



EDITORIAL



A crazy world!

Dear customers

After two years of pandemic and lockdowns, challenges in the global supply chains and geopolitical tension — with the tragic war in the Ukraine and the flaring conflict between China and Taiwan — this year we have been hit by the European energy crisis, a struggle for skilled labor as well as pay and cost inflation to an extent we've rarely seen before. With "nearshoring" and the trend toward becoming less dependent on Chinese and Eastern European sources, many production companies are moving their manufacturing sites back to Western Europe, and thus back into high-wage countries. This, in turn, is driving the cost and pay spiral even higher.

In the face of these prospects, it would be easy to bury our heads in the sand and hope that it will all be over soon – or we could make the most out of our options.

At Bossard, we have identified two keys for overcoming these challenges, remaining profitable and growing sustainably.

On the one hand, we have global collaboration – summarized in our "Together, We Create" initiative – against the backdrop of our belief that we can only continue growing profitably if our nearly 3,000 experts around the globe are better able to exchange information and coordinate, rather than constantly trying to reinvent the wheel.

To us, collaboration means not just an exchange between regions and specialists, but rather also an exchange between hierarchies. The classic pyramid, where management decides and employees execute, simply doesn't work for us anymore. We seek the engagement and contribution of all employees across all levels. With hack teams and topic communities, for example, we can involve the whole organization in finding solutions to problems or developing new products and services, and we no longer delegate decisions to the "front". We believe this is the only way we can become agile enough to respond to our changing conditions in good time.

Another key for overcoming challenges and becoming more efficient is digitization: by streamlining our internal processes and building a global, electronic platform to map them, as well as by offering digital customer services to help our customers increase their productivity.

Here are a few examples:

With Smart Factory Logistics (SmartBin and Last Mile Management solutions) – we contribute to automating C-parts inventory management, optimizing storage space and avoiding delivery failures. Furthermore, logistics personnel can be more flexibly employed for other tasks in production, and those who leave do not need to be replaced.

On the other hand, our new Smart Factory Assembly service – supports the installation processes for our customers by providing intelligent tools and digital work instructions which allow installers to avoid mistakes, speed up the installation process and train new, unskilled employees very efficiently.

We look forward to discussing with you how we can develop stable and digital solutions together to accompany you on your continued profitable and sustainable growth path in this "crazy" world – in line with our cultural motto: "Together, We Create"

Thank you very much for your trust over the past year. We wish you happy holidays, lots of energy and we look forward to working with you in the new year!

DANIEL BOSSARD
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Online

REAL TIME MANUFACTURING SERVICES

When turned or milled parts are urgently needed!

And numbers are increasing daily. With Real Time Manufacturing Services (RMS) for production and manufacturing, Bossard is keeping in with the spirit of the times – and meeting the requirements of a steadily growing number of customers.

Whether customers operate in the automotive, medtech, electronics, transport or robotics sector, and whether they're based in Germany, Austria, Denmark, Czechia, Poland, Italy or Switzerland, the RMS online portal is very much in demand wherever CNC prototypes or small series of turned and milled parts are required. Our Real Time Manufacturing Services offer solutions for all those customers who have tight deadlines to meet but don't want to sacrifice quality, reliability and accuracy.

A sophisticated online process speeds up the workflow from uploading and providing specifications for the 3D data to preparing the quotation and placing an order, not to mention production and delivery. This benefits customers as they are guaranteed maximum planning certainty and find out the product's delivery date and cost immediately. That's Manufacturing 4.0 in a nutshell.

Real Time Manufacturing Services incorporate the experience and knowledge of Bossard's experts. It is only through nurturing direct contact with a large number of manufacturers that we can prepare quotations for individually configured CNC turned and milled parts that customers can count on within the shortest possible time.

How Real Time Manufacturing Services works:

- Once you've registered on the RMS portal, the next step is to upload your turned or milled part's 3D data and specify the material, color and coating.
- You will receive our quote and potential delivery date in real time.
- Once you've placed your order, your project data will be processed immediately and sent to Production.
- Your CNC prototype or small series will be delivered at the promised time.

Picking up the pace without compromising on quality: with RMS, you can shorten the time from development to series production. This is a decisive advantage that has a positive impact on costs – and not just for complex products.

Another key aspect is Bossard's proverbial product quality through its cutting production of your CNC parts in state-of-the-art four- and five-axis machining centers. And anyone needing more than just prototypes or a short run will also receive a custom quote within an extremely short space of time.

It couldn't get any quicker, easier, more reliable or more accurate than this.







Upload 3D data

Real time offer & Order

3 Shipping

Speedy support in a crisis: an example from real-world practice

A supplier operating in the automotive industry had already received prototypes and the ramp-up phase for manufacturing customer-ready products had begun. Then, suddenly, came the shock. The fasteners provided proved to be unsuitable and a functional alternative was needed very quickly because, at the other end of the process, a premium brand manufacturer was already waiting impatiently for their products and wouldn't have been all that understanding if delivery was delayed.

Fortunately, the supplier came across Bossard's RMS online portal – and then things moved very quickly. Within 24 hours, the customer had a quote on the table, plus personal feedback from the Bossard expert who initiated production immediately. In the end, fasteners that ticked all the boxes were delivered within four weeks.

Scan the QR code to be taken directly to the portal.

Alternatively, visit us on our website:

www.bossard.com







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EXPERT ASSORTMENT ANALYSIS

STREAMLINE YOUR ASSORTMENT OF C-PARTS AND CUT COSTS

Do you know how many C-parts you have in your assortment and whether you actually need them all? The fact of the matter is that this is precisely where tremendous potential for optimization is just waiting to be exploited. After all, procurement, storage, logistics and assembly account for 85% of the total costs of fasteners. At Bossard, we take a good, close look at your product assortment and help you cut both complexity and costs.

What is the Expert Assortment Analysis?

The fewer fasteners you have to manage, the quicker and more cost-efficient purchasing, storage and assembly are. With the Expert Assortment Analysis, we help you to identify and eliminate multiple or redundant parts. Streamlining your fasteners and shortening your parts list can save you a lot of money.

We record our observations in a detailed technical report that we present to you together with initial product samples. Finally, the third phase involves implementation by a project team in line with your requirements and priorities. This also includes support from our experts with the likes of preparing assembly and operating instructions, not to mention a final evaluation of the optimization as a whole.



How you benefit at a glance

- You eliminate unnecessary parts
- You cut complexity in purchasing, warehousing and assembly
- You cut costs and increase productivity

What approach does Bossard take?

In the first phase, we prepare a detailed parts list and value analysis, including a systematic analysis of your entire fastener assortment and a specific assessment of potential cost savings based on the TCO (total cost of ownership) principle. We submit specific proposals for optimization to you based on the results we obtain. Using this as a basis, we examine in detail potential technical improvements you could make to your fastening processes and develop proposals for new, tried-and-tested solutions

You can also streamline your C-parts

Bossard's Expert Assortment Analysis can save you both time and money by streamlining and optimizing your product range.

Contact us directly, visit us online at www.bossard.com or learn more in our video. Scan the QR code with your cell phone to watch the video.





LABOR MARKETS AROUND THE WORLD ARE UNDER PRESSURE

Causes of the labor shortage – and what can be done about it in the production sector



In addition to inflation caused by price increases and higher wages and salaries, the consequences of the coronavirus pandemic include a severe shortage of staff in many industries. Although product prices and supply chains are stabilizing again to some extent, the labor shortage will be an ongoing issue.

One reason behind this is the undiminished increase in demand. Companies are struggling to find the workforce needed for high production volumes as they try to do more. This places an additional burden on existing staff and goes hand in hand with demands for pay raises and increased staff turnover.

The consequences of the global labor shortage

The coronavirus pandemic has had more than just an unsettling impact on health globally. In various ways, it has also shaken the global economy. But supply chains aren't the only elements to have faced disruption – the labor market has also become a problem child worldwide. As early as 2020, 44% of the global workforce was working in low-skilled occupations, according to a study conducted by Statista. This employee group is the one most affected by the changes on the labor market.^(*1)

There are several causes behind this trend. Changing demographics, like aging and retiring workers, are also a factor – not to mention demands for better pay and flexible working arrangements. (*2) The interruption enforced by the pandemic has given people time to reconsider their work situation

The global labor force participation rate is projected to remain 1.2 percentage points below that of 2019. (*3) This effect is generally evident at all qualification levels.

There is a shortage of low-skilled workers, especially in the manufacturing industry. According to a recent study conducted by Deloitte and The Manufacturing Institute, the manufacturing skills gap could lead to 2.1 million unfilled jobs in the US by 2030, leading to USD 1 trillion in losses. (*4)

The coronavirus pandemic has fundamentally exacerbated the labor shortage.

The pandemic has exacerbated the labor shortage. Manufacturing companies were finding it tough to attract and retain staff before the coronavirus pandemic. This phenomenon has become known as the "Great Resignation". The shortage of staff in the industry and rising demand are showing no signs of easing up. About three in four manufacturers (77%) state that hiring and retaining talent is very important to their ability to grow their business in 2022. According to a PwC study, just 34% of sector leaders in the US expect the situation on the labor market to ease by the end of 2022. More than half (57%) expect to invest heavily in hiring and retaining staff in 2022. (*5)

During the coronavirus pandemic, employees behaved differently than during other recessions. They quit their jobs and went in search of other employment or better conditions, strengthening the negotiating position on the employee side. Growing employer demand is improving employees' position even further. Although wages have already risen, labor shortages exacerbated by the pandemic – combined with inflation-driven declines in purchasing power – will lead to further demands for higher pay. Companies are also offering new social security benefits to attract new employees and retain existing staff.

Labor costs – a business challenge

But the labor shortage isn't the only issue that manufacturing companies face. Increasing labor costs are also problematic. Manufacturers are confronted with difficulties on several sides. The lack of commodities is being felt throughout the supply chain. The shortage of materials is causing prices to rise. These problems can be solved in part by making modifications to contracts, analyzing the supply chain as a whole, getting other suppliers on board and passing on costs to customers.

The EU is experiencing the exact same trend as the US. Compared to the same period in the previous year, labor costs per hour worked increased by 2.9% in the EU and by 2.5% in the Eurozone in the third quarter of 2021. The cost breakdown indicates that hourly wage costs in the Eurozone rose by 2.3%, while ancillary wage costs '(6) were up by 3.0%. In the EU, hourly wage costs increased by 2.8%, while ancillary wage costs grew by 3.3%. ((7))



¹Statista | https://www.statista.com/statistics/1171289/global-workforce-low-skilled-occupations/#statisticContainer

CNBN | https://www.cnbc.com/2021/10/20/global-shortage-of-workers-whats-going-on-experts-explain.html

 $^{{\}it ^3} International \ Labour \ Organisation \ | \ https://www.ilo.org/global/about-the-ilo/newsroom/news/WCMS_834117/lang--en/index.htm$

 $^{{\}color{red}^{4}\textbf{Manufacturing Business Technology}} \ | \ \textbf{https://www.mbtmag.com/home/video/21603110/factory-raises-wages-to-combat-labor-shortage} \\ | \ \textbf{https://www.mbtmag.com/home/video/21603110/factory-raises-wages-to-combat-labor-shortage-wages-to-combat-labor-shortage-wages$

⁵PWC | https://www.pwc.com/us/en/industries/industrial-products/library/inflation-supply-chain-manufacturing.html

⁶ Eurostat | https://ec.europa.eu/eurostat/documents/2995521/11563415/3-16122021-BP-EN.pdf

⁷ **Trading Economics** | https://tradingeconomics.com/switzerland/wages-in-manufacturing

Coping better with the labor shortage due to Smart Factory Logistics

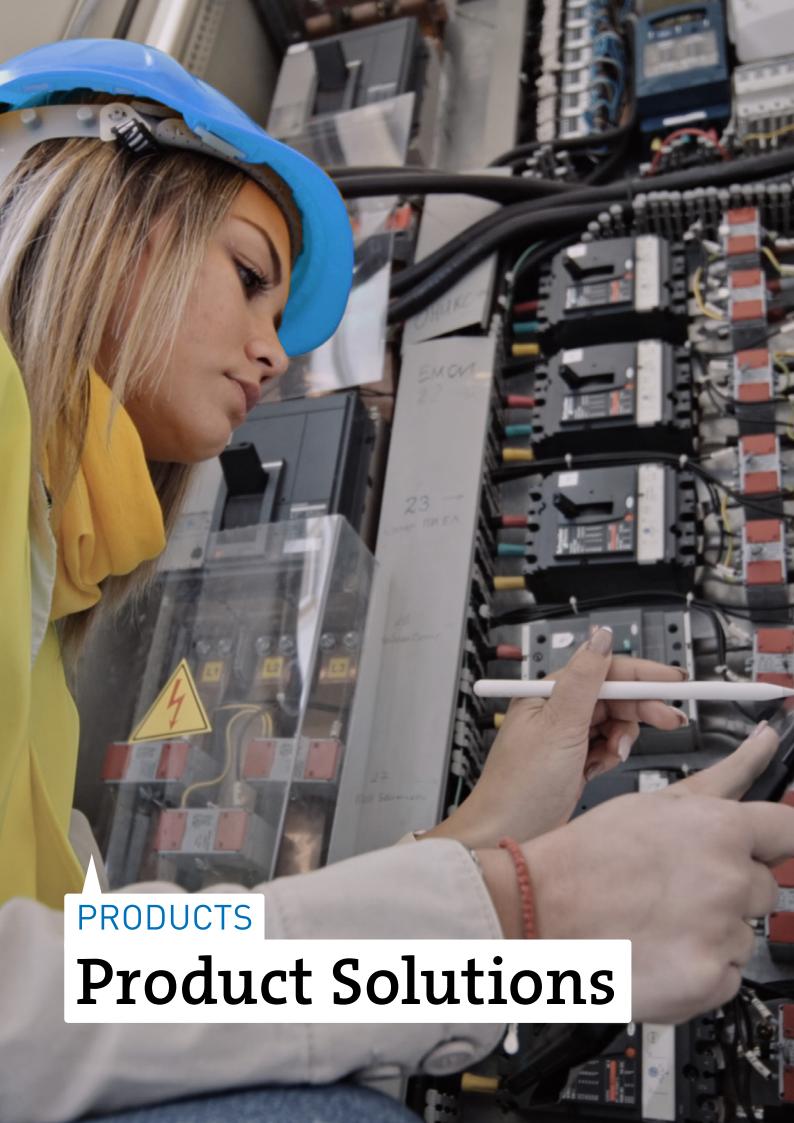
Nowadays, technological progress has to contend with one task above all else: increasing both people's and thus companies' productivity. This is the likeliest way of addressing the labor shortage. Bossard Smart Factory Logistics (SFL) forms part of this solution. Our systems digitalize the B- and C-parts supply chain, automate both B- and C-parts management and secure availability in production. The method, which has been tried and tested for years, uncovers hidden potential for productivity increases.

We call this process "Proven Productivity" – i.e. the sustainable, measurable increase in productivity that improves our customers' competitiveness and enables the transfer of some logistics personnel to the manufacturing process and other areas.



Smart Factory Logistics allows you to automate parts supply and increase productivity. Labor costs drop and dependency on the workforce decreases.





JACOB VENTIL ATION SOLUTIONS FOR ENCLOSURES

Enclosures should be continuously ventilated to protect electronic and electrical engineering components from moisture and condensation.

Waterproof-tested housings with high protection types – IP67 or IP68 – for outdoor use are by no means automatically gas-tight. Constant pressure equalization and air exchange are absolutely vital if negative pressure, high humidity and condensation in the enclosure are to be prevented. This protective function can be implemented both quickly and easily by using a Jacob pressure equalizer.

The base body is available in flame-retardant polyamide PA6 or stainless steel 1.4305. Inside, a high-quality, breathable and liquid-tight PES diaphragm is fixed, ensuring constant pressure equalization and air balance between the ambient area and the enclosure, also guaranteeing protection against moisture. The diaphragm's high water entry point enables compliance with the IP66, IP68 and IP69 protection types.

Two in one

Pressure equalization is integrated into the breathable AirVent cable glands of Jacob's PERFECT series. Identical clamping ranges mean existing standard solutions can be easily replaced by the PERFECT AirVent.

We will be happy to advise and assist you with regard to choosing the right size and number of pressure equalizers to suit your application. For calculation purposes, please send us the external dimensions or volume of your enclosure and the minimum and maximum temperatures that may occur inside the enclosure and in the ambient area during use.



JACOB® pressure equalizer with Standard metric thread



JACOB® PERFECT AirVent cable glands with metric thread and pressure equalization





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CONCENTRATED ENERGY

Electrical engineering fasteners from Bossard

Extensive expertise

Benefit from our specialist electrical engineering expertise and let the Bossard Electrical Engineering Team advise you on issues relating to cable feed-through, cable connection technology, cable fastening or cable protection – free of charge.

First class solutions

Brand diversity and an extensive product assortment make developers' and designers' work easier. You will find suitable solutions in the following product groups:

- Cable glands and pressure equalizers
- Contact parts such as cable lugs, press-fit connectors and wire-end ferrules
- Crimping, pressing and stripping tools
- Cable ties in various designs
- Cable fasteners
- Industrial enclosure technology
- Cable protection, such as corrugated tubes, braided sleeves, split harness wraps and wiring ducts
- Shrinking technology
- Cable identifiers, such as labels, markers, printers and accessories

Everything from a single source

With a broad assortment of electrical engineering products comprising around 8,000 items, Bossard offers cable management solutions for almost every application. Together with mechanical fastening technology, we offer the market a holistic and comprehensive service.



Cable glands



Contact parts



Cable ties



Cable fasteners



Enclosure technology



Cable protection



Shrinking technology

Guaranteed security of supply

Bossard helps customers to substantially reduce or even eliminate procurement costs along the entire supply chain. Our logistics systems simplify procurement, cut storage costs and prevent supply bottlenecks. Optimize your supply chain with Smart Factory Logistics — Bossard is your onestop shop for everything to do with cables, with a fully automated logistics system on request.

Just take a look at our extensive assortment in the E-Shop. Your local contact will be delighted to answer any questions you might have in person.

Alternatively, send us an email to **elektro@bossard.com**

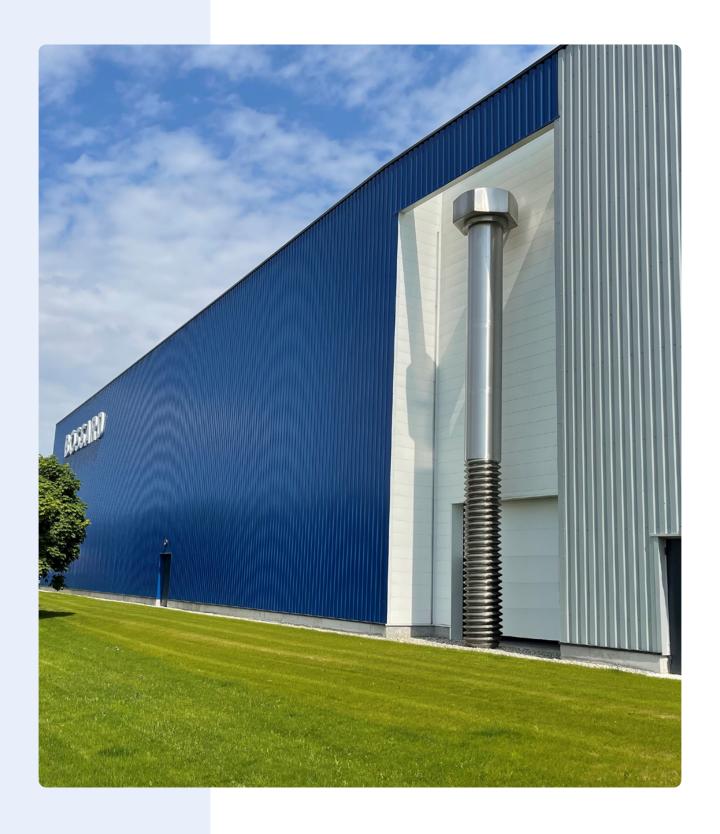




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SUSTAINABLE IN EVERY RESPECT

A brand-new logistics center for Bossard France





In light of increasing growth dynamics, the expansion of the Bossard France warehouse and logistics center was inevitable. Construction began in August 2019 and was completed in 2022.

At Bossard, we believe that sustainability forms an integral part of our corporate strategy. Sustainability was also one of our priorities when we expanded our business premises. We are committed to implementing energy-efficient measures and limiting the impact that our infrastructure has on the environment as far as possible. To increase both our storage space and our productivity, we have expanded the entire logistics area from 4,450 m² to 10,800 m².



Bossard has integrated sustainability into its corporate strategy

One of the eco-friendly measures implemented during the construction process is underfloor heating. The logistics center, for example, was fitted with gas-fired underfloor heating that operates at an energy-efficient water temperature of 68°F to 77°F.

This heating method enables homogeneous heat distribution in the functional rooms and is advantageous in that no additional heat distribution equipment needs to be purchased and maintained.



The logistics center also has two cardboard compactors. After pressing, the bales are loaded onto a standard truck and transported away for recycling, making the numerous daily trips to empty the containers in the old compactor a thing of the past. This effectively prevents heat loss, thus resulting in lower ${\rm CO}_2$ emissions.

Bossard France's new building is being prepared for the use of solar energy. In light of the ecological challenges and increases in electricity prices caused by geopolitical tensions, time is of the essence. Installation of photovoltaic elements is therefore scheduled to begin in 2023.





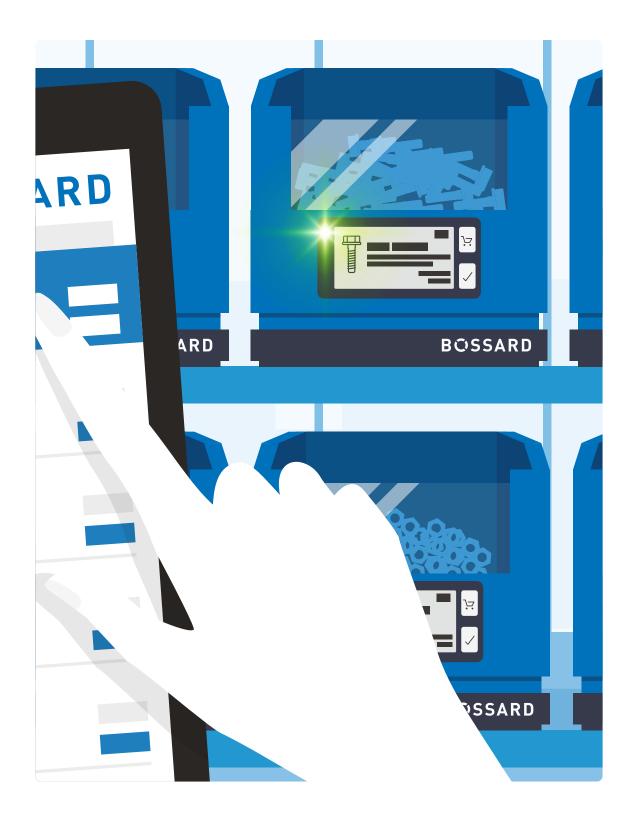
The new warehouse and logistics center is the initial phase of Bossard France's comprehensive modernization.



We will also redesign and modernize the office space — one step at a time. Our aim is to create a pleasant working environment that promotes communication and concentration in equal measure.

GLOBAL - LOCAL: BOSSARD SWITZERLAND

In a global market environment, proximity to customers is a core value for long-term and sustainable partnerships. That's why we are wherever you are.



PICK-BY-LIGHT AND PUT-TO-LIGHT

An efficient, reliable order picking solution

In internal logistics, a smooth and swift materials setup and replenishment process is crucially important. Bossard's paperless Pick-by-Light and Put-to-Light order picking solution ensures maximum efficiency in the removal and filling of items to be picked by guiding employees in a targeted manner.

With the SmartBin Cloud and SmartLabel Cloud systems with an integrated Pick-by-Light and Putto-Light solution, you're taking the next step towards the Smart Factory. When these systems are used, the storage and assembly workstations are fitted with LED light signals that guide the employee straight to the box with the right material during order picking. This allows the milk run activities in Last Mile Management to be performed in a particularly efficient and time-saving manner. The positions of all the items are found quickly and efficiently, while search times are shortened and incorrect order picking is almost impossible.

Pick-by-Light and Put-to-Light with Last Mile Management

To make bringing B- and C-parts from the central storage location to the assembly workstations both an efficient and a time-saving process, "Last Mile Management", our tried-and-tested intralogistics solution, supports any milk

run activities with a digital setup and replenishment list. By integrating Pick-by-Light and Put-to-Light into the order picking process, item positions are found even faster and more efficiently.

Pick-by-Light

For the milk run, Last Mile Management automatically generates a digital setup list in the ARIMS mobile app. As soon as the route starts, the material to be picked is displayed in the app and the Pick-by-Light function is activated. The milk run is guided to the correct item position by the LED light signal. The light indicators signal in series how items are set up in the most efficient sequence.

As soon as the prepared material is acknowledged, the next item's light signal is illuminated. This new technology ensures an error-free and fast setup or order picking performance.

Put-to-Light

Following setup, the material is guided to the assembly workstation. The milk run is supported by the Put-to-Light solution.

The ARIMS mobile app displays the box to be filled and activates the Put-to-Light function. The LED light signal means that item positions can be found faster and less time is needed to refill the boxes at the assembly workstation.



Bossard's smart systems with Pick-by-Light and Put-to-Light connection

The SmartBin Cloud and SmartLabel Cloud systems have the Pick-by-Light and Put-to-Light function. SmartLabel Cloud – the smart, modular display solution – can be installed anywhere in production facilities – whether in the central warehouse or directly at the assembly workstation. Both systems are connected to Bossard's ARIMS software over the cloud. Optimizing the material flow of B- and C-parts in internal logistics helps to enhance the efficiency of the production and manufacturing process as a whole.



Learn more about our new Pick-by-Light and Put-to-Light solution in our video at www.bossard.com

A GREAT HONOR

Andreas Bertaggia, the Bossard Group's VP Supply Chain Management, has been the new President of the EFDA since May 2022.

The European Fastener Distributors Association (EFDA) represents the interests of fastener distributors at both European and global level. We spoke to Andreas Bertaggia to learn more about his office.

What is the EFDA and what is its purpose?

We bring together active and established national associations and a growing number of independent retailers in other European countries. A total of 170 innovative and high-performing members have a huge inventory of fasteners and other C-parts, generate total revenue of more than EUR 4 billion and have subsidiaries and trading partners all over the world.

The EFDA's mission is to defend our member's right to free trade and international competitiveness. We firmly believe that competitiveness on the global stage is a must for European prosperity and that regulation, while addressing unfair conduct, must not limit fastener distributors' ability to support a wide range of strategic European industrial sectors with quality-assured products and advanced logistics.

We believe that a free global market is absolutely vital for a competitive EU economy in which our member companies make a significant contribution to strategically relevant industries.



European Fastener Distributor Association

What challenges is the EFDA facing?

The association advocates for a fair assessment of the anti-dumping surcharge for the import of fasteners from China into the European Union, for example. The EFDA opposes the EU's unfair assessment or tariffs on these fasteners.

For us, it is also important to contain, to a reasonable extent, the impact that increasing bureaucracy relating to standards and legislation has on our members.

Members also receive recommendations and information relating to changing framework conditions – such as new legislation, standards and guidelines – to ensure they are always up to date.

Coming back to your post, how did you end up in this role?

I have been on the Board of the German Screw Association – one of the EFDA's member associations – for about ten years. At the same time, I headed the Anti-Dumping Task Force at European level within the EFDA and had already collaborated closely with Dr. Volker Lederer, the previous President of the EFDA. After ten years in office, he was looking for a successor and put my name forward.

I'm thrilled to give our industry a voice in Brussels.

How might our customers benefit from this?

In this association, you're sitting at the source of all industry-specific information. As President, I also have the privilege of being at the very beginning of the information chain. This helps both the members and Bossard – not to mention all our customers – to respond to changes in a proactive and timely fashion. So we're always acting based on up-to-date information.

Additionally, Bossard benefits from the network that all the members – some of whom are our market competitors – share.

What events will we have to contend with in the coming months?

In terms of trade barriers at political level, the anti-dumping legislation will remain in place. But I don't expect it to be expanded. Certainly, we will be confronted in greater depth with the expansion of supply chain legislation that goes hand in hand with ESG mandates – socially responsible labor practices, sustainable business, justice, stable institutions, no use of child labor, and so on. Other issues include supply chain disturbances and disruptions, changes to the geopolitical situation, the energy crisis and even the trend of deglobalization (i.e. a partial shift away from global to local supply chains).

The association therefore expects product prices to tend to be higher than pre-pandemic levels as a result of these trends.



About Andreas Bertaggia

Andreas Bertaggia has been part of the Bossard Group since 2004 and Vice-President and Head of Global Supply Chain Management within the Bossard Group since November 1, 2008.



www.bossard.com

