

Company presentation

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We are ALPAKA Innovation



Our team has excellent knowledge in mechanical and plant engineering. We are proud to be able to draw on more than 20 years of professional experience and would be pleased to give you an overview of our range of services @ ALPAKA-Innovation.

Who is behind the ALPAKA

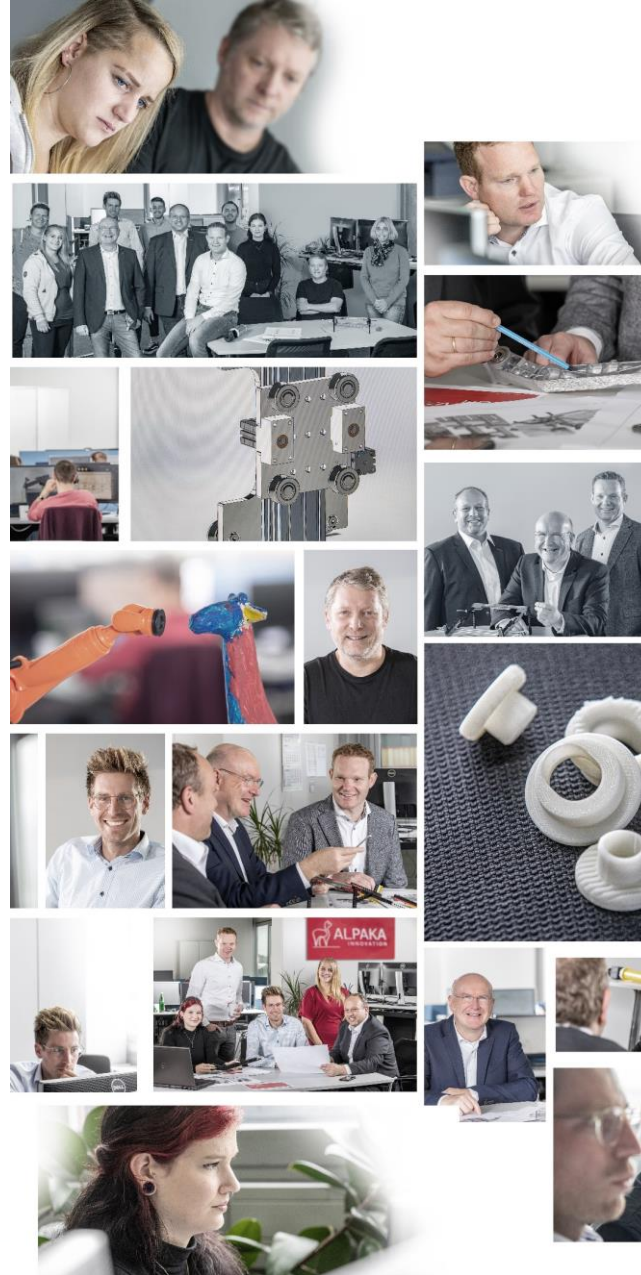


Alpaka Innovation, located in Petersberg/Böckels, is the independent development department under the umbrella of HAHNER Technik and linked to the HAHNER group. The eleven-strong team of engineers designs special machines and develops the innovative products of tomorrow.

seven words which describe ourselves

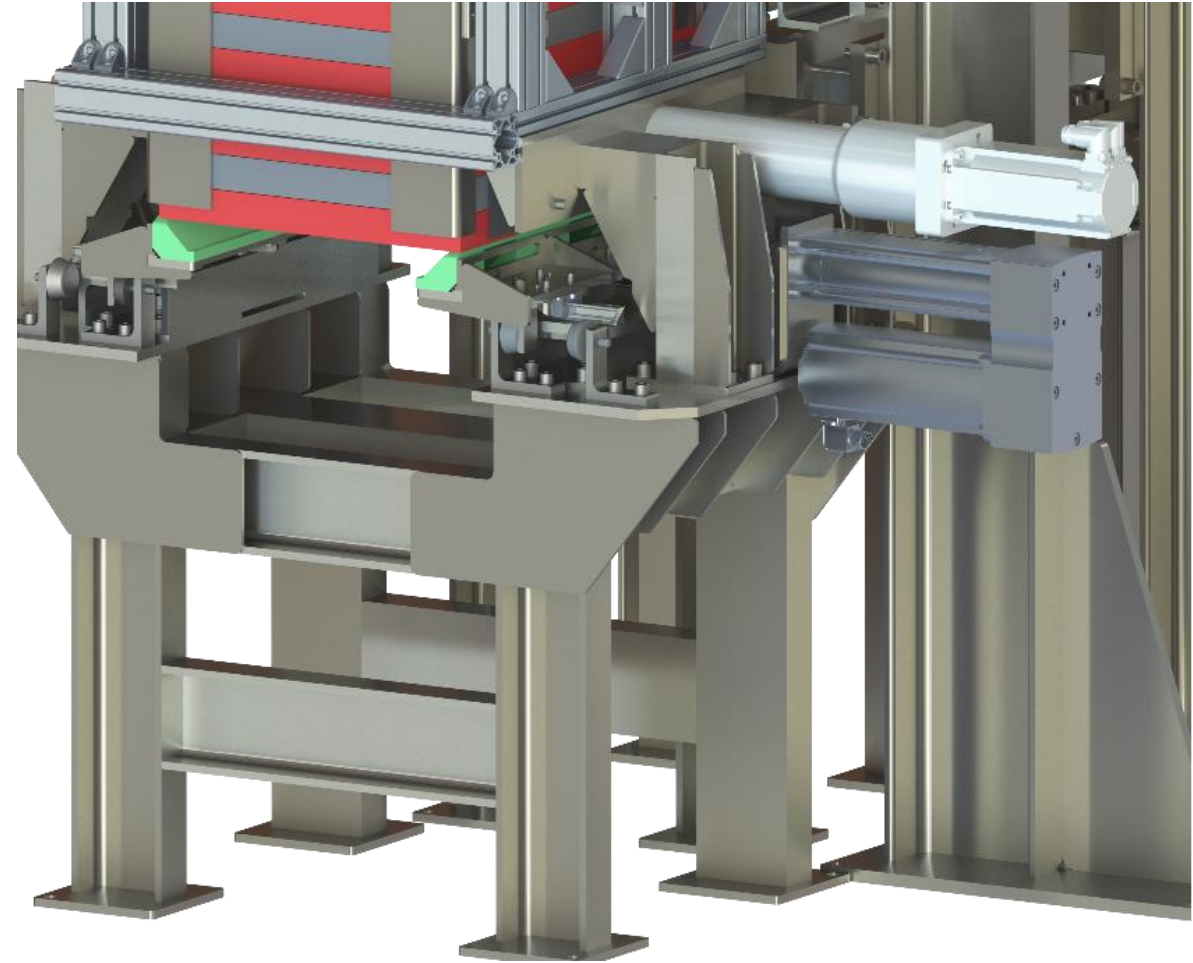
YOUNG
HONEST
DYNAMIC
FLEXIBLE
OPEN
BINDING
PERSONAL





The diagram shows a flow of sheep from left to right. On the left, labeled 'Input', there is a large, dense group of sheep. The path narrows into a single-file bottleneck in the center. A red dashed circle highlights this bottleneck area. On the right, labeled 'Output', the path widens again, but the number of sheep is significantly reduced, representing a loss or bottleneck in the system.

Analysis of existing production and search for optimisation potential.
Development of alternative concepts to increase production and / or reduce costs.
Automation of manual work processes.
We develop and build customised, turnkey special machines.



COMPONENTS OF OUR SPECIAL MECHANICAL ENGINEERING

Special machines of all kinds

Automation

Turnkey machine

Retrofit

Electrical planning

PLC programming

CE Conformity

CE documentation

Risk analysis

FMEA

Operating instructions

Engineering

Project Management

Concept development

CAD construction

FEM calculation

Solid Works (CAD system)

Catia V5 (CAD system)

E Plan (electrical planning software)

Digital Factory

Robot simulation

Robot programming

MTM analysis

Cycle time analysis

Ergonomics study

Training

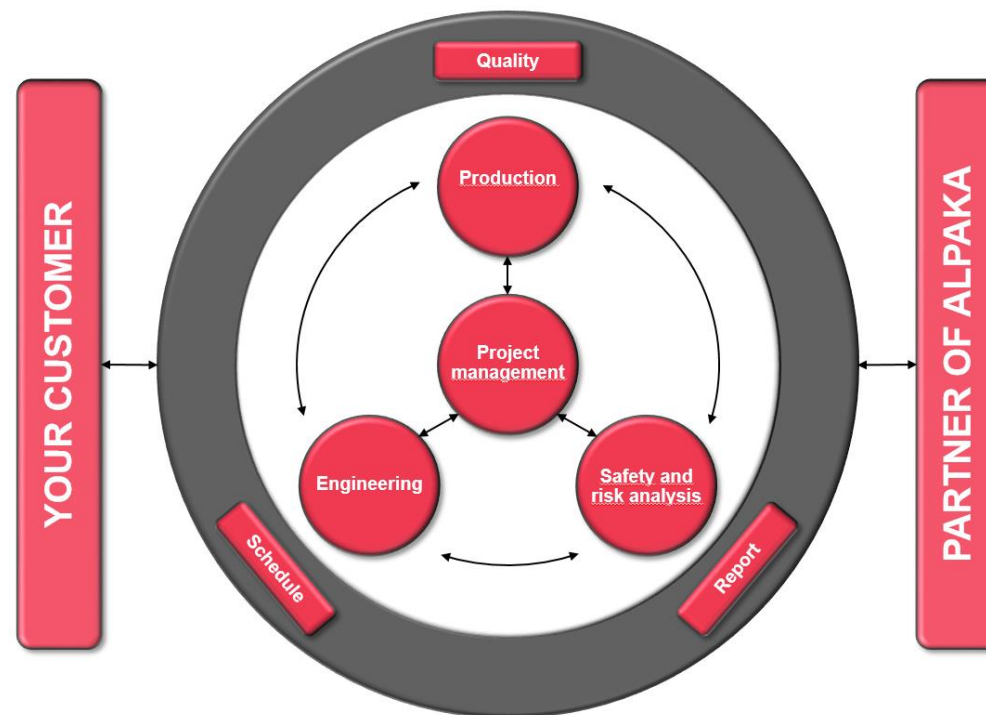
With our staff we support you in project-management, design, robotic simulation and documentation.

We accompany and advise you in terms of safety and risk analysis of your single machine or complete production line from the first sketch until commissioning.

With our experience and knowledge, we represent your concerns as an interface between you and your customer in order to create freedom for you.



Consulting @ ALPAKA



Design

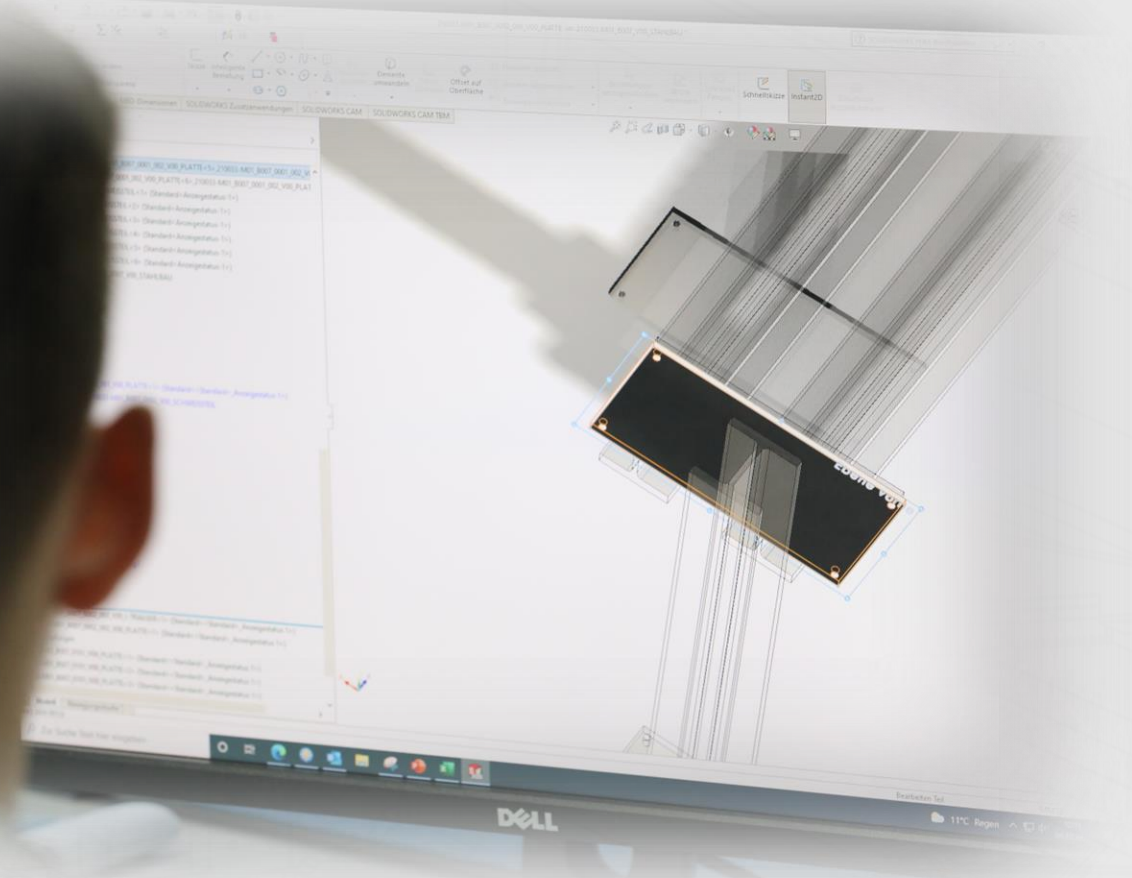
The design begins with the influence on the product. Our employees support all project phases.

PRE-Engineering

- Development of standards
- Development and validation of concept designs

Detail engineering

- 3D design, detailing and drawing production of manufacturing equipment.



Planning

The planning and project design phase is supervised by our staff throughout all project phases and necessary activities.

- Pre-Engineering / Project assurance
- Concept engineering
- Development and validation of manufacturing concepts, layout and cycle times
- Detail engineering / design-related planning and realization

Our planning services include:

- Layout, time analyses based on reliable reference time values
- Coordination of interfaces, preparation of documentation
- On-site survey of plants and production processes
- Coordination and project planning of integrated engineering projects
- Creation of pneumatic and functional plans using Fluid Draw

Digital factory

More than 10 years of experience with the tools of the digital factory.

Project experience (realisation) at

- VW, Audi, Seat, Skoda
- Porsche
- BMW
- Thyssen Krupp,
- ABB
- KUKA

and many more.

Robotic Simulation

Simulation works closely with planning and design. It supports all phases.

PRE-Engineering

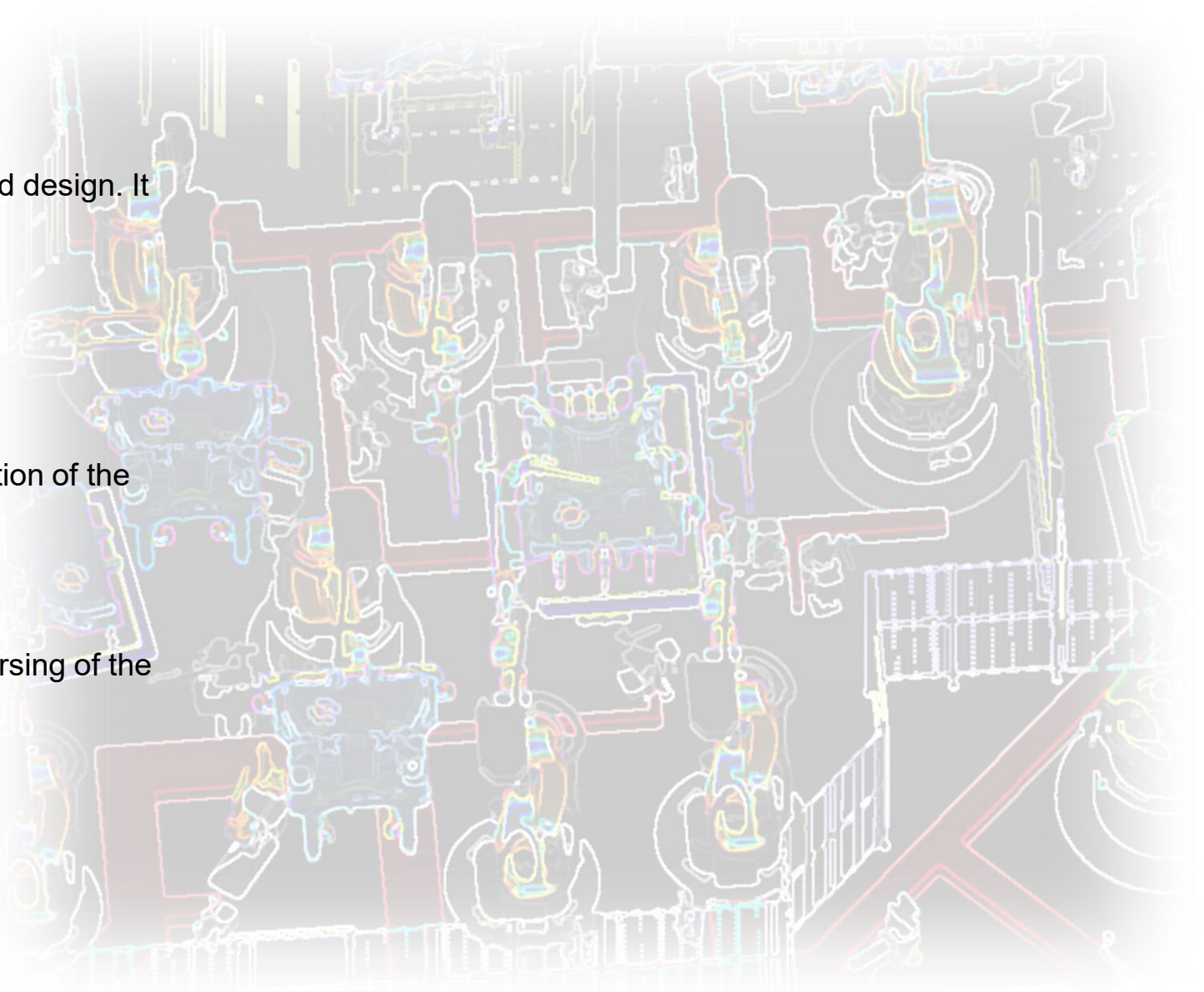
- Project assurance
- Selection of the right robot

Detail engineering

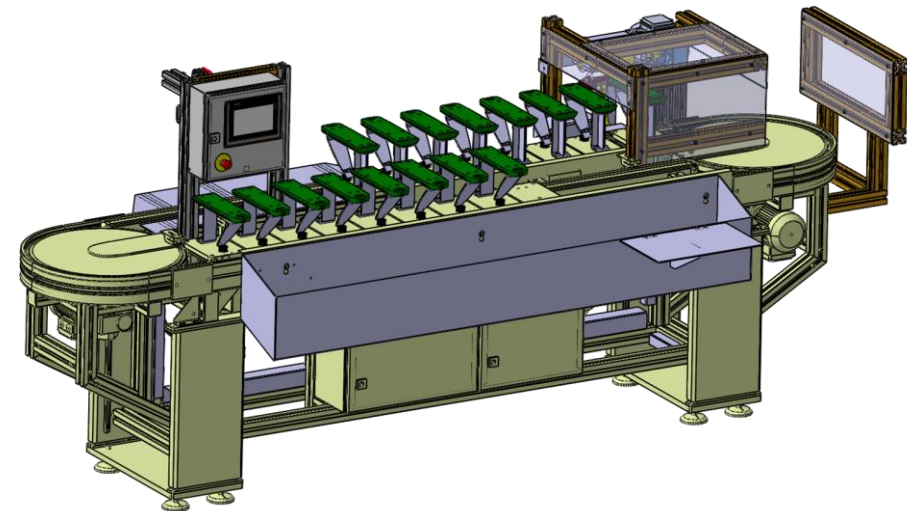
- Definition of the robot positions, definition of the robot paths, OLP creation

Realisation

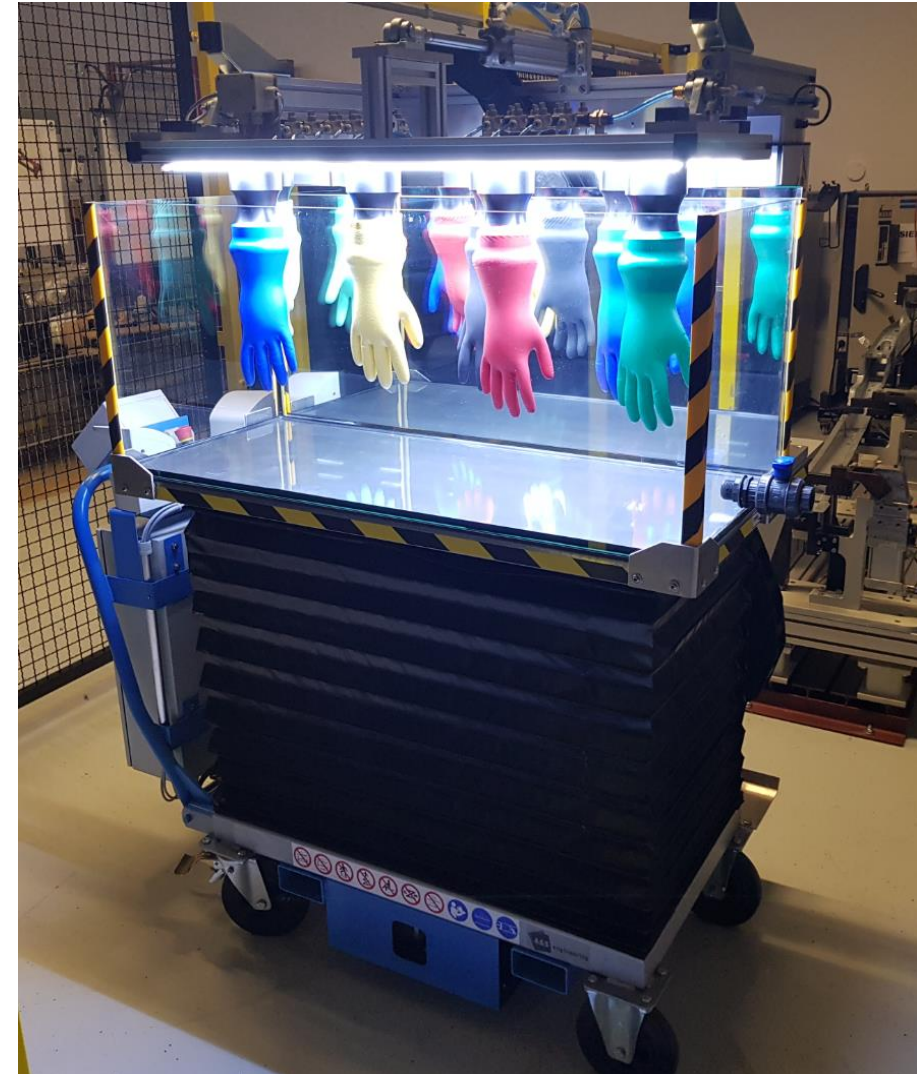
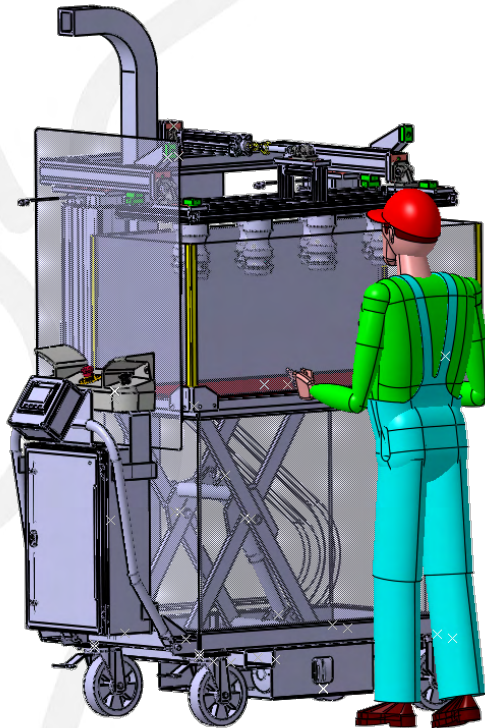
- Import of the robot programmes, traversing of the collision-free paths



- Cycle time: 2.5s to 10s
- Automatic printing
- Automatic unloading of the workpiece carriers
- Can be used for different product groups
- Ergonomically adjustable
- Variable print image e.g. with batch number or production date
- 45% reduction of material stock
- Status: 6 machines are in series production



- Ergonomically height adjustable
- 45 gloves / min
- All glove sizes without machine conversion
- Status: The machine is in series operation

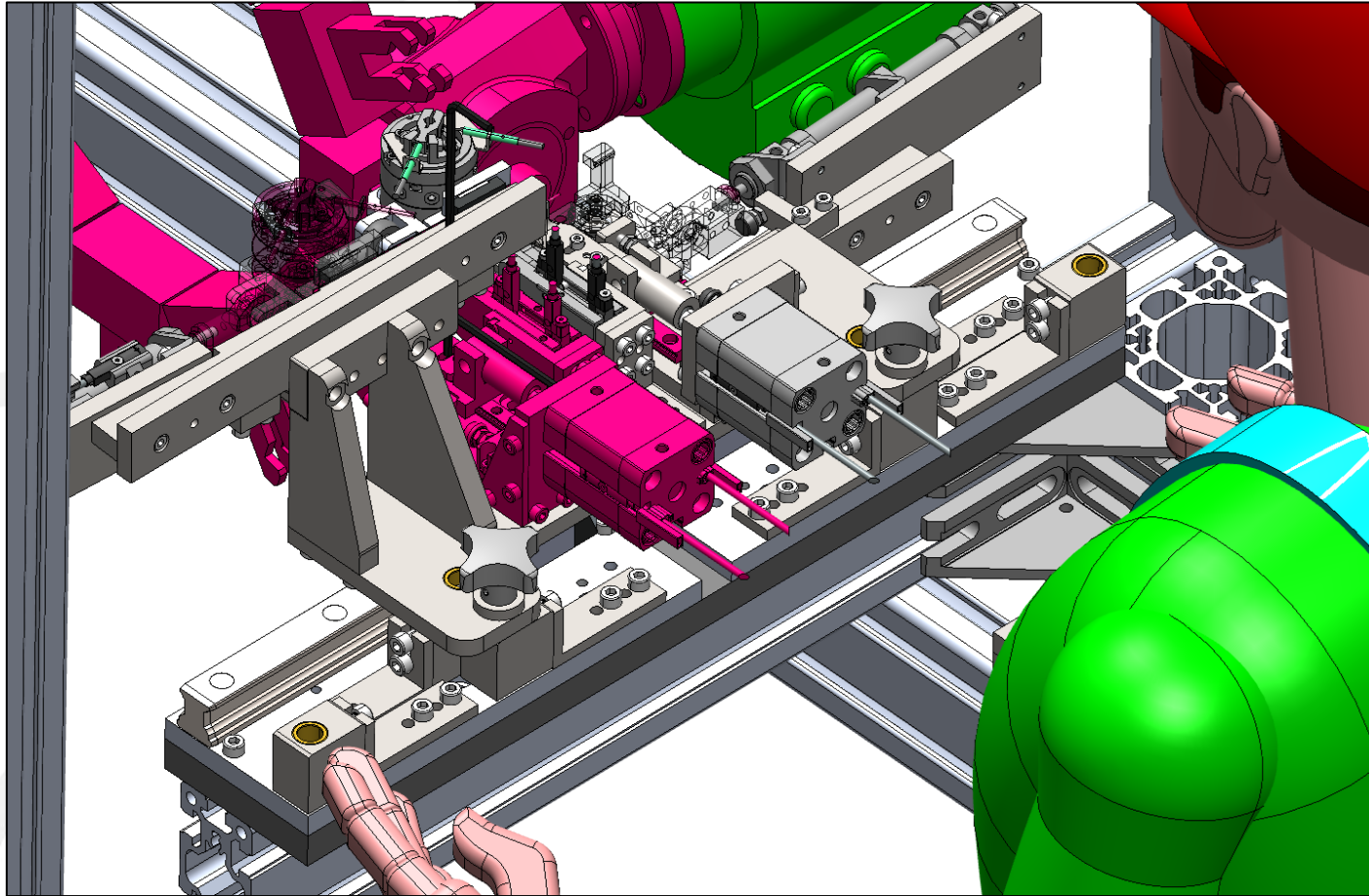


New conveyor with a belt change time of less than 15 minutes.



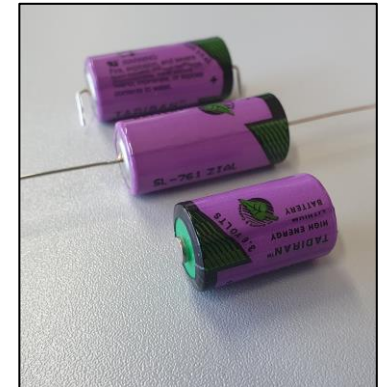
- The conveyor belt disposes of a press (4 strokes/s and 6 parts/stroke).
- One belt for the disposal of scrap parts
- One belt for the disposal of pressed parts
- Cross belt with left/right run for container feeding
- Deflection for start-up and emergency strategy
- Quick-change system for fast conveyor maintenance.
- Conveyor changeover time less than 15 minutes.
- Status: 2 machines are in series operation

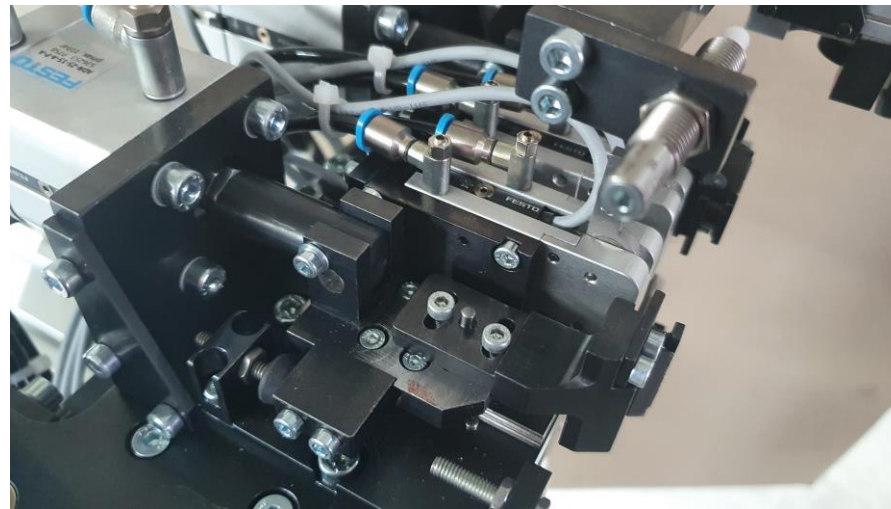
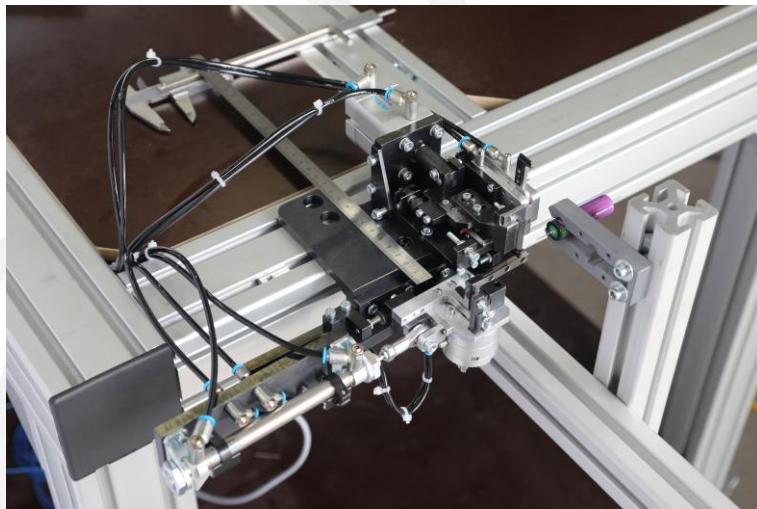
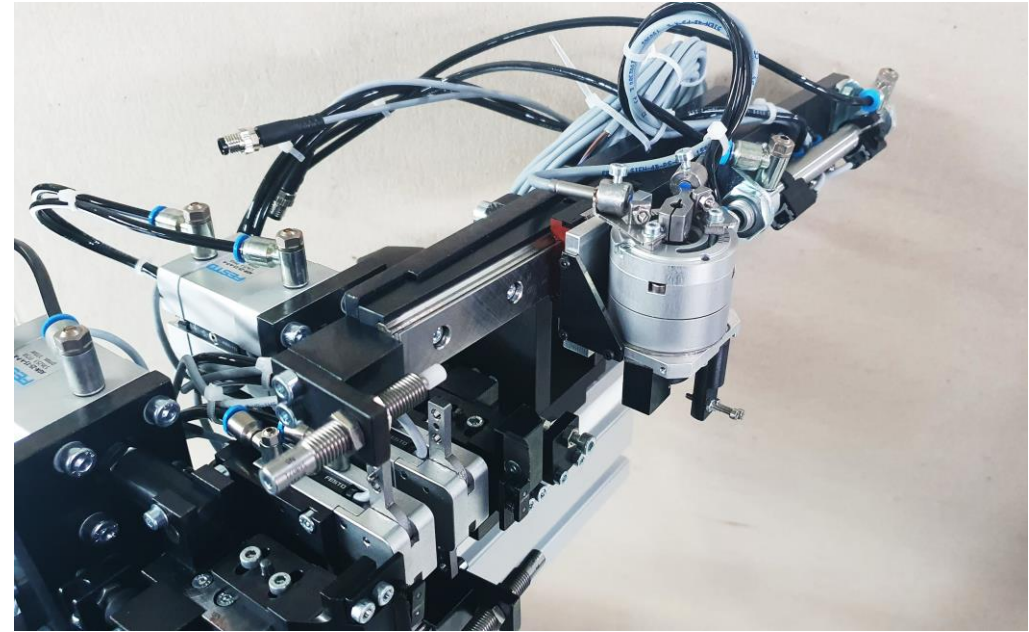
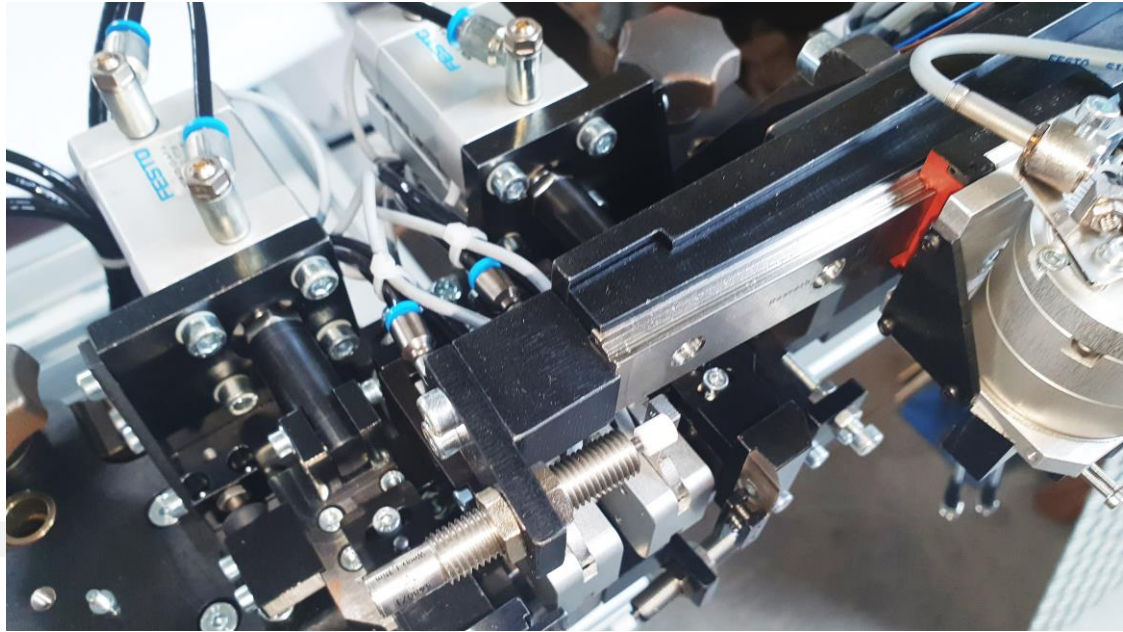


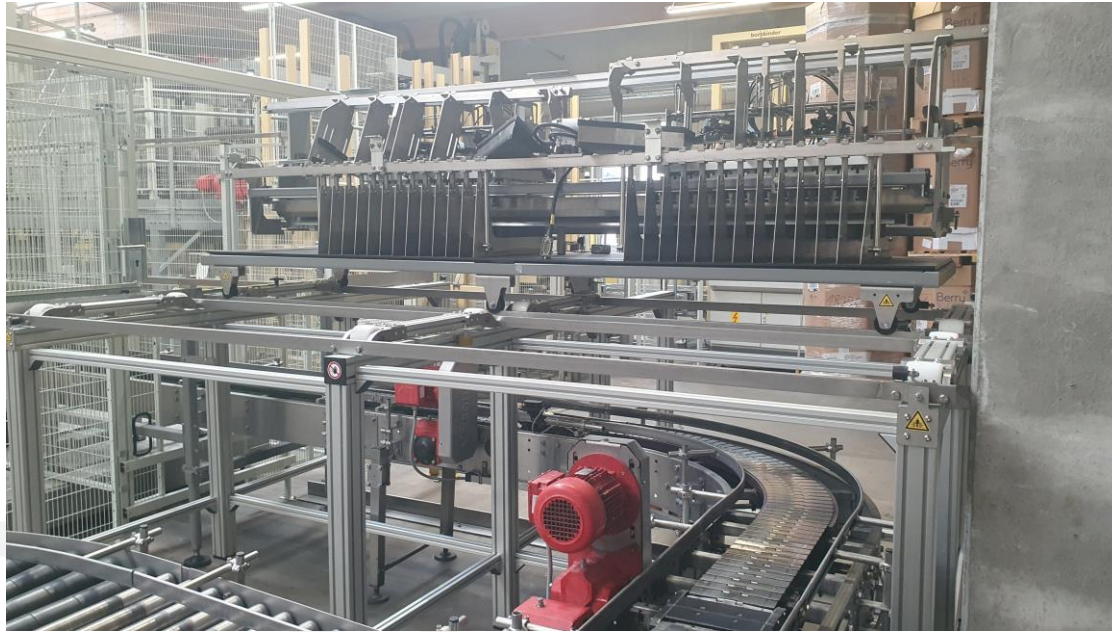


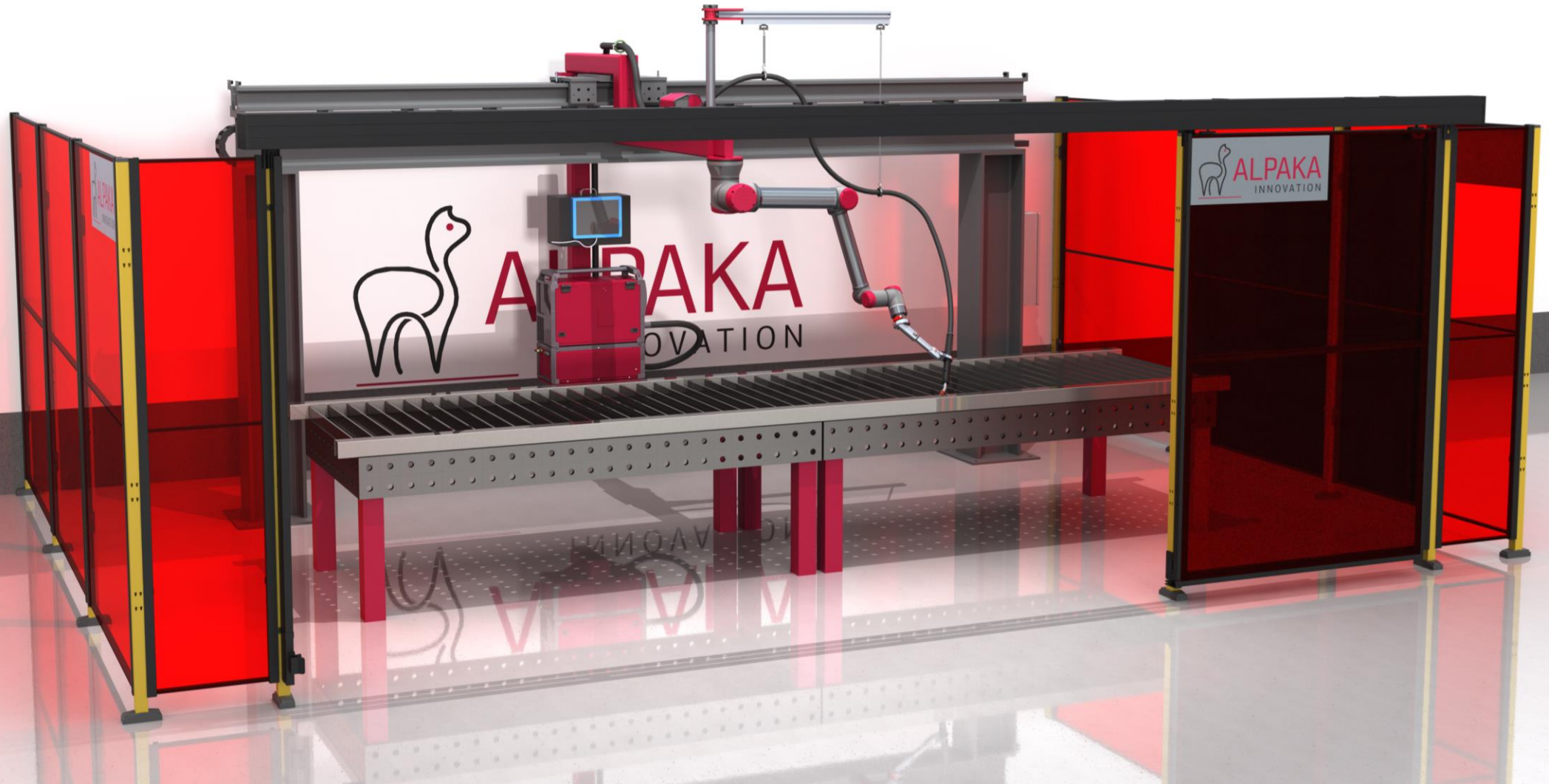
Mode of operation:

- Battery cells are fed via a rotary indexing table
- Wires are cut to length and bent
- Machine is designed for 2 types









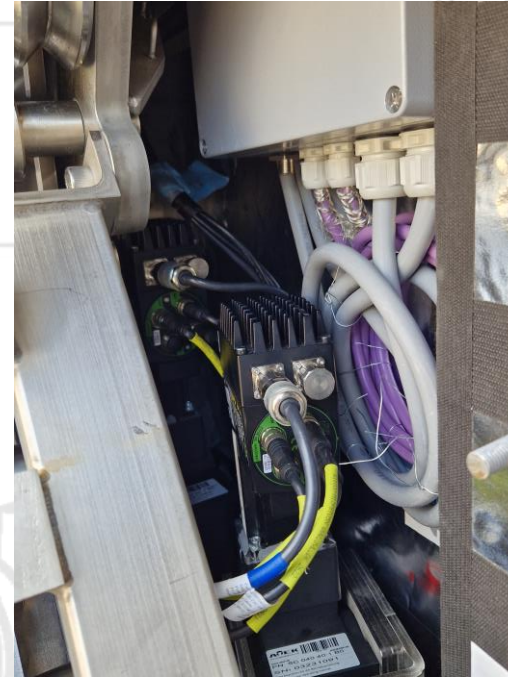
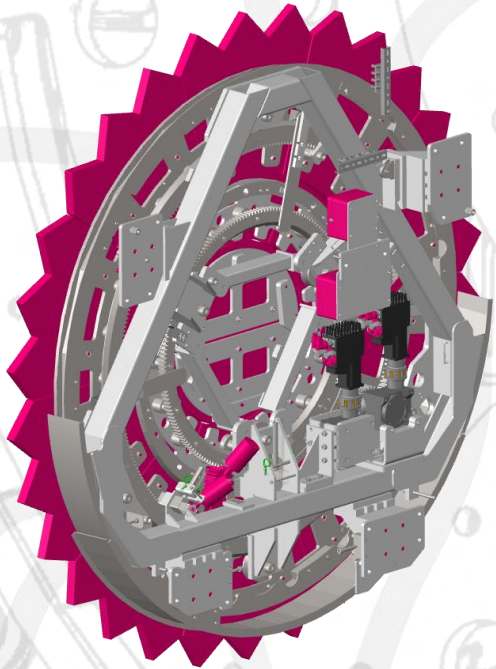
Art in Motion with ALPAKA Innovation

If you want to set something in motion, you've come to the right place. Whether it's a special solution in your production or, as in this example, the realisation of a moving work of art.



Art in Motion with ALPAKA Innovation

We respond to your wishes and can also read between the lines. With our experience, we are at your side and ensure the success of your project.



Art in Motion with ALPAKA Innovation

We were proud to ensure that the "Stonewheel", according to the wishes of the artist and owner, moves at a height of approx. 15 metres, as part of a total work of art, in a building façade. Freely programmable for the user.



Art in Motion with ALPAKA Innovation

What is a radiolarian? Radiolarians are unicellular marine creatures with an endoskeleton. We developed the drive unit underneath the artistic representation. This brings the radiolarian to life through movement and illumination. We have built a total of 15 versions of these drive units in different designs. The outer shell was then completed by our client. [Here is the link to the finished product.](#)



If you want to transport something out of the ordinary and need support with planning, transport containers and logistics, you've come to the right place.



How do you manually feed 61 geometrically different frame parts, weighing between 500kg and 3,500kg per element, into different work steps?

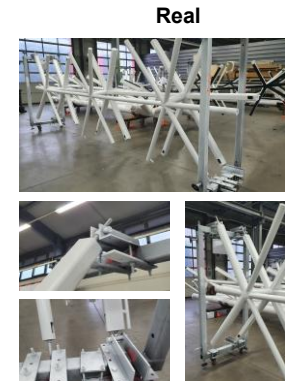
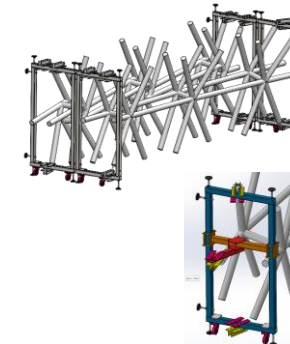
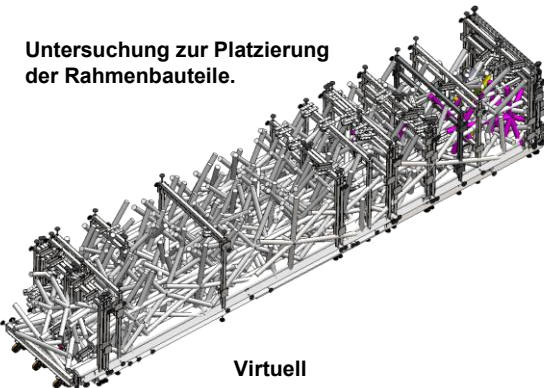
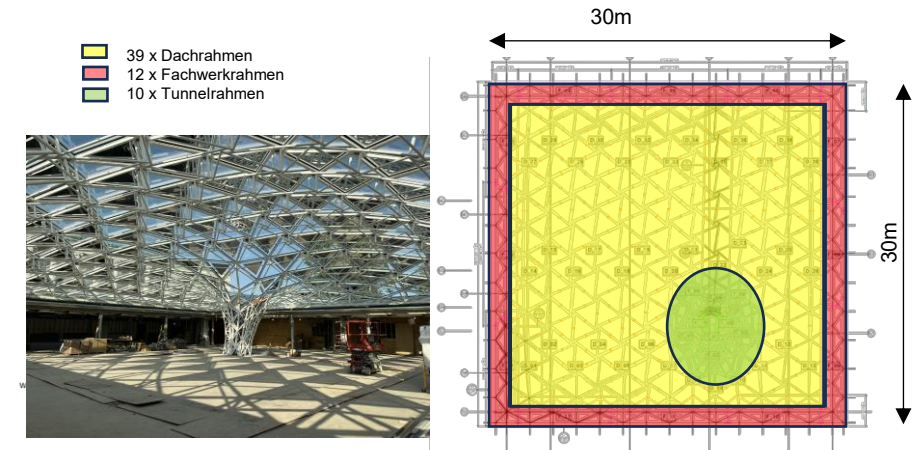
How do you paint these elements “floating” in space?

How do you then ship these elements to the USA in the right order, using as few containers as possible, without damaging the painted surfaces by securing the load?

We have developed a modular, cost-effective rack system that meets the requirements.

Key data:

- Container loading time 50 minutes.
- 122 transport racks made from 14 different modular components.
- All transport racks consist of a total of 2348 individual parts.
- 28 overseas containers required for transportation.
- 5 containers were saved compared to the planned status.
- The lead time from the first concept to the first assembled transport frame was 9 weeks.



How do you transport 71 panels of different shapes and sizes, including 7 curved panels and 9 extra-wide panels, to the coater (paint) and then to the construction site in Sweden?

Without transportation requiring a permit?

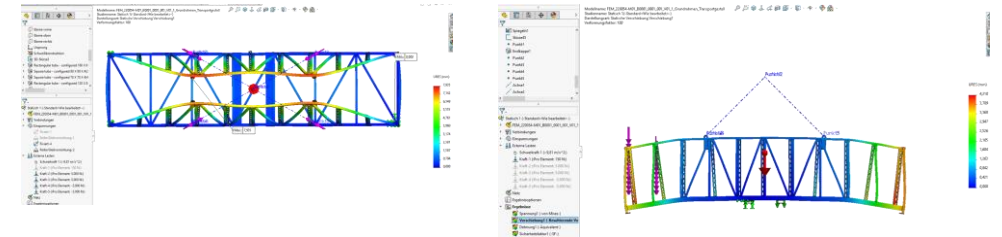
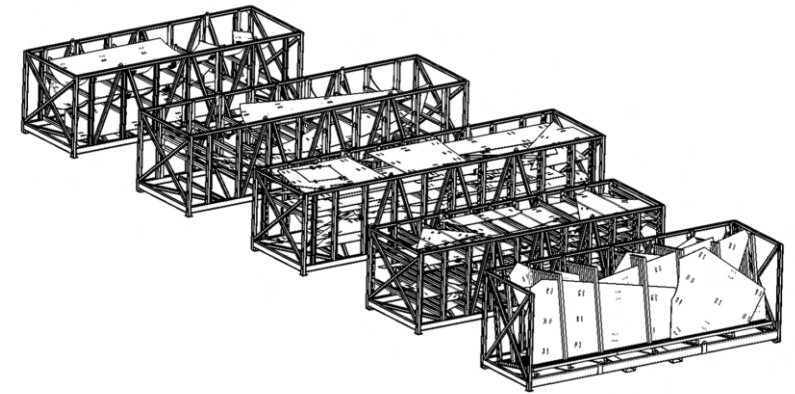
How can the parts be transported carefully without damaging the painted surfaces?

Design of the containers for forklift and crane lifting.

We have developed a modular container system to meet the requirements.

Key data:

- Analysis of the goods to be transported (aluminum panels) using CAD data
- Concept development for various transport containers.
- Distribution of the panels to 5 transport containers and a Euro pallet.
- The heaviest transport container has a weight of 6.5 tons, a length of 9.7 m, a width of 2.44 m and a height of 2.35 m. It was equipped with 28 panels distributed over 12 levels.
- All transport containers were tested for their suitability using FEM analysis.
- Creation of loading plans based on the assembly sequence of the panels.



Many people have ideas. Turning these ideas into products is only possible with an experienced team of engineers and visionaries. We think about the subsequent production processes right from the first draft and develop not only the product ready for series production, but also the associated production facilities.

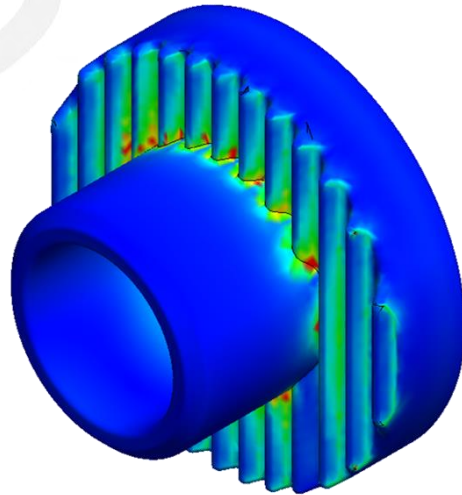
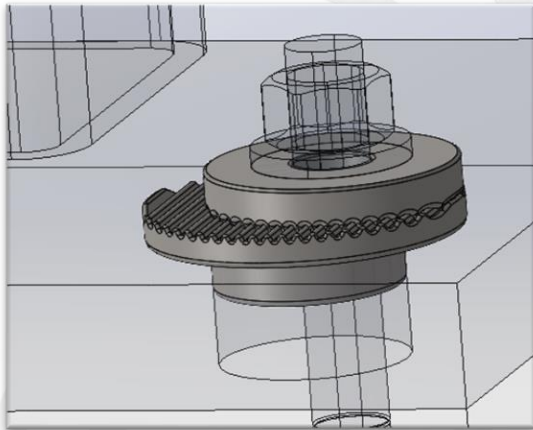
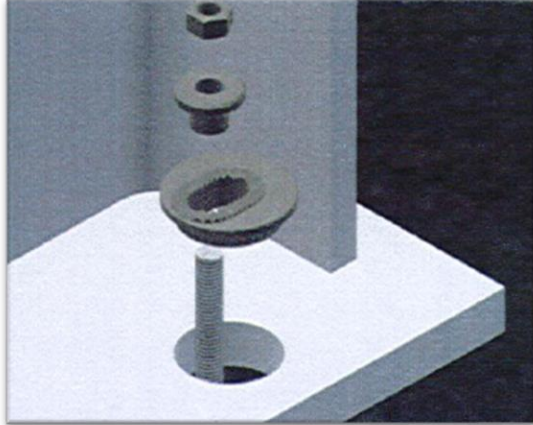


COMPONENTS OF OUR PRODUCT DEVELOPMENT

- Idea
- Target´definition
- Consumer needs
- Drafts
- Concept development
- Validation and testing
- Specification
- Concept
- Production-optimised product design
- Feasibility study
- Proof of concept
- Prototype
- Optimisation
- Manufacturing concept

Snow guard





- Patented centring device
- Assembly aid / adjustment screw connection in steel construction
- Solves a frequently occurring problem in practice when structural work and steel construction come together
- Form-fitting force transmission and compensation of tolerances
- Concept
- Design
- FEM simulation
- Selection of manufacturing processes
- Preparation of all necessary documentation
- Approval via DIBT



- Creation of a parameterised model
- Optimisation with regard to production
- Input of parameters via homepage
- Generation of production data, drawing & parts list
- Maximum of 3 storeys - optionally with intermediate storeys
- One-off statics calculation
- Different exit directions possible
- 4 different railing variations
- Optimisation of assembly processes

WITH OUR PRODUCT INTO A BETTER FUTURE

ALPAKA PRODUCTS

Are you looking for the perfect product to meet your needs? Then you have come to the right place! The Alpaka family has expanded. We are proud to introduce you to our innovative and high quality products. They are designed to improve your everyday life and make your day-to-day tasks easier. Just take a look.



Portal welding system

Automated welding for special beams



Mobile laser cell

A comprehensive, mobile workstation for manual laser welding



Welding cobot

The mobile robot system for welding

SPECIAL MACHINE CONSTRUCTION

Let the welding run automatically

As a steel construction company, you face many challenges. And because ALPAKA stands for innovation, we have developed a portal welding system for automated welding. Produce long and straight weld seams for special beams and save up to 60 percent material and energy. Use the advantages of automated welding for your company.

Welding arm can be folded to the machine



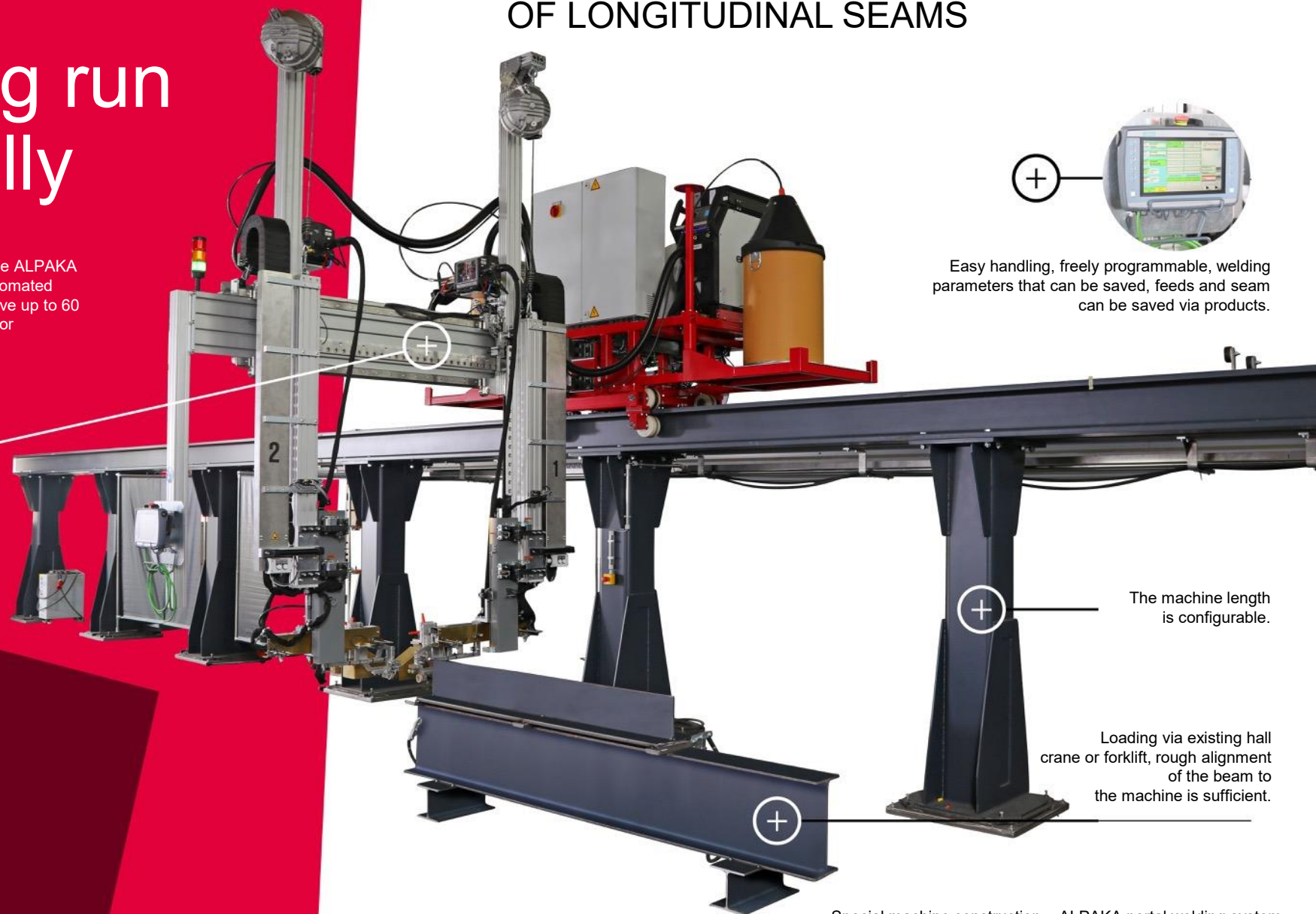
Dimensions:

Travelling distance	16,000 mm
Max. girder height (standing)	1,600 mm
Max. beam width (standing)	1,000 mm
Seam tracking +/-	150 mm

FULLY AUTOMATIC WELDING OF LONGITUDINAL SEAMS



Easy handling, freely programmable, welding parameters that can be saved, feeds and seam can be saved via products.



The machine length is configurable.

Loading via existing hall crane or forklift, rough alignment of the beam to the machine is sufficient.

Special machine construction – ALPAKA portal welding system

PLUG & WELD SERIES

A comprehensive system

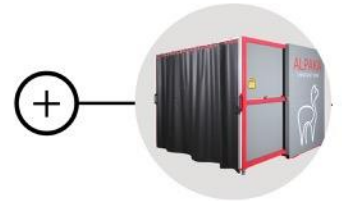
You have no safe place for manual laser welding available? ALPAKA has solved this issue for you. The mobile laser cell is a full solution from our Plug & Weld series. This literally means plug in and go for it. Everywhere in your workshop. The big advantage for you: the laser cell is a modular workstation with CE marking, which does not require any conversion measures in operation. Due to the truck fitting packaging dimensions, the cell can be easily transported and placed in your workshop. As a full solution, the complete welding booth offers occupational safety for your employees, flexibility with regards to the cell location and direct commissioning of the finished welding system.

Dimensions when folded:

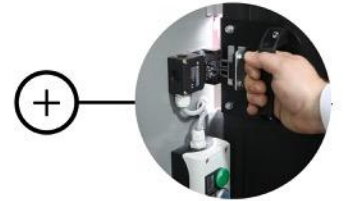
Height (top closed)	2,420 mm (2,500 mm)
Width	3,400 mm
Depth extended	3,100 mm
Depth retracted	2,000 mm

Very good accessibility thanks to flexible safety curtain (protection class 4)

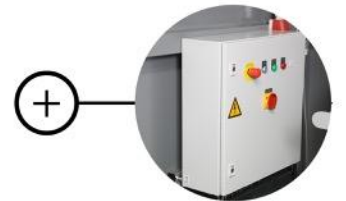
MODULAR WORKSTATION WITH CE MARKING



Enclosed cab.



Includes all safety modules.



Full installation including technology for laser welding.



Mains supply 230 V for auxiliary devices under the welding table.

PLUG & WELD SERIES

We bring the welding system to the component

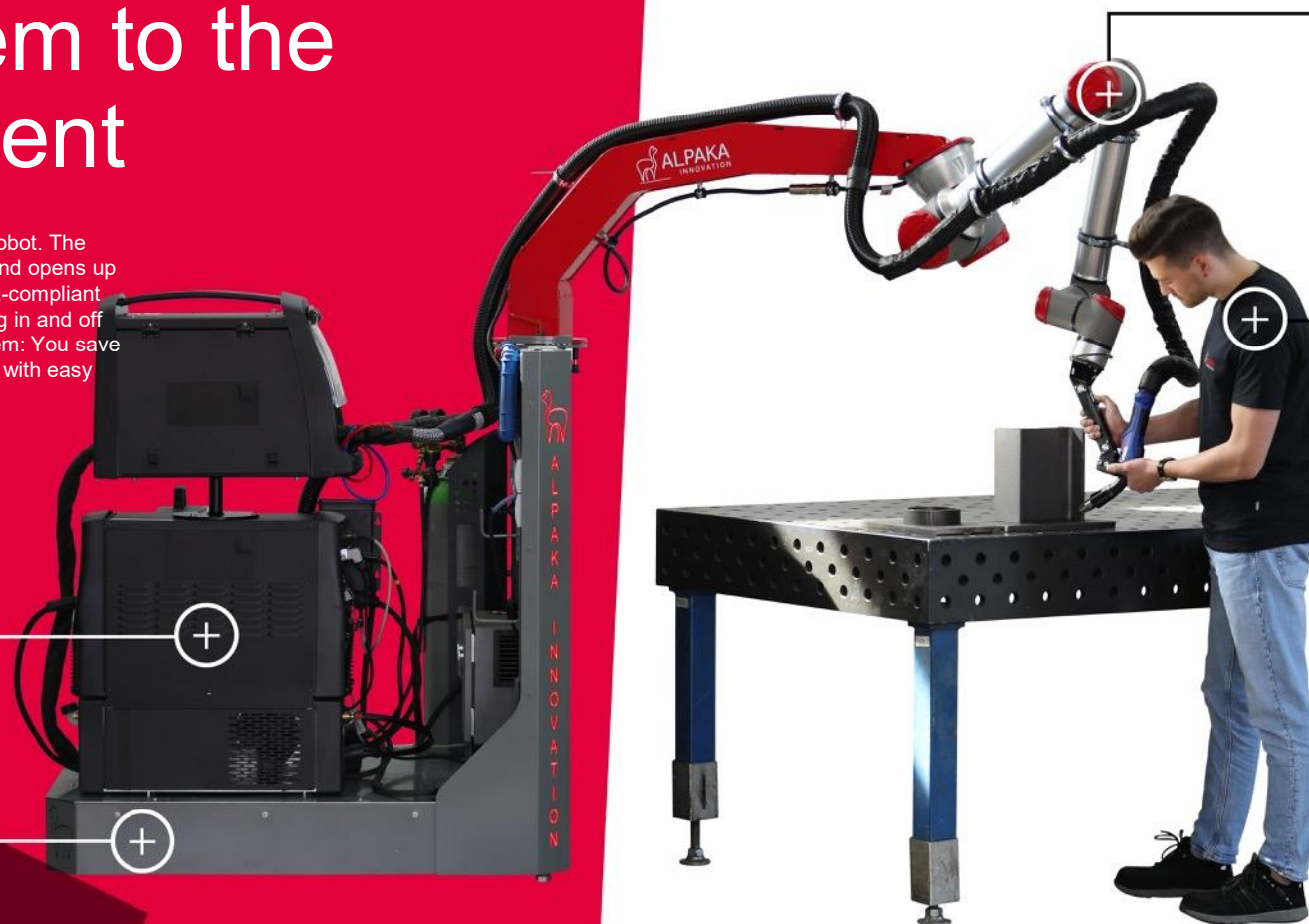
Innovation at all levels – that's behind ALPAKA's welding cobot. The mobile robot brings the welding system to the component and opens up new flexibility for your workshop. The welding cobot is a CE-compliant full solution from the Plug & Weld series. So you simply plug in and off you go with the advantages of the automated welding system: You save energy, increase the quality of the welding seam and do so with easy handling of the robot directly on the component on site.

Dimensions when folded:

Height	2,100 mm
Width	900 mm
Length	1,100 mm
Working range radius	1,000 mm

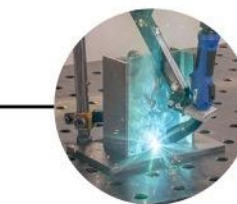
Mobile and compact welding robot with pallet truck mount.

Optionally also available without welder and accessories.



CE COMPLIANT FULL SOLUTION

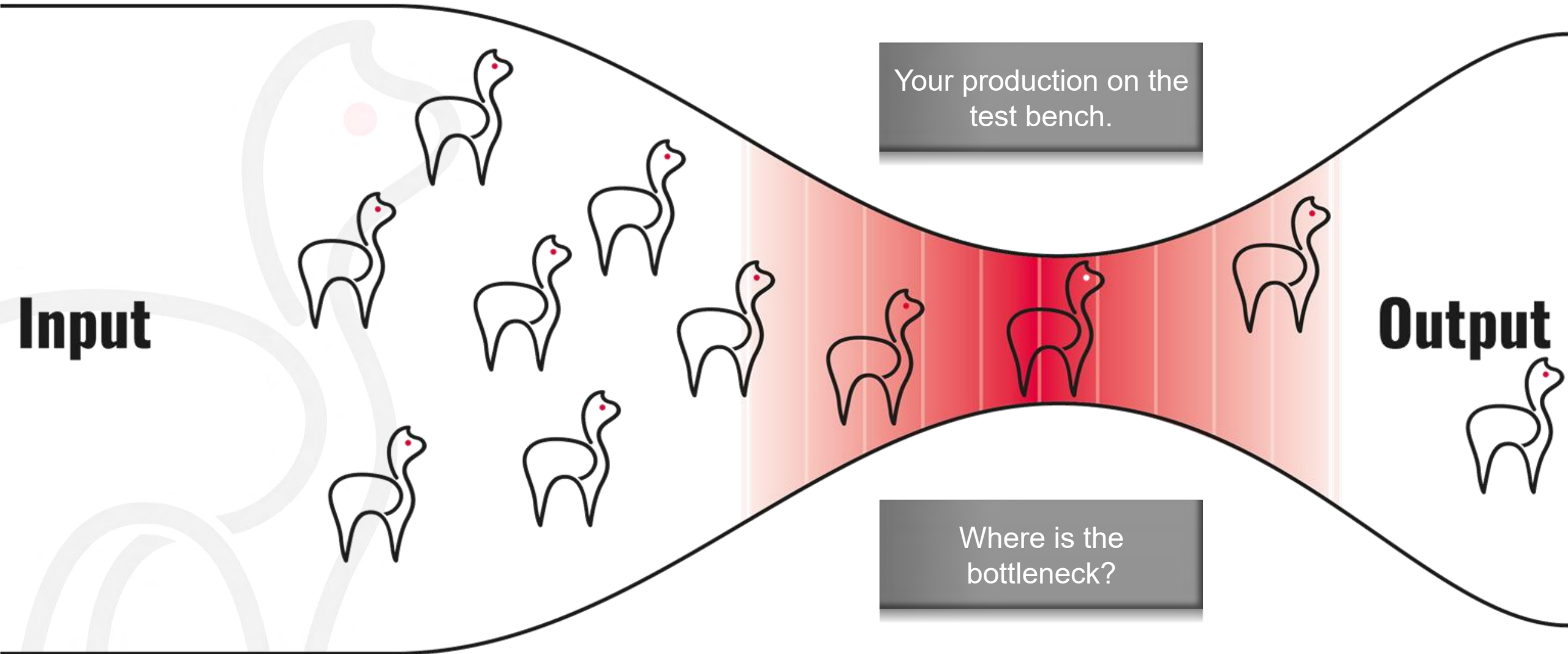
Space-saving thanks to swivel arm – easy handling of the robot directly on the component on site.



Very good welding results after a short training period, even for inexperienced users.



The welder, extractor and gas are placed on the trolley to save space.



COMPONENTS OF OUR BOTTLENECK ANALYSIS

Process analysis

Cycle time

Resource planning

Production processes

Material allocation

Cycle time diagram

Flow chart

On-site recording

Project management

Availability calculation

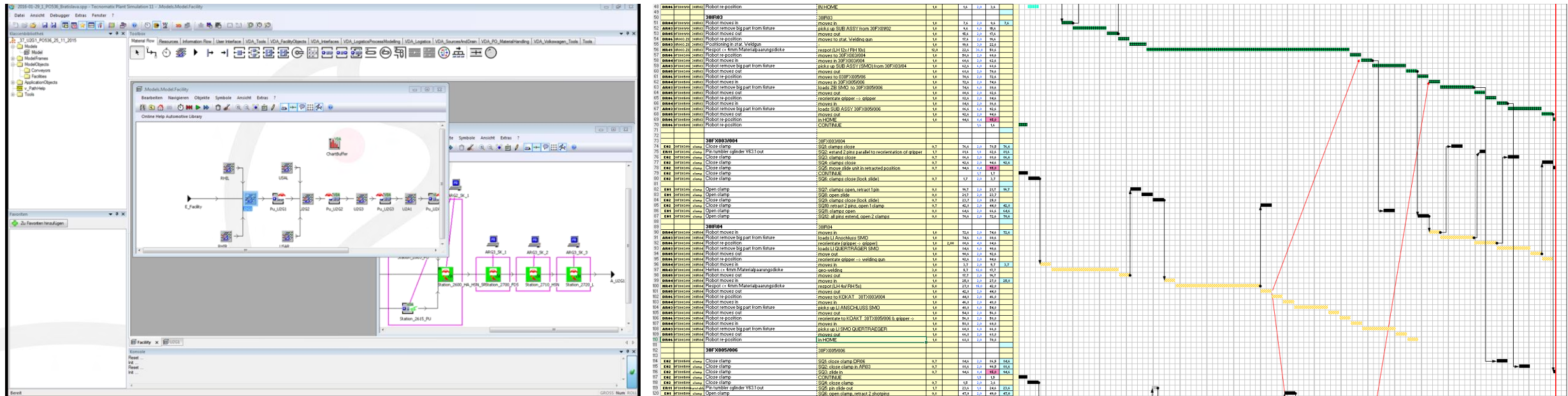
MTM analysis

Layout planning

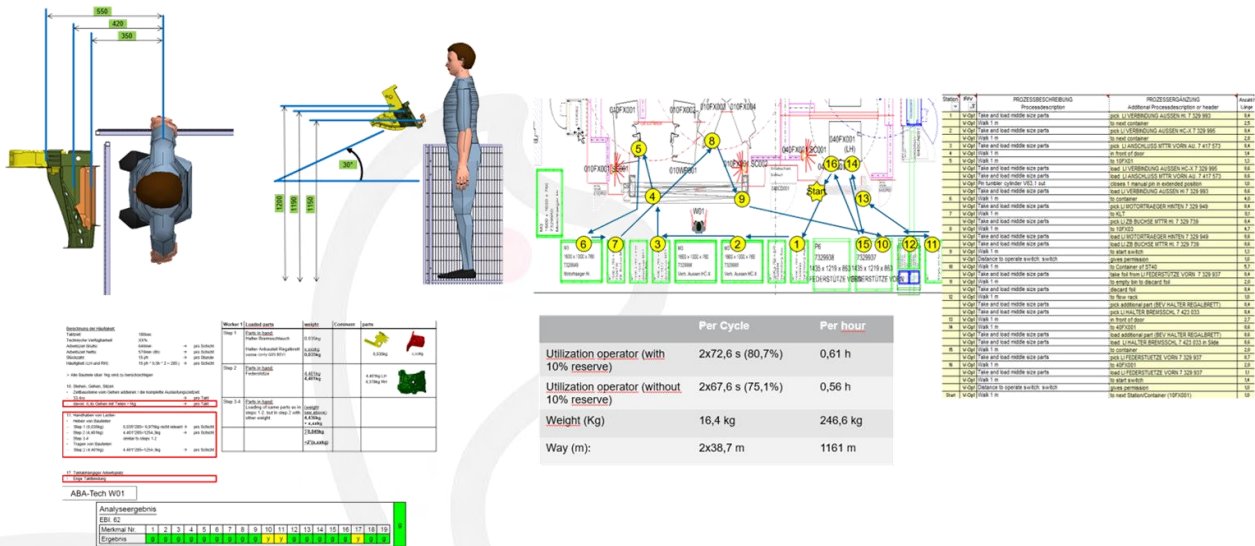
Utilisation

Flow chart

Root cause analysis



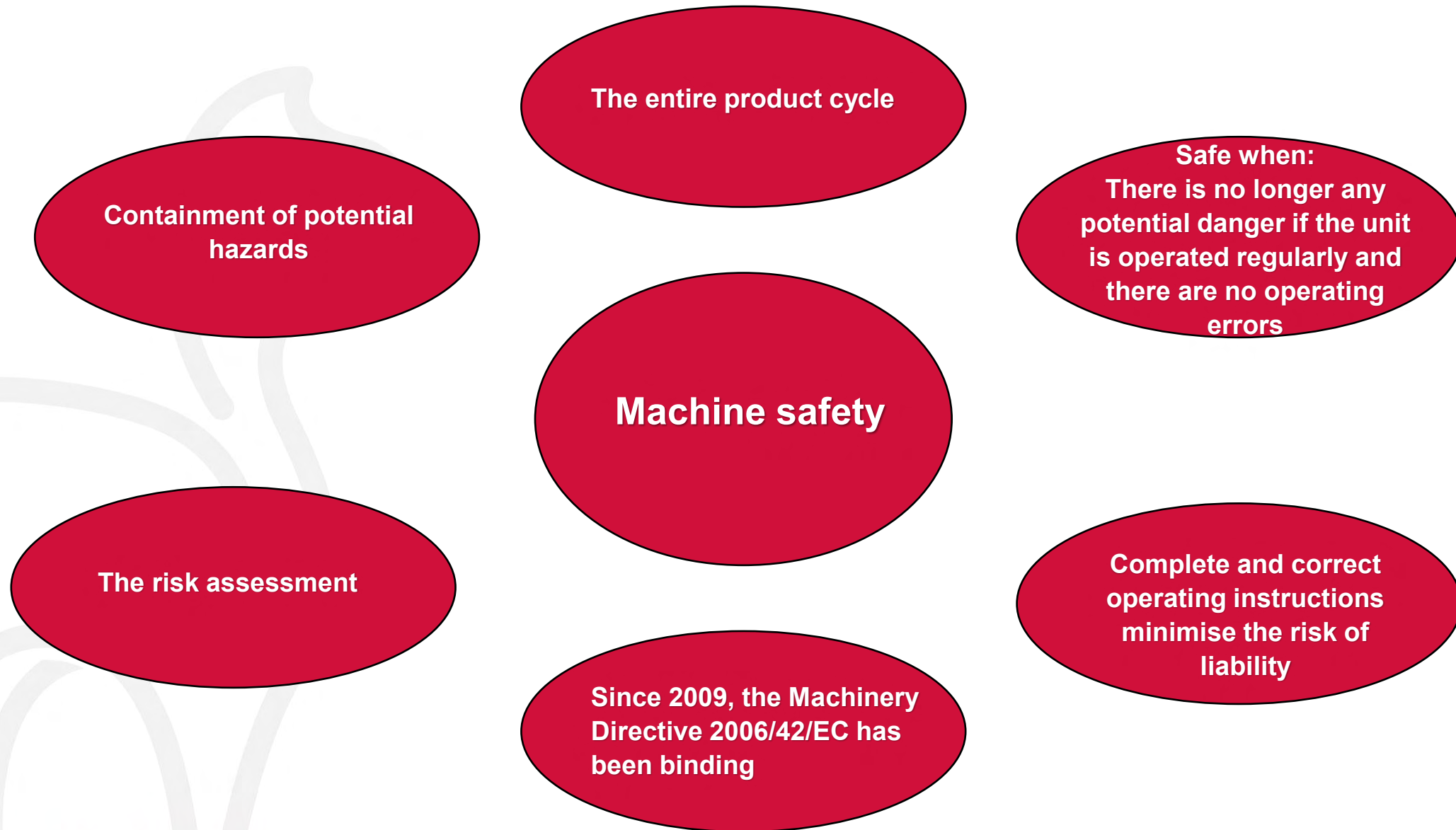
If the production figures are not right, there are repeated delays in production or you would like to increase your production, then a bottleneck in your production flow could be the problem. Here, a bottleneck hinders the smooth flow of production and brings the processes to a standstill. In a bottleneck analysis, we take a close look at your production to find out where the processes are being interrupted. We then show you appropriate solutions to eliminate the bottleneck, optimise your processes and increase your production.



Process flows are our speciality, as we not only develop special machines and products ready for series production, but also the production facilities and manufacturing processes required for them. We take over the entire process management around our products and deliver turnkey production to our customers.

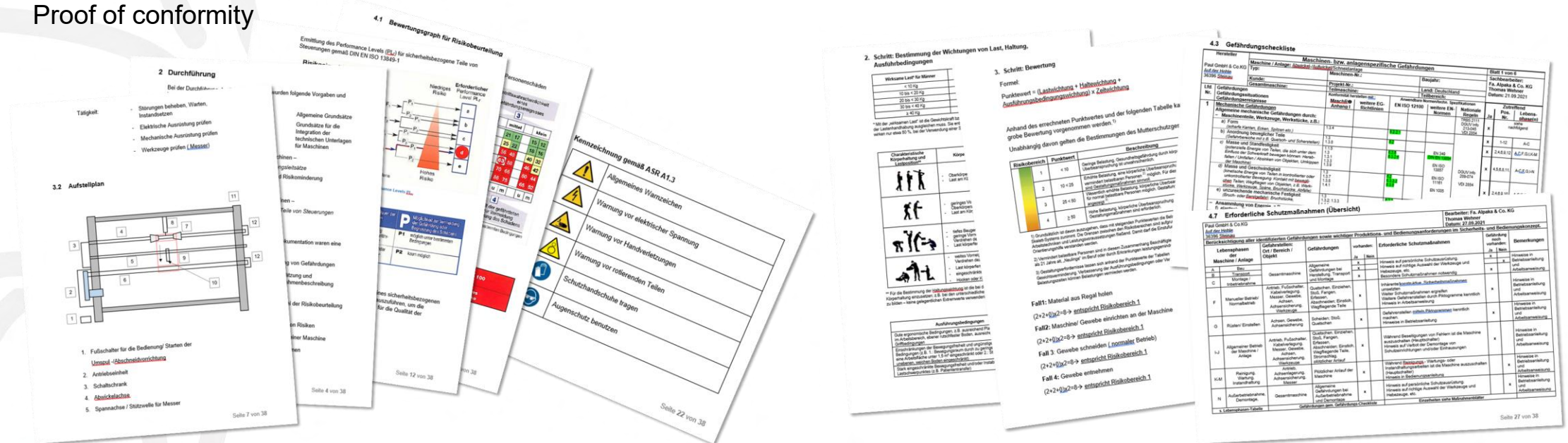
Process optimisation and bottleneck analysis are therefore fixed components of our service portfolio, which we are also happy to offer separately. Thanks to our many years of experience with process flows, material flows and automated production in the automotive industry, we have a trained eye for identifying bottlenecks in processes and immediately offering a solution for them, that we can also implement ourselves.

Beschreibung							Zeit [s]
Nr.	STVK Station 113400_1-7	Bauteilnummer	Kode	TMU	Anzahl	Häufigkeit	Gesamt TMU
	Fließgeschwindigkeit Kleber nicht bekannt, Zeit geschätzt						0
							0,00 sec.
1	Laufweg zum Behälter Scharniervverstärkung oben und unten zur Klebe-Ablage		KA	25	7	1	175
	Scharniervverstärkung oben aufnehmen und auf Klebe-Ablage ablegen	2GC_809_623	AA1	20	1	1	20
	Scharniervverstärkung unten aufnehmen und auf Klebe-Ablage ablegen	2GC_809_621	AA1	20	1	1	20
2	Klebepistole handhaben		HB3	75	1	1,00	75
3	180 mm Festigkeitskleber auf Scharniervverstärkung unten auftragen		ZA1	5	30	1	150
4	Klebepistole auf Scharniervverstärkung oben ansetzen		PB2	30	1	1	30
	Klebepistole betätigen		BA1	10	1	1	10
	190 mm Festigkeitskleber auf Scharniervverstärkung oben auftragen		ZA1	5	35	1	175
5	Laufweg von Klebe-Ablage zu Rutsche 1 und 2		KA	25	7	1	175
	Scharniervverstärkung oben aufnehmen und auf Rutsche legen	2GC_809_623	AA2	35	1	1	35
	Scharniervverstärkung unten aufnehmen und auf Rutsche ablegen	2GC_809_621	AA2	35	1	1	35
6	Laufweg zum Behälter Abschottung und zur Rutsche		KA	25	6	1	150
	Abschottung aufnehmen und auf Rutsche platzieren	2GC_864_001	AA2	35	1	1	35
	Laufweg Rutsche - Klebetisch		KA	25	4	1	100
	Verstärkung Dichtkanal aus Klebe-Ablage aufnehmen	2GC_813_333	AA1	20	1	1	20
7	Laufweg zu Station 3450		KA	25	10	1	250
	Summe						52,38 sec.

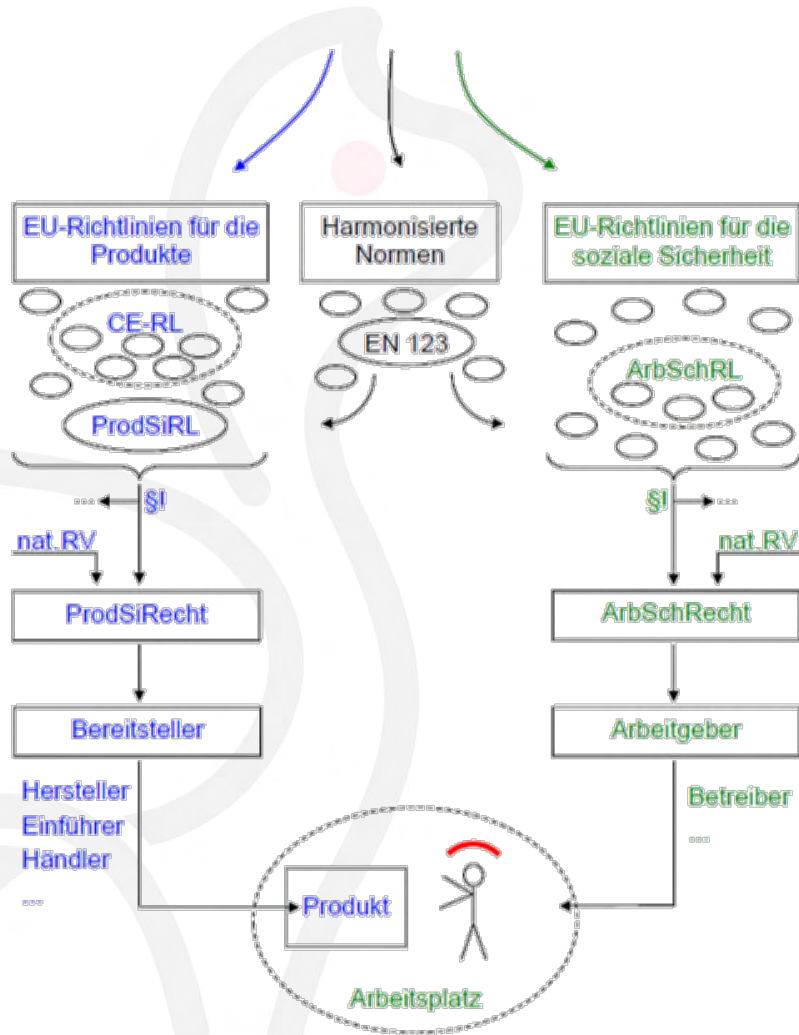


We support you in all phases of the CE process up to the declaration of conformity

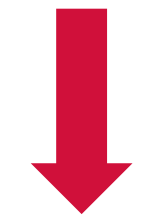
- Development of new machines and plants. Accompanying the machine design already during the conception phase in order to identify and avoid risks at an early stage. Definition of measures to minimise risks.
- Evaluation of existing, non-certified machines. Definition of measures to achieve CE conformity.
- Standards research
- Carrying out the risk analysis according to DIN EN ISO 12100
- Preparation of operating instructions
- Proof of conformity



EU harmonisation concept



- The provider (manufacturer, importer...) must comply with the EU directives for the products
- The employer (operator...) must comply with EU social security directives


Target

Products should be safe - because: when people use products use products, nothing should happen to people (including the environment)!

Vision meets implementation power

Our customers bring challenges with them – and we have the ideas on how to solve them. With our strong team, we think projects through, open up new perspectives and develop technical approaches that are often not obvious. We will show you the customers with whom we make visions work – and not only work together, but also think ahead together.

