



EDITORIAL



Dear customers,

The economy has been surprisingly strong these days. The PMIs in Europe are pleasing. Despite an everyday life that isn't really normal everyday life, and that hardly inspires courageous investments due to the uncertainty, orders seem to be rolling into the economy.

Of course, this is a balm for all of us. If we perform well, at least one of the pillars is secure again in these uncertain times. This way, we can have a stabilizing effect for those industries that are still not allowed to work due to government order. It is positive in any case for the national economy if all the sectors aren't suffering.

I am pleased to draw your attention to the following exciting content.

In the Assembly Technology Expert section, we will present you with the Expert Education service. In particular, we will cover our new e-learning portal. Learn what opportunities this creates for you. Maximum flexibility is a sure thing.

We present our further-optimized logistics software to you under Smart Factory Logistics. We use machine learning to optimize your inventory levels so that the number of express deliveries, empty stocks, and inventory levels can be kept as low as possible. Fascinating.

With the new e-shop, which was launched at the end of February, we introduced a new product categorization method as well. We have seen the signs of the times and reorganized the products into logical, comprehensive, and consistent categories. This is new for all of us and definitely makes finding what you need easier.

ecosyn®-SEF is Bossard's own innovation, namely a self-locking nut with an integrated spring washer and a large contact surface - all in one product. A true smart solution.

We are especially pleased with the practical examples from Hinni and Stolz. It's nice when customers confirm having chosen the right partner in Bossard to help them improve productivity. Please read these articles – there are many benefits for customers.

Dear Ladies and Gentlemen, we are very pleased with a successful start to the new year. This is good for all of us. At the moment, we see challenges when it comes to the procurement front. The supply situation seems like it will be extremely challenging in the coming months. Replacement times are quickly increasing. It definitely makes sense to plan for the long-term. We will do our best every day to provide you with interruption-free service.

Thank you for your trust us.

PETER KAMMÜLLER

General Manager, Bossard Switzerland

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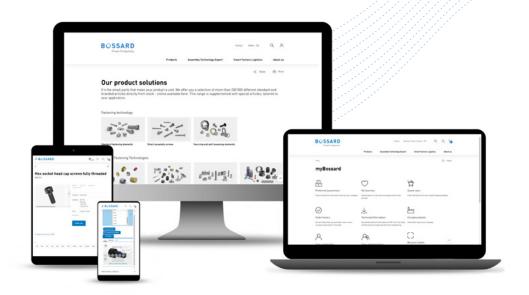
We are where you are.



Online

FIND YOUR DESIRED PRODUCT WITH JUST A FEW CLICKS

The new Bossard E-shop is here



Whether screws, nuts, rivets, washers or customized special parts: It has never been so easy to buy the fastener you want. In the new Bossard e-shop, you can now choose from 200,000 products and order the item you want directly online.

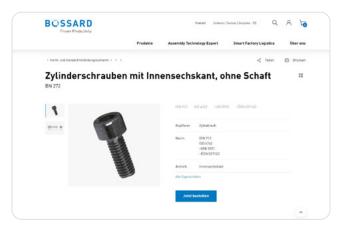
The optimized and updated online shop is available in 23 countries and 10 languages. The embedding of the shop into the existing Bossard website makes looking for the right item quicker. The integrated scan app makes it effortless to re-order frequently needed items.

Simplified product search

Are you looking for a certain fastener? With the new Bossard e-shop, you can simply enter the item you are looking for in the search bar on our website. From there, you will automatically be taken to the desired product in the online shop. The new search bar allows you to search for the item using a product or brand name or other identifying information. The new filter function also allows you to limit your search using certain criteria. You can also search via the Bossard item number (BN) or as a logged-in user, even by customized item number.

Detailed product pages

Once you have found the fastener solution you are looking for, you will find extensive information on the associated product page regarding the selected item. This includes details about the features and properties of the fastener, the unit price, technical drawings and CAD files for download (in 3D or 2D) as well as information about assembly or other important information. Alternative products of the same or higher quality are suggested to you under the keyword "Product variants".

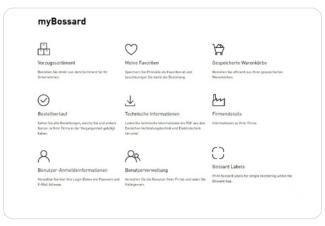


The new clearly arranged product pages contain all of the information about the items you are looking for.

Curious? We are happy to give you a short preview of the most important functions:

"myBossard" customer portal

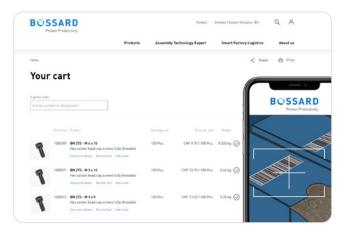
You get complete access to the e-shop, our digital self-service area, via the "myBossard" customer portal. Once you have registered as a business customer, you can define your preferred product range, set individual items as favorites, save entire shopping carts, and re-order if necessary. You can view your purchase history in the customer portal as well as very easily re-order missing items. You can conveniently access technical details about your fasteners and all other items ordered online at the click of a button. In addition, you can print out labels via "myBossard" to easily reorder frequently used items simply by scanning them.



In the "myBossard" customer portal, you get an overview of your preferred product range and can order the item you need conveniently at the click of a button.

Bossard Scan

With the new Bossard Scan app, you can place orders in our e-shop even faster in the future. Simply download the Bossard Scan app and scan the barcode of the desired item using your smartphone—and voilà, your order is entered. The order can then be edited further and paid for via the app or on a computer. Existing Popscan labels, EAN-13 barcodes on small packages as well as labels printed out via the "myBossard" e-shop customer portal can be scanned.











AN EXPERT EDUCATION SERVICE

New Bossard e-learning portal – learn when and where it suits you!

As part of the Expert Education service, the new e-learning portal from Bossard now offers you personal access to the various questions about fastening technology – with the ability to learn at your own discretion and pace.

Learning made easy!

You'll quickly find your way in our well-structured e-learning library. First orient yourself by using the thematic overview and then access the lessons that are relevant to you — as often as you want, from anywhere and at any time. To make the transfer of knowledge even more engaging, the written information is supported by meaningful visual material. You can access all of the chapters as soon as you have registered. You decide for yourself which topic you would like to begin with.

Choice of topic

Self-study

Self-check

At the end of the chapter, you can expect quiz questions to test what you have learned. The e-learning portal is currently only available in the English and German languages.

Your advantages at a glance

Learn when and where it works for you. Bossard's e-learning portal is completely time and location-independent. You can acquire the desired specialized knowledge exactly when you need to in your everyday life – around the clock, 365 days a year. And you can use the self-checks at the end of the lessons to determine whether you have understood what you learned.

E-Learning goals

- Get to know the **characteristics** that set fasteners apart.
- Understand the influencing factors and functional principles of screw connections.
- Acquire the basic knowledge of materials used and how they affect the mechanical properties and corrosion protection.

Learning content

The content is divided into two areas. The first section is dedicated to the **introduction to mechanical fasteners** and covers the following topics: Screws, nuts, threaded inserts, washers, retaining rings for shafts and bores, pins, and rivets. The second section is about the **basic knowledge** of raw materials, mechanical characteristics, and corrosion.

Target groups of the e-learning portal

- Specialists in Supply Chain, Procurement and Order Processing
- Experts in Development, Design, Planning and Quality Assurance
- Professionals in Repair, Maintenance and Assembly departments

Learn how you can save time and money with Bossard's e-learning portal: www.bossard.com





SMARTORDERING

Intelligent procurement through machine learning

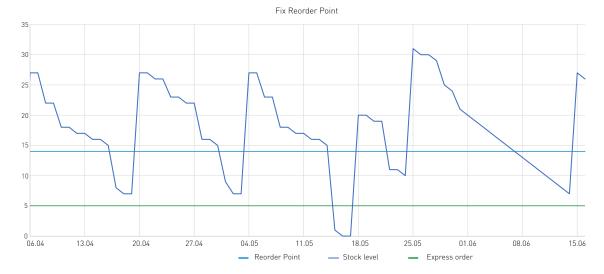


SmartOrdering makes ARIMS even smarter and more reactive! SmartOrdering is an intelligent algorithm that calculates and applies self-optimized procurement parameters for each item and each bin autonomously. Results are increased availability of C-parts, up to 70% reduction of express deliveries and significant cost savings.

The right quantity at the right time

Bossard's SmartBins form the basis for a smooth procurement process, which continuously measure the current inventory level of any given item by using weight sensors. As soon as an item's stock level falls below a defined ordering point, an order is automatically triggered for the customer via ARIMS. A pre-defined order quantity is delivered after a few days.

The material flow and inventory levels are always under control thanks to ARIMS. Fundamental changes to production or unexpected peaks in consumption, however, pose challenges for which the approach "the optimal quantity at the right time at the right place" can no longer be guaranteed. For example, empty bins as a result of high consumption can block entire production lines and cause high costs. The express deliveries that are then required create more additional expenses. That is why conventional systems are manually adjusted if the demand fluctuates greatly in order to remove or add items.



Without SmartOrdering: Through a fixed reorder point a consumption peak or production change can cause stock-outs if the stock is falling below the predefined reorder point. In this case, an express order is automatically triggered as soon as the stock has fallen below the express reorder point and is replenished only after a few days. This process leads to additional efforts.

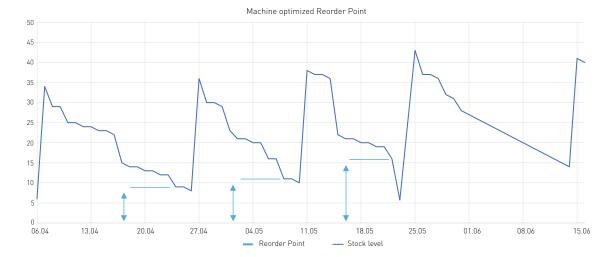


Machine learning through experience and know-how

With SmartOrdering, the automated procurement process is optimized by a machine learning algorithm. The SmartOrdering solution continuously analyses consumption and predicts the demand based on various scenarios considering the risk of stock-outs, stock-holding costs and costs of delivery and defines which items need to be ordered, in what quantity and what time. Reorder point and reorder quantity are continuously evaluated and adjusted.

The automated process reduces the workload of the employees and leads to time savings by

- analyzing past consumptions through SmartOrdering.
- taking into account a risk trade-off and considering optimization on the cost of inventory, including storage space, ordering, replenishment, express ordering and all the costs of a stock out situation.
- taking logistics parameters into account.
- calculating the optimal order point and order quantity by the algorithm.



With SmartOrdering: Automatic adjustment of the reorder point through continuous re-evaluation and adjustment of the demand by the algorithm.

SmartOrdering automates the configuration of the ordering parameters and continuously optimizes them. In addition to the warehousing, ordering, and delivery costs, the risk of a stock shortfall is extremely important. The algorithm learns these risks, takes factors into consideration such as expensive express deliveries, and finds the ideal ordering configuration with minimum overall costs. Thus, the SmartBin System will neither be overfilled nor will the boxes be empty. Production interruptions due to missing parts are prevented and costs are simultaneously saved.

FEATURES



NEW INDUSTRY 4.0 TOOL (ARTIFICIAL INTELLIGENCE)



SELF-OPTIMIZING SYSTEM (INCREASE & DECREASE)



CONTINUOUS DATA ANALYSIS



TAKING SEASONALITY INTO CONSIDERATION



DYNAMIC ADJUSTMENT TO TO CHANGING NEEDS



CALCULATIONS BASED ON THE EXISTING INFRASTRUCTURE

Your benefits

- Decreased number of express orders
- Optimized reorder quantities and stock levels
- Reduced inventory value
- Lower total cost of ownership
- Reduced risk of stock-outs due to guaranteed procurement process

For more information, please speak with your Bossard contact on site or visit our website:

www.bossard.com



Riveting technology



Direct screwed connections



Norm & standard fasteners



Access and connection solutions & operating elements



Securing elements





NEW PRODUCT CATEGORIZATION

Comprehensive, logical, consistent

You get over one million different types of fasteners and functional elements at Bossard. And we are constantly adding more. We have re-categorized our products to be able to clearly and easily display this comprehensive concept in the future as well.

Why a new product categorization?

You are most likely familiar with the Bossard catalog, with its punched index and many catalog groups, which we lovingly call our "bible" inhouse. This catalog was both a sales tool, an overall product overview, and a showcase of Bossard for many decades. Our own Assortment team is making sure that this is always up-to-date and available in several languages and world regions.

In recent years, however, our product range has grown a great deal due to numerous innovations from Bossard, such as our ecosyn® and FASTEKS® product lines, as well as our brand partners. The establishment of completely new product ranges, such as the "Operating and control elements" and "Electrical engineering" segments, has motivated us to dedicate separate catalogs to each of these product ranges.

The additions and supplementations have suggested that our product categorization was becoming increasingly confusing. We are making our product solutions fit for the future with the new system. The product logic generated by our experts is not to be confused with international classifications, such as ECLASS / ETIM, etc.

We will gradually implement the new system on our website, in the integrated e-shop as well as in all other external and internal systems. Our catalog will also no longer be printed; it will be replaced by a product overview, the so-called Quick Reference Guide.

This guide will provide a quick overview of our entire product range, in printed form or as a PDF. The e-shop will then have detailed product information available.



The advantages of the new product categorization:

- Simple and logical: In the future, you will find products of the same technology, such as screws or rivets, in the same group, regardless of the materials used (steel, plastic, INOX). This will allow you to find what you are looking for faster and easier.
- **2. Consistent:** The new structure will be implemented globally in all systems.
- 3. Comprehensive and future-proof:
 All products are now logically organized.
 Future expansions of the product range can easily be integrated into the new structure.
- **4. Always up-to-date:** Digital product range maintenance means you will always find the latest product range in the new e-shop.

Just take a look at our website and familiarize yourself with our new product categorization!



INNOVATION 2021: ECOSYN®-SEF (BN 33855)

Operationally safe contact screw

ecosyn®-SEF combines a self-locking nut with an integrated spring washer and large contact surface. SEF stands for "Safe Electromechanical Fastener".

Everything in one element

Reliable electrical devices require reliable contact fittings. The requirements on live parts are always increasing due to new standards, such as the EU directives RoHS or REACH and relevant design specifications.

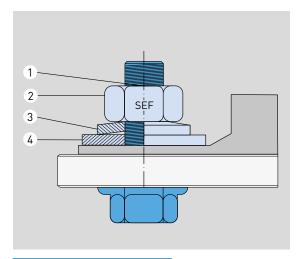
ecosyn®-SEF is is a multifunctional fastener for secure mechanical connections and provides a reliable screw connection for electrically live contacts for high voltage and low voltage applications. Together with a renowned American electromobility pioneer, Bossard engineers developed a SEMS nut, which combines the following elements:

Spiralock® thread lock (1) in the nut (2): The special thread Spiralock® prevents the contact fitting from coming loose when exposed to any existing vibrations or external loads on the clamping point...

Spring washer (3): The spring assembly can counteract a loss of preload force in the case of short clamping conditions with varying material pairings, separation points, and different operating temperatures.

The washer (4) prevents surface imprints when re-assembling, which favors a flawless electrical current transmission. The larger contact surface of the ecosyn®-SEF reduces the surface pressure and also ensures an effective transmission of force in slotted holes.





Four functional elements in one = ecosyn®-SEF

1. Thread lock | 2. Nut | 3. Spring washer | 4. Washer

Five specific advantages for you

- 1. Rationalization in procurement and logistics
- 2. Shorter preparation and assembly times
- 3. Reduction of assembly errors
- 4. Increased process reliability for lean processing
- 5. Greater connection reliability

Typical application areas

- Electromobility
- Rail vehicles (e.g. power electronics)
- Electrical devices with safety-related connections (e.g. ground wire)
- High-voltage batteries
- Transformers
- Slotted hole connections, such as for adjustments
- Connection of non-ferrous metals with large expansion coefficients in case of temperature fluctuations
- Screwed connections of components made of aluminium, copper or soft materials with high settlement effects

Available designs

ecosyn®-SEF is now available in the design of steel, strength class 8 in the dimensions M6, M8 and M10. The spring washer is provided with a zinc flake coating. The nut and washer have a zinc-nickel coating and a sliding layer for a reliable assembly. You can find the current product range and dimensions in the new Bossard e-shop. Additional designs available on request.

The product properties at a glance

- All elements are firmly connected to each other
- For high-voltage, low-voltage and purely mechanical connections
- High compensation capacity against settlement effects
- Large surface coverage for through and slotted holes
- Very resistant to vibrations
- Temperature-resistant
- Suitable for metric external thread
- Reusable
- Long service life of the connection



ecosyn®-SEF in application

You can find this product here in the e-shop

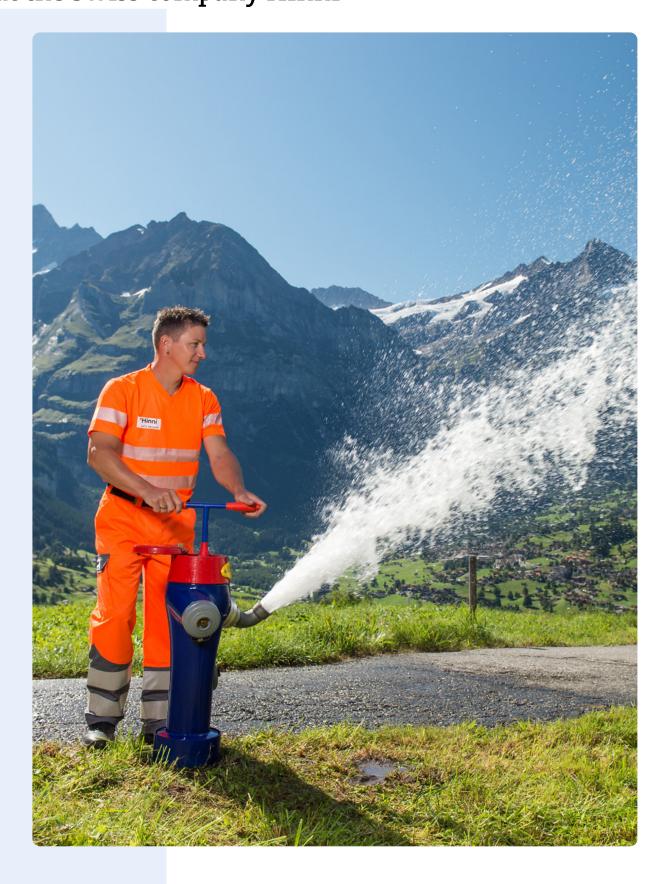


Additional information about ecosyn-SEF in our new brochure



PROVEN PRODUCTIVITY

Quick, easy, safe: World's first in use at the Swiss company Hinni





About one meter tall and known from their often bright-red look, they are regularly spaced along the road. They are available in a single or multi-armed design. Generally very nondescript in everyday life, but indispensable in disaster situations. We're talking about hydrants.

Besides the benefit everyone knows about of supplying the fire department with water to fight fires, hydrants also serve other purposes. For example, they also supply water for street cleaning or construction sites. In addition, they serve as emergency water extraction points, for example, in case of disruptions in supply lines.

They also perform an important function in the maintenance of pipelines: for flushing, for venting or for relieving (releasing pressure).

The proposed threaded lifting pin M16 (BN13400). Quenched and tempered steel, self-locking, with push button and movable shackle.

Hydrants need to withstand different environmental shocks in these application areas. In addition, they are usually in use for up to 50 years, which means meeting the highest standards in production and quality. Sturdy, high quality materials are used during production. The disadvantage here: Depend-

> ing on the design, hydrants weigh between 30 and 60 kg. In order to prevent health problems, such as chronic back pain, in the fitters,

cranes or similar lifting aids are used when assembling and installing hydrants.

Hinni AG faces challenges when it comes to handling hydrant blanks. Getting the semi-finished hydrants from point A to point B within production was cumbersome and took a lot of time. They looked for a simple solution – but which one?

"Using the threaded lifting pin helped us out tremendously – we are super happy with Bossard's solution"

Quote from Hinni



Thanks to the movable shackle, the threaded lifting pin can be easily attached to the crane hook.



The threaded lifting pin can be inserted into the thread of the cast iron blank at the push of a button.



The blank can easily be lifted using the crane and positioned as desired.

When Bossard heard about the challenging situation, they came up with a surprisingly simple idea. Self-locking, steel M16 threaded lifting pins were recommended to the customer. A movable shackle makes it possible to easily attach them to a crane hook. A push button can also be used to effortlessly guide the threaded lifting pin into and out of a thread.

Hinni AG was immediately provided with some samples to test out in their production. The idea completely convinced the customer: The Hinni fitters were excited by the simplicity of the proposed solution and the time savings it could allow. Small part – big impact.



Hinni AG – A pioneer from the start

The cornerstone of Hinni AG was laid around 30 years ago. By purchasing the rights to the patent for a device for hydrant revision under full mains pressure, the company was born. The company has proudly carried the name of that device's inventor ever since: Hans-Ruedi Hinni. The Swiss company offers services in the field of hydrant control maintenance and revision. In addition to hydrant bases and tops, the company produces various spare parts and accessories for the hydrant models commonly used in Switzerland. Continuous service orientation and power of innovation made Hinni AG the market and technology leader in these fields. The latest development is the LORNO control system, which helps water utilities to monitor their hydrants and helps them detect leaks with an automatic alarm. Hinni AG has belonged to the BKW / Arnold Group since 2017.

PROVEN PRODUCTIVITY

A personalized service offering for Stolz



Since 1952, our customer STOLZ has been producing and installing technical equipment that allows industries to convey and transform products in powder or granular form, whether with conveyor technology, hammer mills, granulating presses, thermal conditioning, mixing machines or dedusting filters

Mr. Humez, Procurement Manager, and Mr. Tessier, Warehouse Manager, used these words to introduce the presentation as part of an offer to procure and manage 28 product families for the company Stolz. These product families included items such as screws, consumables, personal protective equipment, etc. Since then, we have analyzed Stolz's entire warehouse and information flow, and they have willingly opened their doors to us. To this end, we have been able to communicate with every player in the procurement chain and set goals together for time and space planning, for more transparency and the ability to take action.

We are initially focusing on the warehouse where the outdated Kanban system was replaced with our SmartBin system. Weight sensors are now used to manage over 900 items in 1,100 containers, which has made it possible to use 30 % less space and consolidate over 30 suppliers. In the production area, more than 1,000 scales were installed that achieved a space saving of more than 50 % for most item groups. Sensitive items that require access control are now stored in our SmartLocker system and were divided into 3 strategic points in the production area.

The Last Mile Management solution is being used for 2 daily replenishments in order to ensure a more productive supply to the production lines. This way, the operators always receive the correct and optimized quantities in the smallest possible containers. The area the production lines provided for storage is now minimized in favor of larger production systems.

SUCCESS STORIES |



The employees in the Development and Planning departments at Stolz have worked together closely with the Bossard France technical team to reduce and optimize their range of products.

These reductions were prompted by the possibility to use Bossard products on new and already made products for maintenance purposes.

The reference quantity could be reduced by nearly 40% here. This is the result of fundamental work that initially took place on the most-used product families and is ongoing to this day:

Use of washers for hexagon head cap screws has been greatly reduced. The safer hexagon head cap screw with flange has now replaced the screw with washer in many places.

Screws, nut and washer sets which were previously mainly hot-dip galvanized, were replaced by zinc flake coating at a rate of nearly 80%. Equipped with the same performance characteristics, this coating offers a standardizable and lower-cost solution for fasteners.

"Having the right product in the right place at the right time and in the right quantity is the ace in the hole in the industry".



"We would like to streamline the number of our suppliers and harmonize the logistical management of all of our class C components".

Mr. Humez, Procurement Manager, and M. Tessier, Warehouse Manager

Finally the project of the controlled lubrication of stainless steel nuts by using an additional coating achieved the optimal securing of screw connections, as it increases the tension of the screw connection and reduces assembly times, avoiding the problem of seizure in fasteners on stainless steel.

All of these ATE projects (Assembly Technology Expert) were studied using our new TCO calculator at Bossard. Every technical innovation is subject to a precise cost calculation in order to determine the actual improvements for all cost centers and thus precisely specifies the priorities for every product.

We are also currently checking optimized application options for blind rivets. Goal: To find safer solutions and to reduce assembly times of the silos in an industry that needs to constantly streamline installation times.

The technical side is joined by training activities on safety and corrosion in the form of seminars and webinars.

This personal care and use of ATE tools have impressively proven that solutions for assembly problems are available and that there is still a great deal of potential for streamlining.



WE DO EVERYTHING SO THAT YOUR PRODUCTION IS SEAMLESS

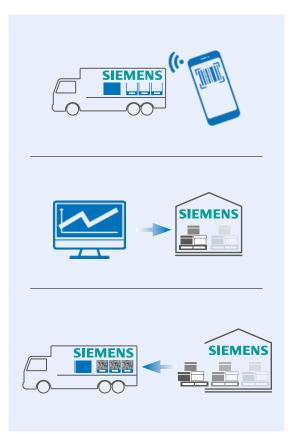
Supplying you is our core expertise – even in challenging times



LAST MILE MANAGEMENT WITH THE NEW BOSCODE APP

Trigger orders right from the delivery vehicle

Our Smart Factory Logistics customer "Siemens Mobility AG" had a very special request: Make it possible to trigger material orders right from the delivery vehicle so that the respective construction sites always have sufficient material. Bossard came up with a smart solution specifically for this purpose: Last-Mile Management combined with our new BosCode app from ARIMS.



2. With Sortimo racks that have barcode labels attached to them. The fitters trigger their orders via the BosCode app as needed.

Por intralogistics specialists in the warehouse, the orders appear on the digital picking list of the Last Mile Management. They see what material needs to be picked for which delivery vehicle and which delivery route.

The ordered material is brought into the corresponding delivery vehicle by the intralogistics specialist. Work is more efficient for the service technicians, because the materials are always available at the point of use.

With this new solution, the material flow can be optimized for customized mass production.

Additional information about Last-Mile Management with the new BosCode app from ARIMS:



www.bossard.com