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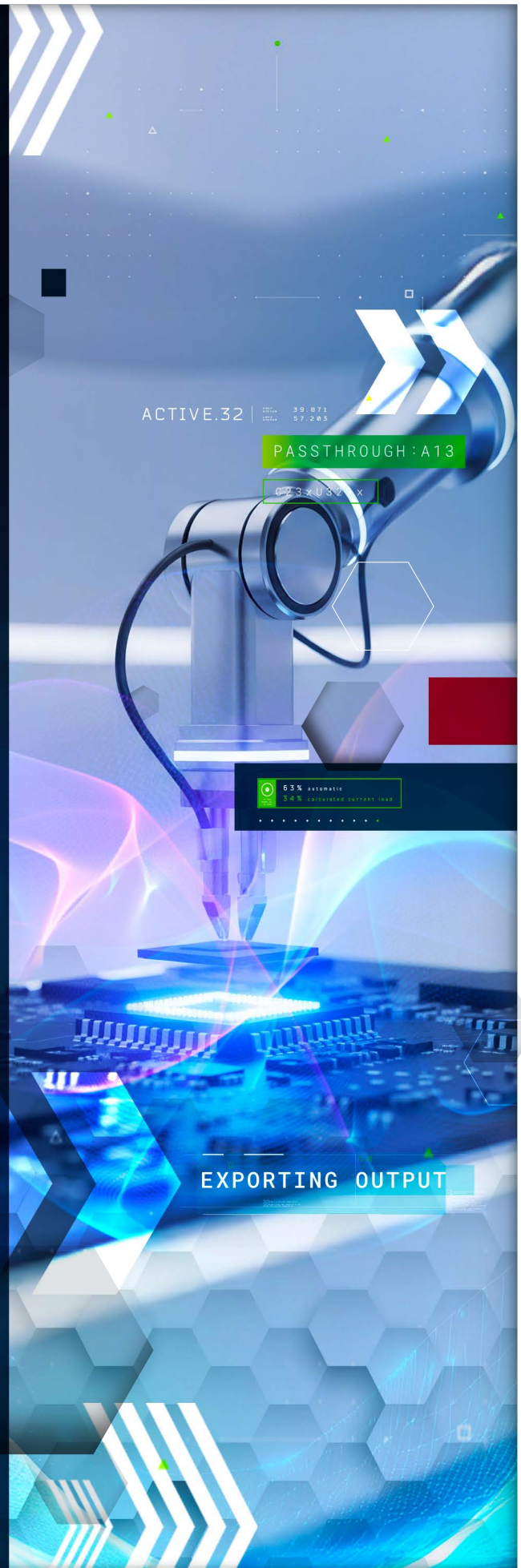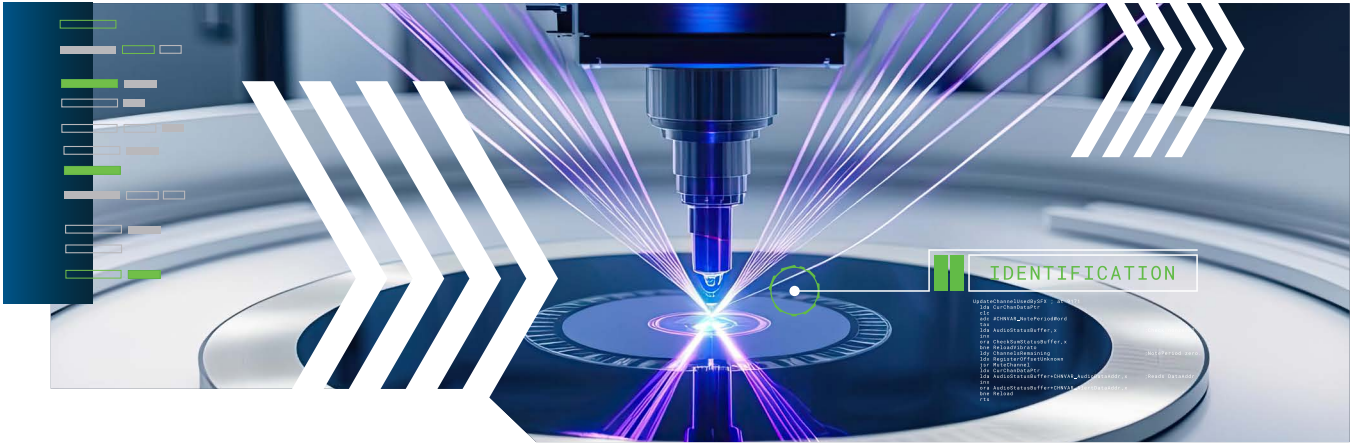
MODERNIZE YOUR PLM: THE KEY TO HIGH-TECH INNOVATION AND AGILITY

How to Transform Operations to Meet the Demands of Tomorrow

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MODERNIZE YOUR PLM: THE KEY TO HIGH-TECH INNOVATION AND AGILITY

For electronics and high-tech companies to remain competitive, they must focus on speed, innovation, and customer satisfaction. Rapid product obsolescence, fast-paced innovation cycles, intricate supply chain demands, and escalating compliance requirements demand new operational approaches.

Many E&HT companies are still relying on siloed **product lifecycle management** (PLM) systems—or even homegrown solutions. These outdated approaches create barriers to speed, innovation, and market position. Standardizing on an enterprise-wide PLM solution is how E&HT market leaders will maintain resilience and business continuity in this ever-changing industry.

WHY E&HT DEMANDS TRANSFORMATION

The pace of change in the E&HT industry is accelerating, with over **80% of high-tech executives** anticipating even faster shifts by 2025. Rising supply chain volatility, stricter regulations, and increasing material costs are challenging companies to adapt while maintaining customer satisfaction and innovation.

Amid these challenges, businesses are drowning in data but lack the processes and infrastructure to harness its full potential. Employees are saddled with managing siloed systems and outdated tools unable to effectively manage complex product data and supply chains, facilitate rapid product innovation, or support AI-driven optimization.

Market leaders like **Seagate**, **Infineon**, and **HP** have shown that modernizing PLM strategies is key to overcoming these challenges. By transitioning to enterprise-wide PLM solutions, companies gain structured, reliable data and synchronized workflows. This transformation not only boosts operational efficiency but also opens doors to **AI-driven insights** and seamless collaboration, positioning organizations to thrive in a complex, fast-paced industry.

Whether transitioning from homegrown systems, consolidating PLM platforms, or seeking capabilities beyond product data management (PDM), this transformative step is a strategic imperative to stay competitive and agile in the face of growing demands.

THE E&HT CHALLENGE LANDSCAPE

1 RAPID PRODUCT OBSOLESCENCE:

E&HT products often have limited lifespans, requiring faster time-to-market and innovation cycles.

2 FAST-PACED INNOVATION CYCLES:

High competition demands shorter development phases and greater agility.

3 SUPPLY CHAIN COMPLEXITY:

Global sourcing and multi-tier suppliers introduce intricate interdependencies.

4 COMPLIANCE AND IP PROTECTION NEEDS:

Strict compliance requirements and the need for intellectual property security grow as regulatory pressures intensify.

E&HT companies vary significantly in their structure, size, product offering, and urgent pressures. You have challenges specific to your business, but the most pressing market challenges are prevalent across the industry. Keeping these challenges in focus, let's examine how high-tech companies can revolutionize their operations to tackle them head-on.

HOW CAN WE STREAMLINE OPERATIONS AND ENHANCE COLLABORATION ACROSS GLOBAL SUPPLY CHAINS TO STAY AHEAD IN MANAGING E&HT PRODUCT COMPLEXITY?

E&HT companies face growing complexity in their products (individually and as a portfolio), and in managing global supply chains, coordinating cross-functional teams, and responding to market changes.

Disjointed systems and siloed data exacerbate these issues, slowing operations and hindering decision-making. As a result, late-stage changes and miscommunications with suppliers or contract manufacturers cost time and money. The consequences trickle down to impact product innovation and quality.

A modern PLM solution addresses these challenges by creating an integrated, collaborative environment that simplifies complexity, enhances operational agility, and bolsters supply chain resiliency:

CENTRALIZE DATA FOR GREATER VISIBILITY AND ACCURACY

Modern PLM unifies product data into an authoritative source of truth, ensuring all teams and partners work with consistent, up-to-date information. This eliminates redundancies, reduces errors, and accelerates workflows.

ENABLE STREAMLINED COLLABORATION ACROSSTEAMS AND PARTNERS

By integrating with ERP, MES, and supply chain systems, modern PLM fosters real-time collaboration, aligning departments and suppliers. This seamless orchestration empowers businesses to adapt quickly to market shifts and supplier changes.

ENHANCE SUPPLY CHAIN AGILITY WITH ADVANCED TOOLS

The unpredictability of material availability, regulatory requirements, and customer preferences makes agility a critical factor. Advanced PLM tools improve supply chain flexibility by enabling rapid response to changes. Features like BOM management and automated change management streamline supply chain operations and support proactive actions.

**Explore the Infographic:
Resilient supply chains work better** ❯

For instance, if a component becomes unavailable, PLM systems can identify alternatives, update configurations, and notify stakeholders in real time, minimizing delays. By providing end-to-end visibility and seamless integration with ERP and MES systems, these tools ensure proactive decision-making, reduced downtime, and consistent product quality—keeping your supply chain resilient and competitive.

SSP

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WHAT STEPS CAN WE TAKE
TO MINIMIZE INEFFICIENCIES AND HARNESS RELIABLE DATA TO ACCELERATE INNOVATION AT THE PACE E&HT DEMANDS?

Inefficient processes and unreliable data impact decision-making and innovation. Teams sink time and resources into validating information, which results in missed opportunities to optimize performance and respond proactively to market demands.

> Engineers spend (on average) 68% of their time on searching, configuring, and recreating new components.

68%
(Cadenas survey, 2022)

Teams can co-develop and refine designs in real time, reducing errors and accelerating the launch of new innovations. For example, a virtual design review via a PLM platform can resolve issues early, saving time and resources.

Your teams should spend their time and expertise using data, not looking for it or verifying its accuracy.

A MODERN PLM APPROACH REBUILDS TRUST AND ELIMINATES INEFFICIENCIES BY PROVIDING TOOLS THAT REINFORCE DATA ACCURACY, AGILITY, AND INNOVATION READINESS:
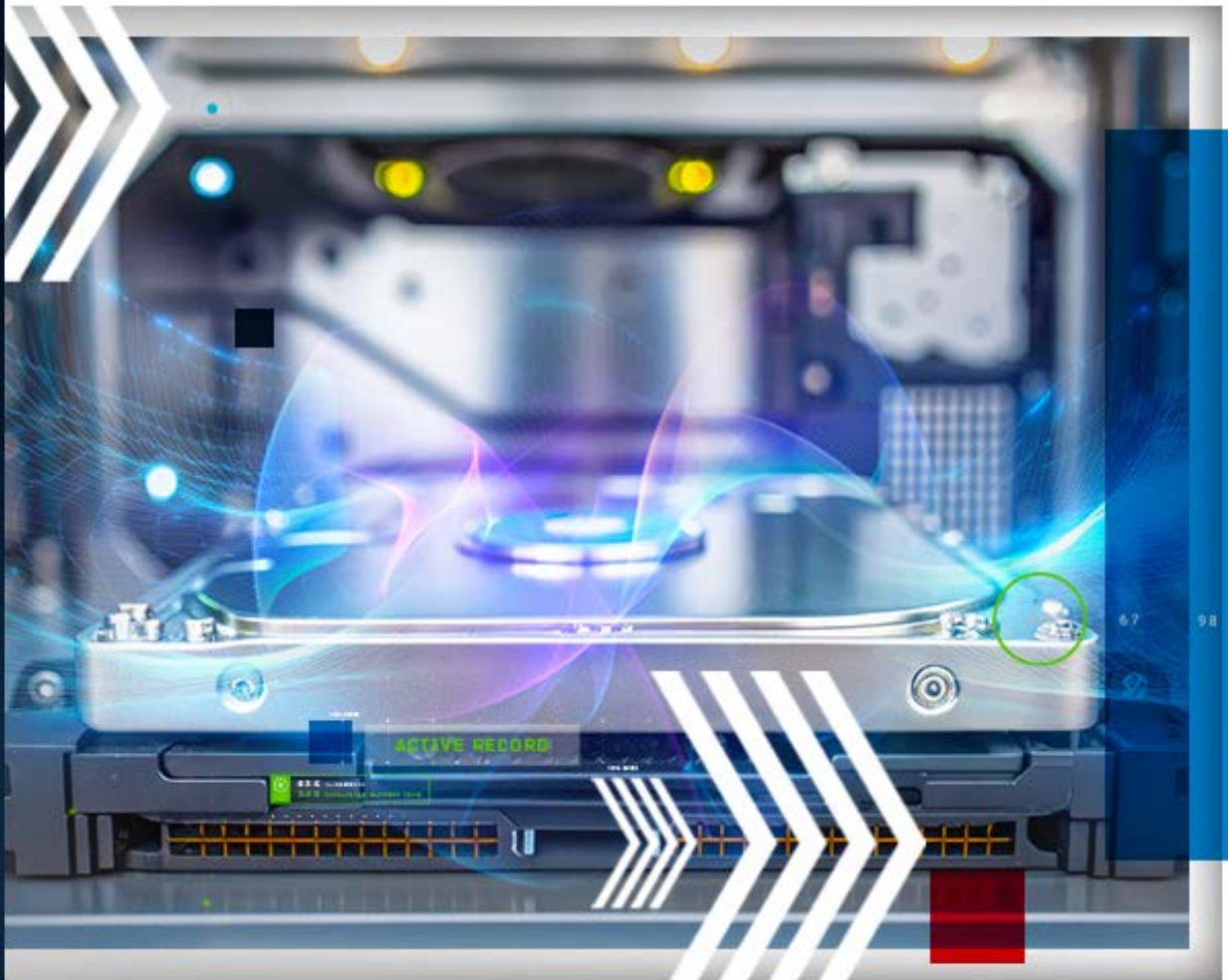
RELIABLE AND SYNCHRONIZED DATA FOUNDATION

A major source of inefficiency lies in data silos created by legacy systems or decentralized workflows. These barriers lead to duplication, errors, and miscommunication. Modern PLM systems provide a centralized platform that consolidates all product-related data, ensuring accuracy and consistency across departments. This unified data source eliminates redundancies, accelerates decision-making, and aligns cross-functional teams around a reliable data source.

REAL-TIME VISIBILITY AND AGILE DEVELOPMENT

Innovation in E&HT thrives on timely, context-rich insights, particularly in product design and supply chain management. Advanced PLM solutions enable real-time data collection and analysis, offering instant visibility into project statuses, supplier activities, and potential bottlenecks. With tools like automated reporting and dashboards, stakeholders can monitor progress, anticipate challenges, and respond swiftly to changes, significantly reducing inefficiencies and avoiding costly delays.

FOCUS ON INNOVATION

Fragmented workflows and lack of communication between teams stifle creativity and slow down product development. PLM systems integrate seamlessly with design, manufacturing, and supply chain tools, facilitating collaboration from the ideation stage to product delivery.

WHAT INITIATIVES DO WE NEED TO IMPLEMENT TO ENSURE SEAMLESS COMPLIANCE WITH INDUSTRY STANDARDS WHILE PROTECTING INTELLECTUAL PROPERTY?

High-tech products are often subject to strict compliance requirements, especially in highly regulated sectors like **automotive**, **aerospace and defense**, and **MedTech**. Environmental regulations, like **Digital Product Passport** and PFAs, now require specific reporting compliance. Failure to meet these standards not only risks financial penalties but can also damage relationships with key customers.

Equally important is protecting critical IP in this competitive space.

Outdated systems often lack the flexibility and reliability needed to tackle these priorities effectively. Modern PLM solutions provide a future-ready infrastructure that supports compliance and secures IP.

3 WAYS MODERN PLM SUPPORTS TODAY'S BUSINESS ENVIRONMENT

REGULATORY COMPLIANCE WITH TRACEABILITY AND SECURITY

Modern PLM tracks and manages regulatory requirements throughout the lifecycle, providing traceability and reducing audit risks. Robust security features, such as access controls and data encryption, safeguard intellectual property in global supply chains. Integration between **application lifecycle management** (ALM) and PLM solutions allows software engineers to leverage requirements, systems engineering, and test cases to ensure functional safety and compliance.

INTELLECTUAL PROPERTY PROTECTION

Protecting sensitive designs and data is non-negotiable. Modern PLM solutions include robust security features, such as access controls and data encryption, to safeguard intellectual property against threats within a globally connected supply chain.

REAL-TIME VISIBILITY

With centralized and up-to-date information, modern PLM ensures that teams have the insight they need to address compliance requirements proactively. This eliminates the risk of last-minute adjustments and reduces noncompliance issues.

Read the Case Study:
See how HP Uses PLM to Minimize Complexity and Reduce Costs ❯

HOW CAN WE STRENGTHEN
OUR DATA INFRASTRUCTURE TO FULLY LEVERAGE AI-DRIVEN INSIGHTS AND REMAIN COMPETITIVE IN E&HT'S DYNAMIC LANDSCAPE?

While **AI use cases** are still being explored, many organizations are already seeing results with predictive analytics, process automation, and smarter decision-making. Regardless of use case, AI's effectiveness depends entirely on the quality of the data it relies on. Without a trusted, structured, and accessible data foundation, even the most advanced AI tools can fall short.

Organizations face hurdles when adopting AI due to fragmented or unreliable product data. Disconnected systems, outdated infrastructure, and inconsistent data formats create significant barriers to achieving AI-driven innovation, leaving businesses struggling to remain agile in a fast-evolving marketplace.

DATA STRUCTURE AND INTEGRITY

Modern PLM solutions empower organizations to leverage the full potential of AI by providing the infrastructure needed for reliable, high-quality data management. By organizing and standardizing product data, teams can activate AI agents and applications that support their roles.

REAL-TIME DATA ACCESSIBILITY

AI systems thrive on up-to-date inputs, and with centralized data, your organization can generate insights faster and adapt to changes seamlessly. Modern PLM can orchestrate multi-system data, enabling teams to feel confident in their data and the AI's output.

AI-ENABLED INNOVATION

By integrating AI capabilities with PLM, companies can automate complex tasks, forecast trends, and identify opportunities for improvement. For instance, AI can analyze past projects to recommend reusable components, identify inefficiencies, or optimize designs for cost and performance.

MAKING THE CASE FOR PLM MODERNIZATION

For E&HT companies, implementing a modern PLM strategy is no longer a choice but a necessity. It's likely that legacy systems and fragmented processes are not just barriers to efficiency; they limit innovation, slow responsiveness, and create risks in a rapidly evolving, digital-first economy.

Organizations that fail to upgrade their PLM solutions will face an uphill battle. Disconnected tools lead to unreliable data, inefficiencies, and missed opportunities. As supply chains grow more complex and regulatory demands intensify, maintaining status quo in product lifecycle management will impact competitive positioning and market relevance.

The future belongs to companies that can adapt quickly and operate with precision. Upgrading your PLM system does not just future-proof your business—it sets the stage for continuous innovation, agility, and growth.

ACCESS POINT

THE PTC DIFFERENCE

PTC's **leadership in PLM** is driven by innovation, open architecture, and seamless system integration. With **PTC Windchill**, companies unify product data across multi-CAD environments, ERP/MES systems, and supply chain tools, creating connected workflows that enhance collaboration and decision-making.

INTEGRATION-FIRST APPROACH

PTC's open architecture ensures easy integration with existing tools, reducing disruption and maximizing efficiency. By orchestrating product data across systems, Windchill delivers real-time insights and streamlines operations.

COMPREHENSIVE LIFECYCLE MANAGEMENT

Through powerful PLM-ALM integration, PTC aligns hardware and software development processes, ensuring traceability, regulatory compliance, and quicker product innovations. This connected approach eliminates silos and accelerates time to market.

PROVEN INDUSTRY LEADERSHIP

Recognized as the **leader in PLM** by multiple analyst rankings, PTC offers scalable, secure solutions designed to support AI-driven technologies and **digital transformation**. Our industry expertise and **partner network** has supported thousands of PLM-enabled transformations.

With PTC, you invest in solutions that prioritize collaboration, innovation, and operational agility, setting your organization apart in an increasingly digital world.

Reach out to our electronic and high-tech solutions experts for a free value assessment.

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