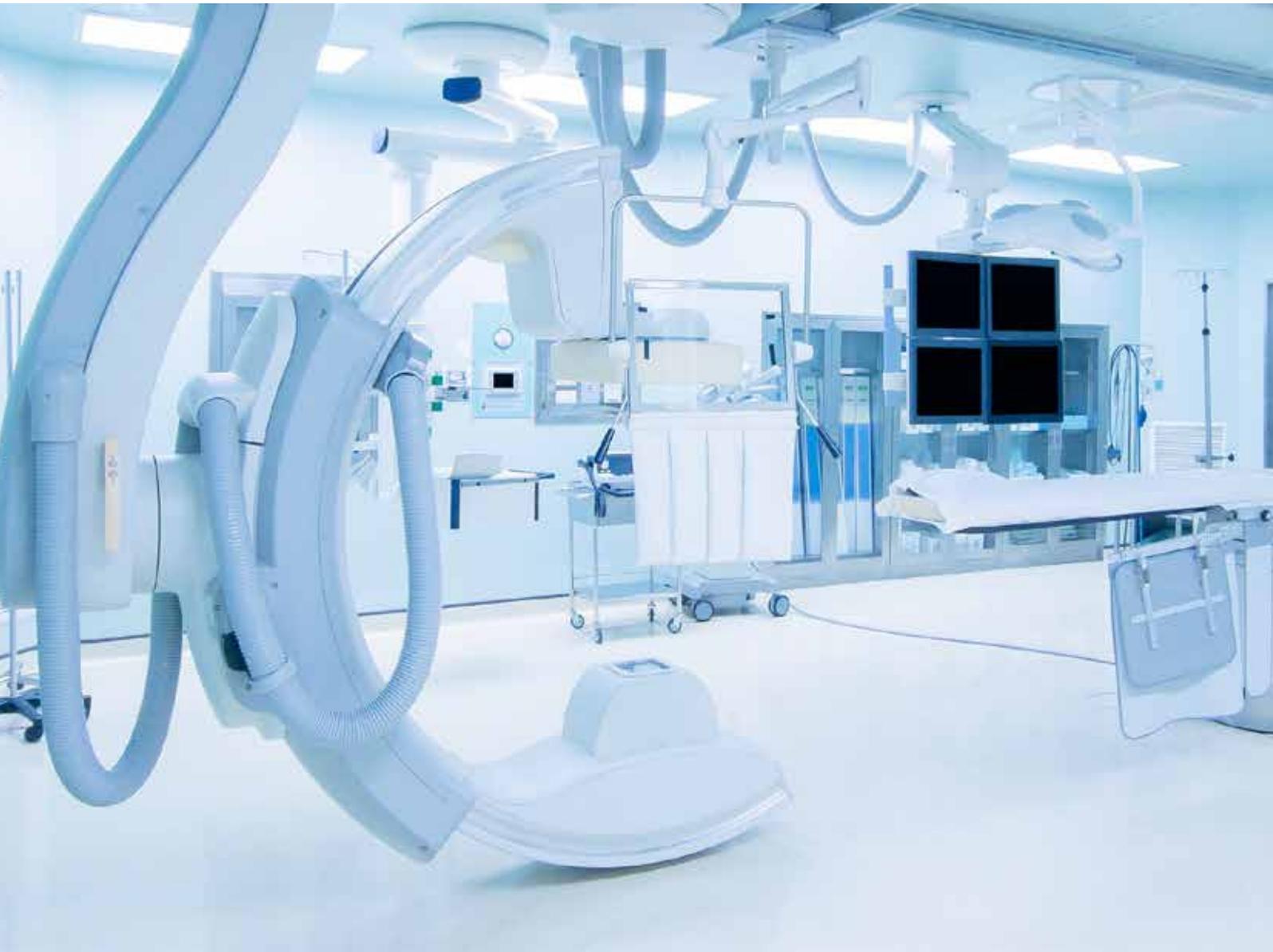


BOSSARD

Proven Productivity



Medical & Life Science

Smart Solutions for the Medical & Life Science Industry



« Fastening solutions for medical & life science applications from A to Z. Bossard is your expert one-stop shop. »



SMART SOLUTIONS FOR THE MEDICAL & LIFE SCIENCE INDUSTRY

Quality and innovation focused

We are the experts for all fastening technologies in medical and life science applications.

In the medical and life science industry, quality assurance and compliance to the ever-changing regulatory requirements are key factors. Constant innovation, product development and designing according to value are critical to stay ahead of competition for Medtech manufacturers. Be it fastening or assembly technologies for medical devices, life science or laboratory equipment:

We help our customers to increase their efficiency and productivity. By strengthening and managing the B- and C parts supply chain complexity with our integrated portfolio of innovative product solutions and services, it allows our customers to place greater strategic investments into other areas to improve the time-to-market, product innovation development and market expansion.



One-stop shop

- Fasteners and assembly components for medical devices, life science and laboratory equipment
- E-Shop for all catalog products
- Short response and delivery times



Engineered parts

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



Assembly Technology Expert

- Comprehensive engineering services
- Customer trainings for fastening solutions



Own testing laboratories

- Several testing laboratories worldwide, some of them accredited according to ISO/IEC 17025
- Comprehensive mechanical, optical, geometric and chemical test methods



Industry-focused quality

- Certification to ISO 13485 for quality management systems related to medical devices
- Scope: Distribution and supply of fastening and assembly products for medical equipment



Smart Factory Logistics

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

HIGHEST QUALITY AND RELIABILITY

Electromedical devices

Critical medical equipment used in the operating room should function and operate with zero failure.

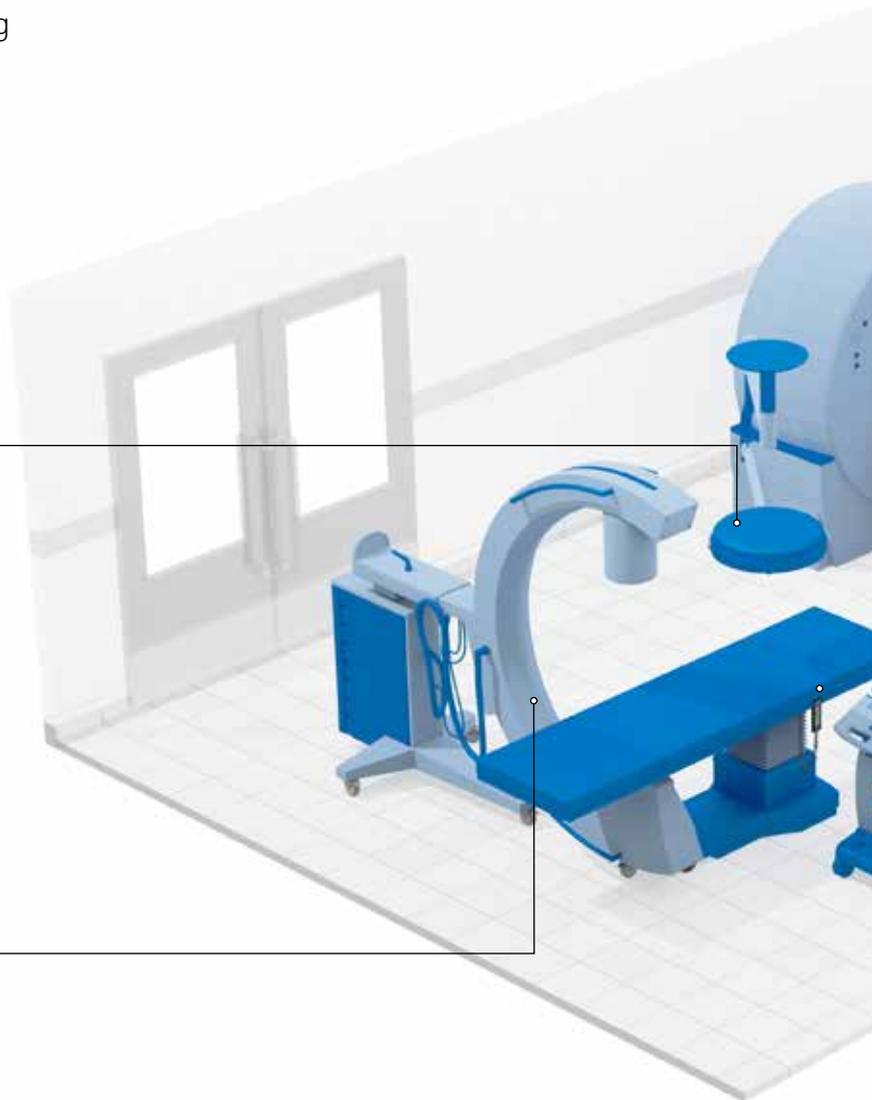
Fasteners should have the following characteristics:

- High strength tolerance
- Vibration and corrosion resistance
- Safe yet innovative

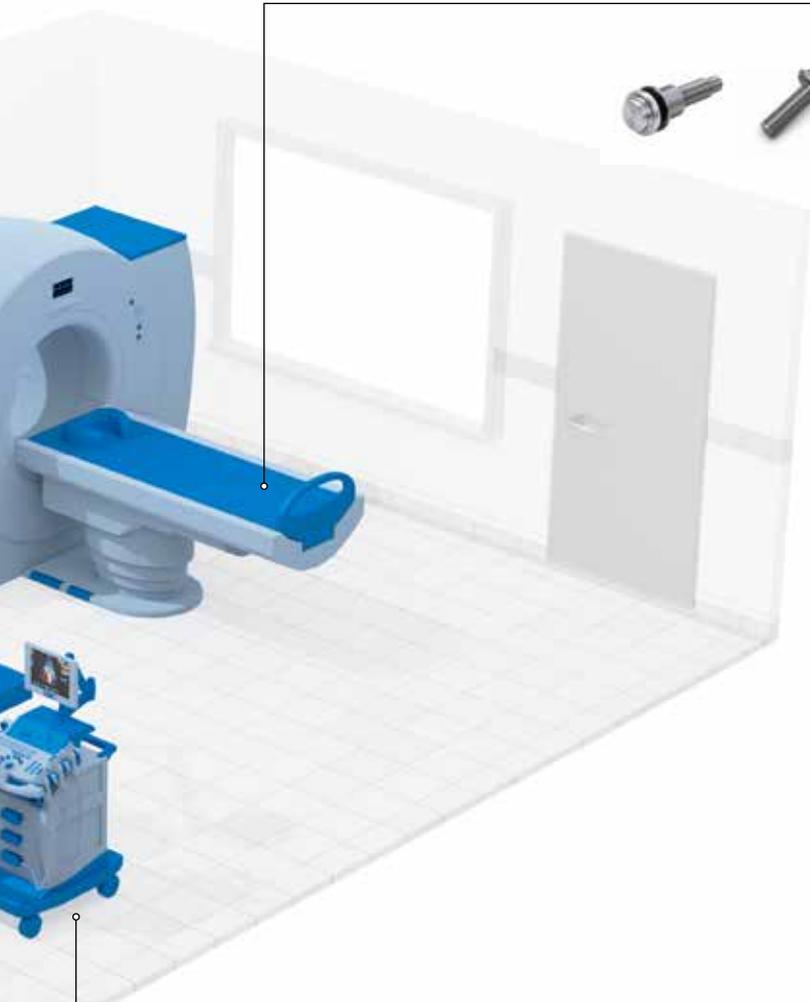
Surgical lights



Xray



MRI



Ultrasound



ELECTROMEDICAL DEVICES

SECURING AND ANTI- LOOSENING SCREWS

Loosening safeguard without additional elements

- Process reliable and durable fastened joints
- High clamp force, even under strong vibrations
- High efficiency: Fewer single parts for faster processing times
- High vibration and corrosion resistance
- Product range streamlining thanks to high sealing and clamping areas



SECURING AND ANTI- LOOSENING WASHERS

Self-locking fasteners to prevent loosening and loss

- Quick and easy installation and dismantling
- Superior performance in maintaining clamp load
- High vibration and corrosion resistance



DIRECT ASSEMBLY SCREWS FOR PLASTICS

Safe and easy screwing directly into thermoplastic elements

- High durability of screw joints
- Smooth material flow due to optimized thread geometry for low stress generation in joints
- High torsion and tensile strength



ELECTROMEDICAL DEVICES

DIRECT ASSEMBLY SCREWS FOR METAL

Direct metal screwing in one step

- Quick and cheap fastening without the need for a pilot hole
- High strength of the screw joint
- No additional securing elements needed



RETAINING RINGS

Securing elements for shafts and bores

- Ensure smooth rotation
- Compensate wider diameters and therefore allow higher tolerances
- No groove needed, which saves costs and time



LOCKBOLTS

Permanent and vibration resistant fastening

- Capable to deal with high shear and tensile load
- Constant high clamping force
- Fast installation process without retorque



ELECTROMEDICAL DEVICES

EMBEDDING AND SURFACE BONDING FASTENERS

Create secure fastening points with no need for drilling, punching, clamping or riveting

- Co-process integration by embedding or post-process integration by adhesive bonding
- Reliably join mixed materials and thicknesses
- Single-sided access



LEVELLING ELEMENTS

Adjustable elements to support the weight of medical equipment

- Various material combinations of stem and base
- Various dimensions and shapes
- Feet available with or without no-slip disks



CABLE GLANDS

Cable entry systems with a wide range of functionalities

- Product range streamlining thanks to high sealing and clamping areas
- Broad range of accessories
- Pressure balance elements to avoid negative pressure, high humidity and condensation in hermetically sealed enclosures
- Sustainability thanks to a lead-free brass range



ELECTROMEDICAL DEVICES

SEALING AND PROTECTION PLUGS

Protection against ingress contamination

- Designed to provide ingress protection for holes, fittings, assemblies as well as critical moving parts
- Tested and certified to be oil and chemical resistant
- Durable yet lightweight materials



MACHINING (TURNED AND MILLED PARTS)

Metal-cutting production involving turning, milling and drilling

- When high precision, low tolerances and complicated forms are required
- Available in all common materials, batch sizes, dimensions and surface treatments



GAS SPRINGS AND DAMPER SOLUTIONS

Support for safely lifting, positioning, lowering and counterbalancing weights

- High versatility
- Wide range of products and individual solutions



SAFETY CRITICAL FASTENING

Surgical and therapy equipment

In an intensive care unit, where patients with serious life-threatening illnesses or injuries receive intensive medical treatment and care, special requirements are placed on the equipment.

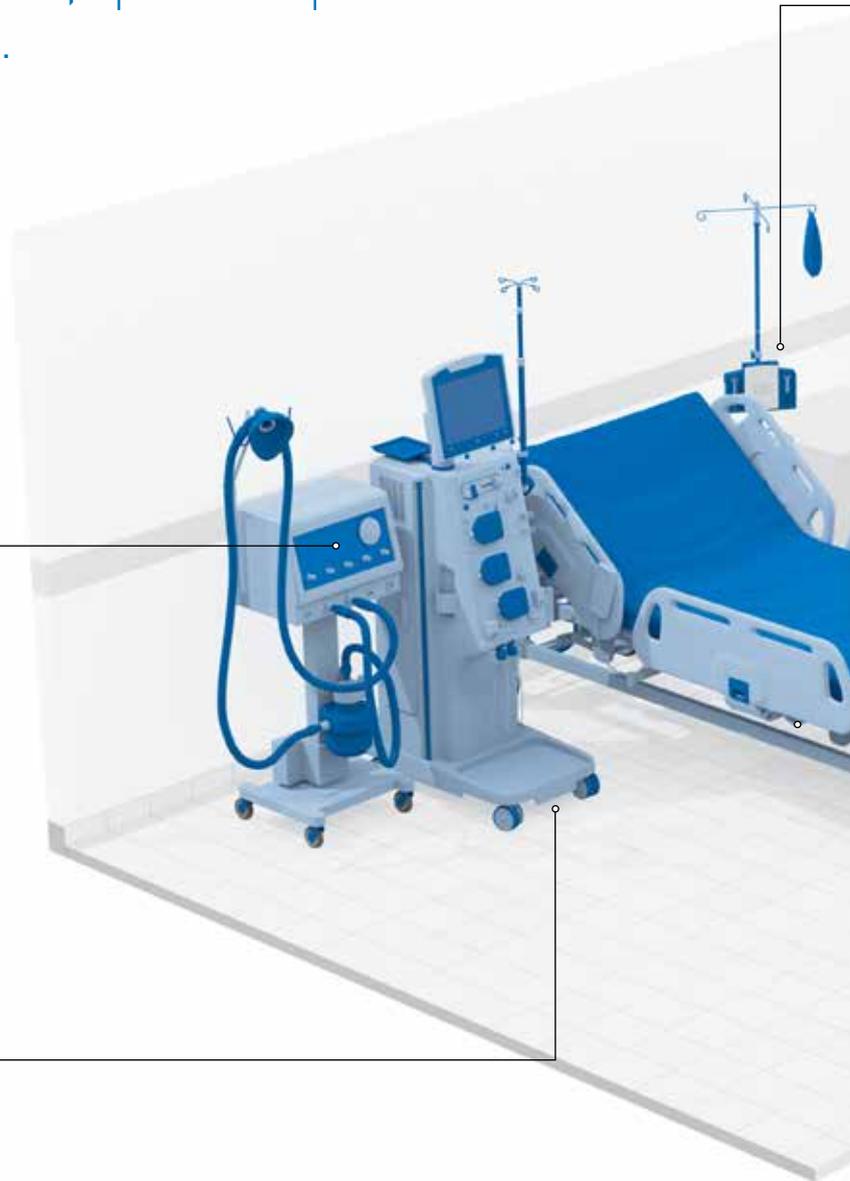
Fasteners must above all be:

- Vibration and corrosion resistant
- Compliant with high safety standards
- Made of high strength materials

Respiratory Ventilator



Dialysis Machine





Infusion Pump



Wheelchair



Hospital bed



SURGICAL AND THERAPY EQUIPMENT

SELF-CLINCHING NUTS

Fast and clean fastening solution for applications with double-sided access

- High torque out and push out resistance even in thin metal sheets
- No special preparation of the mounting hole necessary
- No recutting of threads
- High positional accuracy



SELF-CLINCHING THREADED STUDS

Easy to install – superior performance

- Extremely stress-resistant even in very thin sheets
- Ideal also for coated surfaces
- No damage or bulging on the back of the component
- No reworking of threads



SELF-CLINCHING THREADED STANDOFFS

Various types of appropriate stand-offs for an easy connection

- High torque out and push out performance
- No additional flanging or welding required
- Available with internal thread or thru hole



SURGICAL AND THERAPY EQUIPMENT

BLIND RIVET NUTS

Sustainable solutions with various head and shank forms

- One-side installation
- Easy assembly saves operational costs versus thread forming in sheets and profiles
- Possible to install in any application for sheet metal or composite
- Permanent mechanical fastening
- Protect workpiece without deformation or damage when assembled



BLIND RIVETS

Cost-effective fastening solution with open or closed end

- One-sided installation with no need to access the back of the workpiece
- High quality and performance
- Large number of material combinations and strengths, head styles, mandrels, grip thicknesses and surface treatments
- Good vibration resistance



STRUCTURAL BLIND RIVETS

Strong solution for structural assembly

- Perfect for applications with a high requirement to tensile and shear forces
- Can replace up to four standard rivets
- Can be installed from one side only
- Durable and reliable fixation
- Available for all materials, different strengths and assembly thickness



SURGICAL AND THERAPY EQUIPMENT

SPEED RIVETS

Unique assembly system designed for fast and reliable fastening of metals, plastics, composites and passive electronic components

- Fast processing from one side
- No danger of pin loss
- High quality and joint performance
- No material waste, environmentally friendly



THREADED INSERTS

Lightweight inserts with high pull-out strength for light metal and plastic materials

- Create precise durable internal threads in plastics and light metal materials
- Reversible thread connection
- Create high axial and radial forces in notch-sensitive materials with lower shear strength



SEALING PLUGS

Highest level of perfection in seal technology

- Precise positioning
- Fast and easy installation
- Effective sealing of drilled holes
- Extremely durable



SURGICAL AND THERAPY EQUIPMENT

MOBILITY AND CASTOR WHEELS

Innovative high-quality mobility solutions

- Designed to ensure quiet, clean and smooth movement
- Integrated brake and lock configurations
- Tested and approved materials for medical and laboratory applications



POSITIONING ELEMENTS

Long-lasting solutions for easy positioning

- Meet highest quality and design standards
- Offered in various materials, angles of rotation, assembly and load capacity
- Quick installation



LATCHING

Innovative access-control systems

- Hand-, tool- or key operated designs
- Vibration-proof locking while being adjustable or fixed
- Can be integrated with multi-point systems



INDEXING ELEMENTS

High-quality machine and fixture elements

- Suitable for fast and easy connections
- Fixation of movable parts and accessories
- Includes spring plungers, ball-ended thrust screws, ball lock pins



PRECISE AND STABLE

Life Science & laboratory equipment

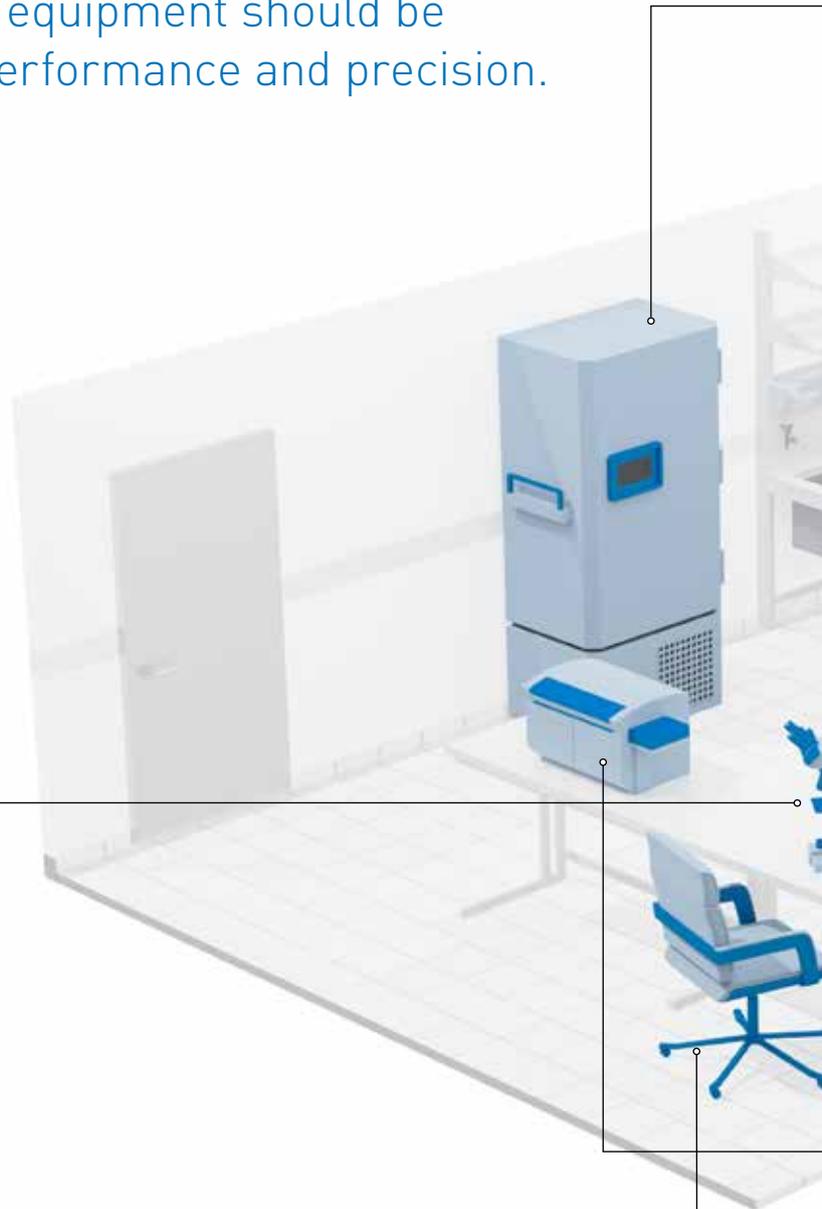
Diagnostic and laboratory equipment should be designed to ensure high performance and precision.

We offer fastening elements which are:

- Made of high-performance materials
- Functional and cost effective
- Innovative
- Compliant with industry standards

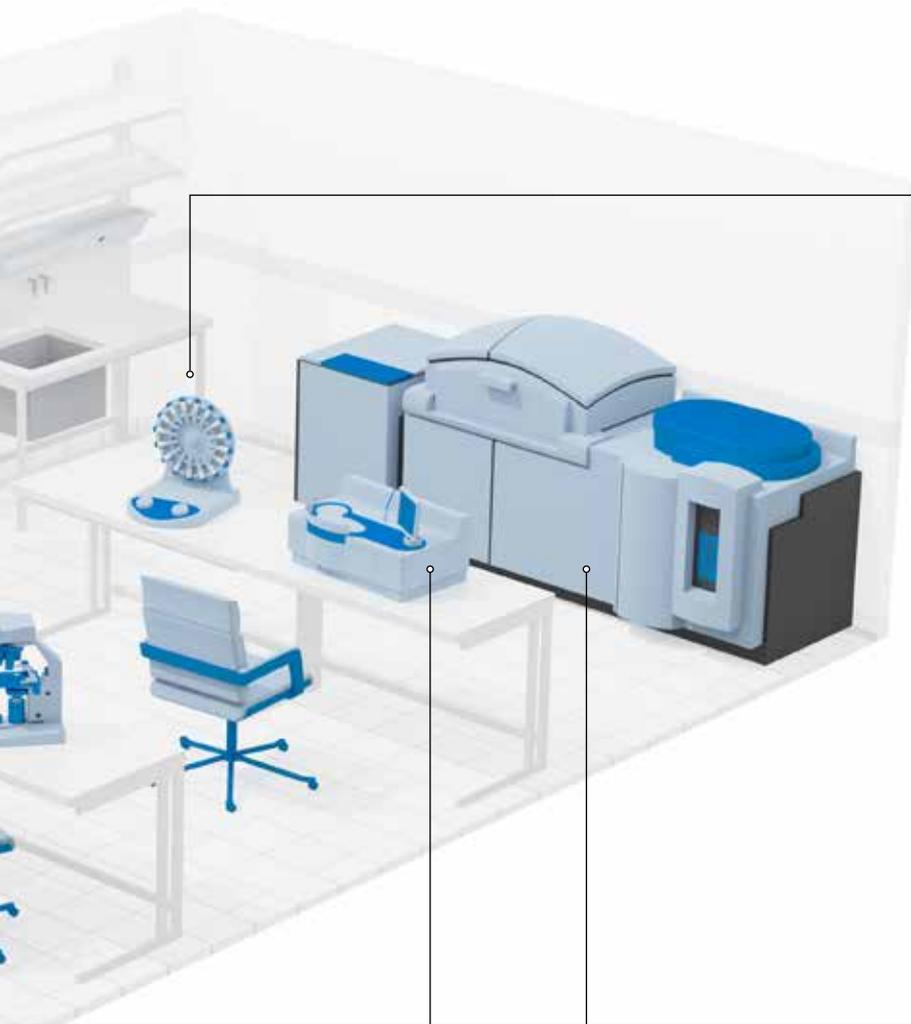
Microscope

Lab furniture



Lab freezer

Lab mixer



Analytical equipment

LIFE SCIENCE & LABORATORY EQUIPMENT

SURFACE-MOUNT FASTENERS

Specially designed for PC board mounting

- Less scrap, less handling, less risk of damage
- Economical and reliable way to fasten hardware to PC boards
- Simple installation process



CABLE PROTECTION AND IDENTIFICATION

Extend the life of medical devices and cables

- Cable protection options include tubings, braided sleeves, harness wraps, wiring ducts and more
- Divisible protection conduits for easy assembly of already harnessed cables and wires
- Cable identifications in a wide variety of resistances and approvals, markings and printers



OPERATING AND CONTROL ELEMENTS

Comprehensive operating elements according to your applications

- Wide variety of shapes, sizes, and materials
- Include clamping knobs and levers, handles and levelling and indexing elements
- Ergonomically designed for smooth and powerful performance



LIFE SCIENCE AND LABORATORY EQUIPMENT

CABLE TIES

Cost-effective cable and wire management

- Comprehensive selection of cable ties complying with superior specifications
- Multifunctional solutions for a safe and intelligent cable management
- High quality materials ensure a long-lasting use



FLUID MANAGEMENT

Ensure fluid integrity within critical processes

- Extruded tubing and flexible hoses for transferring critical or process fluids, liquids or gases
- Innovative connectors for various medical & life science applications to ensure leak free and cross contamination
- FDA and USP Class VI compliant, available in variety of materials and dimensions



CLAMPING AND POSITIONING ELEMENTS

Overcoming hose leakages

- Available in various designs and materials
- Broad product range of ear clips and hose clamps with worm gear
- Eliminate leakage and contamination with 360 degrees sealing



LIFE SCIENCE AND LABORATORY EQUIPMENT

ELECTRONIC ACCESS AND LOCKING SOLUTIONS

Improved safety and low risk of infection

- Simple solutions that integrate mechanical and electronic access easily
- Single source components offering everything necessary to complete the electronic system
- Robust access control offerings from simple self-contained latching to turn-key cloud based networked access control platform

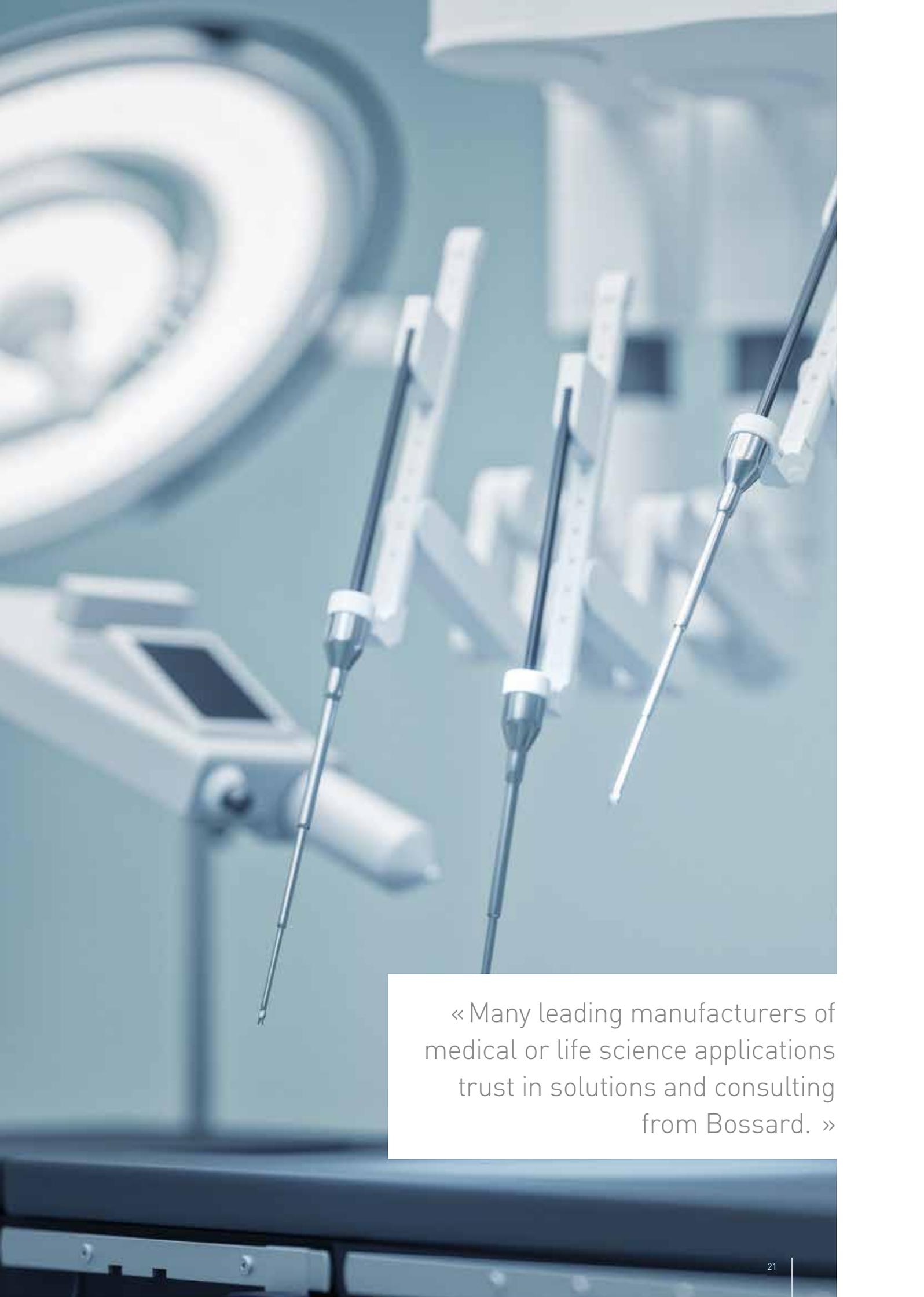


MONITOR MOUNTS

Controlled positioning of devices

- Available in various designs and materials
- Broad product range of ear clips and hose clamps with worm gear
- Eliminate leakage and contamination with 360 degrees sealing

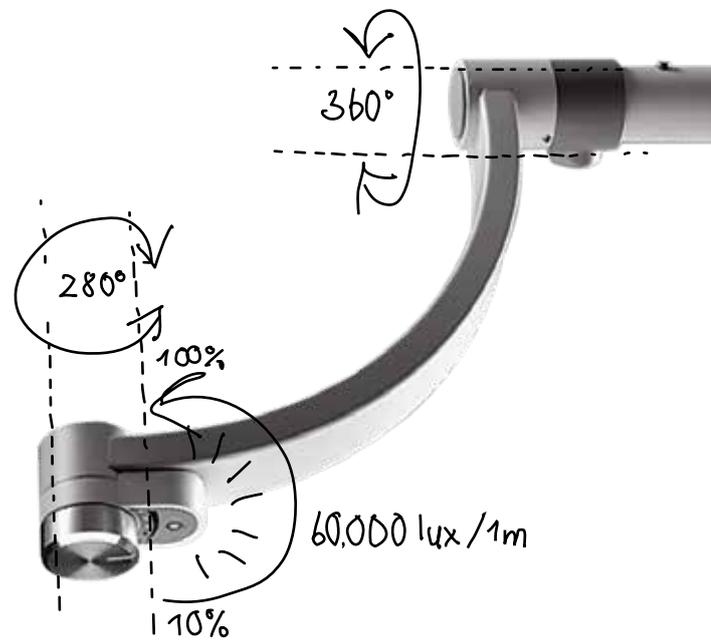




« Many leading manufacturers of medical or life science applications trust in solutions and consulting from Bossard. »

SUCCESS STORY

Perfectly illuminated working area



In many industries, perfect light is crucial for successful and precise work. Medical personnel requires perfect lighting for demanding examinations and procedures. The family-owned Swiss company Derungs Licht AG manufactures technologically advanced lighting solutions for just such requirements. Custom-made fasteners from Bossard enhance the versatile functionality and sophisticated design of treatment luminaires.

Challenge

Among the many complex requirements a medical luminaire has to meet is precise positioning to support medical professionals during procedures. Derungs Licht AG tasked Bossard engineers with the design of an innovative bracket for a luminaire that would rotate and turn by 360 degrees.

Solution

The development of the custom fastener began with the Bossard team leveraging the existing design drawings and refining them. During the trial phase, the individual processing steps were clarified, and the initial prototypes were welded and then soldered. We started with steel and moved on to stainless inox.

“Everything from a single source, at almost 50 percent less costs.”



HARALD HÖPPERGER
Technical Buyer
Derungs Licht AG, Switzerland

Outcome

Bossard surprised the customer with a sample product whose production was considerably leaner than the initial product. The modern design of the Triango in combination with advanced LED technology is perfectly attuned to today's work environment. The bracket manufactured by Bossard blends seamlessly into the modern product design and allows directing the light wherever it is needed.

Bossard's custom solution is a single, powder-coated fastener that can be installed directly after delivery, with no additional work steps needed. The original design would have required painstaking manual production, with the fastener between the light and the arm consisting of numerous parts, each one individually coated and assembled. Additionally, the assembly saves procurement costs, because only a single part has to be obtained from a supplier. Of what we deliver to Derungs, only 15 percent are standard fastening elements; the remaining 85 percent are special solutions.

As a versatile partner, we support Derungs Licht AG with feasibility studies, produce custom-made parts and supply standard fasteners on an ongoing basis.

Would you also like to benefit from Bossard's Assembly Technology Expert services? The specialists at Bossard help product designers and engineers meet the most diverse challenges with respect to innovation, process optimization, and efficiency.

Visit our website and learn more:
www.bossard.com

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.

SUCCESS STORY

Logistics transaction costs reduced by almost 60 percent through digitalized supplier consolidation

Wipro GE Healthcare India began working with Bossard in 1999. As their strategic partner, we have covered a lot of territory since then, we have overcome countless hurdles, and we have reached just as many milestones. This journey began with the delivery of some 50 different fastening elements; today we provide 1 750 parts. And no end is in sight because this positive development benefits both parties. India is growing, Wipro GE Healthcare is growing, and Bossard India is also growing.

Challenge

In my native India, Wipro GE Healthcare is renowned for the outstanding quality of its medical devices such as X-ray units, CT systems and ultrasound equipment. This reputation is well-deserved: Wipro GE Healthcare has very high standards – for itself and its suppliers. But multiple modalities and the procurement needs covered through too many buyers and short term purchase orders, resulted into high transaction costs. This means for us: We not only have to find solutions but sometimes invent them for our client.

“Transform your production with Smart Factory Logistics.”



ROMA MEHENDIRATTA
Key Account Manager & Medical
Segment Lead, Bossard India

Solution

For instance, based on our excellent collaboration, Bossard India has established our Smart Factory Logistics solutions in the Wipro GE Healthcare facilities in line with industry 4.0. With the Bossard Supplier Consolidation Solution, we successfully reduced the number of invoices/transaction costs by almost 60%. This is a good example of how well we work with our customers on lean initiatives to make their C-parts procurement and inventory management more efficient. After all, it is people who store Bossard’s knowledge. Through personal contacts we strengthen our business relationship further.

Outcome

The Wipro GE Healthcare team recognized the benefits of SFL in terms of inventory optimization and consumption-based replenishment in a digital manner and acknowledged the TCO benefits. The company regularly reviews our performance using a set assessment matrix. In short, Bossard India is doing very well.

Do you also want to take advantage of our Smart Factory Logistics expertise? Let us find the best solution for your company.

Learn more at: www.bossard.com

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



SmartLabel



SmartLocker



Bossard Code



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



Last Mile Management



ERP Integration



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.



ARIMS
Analytics



ARIMS
Interactive



ARIMS
Mobile



Integration of
all suppliers



Single point of
contact

KEY FEATURES

- B2B ERP integration ready
- Real-time data
- Personalized dashboard
- Graphical analysis and reports
- Mobile app for smart devices
- Operation dashboard
- Interactive program management
- Last-mile operation dashboard



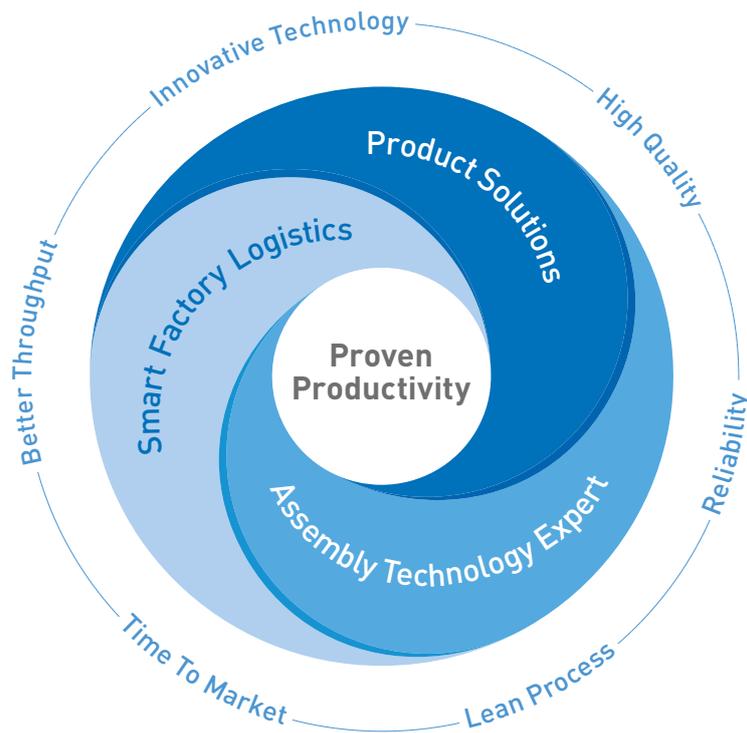
Greg, Bossard

“Bossard is a pioneer in the field of logistics solutions for B- and C-parts. We are committed to help you in positioning your company, your brand and your products ahead of others.”



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