Powering Global Innovation Through One Connected Backbone

How Girbau unified its product development for faster, smarter, more sustainable engineering with PTC Creo and Windchill

Girbau is a global leader in professional laundry solutions, serving customers across Europe, the United States, China and beyond. Headquartered in Vic, Barcelona, and with origins dating back to 1920, Girbau has been manufacturing industrial laundry machinery since 1960, the company has grown into one of the world's leading providers of washers, dryers, ironers, folders and fully integrated laundry systems, serving sectors from hospitality and healthcare to large scale industrial laundries.

With production centres in Spain, France, United States and China, and subsidiaries in more than 15 countries, Girbau combines durable engineering with a strong focus on efficiency, sustainability, product quality and services.

Challenge: Rising Complexity and Fragmented Environments

As its product portfolio expanded, so did the complexity of designing and manufacturing highly configurable machines, each with more than one hundred SKUs and multiple heating, electrical and market specific variants. Managing this complexity while accelerating innovation became essential to maintaining Girbau's competitive edge.

"We design products for every corner of the world, and that means a huge number of configurations," said Sergi Fabregó, R&D Global Processes Manager at Girbau S.A. "To stay competitive, we needed a way to manage that complexity efficiently and ensure every team was working from the same information."

Before modernizing its engineering environment, Girbau relied on multiple disconnected design tools and isolated data repositories across its global R&D teams. Mechanical and electrical engineers worked sequentially, often discovering interferences only after building physical prototypes. This added months to development cycles, since each prototype iteration could take two to three months to build and validate.

"Previously, the electrical design was only finalized after the first physical prototype," Fabregó explained. "If something didn't fit, we needed more iterations. That could easily add four or five months to a project."

Manufacturing engineers typically became involved late in the process, which meant design issues were often discovered on the shop floor, leading to scrap, rework and delays. As Girbau expanded into new factories in China and the United States, each site required its own manufacturing bill of materials and its own adaptations for local suppliers and materials.

"We could have more than a hundred SKUs for a single machine," Fabregó said. "The manual effort to maintain all those variants was enormous."

Sustainability expectations were also rising. Girbau wanted to reduce raw material usage, optimize water and energy consumption, and prepare for emerging regulations such as digital product passports. But sustainability calculations required merging PLM data, ERP data and external material databases manually.

"We want to create a positive impact for people and the planet," Fabregó said. "But the sustainability processes were very manual. We needed a better foundation."

Solution: A Unified Digital Backbone for Global Engineering

Girbau selected PTC to establish a single, reliable source of product truth that could replace the fragmented, inconsistent data scattered across its legacy systems. Building on its engineering transformation strategy, Girbau partnered with PDSVISION to shape a more connected and scalable product development environment, anchored by an integrated Creo-to-Windchill backbone.

Engineering leaders had described long standing challenges with version control, duplicated information and manual processes that slowed development and introduced risk. PTC stood out for offering a mature, enterprise grade PLM platform that could manage complex product structures, engineering changes and documentation with far greater discipline. With proven stability, scalability and a strong track record in industrial manufacturing, PTC gave Girbau the confidence that the platform would support its global operations and modernize its engineering processes for the long term.

With the help of PDSVISION, Girbau consolidated all product data, CAD models, configuration rules and change processes into a single digital environment built on Windchill and Creo. This enabled the company to adopt top down design, skeleton modeling, variant driven product structures, and integrated workflows across all global sites.

"With a single source of truth, every engineer can work in real time with the same information," Fabregó said. "Mechanical, electrical and manufacturing teams can collaborate from the very beginning instead of waiting for each other."

The company now designs all machine variants within a single configurable structure, dramatically reducing manual effort and ensuring global consistency. Model checking and automated QA validation enforce design rules before data enters the PLM system.

Manufacturing engineers use the same environment to create plant specific manufacturing BOMs, ensuring alignment between design intent and production requirements in Spain, China, the US and France.

> **"By unifying our global engineering, we've improved efficiency, enabled more optimized designs and smarter products — reducing material usage, lowering water consumption, improving drying cycle performance, and strengthening our capabilities for lifecycle assessment."**
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> **Sergi Fabregó, R&D Global Processes Manager, Girbau S.A.**

"We finally have a robust methodology for change management," Fabregó noted. "Issues are raised centrally, analyzed for impact and executed through structured workflows. It gives us confidence that every step is completed before a change reaches production."

Benefits: Faster Development, Higher Quality, Bigger Sustainability Gains

Girbau has achieved measurable improvements across speed, quality, collaboration, and sustainability. By managing all product variants within a modular, rules driven structure, the company has reduced the manual effort of maintaining configurations and cut the time required to manage product complexity by an estimated 50 percent.

"When we design a new product, we design all configurations at once," Fabregó said. "It has reduced the total time to launch and made us much more efficient in managing complexity."

Parallel mechanical and electrical design have eliminated the sequential delays that previously added months to development. The first prototype now assembles correctly, with only minor adjustments required.

"When we release the first prototype, everything fits," Fabregó explained. "Before, we would have needed several more iterations. Now we avoid four or five months of extra work. By unifying our global engineering, we've improved efficiency, enabled more optimized designs and smarter products — reducing material usage, lowering water consumption, improving drying cycle performance, and strengthening our capabilities for lifecycle assessment."

Quality has also improved. Girbau reports a 5-10 percent improvement in its internal "right first time" metric, supported by unified data, model checking, and automated validation of promotions.

Simulation has delivered significant sustainability gains. Finite element analysis on the company's new washer range enabled Girbau to reduce raw material usage by 13 percent compared to the previous generation. Water consumption is optimized, reducing water use per kg of laundry by 8%, while more efficient water extraction enables up to a 20% reduction in the drying cycle. These are critical gains as 95 percent of a dryer's lifecycle carbon footprint comes from the use phase.

"If we reduce the drying cycle by 20 percent, we reduce the carbon footprint by roughly the same amount," Fabregó said. "It's a huge impact for our customers."

Integration with ERP systems has eliminated manual creation of BOMs and material records, saving approximately 20 percent of R&D's time and ensuring data consistency across the enterprise.

"Everyone sees the same information at the same time," Fabregó said. "It has completely reduced the manual work we used to do. Windchill and Creo have reshaped the way we design and build products. They've given us a single digital backbone that connects every discipline, every site and every decision, accelerating innovation and elevating the quality of everything we deliver."

Looking Ahead: A Future Ready Foundation

Girbau is preparing for the next phase of its digital transformation, including model based definition, expanded simulation capabilities, integrated process planning and shop floor visualization. The company is also updating its product database with engineering materials to support automated sustainability assessments and future digital product passport requirements.

"We are building the foundation for the next generation of sustainability reporting," Fabregó said.

PDSVISION

Partner Spotlight

PDSVISION is a specialist PTC solutions partner, providing deep expertise in CAD and PLM selection, configuration and deployment. With a strong international presence and deep technical expertise, PDSVISION delivers tailored, end to end digital engineering solutions that help organizations master complexity, accelerate innovation and unlock value across the entire product lifecycle.

www.pdsvision.com

"Having material information directly in the bill of materials will make lifecycle analysis much easier."

Artificial intelligence is another strategic focus. Girbau plans to adopt AI enabled guidance in CAD and PLM to accelerate onboarding, improve design quality and support decision making across the enterprise.

"We don't want AI to replace people," Fabregó emphasized. "We want it to help us do more, faster and better."

The company is also exploring process plans and work instructions within the PLM environment, along with a pilot of Windchill Navigate for shop floor access to evaluate how role based, simplified access to live PLM data can reduce errors, improve build consistency, and further close the gap between engineering and production.

"Our goal is to manage everything in one system from design to manufacturing to sustainability," Fabregó said. "We know we're moving in the right direction, and we're excited for what comes next."

Customer Overview | Girbau

Industry	Industrial laundry manufacturing equipment
Employees	900+
Revenue	$177M+
PTC Products	Creo, Windchill
Website	www.girbau.com

Benefits

- **50% reduction in complexity management effort** - Modular, rules driven product structures cut the manual work of maintaining hundreds of SKUs by half.
- **4-5 months faster development cycles** - Parallel mechanical and electrical design eliminated sequential delays and removed multiple prototype iterations.
- **First time prototype accuracy** -The first prototype now assembles correctly with only minor adjustments, replacing months of rework.
- **5-10% improvement in "right first time" quality** - Unified data, model checking and automated validation drive measurable gains in engineering discipline.
- **20% R&D time savings through ERP integration** - Automated BOM and material record creation removed manual data entry and ensures enterprise wide consistency.
- **13% reduction in raw material usage** - Simulation driven optimization on the new washer range significantly lowered material consumption.
- **8% reduction in water consumption per kg of laundry** - Improved water extraction and design optimization delivered measurable sustainability improvements.
- **Up to 20% shorter drying cycle** - Major efficiency gains reduce energy, significantly lowering lifecycle carbon footprint of dryers in the use phase.
- **Global design to manufacturing alignment** Plant specific MBOMs created directly in PLM reduce scrap, rework and late stage shop floor issues across Spain, France, China and the US.
- **Real time collaboration across all engineering disciplines** A single source of truth enables mechanical, electrical and manufacturing teams to work concurrently from day one, improving speed, accuracy and decision making.