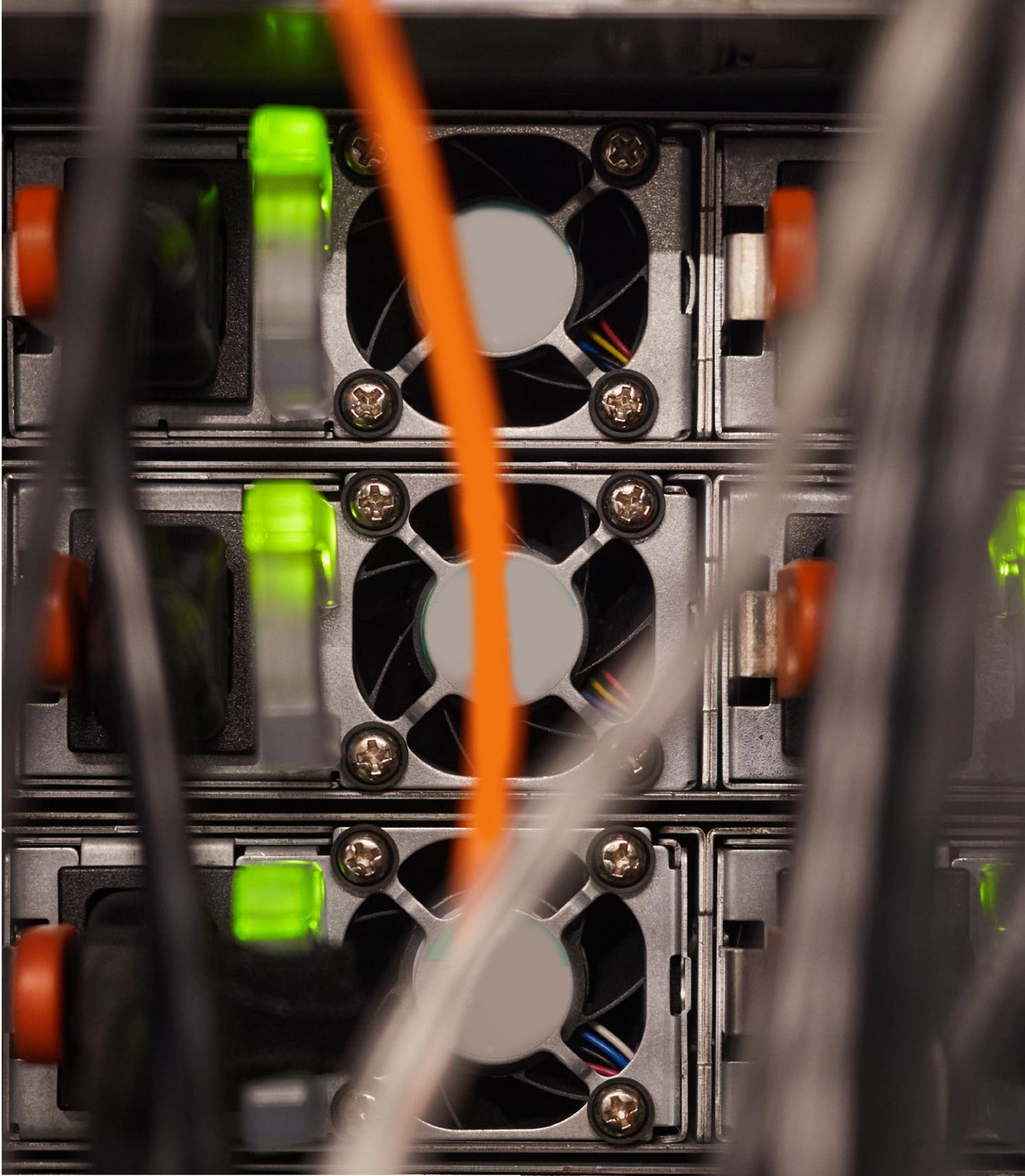




HPC Solutions

Empowering the Future of High-Performance Computing



"Powering breakthroughs with Bossards HPC Solutions."

UNLOCKING INNOVATION WITH BOSSARD

Driving innovation in AI, healthcare, and more through advanced computing.

High-Performance Computing (HPC) powers today's breakthroughs, from AI and deep learning to simulations in healthcare, energy, finance, and manufacturing.

Comprehensive Product Range: From server chassis to cooling systems and PCBs, we provide a full suite of fastening solutions tailored for HPC manufacturing.

Engineering Excellence: We work closely with R&D teams and OEMs to integrate our components at the design stage, ensuring optimized assembly efficiency and performance reliability.

Global Support, Local Expertise: Our presence across Asia, Europe, and the Americas ensures fast delivery, technical support, and strategic insights wherever you manufacture.

Focused on High-Growth Sectors: From autonomous driving to smart healthcare, Bossard fasteners are trusted in the industries reshaping the world.



One-stop shop

- Fasteners for electrical purposes
- Fasteners for mechanical purposes



Professional consulting

- Comprehensive engineering services
- Customer trainings for fastening solutions



Optimal delivery conditions

- We are on the spot with more than 90 subsidiaries worldwide
- Short response and delivery times
- E-Shop for all catalog products



Engineered parts

- In-house engineering know-how
- International network of specialised partner companies



Own test laboratories

- ISO/IEC 17025-accredited test laboratories in 16 countries around the world.
- Comprehensive mechanical, optical, geometric and chemical test methods



Smart Factory Logistics

- B- and C-part management
- IoT ready
- Smart, lean and reliable

SMART SOLUTIONS FOR HIGH PERFORMANCE COMPUTING SECTOR

Applications

Server chassis



Mother board





Cooling solutions



Power supply



SERVER CHASSIS SOLUTIONS

Optimized for structural integrity, thermal management, and ease of maintenance.

HPC servers face immense thermal and mechanical stress due to high-density hardware. Bossard's solutions ensure robust and modular designs that minimize downtime and simplify servicing.



SELF-CLINCHING STANDOFFS & PINS

- Secure threads in thin metal without tapping
- Commonly used for PCB or sub-panel attachment
- High shear strength and clean finish



CAPTIVE PANEL SCREWS

- Tool-free removal and reattachment
- Prevent lost fasteners during servicing
- Ideal for access panels and hot-swap modules



PULL-THROUGH RIVETS & DOUBLE-FLUSH RIVETS

- Lightweight and low-profile fastening
- High vibration resistance
- Suitable for internal brackets or chassis walls



ADHESIVE-BACKED CABLE MOUNTS

- Stick securely to metal or plastic surfaces
- Allow flexible cable routing without drilling
- Ideal for high-density or retrofit assemblies
- Compatible with cable ties for secure bundling



LATCHES

- Provide secure but fast-access panel locking
- Ideal for tool-less servicing of doors, drawers, or covers
- Resistant to vibration and fatigue



HANDLES

- Facilitate safe handling and transportation of server units
- Ergonomic and low-profile designs reduce space interference
- Available in metal and plastic variants for different load needs



COOLING SYSTEM SOLUTIONS

Supporting thermal management critical for HPC performance.

Effective cooling is the backbone of HPC reliability. Bossard's fasteners and components are designed for thermal-critical assemblies, ensuring leak-free, high efficiency operations.



UQD (UNIVERSAL QUICK DISCONNECTORS)

- Spill-free liquid cooling connectors
- Available in standard and blind-mate versions
- Comply with OCP standards



CLAMPS & SPRING PINS

- Stabilize coolant lines
- Reduce vibration and stress on fittings



CAPTIVE PANEL SCREWS FOR HEAT EXCHANGERS

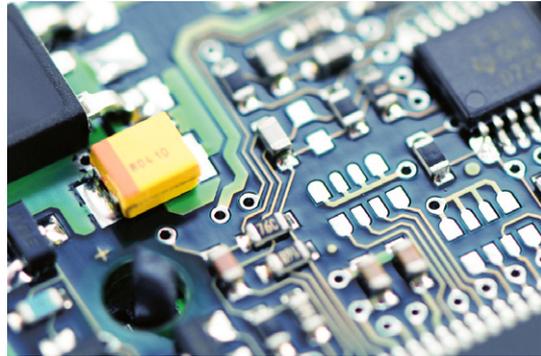
- Enable fast servicing of thermal assemblies
- Maintain reliable thermal contact



MOTHERBOARD SOLUTIONS

Enhancing electrical integrity and mechanical reliability.

The motherboard is the nervous system of HPC systems. Our fastening solutions ensure structural stability, minimize risk of PCB damage, and maintain signal integrity under thermal and mechanical stress.



STAND-OFFS (INTERNAL & EXTERNAL THREADS)

- Support and isolate PCBs from chassis
- Prevent PCB flex and stress



SPRING SCREWS FOR GPU

- Apply consistent, controlled load
- Compensate for thermal expansion



SURFACE MOUNT TECHNOLOGY (SMT) NUTS

- Surface-mount ready for robotic assembly
- Save space and speed up production



COUNTERSUNK TORX SCREWS

- Save vertical space
- Provide secure fastening in dense board layouts



MTCON FASTENERS FOR POWER ELEMENTS

- Secure high-current busbars and terminals
- Maintain reliable contact under stress



POWER DISTRIBUTION UNIT SOLUTIONS

Maintaining stability and organization in high-load environments.

HPC power distribution units (PDUs) handle extreme currents and require robust fastening to maintain reliability.



MTCON FASTENERS FOR POWER ELEMENTS

- Secure high-current busbars and terminals
- Maintain reliable contact under stress



CABLE TIE MOUNTINGS & GLANDS

- Organize internal wiring cleanly
- Reduce risk of overheating or signal interference



CAPTIVE PANEL SCREW / DRIVE SCREW

- Resist loosening from vibration
- Allow tool-free or semi-permanent access



CABLE GLANDS

- Provide strain relief and ingress protection
- Maintain safety in tight spaces



SUCCESS STORY – FACING CHALLENGES

When heat increases on crucial parts

A leading electronics manufacturer faced a persistent challenge in optimizing the liquid cooling systems for their AI servers. These systems are critical to the performance and stability of high-density data environments but are often plagued by leakage issues that threaten uptime and reliability.

The challenge

As AI computing demands increase, so does the heat generated by server systems. Traditional cooling mechanisms struggled to contain and manage these thermal loads effectively. One major issue was recurring leakage in liquid-cooled setups, which caused costly downtime, equipment risk, and reduced confidence in system reliability.

Our Approach

To resolve these pain points, the manufacturer collaborated with a specialized fastening and assembly expert. Leveraging this partner's state-of-the-art laboratory, Bossard conducted extensive testing on hose and barb connections under stringent leakage conditions. Their goal was to identify a solution that would secure the system's integrity without compromising efficiency.

Solution Delivered

After a series of in-depth tests and evaluations, the ideal hose clamer was selected. This component not only improved sealing performance but was integrated into the broader assembly process using smart tooling. These tools ensured precise, repeatable installations and offered digital production data collection for real-time monitoring and quality assurance.

The Results

- **Zero Leakage:** Dramatic reduction in fluid leaks, increasing confidence in long-term system reliability.
- **Adoption by Industry Leaders:** The solution has since been adopted by several top-tier global tech companies, with multiple large-scale orders secured.
- **Smart Manufacturing Benefits:** Customers now benefit from enhanced operational insights through production data analytics, supporting continuous optimization



ASSEMBLY TECHNOLOGY EXPERT SERVICE MODEL

Six Expert Services

Assembly Technology Expert works with six differentiated services. Each part contributes to improving your productivity step by step.



Expert Walk

We take an in-depth look at your production facility. We examine all workstations and assembly lines. Our engineering experts study fasteners and tools you are using and determine how to proceed leaner and smarter.



Expert Assortment Analysis

To reduce your total cost of ownership, we streamline your bill of materials by identifying opportunities for fastener rationalization. We work with proven analytical processes, application audits and state-of-the-art methodologies and techniques.



Expert Education

We empower you to become an expert in the full range of assembly technologies. In our seminars and e-learning, you learn about the essentials and secrets of fastening, from novice level to mastery.



Expert Teardown

We disassemble your product and examine every inch of it. Focusing on the fasteners, their design, their functionality and their assembly procedure, we identify the best fastening solution and the cost-saving potential for you.



Expert Design

Having the right fastener at the right time at the right place is crucial for your success. We provide you with technical solutions and access to big data to find the most practical part for you.



Expert Test Services

Bossard's test laboratories in Europe, America and Asia have cutting-edge measuring and testing equipment at their disposal. They guarantee that your manufacturing reliably meets quality requirements and that your production procedures are flawless.

SMART PROCESSES FOR HIGHER PRODUCTIVITY

Bossard Smart Factory Logistics

With innovative systems and solutions, we bring the Internet of Things to your factory and facilitate machine-to-machine communication. Focus on your core competence while we make your B- and C-parts management leaner and more transparent.



Systems

From the fully automated and flexible SmartBin to the informative SmartLabel with real-time information and to traditional Kanban systems: Your requirements determine our system.



SmartBin Cloud



SmartBin



SmartLabel Cloud



SmartLocker



SmartCard



Conventional Systems



Solutions

Focus on your core competence, knowing that your steady supply is guaranteed. Smart Factory Logistics Solutions are the key to smooth and seamless supply chain performance.



Demand Management



On-time Delivery



Expert Support



ARIMS



Customizable Options



ARIMS

Supply chain collaborative platform: With an easy to use interface, intuitive features and highly intelligent analytics, ARIMS is the operation dashboard of Smart Factory Logistics. Engineered with the latest software technologies, it enables M2M Communication. It is time-tested and a proven technology.



Integration of all suppliers



Coordination of material flow



Streamline supplier base



ARIMS Analytics



Coordination of information flow



Single point of contact

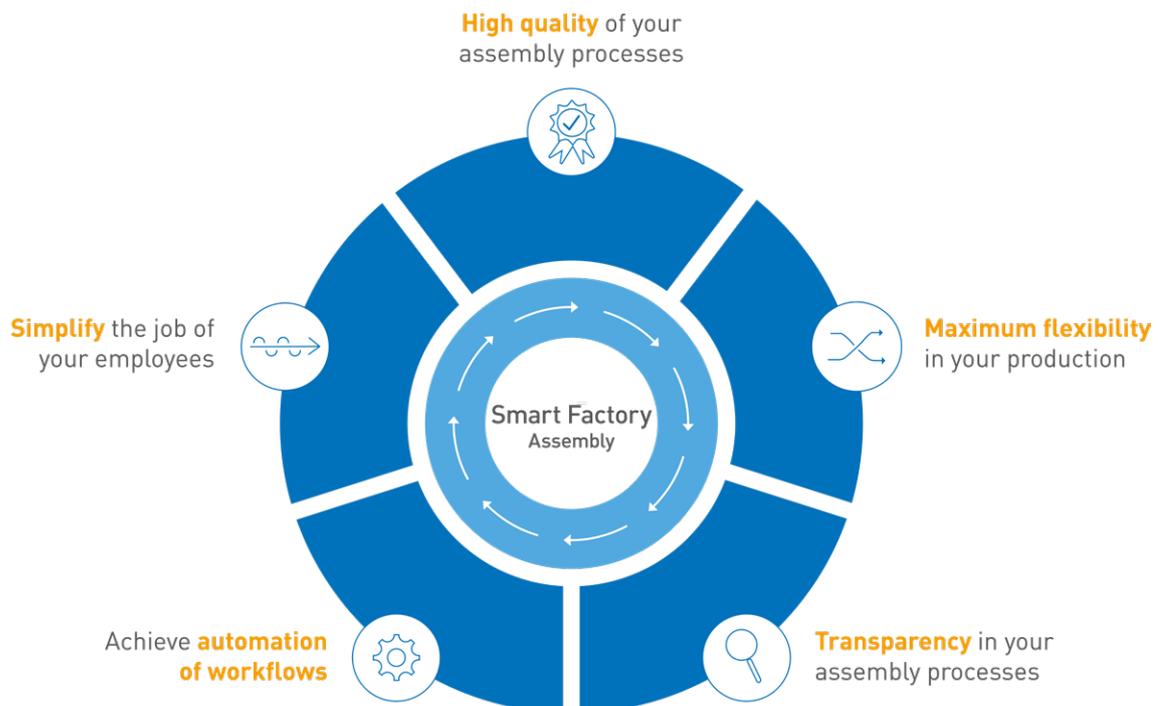
A STRONG RETURN ON YOUR INVESTMENT

Benefits in your assembly

Smart Factory Assembly simplifies the assembly process while increasing productivity. Our comprehensive solution provides digital work instructions, worker guidance and ensures real-time traceability in production to improve product quality.

The core of digital work instructions is the simple breakdown of the assembly process into operational steps. At each step the system intuitively guides the operator through the assembly process. In addition all relevant assembly tools can be connected to the system.

This enables total process security and the resulting data creates transparency in order to identify the potential for optimization and ensure the traceability of production data.



SIMPLIFY THE ASSEMBLY PROCESS

Partner with Bossard to make your assembly process smart and agile



Replace manual and analog tools with automated and smart digital solutions.



Say goodbye to paper and rely on digital instructions to minimize human error, duplicated work and miscommunication.



Make your employee onboarding procedure agile based on best practices and expert guidance.



Turn assembly line complexity and variation into a manageable procedure for all SME employees.



Eliminate manual checklists from the workplace in favor of automated quality control processes.



Provide full transparency and traceability of your assembly operations at all times to remain compliant with industry regulations.



“Smart Factory Assembly is also very well suited for products with a high level of complexity, documented tests, and complete traceability that are produced in large quantities.”

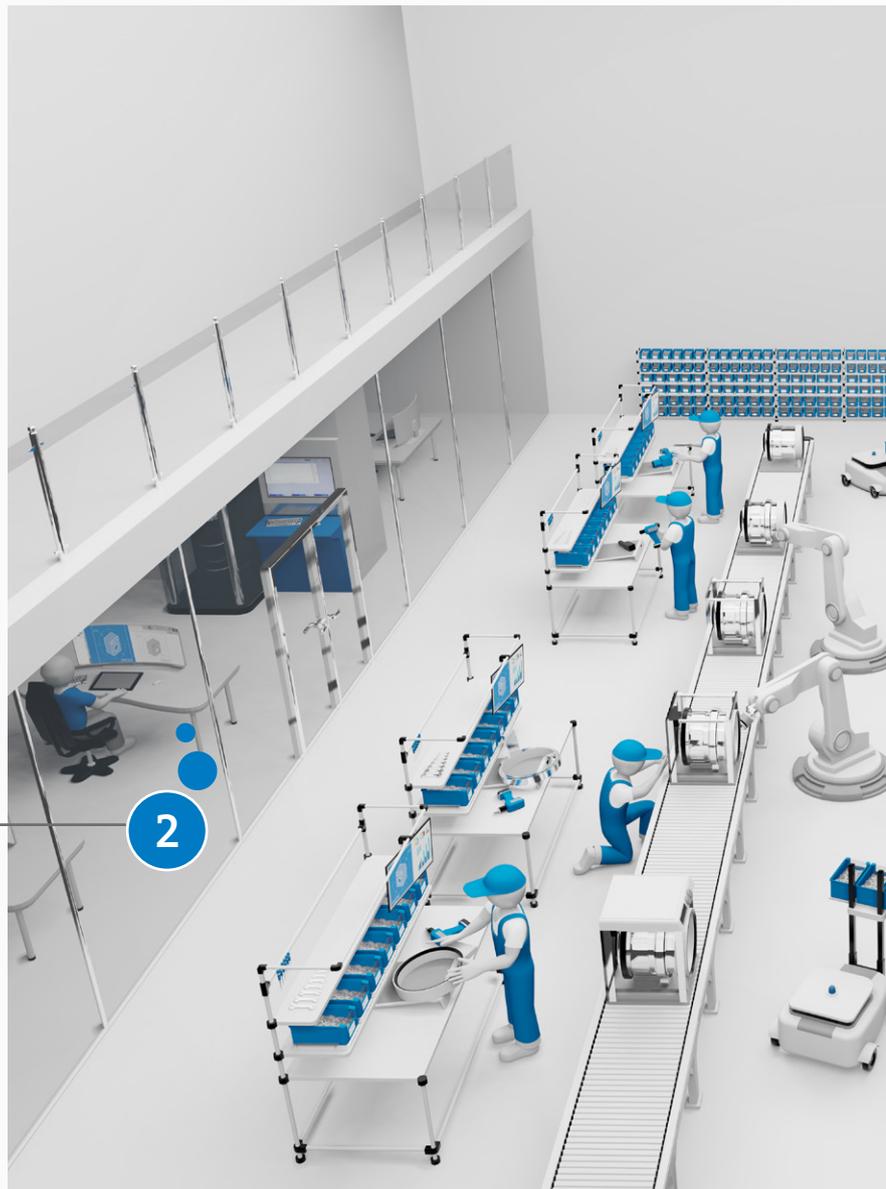
DI Dr. Christian Rabitsch, Managing Director of WILD

CONNECTED AND NETWORKED PRODUCTION

The impact on your ShopFloor

Work Preparation Technical Writer

The central creation and management of digital work instructions enables easy control of all variants and their versioning. This can be conveniently performed from the office, allowing updates and modifications. Additionally, the modular setup facilitates the adoption of complete assemblies or work sequences from existing instructions, streamlining the efficient creation of work instructions.



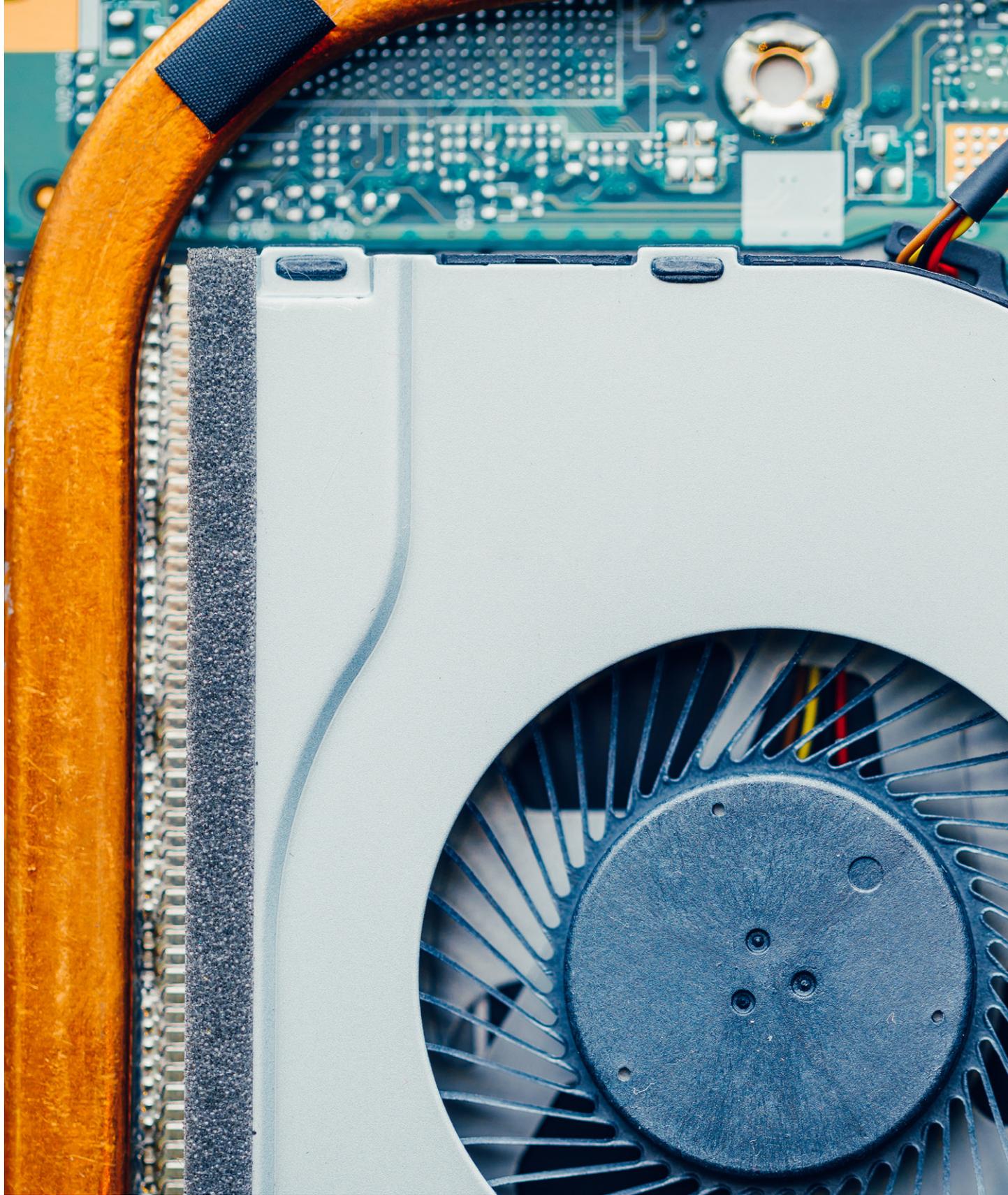
Production Management

All production and quality data is automatically documented and stored in a production lifecycle file. This documentation can be quickly and easily accessed at any time, ensuring seamless traceability.



Shop Floor

The production employee is supported throughout the entire process in order to eliminate as many sources of errors as possible. The work instructions can be specifically adapted to the respective assembly employee with respect to language, level of training and level of detail.



"Closing Gaps. Driving Value.
Accelerating HPC Success."



PROVEN PRODUCTIVITY – A PROMISE TO OUR CUSTOMERS

The strategy for success



From years of cooperation with our customers we know what achieves proven and sustainable impact. We have identified what it takes to strengthen the competitiveness of our customers. Therefore we support our customers in three strategic core areas.

Firstly, when finding optimal **Product Solutions**, that is in the evaluation and use of the best fastening part for the particular function intended in our customers' products.

Second, our **Assembly Technology Expert** services deliver the smartest solutions for all possible fastening challenges. Our services cover from the moment our customers developing a new product, to

assembly process optimization as well as fastening technology education for our customers' employees.

And thirdly, optimising our clients' productions in a smart and lean way with **Smart Factory Logistics**, our methodology, with intelligent logistics systems and tailor-made solutions.

Understood as a promise to our customers, "Proven Productivity" contains two elements: Firstly, that it demonstrably works. And secondly, that it sustainably and measurably improves the productivity and competitiveness of our customers.

And this for us is a philosophy which motivates us every day to always be one step ahead.

www.bossard.com