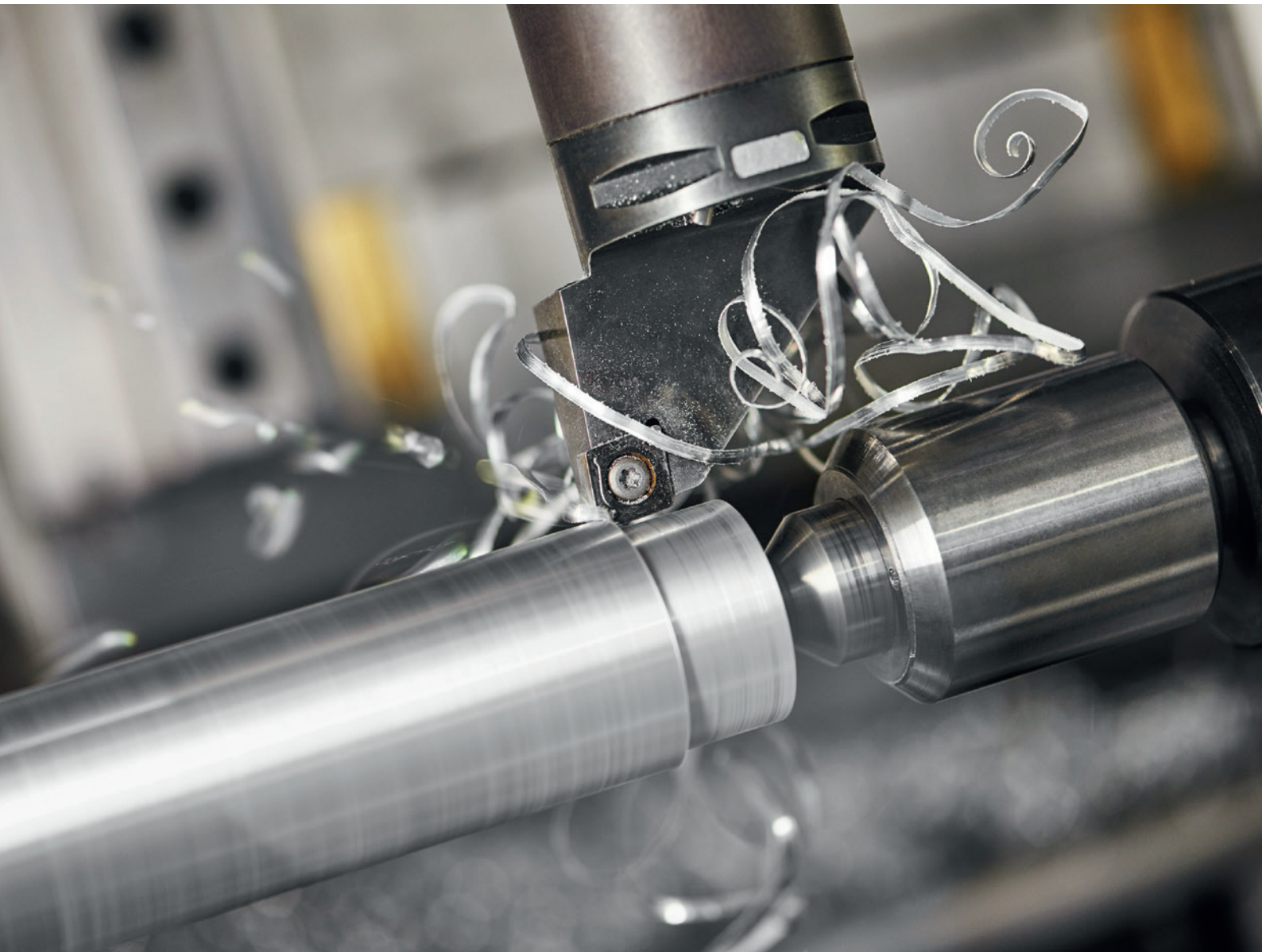


**BOSSARD**

Proven Productivity



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## Bossard Special Parts

Added value from one source

## YOUR ONE-STOP SHOP

# The global Bossard network

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We define the manufacturing process according to your requirements and select the appropriate manufacturer for you from our worldwide supplier portfolio.

With the procurement of special parts by Bossard you get real added value:

- Fewer suppliers
- Professional consulting
- Comprehensive engineering services
- Constant quality
- Smart B- and C-part management
- Highest supply reliability thanks to automated ordering process
- Flexible release quantities
- More free capital due to reduced inventory



### **Drawing**

Your drawing is anonymized by Bossard for the procurement process. This way your know-how remains protected.



### **Samples**

You receive samples for a comprehensive quality and functional tests before release of series production.



### **Testing**

Bossard's own ISO/IEC 17025-accredited testing laboratories in several countries around the world support your quality assurance.

ADDED VALUE FROM ONE SOURCE

«Reliable and optimized supply chain from the drawing to the assembly site.»

Your added value



**Series production**

After your approval, we have the components manufactured by the most suitable partner or production site – including reworking and refinement.

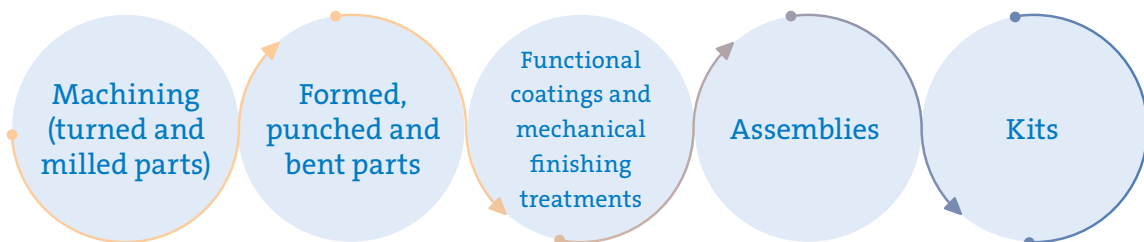


**Logistics**

For logistics customers we also deliver directly to the assembly site on request.

## PROCUREMENT EXPERTISE

Depending on batch sizes, required delivery times, material specifications or manufacturing tolerances, we use different manufacturing processes. In consultation with you, we select the most efficient production process.



## PROCUREMENT EXPERTISE

# Machining (turned and milled parts)

## The right solution for every industry

When high precision, low tolerances and complicated forms are required, then metal-cutting production involving turning, milling and drilling is often to be recommended. Bossard supplies a wide range of turned and milled parts in all common materials, batch sizes, dimensions and surface treatments for the perfect interaction of your products.

### Materials

- All machinable steels
- Non-ferrous metals and plastic
- Stainless steels
- Many special-purpose steels

### Examples



#### Cylinder guide

Dimensions:

L = 12 mm

Ø = M30 x 1

Material: Free-cutting steel

Surface: Zinc plated



#### Base plate

Dimensions:

L = 100 mm/60 mm

H = 8 mm

Material: Aluminium

Surface: Blank



#### Eccentric axis

Dimensions:

L = 50 mm

Ø = 20 mm

Material: POM



#### Swivel arm

Dimensions:

L = 60/31 mm

H = 12 mm

Material:

Stainless Steel 1.4301

Surface: Blank



#### Sleeve guide

Dimensions:

L = 120 mm

Ø = 35 mm

Material:

Stainless Steel 1.4305

Surface: Blank



#### Lateral guidance

Dimensions:

L = 20 mm

H = 33 mm

Material: POM



#### Grid bolt

Dimensions:

Ø = 24 mm

L = 40 mm

Material: Brass

Surface: Blank

## PROCUREMENT EXPERTISE

# Formed parts

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## Economic processing at consistent quality

Formed parts are characterized by high material utilization, short production times and increased strength, and they are also particularly cost-effective. Material, drive style, manufacturing tolerances and other comparable requirements dictate whether a specialty item can be produced by either cold forming or hot forging.

### Hot forged parts

#### Materials

- All established steels including stainless steels
- Special purpose materials such as e.g. nymonic on request

### Cold formed parts

#### Materials

- All established steels including stainless steels
- Aluminum, brass
- Special-purpose steel and titanium on request

## Examples



#### Bearing bolt

Dimensions: M8 x 36.5/12  
Material: Steel  
Surface: Black-oxidized



#### Spacer screw

Dimensions: M4 x 24  
Material:  
Stainless Steel A2,  
with blue sliding layer



#### Shoulder screw

Dimensions: M6 x 22/12  
Material: Steel  
case-hardened  
Surface: Galvanized,  
with sliding layer



#### Sleeve nut

Dimensions: M10 x 35  
Material: Steel  
Surface: Zinc plated

## PROCUREMENT EXPERTISE

# Punched and bent parts

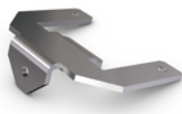
## Economic processing at consistent quality

Fastening elements, washers and many other parts for machinery and equipment construction are formed by punching and bending technologies. For punched and bent parts, we offer you all currently available manufacturing processes as well as all possibilities of dimensions and surface coatings. Our partners are manufacturing specialists for any requirements.

### Materials

- All established steels including stainless steels
- Spring steels
- Non-ferrous materials
- Special purpose materials on request

## Examples



### Pinboard holder

Dimensions:  
L/B = 33mm/20mm  
H = 10mm  
Material:  
Stainless Steel 1.4301  
Surface: Anodized



### Gripper

Dimensions:  
L/B = 115mm/15mm  
H = 13mm  
Material: Stainless Steel



### Flashback

Dimensions:  
L/B = 220mm/60mm  
H = 1mm  
Material: Aluminum sheet  
Surface: Blank



### Clamp

Dimensions:  
L/B = 30mm/30mm  
H = 0.8mm  
Material: Spring steel

Small production runs can on request also be cut with laser, plasma or water jet, depending on part geometry.

## PROCUREMENT EXPERTISE

# Functional coatings and mechanical finishing treatments

The correct surface treatment increases the functionality and service life of your component. In addition, the reworking of a standard part is often more cost-effective than the production of a drawing part.

## Surface treatment

Do you want to increase process reliability and reduce the overall cost of a connection? Bossard offers over 150 different coatings and post-treatments. Corrosion protection, friction coefficient

optimization, appearance, wear resistance – the reasons and applications are many and varied. Our experts can help you choose the right solution for your product.

## Examples



### ecosyn®-lubric Black/Silver

- High-performance dry Lubrication
- Outstanding friction characteristics
- Low deviation



### Bossard Coating CD 586

- ColorDesign  
Black coloration
- For decorative requirements
- Suitable pre-packaging



### Bossard Coating AF 573

- AntiFriction
- High pressure and temperature resistance
- Suitable for small and large dimensions



### Bossard Coating CL 048/049

- CleanLine for sensitive fastening points
- Specific chemical composition
- Good adhesion



## Mechanical finishing treatments

Mechanical reworking of catalog or standard elements are often the fastest and most cost-effective solution for small and medium quantities.

### Examples



Shortening



Thread-cutting



Drilling of fastening and split-pin holes



Turning of thin shanks and grooves

## Functional coatings

Functional coatings are system solutions for mechanically stressed fastening elements, such as screws and nuts. These coating types are applied using different application procedures.

Depending on the coating, they can assume a locking, securing (captive) or holding/sealing function.

### Examples



TufLok®/Nytemp®

- Thread locking patch
- Securing (captive) function
- For nearly all materials
- Can be reused several times



Nystay®

- Fixing coating
- Holding function
- Coating on nearly all metal materials
- Can be reused



Nyseal®/ Nyplas®

- Under-head coating
- Excellent sealing effect
- Coating on nearly all materials
- Can be reused several times



precote®

- Adhesive coating
- Locking effect
- For nearly all materials and surfaces
- One-time use only

## PROCUREMENT EXPERTISE

# Assemblies

## Focus on your know-how

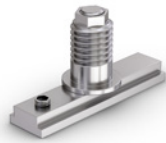
Procure ready-assembled and tested assemblies in the desired packaging. From simple mini assemblies to electro-mechanical units. This allows you to eliminate process steps and focus on your specific know-how in final assembly.

### Examples



#### Detection pin

Number of components: 4  
Dimensions: L = 32 mm  
Materials:  
Stainless Steel/Plastic



#### Slider

Number of components: 3  
Dimensions: L = 30 mm  
Materials: Stainless Steel



#### Door ramp

Number of components: 16  
Dimensions:  
L/B = 850 mm/330 mm  
H = 160 mm  
Materials: Stainless Steel



#### Pull button

Number of components: 7  
Dimensions: L = 150 mm  
Materials:  
Stainless Steel A4/Plastic/  
Rubber/Brass



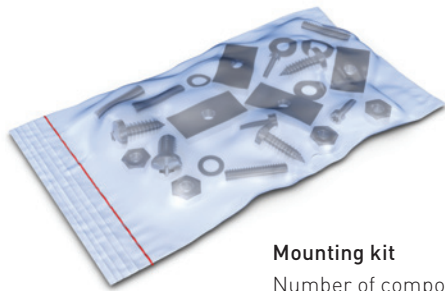
## PROCUREMENT EXPERTISE

# Kits

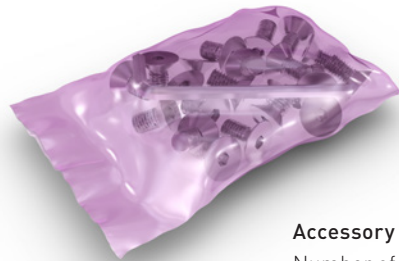
## Mounting and accessory kits

In addition to assemblies we also make kits. Bossard supplies you with kits of the most varied components, accurately counted, neatly packed and labeled or printed according to your specifications.

### Examples



**Mounting kit**  
Number of components: 24  
Specialty: 12 variants



**Accessory kit**  
Number of components: 20  
Specialty: Welded, coloured bags  
Mounting instructions included



## APPLICATION ENGINEERING

# Be one step ahead with our additional services

We support you in the development and production of cost-efficient individual solutions that are tailored to your needs. Our services deliver the smartest solutions for all possible fastening challenges.

### Expert Test Services

- Tensile and compression strength testing
- Hardness tests/hardness profile measurements
- Friction coefficient testing/torsion testing
- Torque analysis
- Coating thickness measurement
- Spectral analysis
- Fastening optimization
- Loosening analysis
- Corrosion analysis
- Salt spray test
- Ultra-sonic preload measuring
- Failure analysis
- Joint design calculation



### Online calculators and converters for fasteners

Bossard calculators and converters are designed for engineers, technicians and designers involved in the development and assembly of bolted joint.





## Expert Design Consulting

Our highly trained engineers assist you in designing perfect products. In cutting-edge fastening design centers, they oversee your fastening design procedures and keep close track of total product lifecycle costs.



## 3D Scan

Record freeform surfaces or parts with complex geometries electronically and convert them in a technically uncomplicated manner into CAD files. Thanks to the flexible use of 3D hand scanners we are completely independent of the location of the part to be scanned.



## 3D Production – Rapid prototyping

In our 3D production your ideas become reality: Together with our Swiss partner 3d-prototyp GmbH we produce prototypes and small production runs for you.



## CAD Online Portal

The state-of-the-art CAD tool supports your product and design choices with animation, 2-D and 3-D views and additional smart features.



## SUCCESS STORY

# Cooperation of VR AG and Bossard regulate traffic with ease

The intelligent traffic systems of VR AG decide every day where and when we must stop in traffic, and they determine our continued journey. They therefore ensure smooth traffic across Switzerland. What seems very simple is in fact highly complex. Bossard supports with a broad product portfolio, including many special parts.



Constant traffic jams and a shortage of parking spaces, infrastructures and fine particulate pollution require new traffic concepts in order to manage and maintain mobility, especially in urban centers. VR AG from Schlieren is playing a key role in this ever more complex future market. The company leads the market with around 750 installed traffic light systems in German-speaking Switzerland. The traffic light systems from Schlieren are therefore a fixed and important part of the Swiss road network.

## Broad product portfolio and logistics

As it is always the case, product quality is crucial. A failed screw connection would have serious consequences, plus the function of the connection must be ensured in the long term.

VR AG purchases a wide range of products from Bossard, including many custom solutions. For example, raw traffic light carriers and power supply box housings are produced and delivered. Perforated sheets and the plates for the directional arrows are also manufactured to customer specifications.

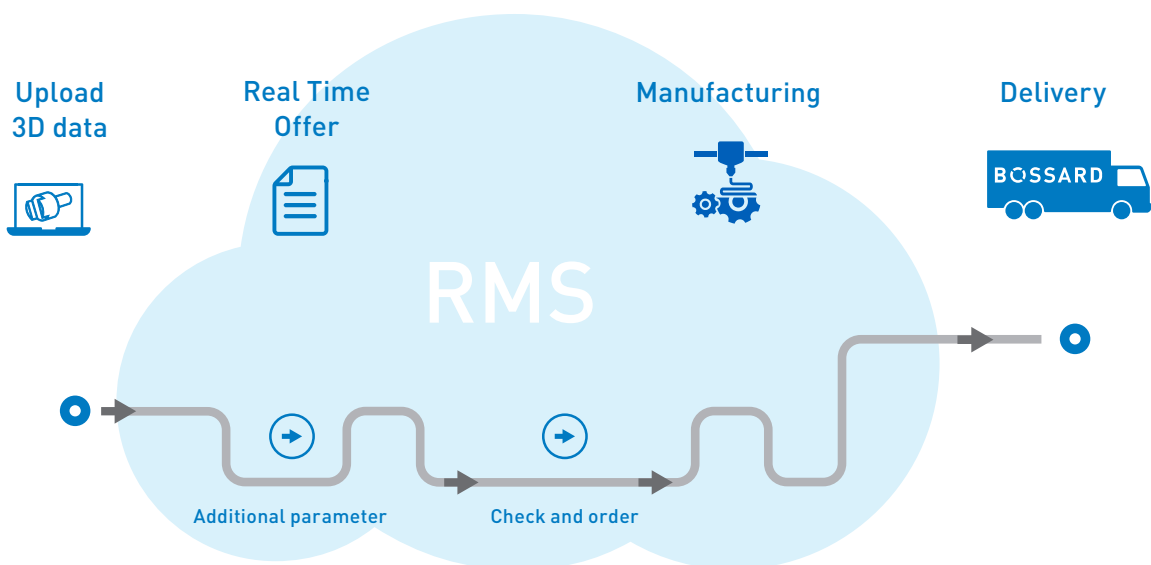
***“Thanks to the global Bossard network, we can purchase special parts and catalog items from a single source. The number of suppliers remains manageable, that saves time too. In addition, we get excellent quality at an attractive price”.***

The customer sums up the advantages. Bossard also ensures a reliable C-parts management with Smart Factory Logistics. The products are transparently and efficiently delivered directly in the assembly hall according to the Kanban principle. The C-parts management of VR AG is therefore regulated with ease – by Bossard.

## APPLICATION ENGINEERING

# Real Time Manufacturing Services

Your Platform for Prototypes and Small Series in Real Time.



Upload your 3D data to the RMS online platform for a price quotation and delivery date in real time. The data is immediately processed, analysed and can be put directly into production. Bossard supplies you with the finished prototypes and small series to make your further process plannable and reliable.



### Speed

You will receive your price and delivery offer immediately in real time.



### Reliability

You can rely on our promise.



### Accuracy

We offer and produce based on your drawing data and specifications.



### Planability

You know when and at what price your product arrives.



### Versatility

We supply a wide range of turned and milled parts in many materials and variations.

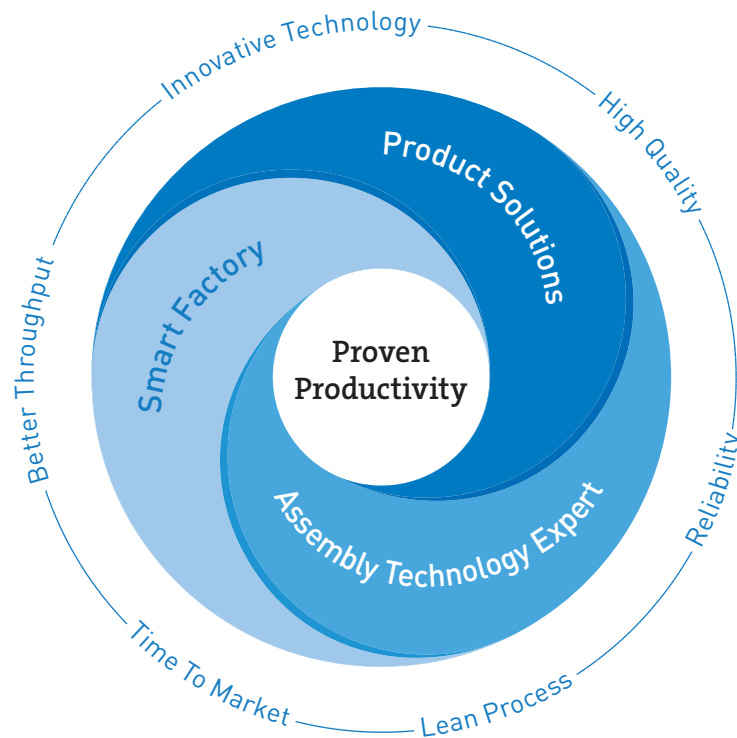
For more information, speak with your local Bossard contact partner or visit our website:



## PROVEN PRODUCTIVITY – A PROMISE TO OUR CUSTOMERS

# The strategy for success

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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**, 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.





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[www.bossard.com](http://www.bossard.com)