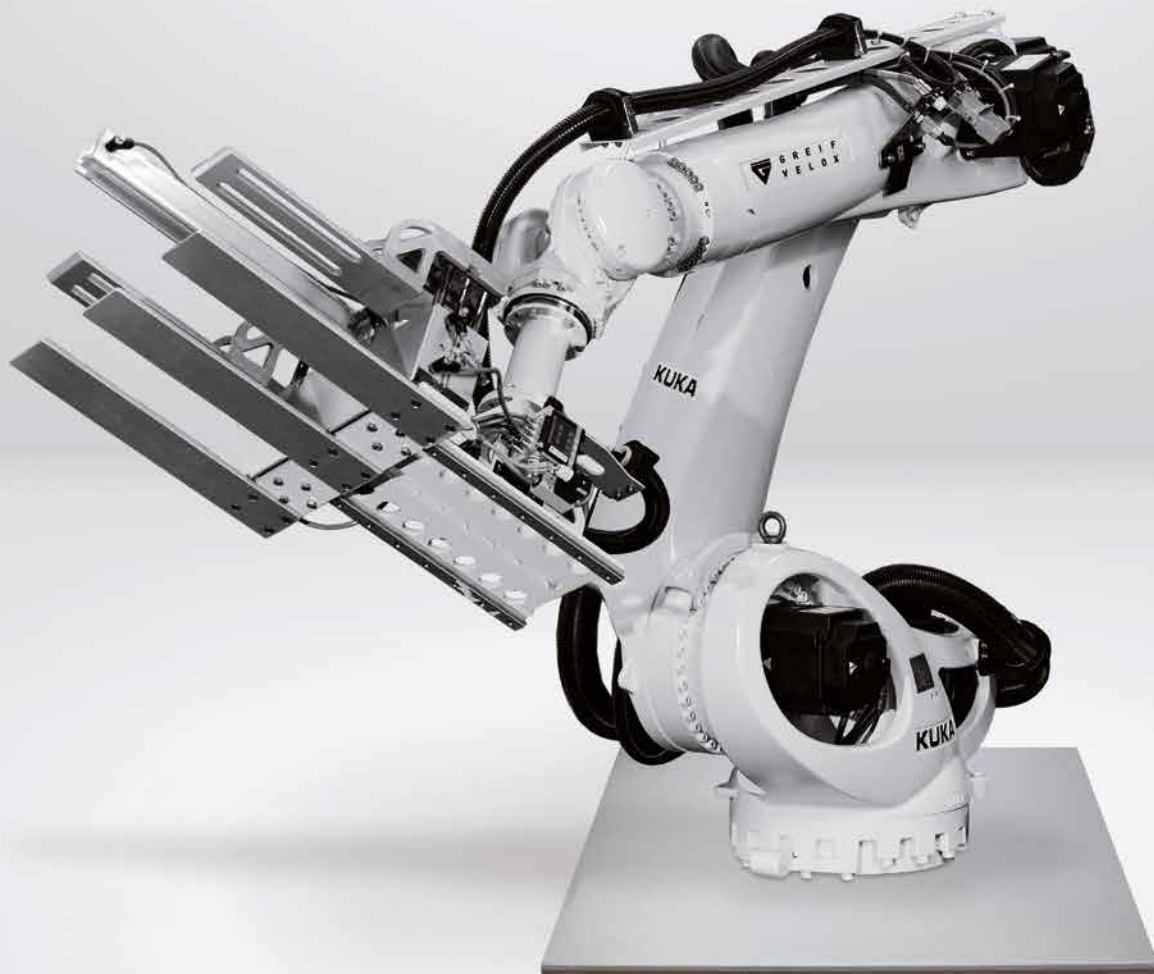




G R E I F
V E L O X

SMARTER
PACKAGING.
SMARTER
BUSINESS.



VELOPACK-ROBOT PALLETIZING



RALF DREWS,
CHAIRMAN OF THE BOARD & CEO

DEAR CUSTOMERS, DEAR PARTNERS,

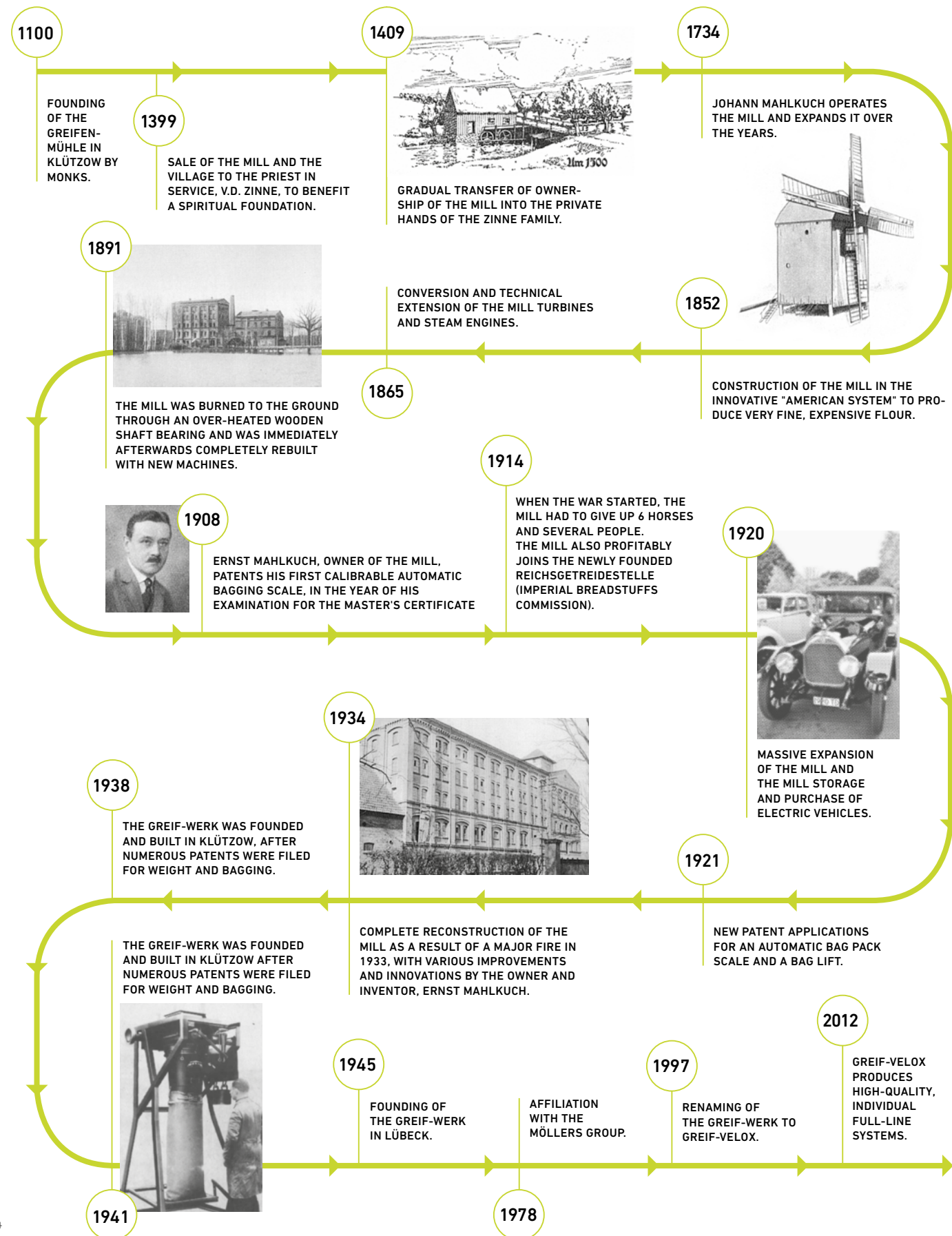
Palletizing robots don't just look impressive in factories, they also have various advantages. At the top of the list are, of course, low maintenance costs, high availability and a small footprint. It is for this reason that these systems are being increasingly chosen over the usual layer palletizers that have only been able to score points with speed so far. Our engineers are proud that this factor is no longer relevant since we can use smart solutions to raise the palletizing performance of a single robot to the level of a layer palletizer. This clearly tips the scale in favor of robot palletizing in international purchasing decisions.

Kind regards,

RALF DREWS, CEO

A JOURNEY THROUGH TIME

GREIF-VELOX looks back on one of the longest corporate histories in the world. The development of GREIFEN Mühle to GREIF-VELOX took almost 1,000 years. A journey full of innovation and experiences which has truly paid off:



GREIF-VELOX TODAY IN OUR HEARTS

A company without values is like a tree without roots. Our roots have grown over the centuries and have given us sufficient time to identify what has anchored us and what we can do really well. Convince yourself of the values we embody and experience our ...



RELIABILITY

We know that machine downtime comes with high costs. Therefore, we are reliable when it comes to delivering our machines, we offer trustworthy machine quality, and guarantee safe, accessible and operational service.

INNOVATION

Digitalization and constant mechanical optimization in turn lead to more process optimization and automation. Here, the focus is not placed on real innovation but rather on its benefits. A philosophy that has proved its worth with us for a thousand years.

EFFICIENCY

Bagging and filling revolves around more than just effectiveness. Efficiency decisively sets companies apart from the competition. Therefore, we stage workshops with our customers to combine our shared skills and know-how to provide solutions that create long-term benefit for them.

GREIF-VELOX

TODAY IN NUMBERS

Informing and inspiring: Here, you will find some interesting facts and figures about us, for our 1000-year history has been quite eventful.



+30000 PROJECTS COMPLETED TO DATE.

60 KM CABLE PROCESSED ANNUALLY.



243,062 ARTICLES AND PARTS LISTS IN OUR ERP SYSTEM.



840,000 OARS ARE PRODUCED ANNUALLY BY OUR GREIF-VELOX DRAGON BOATERS.

1,156,320 TONS CAN BE BAGGED BY OUR PNEUMATIC PACKERS ANNUALLY. THIS IS EQUAL TO 2,753 A380 AIRPLANES.

+150 EMPLOYEES WORKING FOR GREIF-VELOX AROUND THE WORLD.



89 COUNTRIES SUPPLIED BY US TO DATE. A NUMBER THAT KEEPS GROWING.



92 % OF OUR CUSTOMERS SOLELY REQUEST FUTURE PROJECTS WITH US.

AVAILABLE 24/7 WORLDWIDE.





TRUSTED RELIABILITY

CONFIRMED WORLDWIDE

Our robot palletizing solutions are now used by customers worldwide to secure further competitive advantages. High performance + high flexibility + high reliability = An engineering solution that fits our brand and portfolio perfectly.

BASF
We create chemistry

LANXESS
Energizing Chemistry

WACKER

GoodMills Group

EMS LAND GROUP
using nature to create

IMERYS
Graphite & Carbon

SIBELCO

EVONIK
KRAFT FÜR NEUES

CLARIANT

CABOT

AGRAV

AKK

ALBIS

WACKER

GTF Freese

H.B. Fuller

Avebe

MAPEI

GRACE

Pfeifer & Langen

Orkla

Jowat
Klebstoffe

SASOL
reaching new frontiers

BARRY CALLEBAUT

Tereos

SOLVAY
making more from chemistry

REAGENS

SAKRET

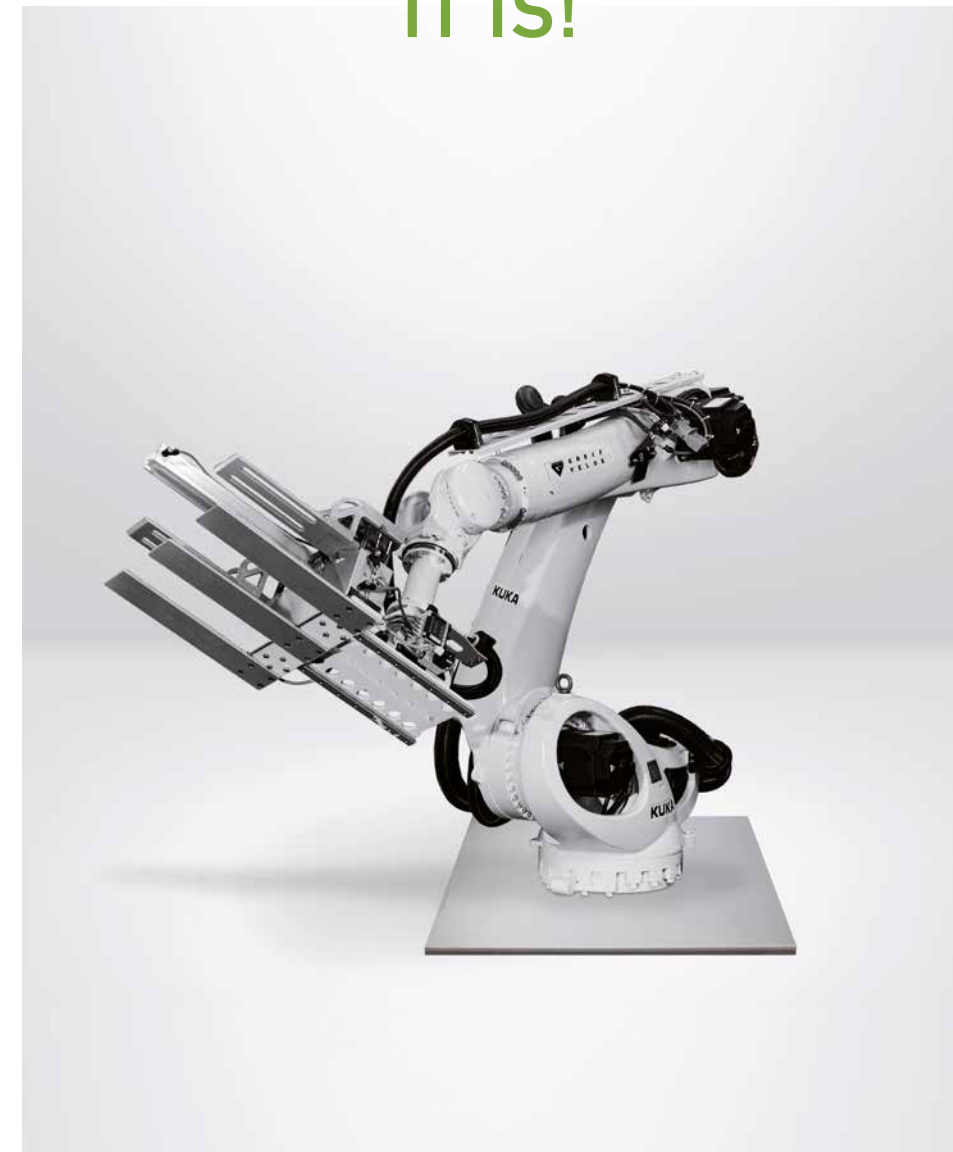
ROQUETTE

SKLOPISEK STRELEC

SUNAR MISIR

SUNACE

LOOKS LIKE
THE FUTURE?
IT IS!



VELOPACK

An open, flexible system that delivers the highest performance in the smallest space. Robots nowadays pack at speeds worthy of the Olympics thanks to new technical solutions, especially in conjunction with a full-line system. New gripping tools that reliably and efficiently pack and place several bags at once in a clean and accurate manner also make this possible. It is almost a pity that the robots are so low-maintenance as their housing is very easy to access.

"A PALLET-IZING ROBOT IS PARTICULARLY UNBEATABLE WHEN IT COMES TO RELIABILITY AND EASE OF MAINTENANCE! CUSTOMERS ARE POSITIVELY SURPRISED EVERY TIME THEY SEE THIS INNOVATIVE PALLETIZING FORM IN ACTION."

RALPH ARNDT, SALES ENGINEER SPARE PARTS AND RETROFIT



**RISE OF THE ROBOTS:
RELIABLY PALLETIZE 2,000 BAGS PER HOUR!**

Layer palletizers have long been considered the rightful benchmark when it comes to palletization speed. Robots have caught up and are now reshaping industry benchmarks through their manifold advantages, with new techniques, combined collaborations, innovative gripping tools, and other engineering tricks. When deciding on which technology to use, our engineers would be delighted to advise you on choosing a system that best suits your goals as, at the end of the day, only the direct, tangible advantages that our consultations provide count.

THE MOST IMPORTANT

FEATURES OF A MACHINE

■ EFFICIENCY ■ RELIABILITY ■ SUSTAINABILITY





UNMISTAKABLE QUALITY

We are deliberately working together with the market leader KUKA. Robust hardware that we bring to life for you and enhance individually.

CLEAN FLEXIBILITY

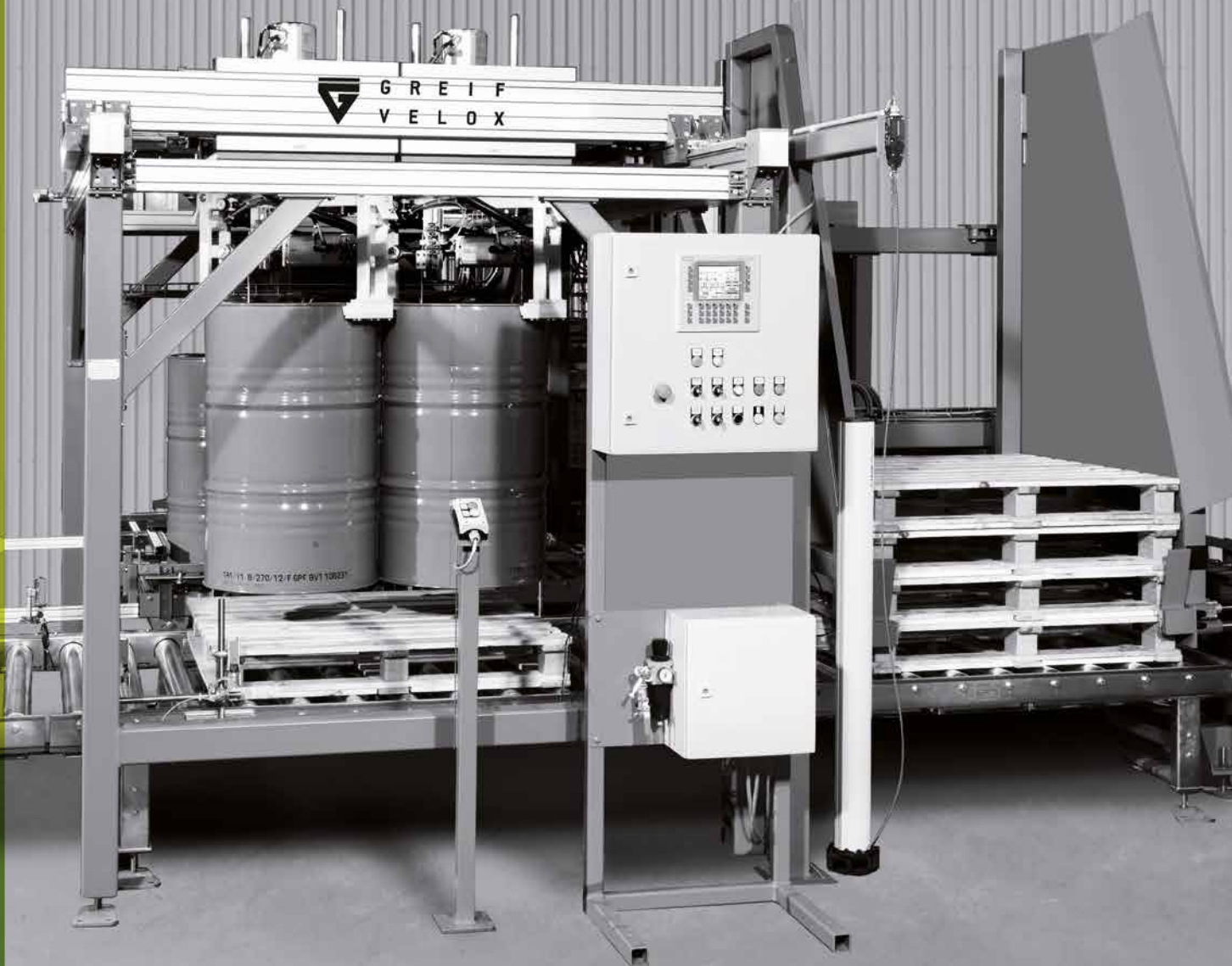
Palletizing robots operate with the highest precision! They ensure that your pallets always look exactly like you want them to. Accurate. Safe. Clean. The robots are flexible in their deployment with easy programming, allowing you to continuously adapt them to your capabilities.



GREIF – TANGIBLE SOLUTIONS: REAL CUSTOMER STORIES

MEDITATIVE PEAK PERFORMANCE

If a customer wants to palletize 1,200 bags per hour, that's not a problem; it is, in fact, quite common. If the client wants to use the advantages of robot palletizing, that's just being logical. However, if the footprint on site is so small that only a robot can be used, it is a challenge. Our project managers were delighted with the solutions proposed by our programmers, who locked themselves at our innovation hub and precisely synchronized the requirements and technical possibilities. The result after two days of brainstorming and testing: a new software solution for palletizing and a high-performance two-pallet system. The result after a short construction period: a very satisfied customer and an extremely reliable system. A year later, the client informed us that the Managing Director often visits the facility to watch the palletizer at work. To him, it is almost meditative, a sign of how smoothly his business is operating! This is one effect we did not program in advance.



GANTRY PALLETIZER FOR DRUMS

Of course, our smart solutions can also be used for liquid palletizing, whether plastic or steel barrels. With our system, you can palletize and depalletize up to 250 drums per hour. The set-up area is significantly smaller compared to push palletizers and the maintenance costs are also lower in direct comparison. Our experts would be happy to advise you on the advantages of this inexpensive system, which adapts to your requirements, with accessories such as a vacuum lifting system, a drum alignment station, or even the integration into a full-line system.



STRETCH WRAPPER

ALL-ROUND CAREFREE PACKAGE

These systems can reliably and safely package up to 60 pallets per hour. Even with different pack sizes, only one type of film is required, which safely encases your products. If you have further requirements, such as dust proofing or a rain-resistant winding, the system is variably extensible. For this solution, there are also various features, such as edge protection feeder and lifting provisions for understretch pallets.

YOUR PALLETIZING AIDS ON-SITE

Small footprint. Low price. The solution for semi-automatic palletizing is flexible for bags, jerrycans, pails, and drums thanks to various gripping tools. The column or wall mounting works reliably and can also be integrated efficiently into a full-line concept.

STRETCH HOODING MACHINES – IF YOU'RE IN A HURRY

Bags, FIBC, jerrycans, drums, pails, trays, and carton and boxed packages are packed with this machine at a speed of up to 120 pallets an hour. For the usual size, you also only need one tubular film size and therefore save 30% on film compared to shrinking. The extreme film tension guarantees a tremendously secure product that adapts perfectly to the pallet size and load format.

The variable film closure, the high-bay warehouse, and the possible use of two types of film in one application offer flexibility.

And since your production times are valuable to us, we guarantee low downtime thanks to short roll change times. It's so fast!



WELL-PACKED DATA
AND ADVANTAGES AT A GLANCE

ROBOT PALLETIZER VELOPACK

AREAS OF APPLICATION

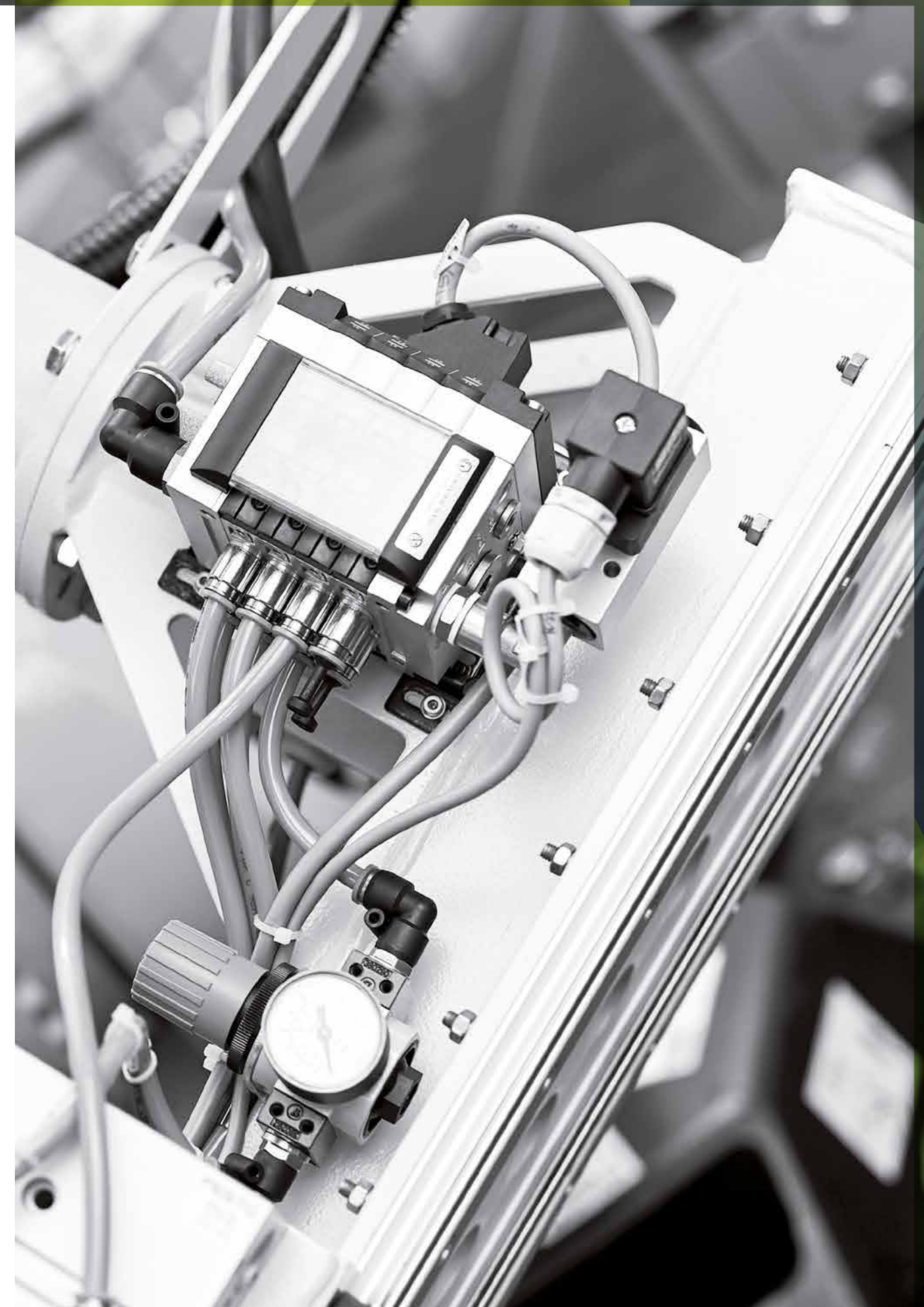
- **Containers:** bags, drums, canisters, buckets and cartons
- **Industries:** chemical, petrochemical, food, building materials
- **Performance:** up to 2,000 bags/hr
- **Applications:**
 - palletizing and depalletizing
 - handling of wrapper and intermediate sheets
 - provision of empty pallets
 - unloading of defective bags
 - transport of filled bags, etc.

YOUR BENEFITS

- 100% flexibility in layer pattern
- any number of layer images can be retrieved quickly and with little effort
- pallet pattern better or equivalent to layering
- small set-up area compared to layering
- dynamic adjustment of stack height via sensor
- up to 4 palletizing spaces possible
- very low maintenance costs, maintenance interval of 5,000 hours
- up to 40% lower acquisition costs compared to alternative technologies
- work and maintenance area at ground level

ACCESSORIES/ EXTENSIONS

- remote maintenance
- automatic tool change system
- can be combined with suction tool
- laser sensors for height detection with changed stacking height after prolonged standstill
- lubricants suitable for the food industry (H1-oils)
- full-line concept



FULL LINE

THE BEST SOLUTIONS COME FROM A SINGLE SOURCE

No matter what packing solutions you need, we will deliver the complete full-line system upon request, including conveyor technology, palletizing and load securing, ready to use. Then you have everything from one source, with only one contact person for all your needs. Our engineers would be delighted to develop tailor-made solutions for your needs and space requirements.

EMPTY PALLET HANDLING

Robots are also useful when handling empty pallets. If a separate solution is desired, GREIF-VELOX can offer external empty pallet magazines with or without film cutters. Various pallet spaces can be used in one line.

BAG FLATTENING

Bags must first be formed for good palletizing results. This requires the included bulk material to be evenly distributed in the bag. We offer different solutions for this process. These include bow bands, vibratory plates, press stations and torture tracks.

PALLET CONVEYING SYSTEM

GREIF-VELOX provides the pallet conveying system for the dismantling and transport of pallets. Roller conveyors, chain conveyors, corner converter, rotary tables or pallet lifts complete the assortment.

COVERSHEET APPLICATION

Wrappers can be handled with a robot gripping tool or separate components. Here, GREIF-VELOX offers external wrapper and film cutters.



MECHANICAL + ELECTRIC = EFFICIENT SERVICE

Our service technicians are double experts as they are well acquainted with both mechanical and electrical support. In this way, our team can provide comprehensive support on site. You will clearly notice the difference as this will not only make service more efficient but also your systems, as our professionals recognize correlations and approach them holistically.

**"SERVICE
DETERMINES
WHETHER
A CUSTOMER
BECOMES A
REGULAR
CUSTOMER.
THIS IS WHY
EACH SUPPORT
REQUEST IS
OF PERSONAL
CONCERN
TO US!"**

CARSTEN DIETRICH,
DIRECTOR OF CUSTOMER SERVICE



OUR GOOD SERVICE: VERY GOOD SERVICE

Our service team already proves itself a reliable and efficient partner for you during system construction as well as implementation. We are your true professional partner at eye level! Rediscover what service is all about in an ocean of service possibilities. We would be delighted to offer you the best services that fit your requirements and would gladly develop tailored solutions as well. We ensure that your users can quickly and efficiently learn to operate the machine, and we reliably guarantee a high level of machine availability:

- Helpdesk: direct contact person, immediate support
- Special remote assistance team
- 95% of all incidents can be resolved via teleservice and video communication
- Modem, Ethernet and VPN support for remote troubleshooting
- Mobilization of technical personnel within 12 hours
- General assistance with questions about operation or maintenance
- Average response time after receiving your message < 60 minutes



RALPH ARNDT, SALES ENGINEER
SPARE PARTS AND RETROFIT

BREAKING NEWS: OUR WIKI

FINDING THE RIGHT PARTNER

Good service lies at the base of every good business relationship, as with every system that we deliver to you we also make a promise to provide you with solutions that function reliably and are highly economical from day one! The service component is a decisive criterion, particularly when purchasing a machine. In this brochure, our colleague Henrik Johns reveals in our wiki "GREIF: tangible solutions" what to be aware of when buying machinery and equipment. In our service brochure, however, our service team provide you with tips on the meaning of good service and what you should focus on here. Are you interested but unable to visit us at a trade fair? You can, of course, also find the brochure online on our website under the NEWS section.

INTERNET
OF THINGS/
INDUSTRY 4.0

BRIEFLY SUMMARIZED: THE WHAT AND WHY



Digitalization has now arrived in every part of our lives and, quite honestly, our lives are easier and enriched as a result! In the industrial sector, the digital revolution is also making waves, improving production and efficiency in a comprehensive way. In future, "Industry 4.0" will decide how competitive companies are. Only if you are at least as good as your international colleagues in networking, tracking and optimizing your production processes, will you be able to find the best offers with the best margins. The great advantages of such digitalization processes are often easy to calculate and you can clearly determine what to expect directly and indirectly in terms of added value and whether an investment is worthwhile. We would be pleased to advise you and support you with our expertise during our vibrant "GREIF: tangible solutions" workshops.

GREIF –
TANGIBLE SOLUTIONS:
REAL CUSTOMER STORIES

MEASURABLE BENEFITS

DR. ALEXANDER MILDNER,
DIRECTOR OF RESEARCH AND
DEVELOPMENT

A large food manufacturer wanted to achieve impressive bagging speed with a complex full-line installation using our BVP systems. Since "Formula 1" solutions are not provided off the peg, our engineers put their heads together with our R&D department. As the specifications went beyond the maximum speeds available on the market, small and large optimizations were necessary to ensure that the resulting system met the reliability and sustainability standards we set for our solutions. Here too, Industry 4.0 played a decisive part in in meeting the customer's demands: We structurally monitor compliance with various process parameters using sensors and compare this data with MES as well as system and sensor data from various installation locations. All systems immediately readjust to any deviation that might occur to directly correct for it. This not only resulted in a surprised and delighted customer but also in a significantly reduced rejection rate as well as clear competitive advantage thanks to unique bagging speed.

Kind regards,

Dr. Alexander Mildner





CARSTEN DIETRICH,
DIRECTOR OF CUSTOMER SERVICE



KAI LAUSCH,
HEAD OF ELECTRICAL
OPERATIONS



STEFAN HOFFMANN,
SENIOR DESIGN ENGINEER



RALF DREWS,
CHAIRMAN OF THE
BOARD & CEO

RALPH ARNDT,
SALES ENGINEER
SPARE PARTS AND RETROFIT



INSIGHTS FOR OUTLOOKS

THIS COULD BE YOUR TEAM



BENJAMIN JOHN,
DIRECTOR
OF ENGINEERING



VOLKER MARKS,
DIRECTOR OF
MANUFACTURING



DR. ALEXANDER
MILDNER,
DIRECTOR OF
RESEARCH AND
DEVELOPMENT

TILMANN FRANKSEN,
DIRECTOR OF PROJECT ENGINEERING



GREIF– TANGIBLE SOLUTIONS!

Our Sales Engineer Henrik Johns offers real insider tips that you should keep in mind when buying a machine – regardless of what you buy and where you buy it.



HENRIK JOHNS,
SALES ENGINEER

DEAR READERS AND PERHAPS EVEN POTENTIAL CUSTOMERS,

It is time, a machine purchase is just around the corner. This may not be your first purchase but, unless you have already ordered and installed the same system numerous times, it is always an important job, which I would like to make easier and more valuable for you using my 25 years of experience.

YOUR BRIEFING FOR POTENTIAL PARTNERS

Before purchasing a machine, it is worth roughly planning "the journey" – a metaphor we like to use here at Greif-VELOX. When planning, use the following three phases:

- **The Horizon phase:** First, if possible, roughly define the target that you already have in mind – what kind of system do you need and what functions should it have?
- **The Cloud phase:** Let your imagination run wild and, without a care in the world, express what you would like your system to be able to do if there weren't any limitations or rules. This phase still plays an important role in partner selection.
- **The Ground Floor phase:** You then return to the solid ground of the facts and first define a rough possible budget framework and a schedule. You can also divide these points into any number of levels between maximum/minimum to be able to differentiate limits and scenarios for yourself.

Now you have a rough but inspiring briefing that you can use to inspire engineers

and system builders. You should select them in the next phase so that you can work together with them to create a realistic budget.

PARTNER SELECTION

If you have already had a very good experience with existing partners and are satisfied with the value for money, you already have a clear favorite! Of course, there are always cheaper options in today's globalized economy, but this could also result in much worse results and production losses due to non-confined delivery times. Machine defects usually cost far more money than initial savings and in any case are a considerable source of stress and take up your precious time. If you involve other providers, although your standard supplier is still a clear favorite, be fair and open. Share all the information and allow new impulses, visions and potential.

If you leave your standard supplier or need a new partner, such differentiation investments are not determined by prices – as long as they are somewhat comparable – but rather by your gut feeling, reinforced by corresponding references, customer recommendations and provider cases. It is also important that you are confident that your partner has honest intentions. Consider the following:



- Does the seller just want to sell you something or does he really want to find the best solution for you?
- Do you know the team behind the seller, with whom you will have to work later?
- Do you understand the project?
- Do you trust the senior designers?

Team charts in presentations already provide you with a first important impression.

How your contact persons react to your briefing components from your "cloud phase" is especially important. If your contact persons or essential team members are thinking in problems and not in solutions, then beware! Even the best engineers cannot solve every challenge, but they can be inspired to find alternatives. Partners work with you on how to make the impossible possible through creative ideas. Non-partners will only inform you in detail why things are not working. Such people are inflexible later on in the project and likely to miss important market trends.

However, priorities must be set to develop a realistic budget. And even if everything is technically possible, budgeting leaves little room for creativity and passion. In budgeting, a realistic figure for all involved is literally "worth its weight in gold".

As a further tip, I can share with you that, for major projects, it helps to stage workshops with potential partners to deal with challenging requirements. This could also be a fee-based workshop, if there has not yet been an assignment and several important persons must attend. This will still pay off. Here, you will not only get to know the team but also learn how the team works:

- How prepared are the participants?
- How is the workshop conducted?
- How do they work together?
- Is the chemistry in the team right?
- Are skill synergies being used?

And, above all:

- Will you and your needs be addressed?
- Does the team really listen to you?

Such workshops are performance-oriented "chemistry meetings", which should always result in specific ideas leading to realistic budget frameworks.

THE PURCHASE

After the budget has been released internally, the shopping part follows. In this part, prices and technical details will be negotiated and clarified. Think of all contingencies, especially the requirements for further cooperation after delivery. Many system deliveries are preceded by a partnership that can extend over a period of 15-20 years. This is why you personally assist in the purchasing negotiations, as bargains cost a lot of time and money and cause a great deal of stress – as we already learned during partner selection. If the prices are in your budget and in a similar range, a reliable, efficient partner with sustainable solutions justifies a reasonable but higher price.

You are not only purchasing a machine but also acquiring a long-term partnership with many hours of intensive contact and collaborative work.

If you would like to gain further insight, for example into what you should be aware of regarding services and how order processing works, you will find further insider reports from my colleagues on our website's Blog section, "GREIF: tangible solutions!".

If you have any questions about this report, my colleagues and I look forward to hearing from you and assisting you with any challenges and upcoming projects.

Kind regards,

HENRIK JOHNS, SALES ENGINEER

IN THE KNOW-HOW SERIES ON OUR WEBSITE, EXPERTS OFFER YOU FURTHER VALUABLE ADVICE ON HOW TO MAKE SURE YOUR PROFESSIONAL LIFE IS MORE EFFICIENT AND INNOVATIVE.

GREIF-VELOX.DE

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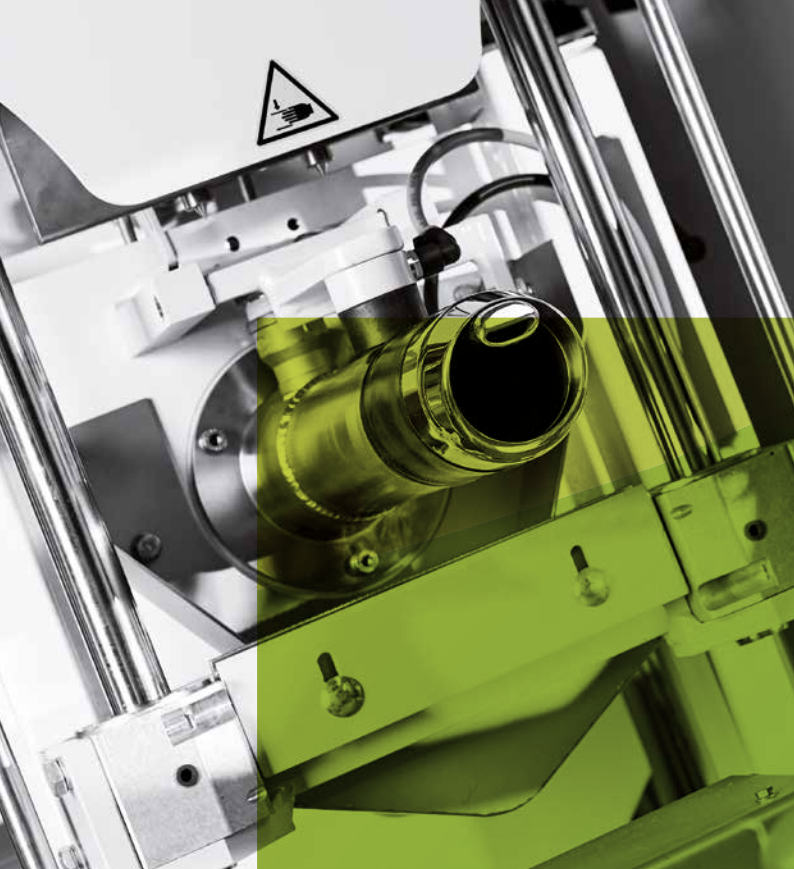
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