

**WE DON'T JUST CHANGE PARTS –
WE GIVE YOUR MACHINES A NEW LEASE OF LIFE**



**We help
machines
run
marathons**



Experts in machinery and equipment, driven to give your machines a new lease of life

When it comes to technology, BELFOR DeHaDe is among the best in Germany. For over forty years, we have supported the development of production and special-purpose machinery, and have gained a wealth of hands-on expertise as a result.

When it comes to technology, BELFOR DeHaDe is among the best in Germany. For over forty years, we have supported the development of production and special-purpose machinery, and have gained a wealth of hands-on expertise as a result. Today, our customers benefit in many ways. We are familiar with new and used machines of all the leading brands. Producing our own spare parts,

we repair machines and equipment to extend service life and minimise downtimes. In addition, we have an in-depth understanding of modern, innovative measures crucial for updating your machines and production processes, for which we offer automation solutions and cutting-edge robotics.

We give used equipment a new lease of life and help you future-proof your production processes. This benefits your equipment and your product management, while making your business more sustainable and reducing your ecological footprint.



Machine repair

- Major/complete overhaul
- Spare part production
- Commissioning
- Machine maintenance
- Machine cleaning
- Servicing & inspection
- Geometric overhaul



Machine failure

- Machine failure
- Analysis/troubleshooting
- Mechanical faults
- Electronic faults
- Fire and water damage



Automation and robotics

- Planning
- Automation
- Robotics
- Service & maintenance



Retrofitting

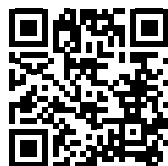
- Control and drive systems
- Control cabinet construction
- Human-machine interfaces (HMIs)



Assembly support

- Assembly
- Disassembly and reassembly
- Commissioning/assembly support

“The service technicians are really amazing. They identified the fault immediately and quickly produced the spare parts. We were delighted.”



You would like to learn more?
Then scan the QR code and watch the video to see how we work.

Olaf Müller
Maintenance Manager
Mannesmann Precision Tubes GmbH



Taking a 360° look and beyond

Any machine in any industry – regardless of manufacturer

At BELFOR DeHaDe, we have worked on machinery and equipment of all makes and models. As a result, we know everything there is to know, no matter the type, age or size. Working on some three thousand machines each year, we put this knowledge to the test! And thanks to decades of experience in restoring damage to machines together with our parent company BELFOR, we know our way around all industry sectors – from metal processing and automotive to food production.

Services all over Germany

Operating from locations across Germany, our highly qualified staff can assist you on site or at our own production and restoration facilities.

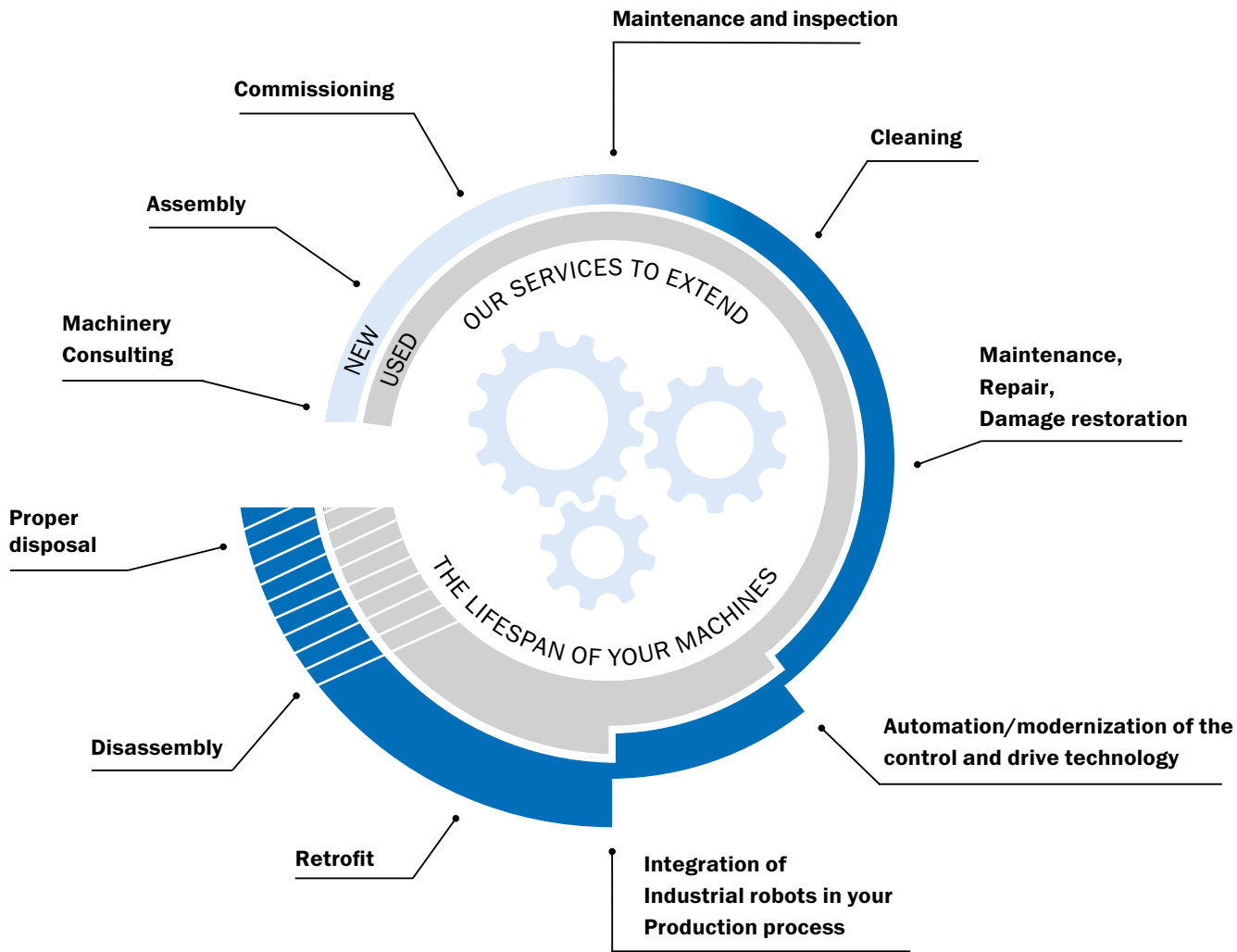
Wherever we work, we ensure professional maintenance, repair and modernisation of your machines and equipment.

Full service to extend your machines' service life

Our services cover the entire life cycle of your machines, beginning with the purchase of a new machine or used equipment. From assembly and commissioning to regular servicing, complete overhaul and modernisation, we provide every service you need to prolong the lifespan of your machines.

“We have never been disappointed and are always positively surprised by the improvements they suggest.”

Mirco Ufer
Head of Electrical Maintenance (Witten plant), SOGEFI GROUP



New Machine

Used Machine

We also offer a range of additional services, such as relocating machines to another site. And we provide services for and on behalf of machinery manufacturers (OEM) as a subcontractor. Rest assured: we have what it takes!



Keep your equipment operational

When it comes to the professional maintenance of machinery and equipment, we have seen it all. We have been overhauling conventional machine tools for almost half a century. In that time, we have continuously expanded our service offering and adjusted to the changing needs of the market.

Today, we perform maintenance on machines of every type, size and age. We know we can rely on our extensive technical expertise in every area. From cleaning and servicing to repair, geometric overhaul and spare part production: we know what your equipment needs to keep it running.

We have always worked independently of manufacturers, which is how we have gained experience with all major models. When servicing your machines, we employ a full range of techniques, from coating, welding, plating and plating-up to cutting and shaping processes.



Flexible contracting

We perform maintenance and refurbishment services based on framework agreements or individual instructions. We can also act as an extension to your own maintenance team to help you cover peak periods or for access to specialist services. So make the most of our flexibility!

Geometric overhaul

Even high-quality, durable machine tools like drills or turning, milling and grinding machines, along with special-purpose machines, lose their precision over time. Guides, beds, spindles and other parts are subject to wear, resulting in the tool no longer meeting precision requirements.

If production tolerances are threatened, BELFOR DeHaDe can check, restore, measure and document all the systems relevant to the geometry of the tool.

Major/complete overhaul

Restoration and modernisation of older machines is often economically viable. BELFOR DeHaDe can perform a major or complete overhaul. Companies often struggle to procure spare parts for older machines, because the manufacturer no longer produces them. We do. And to maintain your production capacity in the long run, we can convert your machine to the latest control systems of major manufacturers like Siemens or Heidenhain. We can also upgrade conventional machines to numerical control (NC).

Overhauled machines offer performance, precision and reliability comparable to new ones at a fraction of the cost. In addition, an overhaul usually reduces maintenance and operating costs. You do not have to worry about changes to the machine environment or infrastructure either.

Your staff do not require extra training and you do not need to store as many spare and wearing parts as you would for a new machine. Our major and complete overhaul services are tailored to your individual needs.

Our standard services include:

- Assessing the current situation
- Disassembling the machine
- Professional overhaul with warranty
- Updating machine documents
- Reassembly and commissioning
- Documentation

On top of this, a complete overhaul gives you the opportunity to modernise your machine. We at BELFOR DeHaDe can help you future-proof your machine, so that you can continue operating for years to come and better than ever before..



Seize the opportunity to upgrade!

When checking and repairing your machine, our experienced service technicians take a closer look and identify potential for improvement. Could additional automation help increase the machine's efficiency? What maintenance is needed to avoid costly machine failure? Stay operational with the experts of BELFOR DeHaDe.

Commissioning

Following a modernisation or complete overhaul, professional commissioning using the necessary testing and measurement equipment is essential for getting the most from your machine. BELFOR DeHaDe has over forty years of experience with a wide range of machinery and equipment from all manufacturers. We ensure and document compliance with all applicable rules and regulations (specifications, operating instructions, machine manuals, VDI guidelines). Do not compromise. Our professional commissioning services for your machines and equipment give you peace of mind.



Machine maintenance

“Thanks to the maintenance services of BELFOR DeHaDe, the availability and productivity of our machines have improved dramatically.”

Maik Koch,
Production Manager
Stork Technical Services GmbH

Reverse engineering for the in-house production of spare parts

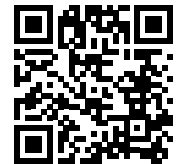
BELFOR DeHaDe’s maintenance services include the replacement of parts. We generally procure these straight from the manufacturer. However, if the parts are no longer available on the market or can only be procured in complete assemblies, we produce them ourselves. To do so, we measure the existing part, create a 3D model and then produce either a conventional metal part using our cutting machines, or print a part from carbon fibre-reinforced material in 3D. In some cases, we combine these procedures. As long as safe operation is ensured, we print a spare part so that you can restart production quickly, while the final part is either being delivered or produced conventionally.

We use high-precision portable 3D coordinate measurement devices, laser measurement systems and the full spectrum of conventional measuring equipment. All this helps get your machine back up and running as quickly as possible.

We have our own production facilities that enable us to manufacture the correct spare parts for machines from all manufacturers, helping reduce unwanted downtimes. As a result, you save time and money.



Would you like to know more about our 3D measuring devices and additive manufacturing? Scan the QR code and watch the video to see how we work.

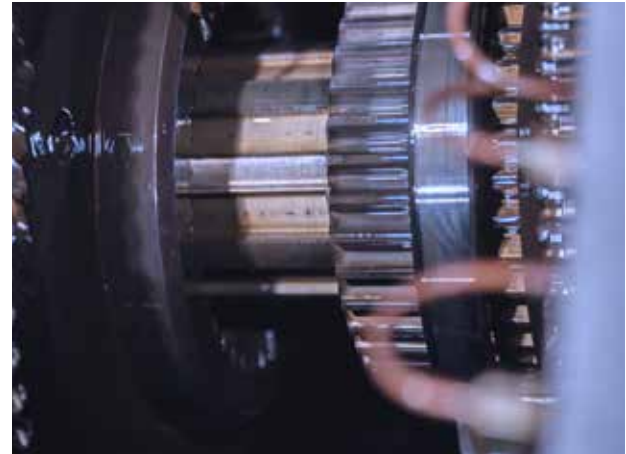


Maintenance & inspection

Regular inspection and maintenance help prevent malfunctions and keep technical systems operational at the desired level. BELFOR DeHaDe offers comprehensive maintenance and servicing packages for your machines, irrespective of size, age or manufacturer. These packages include regular inspection, care and cleaning, as well as replacement of wearing parts. We check everything, from individual systems like lubrication and controls to safety mechanisms. In addition, we advise on any additional requirements that have emerged since the initial purchase of the machine, such as those resulting from occupational health and safety legislation.

Machine cleaning

Our maintenance services include standard machine cleaning. However, technical components, machines or equipment may be so contaminated that they require additional specialist cleaning. Not only does this apply to contamination as a result of fire or water damage, but also to extreme and/or production-related contamination caused by dust ingress, corrosive media or caustic substances.



Our cleaning services at a glance:

- Technical cleaning of your machines and equipment on site, in our workshops or at your customer's site on your behalf
- Depending on the application: in the wet or dry cleaning procedure with explosion-protected dust class H/water vacuum cleaners, CO2 dry ice blasting or chemical ultrasonic cleaning (degreasing, rust removal, rinsing and conservation)
- Collection and delivery services
- Disassembly and reassembly (including electrical connection)

If your machine has suffered damage resulting from contamination, we can also repair the machine professionally and replace parts and components.



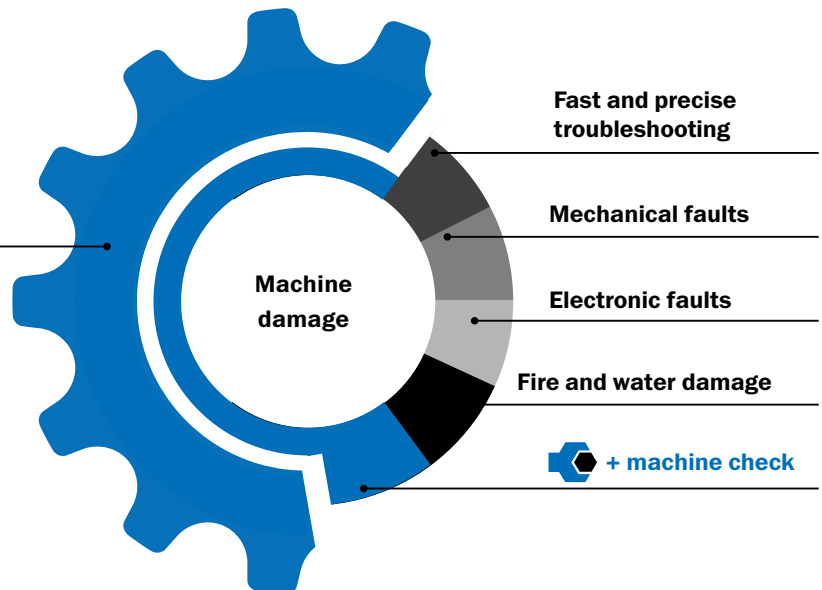
Machine failure

Minimise unplanned downtimes!

If your machine experiences a fault, it can have far-reaching consequences: from drops in product quality and output to supply chain breakdown affecting multiple businesses.

Machine faults can have many causes. Whether they are the result of material fatigue, incorrect operation, a control defect or fire damage, you need to act fast. That is why our round-the-clock emergency service is available for you. Our experts are often able to narrow down the cause of the fault during the phone call in which you notify the fault. Depending on whether it is a mechanical or electronic fault, a specialist BELFOR DeHaDe service technician will come as quickly as possible, bringing the appropriate equipment to resolve the fault and minimise machine downtime.

Seize the opportunity to upgrade!



Fast and precise troubleshooting

On site, our experienced service technicians will carry out a professional fault analysis using cutting-edge methods. You benefit from our decades of experience in servicing all kinds of machines and equipment. We have always been manufacturer independent and, as a result, have gained detailed knowledge of all makes, models, types and series. This speeds up troubleshooting and helps get your machines back up and running quickly. Once the error has been found, our service technician will take the measures needed to resolve the fault, from assessing what spare parts are needed and providing a cost estimate all the way to the final repair.

Mechanical faults

Mechanical machinery faults can have multiple causes, from wear and overload to incorrect operation. We use advanced procedures to identify the cause and resolve the fault quickly and professionally. An important aspect of our services is spare part management. Providing the appropriate spare parts can help resolve the fault faster and reduces unplanned downtimes and resulting business interruption costs. If the spare parts are no longer available or cannot be procured quickly, we produce them ourselves. Should the fault be down to systems relevant to the geometry of the machine, we overhaul and subsequently commission the machine.





Getting things up and running again quickly



Electronic faults

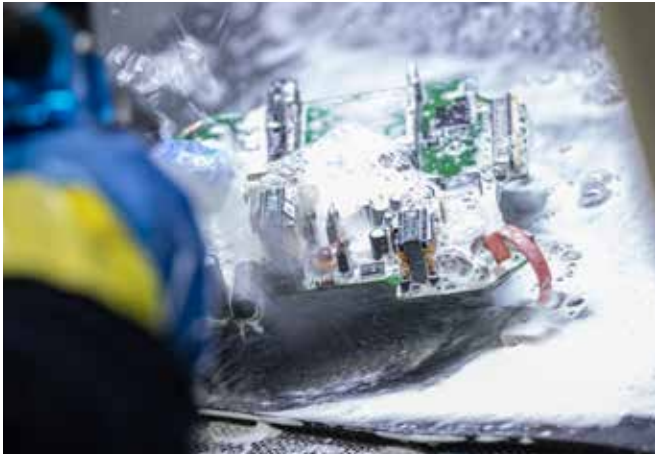
Electronics are the heart of any system. Drive and control units must work correctly to prevent a breakdown. Our team of specialists can swiftly and professionally repair electronic faults in operating units, controls and switchboard cabinets. We are also familiar with drive systems and industrial robots.

Fire and water damage

The greatest risks of damage are operational downtime and the resulting loss of output. In the event of fire, gases, soot, extinguishing water and chlorides can jeopardise the functioning of machinery and production systems. Water damage too can have devastating consequences as water, condensates, sand and sediment may not only contaminate the machine surface, but also the controls, bearings, gears, pneumatics and filters.

The priority is to prevent total failure and minimise consequential damage. As specialists in machine restoration, we at BELFOR DeHaDe work closely with the world-class damage restoration experts of BELFOR Group.

Based on the economic feasibility of restoration and the risk of jeopardising delivery capacity in case of prolonged downtime, we prioritise the restoration of machines and components.





“ Make your machines fit for the future

Virtually every industry is under pressure to produce more efficiently without harming quality. Automating processes can contribute substantially to overcoming this challenge. Even older systems can benefit from automation in terms of efficiency gains.

Another benefit is stable product quality and better use of capacity, while automating particularly monotonous activities makes life easier for staff. At a time when qualified specialists are hard to find, automation relieves the pressure and allows your team to concentrate on more demanding tasks.

Feasibility analysis & planning

Automated processes in production facilities have become the standard in virtually all industry sectors. We will be happy to perform a thorough feasibility analysis to assess the potential gains of automation, the most important question being whether automation is a truly worthwhile investment for your business. Our feasibility analysis provides a solid basis for decision-making. If the outcome is positive, we will develop a detailed implementation plan.

Automation

The benefits of automation range from increased efficiency and uniform product quality all the way to improved speed of or safety in the material flow. The BELFOR DeHaDe experts are able to quickly assess how integrating automated systems can enhance the performance of your machinery.

The major part of our work is related to the technical infrastructure and control systems in particular. We rely on our in-depth knowledge of and experience with products from major providers like Siemens, Heidenhain and Fidia. In addition, we develop solutions that are fully customised to meet your individual requirements, and select the appropriate suppliers and applications accordingly.



Our automation services at a glance:

- Comprehensive solutions, including drive and control systems
- Design of intuitive HMI operating interfaces
- Engineering/management of automation projects
- Control cabinet construction
- Commissioning
- Service and maintenance



“Robotics is one of the key elements of Industry 4.0”

Detlef Müller
Head of Electrical Engineering & Automation
BELFOR DeHaDe GmbH

Robotics

Industrial robots are designed for assembling, handling and processing workpieces. They are used to dramatically increase efficiency and for repetitive and high-precision tasks. BELFOR DeHaDe offers a wide range of tailored robotics services. To find solutions that are most effective for your needs, we simulate various options geared specifically to your applications.



Our robotics services at a glance:

- **Systems engineering:**

Designing and building robotic cells

- **System integration:**

Designing the integration of industrial robots into existing systems/production lines

- **Programming/reprogramming:**

Programming of all types and makes of robots, along with modifications, e.g. to reduce packing times

- **Upgrades:**

Connecting vision systems such as cameras and sensors to existing robot units

- **Commissioning:**

Commissioning and safety validation prior to first use, or after robot replacement, integration into existing systems, or the introduction of combined robotics and automation of processes

Service & maintenance

Should you experience any faults in the automation, you can reach the service technicians around the clock by calling our emergency hotline. Our technicians across Germany respond quickly. We also have the expertise needed to tackle complex problems, such as replacing manipulators or entire systems, or changing spare parts such as tooth belts, gears and cable harnesses combined with subsequent reconfiguration. We have experts on hand to support you with all major machine and equipment control systems, as well as robotics.

BELFOR DeHaDe can also provide Germany-wide assistance for the annual maintenance of automation systems and industrial robots from leading manufacturers like Kuka, ABB and Fanuc.





Update your machine

Machines may have been running reliably for years. But when they no longer meet your needs a retrofit could be the sensible solution. BELFOR DeHaDe can modernise your equipment's mechanical and electronic systems, irrespective of manufacturer, age or size. Whether you need us to upgrade a Siemens control system or install frequency converters, we can update your machine using the latest technology.

A retrofit will benefit you in many ways. Although efficiency is often the main driver, companies are becoming increasingly aware of the need to enhance sustainability. Not only is upgrading your machine cheaper and much faster than purchasing a new one, a retrofit also saves resources, resulting in a win-win.

Targeted retrofit measures also help boost the productivity, precision and performance of your machine. In addition, you benefit from greater energy efficiency, reducing operating costs, energy consumption and emissions.

A retrofit can be particularly worthwhile when the machine is out of service anyway, e.g. for maintenance, restoration, or relocation. You can make the most of the downtime by upgrading the machine to meet today's and tomorrow's needs. Of course, we issue a CE Declaration of Conformity after the retrofit.



Control and drive systems

Modern and efficient control systems keep machines running smoothly both on their own and as part of a plant, securing a smooth production process. When performing a retrofit, BELFOR DeHaDe also designs, develops and integrates fully customised drive and control systems. You can, therefore, be secure in the knowledge that all electronic components will interact efficiently and your machine will perform as required after modernisation. We know control systems from providers like Siemens, Heidenhain, Bosch Rexroth, Fanuc, Omron and Fidia inside out. Take advantage of our expertise and extend your machine's service life with an electronic retrofit!

Control cabinet construction

Whatever the industry you work in, the requirements and operating standards that apply to your machines and equipment, and the model you require, BELFOR DeHaDe can construct control cabinets tailored to your needs. We take care of design, development, material selection, production and documentation, as well as all the necessary quality assurance measures and functional tests.

We can produce everything from small control consoles to large rows of control cabinets for high performance. Before connecting cabinets to your system and commissioning, we thoroughly test each cabinet.

Human-machine interfaces (HMIs)

In our highly automated environment, the human-machine interaction is of vital importance. A user interface must be intuitive, easy to operate and ergonomic. When modernising your machinery, BELFOR DeHaDe designs and programs HMIs to your exact specifications. From individual applications to a connected SCADA system, we build tailored applications, intuitive interfaces with simple navigation and clear mapping of all processes.





Assembly support

Assembly services for all your machinery and equipment

When machines are sold, relocated or overhauled, they need to be taken apart and put back together again. Disassembly, reassembly and subsequent commissioning are usually complex tasks that require dedicated expertise, a high degree of care and perfect coordination. BELFOR DeHaDe's qualified installers provide solid technical and logistical expertise across Germany, ensuring you of a smooth and safe process.

In close coordination with the original equipment manufacturer (OEM), we can also assemble new machines, relieving the OEM's own assembly teams. In our experience, the time spent assembling a used or relocated machine can also be used to overhaul or retrofit the machine, or modernise the automation. We would be happy to develop measures that will help you optimise and future-proof your production process and your machines' performance and service life.

Our assembly services at a glance:

- Consulting
- Planning (including tools, devices, forklift trucks, etc.)
- Coordination
- Assembly or disassembly/reassembly
- Packing and labelling during disassembly/reassembly
- Commissioning
- Documentation
- Optional: cleaning, transport and temporary storage

Assembly and disassembly

From modules and individual machines to complete systems, our expert installers position the parts and carry out mechanical and electrical installation work, including testing. The machine is carefully aligned using the latest and calibrated measuring equipment. We ensure that your equipment is ready for operation upon handover.

Machine relocation from A to Z

Depending on the machinery's size and complexity, relocating machines can be quite an undertaking. Whether the machine has been sold and needs to be moved to the buyer's facilities, or whether you're changing the production line layout, BELFOR DeHaDe offers everything you need. Our comprehensive services range from disassembly and transport to reassembly and professional commissioning of your machines and equipment, including aligning and testing. Working efficiently, we minimise downtimes, while keeping an eye on the costs and securing compliance with safety regulations. This is how you benefit from careful planning and professional coordination.

As part of BELFOR Group, we can also offer cross-border machine relocation services, benefiting from the group's international network and infrastructure.

Overview of our machine relocation services:

- Data backup
- Securing motion axes
- Replacing buffer batteries before disconnecting the machine (if necessary)
- Disassembly
- Packing
- Transport
- Reassembly
- Installation
- Measurement (if necessary)
- Commissioning



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Another thing you can count on



Guaranteed quality

Quality is incredibly important to us. That is why BELFOR DeHaDe is ISO 9001:2015 certified. But we go the extra mile, continuously improving our company-wide processes and investing in the latest technology to secure the highest possible service and quality levels. All services provided by BELFOR DeHaDe come with a warranty.



Staff training

Our staff are our greatest asset and their skills are crucial to gaining and maintaining our customers' trust, which is key to our success. That is why we invest in the continuous development and training of our staff, enabling them to work with our state-of-the-art equipment and securing service levels and compliance with safety regulations at any time.



Research and development

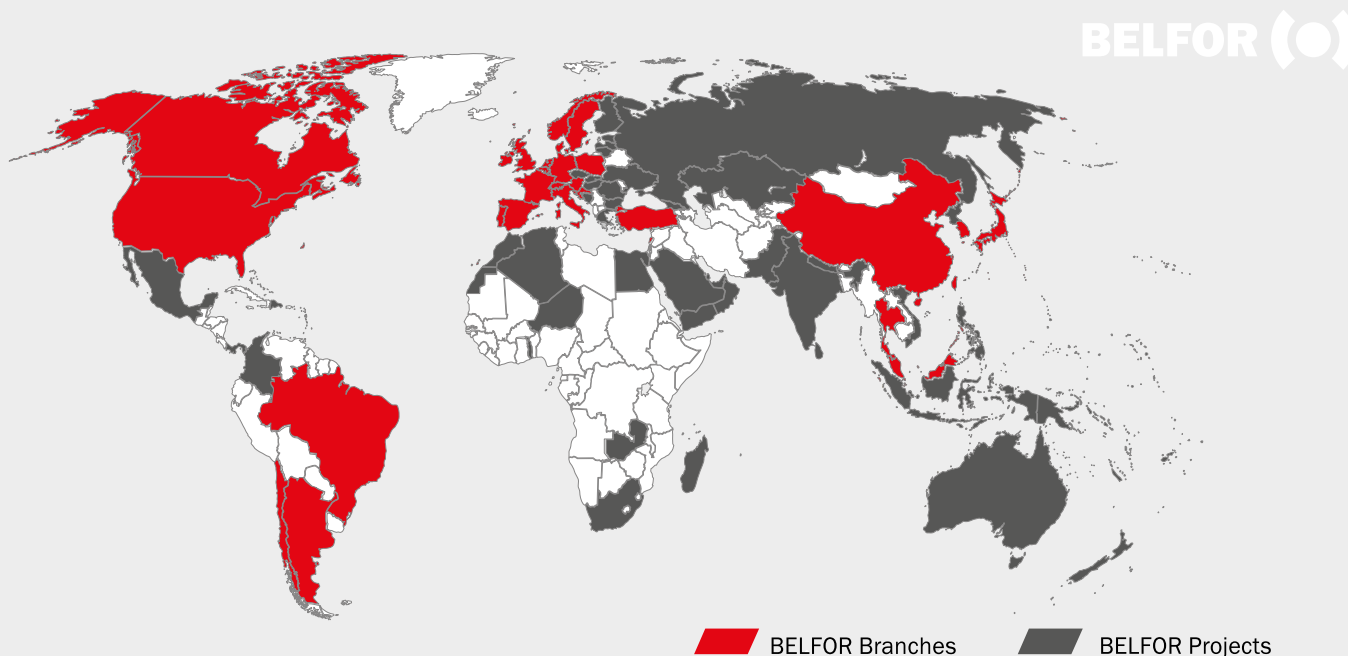
BELFOR DeHaDe never stops innovating. Our engineers test cutting-edge processes and adapt these to new materials and requirements. Working closely with partner universities, we contribute to innovative research and development projects and apply the results in our everyday operations.

Member of the BELFOR Group

We have been a member of the BELFOR Group since 1989. With over 12,500 employees in 57 countries carrying out over 350,000 restoration projects every year, BELFOR is the global leader in the restoration of fire and water damage. BELFOR DeHaDe, as the group's machinery and equipment experts, and our BELFOR Group affiliates mutually benefit from the synergy of our combined expertise. As do our customers! BELFOR is specialised in restoring buildings and contents, while BELFOR DeHaDe takes care of production systems and equipment. Irrespective of the type of damage and cause, our experience and cross-industry expertise in machine life cycles help businesses minimise business interruption. Just as we assist BELFOR Group and its customers, the group supports us to respond to our customers' challenges, as we can fall back on the group's infrastructure, logistics, human resources and equipment. This is how we can reliably deal with any assignment, no matter the complexity.

Our corporate values

Respect, commitment and integrity. These are the values that lie the core of the international BELFOR Group. To systematically promote these values, BELFOR has set out uniform guidelines on the subjects of corporate social responsibility (CSR) and compliance across Europe. We at BELFOR DeHaDe take our responsibility seriously. This means that everything we do is guided by social and environmental considerations.



START TODAY TO BE PREPARED FOR TOMORROW

Discover an expert and reliable service partner that takes a closer look at your machinery. Maintenance and repair are good, but sometimes an overhaul or a retrofit is even better. Whatever it takes to keep your machines and equipment running smoothly. We look forward to hearing from you!

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