

Fuelling Growth and Powering Continuous Innovation with a Unified Digital Backbone

How United Imaging achieved full lifecycle traceability and visibility for complex medical devices with an integrated ALM - PLM platform



United Imaging (UIH) is a global leader in advanced medical imaging and radiotherapy equipment, known for delivering high performance technologies across modalities such as MRI, CT, PET CT and digital X ray.

With a rapidly expanding international footprint and a commitment to making cutting edge healthcare accessible worldwide, the company has grown into a major force in the medical device industry. Its portfolio spans the full imaging lifecycle from research and development to manufacturing, service and post market support, requiring rigorous quality management and seamless coordination across global teams.

Years of growth, expanding regulatory obligations, and rising product complexity had pushed its legacy systems to the limit. As the company prepared for accelerated global expansion, management recognized the need for a unified digital backbone that could support the innovation, scale, complexity and regulatory expectations of a modern medical technology leader.

Challenges: Silos, Compliance Pressure, Limited Traceability

UIH had relied on legacy PLM and ERP systems for nearly a decade, but these tools could no longer support the company's evolving needs. The organization faced mounting global compliance pressure, severe data silos across R&D, manufacturing and service, and inefficient cross functional collaboration.

The lack of end to end traceability from early design decisions to post market feedback made continuous improvement difficult and increased operational risk. Early design decisions, verification activities, manufacturing execution, service insights and post market feedback all lived in disconnected systems or departmental silos.

Without a continuous thread linking requirements to design outputs, test evidence, quality events and field performance, the organization found it difficult to drive systematic improvement or confidently demonstrate compliance. This fragmentation increased operational risk, slowed decision making, and hindered UIH's ability to respond quickly to global regulatory expectations. It also made it challenging to understand the downstream impact of changes across the product lifecycle.

"Our systems weren't broken, but they were holding us back," said Hu Wei, Operation Executive VP of UIH. "We couldn't meet global expectations with fragmented data and disconnected processes. We needed a foundation that could keep pace with our ambition and give every team the confidence that they were working from the same source of truth."

Solution: An Integrated ALM and PLM Platform to Unify the Enterprise

To address these challenges, UIH implemented an integrated Application Lifecycle Management (ALM) and Product Lifecycle Management (PLM) architecture built on PTC Windchill and PTC Codebeamer. This combined platform created a single source of truth for product data, digitized and standardized R&D and compliance processes, and connected teams across the entire value chain.

Windchill serves as UIH's enterprise backbone for product data, configuration, change, quality and lifecycle management, giving every team access to a single, authoritative source of truth. By centralizing drawings, specifications, documents, and multiview BOMs, Windchill eliminates inconsistencies and ensures that engineering, manufacturing, supply chain and service teams are always working from accurate, controlled information.



Its standardized, fully digitized change management process, spanning document change notice (DCN) through engineering change order (ECO) closure, provides complete traceability and accelerates cross functional decision making. With integrated quality workflows, version control, audit history, and seamless synchronization with ERP and MES, Windchill enables UIH to manage complex medical device lifecycles with precision and regulatory confidence.

Likewise, Codebeamer complements Windchill by managing the upstream elements of product development, including requirements, risk, testing, and regulatory traceability within a single, structured environment. It connects high level requirements to design outputs, verification evidence and risk controls, ensuring that UIH can demonstrate complete compliance with domestic and international medical device regulations.

By digitizing requirements and test management, Codebeamer reduces manual effort, strengthens consistency, and provides a clear, auditable thread from concept through verification.

"Windchill finally gave us the clarity and control we needed to manage products the way a global medical device company must," added Quan Bing, Head of PLM of UIH. "And Codebeamer brought discipline and structure to the front end of development, giving us traceability we simply couldn't achieve before."

Results: Compliance Ready, Efficient, and Fully Traceable

UIH's integrated ALM and PLM platform delivered a step change in operational performance, giving the organization regulatory ready and audit ready product development for the first time. By unifying



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Quan Bing, Head of PLM, United Imaging

product data, digitizing engineering change workflows and standardizing compliance documentation, the company significantly improved R&D efficiency and reduced manual effort across teams.

The shift to centralized, version controlled product information eliminated inconsistencies and reduced the risk of errors that previously slowed development.

"The new environment provided us with improved R&D efficiency and quality and strengthened the accuracy and authority of our product data across the enterprise," said Quan Bing. "For the first time, we could see requirements, design, testing, quality and manufacturing data all connected. It's changed how we work and how fast we can move."

The platform also delivered measurable gains in collaboration and lifecycle visibility. With full traceability from requirements through design, testing, manufacturing, service and post market feedback, UIH established the continuous improvement loop it had long been missing. Real time integration across PLM, ERP, MES and service systems created a seamless flow of cost, quality, and execution data, enabling faster, more informed decision making. The company now benefits from significantly better cross functional collaboration and a scalable digital foundation that supports global expansion and ongoing innovation.

"We didn't just digitize processes. We elevated the way we develop products, manage risk, and collaborate across the company," Quan Bing added.

Looking Ahead: A Platform for Continuous Innovation

UIH now has the digital infrastructure to support ongoing innovation, global expansion and continuous product optimization. With real time visibility across design, manufacturing, quality and service, the company is positioned to accelerate development cycles and respond quickly to evolving regulatory and market demands.

"This is just the beginning. With a unified digital backbone, we can innovate faster, scale smarter, and deliver better outcomes for customers worldwide," concluded Wang Yufeng, Head of Enterprise Information Technology & Security Management of UIH.

Benefits

- **Unified Digital Backbone** - Integrated ALM and PLM platform creates a single source of truth across the entire product lifecycle.
- **End to End Traceability** - Continuous thread from requirements through design, testing, manufacturing, service and post market feedback.
- **Stronger Regulatory & Audit Readiness** - Structured, connected documentation enables confident compliance with global medical device regulations.
- **Improved R&D Efficiency** - Digitized workflows, reduced manual effort and faster iteration accelerate development cycles.
- **Higher Data Accuracy & Control** - Centralized, version controlled product information eliminates inconsistencies and reduces risk of errors.
- **Standardized Change & Quality Processes** - Fully digitized DCN to ECO workflows and integrated quality management strengthen lifecycle governance.
- **Enhanced Cross Functional Collaboration** - Shared visibility across R&D, manufacturing, supply chain, quality and service improves alignment and speed.
- **Real Time Enterprise Integration** - Seamless data flow across PLM, ERP, MES, and service systems supports informed, timely decision making.
- **Structured Requirements, Risk & Test Management** - Codebeamer brings discipline to upstream development with auditable links between requirements, risks and verification.
- **Scalable Foundation for Global Growth** - Modern digital infrastructure supports innovation, expansion and continuous improvement across international operations.

Customer Overview | United Imaging

Industry	MedTech
Employees	8,000+
Revenue	CNY 10.30 billion (approx. \$1.51B)
Headquarters	Shanghai, China
PTC Products	Windchill, Codebeamer
Website	www.united-imaging.com