MODULAR PRECISION:
HOW ERWIN QUARDER AND ROBOTUNITS ENGINEERED A GLOBAL AUTOMATION STANDARD

SCALING PRECISION IN A GLOBAL MANUFACTURING LANDSCAPE

Erwin Quarder (EQ) is growing fast. With global operations extending from Germany to the United States, Mexico, the Czech Republic, and China, the company produces small and medium-sized components that require extreme precision, repeatability, and reliability. Its U.S. facility in Grand Rapids, MI—now expanding from 70,000 square feet to more than 130,000—is the center of its automation-driven growth strategy.

EQ's leadership understands that maintaining global competitiveness requires more than high-performance molding machines. It requires standardized automation ecosystems that run lean, reduce human error, and remain stable for years across multiple continents. That search for stability led to one conclusion: a modular engineering framework built on Robotunits.

Automation Manager Waldemar Boldt summarizes the philosophy simply: "If you're quality-focused, you can achieve things others can't. Robotunits helps us stay in that mindset every day."

ORIGINS OF A PARTNERSHIP: THE NEED FOR STRUCTURAL PRECISION

Before 2017, EQ worked with standard mesh guardings. These quickly became inconsistent—dust-collecting, visually aging, and insufficiently rigid for high-precision automation. As EQ pushed toward fully integrated stamping, over-molding, and electrical testing, small structural deficiencies created large production risks.

Boldt recalls the turning point: "We had guardings catching dust and spider webs. They didn't reflect the precision of the machines we were building. We needed something more rigid, longer-lasting and cleaner looking."

This realization triggered a cooperative engineering effort between EQ and Robotunits. Instead of purchasing off-the-shelf guarding, EQ worked directly with Robotunits to develop a new standardized guarding concept—one that mirrored the precision and durability the company demanded from its automation.

The resulting system integrated washable lower panels, upper polycarbonate windows, enclosed T-slot covers, and modular profile geometry that delivered both clean aesthetics and structural rigidity. Within months, the new guarding design became EQ's internal standard. Seven years later, those same guardings still appear brand-new.

"Even after running daily seven or eight years later, they look like day one," Boldt emphasizes.

ENGINEERING THE ENVIRONMENT: CLEANLINESS, RIGIDITY, AND TECHNICIAN BEHAVIOR

Automation reliability is not only mechanical—it is behavioral. EQ discovered that technician performance changed dramatically when working on equipment that looked premium and structured.

Boldt explains the psychology clearly: "If you're working on a machine that looks like a Ferrari, you're more careful. You don't leave rags on it, you don't slip a screwdriver. The equipment sets the tone for how people treat it."

Robotunits' enclosed panel system had a measurable impact:

- Less noise accumulation across entire rows of automated lines
- Higher technician attention to cleanliness
- More consistent machine checks and maintenance
- Fewer accidental errors caused by disorganization or visual clutter

Boldt details the difference:
"High end automated lines that look cleaner get better treatment from technicians. The numbers back that up. We see better efficiency when the equipment feels high-end."

The aesthetic becomes functional—and in manufacturing, function drives competitiveness.

TECHNICAL BENEFITS: MODULARITY, CAD PRECISION, AND ENGINEERING EFFICIENCY

Robotunits' modular architecture aligns seemlessly with EQ's engineering workflow. Every system begins with a rough layout—sometimes nothing more than simple rectangular sketches. From that starting point, Robotunits engineers convert concepts into full models within days.

"I send a rough idea—sometimes literally a few squares—and the engineer knows exactly what I need," Boldt says.

"There's almost no explanation required. A week or two later, I have a complete model ready for review."

This engineer-to-engineer communication eliminates the friction common in traditional industrial hardware sourcing:

- No sales middlemen
- No redundant communication loops
- No lost context between quoting and design
- No slowdowns from non-technical interpretation

Robotunits' system also provides technical clarity through:

- Consistent CAD libraries
- Transparent pricing
- Identical profile standards across locations
- Precisely manufactured components with no burrs or chips

Boldt notes the difference in process quality: "Products come in clean. I never see chips or burrs. Robotunits has a stable internal process—and that shows in every shipment."

ASSEMBLY & DEPLOYMENT: PRECISION THAT SCALES WORLDWIDE

Robotunits' modular kits are engineered for fast, intuitive assembly. Components arrive labeled, drawings are comprehensive, and technicians—even those with limited mechanical background—can assemble structures with speed and confidence.

EQ describes the experience as "LEGO-like" or "IKEA-like," but more precise.

Boldt puts it plainly:
"When it arrives, it's like a LEGO set for adults. Everything is labeled. Everything fits. It's awesome."

This modular repeatability is especially critical for EQ's global automation replication. For two recent international programs, EQ built complete automation lines in Michigan, shipped the fully engineered systems to Mexico and the Czech Republic, and had them operational within two weeks and one week respectively.

Global replication is only possible because the system is predictable. When you ship a complete Robotunits-based line overseas, you know it will assemble exactly the same way. This predictability reduces commissioning time, stabilizes quality across continents, and accelerates customer ramp-ups.

RELIABILITY IN MOTION: CONVEYOR AND GUARDING PERFORMANCE OVER TIME

EQ has used Robotunits conveyors at scale for nearly a decade. Across 20–30 conveyors in production, the company has replaced only one belt in eight years—without a single motor failure or conveyor replacement. Boldt is blunt about the significance:

"You get what you pay for. We've never had a conveyor break. Never had a motor go bad. One belt replaced in eight years."

For a high-volume, high-precision environment, that reliability is more than a convenience—it is a strategic lever.

When integrated into fully automated lines, this conveyor performance ensures:

- Minimal downtime
- Stable cycle times
- Predictable maintenance schedules
- Lower long-term operational cost

Robotunits' guardings tell the same story: not a single one has needed replacement, reinforcement, or cosmetic refurbishment since installation.

THE HUMAN FACTOR: SUPPORT, SERVICE, AND RAPID PROBLEM RESOLUTION

Beyond hardware, EQ emphasizes Robotunits' responsiveness and support. When a shipment arrived damaged due to carrier handling, Robotunits replaced the affected material immediately—no negotiation, no delays.

"There's no finger-pointing. We call, and the problem is solved. That's rare today."

Lead times are predictable, quotes are transparent, and rush jobs are often completed ahead of schedule. EQ's engineering team interacts with a single knowledgeable contact who understands their standards and history.

"It feels like an extension of our office. I talk to one engineer, and everything moves fast and clean."

LOOKING FORWARD: EXPANSION, EV GROWTH, AND MODULAR STANDARDIZATION

With its U.S. footprint expanding by 55,000 square feet and global EV demand accelerating, EQ is deepening its commitment to automation, patented hybrid bonding technologies, and in-house system development.

Robotunits remains central to this future. Clean aesthetics, structural rigidity, global standardization, and engineering-friendly workflows position Robotunits as a foundational element of EQ's next generation of automated systems.

Boldt expresses the long-term partnership clearly:

"Robotunits delivers constant quality, year after year. We see them as partners. We are one of their satisfied customers - one hundred percent."

CONCLUSION

Erwin Quarder's competitive advantage is built on precision, process stability, and global repeatability. Robotunits' modular ecosystem—rigid profiles, standardized guarding systems, reliable conveyors, and engineer-direct collaboration—supports EQ's mission at every stage.

Together, both companies have created an automation framework that is not only highly technical and efficient but enduring: systems that look new after seven years, conveyors that run for nearly a decade without failure, and safety structures that technicians treat with care and respect.

In a global manufacturing world driven by efficiency and reliability, EQ and Robotunits demonstrate what's possible when modular engineering and automation excellence align.

To learn more, please visit:
www.robotunits.com

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