

MATERIAL FLOW AND FACTORY EQUIPMENT WORKPIECE CARRIER



QUALITY FOR AUTOMATED PRODUCTION.

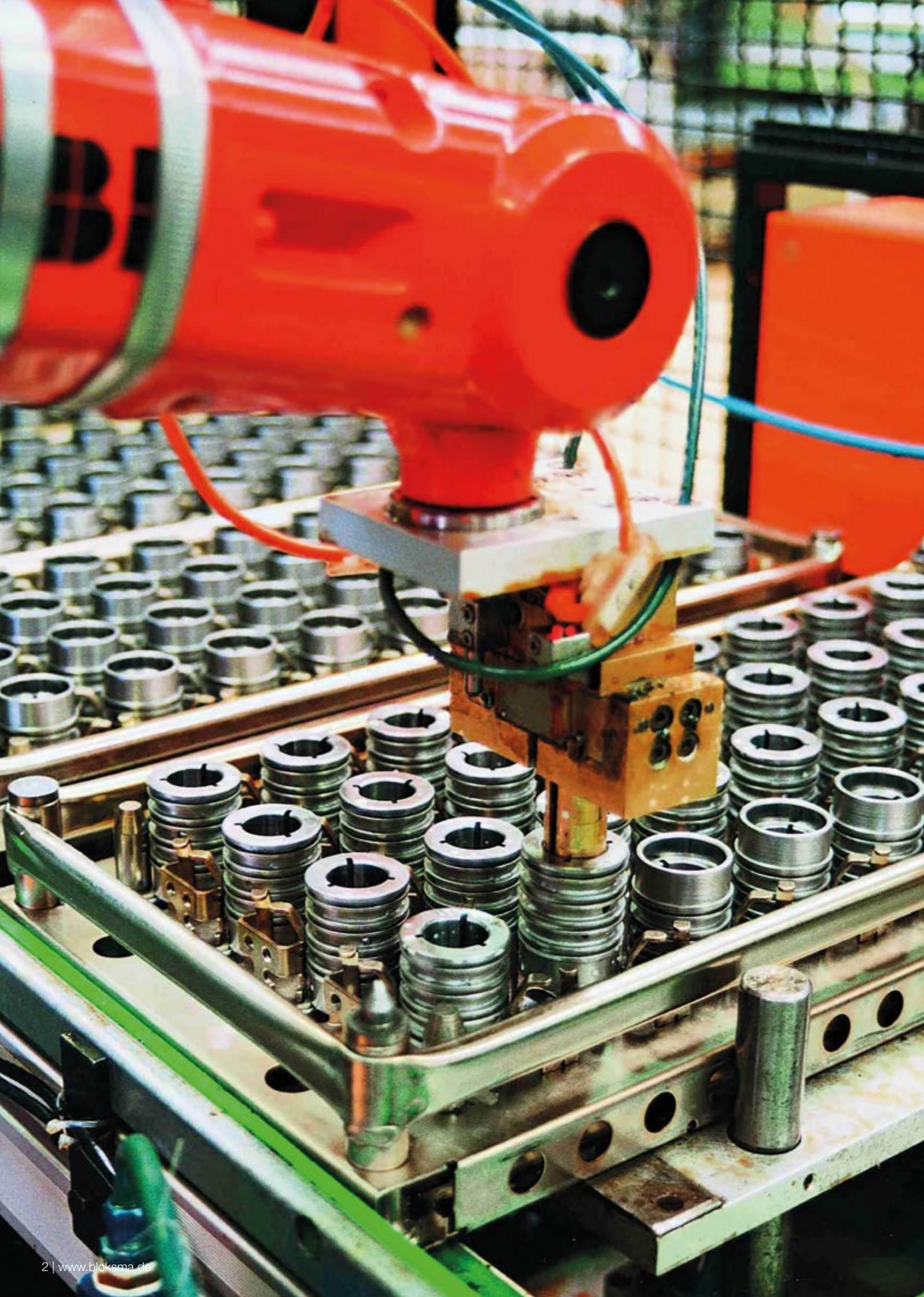


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INDIVIDUALLY CUSTOMIZED WORKPIECE CARRIER FOR AUTOMATED MANUFACTURING

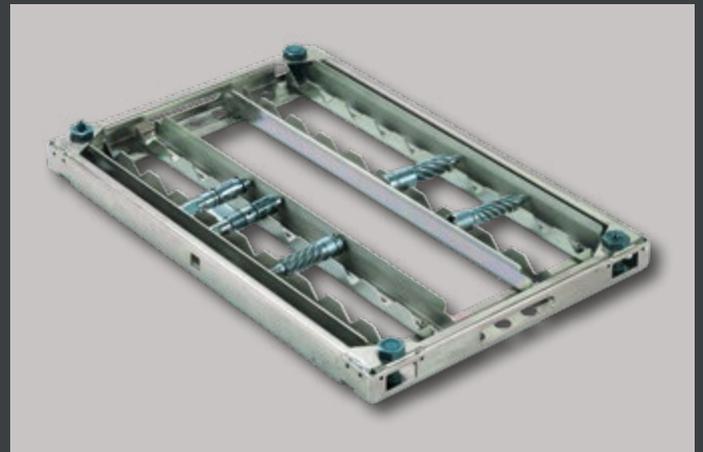
from small and light to large and heavy - BLOKSMA offers customized Workpiece Carriers for your automated manufacturing. In over 2.000 individual designs!

It is no longer possible to imagine automated production without Workpiece Carriers. Due to the decreasing size of components, they can no longer be handled manually. They are used to pick up workpieces and transport them safely to their destination. The geometry of the workpieces/ components determines the design of the carrier systems.

That is why Workpiece Carriers from BLOKSMA are designed individually, depending on the individual task. The Rapid Prototyping process already ensures the highest precision possible during the system's development. In other respects, too, we focus entirely on your needs: Depending on the requirements of the components to be transported, you can choose between different materials and dimensions, as well as the fixed or variable amount of pieces when considering the loading.



BASICS CONSTRUCTION FORMS



THE SHAFT

Workpiece Carriers for this basic shape take in symmetrical parts. The length of the parts is usually greater than their diameter; the diameter may vary.

This includes camshafts, for example drills and tubes. The work pieces are transported in a horizontal position. The picking up and handling of the parts is carried out on the outer contour.

**100
YEARS**

of BLOKSMA
were celebrated
in 2020

**38
YEARS**

of experience
with Workpiece
Carrier

2124

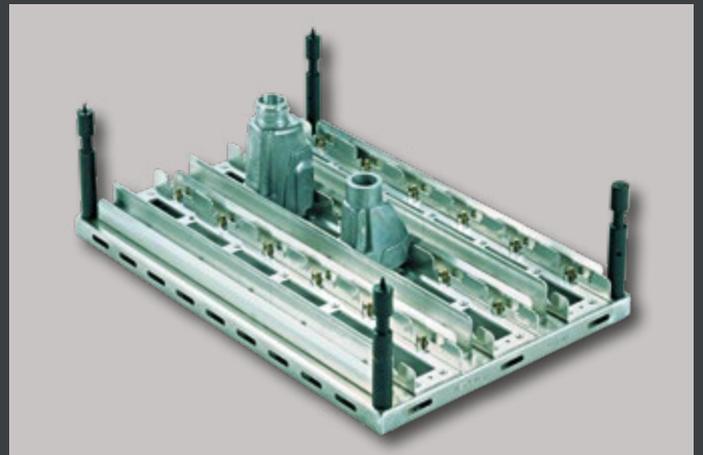
different Workpiece
Carrier have been
developed and produced
by BLOKSMA over the
years.



DISC-SHAPED PARTS

Workpiece Carriers for this basic shape take symmetrical parts. The diameter of the parts is usually larger than their height; their diameter may vary.

This includes, for example, gear wheels and brake discs. The workpieces are transported in a vertical position. The picking up and handling of the parts on the inner and outer contour is possible.



INDIVIDUAL GEOMETRY

These Workpiece Carriers take asymmetrical parts such as castings, assemblies, brackets and cubic shaped objects.

The workpiece can be picked up standing, hanging or lying.

Picking up and handling of the parts on the inner and outer contour is possible.

HOW IS YOUR WORKPIECE CARRIER CREATED?

OUR APPROACH: PERFECT TAILORING TO YOUR NEEDS

1

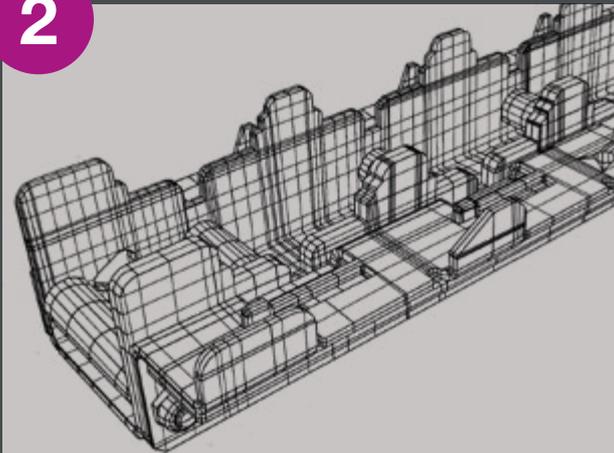


ANALYSIS & ASSESSMENT OF NEEDS

Every component is different. Therefore we're consulting you based on your requirements for Workpiece Carriers in terms of material, design, type of holder, etc.

In doing so, we're drawing on almost 40 years of experience.

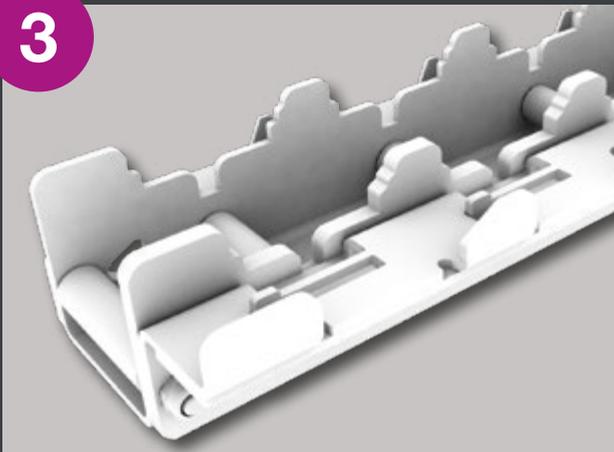
2



MODEL AND / OR DESIGN DEVELOPMENT

Based on your requirements and briefing, our in-house design department creates a draft or a model of your Workpiece Carrier.

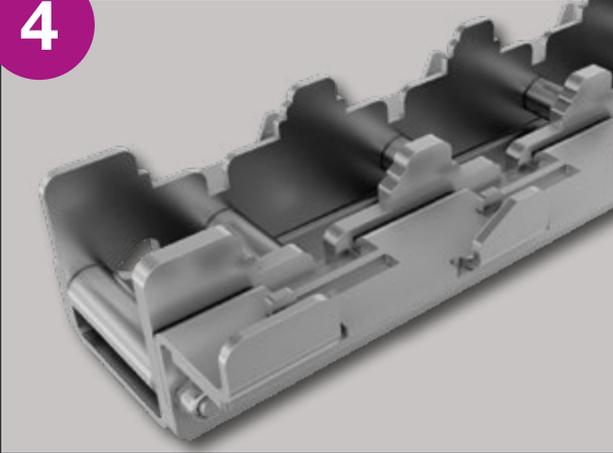
3



RAPID PROTOTYPING

The model created provides the basis for the next step: Rapid Prototyping. In Rapid Prototyping, we print a sample of your component as a true-to-scale prototype. This allows you to see how your component will be accommodated and whether the model is in line with your requirements and compatible with your existing systems.

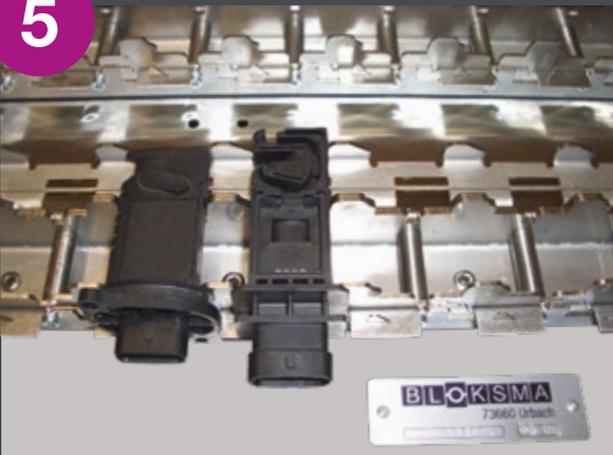
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SAMPLE AND / OR PROTOTYPE CREATION

In this next step, a prototype is made from the final material. This prototype is for testing the fit of the component and for checking the handling, the choice of material and possible friction points.

5



TEST RUN

If the prototype is a success, a complete Workpiece Carrier is manufactured from the final material in order to test its interoperability with a robot, a washing line or similar.

Improvements resulting from the tests are considered in the batch production. Upon request, this step can be omitted for small quantities.

6

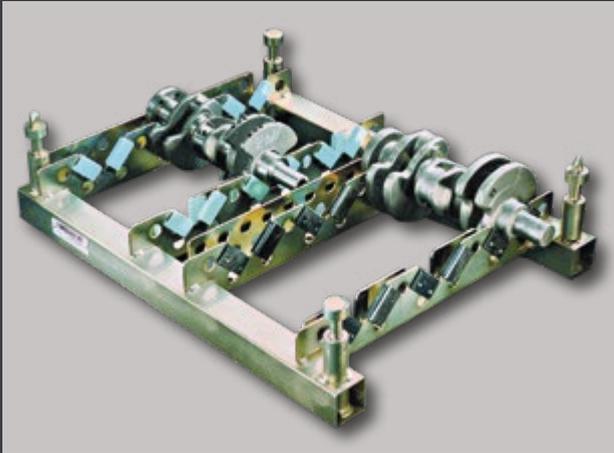


BATCH PRODUCTION

After successfully passing all tests, the Workpiece Carrier goes into batch production.

Of course, after delivering your Workpiece Carriers we do not part ways: If you need further advice or if there is need for adjustments, maintenance or other services, we are more than happy to support you at any time.

CONSTRUCTION



WORKPIECE CARRIER TUBE FRAME CONSTRUCTION

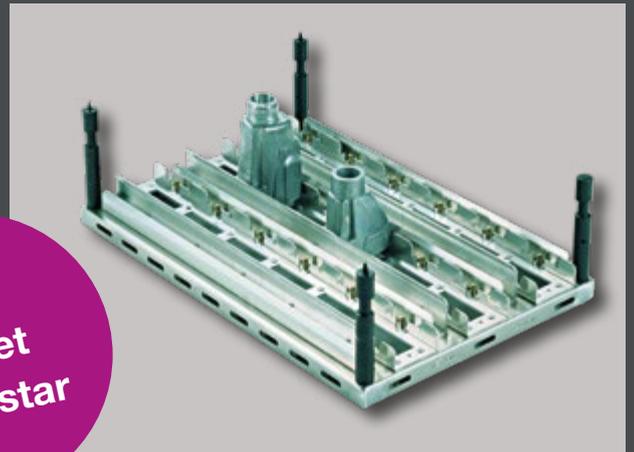
advantages:

- high positional accuracy
- perfect for bigger dimensions
- especially suitable for huge and heavy components
- any contour or geometry possible

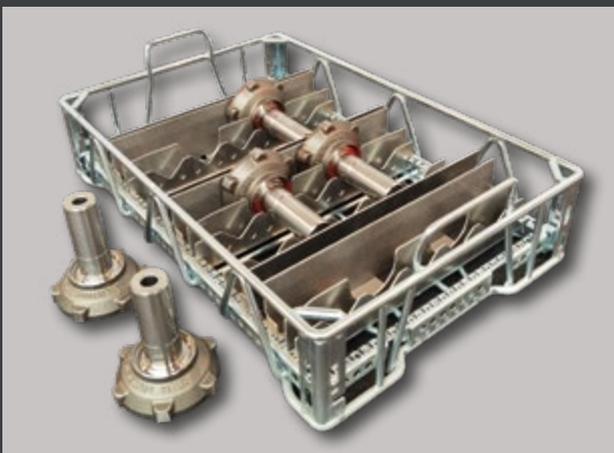
WORKPIECE CARRIER SHEET METAL

advantages:

- any contour or geometry possible
- absolute precision
- perfect for automation
- for lighter, smaller and precise components



Our
secret
superstar



WORKPIECE CARRIER WIRE/SHEET COMBINATION

advantages:

- any contour or geometry possible
- absolute precision
- perfect for automation
- for high-precision and sensitive components
- for lighter and moderately difficult components
- suitable for washing
- the best of both worlds

MATERIALS AND THEIR ADVANTAGES

WORKPIECE CARRIERS ALUMINIUM



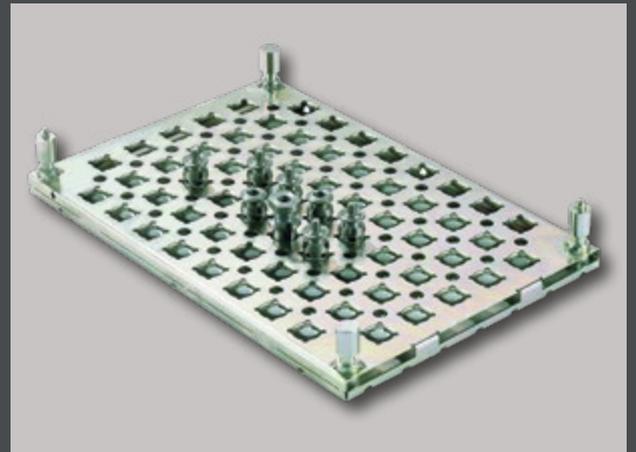
advantages:

- light (65% lighter than steel)
- washable
- extremely stable
- individual coloring with anodisation possible
- recyclable
- environmentally friendly

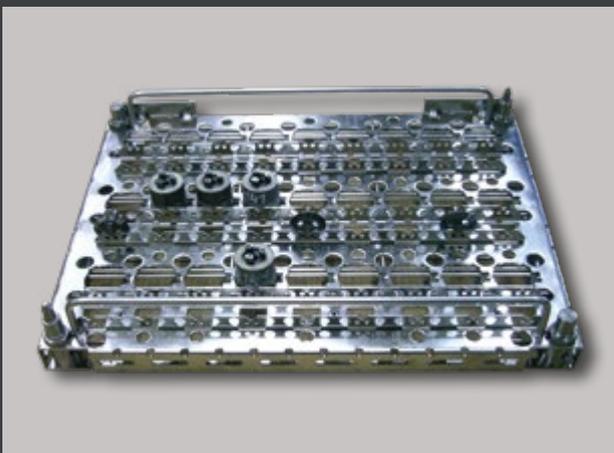
WORKPIECE CARRIER STEEL

advantages:

- especially robust
- resistant
- through deformation of the material, sharp edges can be avoided and added components are spared
- perfect for the admission of symmetrical parts



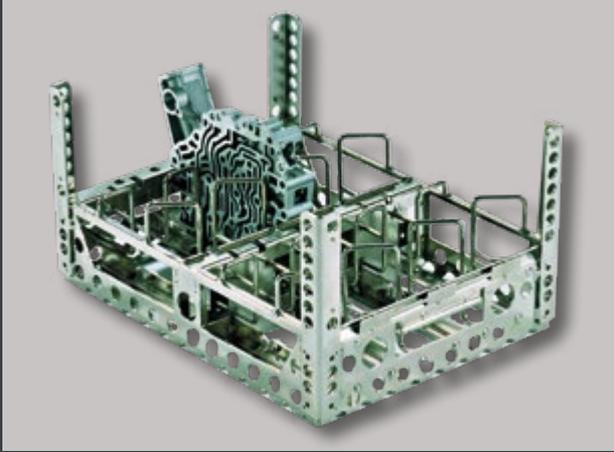
WORKPIECE CARRIER STAINLESS STEEL



advantages:

- any contour or geometry possible
- corrosion-resistant
- perfect for the application in aggressive liquids
- temperature-resistant
- extremely durable and low-maintenance
- perfect for usage in food or pharmaceutical area

FIXED OR FLEXIBLE SYSTEMS: WE PROVIDE FLEXIBILITY AND PRECISION

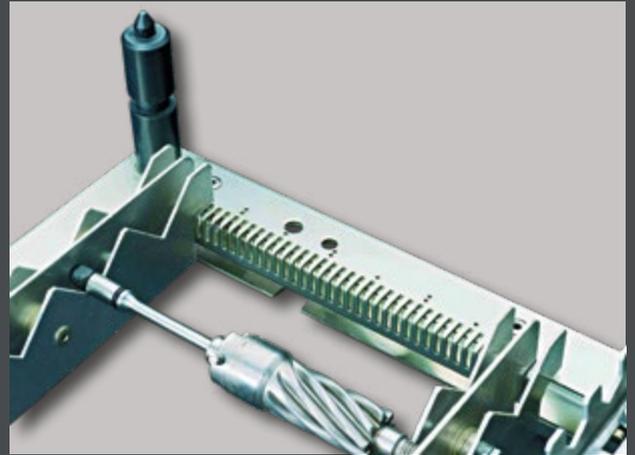


FIXED WORKPIECE CARRIERS

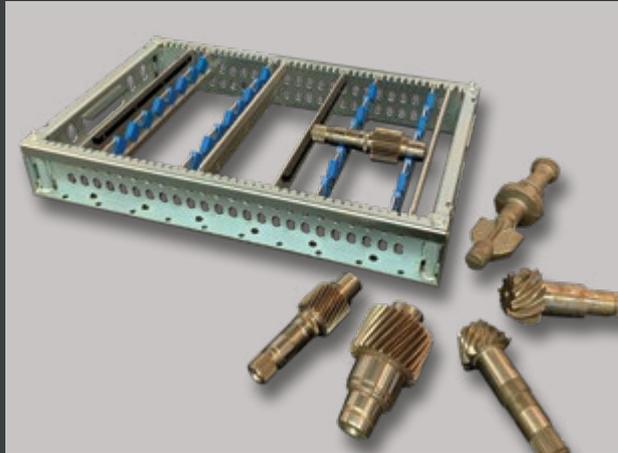
- permanently installed elements
- precisely and individually designed for the components added
- recommended for asymmetrical shapes
- easy to handle and robust in manufacturing process
- environmentally friendly in its disposal

FLEXIBLE WORKPIECE CARRIERS

- modular structure
- exchangeable elements for picking-up components
- adjustable (grid, continuously variable or replaceable inlets)
- ideal for small and mid-sized series
- convertible to future product lines of all kinds
- high variability
- possibility to be supplemented or converted at short notice



FLEXIBLE SYSTEMS

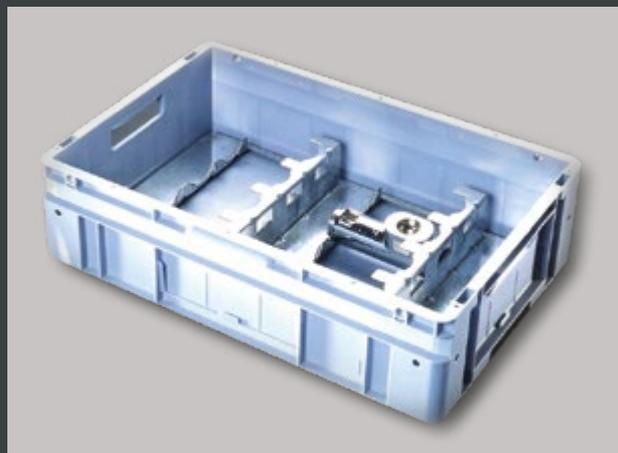
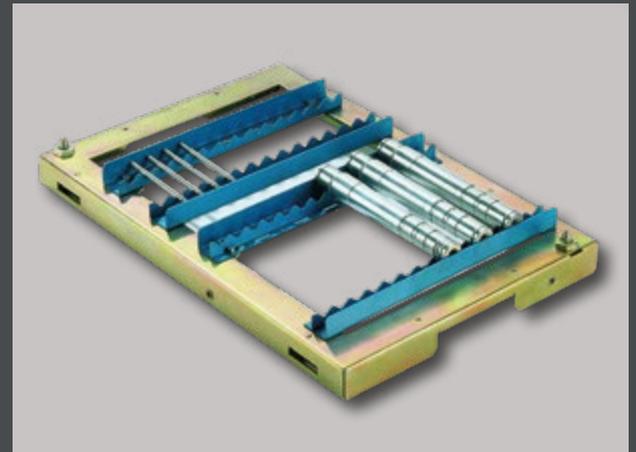


GRIDDED

- gridded in predefined steps
- one-sided (lengthwise, crosswise) or double-sided screening
- simple, fast modification possible
- gridded steps can be read by lasered engraved numbers
- system, alternatively a ruler can be attached to the workpiece
- alternatively, a ruler can be attached to the Workpiece Carrier

STEPLESS

- extremely flexible
- accurate to the millimeter
- to adjust, we recommend using a setting gauge or presetting device



REPLACEABLE INLETS

Basics Workpiece Carriers can be used with different inlets:

- quick modifying by exchanging the complete inlet
- modular principle

PARTS REQUIRING PROTECTION

PROPER STORAGE AND TRANSPORT

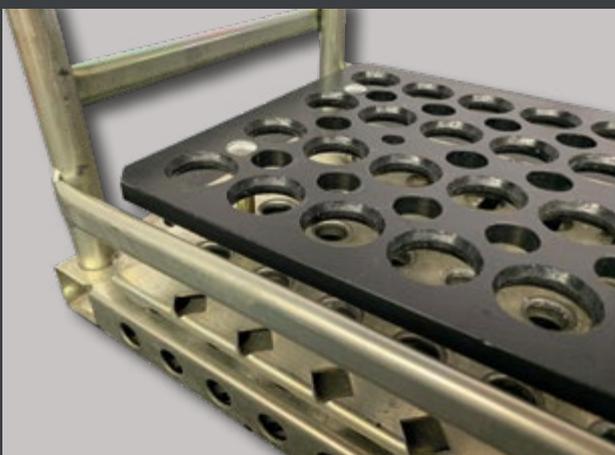


HOLDING SLEEVES

- The task of holding sleeves is to protect the component from damage and/or dirt.

SUPPORT CLIPS / SPIKES

- Thanks to the support clip, the contact points or surfaces of the component are protected from damage.
- There are countless different types of clips and support elements. We are happy to recommend a suitable option for your component.

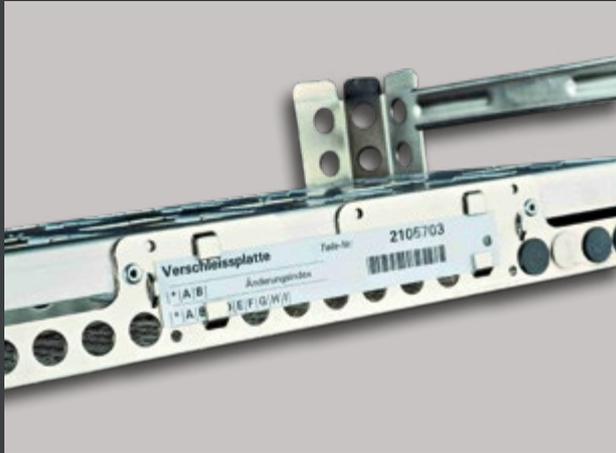


PLASTIC SHEETS AND LATHS

- Bars are used if too many clips would be needed.
- Bars can have various contours.
- Plastic plates protect the component on the outer diameter.

LABELING AND CODING

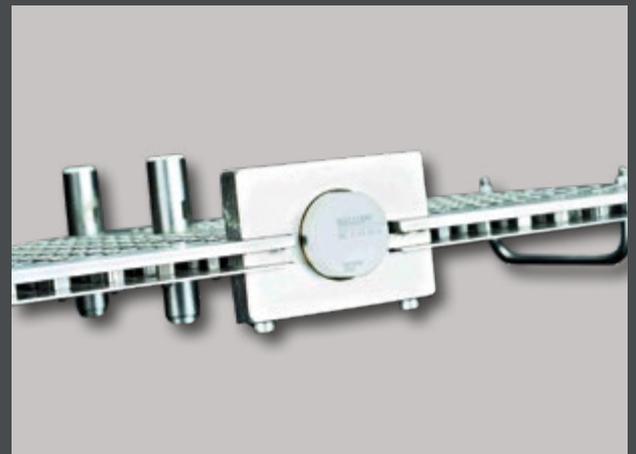
QR-CODE / BARCODE



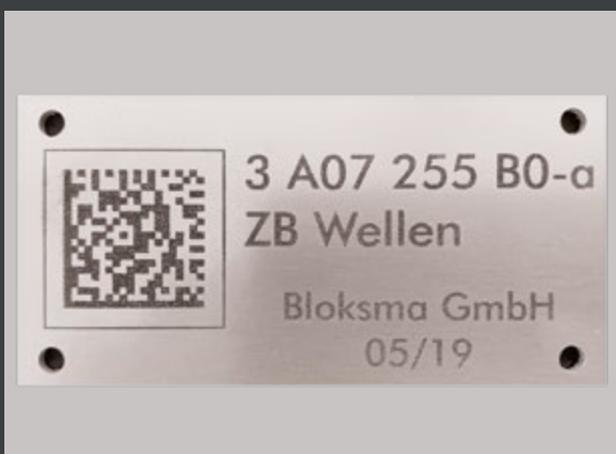
- can store up to 2,500 characters
- QR-codes can be up to 10 times smaller than a barcode and still being readable.
- Figure: Combination of code and writing simplifies manual handling.

RFID-CHIP

- Automatic and contactless identification via electro magnetic waves.
- Information is saved on the chip, which can easily be written on.
- Data can be deleted with little effort.
- It keeps you informed about the status of the current process.

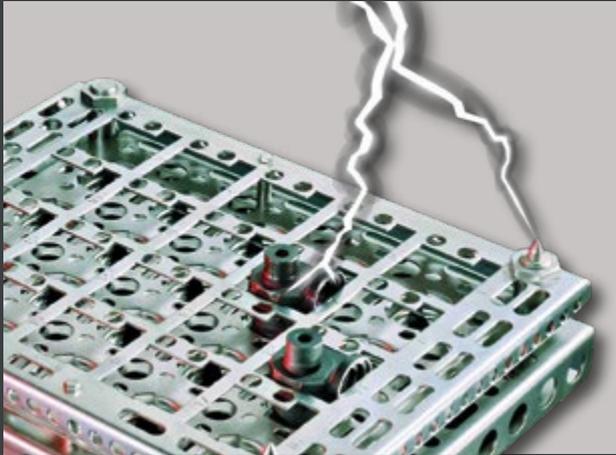


DATA-MATRIX



- encodes the data in the form of an area
- hold up little space
- readable from any angle

SPECIAL CHARACTERISTICS

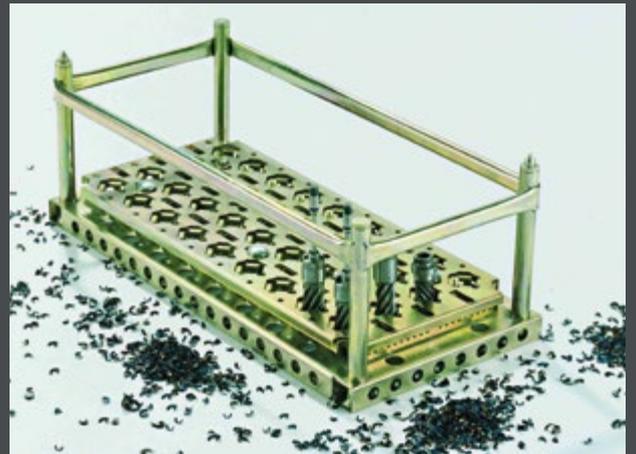


ELECTRICALLY CONDUCTIVE OR NON-CONDUCTIVE

- Components must be saved from electronic discharge.
- According to this, the respective material must be selected for the Workpiece Carrier.

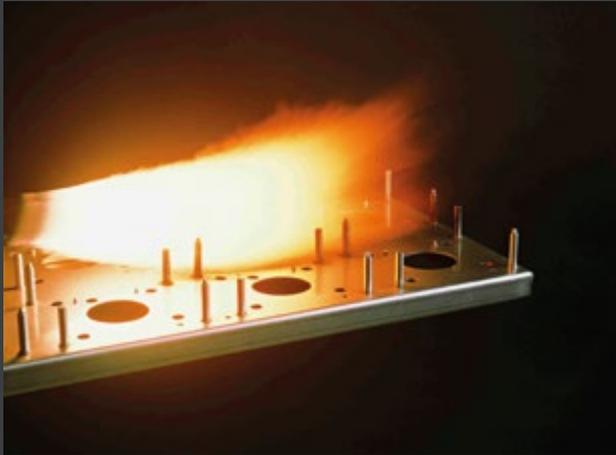
NON-MAGNETIC OR ANTISTATIC

- For very small components, the Workpiece Carriers can not be magnetic, so that parts can be removed automatically by robots.
- Advantage with residual dirt: Grinding dust should be washable after processing. (prevents components from friction or damage)



USAGE WITH AGGRESSIVE LIQUIDS

- For certain applications, components have to be washed with aggressive detergents (e.g. TRI/PER).
- The workpiece carrier therefore is constructed and pre-treated, so that it becomes resistant to those cleaning agents.

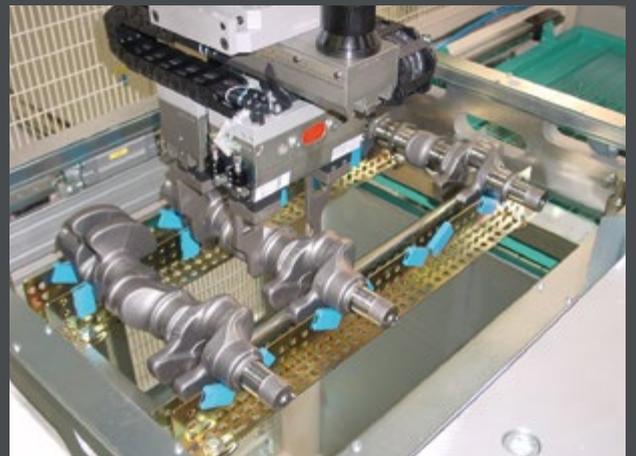


HEAT RESISTANCE

- Components often have to be hardened/tempered or "baked".
- Our Workpiece Carriers can therefore resist temperatures of > 300°C on request.

ROBOT COMPATIBILITY

- Components are getting smaller and smaller and can therefore often be handled by robots alone.
- The smallest Workpiece Carrier built by BLOKSMA accommodates parts of 2.5x2.6 mm in size.



STACKABLE

- increases storage space
- problems due to limited space in the production can be reduced
- important characteristic for automated production
- ideally with anti-twist protection

POSSIBLE APPLICATIONS AND SECTORS



AUTOMATION



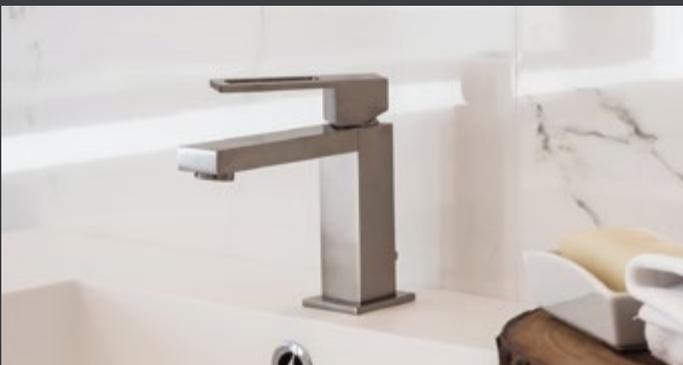
**AUTOMOTIVE / COMPONENTS
MACHINING PARTS**



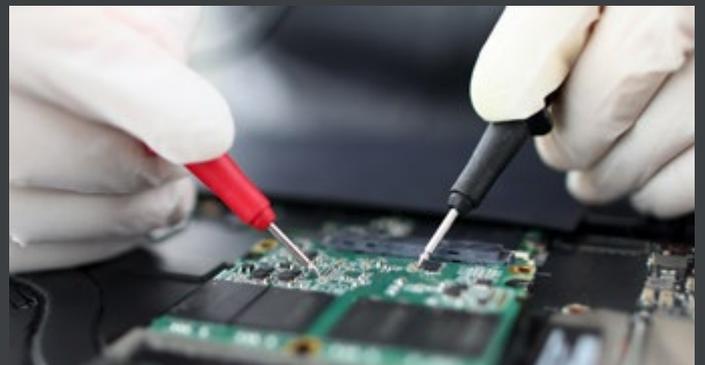
TOOLS



LOGISTICS



SANITARY / FITTINGS



ELECTRONIC DEVICES



ENGINES



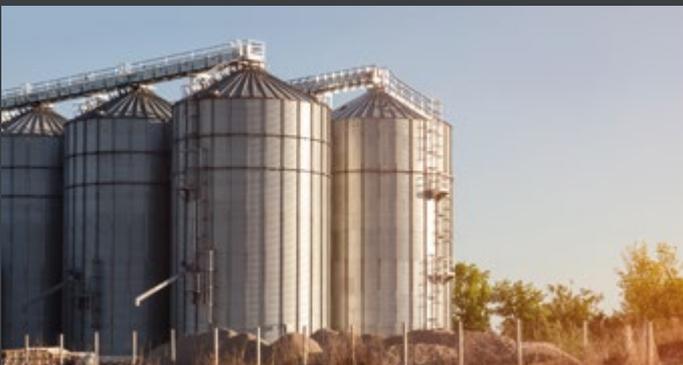
AEROSPACE



**MEDICAL TECHNOLOGY /
PHARMACEUTICALS**



LIGHTING / LIGHTING TECHNOLOGY



AGRICULTURE



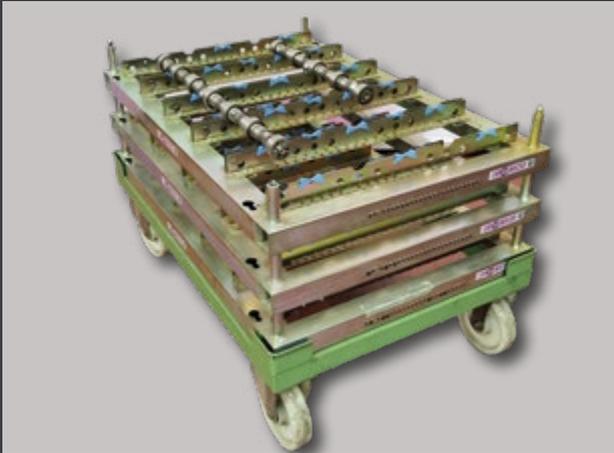
FOOD

CORRESPONDING PRODUCTS

TROLLEYS

durable, made to measure, with or without additional elements: Trolleys form BLOKSMA are available in different construction forms, dimensions and load-capacities. Trolleys are the basis for a modern “rolling” production and an ergonomic workplace design.

TARGET: A FORKLIFT-FREE PRODUCTION



TRANSPORT PALLET

Transport Pallets are suitable for the fast and safe transportation of containers or products indoors as well as outdoors. They are mainly used in plant-to-plant transportation. Transport Pallets are of great value when stacks are extremely heavy and can no longer be moved manually. The transportation is carried out by industrial trucks such as forklifts or similar.



LIFTING / -CRANE GEAR

Moving large and heavy Workpiece Carriers requires great strength or can, in some case, be simply impossible. To avoid accidents at work and in order to being able to move the Workpiece Carriers, there are suitable lifting/crane harnesses.



PRESETTING DEVICE

A presetting device is especially recommended for flexible workpiece carriers. The flexible mounting rails can be easily adjusted to the correct positions. Ideal for setting up for the intake of new parts and also for checking and adjusting the current setting.



CONTROL GAUGE

Employees can easily check all the relevant dimensions of the Workpiece Carrier. This is recommended before or after each useage, especially in connection with robots. It can be checked whether the Workpiece Carrier is deformed and whether stacking and accuracy is still precise.



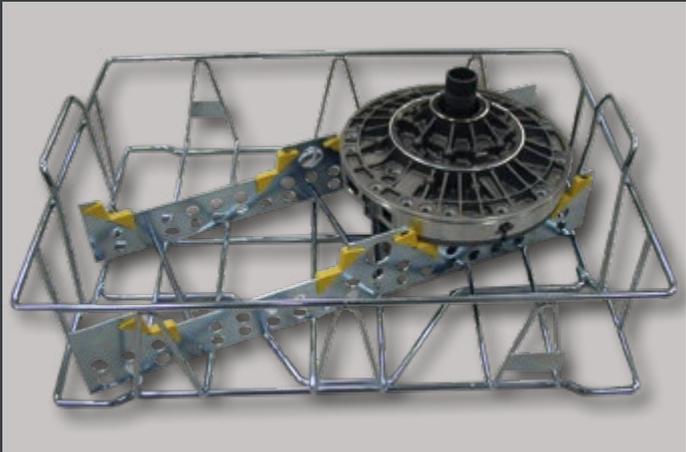
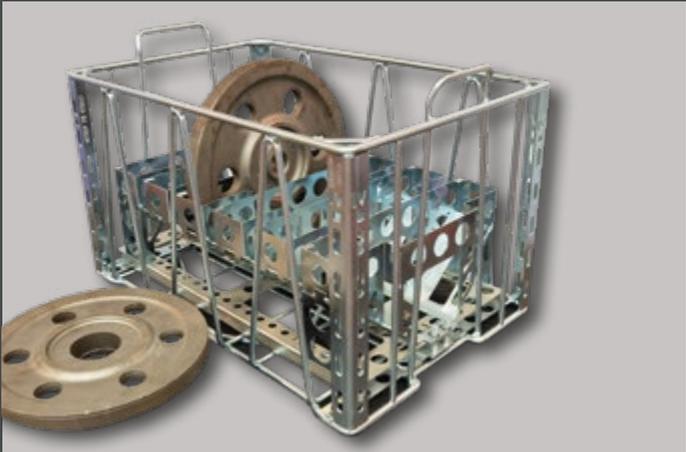
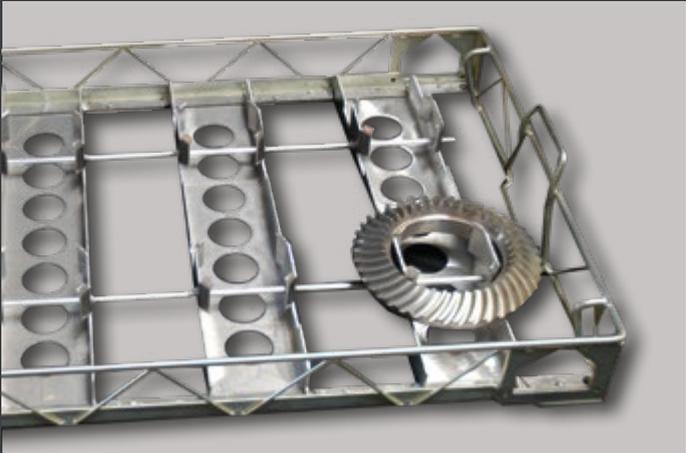
TURNING STATION FOR WORKPIECE CARRIERS

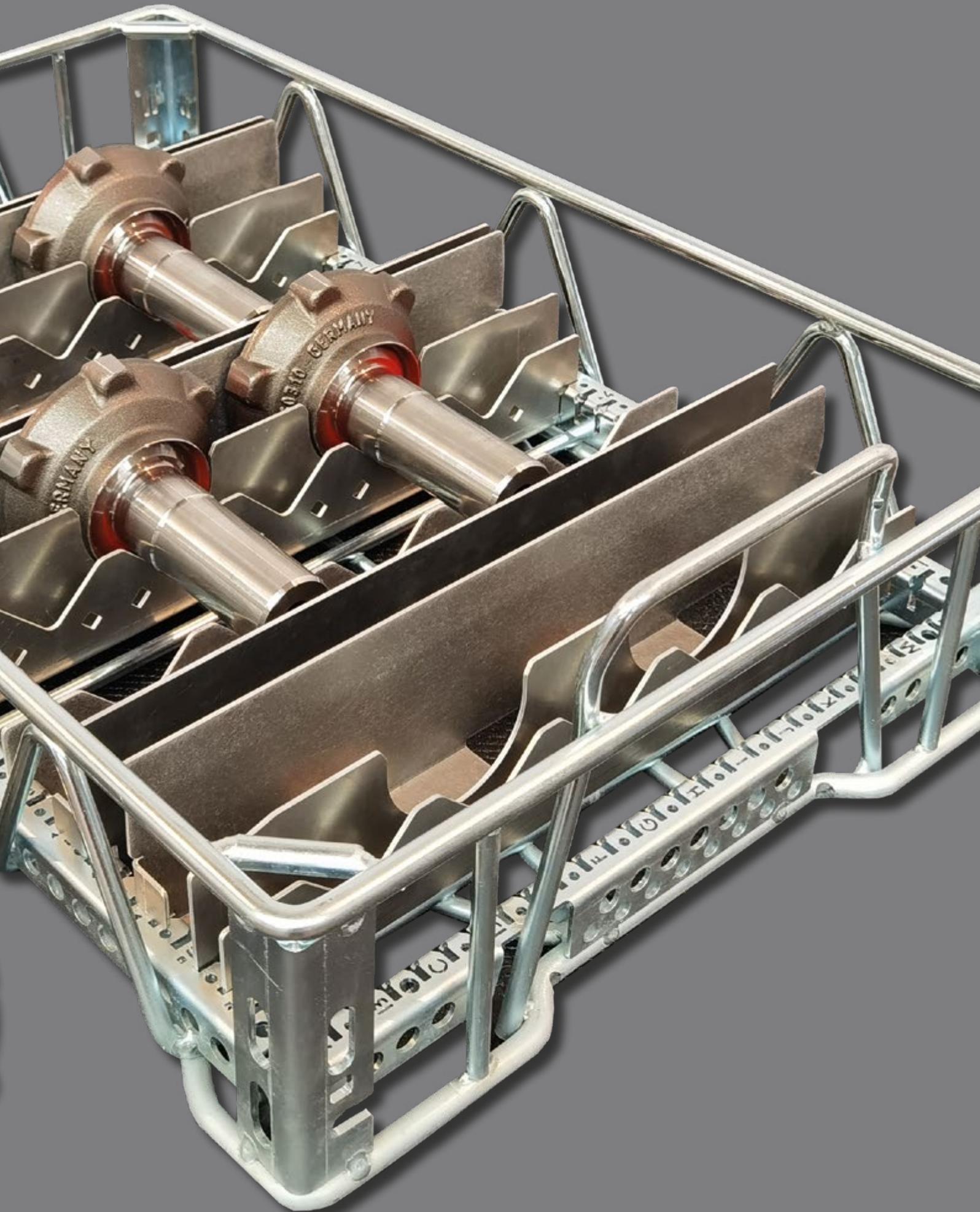
Particularly in connection with automation or robots, turning stations for Workpiece Carriers are used. At such stations, employees turn the Workpiece Carrier by 180° with help of the turning station. Without any muscle power - here, too, ergonomics and process optimization are playing a major role.



OUR PRACTICAL SOLUTIONS

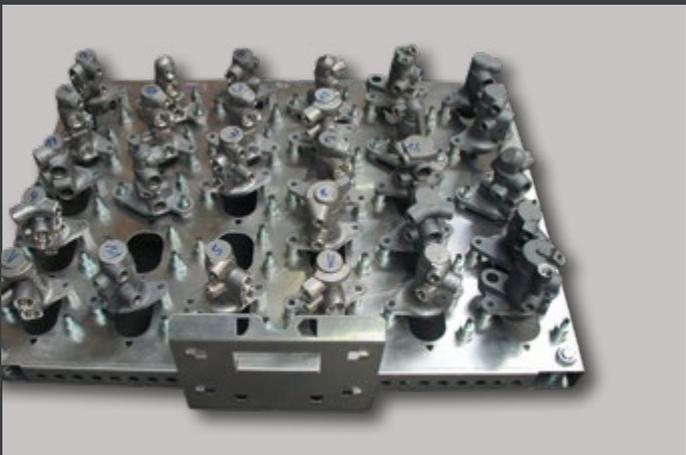
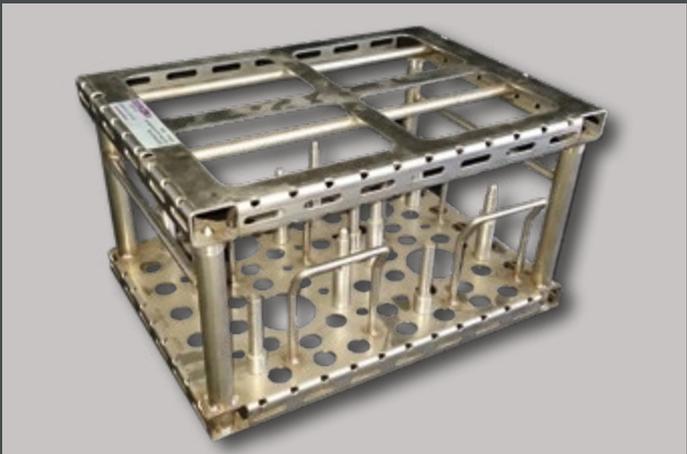
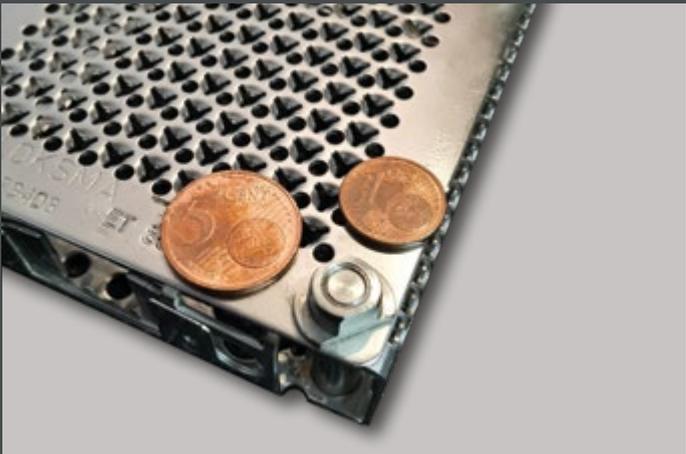
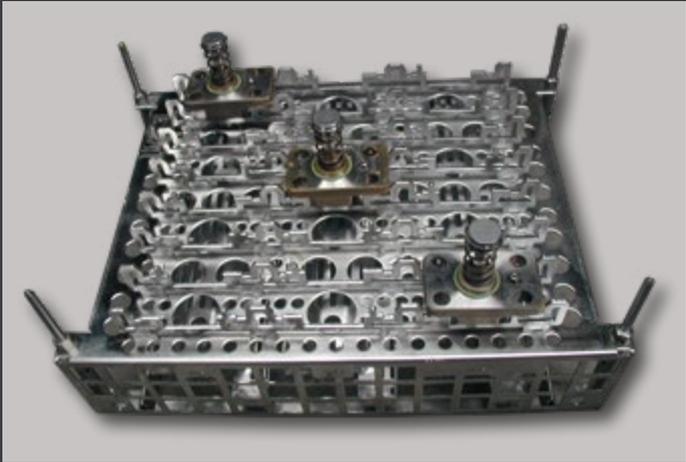
WIRE / SHEET METAL WORKPIECE CARRIER



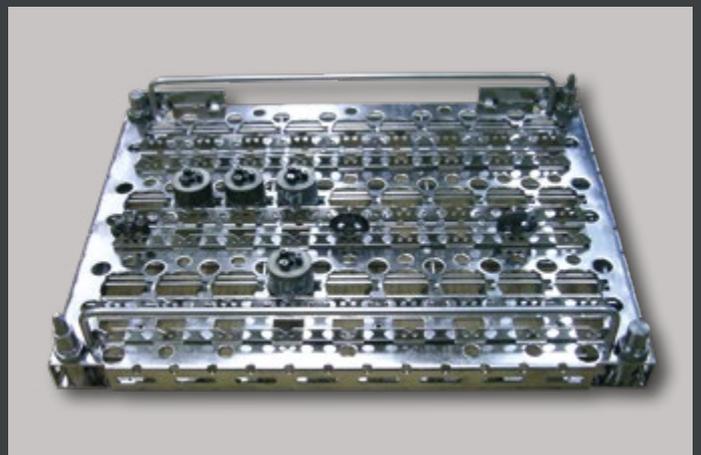
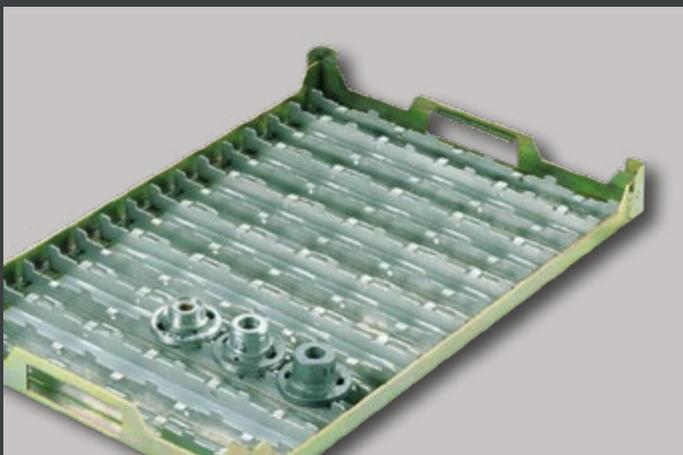
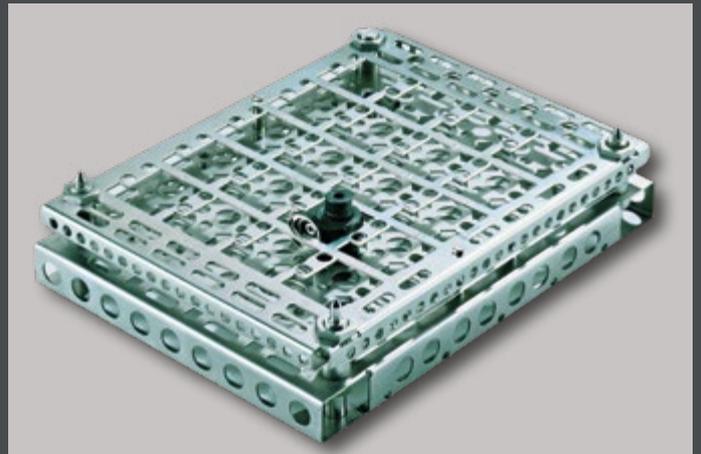
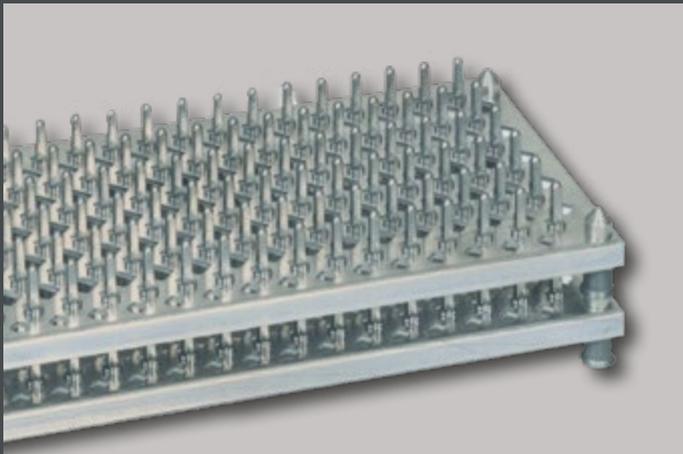


OUR PRACTICAL SOLUTIONS

SHEET METAL WORKPIECE CARRIER

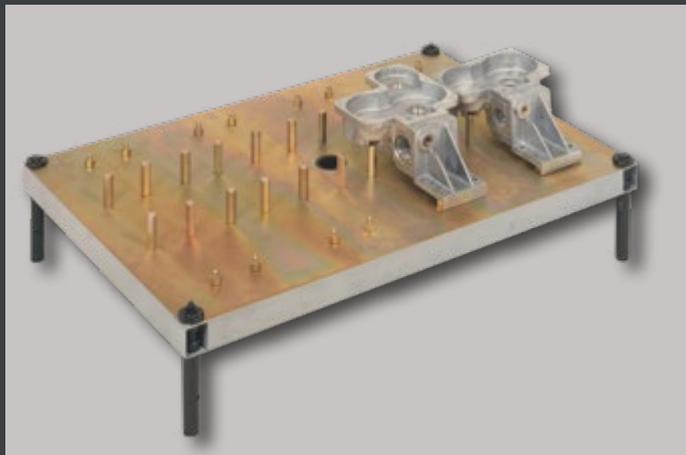
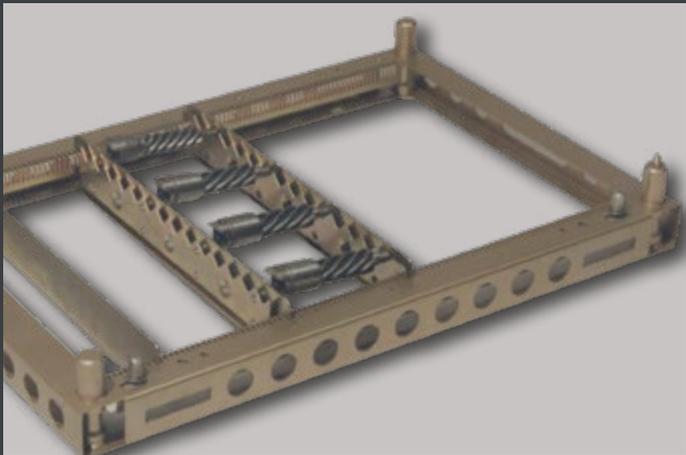


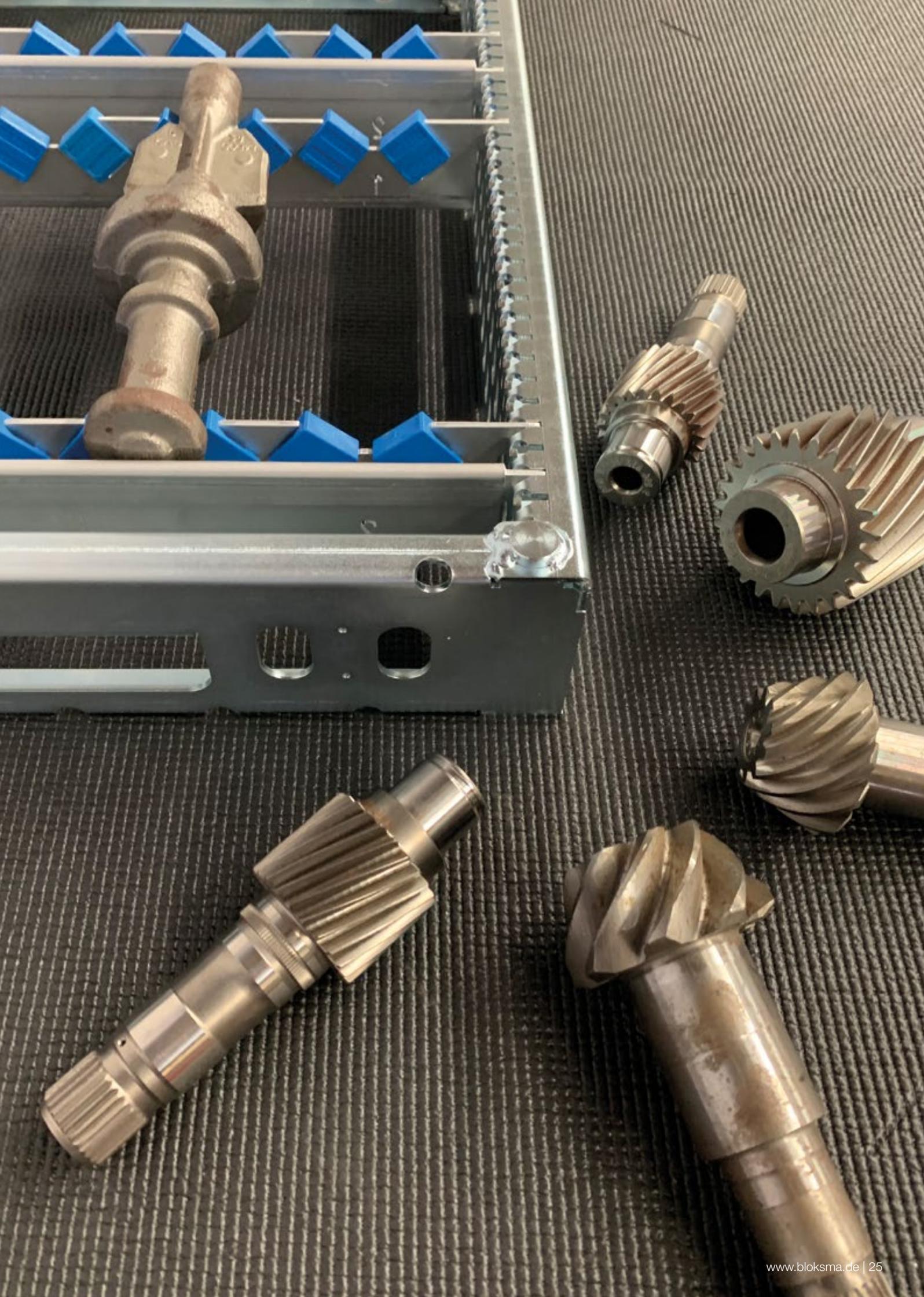
OUR PRACTICAL SOLUTIONS
FIXED WORKPIECE CARRIER



OUR PRACTICAL SOLUTIONS

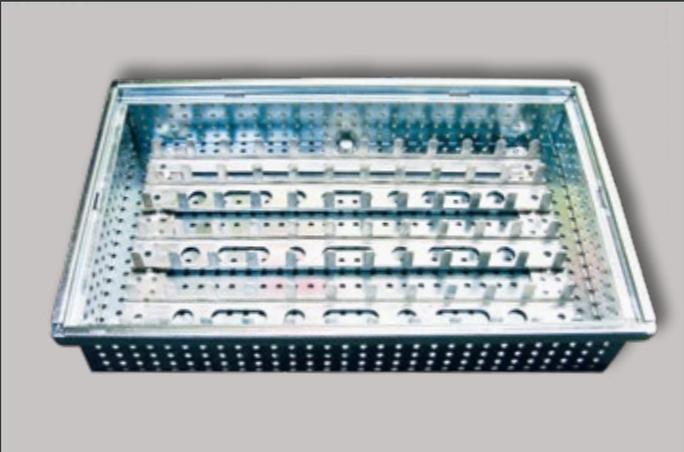
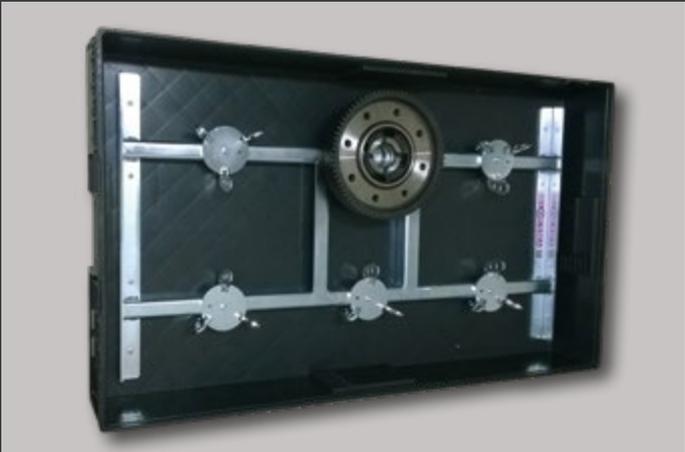
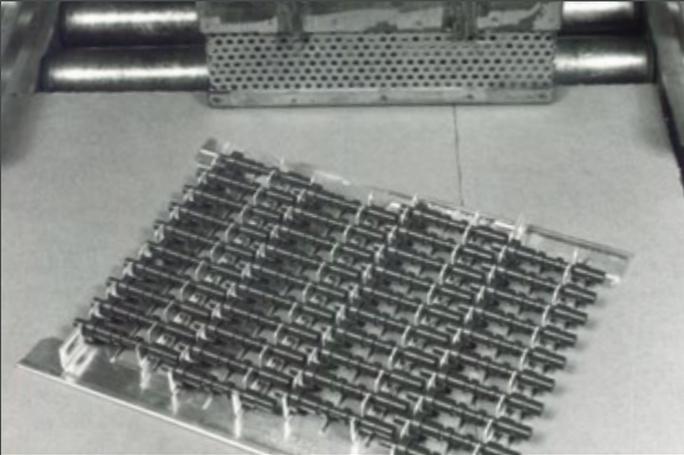
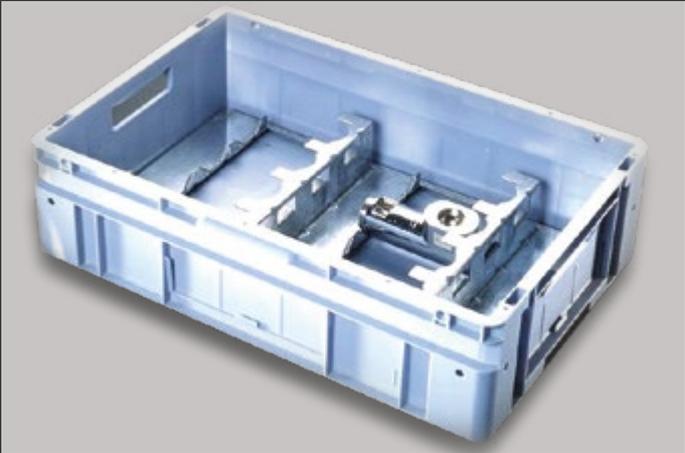
FLEXIBLE WORKPIECE CARRIER





OUR PRACTICAL SOLUTIONS

INLETTS



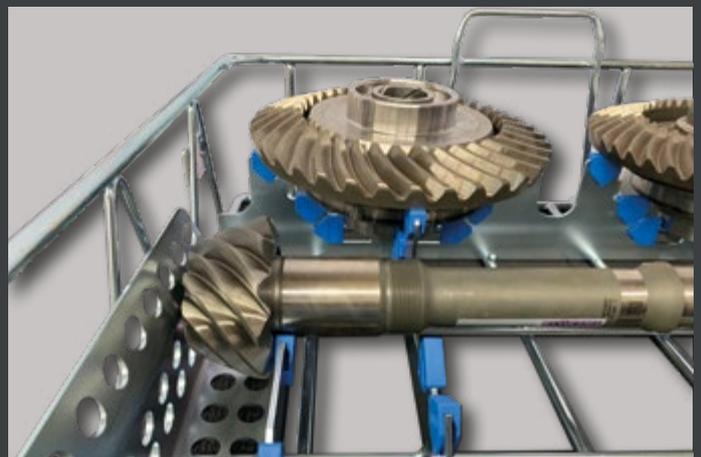
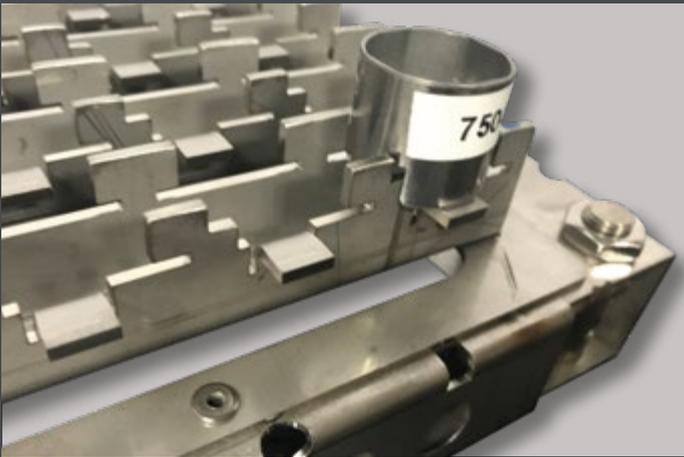
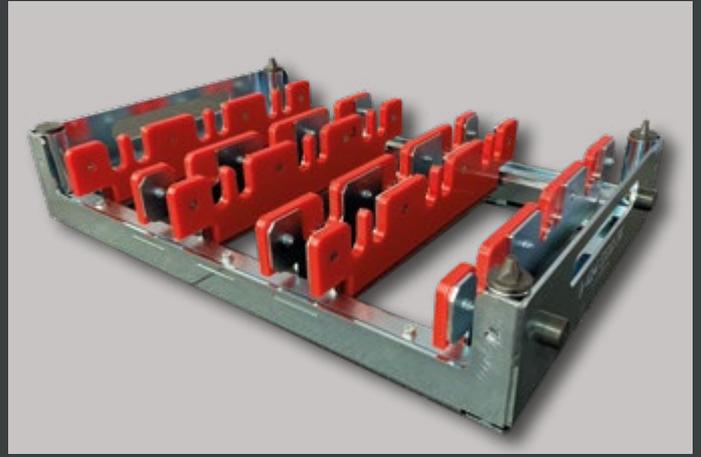
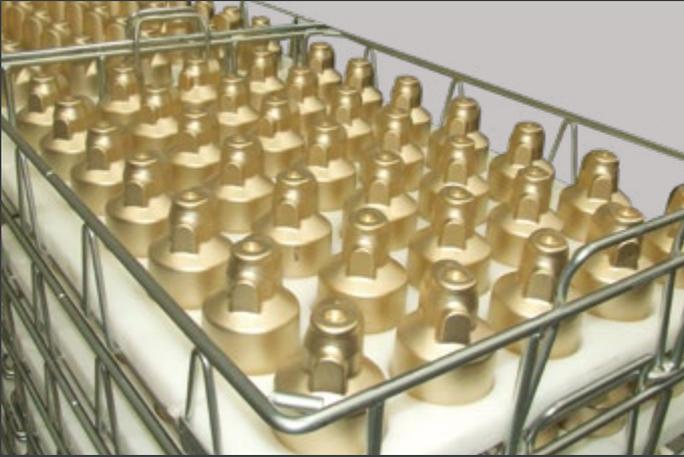
OUR PRACTICAL SOLUTIONS

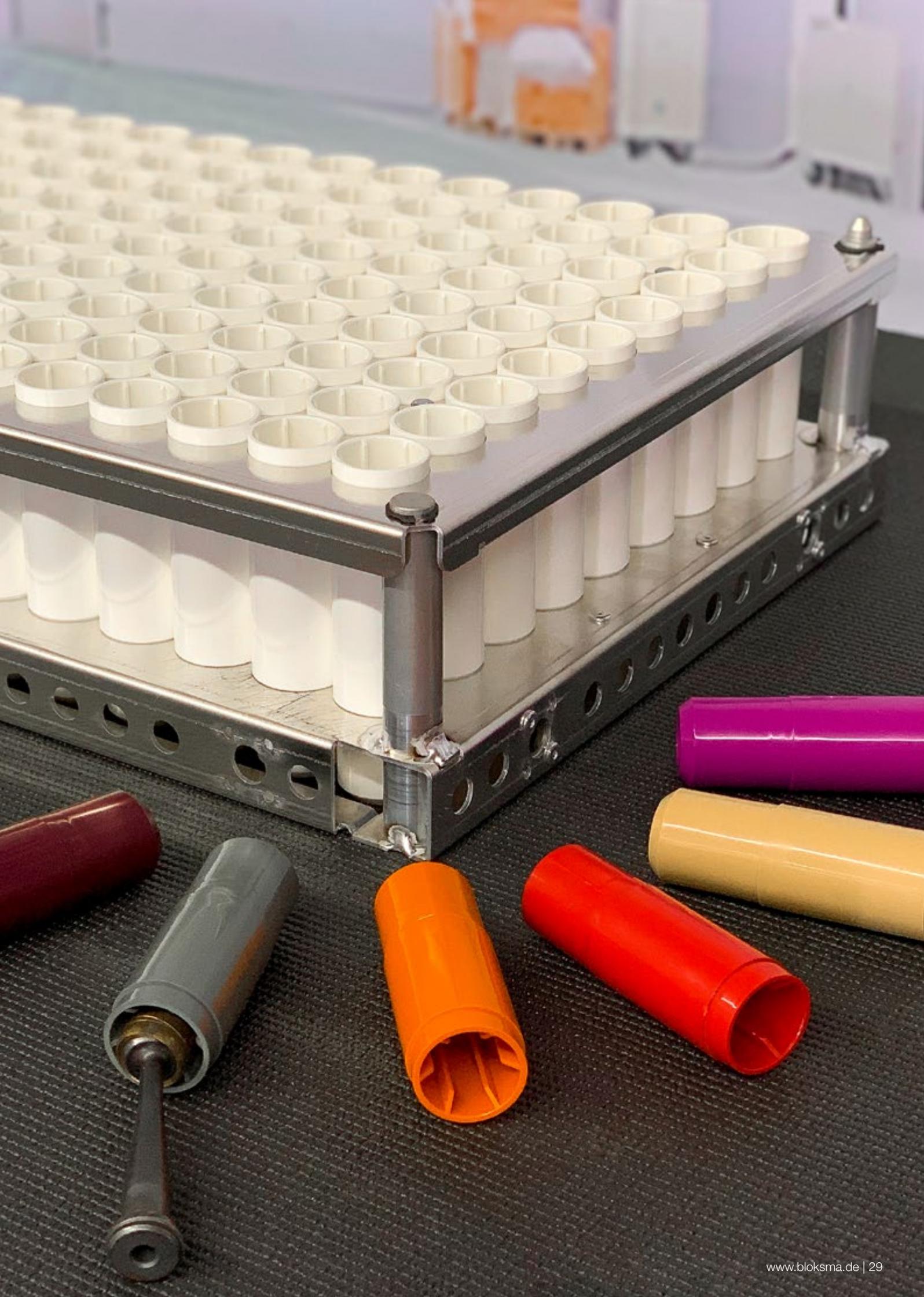
WORKPIECE CARRIER WITH HANDLING-SYSTEM



OUR PRACTICAL SOLUTIONS

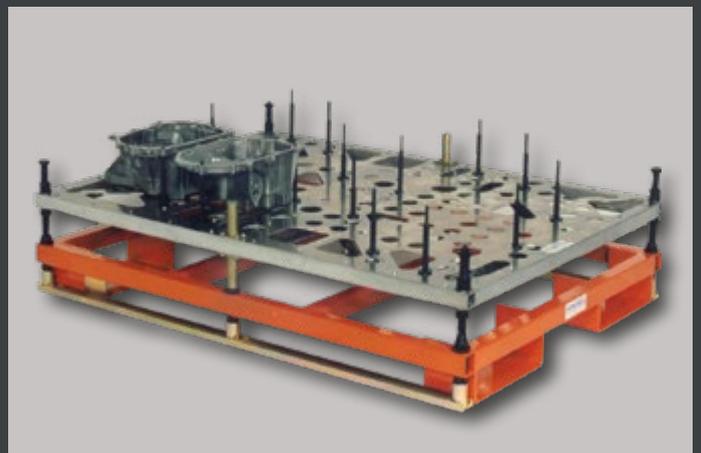
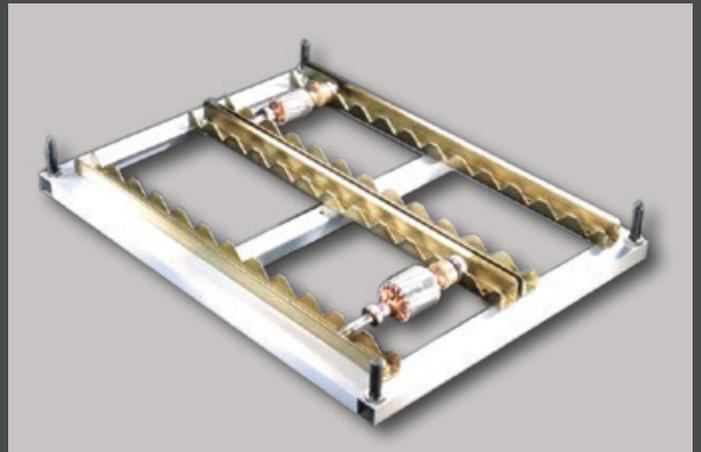
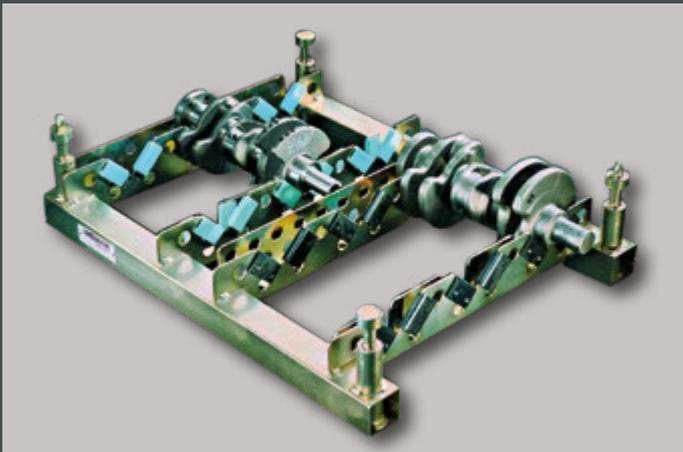
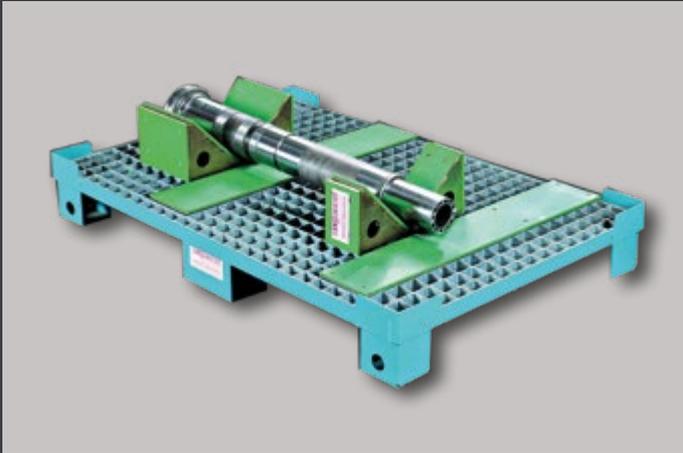
NEED OF PROTECTION & POKA YOKE (ANTI-TWIST PROTECTION)

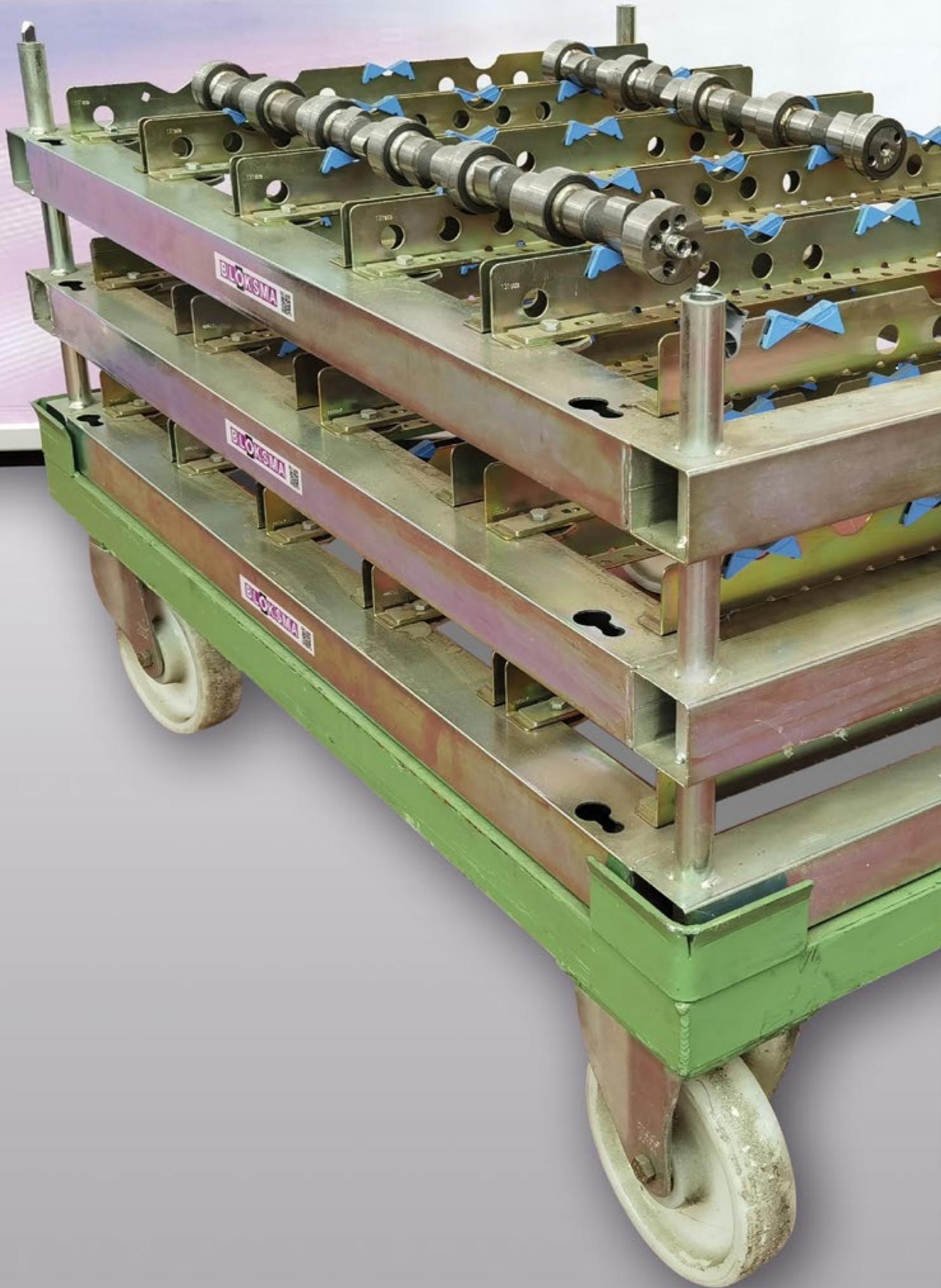




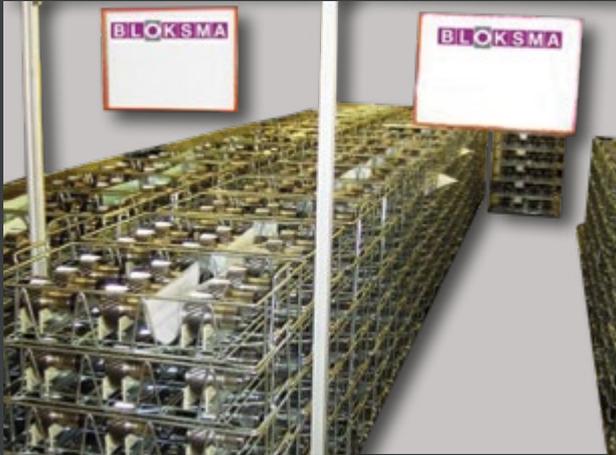
OUR PRACTICAL SOLUTIONS

BIG WORKPIECE CARRIERS FOR HEAVY COMPONENTS





FURTHER PRODUCTS FOR A PERFECT PROCESS



SUPERMARKET

Demand-oriented provision for fluent production. Supermarkets refer to the area, where the material needed for production is provided. Usually this is done on the basis of the first-in-first-out (FIFO) principle and Kanban planning. Supermarkets provide quick access to goods stored on Trolleys and in Workpiece Carriers.

LIFTERS

Pushing a button instead of muscular strength: Lifting devices are the foundation for creating an ergonomic workplace. Our models are electric or pneumatic, suitable for a wide range of weight classes and types. Since we design and produce all our products individually according to customer requirements, we can look back to over 1,900 different models. By using lifting devices, it is possible to reduce access time, downtime and handling costs.

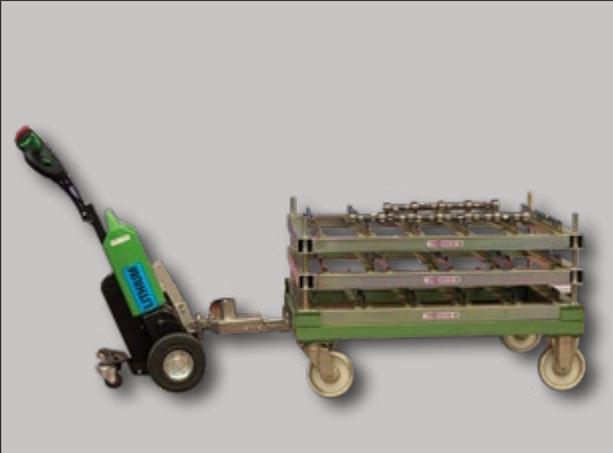


TRANSPORT RACK

Transport Racks are ideal for safe internal and external transportation. Due to the enclosure, the stacked Workpiece Carriers are protected. The Workpiece Carriers on Trolleys are pushed into the Transport Rack, followed by locking the transport lock. This prevents the stacks from moving inside the rack. Racks fit into a standard high rack and can be transported by truck. Depending on the design, two or more racks can be stacked on top of each other.

PULL- AND PUSH ASSISTANCE

Pulling and pushing aids are making everyday work way easier. They are optimized for different Trolleys, thus they're making it easy for your employees to transport large, heavy stacks from A to B. Even small loads that were previously shifted by hand, can be moved in a quicker and more efficient manner.



ASSEMBLY WORKPLACE

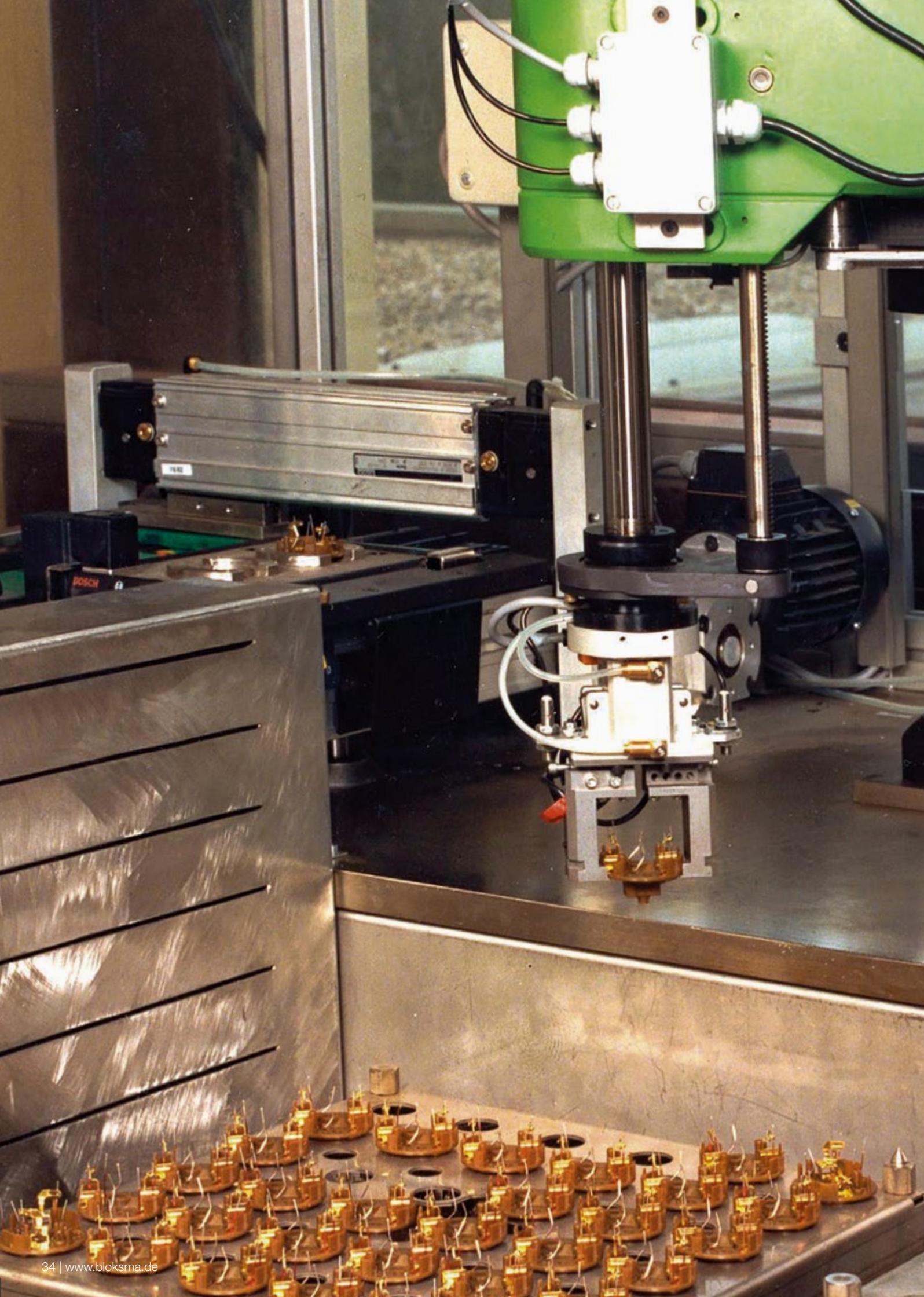
Your individually adapted and equipped assembly workstation is ideal for carrying out a wide range of work. We compose your assembly workstation in such way, that Workpiece Carriers can be tested and components be inserted into the Workpiece Carrier or removed for further processing. Workstations can also be combined with lifting devices or flow racks for a more efficient and ergonomic workflow.



GANTRY- / TAXI CART

Taxi and Portal Trolleys are particularly suitable for a fast and safe internal transportation of Trolleys with Workpiece Carriers or containers. In contrast to the Portal Trolley, the Taxi has a ramp onto which the Trolley can be pushed against. Further the wheels of the Trolley touch the ground when being loaded onto the Portal Trolley. Loading is possible on one or both sides. The drawbar is individually adapted to the respective tugger.





ACHTUNG

VOR INBETRIEBNAHME ÖL SINFÜLLEN. HINWEISE
IN DER BETRIEBSANLEITUNG BEACHTEN

CAUTION

IN OIL BEFORE PUTTING INTO OPERATION
ATTENTION TO THE REVERENCES IN THE
OPERATOR MANUAL.



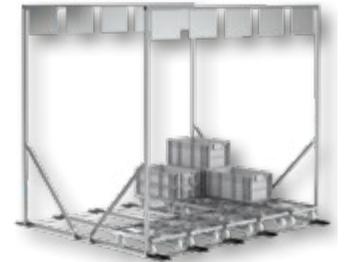
ALL FROM A SINGLE SOURCE.



1 | TROLLEYS



2 | LIFTERS



3/4 | SUPERMARKETS
AND PARKING LOTS



5 | TRANSPORT
LOGISTICS



6 | VISUALIZATION



7 | WORKPIECE
CARRIER



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