and scalable for global enterprises, BlueCherry Next PLM is fast, fully featured and futureproof.

The latest features include:

- Enhanced 3D integration
- Improved Adobe Illustrator interface
- ntegrated traceability process
- Increased transparency of supplier information and tracking for better collaboration, vetting and auditing

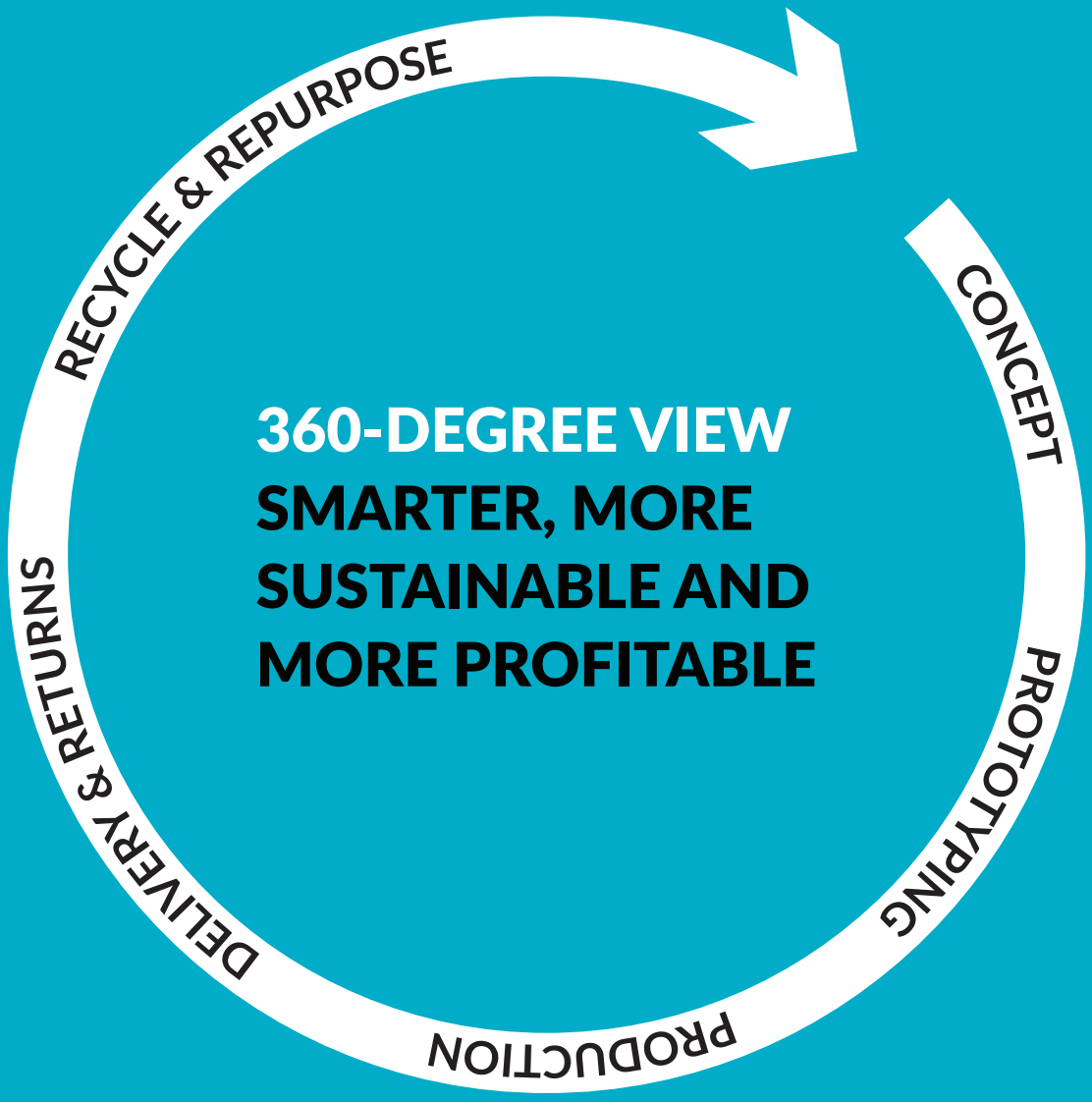
Additional key benefits:

- A global collaborative platform that connects designers and merchandisers with suppliers
- The only platform that seamlessly incorporates 3D renders from product design to B2B and B2C channels
- Open API integrations to the entire BlueCherry suite of supply chain solutions, as well as third-party tools

BlueCherry Next PLM truly lives up to its name, helping brands to successfully manage products from concept to consumer to recovery, even during times of disruption and change. Our open approach, coupled with partnerships with industry leaders, helps brands to excel.

BlueCherry® Next™ PLM

THE PRODUCT LIFECYCLE MANAGEMENT THAT TRULY LIVES UP TO ITS NAME



360-DEGREE VIEW
SMARTER, MORE SUSTAINABLE AND MORE PROFITABLE

Cloud-Based • No-Code • API-Ready • Omnichannel
3D and Digital • Adobe® Creative Compatible
Compliance and CSR-Friendly

SCAN ME

CGS®

IN CONVERSATION WITH

PAUL MAGEL, PRESIDENT, BUSINESS APPLICATIONS & TECHNOLOGY OUTSOURCING DIVISION

CGS®

How do you define PLM, and how has that definition changed as the fashion industry has evolved?

Product lifecycle management has evolved greatly over the past couple of years. Today's PLM is all about enhancing the connection between physical and virtual worlds. It's a major collaborative tool, not just a product development tool.
When integrated with ERP and Shop Floor Control production management tools, PLM becomes the central hub where data flows in and out throughout the entire supply chain. A cloud-based PLM allows for internal and external collaboration in a digital space, which was essential when COVID-19 stopped people from traveling.

This improved collaboration tightens the processes between supply chain teams. From raw material to the finished product, you can ensure the commitment and deliverables of different players in your process.

The best PLM also provides more scorecarding and reporting to help you maintain relationships with valued suppliers and partners. In short, modern PLM offers you full functionality from design to delivery of your product.
CGS's BlueCherry Enterprise Suite allows fashion, apparel and footwear companies to control their processes from start to finish (planning, design and product development, sourcing, manufacturing, logistics and sales functions). Can you elaborate on how each of your solutions is interconnected in order to serve the entire end-to-end process, from planning to the consumer?

The BlueCherry® Next™ Planning Tool allows users to forecast expected demand. All the components from PLM, Shop Floor Control, ERP and warehouse management are now tightly coupled across the supply chain. Data is real-time and fully visible, which offers transparency across your department.

In short, our integrated solutions give brands full visibility from design to development to delivery, in a physical sense, not just virtual sense.

On-demand modelling, real-time data capture and transparency are topics certainly on the minds of most visionary board members operating within the fashion sector. Can you share how extensively your shop floor control system is able to work with your PLM, ERP and/or PO solution(s) to enable users to track and trace a product throughout its lifecycle?

We have full integration between the shop floor and PLM, as well as ERP. Shop floor workers can look up specs of an item on the floor directly from PLM to get detailed production information defined in PLM.

From shop floor to ERP, we have detailed integration to provide product information, quantity, order and customer information. Additionally, the integration with our B2B eCommerce platform enables sales teams to build new products on the fly, on demand and feed the product to PLM and the shop floor to prepare for production.

Shop Floor Control then feeds back into these components data on production status, such as where it is being produced and where exactly the product is in the cycle.

With full integrations across the enterprise suite, the product lifecycle encompasses the full *production* cycle from design to delivery.

Are you able to connect images from your PLM solution directly into eCommerce engines? Can you provide some examples of how this works?

Our PLM solution can work with just about any image type you can think of, including video, 3D, Illustrator and Photoshop files, JPGs the list goes on. And the enhanced collaboration means PLM users can access all digital assets through any third-party systems via an API layer.

For example, the system can populate any eCommerce sites with a finished product image, including videos, 3D mockups, etc. This level of access means you get full product information management (PIM) within the PLM.

Are your PLM and ERP solutions able to share common datasets to help streamline the process of design, development and sourcing, and can you provide examples (if possible)?

PLM and ERP are tightly coupled and in full sync at all times. And it's a full circular functionality, not linear functionality as in the past. BlueCherry Next™ PLM sits on top of the processes and tools to feed datasets back and forth.

For example, we share common datasets when we propograte from PLM to ERP. ERP issues purchase orders, which feed back into PLM. Those P.O.s are approved in PLM process and move to production and prototyping. Then PLM releases the P.O. when they are ready to be delivered after the quality control is approved in PLM. After the P.O. release, the factory floor can release product.

The datasets are constantly moving back and forth across the whole process, and there's always just one version of the truth.

How do you see PLM supporting fashion's wider recovery and its ongoing digital transformation over the next 2-3 years?

I envision three big transformations continuing or coming along.

First, **getting real-time data of consumer feedback and information**. Designers will have access to consumer data, giving a more consumer-centric view of your product performance. For example, you find that 90% of one style came back due to hip stitching issues, or consumers did not like a particular color. This information reaches the designer and becomes vital to matching fashion requirements to the physical experience of previous deliveries.

Combined with PLM collaboration, there will be even more virtual design and approval before going to sampling. Brands can then reduce the footprint of samples designed that end up not being produced.

In order for this to happen, we need data, including a lot of retail performance information. PLM can help correlate and match it. Fashion and trends still drive what you should merchandise, but the statistics give you the overall picture of whether you go back to particular styles.

Second, **companies will continue streamlining the supply chain to make it more reliable and accountable**. Players will get more information on suppliers: which factories will produce specific garments. What is their on-time delivery rate? What type of labor do they have? How well-prepared are they for disruptions? All this adds up to a better, more in-depth understanding of your supply chain. Many designers already value relationships, and this will give data to back up and strengthen partnerships.

Third, **vetting and selecting suppliers will occur more digit**ally. With today's technology, brands are realizing they can do more with less travel. We will see more third parties acting as vetting agents to identify supplier information in other countries. Using virtual tours and available information, these agents can interact with PLM to provide supplier information. Then, the PLM sourcing team use this vetted data to choose better sources and suppliers.

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+ 8

NEW CUSTOMERS OF RFA PLM, INCLUDING:

Madison88 Ltd, Reiss, Sapphire Textile Mills Ltd

21

OVERALL NUMBER OF ACTIVE CUSTOMERS

of PLM within the RFA industry, excluding customers cited as new in 2020/2021.

N/A

NEW CUSTOMER EXPANSIONS

100%

of the overall number of active customers currently paying maintenance.

10

NUMBER OF RESOURCES SPECIFICALLY ENGAGED IN R&D

RESOURCES FOCUSED ON RFA, SEPARATED BY REGION:

(Excluding those cited as R&D-specific resources aside.)

North America:	Latin America:
4	4
EMEA:	**APAC:**
40	110

1,324

TOTAL NUMBER OF INTERNAL USERS WORLDWIDE

and where those users are located?

North America:	Latin America:
150	11
EMEA:	**APAC:**
694	369

200

TOTAL NUMBER OF EXTERNAL USERS WORLDWIDE

and where those users are located?

North America:	Latin America:
N/A	N/A
EMEA:	**APAC:**
N/A	N/A

Financial Year 2021/22

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50 DAYS
Average time taken for an RFA PLM installation (SME)

150 DAYS
Average time taken for an RFA PLM installation (large enterprise)

100%
of installation time done digitally, on average (SME)

100%
of installation time done digitally, on average (large enterprise)

ACTIVE TECHNOLOGY PARTNERSHIPS SUPPORTING RFA PLM

VisionPLM supports several integrations either via flat-files, or via its openly available API. VisionPLM's API can be accessed by all customers and partners. Developer SDKs are available in most major development languages. Adhering to the OpenAPI specification, and with a schema hosted openly here, integrating with VisionPLM is always possible.

We have a number of notable non-private integrations with Adobe Illustrator, Microsoft Dynamics and Shima Seiki.

TELL US WHAT YOU FEEL HAS CHANGED AND/OR ADVANCED IN YOUR PRODUCT OFFERING THIS YEAR TO DIFFERENTIATE YOUR COMPANY FROM OTHERS IN THE RFA PLM MARKET.

VisionPLM extends beyond conventional PLM, leveraging Coats Digital's unparalleled supply chain reach and industry expertise to power upstream collaboration.

Supporting both ODM and OEM manufacturers, and configured to reflect industry best practice, VisionPLM provides 'one version of the truth', improving visibility, coordination, and control across the business and with supply chain partners (suppliers and buyers). Unlike other PLM providers, Coats Digital has an extensive manufacturing background. Our connected solutions harness industry best practices and the latest technology to improve speed to market, agility, efficiency and sustainability, and are trusted by brands and manufacturers around the world. Only VisionPLM offers seamless integrations with our market-leading tools including GSDCost and FastReactPlan. With our eco-system of solutions, you can fully capitalise on operational improvements, driving environmental, social and financial benefits throughout your supply chain.

Examples of recent advancements:

- **Merchandiser Enhancements for Bill of Materials** - Merchandiser users can now further collaborate on the BOM. Refine designer material with sourcing options and costs, ensuring the most appropriate fabrics are selected for your styles.

- **New Colour Approvals module** - Furthering our already extensive development features, users can more simply approve sample fabric colours for your Style Colourways to unlock new critical path options and certification steps.

COATS DIGITAL

Beyond Conventional PLM...

Number One Apparel PLM
Design. Develop. Deliver.

VISIONPLM

Streamline and accelerate key business processes:

- Design
- Material & Product Development
- Costing
- Supplier Collaboration & Capacity Management
- Order Allocation & Tracking

VisionPLM is the only solution to offer a seamless connection to upstream manufacturing processes, linking key activities of your design and development process into the production critical path for smarter, leaner and more efficient production.

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VISIONPLM

GSDCOST FASTREACTPLAN

IN CONVERSATION WITH

STUART MCCREADY-STOCKS, COMMERCIAL DIRECTOR, BRANDS

COATS DIGITAL

Do you believe the role of technology and especially PLM - has changed as a result of the disruption of the last two years? And how has that altered people's expectations for enterprise solutions?

I think the definition of PLM has been constantly evolving for the entire lifespan of the acronym not just over the course of the pandemic. What brand, retail, and manufacturing customers want PLM to do, and the directions in which technology vendors develop it, has always been driven by the evolution of the consumer market and by commercial priorities.

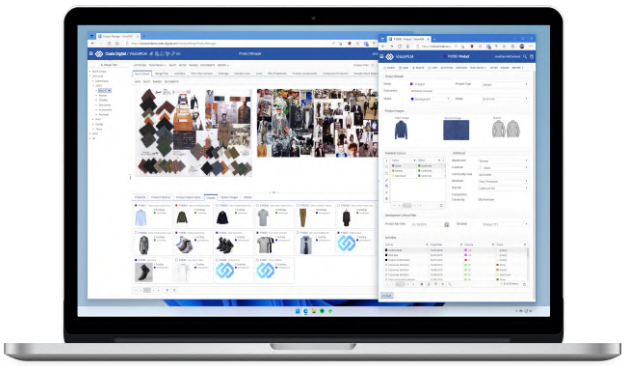
What's changed today is that the potential process coverage of PLM has grown dramatically. Every modern PLM platform has a common core the fundamentals required to take a product from concept to approval but each of them specialises in one or more other areas, depending on the provider's background. In practice, this is making a concrete definition of PLM harder than ever to pin down, because each platform starts from that centre and then extends outwards in different directions.

At Coats Digital we take that idea of specialisation to heart, and our PLM platform has very much been shaped by our decades of expertise and our deep presence in the international supply chain. Having been an instrumental part of the digital transformations of many of the largest global fashion suppliers and manufacturers outfitting them with best-in-breed technology and expert services we approach PLM from a different perspective from other vendors who have focused on brand and retail applications exclusively.

As businesses of all shapes are now discovering, though, the supply chain is a critical component of what makes the fashion industry tick, and we are being approached on a regular basis by brands and retailers who need to drastically improve the agility, transparency, and resilience of their sourcing and manufacturing operations.

That's a requirement we're ready to respond to, because our goal remains to take PLM closer than ever into the supply chain, and beyond core design and development functionality which Vision PLM supports we have worked hard to extend the solution footprint into areas that can power entirely new levels of visibility and responsiveness past the point of development, as well as bringing the full range of stakeholders together.

So the pandemic hasn't changed our long-term strategy, or redefined what we believe PLM should do, but it has shown that the emphasis we have always placed on extending its footprint into the supply chain was the right direction.



What position do you see Coats Digital occupying in the PLM landscape for apparel, footwear, and retail?

People at every level of the apparel value chain now need to interact with PLM — whether that's directly or indirectly. Individual disciplines like design, development, sourcing, and production can no longer operate in isolation, and it's vitally important that all those different processes are supported by solutions that cater to their needs as well as a common data foundation and a source of truth that sits underneath them all.

We believe that's the role that PLM should play for both internal brand users and their value chain partners, and we pride ourselves on having built a portfolio of solutions that perform where they're needed — from brand headquarters to factory floor — as well as integrating seamlessly with VisionPLM.

From factory capacity planning and material yield optimisation to labour standardisation and fact-based costing, Coats Digital is a complete technology partner who can provide a seamless pathway from PLM to more comprehensive supply chain digital transformation.

Where do you believe PLM sits in the broader technology ecosystem for a brand or retailer? What does it deliver as a standalone solution, and what can it enable in terms of digital transformation elsewhere in the enterprise?

In its own right, PLM can be incredibly powerful for the businesses that implement and use it effectively. The results of centralising product data, allowing disconnected teams to collaborate, and managing product development calendars have been demonstrated many times.

But it's also been shown just as many times that isolated solutions — especially those that hold a wealth of information and process knowledge — are holding back broader transformation. When we engage with an existing customer or a new one, we always ensure that we're working with them on a digital transformation strategy with PLM at its core, rather than a PLM project with extensions.

With that mindset, we believe in looking at what a brand or retailer needs to achieve in order to safeguard its supply chain, improve its sustainability credentials, prioritise profitability, or any number of other metrics that matter to them. With those capabilities as the goal, we then see PLM as being the glue that holds the wider enterprise ecosystem together, and that unlocks the compounded benefits of connecting all its different components.

Those benefits are then found everywhere: in the virtualisation of design, development and product approval; in the shift from sustainability as a marketing strategy to evidence-backed environmental and ethical commitments; and in intelligent costing and supply chain planning. We are fully focused on making sure that our PLM platform not only supports that vision, but that our customers are able to realise it through links to our extended portfolio of solutions and to best-in-class applications developed by our growing list of technology partners.

Perhaps the two technology opportunities that have been accelerated the most by the disruption of the last two years are digital product creation (DPC) and supply chain resilience and agility. How do you believe PLM contributes to those goals?

Both of these were high priorities before the pandemic, and PLM has already played a large role in enabling them, but the last two years have demonstrated just how closely interlinked they are. In fact we see them as inseparable: digital product design and development is the key to responsiveness to trend and market changes, and to unlocking supply chain flexibility and resilience.
During the pandemic, it became clear just how quickly long-established strategic supply chain relationships could crumble. We all know that designing in 3D allowed brands to continue to test concepts without being able to source physical samples, but digitising the processes of creative design and technical development also gave those businesses the agility to either quickly restore production relationships when circumstances allowed, or to rapidly establish new ones.

To put it another way: a digital backbone is, realistically, the only way to deliver digital transformation of the extended value chain to the extent that's truly required. From my perspective, the long-established culture of "brand versus vendor" is not fit for the present, let alone the future, and a major part of moving on from that legacy is going to be replacing historic systems and processes with new technology, new methods, and globally-recognised standards. The industry is waking up to the realisation that not only is it time to integrate individual software solutions it's time to acknowledge that stakeholders at every stage of the product lifecycle need to be part of the same digital ecosystem, with PLM as a central pillar.

How do you see PLM supporting fashion's wider recovery and its ongoing digital transformation over the next 2-3 years?

I see PLM's biggest challenge and its greatest opportunity as being how effectively it can close the gap between supply and demand. So much of the fashion industry's ability to recover from the disruption of the pandemic, and to rebuild itself to be agile and responsive enough for the future, is going to hinge on how well it can harmonise data and orchestrate processes not only in design and development, but throughout the concept-to-consumer lifecycle.

PLM, then, has an absolutely critical role to play in reshaping the industry to be more sustainable, more intelligent, more efficient, and more transparent. By serving as the central hub that enables real-time sharing of accurate, actionable data and assets whenever and wherever they're needed, PLM has the potential to be one of the most important technology investments that brand and retail businesses make post-pandemic.

For companies that are evaluating the market right now, that should be a guiding principle. Rather than looking for a standalone solution to one or more isolated problems, I'd encourage them to stand back and really evaluate what it means to maximise the value of PLM as part of a much wider digital transformation, outside its traditional limitations. There has never been a better time to take that view, and the technology is ready to respond.

Delogue PLM

Financial Year 2021/22

www.delogue.com

+ 51

NEW CUSTOMERS OF RFA PLM

167

OVERALL NUMBER OF ACTIVE CUSTOMERS

of PLM within the RFA industry, excluding customers cited as new in 2020/2021.

N/A

NEW CUSTOMER EXPANSIONS

0%

of the overall number of active customers currently paying maintenance.

26

NUMBER OF RESOURCES SPECIFICALLY ENGAGED IN R&D

RESOURCES FOCUSED ON RFA, SEPARATED BY REGION:

(Excluding those cited as R&D-specific resources aside.)

North America:	Latin America:
N/A	N/A
EMEA:	**APAC:**
9	17

9,287

TOTAL NUMBER OF INTERNAL USERS WORLDWIDE

and where those users are located?

North America:	Latin America:
4%	N/A
EMEA:	**APAC:**
93%	3%

N/A

TOTAL NUMBER OF EXTERNAL USERS WORLDWIDE

and where those users are located?

North America:	Latin America:
N/A	N/A
EMEA:	**APAC:**
N/A	N/A

Financial Year 2021/22

www.delogue.com

1-2 MONTHS
Average time taken for an RFA PLM installation (SME)

3-4 MONTHS
Average time taken for an RFA PLM installation (large enterprise)

95%
of installation time done digitally, on average (SME)

80%
of installation time done digitally, on average (large enterprise)

150
ACTIVE TECHNOLOGY PARTNERSHIPS SUPPORTING RFA PLM, INCLUDING:

Adobe Illustrator, Shopify, EG-Aspect4, Exact Globe, GC Solutions / Garp ERP, ImPuls, Indiggo Fashion Software, INTEX, K3 pebblestone, Microsoft Business Central, Microsoft Dynamics 365 for Finance and Operations, SAP, Solteq, Spy System, TCOG, CRNATOR - TRIMIT, Visma E-conomic

*See our integrations page for more info.

TELL US WHAT YOU FEEL HAS CHANGED AND/OR ADVANCED IN YOUR PRODUCT OFFERING THIS YEAR TO DIFFERENTIATE YOUR COMPANY FROM OTHERS IN THE RFA PLM MARKET.

Delogue PLM is created by fashion professionals to solve the industry-specific problems of product teams through an agile and intuitive design, making a chaotic environment simple, see-through, and self-efficient.

As a user-driven platform, we continue to fulfil this promise by developing in areas that address the rapidly changing landscape affecting your business most.

This includes:

- Supporting your supplier collaboration by giving them free access and onboarding to Delogue PLM, and developing platform tutorials for greater usability.
- Offering open API Integrations to a best-of-breed tech stack, collaborating with ERPs, B2Cs, PIMs and others.
- Improving our Facilities module, allowing our customers to have garment production traceability and developing production tracking functionality over your multi-tier supply chain on both an item and style level.
- The introduction of a Care Label Generator where suppliers & brands can set-up multi-lingual care instructions with icons.
- Providing the ability for all stakeholders of your supply chain to communicate in real-time across your product development, both on item, style and price level.

Delogue PLM

COMMUNICATE, COLLABORATE & CREATE PRODUCTS WITH CLARITY

In a centralized location where suppliers, buyers & creatives work together, increasing speed-to-market.

- Prepare your data for future compliance
- Engage suppliers & strengthen relationships with **free** supplier access to the platform
- Work with one data structure across your entire value chain avoiding costly mistakes
- Communicate directly on style, item and price level for real-time decision making & agility
- Activate downstream product data syndication closing the consumer gap

See how it works

Book a Demo - www.delogue.com/demo

IN CONVERSATION WITH

JAKOB LUNØE, CEO

Delogue PLM

Where do you believe PLM sits in the broader technology ecosystem for a brand or retailer? What does it deliver as a standalone solution, and what can it enable in terms of digital transformation elsewhere in the enterprise?

After a long stretch in maturity for the manufacturing technology community, apparell and retail sectors are finally arriving at the understanding that there is no one-size-fits-all solution for brand and retail needs. Depending on the size of the company, to whom their product offering is catering to, and the nature of their goods, brands will have different requirements accordingly. At Delogue PLM we firmly believe in being a best-of-breed software with standard application boundaries that don't threaten the scope of other applications.

As a PLM, we offer an intuitive and agile environment for product development. Whilst ensuring the data collected integrates seamlessly to your ERP system, supports a brand's quality and risk management planning, is capable of delivering smart soft information for their B2B sales platforms, and constantly assessing and developing our integrations to cover a wide-application spectrum for the brands' current and possible future demands.
Being a platform, whose functionality diversifies when more stakeholders of the value chain engage with it, we propel the knowledge evolution on the possibilities of digital transformation within their company. The sheer advancement a brand makes through the implementation of a PLM to their workflow, speed to market, supply chain risk management, and product development management as a whole, enables a culture of digital transformation that often didn't exist beforehand and we see this with our customers constantly.

As our industry evolves, the importance of supply chain visibility is only increasing. Can you give us examples of your PLM solution operating downstream?

The Pandemic, Brexit, and now the war in Ukraine have highlighted the fragility of much of the current supply chain 'best'-practice. Having visibility over processes to be able to identify areas of weakness is imperative for a brand or retailer to survive in the current age of industry, and you can't arrive at that without collecting accurate data from the source. That is where the PLM really champions in the value chain; the Delogue PLM takes your data from development through to your sales and marketing.

Our PLM contains and organizes the data you collect from suppliers, with areas to store facilities and certifications an important step in your brand's traceability efforts. Our supplier collaboration functionalities mean that designers/ buyers and any of your product development team can communicate with suppliers at every stage of engagement, offering accountability and transparency for a digital inventory. This provides an environment of automation with less likelihood of errors that trickle downstream.

For instance, our Care Instructions module invites suppliers to engage with brands in the input of accurate data through pre-defined fields. By the time the garment reaches the consumer, you can be confident that they get what they pay for that the product is true to the information given, which can only increase consumer satisfaction and brand trust. It's a snowball effect that starts with accurate data.

And if the last couple of years has taught us anything, it's the sheer value we should be placing in our value chain partners. We understand you offer suppliers complimentary access to Delogue PLM?

Yes, we do. In fact, we are the ONLY PLM provider who doesn't charge suppliers a licensing fee. Product development improves when as many stakeholders from the value chain collaborate, it's the basis of an effective PLM system and that is why we aim to remove as many barriers to your business product development success as possible.

It's a part of our ethos to offer intrinsic motivation for deeper engagement between suppliers and brands. Having strong supplier relationships is going to be imperative for success as the industry becomes more and more regulated. We're already seeing that in action with EU Due Diligence requirements and Zalando's latest shift towards the Higg Index, both of which rely on a brand having detailed information that only a supplier can provide.

But there is still a lot of work to be done to shift the blame-throwing culture between brands and suppliers. We currently have over 7000 supplier users in Delogue, yet not all actively engage or showed interest in being onboarded. However, when they do it's a complete game-changer for both supplier and brand, and the feedback we've received has been outstanding we even have suppliers referring Delogue PLM to their customers because of the value they've benefited from through working with our platform.

The use of 3D tools for design and development has been steadily increasing in the RFA sectors for some time. How have you seen the use of 3D expanding for your customers this year?

Indeed, the implementation of 3D solutions for fashion and lifestyle brands is steadily picking up speed, but it must also be noted that we are still lagging compared to other industries. If we exclude the large multinationals, many SMEs remain in wait-and-see mode, hoping for further strategic use cases to avoid losing in this uncertain undertaking. They want to do it right, bearing in mind all the monetary- and human capital that such a structural shift comes with.

Even if these reasons prevail in slowing the adoption rate of 3D in our industry, we see a significant shift in awareness. While people were still watching the trends and developments surrounding 3D from a healthy distance just a few years ago, the short to medium term rollout of the first 3D projects is now on the top of mind for any fashion executive. From a business perspective, the sheer volume of benefits that 3D can provide are too promising to turn away from for much longer; be it to cut down on sample and material costs, reduce lead times and improve market responsiveness, or upgrade commercial customer experiences. And that's without taking into consideration the positive environmental impact that a reduction of physical samples and their respective shipping will bring.

That's why we have also intensified the dialogue with our customers on this subject, on the lookout for outliers, pioneers in the SME space who are willing and ready to approach such a project in the short term, so that we can build strong use cases together. In this way, we can develop an interface between PLM and 3D that perfectly fits the individual requirements and needs of our customer base. After all, this demanding transition can only be mastered with an intuitive data flow within a fully integrated, cross-departmental digital tech stack. And we are fully aware of our own responsibility as a trusted PLM provider on this journey.

With new environmental and sustainability laws coming into forces, ESG (or CSR) is a topic on the minds of most management teams within the retail, footwear, apparel and textiles sectors. Can you share with us how Delogue is supporting the pressure on brands for true transparency?

Our core focus is cleaning up your data and strengthening supplier collaboration and we do this by developing specific functionality that supports this on the platform. As a result, Delogue considers your CSR efforts often before you have - for instance, we're currently developing our facilities logging functionality further, to allow for production tracking over your multi-tier supply chain on both item and style level, as well as on your suppliers and their facilities.

The goal is to make this as flexible as possible to support your right now, for what is yet to come. We were already re-assessing this area of our platform last year before much of the current EU regulations had come into existence. We're now past the development phase and currently working on the design of the compliance and certification module that will handle both environmental compliance and regulation, along with material and fabric certifications.

We're extremely eager to have integrations to sustainability tools that will create the data needed for your compliance certification. However, the landscape for these tools is still quite immature and it's unclear which will stand the test of time. After careful consideration, we decided to look into an integration for Made2Flow - a software engine that is capable of advanced engineering calculations for your environmental footprint. We're working on enabling the customer data generated through Delogue, to inform the tool's calculations and send that data back to our PLM platform for generating reports.

'Digitalization' is a term akin to 'sustainability' that gets thrown around frequently in Fashion. And, it's a term that's so often misused. What does digitalization mean for Delogue?

Digitalization of the fashion industry is the catalyst for Delogue's genesis; our Founder, Rikke Biehl, was a fashion buyer with pragmatism who wanted a smarter and more intuitive way of working outside of Excel. 10 years ago, the solution for her was clear digitalization and as a result, here we are with a PLM solution addressing the specific industry roadblocks to product development and looking at ways digitalization can further improve the day to day of buyers, designers, technicians and suppliers for the greater good of the industry as a whole.

Our advocacy of the digitalization of the fashion sphere goes beyond profit. We have an active and successful Academic Program to support educational institutions in combining academic knowledge with the needed digital tools for future-ready fashion professionals. By awarding free licenses to our PLM software for teachers and students, we aim to be a positive driver of change towards a more intuitive and inclusive fashion value chain, starting right within education.

Digitalization of the fashion industry was the saving grace for many companies during the Pandemic and the current volatility of the global supply chain only amplifies this further. It has the ability to make each step of the value chain better, fuelling innovative ways of solving real-life problems to create a more resilient supply chain. The core of this is data and Delogue strives to enable your data for greater transparency, supporting your efforts to fulfil future governance, and simplifying how you work with your data for greater accuracy.

Financial Year 2021/22

www.infor.com

+ 11

NEW CUSTOMERS OF RFA PLM, INCLUDING:

45

OVERALL NUMBER OF ACTIVE CUSTOMERS

of PLM within the RFA industry, excluding customers cited as new in 2020/2021.

N/A

NEW CUSTOMER EXPANSIONS

N/A%

of the overall number of active customers currently paying maintenance.

N/A

NUMBER OF RESOURCES SPECIFICALLY ENGAGED IN R&D

RESOURCES FOCUSED ON RFA, SEPARATED BY REGION:

(Excluding those cited as R&D-specific resources aside.)

North America: **N/A**

Latin America: **N/A**

EMEA: **N/A**

APAC: **N/A**

6,000

TOTAL NUMBER OF INTERNAL USERS WORLDWIDE

and where those users are located?

North America: **N/A**

Latin America: **N/A**

EMEA: **N/A**

APAC: **N/A**

>1,500

TOTAL NUMBER OF EXTERNAL USERS WORLDWIDE

and where those users are located?

North America: **N/A**

Latin America: **N/A**

EMEA: **N/A**

APAC: **N/A**

Financial Year 2021/22

www.infor.com

3 MONTHS
Average time taken for an RFA PLM installation (SME)

5-6 MONTHS
Average time taken for an RFA PLM installation (large enterprise)

70%
of installation time done digitally, on average (SME)

70%
of installation time done digitally, on average (large enterprise)

4
ACTIVE TECHNOLOGY PARTNERSHIPS SUPPORTING RFA PLM, INCLUDING:

Partnerships: Made2Flow, AWS
Third part products: CLO, Adobe Illustrator

TELL US WHAT YOU FEEL HAS CHANGED AND/OR ADVANCED IN YOUR PRODUCT OFFERING THIS YEAR TO DIFFERENTIATE YOUR COMPANY FROM OTHERS IN THE RFA PLM MARKET.

Infor PLM for Fashion is a multi-tenant cloud service for fashion brands and retailers.

We deliver new innovations monthly that customers can adopt at their own pace. Recently we added deeper support for: line planning, style development, costing, reporting, wider integration scope for 3rd party products, and new capabilities in user experience.

The PLM offering includes Infor Operating Services: a unique platform including monitoring and managing integrations, data lake for data repository, workflow for automation, tasks and notifications, document management and configurable homepages. The platform can be extended with tools for Application development (ex Apps) and link into analytics, digital assistance Coleman/AI/ML, helping your business to the next level of intelligence and automation.

Our PLM offering runs either standalone or tightly integrated to our CloudSuite Fashion ERP, which supports the wider business operation.

We see PLM as part of a bigger process where the extended production supply chain should be connected to provide impact measurements, sustainability information, and environmental CO_2 reporting. This helps provide true transparency and traceability from raw material to finished product. Using smart tagging (product passports), bringing sustainability to next level protecting your brand. For this reason, we recently announced a partnership with Made2Flow.

When green becomes the new black,

stay proactive with cloud-based fashion PLM

Learn how to manage a sustainable product lifecycle at **infor.com/fashion-plm**

Bring your sustainable collections to life with a scalable tech platform that gives you:

- Superior user experience with the mobility to work on PC, Mac, tablet, or smartphone
- Powerful collaboration capabilities to plan, design, develop, and track collections
- Multi-tenant cloud deployment and easy integration with third-party systems
- Automatic updates at a regular cadence so you can innovate without costly upgrades

IN CONVERSATION WITH

ANDREW DALZIEL, VP INDUSTRY & SOLUTION STRATEGY

How do you define PLM, and how has that definition changed as the industry has evolved?

It is still defined as product lifecycle management, however, increasing focus on sustainability and circularity is evolving it further to "managing the extended, sustainable, circular product lifecycle". The product lifecycle today is moving more to a circular flow, where products are designed to live longer and new business models and service offerings are emerging such as resell, repair, refurbish or recycling (so the lifecycle is evolving into a different scope).

Can you share some details on how extensively your PLM solution is able to support the planning process? Is your new planning module able to drive product development and, if so, how?

Line planning is an important step to set guideline and targets for the product development teams. Designers can track against the line plan to continuously verify how close a new collection, for example, is to the defined targets. Thereby, line planning can assist in developing the right type of products to fit market needs, and help avoid over-production, markdowns, and waste. It also serves as a first high-level planning for different market channels, with quantity estimates that can be used for early production commitments to suppliers.

Today, efficiency is everything. How have you designed Infor PLM to be even more efficient and, in particular, what do you mean by 'mass' design and development?

The best way to describe the efficiency is that users don't need any instruction on how to use the system – it is built in such an intuitive, modern way that most users can immediately use it. For example, by using icons, visual card views, drag and drop capabilities and more. Mass create and mass change capabilities allow the user to create new styles, add relevant data, and update styles much faster.

How far-reaching and capable are the analytics within your PLM solution, and what are the main benefits here to users?

Our PLM solution has reporting built in. Users can run flexible queries and get the relevant information they need. As the solution is built on Infor's technology platform (Infor OS), our Data Lake and Birst analytics can be used for further and more advanced data analytics, insights and reporting.

Sustainability – as broad as the term can be – is still at the top of every board's agenda. What have you developed in your PLM offering to help retailers, brands and their supply chain partners measure their impact as it relates to environmental challenges? Similarly, our industry – and in particular today's consumers – are concerned about

social injustices. What measures, if any, has Infor PLM taken to help retailers and brands manage their Bill of Labour?

Our PLM helps define material composition details down to the yarn and fibre level, with information about supplier, country of origin and test standards. It is also possible to manage not just the main supplier but also the sub-sub supplier relationships (the "tiered" supply chain). Supplier compliance is part of the solution as well as the ability to store certificates and factory test/inspection documents in the built-in document management solution. Recently, Infor announced a partnership with Made2Flow that will add additional capabilities around sustainability impact measurements. This data can be used while developing the collection, and later shared externally for transparency to consumers, stakeholders and for governmental reporting requirements. Finally, regarding Bill of labour, we see an overall movement into "BOx": Bill or materials, Bill of labour, Bill of process. It's about evolving the BOM and measure the impact not just of material choices but also the manufacturing processes. This is key to manage "real" sustainability. Our PLM supports both the BOM and the BOO (bill of operations) where data such as standard allowable minutes and more details around production operations can be defined. We can also easily collaborate with manufacturing partners in the extended value chain to get the detailed information needed.

Automation within PLM presents a huge opportunity. Is Infor PLM able to use AI (Artificial Intelligence) and ML (Machine Learning) to help automate the repetitive tasks used in product design, development and manufacturing?

Thanks to our Infor OS technology platform, we can offer Coleman artificial intelligence and machine learning based on data in Infor Data Lake, workflow automation capabilities and the flexibility to create Apps or other extensions to PLM, extensibility development tools can be added as needed. In addition, we offer mass-capabilities in core PLM that help users work more efficiently and minimize repetitive tasks.

How do you see PLM supporting fashion's wider recovery and its ongoing digital transformation over the next 2-3 years?

It is clear that much of the fashion industry is moving towards non-seasonal, slow fashion, circular business models. For PLM this means it will be even more important to focus on material details down to composition level to make sure styles are designed to live longer, with ability to rent, repair, refurbish, resell, and recycle. Product passports will become common, where data for a product will be stored (from composition, via production to distribution with a focus on sustainability and environmental impact) and shared with consumers. This goes beyond traditional PLM software to cover the end-to-end *sustainable lifecycle* of a product, where PLM is a key part of the total solution. To minimize over-production, markdowns, and waste, we also see a need to produce more on demand according to exact body measurements. There are already apps on the market that can scan and share detailed body measurements to make sure styles are designed according to specific market or individual's needs. Finally, with all the digital tools available, new collections planned can easily be tested early on using voice of the consumer testing and 3D tools to ensure they are designed to "meet the desires of the market".

LECTRA

Financial Year 2021/22

www.lectra.com

+ 15

NEW CUSTOMERS OF RFA PLM, INCLUDING:

Creation Fusalp, Grupo Industrial Creysi, Hanes France, Huish Outdoors LLC, Ikks Group, Jacquemus, Liewood ACG, Liu.Jo, New Guards, Group, Siggi Group, Tartine Et Chocolat, Toyota Tsusho Fashion Express, TSI, United Arrows

537

OVERALL NUMBER OF ACTIVE CUSTOMERS

of PLM within the RFA industry, excluding customers cited as new in 2020/2021.

N/A

NEW CUSTOMER EXPANSIONS

N/A%

of the overall number of active customers currently paying maintenance.

N/A

NUMBER OF RESOURCES SPECIFICALLY ENGAGED IN R&D

RESOURCES FOCUSED ON RFA, SEPARATED BY REGION:

(Excluding those cited as R&D-specific resources aside.)

North America: 40

Latin America: 25

EMEA: 185

APAC: 60

35,000

TOTAL NUMBER OF INTERNAL USERS WORLDWIDE

and where those users are located?

North America: 52%

Latin America: 0%

EMEA: 46%

APAC: 2%

N/A

TOTAL NUMBER OF EXTERNAL USERS WORLDWIDE

and where those users are located?

North America: N/A

Latin America: N/A

EMEA: N/A

APAC: N/A

N/A
Average time taken for an RFA PLM installation (SME)

N/A
Average time taken for an RFA PLM installation (large enterprise)

100%
of installation time done digitally, on average (SME)

100%
of installation time done digitally, on average (large enterprise)

N/A
ACTIVE TECHNOLOGY PARTNERSHIPS
SUPPORTING RFA PLM

TELL US WHAT YOU FEEL HAS CHANGED AND/OR ADVANCED IN YOUR PRODUCT OFFERING THIS YEAR TO DIFFERENTIATE YOUR COMPANY FROM OTHERS IN THE RFA PLM MARKET.

Connectivity between people and processes is a key foundation of Lectra's Kubix Link solution. Over the past year, we have begun offering native integration with benchmarking tools that allows users direct access to competitive data when they are creating collections. We have also added a collection creation tool that allows teams to digitize their moodboards, making it easier to collect, consolidate and organize their inspirations.

We have also acquired a new plug-and-play online marketplace platform that helps fashion companies simplify and gain control over how they retail their products throughout the world. Automatic translation of product information provides companies with an opportunity to boost growth in international markets. In addition, simple image management and native publication of product content on e-commerce platforms makes it easier for companies to provide consumers with a rich, attractive browsing experience.

LECTRA

KUBiX LiNK

GERBER YUNIQUEPLM

Discover the ultimate consumer experience

with an ever-evolving ecosystem of Product Lifecycle Management, Product Information Management, DAM, BOARD, and more.

Join the future today, at **lectra.com**

IN CONVERSATION WITH

MATHIEU BONENFANT, VP MARKETING STRATEGY, FASHION

LECTRA

How do you define PLM, and how has that definition changed as the fashion industry has evolved?

The classic definition of PLM is now restrictive. Fashion companies need tools to manage the development of their collections while coping with the exponentially related complexities. From digitalization to developing segmented collections, designing sustainable garments to selling in e-commerce, all of the additional responsibilities and workload of the product design and development teams skyrocketed.

Meanwhile, consumers were not necessarily ready to pay more for their products. Only technology could solve this apparent conflict, the so-called "retail paradox." In the 80s, PDMs were the right solutions to cope with the to-date complexity (2 collections/per year, few suppliers, only selling in stores). From the 2000s, fashion collections started to complexify (4 or more collections per year, suppliers all around the globe, adding e-commerce to stores.) This was also the introduction of marketing analysis to stay efficient within a more complex fashion ecosystem. During this time PDM was then too limited, calling for PLM solutions, adding workflow management, collaboration, and more. In 2020, the creation of products became progressively borderless (more collection, capsule, collab.)

Fashion started to be more and more driven by data to support a complex supply chain. In addition, sales channels multiplied while being interrelated: store, e-commerce, marketplaces, social networks, and live shopping! Today, technology must allow fashion professionals to deal efficiently with this complex "new normal." Digital platforms like PLM became more important than ever. However, they needed to perform increasingly more than just regular PLM and to connect seamlessly and/or embed other expert capacities (PIM, DAM, digital mood board) to extend their footprint without adding more mental workload for users.

Kubix Link has become Lectra's main platform for PLM, PIM, and DAM. Since the acquisition of Gerber Technology in June 2021, there is now a combined PLM offering with YuniquePLM; are there any plans to combine the best of Kubix Link and of YuniquePLM into a single offer?

Each solution has its roadmap aligned with its corresponding customers/prospects. Part of these solutions can likely be combined to bring more capacity to Lectra customers. The continuous work at Lectra maximizes the value created for customers by combining relevant solutions. For instance, Retviews has been connected for two years with Kubix Link and provides competitive intelligence to give the product development team fashion analytics and enables data-driven collection development. Another example is the integration of Neteven with Kubix Link. Neteven, which is connected to Kubix Link, does not only seamlessly push product data to marketplaces but also provides feedback on sales performance information to the product teams. This closes the loop for the creative team, causing a virtuous cycle that enables us to publish superior data and get instant feedback. Lastly, the integration between YuniquePLM and AccuMark allows for customers to have full transparency on the products lifecycle that they have designed. Customers are able to monitor their products from design to finish, all in real-time, allowing them to stay connected throughout their team and the supply chain seamlessly.

Both Lectra and Gerber Technology as respective businesses were and are known for their hardware as well as software. Since the acquisition, we understand you're able to use and share pattern and marker data across your CAD/CAM systems. Does this seamless integration extend to your PLM solution(s), and is the data able to trigger changes dynamically in the BOM (Bill of Materials) and costings?

Lectra's objective is to facilitate qualitative exchanges between supply chain players. One of the most important pieces of information exchanged in the fashion supply chain is garment patterns. As soon as Lectra acquired Gerber, the top priority was therefore to make the exchange of this data as good as possible, in line with Lectra customers' workflows and related challenges. Lectra began by improving this exchange at the CAD level. The work is gradually being extended to cover the other relevant use cases. The connection with costing/procurement offers is indeed one of the works in progress. It is to be noted whether these costing or procurement solutions can be connected to PLM solutions or not. It all depends on the customer's needs.

Since the COVID pandemic broke out, more and more retailers, brands and manufacturers have started to investigate and use digital mood boards, which allow designers and developers to collaborate across the business and its partners. How deep is the integration of Kubix Link Board to Kaledo, and your PLM libraries and assets?

There is a strong demand from customers to become more digital and efficient. This demand requires specialized solutions like YuniquePLM, Kubix Link, Retviews, or Neteven. For some customers, it is interesting to connect their expert solutions. Kubix Link can be easily integrated with third-party solutions. Lectra works with its customers to identify the most valuable integrations. This service goes beyond the scope of PLM. The same logic is underway for all of Lectra's business sectors, from production to design.

You have fairly recently brought to market Retviews, which can quickly and easily gain visibility into a competitors' collections, pricing and discounts. Is it possible to use Retviews' data to feed Kubix Link Board and to support development within your PLM solution(s)?

Lectra is continuously working towards maximizing the capacity of its users by combining the right solutions. Kubix Link users can indeed benefit from Retviews fashion analytics. Similarly, outside of the US, Neteven users can benefit from Kubix Link product data. With the same logic, relevant Lectra CAD solutions are connected to relevant digital solutions. Lectra is continuously analysing with its customers the correct integration.

As part of the continued drive for sustainability, the on-demand model is proving to be of great interest. Can you explain to our readers just how your systems can enable real-time (or near-time) transparency, and which of your solutions and IoT devices are able to share real-time data?

Matching perfectly offer and demand, thus eliminating overproduction, is an essential element of sustainability. The most sustainable garment is still a waste if it is not sold and worn eventually. Lectra's range of solutions enables garments to be designed and produced in an optimized manner (i.e., maximizing fabric consumption efficiency to minimize waste) for all types of volumes (mass production of course, but also down to unitary production), allowing for agile adjustment to demand. In addition, Lectra's solutions enable fashion players to minimize material consumption (connecting this information or not to PLM) and purchase only the amount of material needed. To "close the loop," the fashion value chain must gain speed and quality in its decisions, upstream of the production but connected to production reality. To that end, Kubix Link or Retviews real-time solutions allow you to collect, visualize, analyse data to act on production capacity, and support sustainability. Connecting these data-driven decisions to adaptive supply chains is already a major step forward to global sustainability.

How do you see PLM supporting fashion's wider recovery and its ongoing digital transformation over the next 2-3 years?

The evolution of the definition of PLM gives a good indication. With Covid-19, digital platforms became more crucial than ever to fashion companies. The initial response to this "digitalization wave" was to add multiple expert digital solutions to support fashion professionals with the right tools. Now it is important to "rationalize the use of all these solutions altogether. PLM can play a central role in providing unified access to technology and data while making it straightforward for the users. A good playbook for the 2-3 years to come.

Financial Year 2021/22

www.ptc.com

+ 20

NEW CUSTOMERS OF RFA PLM, INCLUDING:

Aeropostale, Authentic Brands, Dickies, Eastpak, Eddie Bauer, Forever 21, Icebreaker, Jansport, La Senza, Lucky Brand, Mammut, Napapijri, Nautica, New Balance, Reebok, Simon Properties, Smartwool, Spyder, Supreme, The North Face

204

OVERALL NUMBER OF ACTIVE CUSTOMERS

of PLM within the RFA industry, excluding customers cited as new in 2020/2021.

+ 26

NEW CUSTOMER EXPANSIONS

100%

of the overall number of active customers currently paying maintenance.

190

NUMBER OF RESOURCES SPECIFICALLY ENGAGED IN R&D

RESOURCES FOCUSED ON RFA, SEPARATED BY REGION:

(Excluding those cited as R&D-specific resources aside.)

North America: 78

Latin America: 5

EMEA: 68

APAC: 13

183,981

TOTAL NUMBER OF INTERNAL USERS WORLDWIDE

and where those users are located?

North America: 55%

Latin America: 5%

EMEA: 30%

APAC: 10%

64,608

TOTAL NUMBER OF EXTERNAL USERS WORLDWIDE

and where those users are located?

North America: 5%

Latin America: 10%

EMEA: 5%

APAC: 80%

Financial Year 2021/22

www.ptc.com

3-4 MONTHS
Average time taken for an RFA PLM installation (SME)

6-8 MONTHS
Average time taken for an RFA PLM installation (large enterprise)

90%
of installation time done digitally, on average (SME)

90%
of installation time done digitally, on average (large enterprise)

13
ACTIVE TECHNOLOGY PARTNERSHIPS SUPPORTING RFA PLM, INCLUDING:

Adobe (2012), Meshoi (2016), Amazon Web Services (2017), First Insight (2017), Nexgen Packaging (2017), Rockwell Automation (2018), Microsoft (2018), Material Exchange (2018), Browzwear (2019), CLO (2020), VNTANA (2021), Higg (2021)

TELL US WHAT YOU FEEL HAS CHANGED AND/OR ADVANCED IN YOUR PRODUCT OFFERING THIS YEAR TO DIFFERENTIATE YOUR COMPANY FROM OTHERS IN THE RFA PLM MARKET.

PTC recently released FlexPLM V12 with a new, modern, highly visual, and fully responsive user experience. Built for digital product creation, remote access and collaboration supporting the new post-pandemic way of working, V12 introduces several new features:

An easy to use, eComm-like user interface puts critical processes, data, imagery, and actionable insights at user's fingertips. Personalization features improve efficiency, while faster navigation and responsive layouts automatically adapt to almost any device and screen size, keeping users connected wherever they are.

V12 includes industry-first 3D collaboration features, enabling companies to effortlessly scale their use of 3D assets across the value chain. Best-in-class, bi-directional integrations with leading 3D design tools such as Browzwear and CLO provide an end-to-end digital product creation workflow, giving all users across all organizations access to review and collaborate on 3D assets.

V12 integrates with sustainability insights platform, Higg –enabling brands and retailers to measure, manage and track value chain sustainability in greater detail than ever before.

And Visual Line Collaboration capabilities enable brand and retail businesses to digitize their line review processes, as well as empowering them to make smarter forecasting and merchandizing decisions, cutting line review preparation from weeks to hours.

ptc® flexplm® V12

Accelerate Your Go-To-Market

Visual & easy to use with an eComm-like user experience

Support for multiple product categories & brands

Built for digital product creation & collaboration

Best-in-class 3D workflows

Ranked most functionally complete platform by IDC

Cloud-based SaaS solution

Enterprise-grade scalability, performance & security

IoT, AI and machine learning

IN CONVERSATION WITH

BILL BREWSTER SVP & GM, RETAIL BUSINESS UNIT

Do you believe the role of technology and especially PLM - has changed as a result of the disruption of the last two years? And how has that altered people's expectations for enterprise solutions?

I believe the strategic priorities that have driven technology adoption in retail haven't necessarily changed as a result of the pandemic, but they have become even more important and time sensitive as the industry has been forced to work and collaborate remotely. Every retail business was affected, but those that hadn't already taken meaningful steps towards digitization from initial planning to the consumer experience were hit the hardest. The immediate effects might now have passed, but retail has seen deep and lasting change and today, more than ever, organizations are recognizing that digital transformation is a necessity.

Brand and retailers have always looked for new ways to bring the right products to market faster, and they have always wanted to see the quickest possible return on their investments in technology, but COVID has underlined just how vital those key metrics are. The cost and time barriers for getting on-trend products to market are at an all-time high, and in a market where margins and profitability are being constantly squeezed, no brand or retail business is able to make speculative investments in technology that don't achieve their target ROI.

Speed and value have always been areas that PTC has specialized in, but in recognition of the challenging environment our customers now face, we made the conscious decision to zero in on these priorities to equip FlexPLM users with futureproof and easy to use tools that were built with rapidly changing situations in mind and designed to deliver the quickest time-to-value anywhere in retail PLM.

After two years of disruption, the evidence speaks for itself. The brand and retail businesses that partnered with PTC and implemented FlexPLM before the pandemic were equipped to overcome that unpredictability and to capitalize on new opportunities to pivot or target greater profitability. And the brands that have joined us recently have benefitted from our FlexPLM V12 solution to really hit the ground running and begin transforming their business, working at digital speed, and realizing results in record time.

I think the bar is now correctly set very high for what brand and retail businesses of all shapes and sizes expect from genuinely enterprise-class PLM, and I'm confident that PTC FlexPLM can meet and exceed those expectations.

What position do you see PTC occupying in the PLM landscape for apparel, footwear, and retail?

The right PLM solution for today's retail environment has to offer the capabilities and features you need to accelerate your product development and go-to-market, it absolutely must have security and scalability you can depend on, and it needs to be visual and easy to use.

We have always prided ourselves on the power of FlexPLM, and our ability to scale with and support the most demanding global workflows is proven by the long-term relationships we've built and expanded in partnership with the most iconic brands on the planet, and their supply chain partners.

Now we've also redesigned the FlexPLM user experience (UX) with speed, simplicity, and personalization as our driving principles, to make sure that all the power and scalability on-tap we offer is as easy and familiar as using an eCommerce website. The FlexPLM UX has been made fully responsive for different devices, and we have forged ahead in creating the most visual, engaging PLM experience retail PLM has to offer. This distinguishes FlexPLM from traditional PLM solutions that are designed with single devices in mind, that emphasize data over visuals, and that bury the insights end-users need to make critical product decisions.

FlexPLM users now also have access to completely personalized home screens, packed with at-a-glance, actionable information and active links into their work areas, with easy integration to enterprise collaboration tools.

Overall, it's our belief that no modern PLM customer should have to sacrifice power, scalability or security for a great user experience, or to compromise on flexibility and usability in favor of functionality. Our heritage has been built on our status as a reliable, high-performing digital transformation partner to the best-known names in retail, and now we're adding to that reputation by offering what I think is the industry's most adaptable, attractive user experience. And I believe that's a unique prospect in retail PLM.

Perhaps the two technology opportunities that have been accelerated the most by the disruption of the last two years are digital product creation (DPC) and supply chain resilience and agility. How do you believe PLM contributes to those goals?

Our philosophy is that powerful, visual, easy-to-use PLM should be an enabler and an engine for best-in-class solutions that support key industry objectives whether that's achieved through open APIs or by providing new ways to consolidate and centralize information inside FlexPLM, unlocking new possibilities in design, development, and production.

That mindset has driven us to forge new technology partnerships and to push forward the potential for both DPC and supply chain transformation through integration and through the addition of new PLM capabilities.

For example, we pioneered best-in-class, native integrations between FlexPLM and the leading 3D design and simulation solutions, and over the course of COVID we invested heavily in empowering FlexPLM customers to scale their 3D and DPC workflows enterprise-wide. As well as improving efficiency and unlocking additional creativity for designers who work in 3D, we see PLM as an essential component to unlocking the full value of those 3D assets something that the digitization of design, development, production, and consumer engagement demands. That's why FlexPLM now incorporates native 3D collaboration, visualization and markup capabilities all embedded directly into the PLM interface and streamlined through smart compression - giving a wider range of users than ever before a way to communicate with and make decisions based on high-quality digital assets.

As the last two years have demonstrated, the fashion and retail supply chain is fragile, and brand and retail organizations are looking for ways to improve the agility, connectivity and efficiency of their supply chains. This is also occurring at the same time as an unprecedented push towards genuine transparency and sustainability that's being driven by consumers, investors and regulators, making true visibility and direct engagement with suppliers essential.

For brand and retail businesses, that visibility is difficult to achieve without systematized collaboration and communication with value chain partners. Working with email and spreadsheets, as a lot of brands that have either no PLM or a legacy solution that's inaccessible to their suppliers do, leads to risk going unnoticed until it's too late, and undermines the brand's ability to make smart sourcing and costing decisions.

Our goal has always been to extend PLM into the supplier base, and the ease with which FlexPLM can be deployed, used, and maintained in manufacturing has led to PTC having a considerable number of users in the international supply chain. Combine that with the ability to clearly and easily manage supplier KPIs, and with our pioneering integration to the Higg sustainability measurement platform, I believe FlexPLM's support for the retail industry's most in-demand technology opportunities is unmatched.

Where do you believe PLM sits in the broader technology ecosystem for a brand or retailer? What does it deliver as a standalone solution, and what can it enable in terms of digital transformation elsewhere in the enterprise?

PLM is an essential part of bringing together what we call the digital thread an end-to-end flow of connected, best-in-class solutions, from concept design to production and beyond to accelerate product development. The core capabilities of PLM have been road-tested and proven by the huge household names who have made FlexPLM the heart of their product lifecycles. But as I've already mentioned, the best PLM platforms are also engines for digital transformation in both existing priority areas like DPC and sustainability but also in emerging ones.

That's an important point: we see PLM as being not just a solution for current challenges, but as a springboard for future opportunities. To help our customers achieve that, we offer the power of ThingWorx IoT to enable companies to leverage new purpose-built, market-ready apps whether that's for pain points they've identified today, or to support their strategic vision for tomorrow. Our teams have already used ThingWorx to build a unique sustainability dashboard pulling in data from our Higg integration and other sustainability tools to provide at-a-glance impact insights and our Visual Line Collaboration app, but we're excited to see what innovations our customers drive us to build into the new market-ready apps tomorrow and beyond.

How do you see PLM supporting fashion's wider recovery and its ongoing digital transformation over the next 2-3 years?

The key realization is that digitization is now non-negotiable. Brands and retailers recognize that their in-house processes, their supply chain communication and collaboration, and the way they engage with their consumers all need to be brought together into a single digital thread. The organizations that are able to do this with the support of the right technology partner, will be the ones that are ready to thrive in a market where speed, profitability, and transparency are essential.

From my perspective, that's the world of today. What the next 2-3 years will bring is more unpredictability, more cost and time pressures, increased consumer expectations, new all-digital business models, and a range of other challenges and opportunities that only those companies capable of working at digital speed will be able to measure up to.

THE CONSULTANT'S PERSPECTIVE

With PLM assuming a vital place at the heart of many brands' and retailers' extended technology ecosystems, the role of the PLM consultant is rapidly changing. From scoping, steering and overseeing implementations, to helping to champion and deliver their customers' digital transformation objectives, experienced advisors' services are in high demand. And with the global reach of modern, multi-tenant SaaS PLM, and the rise in remote implementations, those experts will be tasked with delivering digital transformation on a worldwide scale.

In this sponsored feature, Prasham Kamdar, Managing Partner of Ptex Solutions, shares his thoughts on the evolving nature of the PLM market, the changing scope of digitisation, and how professional services are responding.

About Ptex Solutions

Founded in 2004, in Mumbai, Ptex Solutions has successfully implemented PLM for brands of all shapes and sizes in North America, Europe, Asia and Australasia, allowing them to deliver digital transformation objectives and achieve superior business results by harnessing the power of technology.

The Ptex team reflects a fine balance between fashion and technology expertise. Experienced, efficient, effective, engaging and thoroughly professional, Ptex's network of experts embodies the customer-focused approach and insider knowledge that differentiates the company in the field of PLM and extended-PLM. Ptex's business consultants have either graduated from fashion institutes or have worked in the industry prior to joining the company. With more than 15 years of implementation experience, Ptex has built a roster of solution providers whose business know-how allows them to anticipate common problems, proactively map typical business requirements, and to deliver solutions that transcend the traditional definition of PLM.

Ptex specialises in implementing Infor Fashion PLM (earlier known as Freeborders PLM and Lawson Fashion PLM), and the team has completed more than 80 implementations for milestone customers worldwide. Some recent examples include:

- Amart, in Australia
- By Malene Birger, in Denmark
- Dynamic Designs, in the USA
- FitFlop, in the UK
- Fred Perry, in the UK
- Fristads Kansas, in Sweden
- Future Retail, in India
- Hejmar, in Sweden
- Horseware, in Ireland
- LC Waikiki, in Turkey
- LTP Limited, in Lithuania
- Outpac Designs, in Hong Kong
- Rocky Brands, in the USA
- Spykar Jeans, in India
- The Apparel Group, USA
- Tiger of Sweden, in Sweden
- Vida International, in the USA
- Voice, in Norway

Ptex also implements PLM in organisations where fashion crosses over with consumer packaged goods, such as Graniti Fiandre, in Italy, and Laces, in Canada.

The PLM market for fashion has always been strongly influenced by the forces that are shaping the evolution of fashion itself. These range from permanent brand and retail priorities like speed to market and profitability, and newer, emerging strategic objectives like risk mitigation and a more radical approach to sustainability.

That means that the way we think about PLM is constantly changing, too. In the past, implementations focused on core functionality like design, development, technical specifications and bill of materials capabilities. Today there are new demands being made of PLM, to provide the right data foundations for greater stability in sourcing, for example, and to be an engine for supplier collaboration and visibility across the extended value chain.

As a result, the role of the consultant has evolved to keep pace with changes in what PLM customers need from their implementations today, and to get ahead of where the industry will be tomorrow. Instead of positioning themselves to provide support services, consultants need to become proactive partners and active participants in digital transformation.

As an example, sustainability has been discussed conceptually for many years, but has recently gathered momentum and become a key driver for organisational change. Brands and retailers that are at a critical stage in their post-pandemic recovery are also being faced with increasingly strict regulations - with many more on the horizon - that will require them to transform the way they

engage with their suppliers, the way they govern and communicate product data up and downstream, and how they collaborate with their suppliers. While PLM, as a platform, is a critical part of that transformation, for any sustainability strategy to be successful, there will also be a significant amount of process and cultural change required - both of which are areas in which the best consultants specialise in best-practice new process introductions alongside their deep technology expertise.

As everyone reading this publication will know, sustainability and supply chain transparency aren't just fleeting technology trends, but reflective of a larger change in mindset that's taking place and then, in turn, driving technology adoption and process and technological maturity. From companies to consumers, there is a demand to make the mind-to-market process more mindful. Instead of beginning with companies and ending with customers, this process is moving toward beginning and ending with customers. Every step of the process- from design to development and distribution will need to include sustainability as a key focus. In terms of touchpoints, the implications are therefore rather wide and stretch beyond supply chain management to customer upcycling or company recycling.

In order to achieve, and indeed deliver on these goals companies will need to use technologies like PLM, and other supporting best-of-breed solutions. And to fully capitalise on the opportunities this offers (as well as avoiding the potential pitfalls it creates) they may also want to call on the services third party of expert consultants who can demonstrate a heritage built on providing both core PLM implementation and extended-ecosystem support.

To highlight just how profound the process and cultural change component of digitisation on this scale can be, consider how deep the roots of sustainability run. Overproduction and unsold inventory are not new issues, but they have captured headlines because they showcase just how damaging the fast fashion mindset has become. Around 30% of apparel produced is never sold, and on average the items that are sold are marked down by at least 30%.

Addressing this is a direct, bottom-line, commercial imperative - affecting retailers' margins in a huge way - as well as being a key metric by which sustainability can be improved. But getting there will require change on a sweeping scale, demanding better planning and communications between brands, retailers, and their suppliers, and relying on the capture and use of a wide range of supply chain datapoints - from carbon emissions to water wastage, the latter of which is unknown territory and currently untouched by the vast majority of PLM solutions.

With this one example alone, we see a very clear drive towards a level of sustainability that will run much deeper than the better use of materials, and will extend into a more comprehensive process and cultural overhaul designed to help brands create products that will not end up in landfills.

PLM, along with other ecosystem solutions such as planning tools and 3D design software, can play a pivotal role in enabling change on that scale, and helping brands and retailers to avoid overbuying and over-production. But the software itself will not solve every problem or automatically capture every opportunity, and the world's best PLM and extended-PLM consultants need to be ready to work with their customers to help deliver true digital transformation - wherever in the world it needs to be done.

THE PLM LANDSCAPE: 2022 MARKET ANALYSIS

Need to understand the PLM shape, scope, and size of the PLM market for retail, footwear, and apparel at a glance? This market analysis captures all the essential facts and figures, along with our expert perspective - equipping you with everything you need to make informed decisions.

As the foremost authority on PLM for fashion and retail, WhichPLM holds the world's most accurate archive of fashion & footwear PLM sales and PLM customers, dating back more than thirteen years. This archive is updated every year based on new customer information, userbase figures, and other data - all provided by a global pool of PLM vendors, and supplemented by our own market knowledge. That data is then vetted for accuracy, and used to form the core of our annual PLM market analysis.

This year, for the first time, the results of that data collection and analysis are being jointly published by The Interline and WhichPLM, as part of the migration of PLM content to its new home at the heart of the fashion technology conversation. Which makes this year's analysis a milestone for several reasons.

Over the next few pages, we break down where PLM was sold in the fiscal year 2021/22 (April 1st 2021 to March 31st 2022), to what size of business, what areas those businesses specialise in, and what implications these broad indicators have for both the fashion PLM market and for fashion technology as a whole.

To allow us to conduct this breakdown, each PLM customer who purchased a new PLM solution in 2021/22 is assigned a market Tier based on their annual turnover, from Tier 0 to Tier 5 - massive multinational to small business. We feed this Tier information through our own proprietary model - which calculates the expected revenue derived from software sales and professional services for each different Tier - to build a picture of the overall monetary size of the PLM market based solely on new name sales. (The value of expansions and extensions is accounted for separately, later in this analysis.)

We also use this information to draw conclusions about the evolution of the PLM market, to chart the trends that are shaping PLM and extended-PLM implementation and deployment, and to assess how those trends do - or don't - mirror broader changes happening in the enterprise software landscape across other industries.

All of the insights that underpin this analysis are also just a small part of the treasure trove of information and intelligence that informs WhichPLM's direct advisory services. As 2022 progresses, WhichPLM will continue to expand its focus on providing those expert-level services to brands and retailers looking to make informed investments in PLM and related technologies and processes, as well as to technology vendors designing the next generation of platforms and ecosystems - in both PLM and extended-PLM value chains.

Tier	Percentage of new PLM sales in 2021/22	Definition
Tier 0	5%	Also known as the "super tier", customers who fall into this category demonstrate annual revenues in excess of $10 billion, and are typically multinational organisations.
Tier 1	9%	With revenues of between $1 billion and $9.99 billion, Tier 1 customers may share equal domestic renown to their larger counterparts, but lack the sheer sales volume and international impact that would elevate them to the super tier.
Tier 2	5%	Encompasses a wide variety of retailers and brands in what is commonly referred to as the "mid-market". These companies demonstrate revenue of between $500 million to $999 million.
Tier 3	10%	Takes in those smaller organisations that fall below the revenue threshold of Tier 2 – typically single-territory or boutique retailers and brands with revenue from $100 million up to $499 million.
Tier 4	9%	This Tier encompasses businesses – typically emerging designers, extremely small brands, or retail startups – that fall below the Tier 3 bracket, turning over between $50 and $99 million per year.
Tier 5	62%	Introduced in our 2018 Buyer's Guide as a way to provide more granular insights into PLM adoption among small businesses, Tier 5 captures any company whose turnover is $49 million or less per year.

Market Scope & Maturity:

The PLM market for fashion and retail is an extremely mature one but, as these data demonstrate, still one with considerable potential for growth and evolution.

To monitor both market maturity and potential, we first track the evolution of PLM sales across the spectrum of different customer Tiers. Over the many years that this analysis has been run, this has trended further and further towards accessibility, with smaller and smaller companies now having access to PLM, instead of sales being concentrated exclusively in the upper tiers of the market.

It is no surprise, then, that the vast majority of new PLM sales (more than 60%) are still being made to small-to-medium enterprises and emerging brands, since PLM is now available on tap: affordable, subscription-based, and with easy onboarding. That evolution has reached a new stage this year, though, and 2021/22 saw PLM sales being made to increasingly smaller teams. For the first time, this now includes individual designers who work in technical development agencies and design studios, and whose decentralised expertise could prove to be a key component of the fashion value chain in the very near future.

We expect this trend to continue; although PLM is already the most affordable and accessible it has ever been, opening it up to a customer base that *wants* to make use of it, as different skills as job functions become more distributed, a new market segment is opening up for users who *need* to leverage PLM to communicate and collaborate with their brand clients. The aforementioned design agencies are one example; another would be the smaller on-demand production hubs that are already springing up to enable localised production and distribution.

This year, sales to this emerging userbase of micro-customers already accounted for 3% of all PLM sales. This may not sound like much, but it actually represents more than the eyewear and homewares market segments, and the catalysts for further growth are evident. This new market segment is not a curiosity, but rather an indication of the behaviour of a hyper-mature market that is accessible to everyone.

Another method used to gauge the maturity of any software market is the composition of the vendor base that caters to it. From this perspective the PLM industry for fashion has demonstrated two clear trends: consolidation of established vendors, and elevation of new, disruptive ones.

While the obvious news has been the shrinking of the vendor pool at the upper tier (most notably Gerber Technology's acquisition by Lectra, and Visual Next's purchase by CGS), this year's data are remarkable because more vendors than ever before have participated and opened up their sales books to WhichPLM and The Interline, with first-time appearances in our analysis from Backbone, CBX, and Delogue.

This suggests that each of these vendors has now reached a level of technological maturity and market success in PLM (note that PLM may be a growing segment in a broader portfolio for these and other companies) that gives them the confidence to go toe-to-toe with more established players. This indicates just how far the move towards ease-of-access and affordability has levelled the playing field for vendors as well as customers.

The greater number of PLM vendors taking part in our data collection this year also means that all of this analysis is based on first-party information and directly observable datapoints; for the first time, we have opted not to use our best estimates of PLM sales made by smaller vendors who were not able to participate in our reports. In previous years we saw this as a pragmatic step, but this year we are more confident than ever that our first-party dataset is an accurate and representative picture of the industry as a whole. We accept that, as a result of this choice, there remains a small number of PLM sales in the fiscal year 2021/22 that are not captured in this analysis, but we do not believe these will make a material difference to the broad trends we have identified in these pages.

Finally, we measure maturity in terms of market penetration - in both a geographical and a sector sense. Building on the unique, global database of historical PLM sales and worldwide install base that WhichPLM holds, we look at where in the world PLM sales and implementations took place this year, and we examine the industry segment that each PLM customer occupies.

Our analysis of how the PLM market was broken down into those segments and specialisms is set out below, but geographically speaking this year's data underlines a consistent conclusion: PLM is universal. Although the world has PLM sales hotspots that correspond to areas where enterprise software in general is concentrated, broadly speaking there are very few areas of the world where PLM is *not* sold and implemented. This trend has only become more pronounced as the accessibility of fully-featured, multi-tenant, SaaS PLM has increased, making it accessible to anyone and everyone.

A key milestone to bear in mind is that the PLM solution being sold in one market is, in the majority of cases, the same one being sold and implemented elsewhere. This represents a shift from the regionalised sales and implementation strategy that used to characterise the on-premise PLM market. Today, just as a company using a leading CRM or accounting solution in North America is using fundamentally the same solution as their counterparts in South America, the UK, and further afield, PLM is similarly evenly distributed and largely functionally equivalent wherever it's being used.

With this in mind, further geographical analysis on a technology or commercial basis becomes redundant. PLM sales are, by and large, not being influenced by the features, functions or support that are available in particular regions. Instead, they are being driven by a much wider set of fashion market and geopolitical indicators that are beyond the scope of this PLM-focused evaluation, because they transcend individual technologies.

Country	Percentage of new PLM sales in 2021/22
USA	41%
Denmark	7%
UK	7%
France	5%
Germany	5%
Sweden	3.5%
Italy	3%
Australia	2%
Canada	2%
India	1.5%
Japan	1.5%
Norway	1.5%
Spain	1.5%
Hong Kong	1%
Mexico	1%
Netherlands	1%
New Zealand	1%
Russia	1%
South Korea	1%

Country	Percentage of new PLM sales in 2021/22
Switzerland	1%
Austria	0.5%
Bangladesh	0.5%
Brazil	0.5%
Colombia	0.5%
Finland	0.5%
Indonesia	0.5%
Israel	0.5%
Pakistan	0.5%
Panama	0.5%
Poland	0.5%
Portugal	0.5%
Singapore	0.5%
South Africa	0.5%
Turkey	0.5%
UAE	0.5%

Market Size And Value:

Although this analysis is concentrated on the fiscal year 2021/22, it does not exist in a vacuum. PLM sales over the last five years have been heavily influenced by factors both internal and external, and this remains true of this year's data - making it important to put the size of the market in context.

This year showcases the second-highest PLM market value in the five-year period between 2018 and 2022. And it's important to remember that, this year, we have voluntarily excluded the small number of estimated mid-market sales that we incorporated into the statistics for previous years, meaning that some of the value discrepancy between this year and the previous high watermark - 2021 - originates in that decision.

The previous baseline for PLM investment on an annual basis was set at around the $135 million mark on average, which includes software licensing and implementation / maintenance services. This baseline is where PLM sales sat for the years 2018 and 2019.

2020 was, as a direct result of the pandemic, a different story; more than $30 million was wiped off the market as brands, retailers, and their suppliers pulled back on technology investments as they prioritised business continuity.

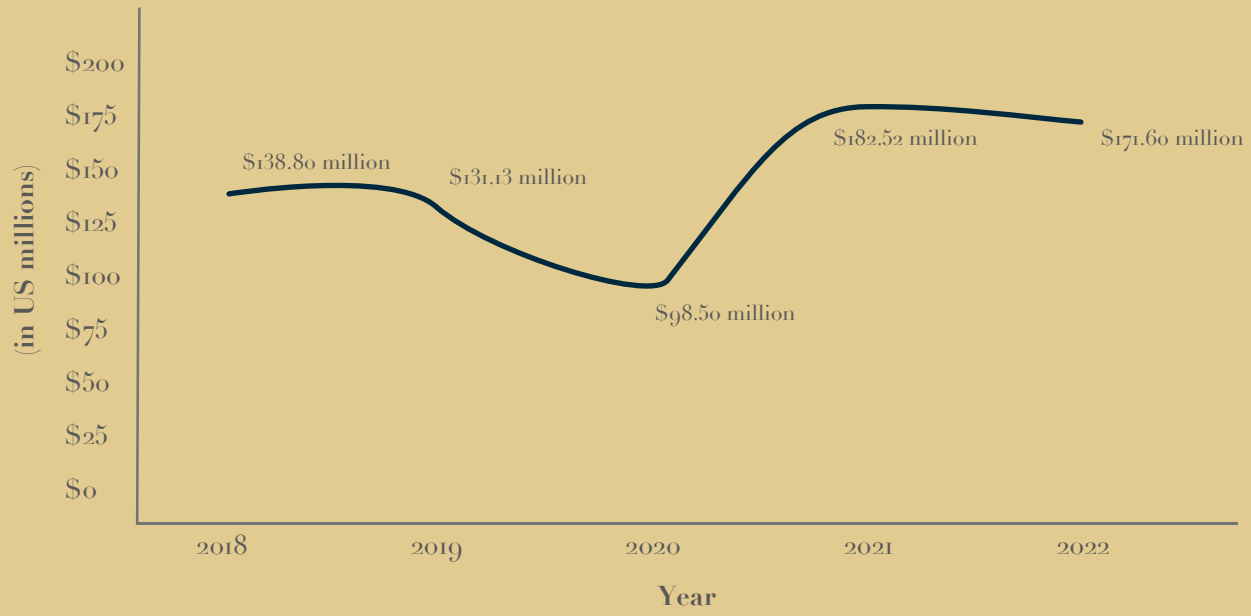
Region	Percentage of new PLM sales in 2021/22
Americas	45%
APAC	16%
EMEA	39%

The reverse was true in 2021, however; that investment was, our data shows, postponed rather than cancelled, and last year more than $180 million was spent on PLM sales and implementations. This set a new high watermark for PLM investment in a single year, at least in pure monetary terms.

This year, as the industry recovers and the world begins to reckon with what a post-pandemic reality really looks like, a new baseline may have been set: $171 million spent on new PLM projects.

(We should note that these figures pertain to new-name PLM sales and implementations only. Expansions to existing implementations are not included in this market analysis, although we do analyse why these are becoming a more significant market force as a result in shifts in the landscape of professional services below.)

RFA Market Size:



This year did, however, set a new record for overall PLM sales in quantity terms: nearly 350 sales were made in the fiscal year 2021/22, compared to just 208 in 2021. This throws light on an interesting comparison: far fewer PLM sales were made in 2021 compared to this year, and yet the market was worth more on a revenue basis. What forces give rise to this disparity of inputs and outcomes?

The difference is due primarily to a dramatic shift in the make-up of the market. Of the 208 PLM sales made in 2021, only 80 of those sales (38.5%) were made to smaller enterprises in Tier 5. This year saw more than 210 sales being made to that same Tier 5 segment (60% of the 350-sale total), suggesting that smaller enterprises have, perhaps, taken longer to bring those technology projects that were postponed as a result of COVID back to the front burner. This may be down to the simple fact that smaller businesses were in a more precarious position as a result of the pandemic, or it may be that, conversely, they retained the agility to keep moving during COVID while larger brands that had not already invested in digitisation were faced with the sudden need to invest in technological lifelines.

Whichever root cause is true, the facts remain the same: the Tier 5 market segment, which covers the SME sector and the micro-agencies and distributed designers that have emerged as new PLM customers this year, is by far the largest in terms of new name sales.

Services And Implementations:

The overall size of the PLM market for retail, footwear, and apparel comprises not just software sales and licences, but implementation, advisory, and professional services that are directly related to the implementation, deployment, and adoption of those sales.

And as has been the case throughout the five-year period which we have already used to contextualise this year's results, those services account for a significant share of the monetary size of the market in 2021/22 - although the nature of those services has changed extremely quickly from hands-on implementation support to more strategic advisory services.

This is, in some ways, a surprise. Before the pandemic, the prevailing opinion (and one that WhichPLM and The Interline have previously voiced) was that implementation services would dwindle slowly as the affordability and ease of onboarding of PLM both increased. This was logical: self-serve implementations and the increasing share of PLM sales being made to smaller businesses were likely to steadily erode the requirement for implementation projects on the same volume and scale that had existed in the past.

Circumstances changed, however, and COVID appears to have altered the way the fashion industry frames its investments in technology. Instead of pitching PLM as a

standalone solution, more brands and retailers than ever are now re-evaluating their PLM and extended PLM initiatives as components of a much broader digital transformation.

As a result, professional services have remained in high demand, but their nature has instead changed. Whereas once the vast majority of PLM implementations were focused on the core objective of getting the solution configured, deployed, and adopted among the customer's userbase, today those services are being redirected towards ensuring that PLM becomes an engine for both near and longer-term digital transformation.

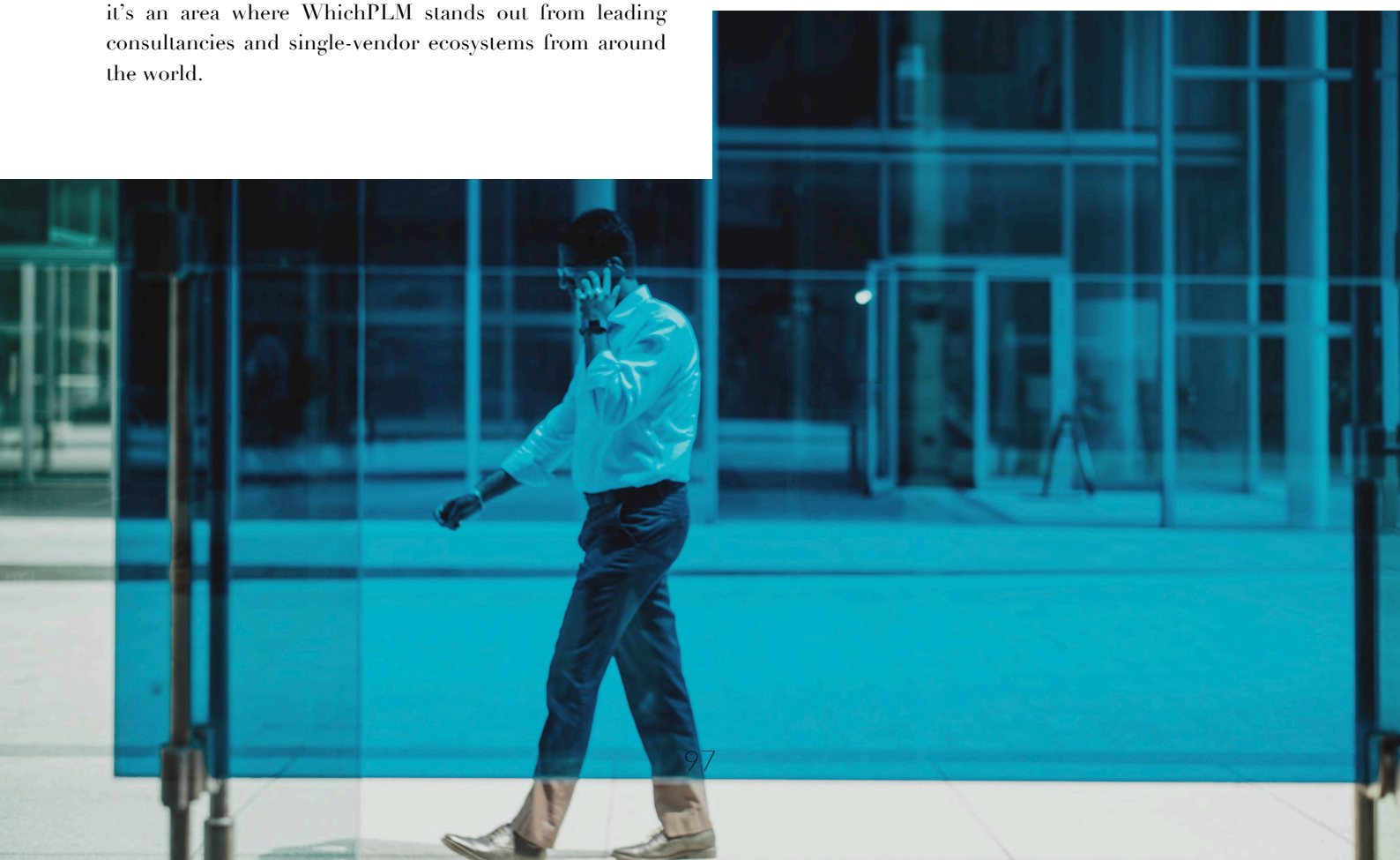
While it runs counter to predictions, this change is to be applauded as a realistic, pragmatic, and practical shift towards helping PLM customers realise value from their investments in a newer and more comprehensive way. Rather than hanging on to the outdated idea that consultants should be required to create custom reports and dashboard, PLM vendors appear to have, instead, moved towards low-code and no-code configurability, and have re-deployed their professional services towards assisting their customers in making their PLM implementation the heart of a broader transformation.

This is also the reason that WhichPLM now prioritises digital transformation advisory services; because this is an area where cross-category, cross-brand, cross-technology platform ecosystems expertise matters a huge amount. And it's an area where WhichPLM stands out from leading consultancies and single-vendor ecosystems from around the world.

Another major shift has also been accelerated by the pandemic: the migration from in-person to remote implementations. Like many industries, the PLM sector has quickly realised that much of the work that used to be conducted on-site can be managed just as effectively - if not more productively - through remote means. The data we collected this year evidences that fact: a large majority of this year's implementations were either partially or fully remote.

Bringing both of these forces together, professional services are also now being re-routed to fuel PLM expansion and integration. Rather than looking to sell new licences and new modules, consultants are working on digital transformation projects that organically lead to expansions of PLM access to new categories of users, and to new stakeholders in the value chain.

As the demand for these more comprehensive transformation projects increases, though, the pool of professionals who are able to shape and steer them will be quickly depleted. This is another reason why WhichPLM is refocusing to concentrate on advisory projects on this scale - making use of its unique blend of industry experience and broad, deep, expert-level technology knowledge to lay the groundwork for entirely new models of digitisation that run from initial design across the entire value chain, focused at the digital needlepoint.



Specialisations And Sustainability:

In some ways, the composition of the PLM market for fashion in 2021/22 mirrors consumer trends. Activewear, sportswear, outdoor wear, and streetwear account for close to 20% of all PLM sales, reflecting the ongoing casualisation of fashion that preceded COVID but that was accelerated dramatically as the landscape of work and social lift shifted.

Similarly, this year's data reveals a new emphasis being placed on technology investment within swimwear, activewear, and intimates / shapewear companies, where precision of fit and accuracy in production are incredibly important, and where the drive towards greater inclusivity in sizing is most keenly felt.

Interestingly, sustainable apparel and footwear - despite its outsized presence in consumer buying behaviours and in the fashion technology conversation as a whole - represents only 4% of PLM sales this year when we slice the PLM market using sustainable-only as the criterion. This is perhaps due to the fact that, for value-led brands competing against other mainstream brands (who still approach sustainability in a segmented way) is still an uphill struggle, leaving them with less money to invest in technology than their counterparts.

This is, however, something we expect to change as further sustainability regulations, ongoing evolution of consumer behaviours and expectations, and additional investor scrutiny begins to be applied to more and more brands. This will escalate the importance of sustainability industry-wide, which will drive further improvement of PLM's capabilities in that area, making PLM platforms even more attractive and capable out-of-the-box to brands who already put sustainability first.

Finally, this year represents the first time that we have tracked PLM sales to companies that are creating digital-only fashion. This is an area that The Interline continues to cover in detail, but it's fascinating to see that a platform that has grown from the need to orchestrate and coordinate the production of physical garments, footwear, and accessories is now being deployed for the same purpose with digital-only goods.

Partnerships And Technology Ecosystems:

In addition to the market data we have collected every year for PLM sales, this year we began to collect a new datapoint: a list of the different extended technologies that each PLM vendor has integrated with on a partnership basis.

In a lot of ways, the results are not surprising: most PLM solutions are integrated to one or more design and 3D tools (with the latter being downright essential today, where 3D is becoming increasingly specialised at the product category level), and this is accompanied by partnerships with digital materials marketplaces that support wider strategic digital product creation (DPC) objectives. And with digital product creation remaining a key investment area for many brands, we fully expect PLM vendors to pursue further integrations and partnerships in this area - supporting the pipelines and workflows that will underpin the future of digital asset creation and use.

We're also seeing what we could class as more foundational functional and technical partnerships: integrations between PLM platform ecosystems and enterprise resource planning (ERP) transactional solutions, and partnerships between PLM vendors and cloud hosting and infrastructure companies who are providing the bedrocks for the future of cloud-native multi-tenant PLM.

Also aligned with what we would expect to see, based on consumer demand (as well as the previously-mentioned heightened demands of regulators and investors) is the number of PLM partnerships that relate to supply chain visibility, testing, and inspections. These integrations are likely to prove critical in the very near future as brands and retailers begin to wrestle with the question of what genuine supply chain transparency - encompassing materials, labour, and, in the very near future, the data required to generate a comprehensive bill of process (BOP) - looks like.

As promising as many of these partnerships look, though, we caution readers who are working towards a PLM project of their own - whether this is a new sale or an expansion - to interrogate the ones that matter to them. While PLM remains a vital part of the broader technology ecosystem for fashion (the introductions and conclusions for this Report shed more light on how and why) not all partnerships are created equal, and integrations that look deep on paper can prove to have limitations in practice. This is an area where WhichPLM also focuses its attention, deploying a unique, end-to-end platform ecosystem auditing tool to evaluate

We encourage anyone making a buying decision on the basis of a partnership between a PLM vendor and another solution provider to make sure that the partnership will achieve their aims today, and that the two vendors' roadmaps for the integration align with the customer's vision for where that intersection of processes is headed in the future. And by the same logic, we encourage readers making a purchasing decision based on an integration to assess whether the integration is bespoke (and therefore costly and inflexible) or based on open APIs and web standards.

This is also representative of how we encourage readers to think about PLM as a whole - whether they are seasoned members of the WhichPLM audience, or readers of The Interline who are relatively new to PLM. The choice of platform should no longer be made because of consulting resources that are present or missing in your area, because basic functionality is included with or absent from one solution, or because of concerns over the length of time taken to implement PLM and realise value. These variables still matter to some extent, of course, but in a world where PLM is truly accessible, genuinely global, and is increasingly being deployed as the engine behind a broader digital transformation strategy, the key consideration should be identifying the right partner (or partners) for a project that will sit at the core of your future technology ecosystem(s).

IMAGE PROVIDED BY STYLE3D

THE FUTURE OF PLM

Technology for Fashion seems ever changing. For an industry that operates in a state of constant innovation, the rate of change is only accelerating — catalysed by the COVID-19 pandemic that sent shockwaves across the globe. Since 2020, retailers and brands have been scrambling to digitize as much of their business as possible. As such, no longer is PLM talked about as the exclusive backbone of a company — instead, businesses discuss multiple, interconnected ecosystems that are starting to make up foundational technology stacks.

Whilst we, collectively, spent 2020 and much of 2021 panicking as an industry, in 2022 we're focused — quite rightly — on digitizing, integrating and moving forward.

As I mentioned in my introduction to this Report, our industry has been pushed into a new chapter — a chapter that is completely revolutionising and transforming the way that we work. We all know that the pandemic is by no means resolved — and whilst COVID-19 hasn't been eradicated, it is being managed to some degree. And, so too are those technology solutions that came about as a result of it. What initially felt like a short-term problem with a short-term fix, turned into a new way of working for the future ...and we must agree for the better.

Yesterday's and today's quick fixes are tomorrow's norm. Our workplace models need to adapt - and in many cases already have — to be even faster, and almost completely digital. And those technologies (including PLM) that helped us bridge collaborative gaps across our internal and external businesses during difficult times have found their footing, and are now standing firmly in the soil. The reality is that we have only just begun on a new chapter of technological developments that will continue to expand and adapt as we encounter more challenges; these technologies will need to be integrated into e-commerce, trend, design and development ecosystems to become part of the permanent architecture of Fashion.

And PLM is no exception.

Our 'new normal' demands interoperability across the entire value chain.

Our 'new normal' demands interoperability across the entire value chain. In order for retailers, brands and manufacturers to operate seamlessly and efficiently, the software (and hardware) that they utilise must be able to talk to each other. And many new and established vendors are leading the charge here — helping their customers combat each new challenge that comes their way.

There is Trust in Transparency

It's only by talking to other disruptive leapfrog technologies that PLM will continue to thrive. Take blockchain, for example. We've arrived at a point when

blockchain stands as an important pillar in Fashion. It's more than just a buzzword. Over the next few years, we can expect to see greater adoption and acceptance of blockchain for the tracking and tracing of raw materials all the way from the factory to the consumer. Digital certification supported on the blockchain will start to cross the chasm from proof-of-concept into the mainstream, supporting proof of provenance linked to real-time transparency. Ultimately, this will give the consumer trust in who really made their product.

There has certainly been a lack of trust in our industry when it comes to sustainability claims. Consumers have made it known that they understand when retailers and brands are attempting to **greenwash** them. Current sustainability calculations are based on theoretical, generalised averages of raw materials - the likes of repurposed polyesters. The fact is that when you take these so-called sustainable materials and then add the actual processes involved in making them production-ready the real-life sustainability scores will be completely different to the theory.

Today, there are several technologies that, when combined through open interfaces, can use each of their datasets to enable scientific sustainability impact measurements for each square metre of material. Taking this data to the next logical step, we can connect the CO_2 impact measurement of each material located within a company's platform ecosystem (PLM). Over the next couple of years we can expect this new trend to go even further and support a next-generation Bill Of Process (BOP) that will go down to the detailed levels of machine types, materials throughput, chemical dyestuffs, and materials certification - and each of these data elements will be attached to a single digital material that will also support 3D authoring tools.

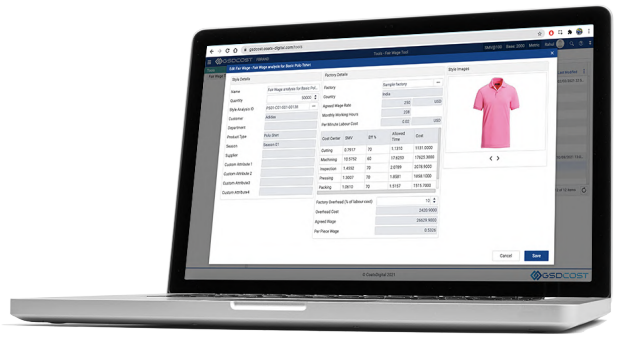


IMAGE PROVIDED BY COATS DIGITAL

Now, this sounds fine but one very important software is missing that, for me, relates to social compliance challenges, and that's the BOL (Bill of Labour). I often find myself challenging the non-standard methods that are being used by retailers, brands, and manufacturers, that are not fully trained or accredited to develop time study. Standard Allowable Minutes (SAMs) in the USA and Standard Minute Values (SMVs) in the rest of the word, relate to calculating the work content of a garment, including a person's performance rating, relaxation and rest allowance or other contingencies, time for machine breakdowns and so on.

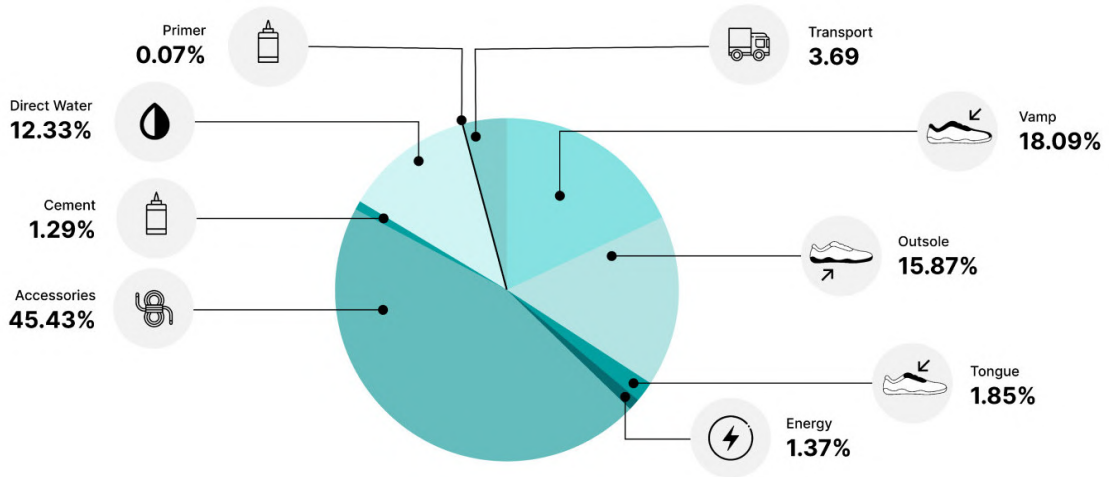


IMAGE PROVIDED BY MADE2FLOW

The pandemic has resulted in a dramatic lowering of Minimum Order Quantities (MOQs) and, with data typically being held in multiple spreadsheets and documents, this approach is unsustainable. As the industry moves forward with its digital connectivity and transparency, manufacturers will need industry standard benchmarks for method and time study. The industry needs to accept a common language and recognised standard for use in discussions on time, cost, capacity, and compliance. It also needs to connect the time values (SAMs/SMVs) with the Fair Labour Network (FLN) to convert minutes to a fair living wage based upon the region, country, or city location(s).

Every Pixel Counts

Yet another exciting area that is going through enormous innovation is with images and video. In the near-future, the way we manage image and video assets will be based upon the recognition and reconstruction of the original image. The next-generation image solutions coming to the Fashion sector will include the ability to develop coding (through Artificial Intelligence / Machine Learning) that understands the content within an image both foreground and background. If we know that an image contains a face and arms with skin tones, silhouettes, material types, and product styling, then we can use recognition techniques to identify the detailed content that will be smartly exchanged and modified for every pixel.

These new solutions have been designed and developed by doctors, scientists, and media technology experts. Unlike most methods that are used to help resolve the issue of sharing large image and video files (containing terabytes of image data) on the networks, and within growing image libraries located within PLM or DAM (Digital Asset Management), this new technology does **not** compress the files but rather uses a neuro-science AI-analyses of what human brains (internal teams and customers) see people, skin tones, textures, colours, styling details, and other areas of important interest that will be improved in real-time. They work to eliminate all the unseen media data that pollutes and slows the internet. These advances are able to take an original 12-megabyte image, of 6K x 4K pixels, and convert this down to less than 100KB (potentially delivering up to 99% reduction in file size) all the while retaining the original 6K x 4K resolution. Yet to the human eye, the quality of the new image is almost identical to the original native file, resulting in both downstream and upstream use cases being able to serve hi-fidelity images at a fraction of the size and bandwidth currently required.

MPEG video files operate in a similar way, with the AI/ML examining each pixel within each video frame, removing unnecessary background noise within each frame - including sounds - and converting video frames to next-gen files, resulting in a short video of 120 megabytes being converted into a new the next-generation format, and reducing the size to around 3-5 megabyte, but at a higher quality than the original video.

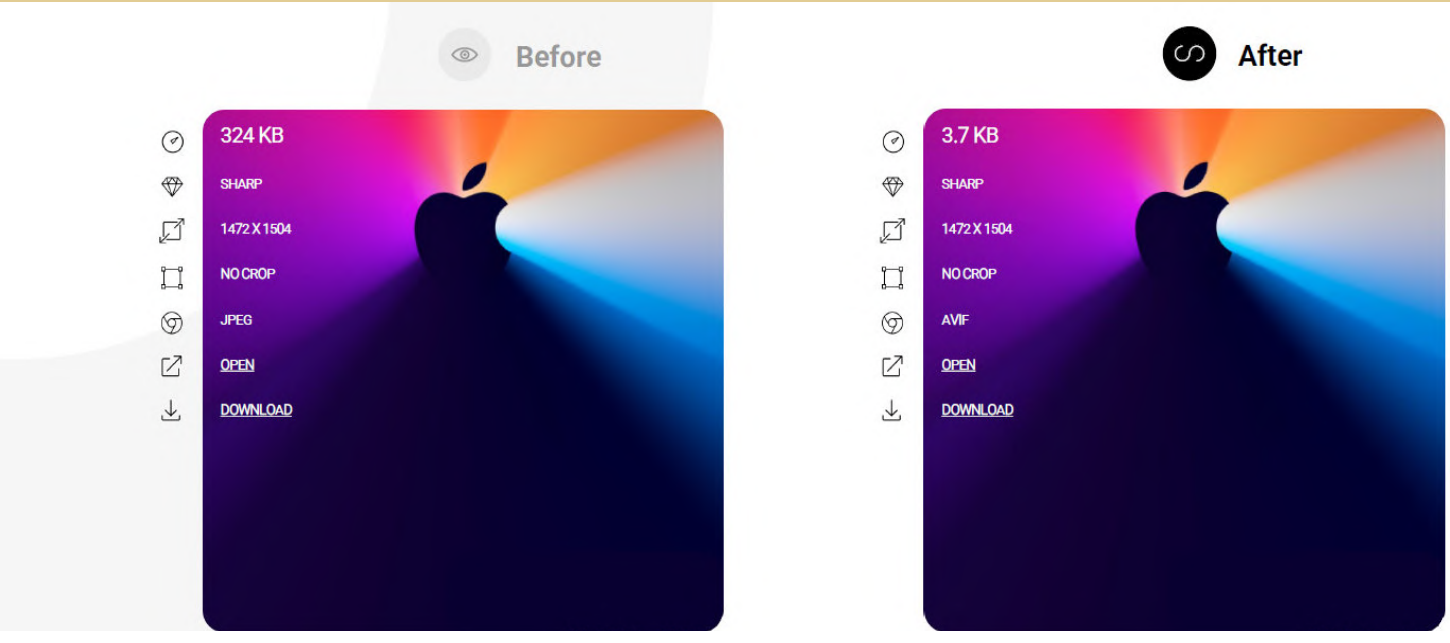


IMAGE PROVIDED BY SPEEDSIZE

IMAGE PROVIDED BY STYLE3D

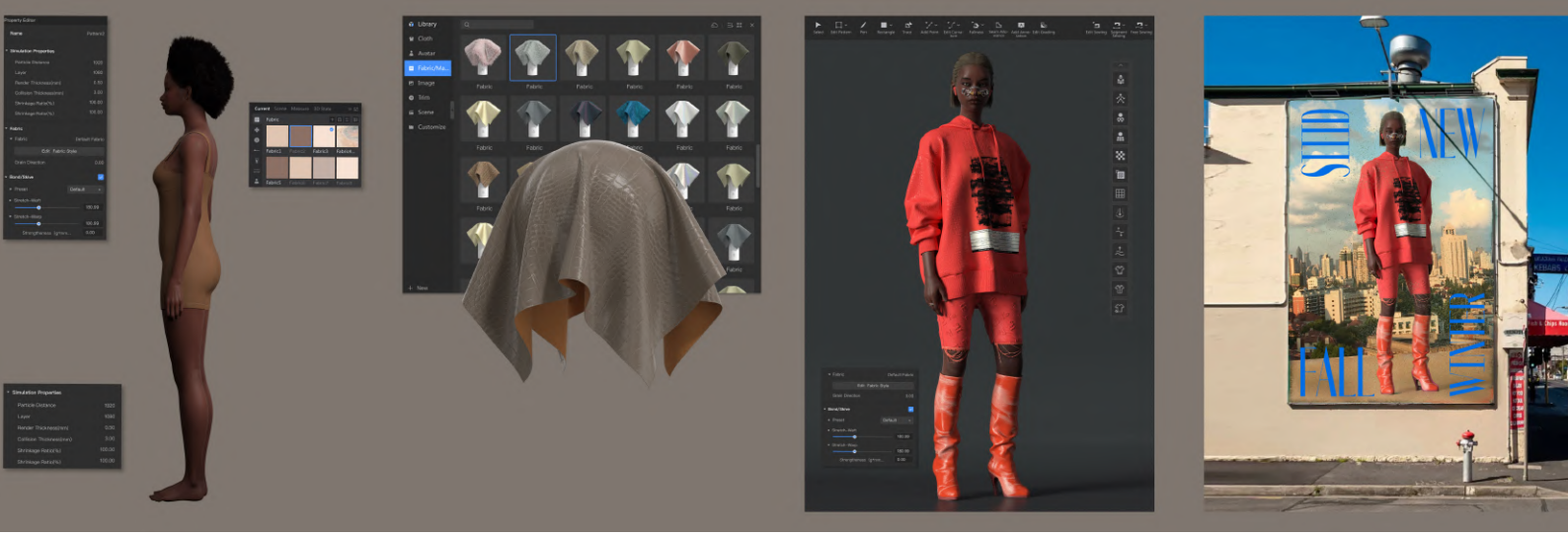
Next-generation image formats include AVIF, WEBP, JPEG2K, JPEG XR, and basic support for JPEG, PNG, and SVG files. And next-generation video formats include AV1, VP9, HEVC, and basic AVC (MPEG4), MOV (Input). This is definitely one of the exciting new technologies to examine as part of your image management processing. This is a unique technology with an AI automated decision-making solution that is linked to which best performance quality/size ratio format should be delivered according to different browsers and devices being used to view the images, using 5 formats x 5o resolutions - delivered in milliseconds.

But, what does this mean for Fashion? Let's break it down into a couple of example downstream and upstream use cases. Downstream it will help to increase the quality of images used on a website, greatly improve the SEO efficiency, lower the cost of CDN (Content Delivery Networks) usage, and allow greater use of short frame videos to be used on e-commerce websites. Upstream, it will result in high-fidelity images being used within moodboards, graphical assortment planning platforms, material libraries, and PLM Tech Packs included the visual BOM.

Digital Product Creation is Evolving

Over the last ten years, we have experienced what can only be described as a massive increase in the use of 3D authoring tools that cover a range of product types from footwear and apparel to accessories, materials, components and trims. Just like PLM, 3D now joins the increasing number of ecosystems that have "crossed the chasm" - the chasm, for those who aren't familiar with Geoffrey Moores' first book, refers to the technology adoption lifecycle, with the technology (here being 3D authoring tools),becoming a mainstream industry must-have.

Today, we refer to 3D and its associated software and hardware as Digital Product Creation (DPC). As I have stated before, 3D is no longer a single point solution, but rather it is an extending digital ecosystem of input devices that support the delivery of digital assets - often made up



of human-scanned measurements, the creation of digital avatars, the digital design of materials, and scanned materials and components. Traditionally - at least for the last 3 decades if we're talking about footwear and 2 decades when it comes to apparel - we have input scanned data into 3D authoring tools to start the design and development process. But times have changed and digital product creation has evolved into its own broad and mature ecosystem, encompassing multiple scanning devices, multiple 3D authoring tools, rendering engines that can operate in real-time (and can be located within a DAM solution), virtual showrooms and more recently DPC assets that are being designed specifically for the Metaverse. The next chapter of the Metaverse will utilise these assets to help fuel content within virtual stores operating in virtual towns. We can expect DPC to continue to accelerate its interoperability, connecting systems seamlessly over the next two to three years.

Linking into PLM

The relationship between business and the consumer continues to shift dramatically, and especially over the last few years. As stated in my opening remarks, consumers are now very aware of greenwashing claims; they now expect meaningful change when it comes to CSR (Corporate Social Responsibility) provenance.

Many of the new and exciting technologies I've discussed here can be linked into the PLM ecosystem, helping to bring about change and enable the sort of improvements that, up until now, have been almost impossible. Interconnected ecosystems are a must. These future systems, when fully connected and using shared datasets, will present the RFA (Retail, Footwear & Apparel) sector with a new model that will help to deliver speed, efficiencies, and at the same time will help to protect business survival. And it's not only about surviving this pandemic-induced disruption, but also about thriving in this next chapter of change that will demand smart digital vitality. I cannot stress enough how it's these digital futures that, when operating and sharing data seamlessly, will give renewed vitality to the fashion industry.

MARK HARROP

CEO & FOUNDER, WHICHPLM,

IMAGES PROVIDED BY STYLE3D

GLOSSARY

WhichPLM has a history of introducing new ideas to the industry, and coining terms to better define and encapsulate existing ones. The concept of Extended PLM (E-PLM) originated with us several years ago, and throughout our editorial, analytical, and advisory work, we have helped to define (or re-define) many common industry acronyms and terms.

Throughout this PLM Report, readers will find those industry acronyms and common terms used or alluded to by both our in-house teams and by vendors and consultants who appear in our listings. While we have made every attempt to define these where they first occur, the nature of this PLM Report means that not every reader will approach its content in a linear fashion, cover to cover.

In order to avoid confusion and provide absolute clarity for all common acronyms and phraseology, this glossary collects concrete definitions from PLM experts of what we consider to be the most useful, contested, and popular PLM industry terms, arranged in alphabetical order.

2021/22 = Each WhichPLM publication represents a retrospective look at the financial year that has gone before it, this Report included. Our 2021 Buyer's Guide, released in May 2021, examined trends, market analysis, topics, events, end user feedback and more – all originating from or pertaining to the fiscal year 2020/21, while this PLM Report contains similar content, but from the financial year 2021/22. As a British company, WhichPLM defines a fiscal year as beginning 1st April of the originating year, and ending 31st March of the following one - so when we refer to "2021/22" in these pages, we mean the period from 1st April 2020 to 31st March 2021 rather than both full calendar years.

Cloud = A catch-all term for any application, deployment, or strategy that involves distributed processing or storage. Historically, these were split into Software as a Service (SaaS), Managed Services, and a host of other labels, but while the differences between these approaches remain, WhichPLM considers the most important distinction today to be between whether a solution is hosted on-site (i.e. on hardware owned and maintained by the customer) or off-site, in data centres owned and maintained by the vendor. While this is not always the case, a cloud deployment is often tied to a subscription pricing model, rather than the traditional upfront license / ongoing maintenance model.

CPG & CPG Crossover = Short for Consumer Packaged Goods, CPG is an extremely broad term that, along with Retail, Footwear and Apparel (RFA) captures almost every product category for retail goods, besides food and beverage. Starting from last year, our Market Analysis contains customers that fall under the umbrella of CPG Crossover. Coined by WhichPLM, this category is designed to capture those PLM customers who fall somewhere in between the RFA market that WhichPLM has covered for close to a decade, and more traditional consumer products. Broadly speaking, crossover products will still incorporate soft materials and textiles or employ similar processes to apparel. By way of example, toys, pet care products in the soft category, home and office furnishings, eyewear, watches, and jewellery would be considered CPG Crossover product categories, and therefore brands and retailers who work in these categories are, as of this Buyer's Guide, considered valid for inclusion in PLM vendor's customer lists, and are covered by our Market Analysis. And while this list is by no means exhaustive, pharmaceuticals, food and beverage, beauty and cosmetics, white goods, and other similar products are considered to be traditional CPG, and do not fall into the CPG Crossover category. These products (and the brands and retailers that sell them) are not, therefore, included in either our Market Analysis, or in vendor customer lists.

ERP = Enterprise Resource Planning is often cited as being one of two large business systems that sit at the heart of a modern retail or brand environment – the other being PLM itself. ERP is more financially and logistically-oriented than PLM, and although this is not an exhaustive definition, the simplest method of delineating the two is to remember that PLM handles all product development tasks, passing its information on to ERP at the point that a product becomes a reality and enters the ordering, shipping, allocation, and selling process.

External user = We define an external user as an active, individual license situated outside the parent company – typically within the offices of one of its geographically distant supply chain partners. These users will likely have restricted access to the PLM solution, so the functionality of an external license should not be automatically considered equivalent to an internal license. Prospective customers should also note that vendors' approaches to these licenses differ dramatically: some provide free-of-charge external user licenses; some assign a license fee; some choose not to distinguish between these and internal users; and still others offer a stripped-down "vendor portal" instead, and do not recognise the term "external user" at all.

Internal user = We define an internal user as an active, individual license situated within the confines of the parent company – either its own offices, satellite locations, or international representatives.

License = A PLM solution is typically sold on a license basis, with each individual user that the customer predicts will need access to the solution (whatever their role) charged an individual license fee at an agreed rate. This applies to both internal users and external users. Pricing for both types

of user can be subject to volume pricing. The word "license" may also be used to refer to the actual agreement between customer and vendor.

Maintenance = While vendors' own definitions of the term "maintenance" vary, WhichPLM defines it as the ongoing contract between customer and vendor that stipulates the provision of help desk support facilities, as well as access to bug fixes and enhancements to the licensed solution provided as GA (see above). This does not typically include the costs of the implementation itself or any hosting costs, since these are usually factored into what are referred to as "first year" costs, alongside licensing and more immediate services.

New, signed customer or new-name sale = Readers will find this phrase throughout our Vendor Profiles, as well as our Market Analysis section. Where it is used, we are referring to a business that has, in the period we define as 2021/22, signed a deal with in the case of the PLM Vendor Profiles - an apparel PLM vendor to acquire that vendor's PLM solution ready for implementation across one or more brands, and with any number of licensed users. Customers who adopted a different solution from the same vendor without PLM CAD, for instance do not fall within this definition, and neither do customers of ERP, warehouse management and so on, unless they bought and adopted those solutions concurrently and in addition to PLM. For the reasons stipulated in its definition, PDM does not qualify as PLM for the purposes of this PLM Report, and customers of PDM (and CPM) are not included in overall figures or statistics for 2021/22, falling well outside the scope of this publication.

PDM = An acronym that saw widespread use prior to the year 2000, when Product Data Management solutions were considered to be the best possible tools available to retailers, brands and manufacturers seeking to modernise their product development environments. As the name suggests, these systems were focused on the production, cataloguing and communication of product data typically in the form of a PDF "tech pack". Although these solutions were later web-enabled, refined and enhanced as the industry progressed, eventually more fully-featured, web-based solutions that handled a greater variety of processes emerged, and PLM replaced PDM in virtually all of the territories WhichPLM covers. No major vendor focuses on selling PDM systems today, and the majority that previously did have established clear transitional programmes to move their legacy PDM customers to their modern PLM platform.

PLM = An acronym used in place of its longhand version, Product Lifecycle Management. Considered to have superseded CPM in approximately 2003, PLM is a suite of tools (often collectively called a "platform") that enables retailers, brands and manufacturers to optimise their product development processes, consolidate their data, and create a centralised, contemporaneous, collaborative backbone for the people, products and processes that together make up the lifeblood of their business. Although the acronym itself originated in the aerospace and automotive industries, today there are many vendors who provide proven PLM solutions to the retail, footwear and apparel industry, either as their sole focus, or as one vertical amongst many.

Resourcing = Where we refer to a given vendor's "resourcing", or where (such as in this publication's Vendor Profiles section) we have requested statistics to support a vendor's "resources by region", we are referring to individuals in the employ of the vendor who work in the area of PLM for retail, footwear and apparel. This does not typically include third party implementation or development partners, but these may fall under the umbrella of "resources" where an extremely close relationship has been established between the vendor and its partners over the course of many years. It is clearly desirable that these individuals have direct RFA industry experience in addition to deep product knowledge, but sadly this is not always the case, and in order to draw a distinction between pure numbers and what we consider to be "real" apparel industry staff, we use the phrase "expert resources".

RFA = A common industry acronym, RFA stands for retail, footwear and apparel, and is widely-used shorthand for the fashion, accessories, jewellery, footwear, toys, automotive and home furnishings upholstery / textiles industries. Following on from last year's Buyer's Guide, both RFA and CPG Crossover market segments are included in both our Market Analysis and PLM Vendor Listings.

ROI = Return on Investment refers to the main metric by which implementations of any enterprise system is typically judged: financial performance relative to the required investment. Despite some reductions in the total cost of ownership of PLM, the expenditure involved in licensing, implementing, and maintaining a modern solution remains significant. As a result, PLM projects should only be undertaken when a clear ROI business case has been assembled an objective analysis of how soon and in what form the chosen solution can be expected to deliver a financial return greater than the cost of obtaining it.

Seat = Essentially interchangeable with "license", seat refers to an active, maintained individual software license i.e. a human being occupying a seat at a desk, performing a job role, and actively using the software in question.

UI / UX = These two acronyms are not despite common misuse interchangeable. UI refers to the user interface of a given piece of software the actual design and interactivity components through which the user experiences raw functionality. UX, on the other hand, is a farther-reaching term, used to denote the broader experience of actually working with that software. UX will include UI, but will also factor in other aspects like speed, social collaboration, click rates, the flow of information and more.

whichPLM The INTERLINE