Company presentation
ALPAKA GmbH & CO. KG

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ALPAKA
INNOVATION

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

HONEST

YOUNG

FLEXIBLE

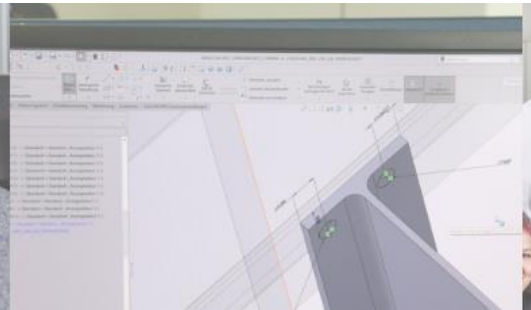
DYNAMIC

BINDING

OPEN

PERSONAL

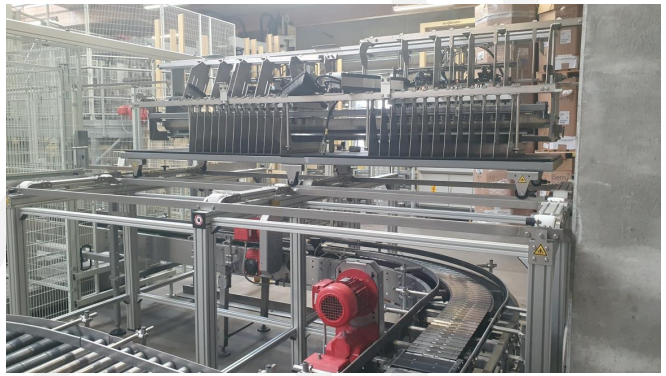


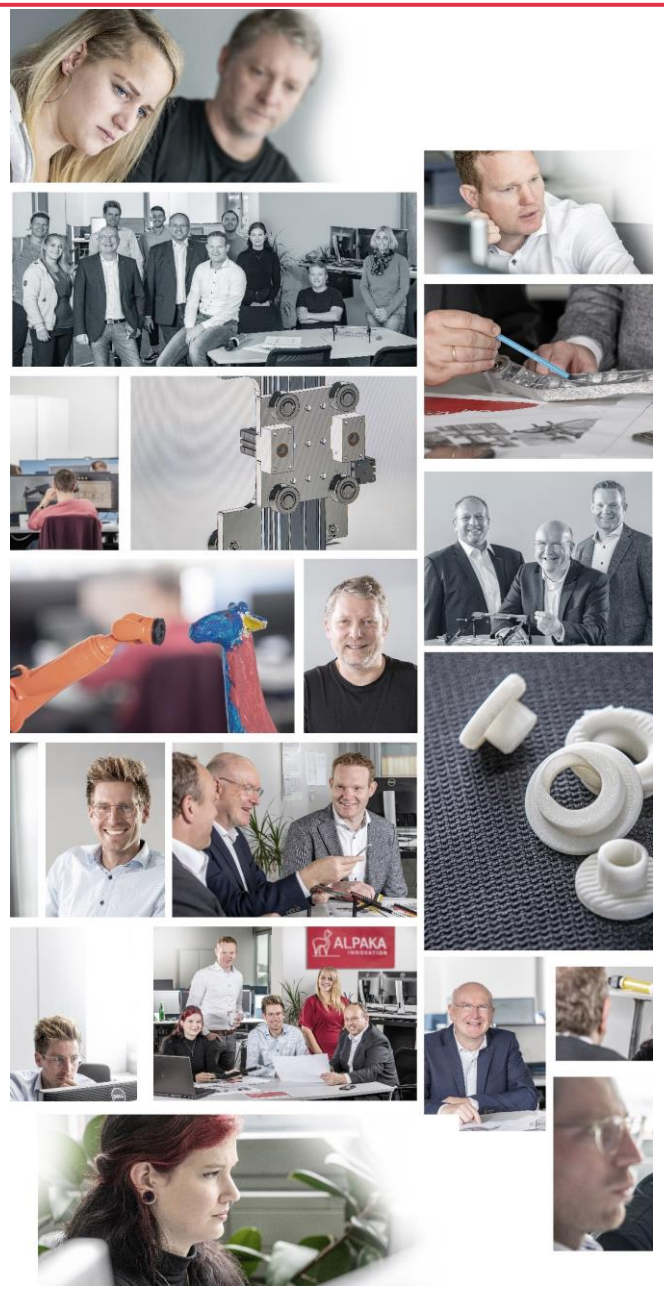




Our business fields

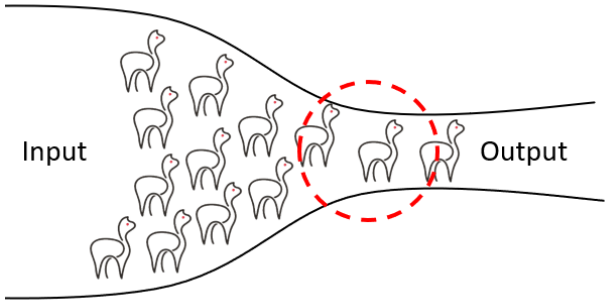
PRODUCTS

SPECIAL MACHINES + AUTOMATION





BOTTLENECK ANALYSIS



MACHINE SAFETY

WITH OUR PRODUCT INTO A BETTER FUTURE

ALPAKA PRODUCS

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.

Welding cobot

The mobile robot system for welding

Mobile laser cell

A comprehensive, mobile workstation for manual laser welding

Portal welding system

Automated welding for special beams

MOBILE PLUG & WELD SERIES

WELDING, AT THE COMPONENT SITE.

The **ALPAKA welding cobot** is a mobile, automated welding system mounted on a platform. It can be flexibly transported to any location using a pallet truck or crane – connect, start, plug & weld.

ALPAKA SimpliTeach
For fast programming
without any prior knowledge

Pre-programmed weave beads
For common welding movements

Seam tracking
Via the arc or sensor technology

High Mobility
by easy transport

WELDING COBOT

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 – ALPAKA Mobile laser cell

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.

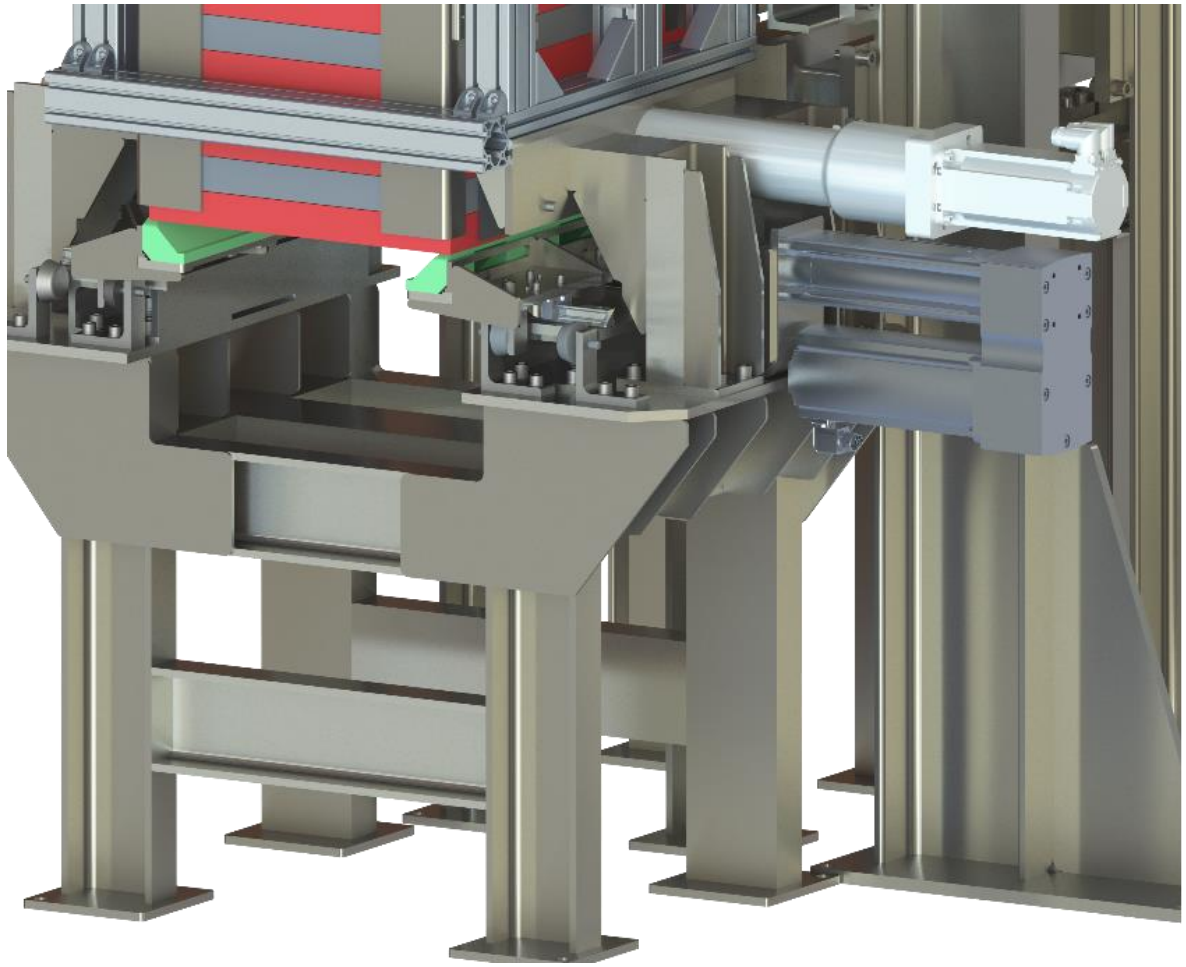
The machine length is configurable.

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

Special machine construction – ALPAKA portal welding system

Special machines + Automation @ ALPAKA

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.

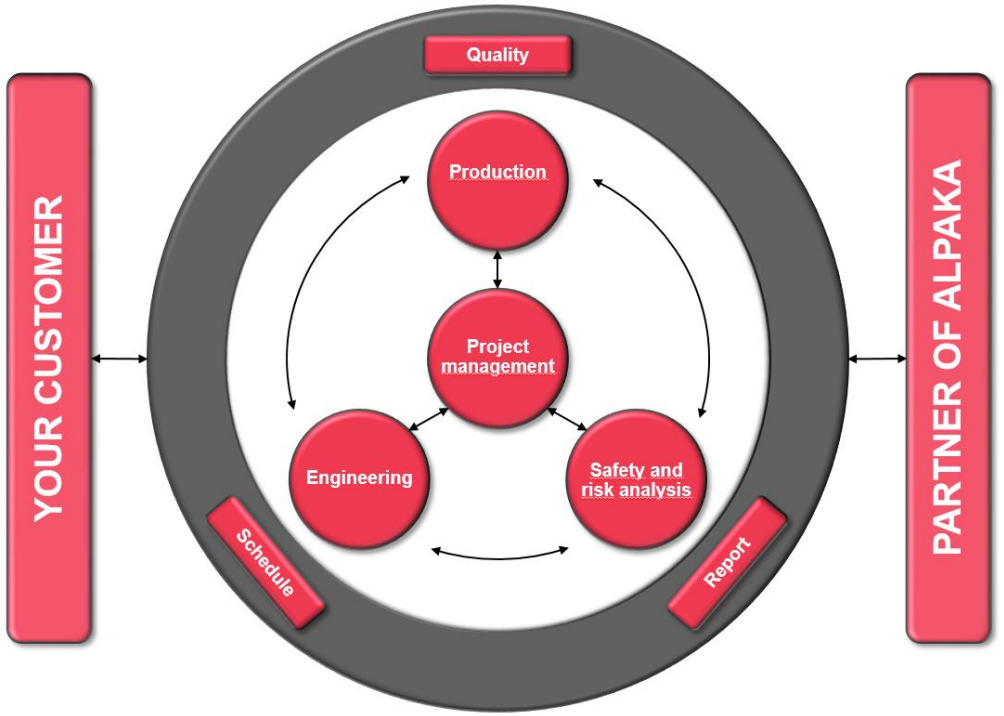


COMPONENTS OF OUR SPECIAL MECHANICAL ENGINEERING

- 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

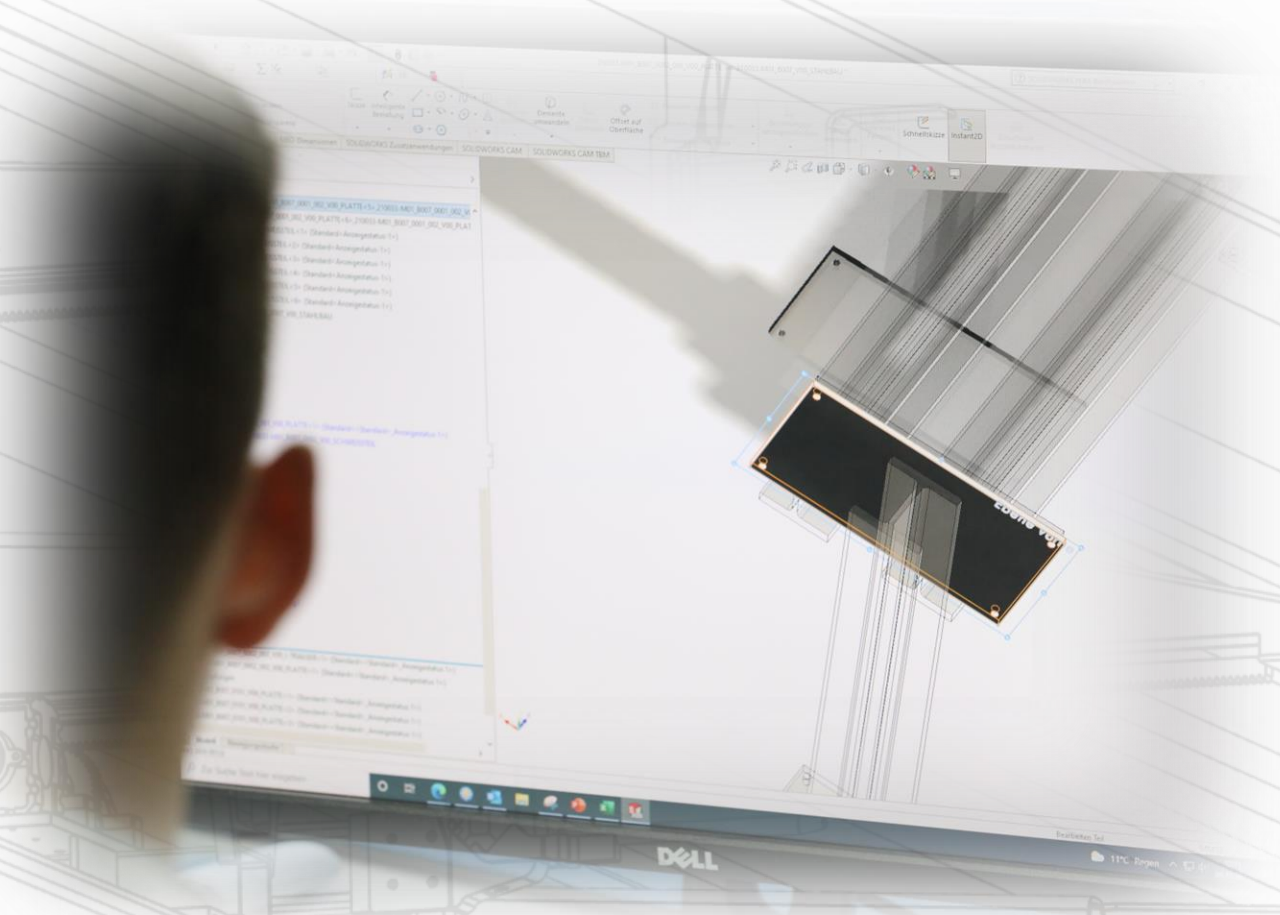
The design begins with the influence on the product. Our employees support all project phases.

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

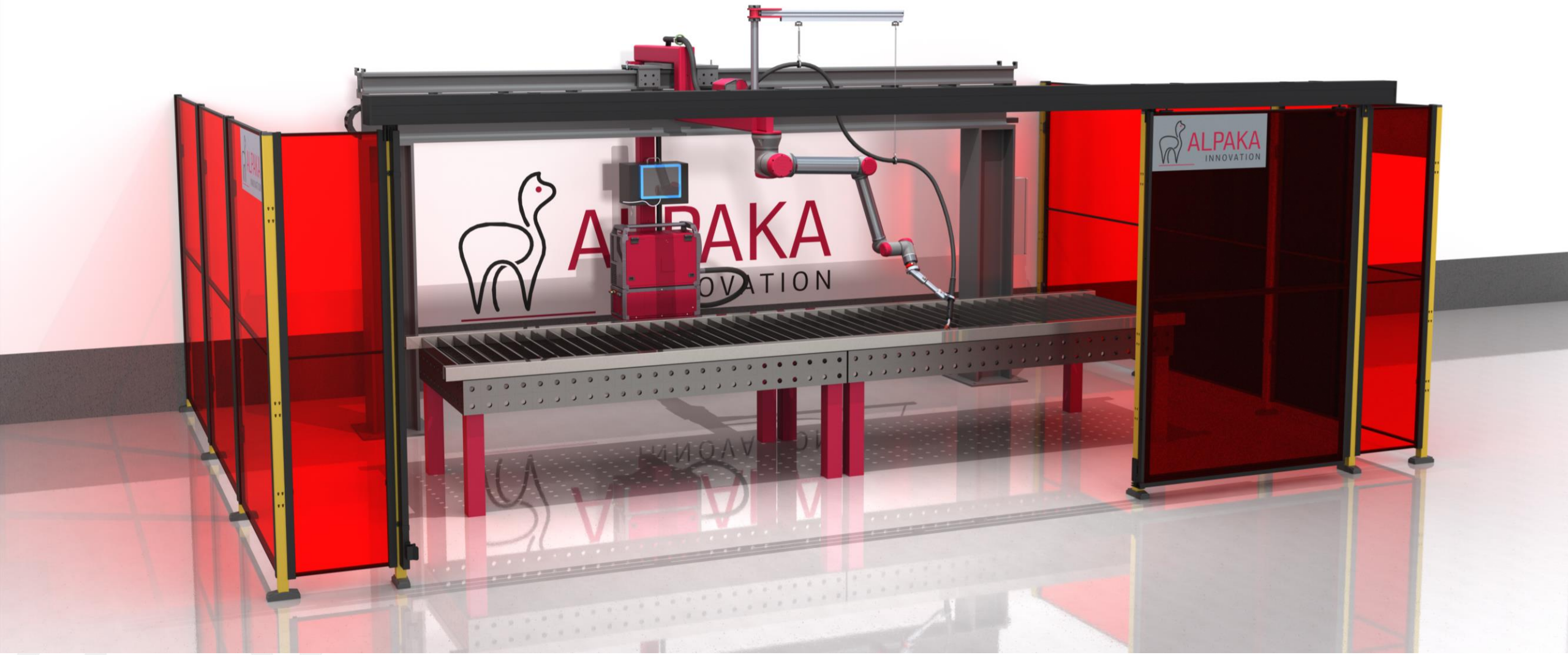
Detail engineering

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

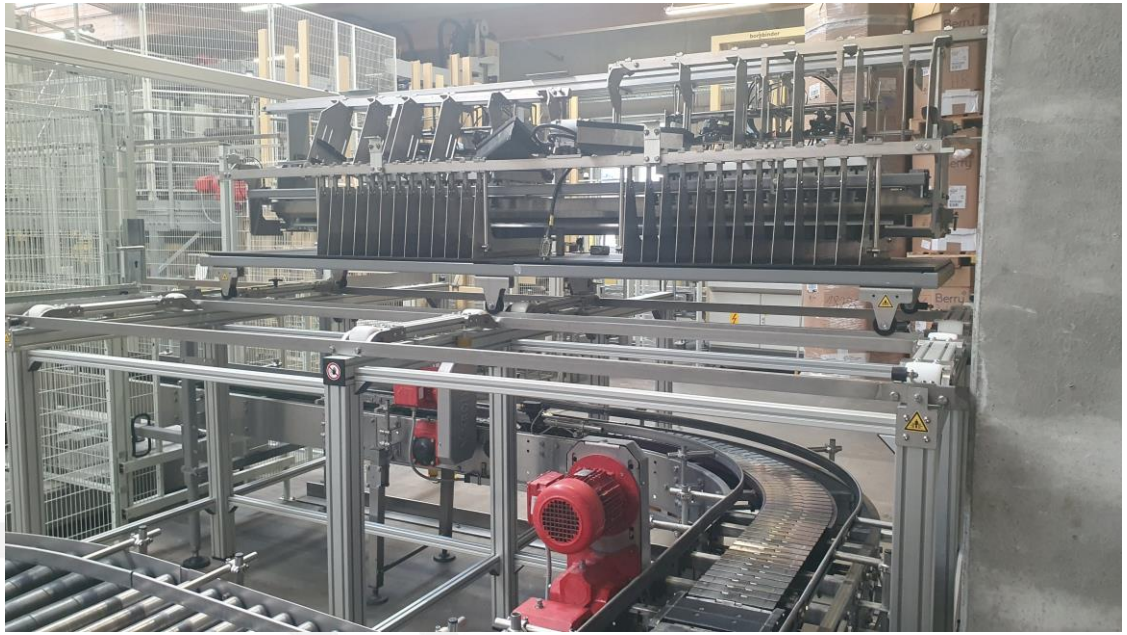
Realisation

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

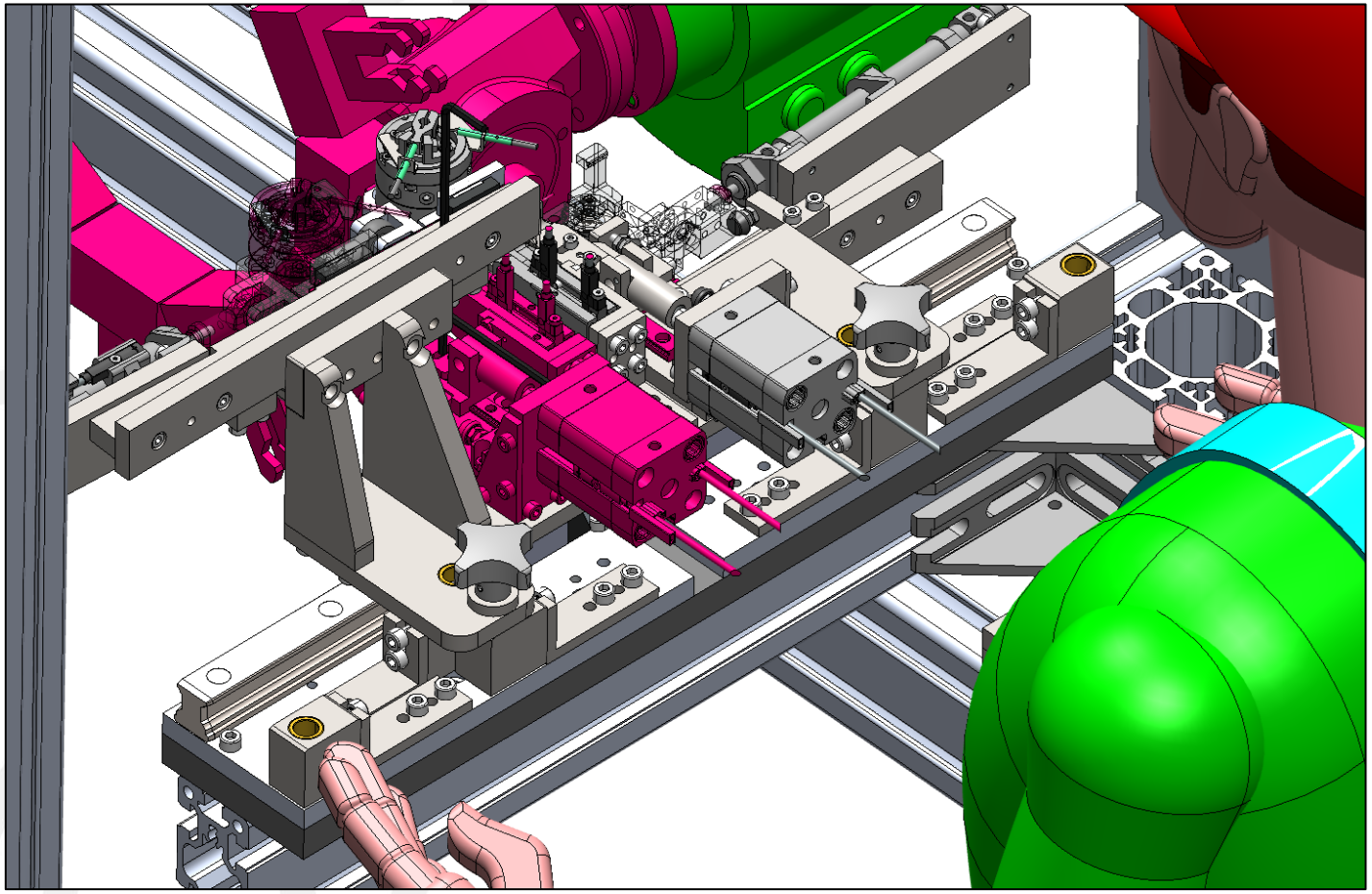
Robots - Weldingportal @ ALPAKA



Moving unit for filling tools (beverages) @ ALPAKA

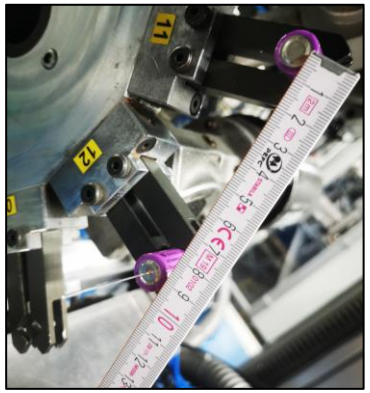


Cutting- Bending- Device for Battery Cells @ ALPAKA



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



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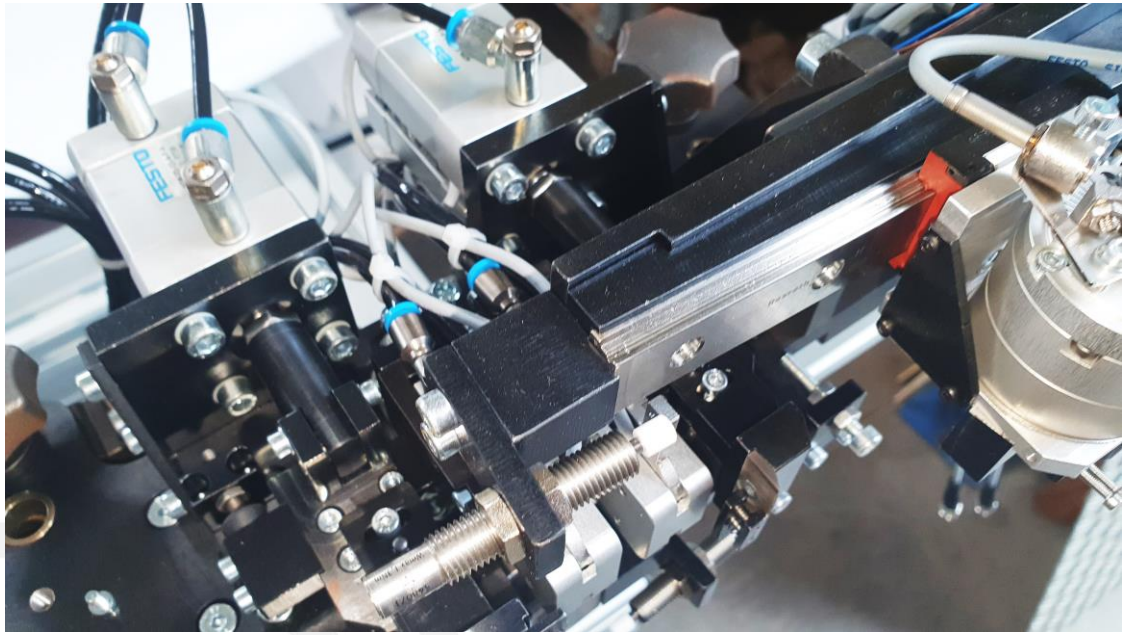
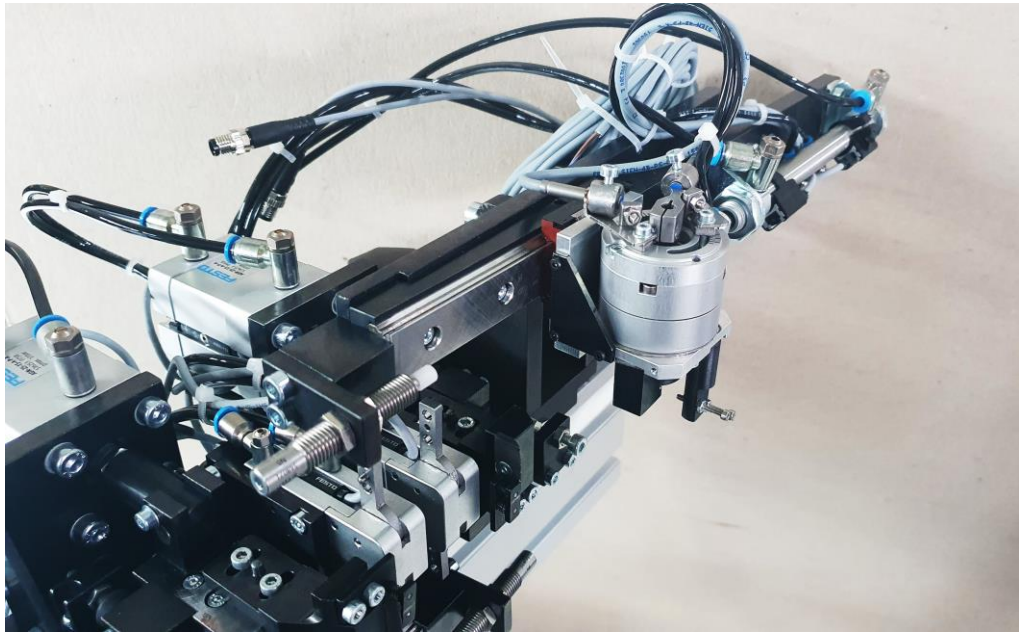
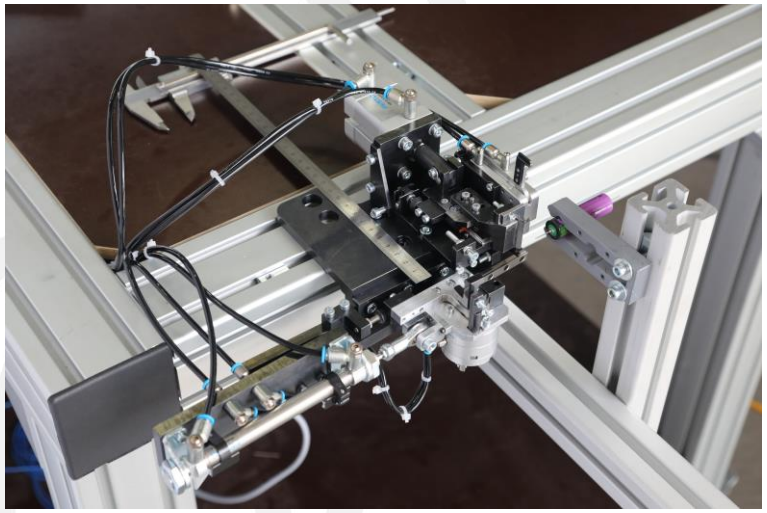
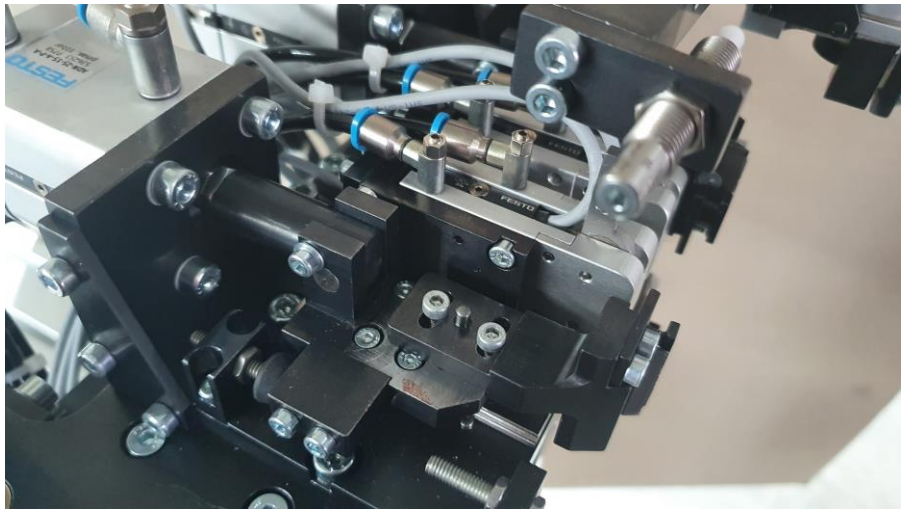
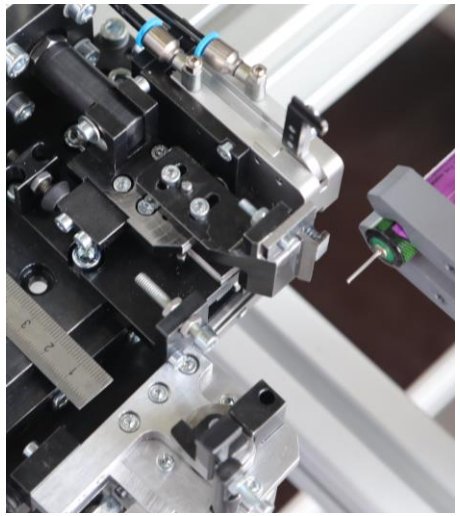










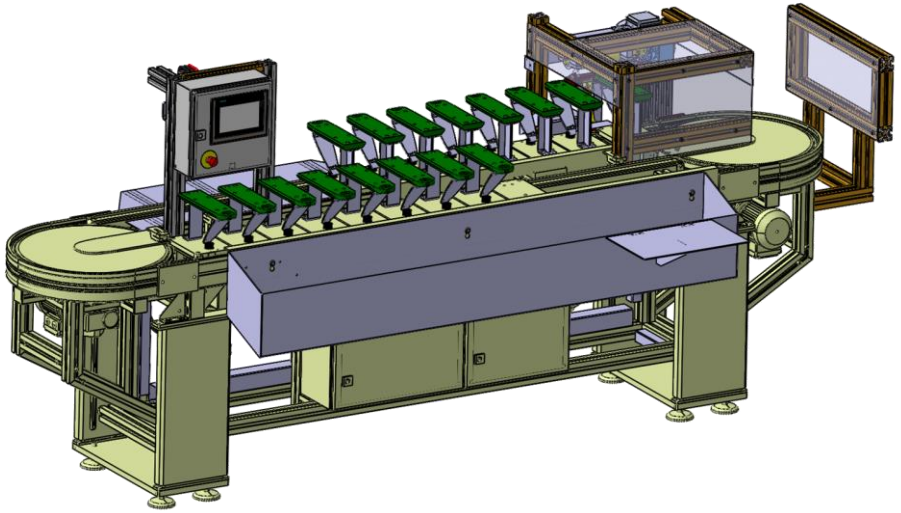
Aerosol can lid sorting belt @ ALPAKA

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

Glove printing @ ALPAKA

- 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

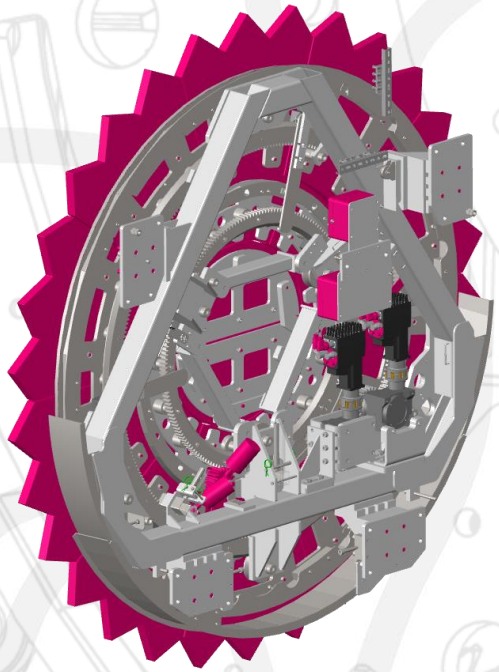


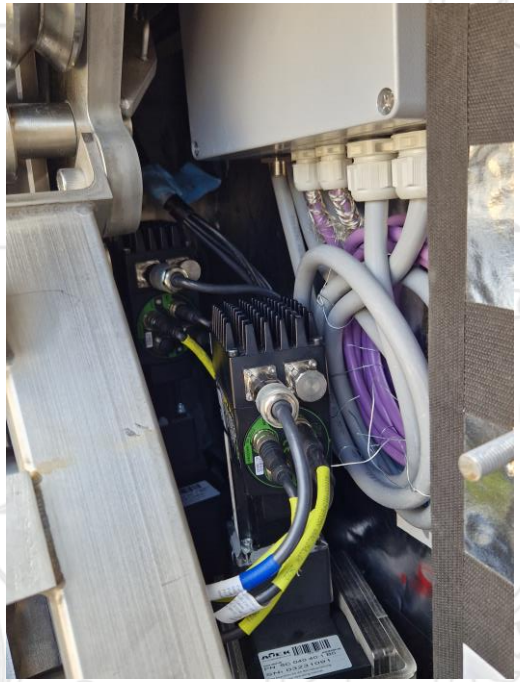
Art in Motion with ALPAKA Innovation

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.



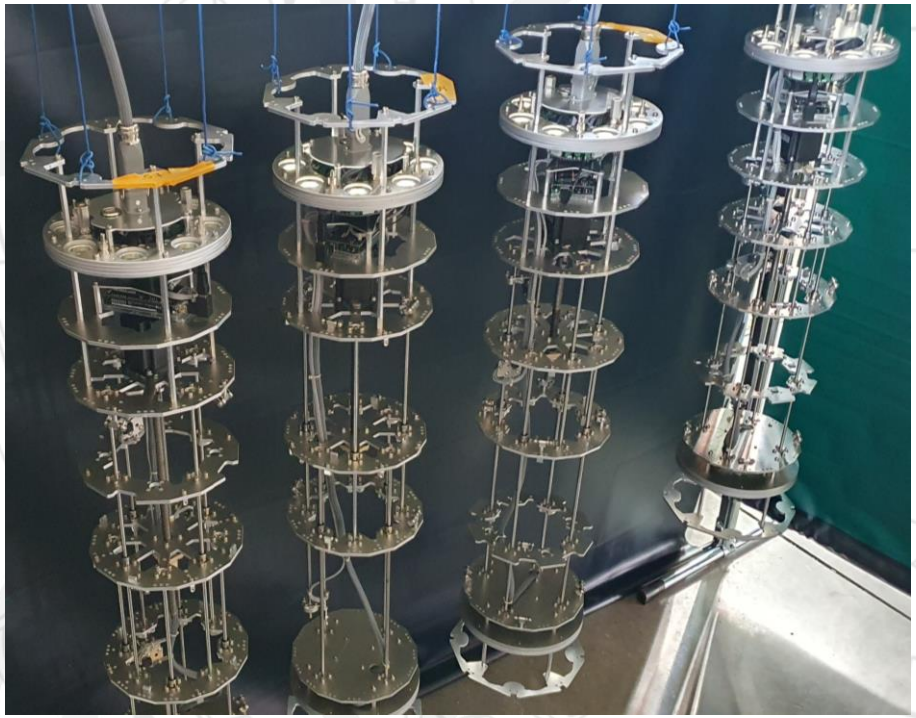
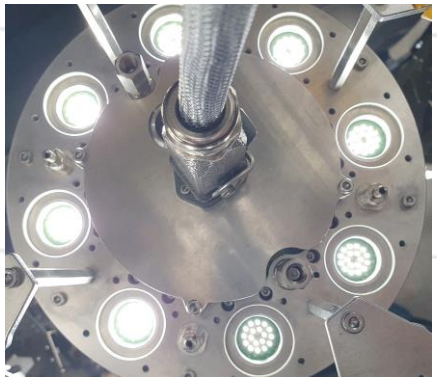
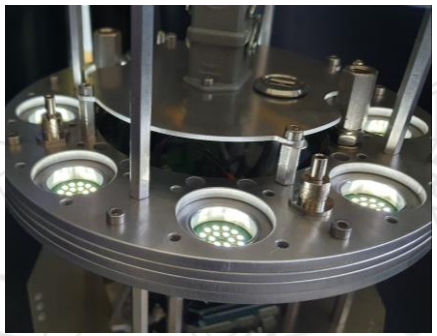
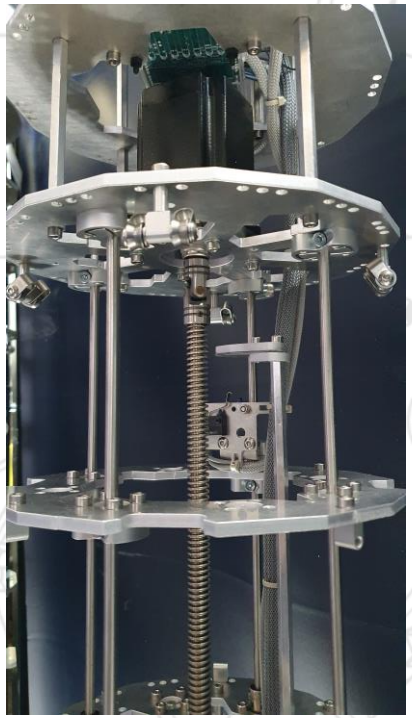


Art in Motion with ALPAKA Innovation

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.]

Logistics and transportation @ ALPAKA

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.

Logistics and transportation project Common Sky USA

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

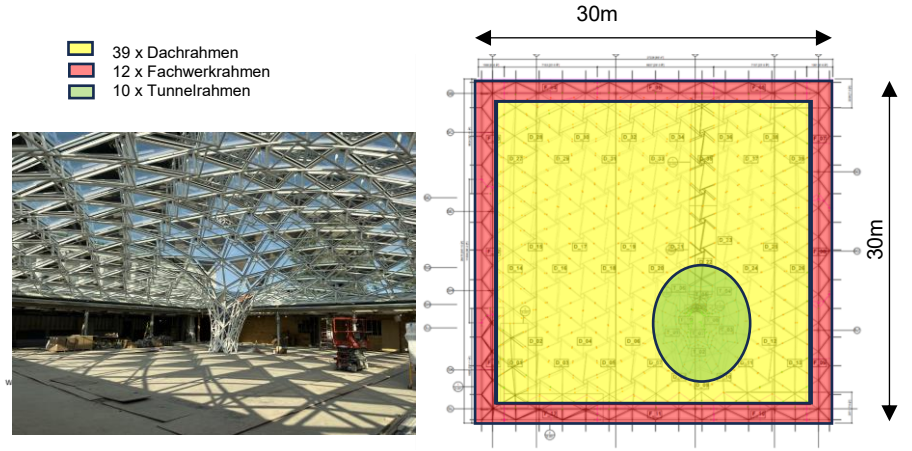
How do you paint these elements “floating” in space?

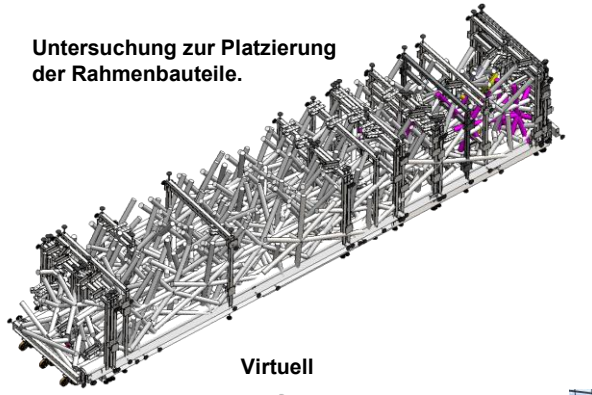
How do you then ship these elements to the USA in the right order, using as few containers as possible, without damaging the painted surfaces by securing the load?

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

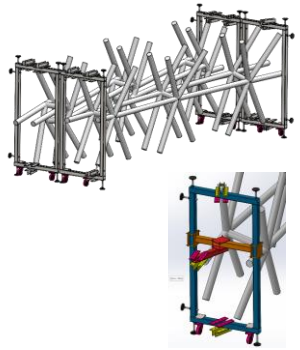
Key data:

- 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.





Virtuell



Real

Logistics and transportation project BLINK Sweden

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?

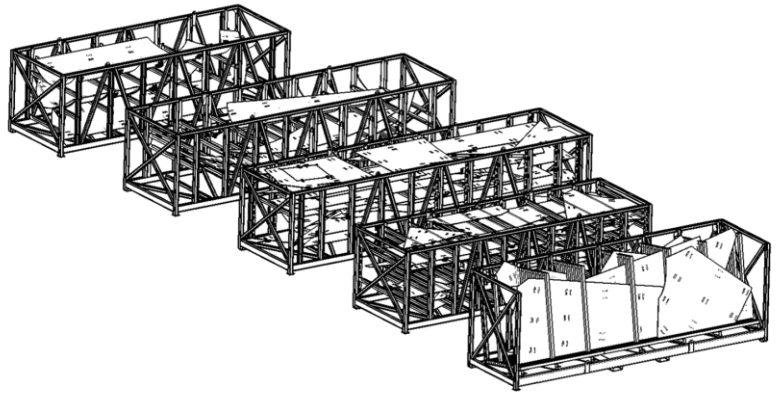
How can the parts be transported carefully without damaging the painted surfaces?

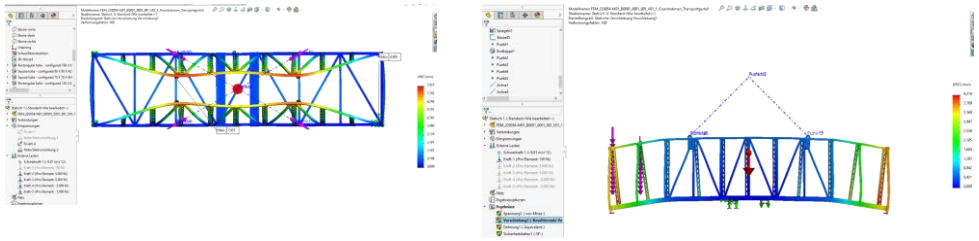
Design of the containers for forklift and crane lifting.

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.





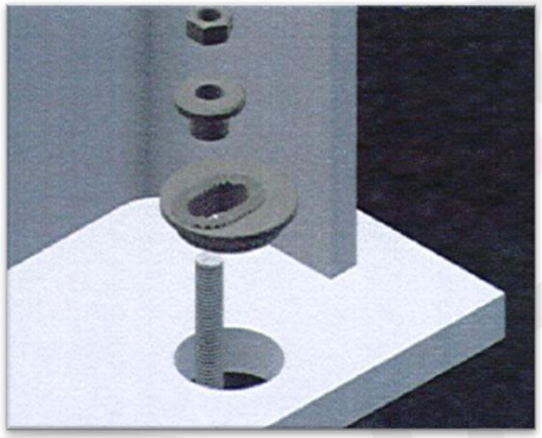
Product development @ ALPAKA

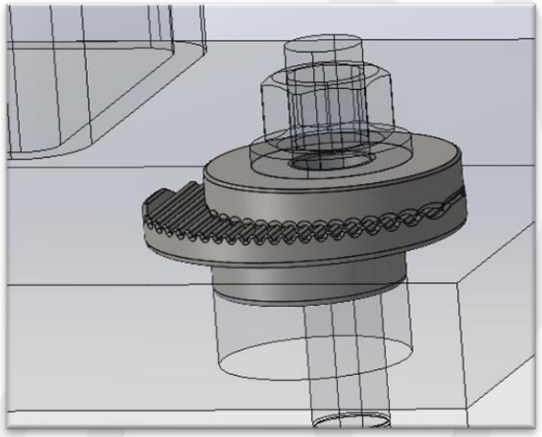
Many people have ideas. Turning these ideas into products is only possible with an experienced team of engineers and visionaries. We think about the subsequent production processes right from the first draft and develop not only the product ready for series production, but also the associated production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

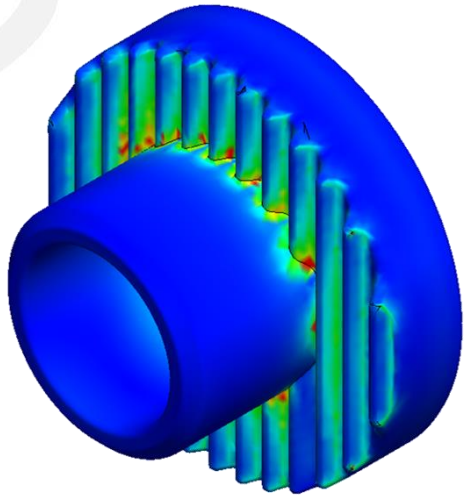
COMPONENTS OF OUR PRODUCT DEVELOPMENT

- 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







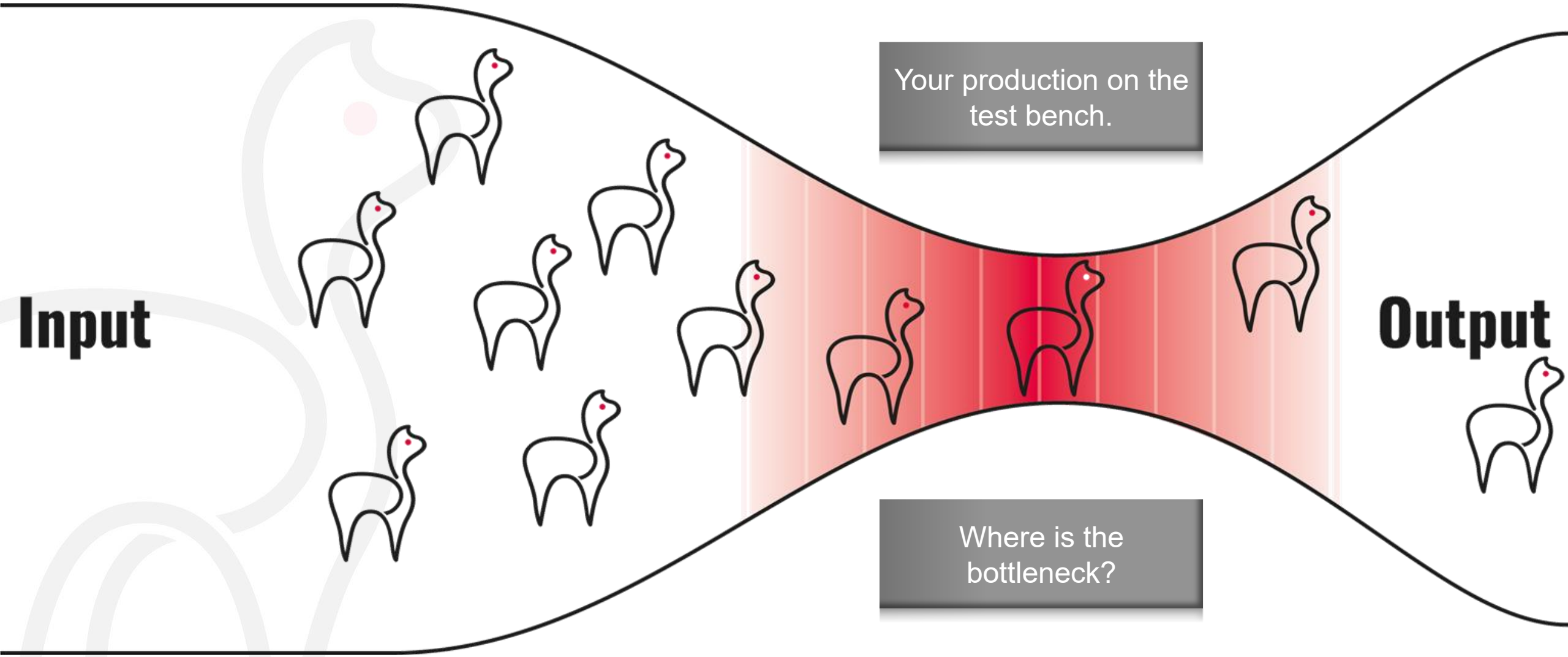
- Patented centring device
- Assembly aid / adjustment screw connection in steel construction
- Solves a frequently occurring problem in practice when structural work and steel construction come together
- Form-fitting force transmission and compensation of tolerances

- Concept
- Design
- FEM simulation
- Selection of manufacturing processes
- Preparation of all necessary documentation
- Approval via DIBT

Stair tower

- 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

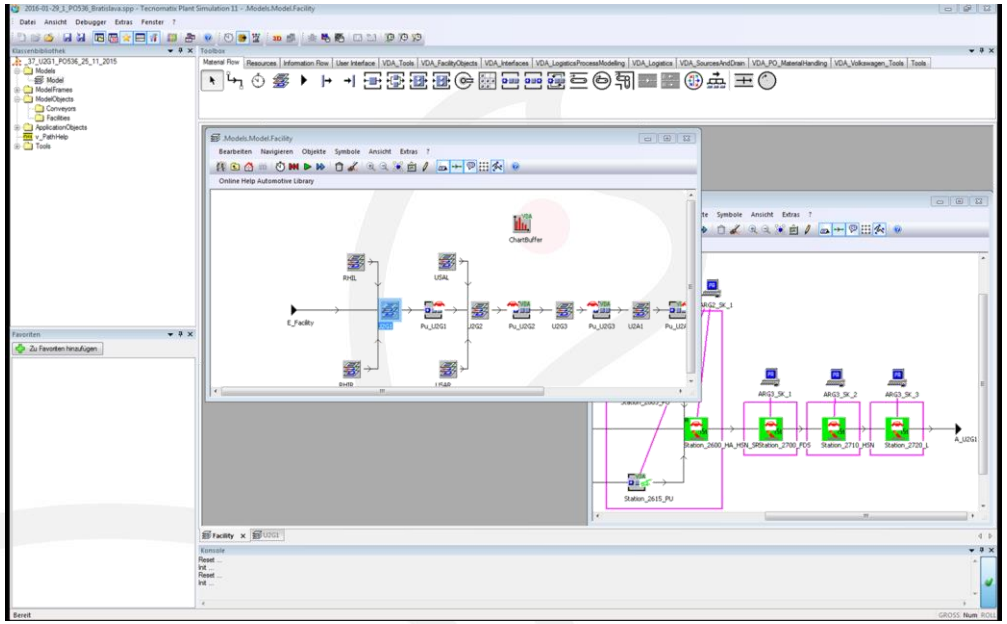
Bottleneck analysis @ ALPAKA

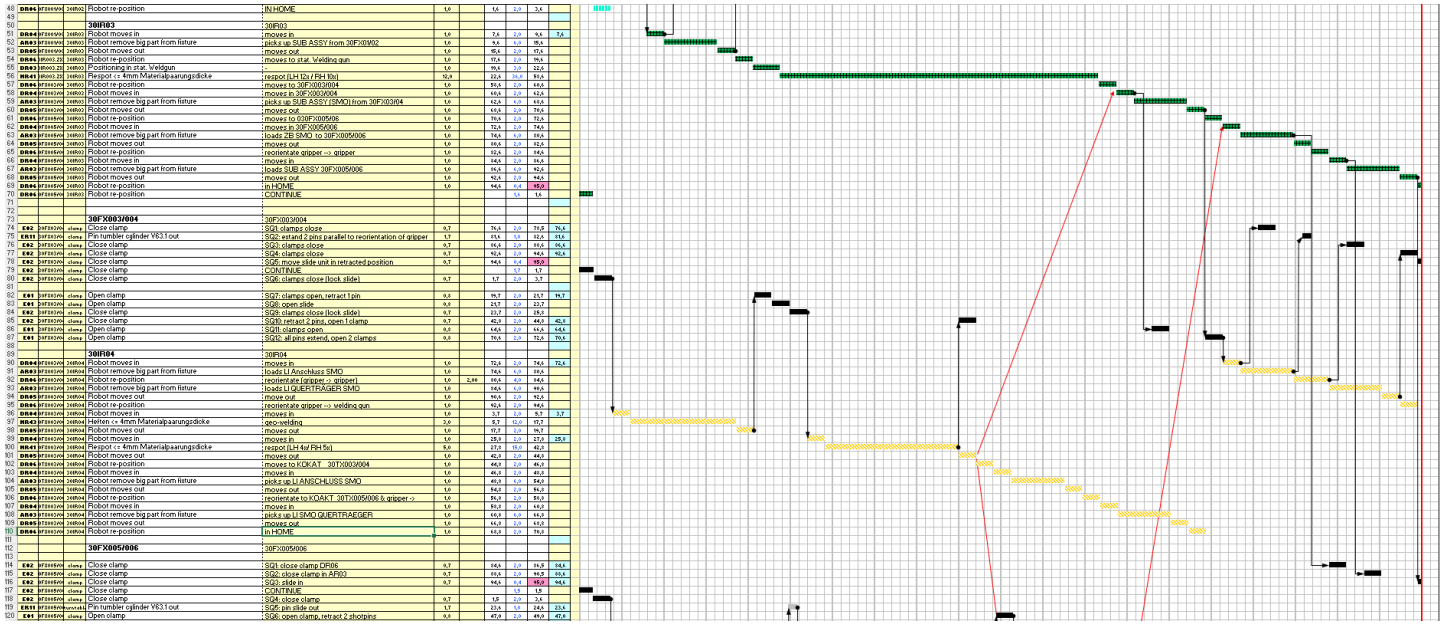


COMPONENTS OF OUR BOTTLENECK ANALYSIS

- 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

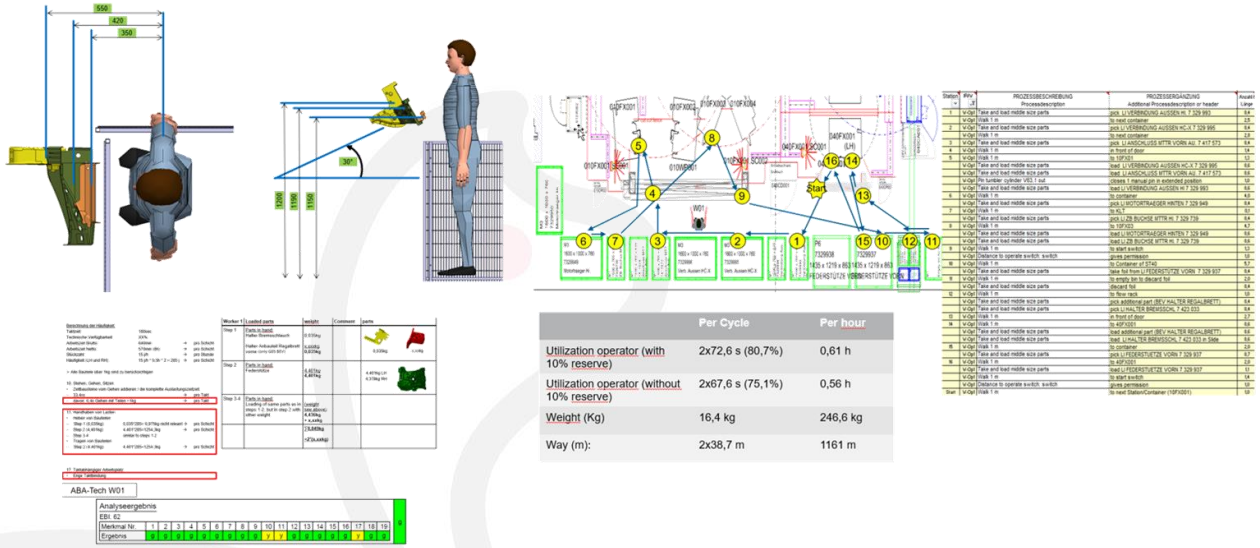
Bottleneck analysis @ ALPAKA





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.

Bottleneck analysis @ ALPAKA



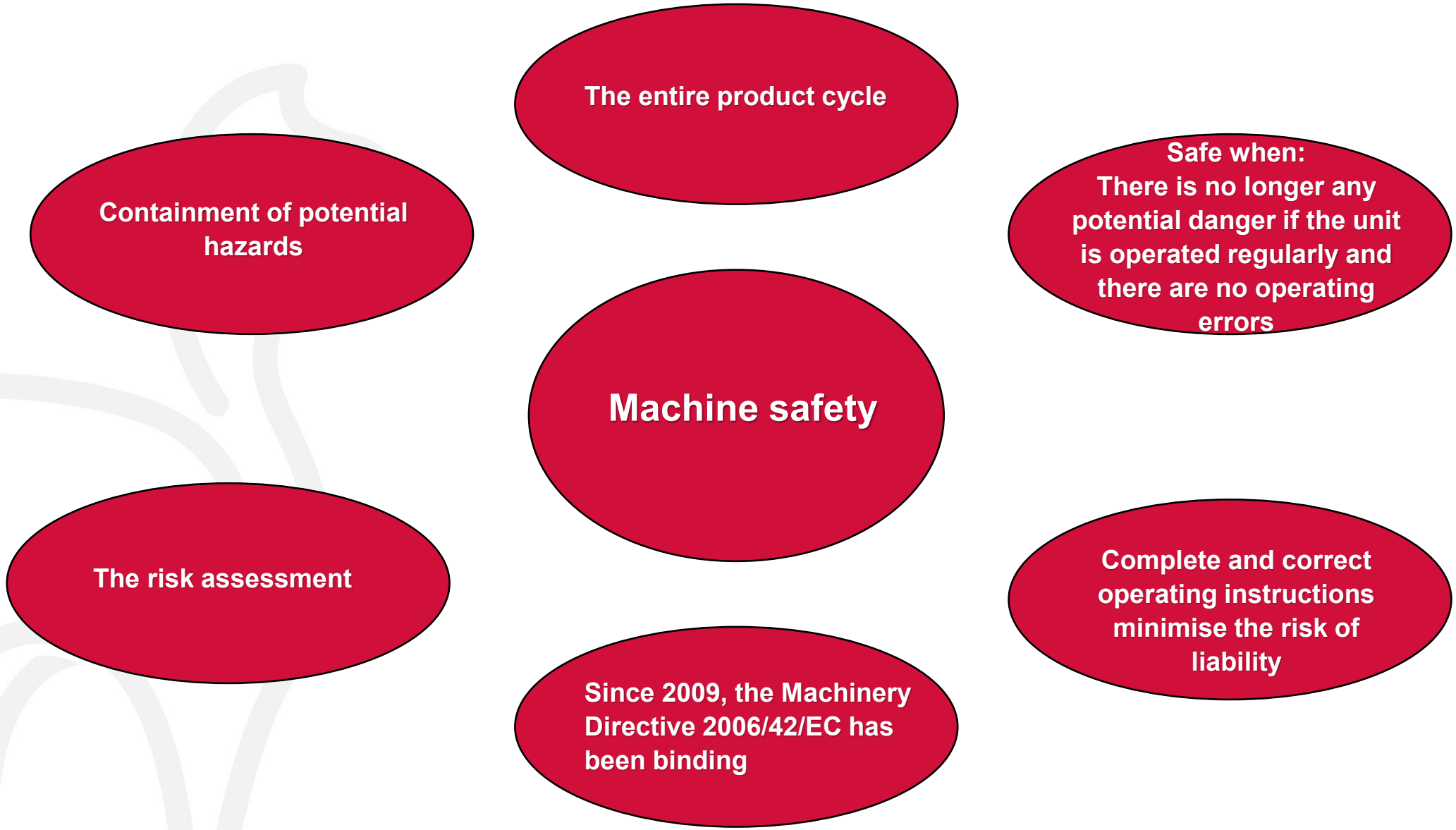
	Per Cycle	Per hour
Utilization operator (with 10% reserve)	2x72,6 s (80,7%)	0,61 h
Utilization operator (without 10% reserve)	2x67,6 s (75,1%)	0,56 h
Weight (Kg)	16,4 kg	246,6 kg
Way (m):	2x38,7 m	1161 m

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.

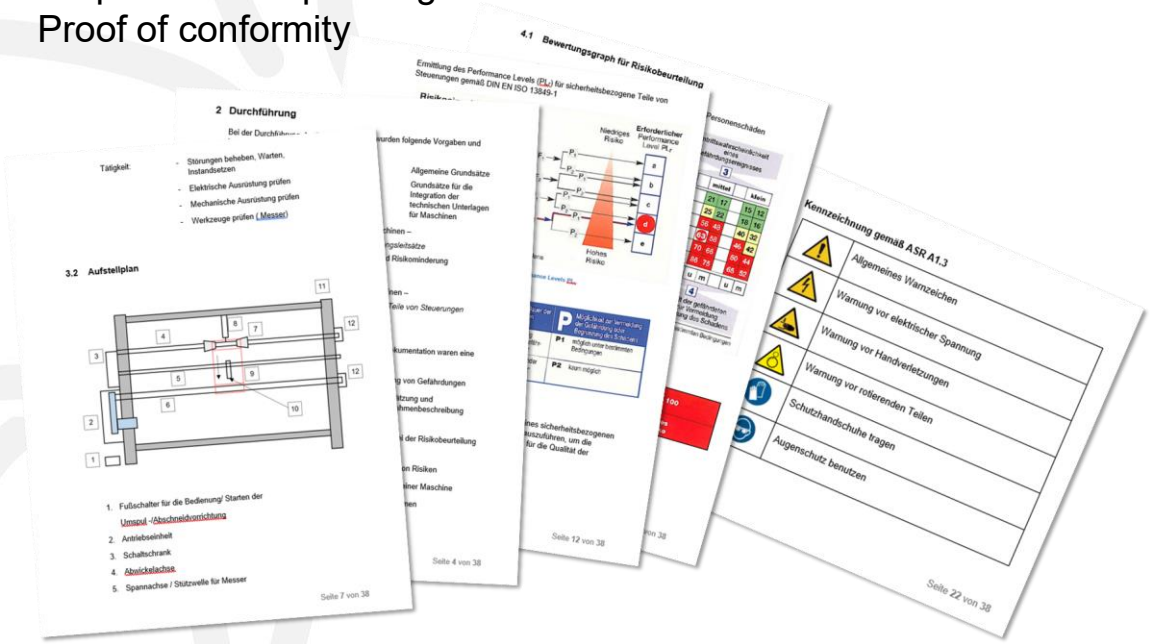
Nr.	Beschreibung STVK Station 113400_1-7	Bauteilnummer	Kode	TMU	Anzahl	Häufig-keit	Gesamt TMU	Zeit [s]
								0
	Fließgeschwindigkeit Kleber nicht bekannt, Zeit geschätzt							
								0,00 sec.
1	Laufweg zum Behälter Scharnierverstärkung oben und unten zur Klebe-Ablage		KA	25	7	1	175	6,30 sec.
	Scharnierverstärkung oben aufnehmen und auf Klebe-Ablage ablegen	2GC_809_623	AA1	20	1	1	20	0,72 sec.
	Scharnierverstärkung unten aufnehmen und auf Klebe-Ablage ablegen	2GC_809_621	AA1	20	1	1	20	0,72 sec.
2	Klebepistole handhaben		HB3	75	1	1,00	75	2,70 sec.
3	180 mm Festigkeitskleber auf Scharnierverstärkung unten auftragen		ZA1	5	30	1	150	5,40 sec.
4	Klebepistole auf Scharnierverstärkung oben ansetzen		PB2	30	1	1	30	1,08 sec.
	Klebepistole betätigen		BA1	10	1	1	10	0,36 sec.
	190 mm Festigkeitskleber auf Scharnierverstärkung oben auftragen		ZA1	5	35	1	175	6,30 sec.
5	Laufweg von Klebe-Ablage zu Rutsche 1 und 2		KA	25	7	1	175	6,30 sec.
	Scharnierverstärkung obenaufnehmenund auf Rutsche legen	2GC_809_623	AA2	35	1	1	35	1,26 sec.
	Scharnierverstärkung unten aufnehmen und auf Rutsche ablegen	2GC_809_621	AA2	35	1	1	35	1,26 sec.
6	Laufweg zum Behälter Abschottung und zur Rutsche		KA	25	6	1	150	5,40 sec.
	Abschottung aufnehmen und auf Rutsche platzieren	2GC_864_001	AA2	35	1	1	35	1,26 sec.
	Laufweg Rutsche - Klebetisch		KA	25	4	1	100	3,60 sec.
	Verstärkung Dichtkanal aus Klebe-Ablage aufnehmen	2GC_813_333	AA1	20	1	1	20	0,72 sec.
7	Laufweg zu Station 3450		KA	25	10	1	250	9,00 sec.
							Summe	**52,38 sec.**

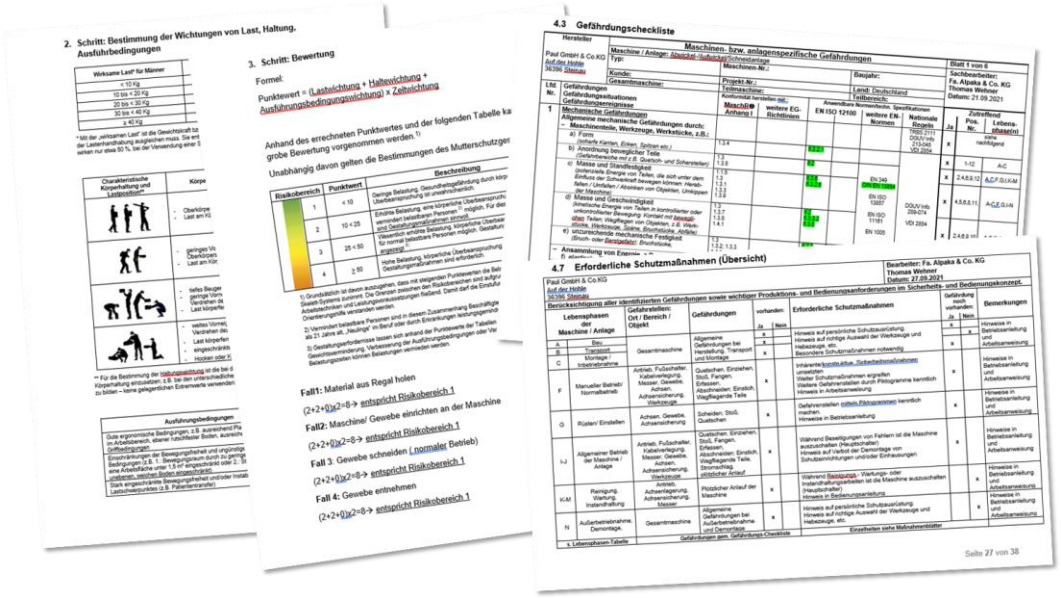
Machine safety @ ALPAKA



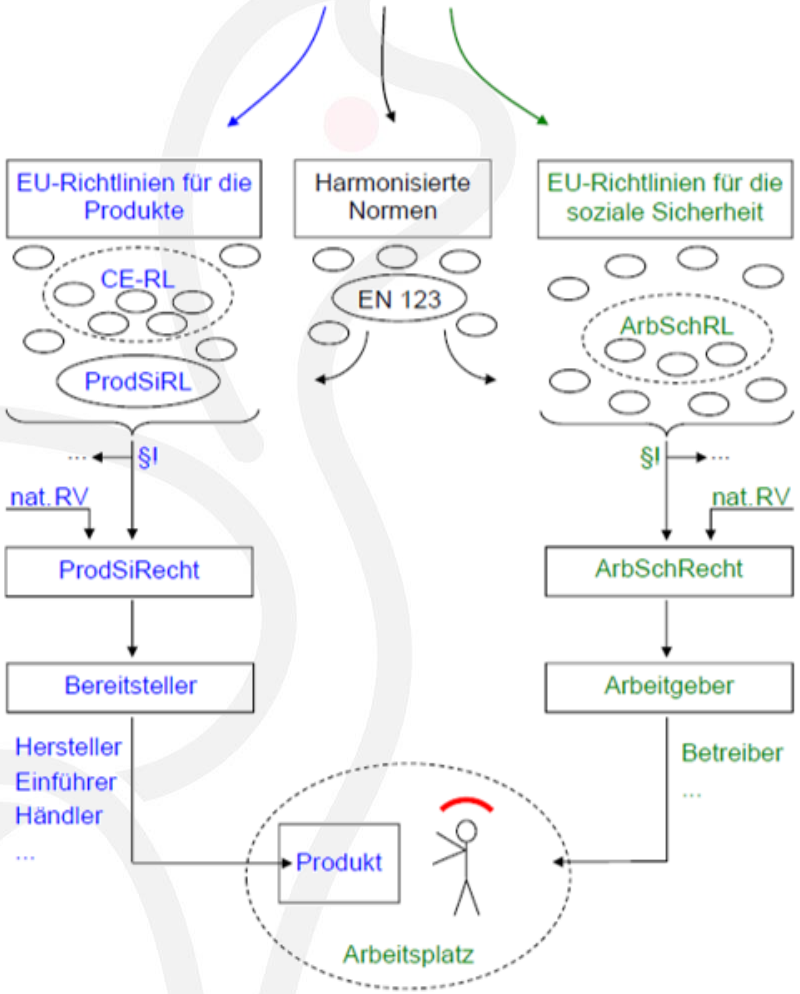
We support you in all phases of the CE process up to the declaration of conformity

- 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)!

Our customers

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.