



HAARSLEV™

Processing Technology

HAARSLEV GLOBAL SERVICES

Start right, run better, earn more

HAARSLEV™

Haarslev Global Services is the technical, support and training services department at Haarslev. Spanning planning, engineering, installation, commissioning, training, maintenance and improvements, we take pride in meeting your service-related needs throughout the lifecycle of your equipment or plant.

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EQUIPMENT IS ONLY PART OF THE PICTURE

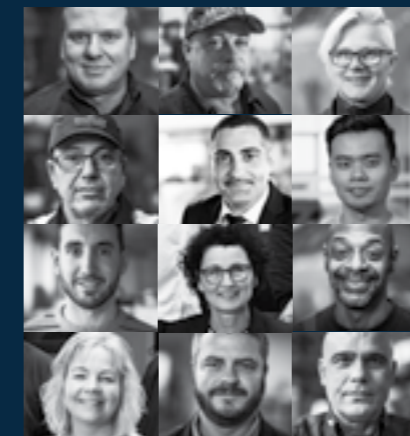
Dear customer,

Delivering the valuable outputs your operation depends on takes equipment that's designed and built to keep operating dependably over years of punishing use. Thanks to skillful engineering and top-quality manufacturing, Haarslev crushers, pumps, dryers, presses and other equipment deliver reliable performance under all imaginable conditions.

Today, though, plants need more than just dependable hardware to realize their full profit potential. In today's market, you also need expert advisory and maintenance services provided by experienced professionals with big-picture understanding of your operations and setup. Services that help keep your plant running reliably, efficiently and profitably every day of the year.

That is what the Haarslev Global Services team is all about. Whether you want to give your plant or processing line an efficiency overhaul, take advantage of new market opportunities by extending your capabilities, or building a completely new plant, our experienced, highly trained experts can help you through the process with a minimum of hassle – and the best possible end results.

This brochure gives you an overview of what Haarslev Global Services can do for you.



Yours,

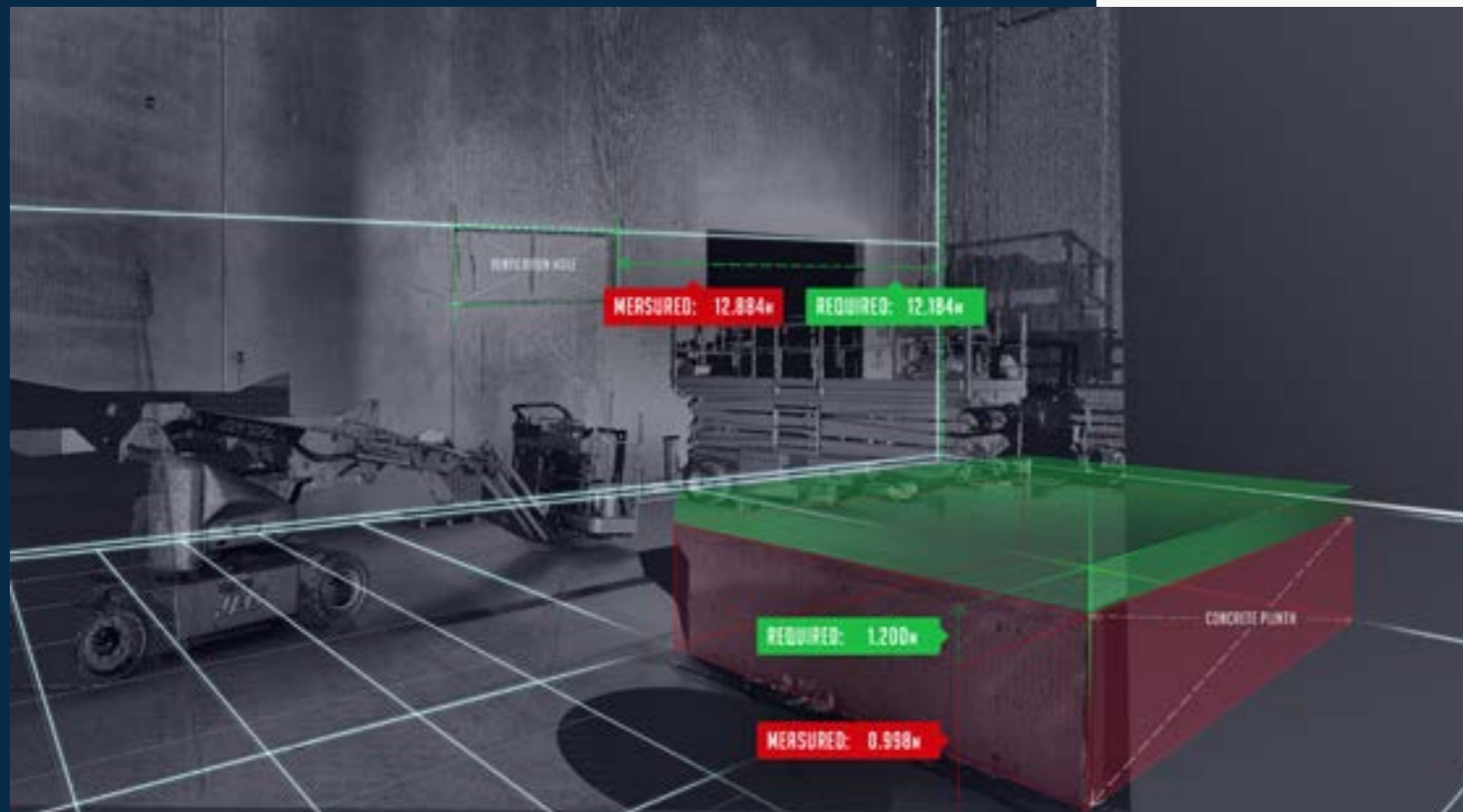
Haarslev Global Services Team

PLANNING

DESIGNED FOR EFFICIENCY

HAARSLEV'S SERVICE MINDSET KICKS IN LONG BEFORE YOU START ORDERING SYSTEMS OR EQUIPMENT.

Over 100 years of experience have taught us that the better a plant is designed, the more certain it is to deliver the performance, efficiency and profitability you want and expect.



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EXISTING PLANTS

Planning to expand a plant that's already up and running? We can assess your plant's current efficiency, and then combine sophisticated tools like 3D building scans with data on your inputs and desired outputs to help you maximize the long-term value of your investment.

Planning for expansions also includes a mass balance calculation and 3D layout and process flow diagrams.

NEW FACILITIES

If you're setting up a new plant or line, our team can conduct reliable feasibility studies – based on planned inputs, output needs, available space, calculated mass balance and other factors.

Then we prepare a 3D layout and process flow diagram, before preparing an engineering and systems proposal that promises rapid payback and all the performance you want.



START OFF RIGHT WITH PRE-ENGINEERING

To grant the permits and approvals you need to build, extend or improve a facility, authorities often demand concrete details that aren't part of the quote you receive from your equipment vendor. The same applies at banks you'll need to finance your investment.

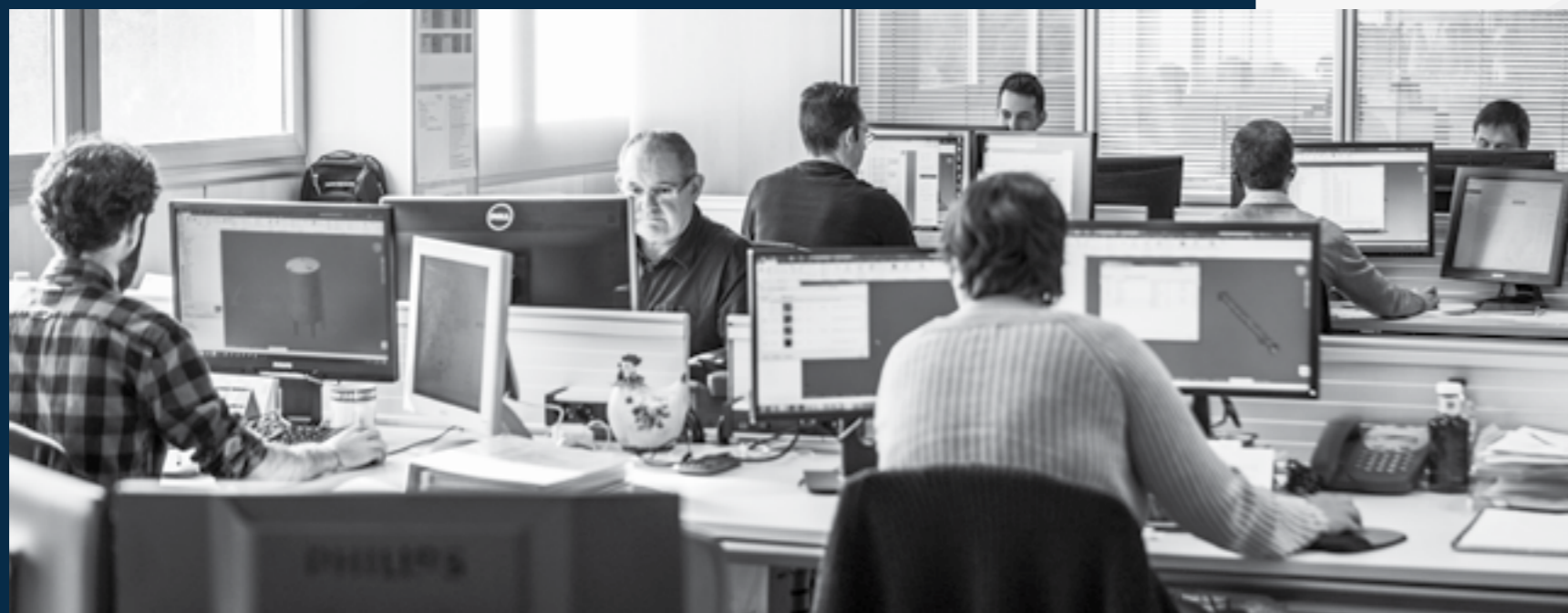
Haarslev's Pre-Engineering service gives you the detailed information you need to secure the permits, approvals and financing you need right up front.

As part of the Pre-Engineering service, our team will complete your layout, foundation and drain drawings, mass balances, automation planning, motor and instrument lists, and even emission studies. All for a fixed amount covering this work alone – and that will be deducted from the total cost of your project.

This enables you to start work with greater clarity and certainty, and can reduce the total time it takes to complete your project.

PROJECT MANAGEMENT

MAXIMUM SUCCESS, MINIMAL DISRUPTION



Expanding a plant or even just installing and commissioning a new system can be disruptive and costly. This makes expert project management critical – for both your project and your broader operations during the project period.

When you partner with Haarslev, you gain access to a team of seasoned project managers who will work with you to maximize success and minimize disruptions. Our project management service includes:

- **End-to-end project management, whatever the scope of your project**
- **A dedicated project manager as your single point of contact**
- **Coordination with your teams on planning, installation and commissioning**
- **Advice, support and even site visits from Haarslev technical experts**
- **All required reporting and documentation**

Thanks to Haarslev's size and global scale, your project manager will have valuable experience with projects like yours, no matter what you process or where you operate.



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BUILDING A FACILITY FROM SCRATCH?

New plant projects entail their own significant risks, and skilled project management is your first line of defense against unexpected complications and the costs that go with them. You're in safe hands with a seasoned Haarslev project manager – from the initial planning stages until you're up and running successfully.



ENGINEERING

THE POWER BEHIND YOUR PROCESS



PROCESSING EQUIPMENT AND SYSTEMS ALWAYS OPERATE IN A PARTICULAR SETTING – INSIDE A BUILDING, MOUNTED ON CERTAIN STRUCTURES AND SURFACES, LINKED TOGETHER WITH OTHER SYSTEMS, IN COMPLIANCE WITH ALL KINDS OF RULES AND REGULATIONS.

All this engineering work – civil, mechanical, electrical and environmental – has to be planned and implemented effectively.

A BIGGER PERSPECTIVE

Haarslev equipment is world-renowned for its engineering excellence, and we probably manufacture and deliver a larger portion of your plant than anyone else. Our vast worldwide experience makes us uniquely capable delivering the best equipment available, but also making sure that everything works together as an efficient and profitable whole.

Based on the 3D layouts produced during the planning stage, our specialists apply state-of-the-art to produce your final foundation drawings, drain system drawings, and plant or line layout, including all platforms, electrical and data connections, piping and ducting.

Finally, we help you prepare the motor and instrument lists you'll need for your control system, and conduct any emission studies you – or the authorities – require.

WORLD CLASS ENGINEERS, AT YOUR SERVICE

At Haarslev, we have a very large team of engineers who not only develop new plants and expand existing ones, but can assess your operations and advise you on how to better meet your needs – from adding new inputs and increasing your output, to reducing your energy consumption and meeting new environmental regulations.

INSTALLATION

EXPERT ASSISTANCE WHERE IT MATTERS MOST



Installing new equipment and systems has to be done right if you want to get the best of the new capabilities.

Carrying out the installation work quickly and effectively requires considerable specialist know-how as well as professional planning to keep downtime to a minimum. Modern processing equipment rarely works in isolation, so it's important any new setup is configured to interface with other systems, and the rest of your plant's control and monitoring systems.

Haarslev Global Services can tackle any installation needs you face, sending a team to your facility and stationing experts on site as long as the job requires it.



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INSTALLATION OR SUPERVISION?

Our installation specialists can install and connect your equipment for you. Or, if you have your own installation crew, we can supervise their work and monitor progress. Our aim is to make sure you get the best results with least interruption to your operations – however you choose to let us help.

EQUIPMENT REPLACEMENT SERVICES

In addition to setting up new facilities, we can help you install replacement or additional equipment at your existing plant. We'll connect the new equipment to your plant's control system, and we can even test your systems for you.



COMMISSIONING

LET US BRING YOUR PLANT TO LIFE



IT'S IMPORTANT THAT BRINGING NEW EQUIPMENT AND SYSTEMS INTO SERVICE GOES SMOOTHLY, TO AVOID PROCESSING STOPPAGES AND LOSS OF REVENUE.

The Global Services team makes sure your commissioning is well-planned and the handover smooth, so your employees have the documentation, user guides, training and maintenance guidelines they need to operate the new equipment safely and effectively.

Our full range of commissioning services includes:

- Full range of pre-startup preparation, testing and calibration
- Handover of documentation, approvals and certification
- Establishing guidelines for service, maintenance and spare parts management
- Control system user guides
- Mechanical and process training
- Post-startup supervision



360° FIELD SERVICE?

Many customers opt for our 360° Field Service program right from the commissioning phase. The program gives you regular site inspections, process training, mechanical training and more.

It's a great way to make sure that your operators always have what they need to keep your plant running at maximum efficiency and with minimal downtime. See page 27 for more information on the 360° program.



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A WORD ABOUT HEALTH, SAFETY AND THE ENVIRONMENT

SAFETY FIRST

Keeping up with the latest regulatory requirements for worker Health, Safety and the Environment (HSE) – and making sure you're in compliance – can be time-consuming, costly work.

At Haarslev, we make it our business to stay informed about all applicable legislation, codes, rules and regulations in your country and community.

You can count on our equipment to comply. You can count on our people receiving up-to-date training in all relevant areas of HSE. You can count on Haarslev Global Services to help you stay in compliance no matter what kind of setup you operate or where in the world you do business.

If you ever have questions about compliance, you are always welcome to contact Haarslev Global Services for advice.



TRAINING

BUILD AND MAINTAIN YOUR OPERATORS' SKILLS

Consistently effective processing is heavily dependent on the skills and capabilities of your operators. Problems and fluctuations will *always* happen.

It makes a big difference if your employees are trained to adjust operations to different inputs and output requirements, and they know how to deal with any unforeseen circumstances. Better training also helps prevent mistakes and avoid accidents.

MECHANICAL, PROCESS AND GENERAL TRAINING

We offer three different practical, hands-on training packages.

- **Mechanical training** makes sure your operators know the ins and outs of Haarslev equipment – including how to ensure smooth operation and exactly what to do if something goes wrong.
- **Process training**, which also covers your control and/or automation system, gives your operators the big picture needed to keep efficiency high and the risk of downtime low.
- Ideal for facilities with high operator turnover, **general training** helps bring new operators and other employees up to speed with the basics of your Haarslev processing equipment.

Health, safety and environmental regulations are an important part of all Haarslev Global Services training programs.



ALWAYS ON SITE

Your equipment manuals are important tools for helping operators keep your plant running smoothly. But only in-person, onsite training can make sure your people really understand the principles and procedures involved – and that the training applies to your exact facility.

That's why our training sessions are always conducted at your plant and by a Haarslev Global Services specialist.

- > Haarslev mechanical and process training is available as part of our 360° Field Service program. Our general training program is a one-time course available at any time. To learn more about the 360° Field Service program, visit haarslev.com/360.

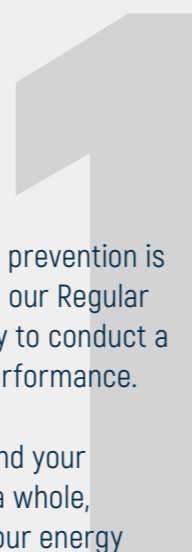




MAINTENANCE

FOUR GREAT WAYS TO MAXIMIZE PERFORMANCE

REGULAR SITE INSPECTIONS



When it comes to maintaining your rendering or processing systems, prevention is the best medicine. At Haarslev, preventative maintenance starts with our Regular Site Inspections service, where a Haarslev engineer visits your facility to conduct a thorough inspection and assessment of your plant's condition and performance.

Machine by machine, we inspect your equipment, your connections and your plant's control system settings. But we also look at your process as a whole, considering any changes to your inputs or output needs, reviewing your energy and water consumption, and checking heat-recovery and systems.

Service Report

After the inspection, we prepare a detailed Service Report on how well your plant is performing. The report provides our recommendations for machinery repairs or refurbishment, part replacements, and spares you'll want to have ready "just in case." It also contains a summary of the advice and recommendations the Haarslev engineer shared with you during the inspection.

Regular Site Inspections reduce the risk of costly stoppages and plant shutdowns dramatically, while keeping your plant running at peak performance and efficiency. The result is greater peace of mind, lower costs and higher profits.

Our Regular Site Inspection service is available separately or as part of our valuable 360° Field Support (see page 27).



> EQUIPMENT SERVICING AND MAINTENANCE

Your Site Inspection Service Report will detail any needs we detect for equipment servicing or maintenance. Your Haarslev maintenance engineer will go over these needs with you, and if you want it, we are able to help you carrying out any regular maintenance, repair or servicing work.

“ TOGETHER WITH THE SERVICE VISIT AND OUR OWN REGULAR MAINTENANCE WE HAVE ONLY HAD VERY FEW (2) UNFORESEEN STOPS IN THE 20 YEARS WE HAVE OPERATED OUR HAARSLEV EQUIPMENT. ”

- GREEN BY-TECH CEO MR. LEE, MOON YONG



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MAINTENANCE

2.



24/7 SOFTWARE SUPPORT

If your plant's control system is linked to Haarslev Global Services, you can take advantage of our 24/7 Software Support service. Available around the clock, 365 days a year, this telephone support service can get your system up and running again – not next week or tomorrow, but now.

How it works

If your plant encounters problems, use the 24/7 Software Support Hotline to call a Haarslev Global Services engineer. The engineer will access your system's settings and other key data online, and help you solve any problem related to machine or system settings immediately.

If the problem can't be solved by adjusting settings, restoring defaults and so on, your case will go to the front of the line for priority handling by Haarslev Global Services.

Insure your profit

24/7 Software Support is like an insurance policy for your operation's profitability. Downtime is the biggest profit eater in processing operations, and we can diagnose a problem 4 out of 5 times for customers who call our 24/7 Software Support service.

Being able to point out problems instantly – at any time of day or night – will dramatically improve the chances that you can get your plant up and running again, before downtime can start causing real pain.

24/7 Software Support is available separately or as part of our 360° Field Service program (see page 27).



MAINTENANCE

3.

ORIGINAL SPARE PARTS

To make sure you always get the most out of your Haarslev equipment, you'll want to use genuine Haarslev spare parts whenever it's time for a replacement. In fact, even if your equipment was supplied by another vendor, Haarslev spares are the ideal solution.

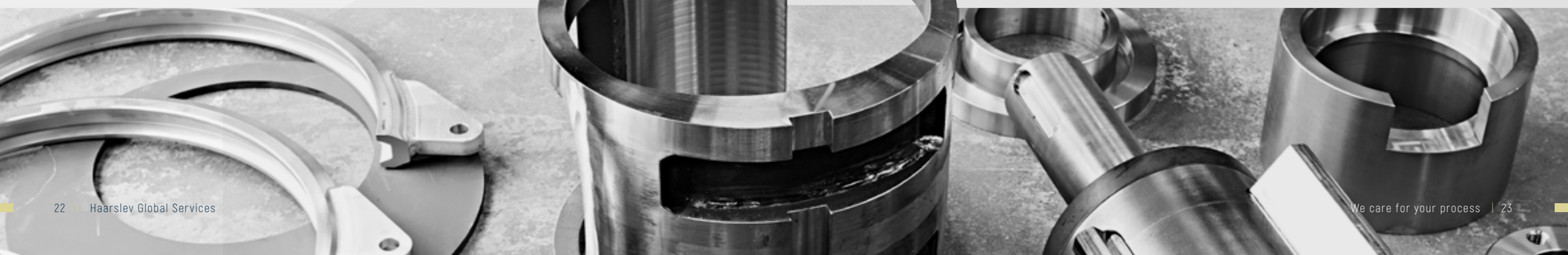
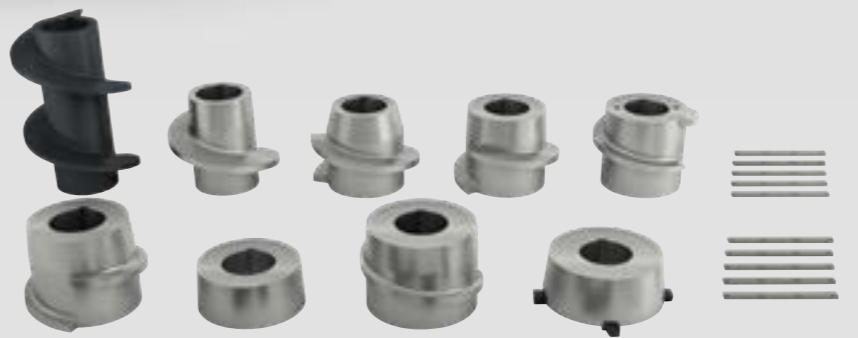
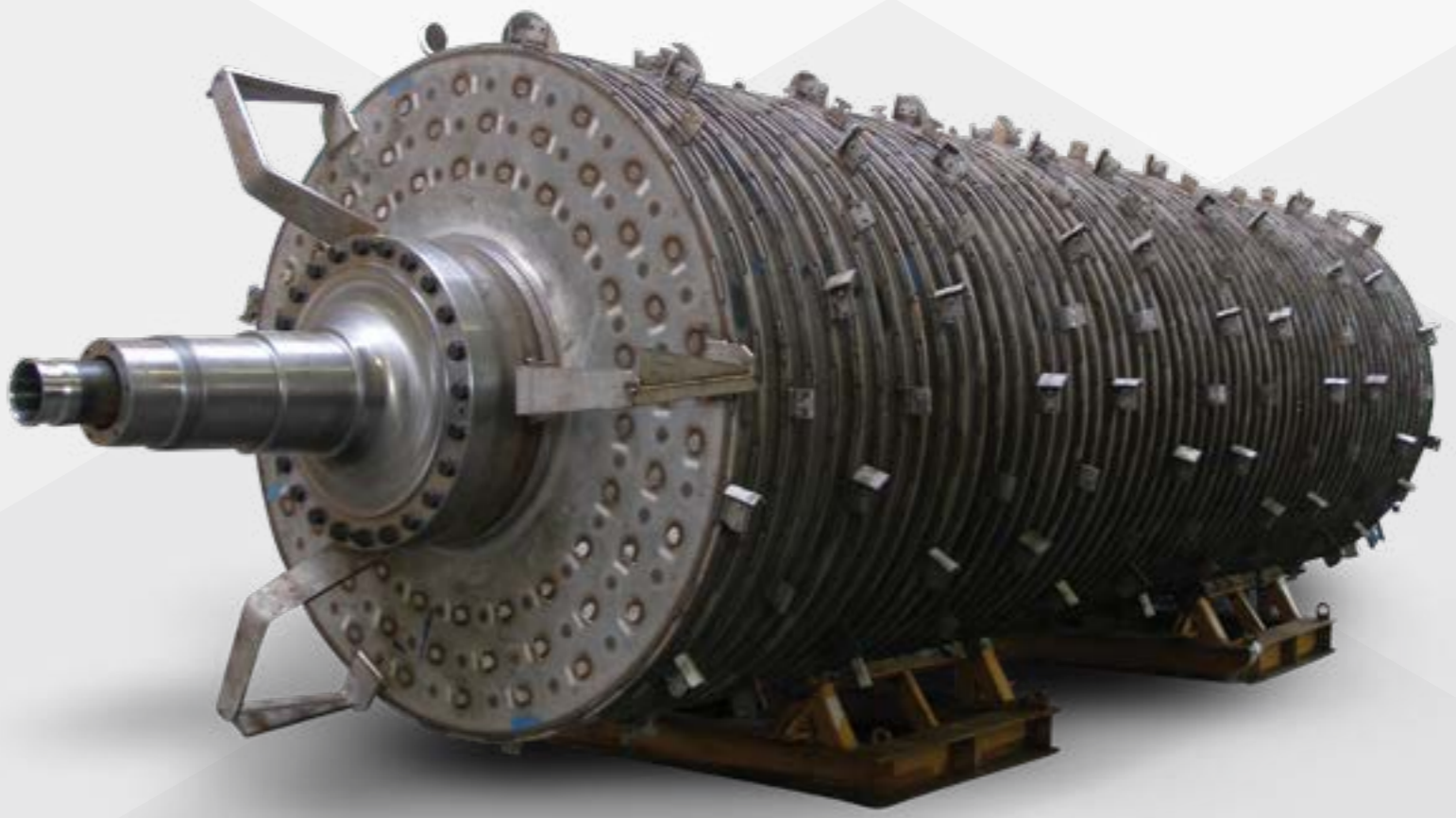
Haarslev parts are famous for outstanding engineering, premium materials, manufacturing excellence, long durability and superior performance. You really can't do better than Haarslev.

Close at hand and ready to help

Thanks to Haarslev's global presence and well-stocked spare part warehouses, you can always count on getting the parts you need quickly. When you contact us, we'll help you select exactly the right spares, and if you need assistance changing parts, we are happy to help.

We will also advise you on which parts and how many of each part you should keep in stock, so you always have these parts on hand for preventative maintenance and unexpected issues with your equipment.

At Haarslev Global Services, we provide the rapid spare parts advice, delivery and installation it takes to keep your lines running efficiently and costly downtime to a minimum.



MAINTENANCE

REPAIRS AND REFURBISHMENTS

4.

Sometimes, especially for larger machinery and parts, a repair conducted by authorized service personnel is the answer. We're happy to carry out this work, overseeing the process and performing the repair work. We know our machinery inside and out, and make sure all repair work meets our stringent quality standards.

In other cases, a professional refurbishment might be the best solution for bringing your system or line back up to speed. The Haarslev Global Services repair and refurbishment team will make sure the job is done right, and that your refurbished equipment is virtually good as new. Repair and refurbishments can be done either onsite or at one of our workshops.

In some regions, we can pick up your equipment and return it to you once the repair/refurbishment has been completed.



EMERGENCY MAINTENANCE AND REPAIRS

If you're hit with an unexpected stoppage or equipment breakdown, just call Global Services. We'll make sure the problem is solved as quickly as possible either remotely or via an emergency service visit to your site.



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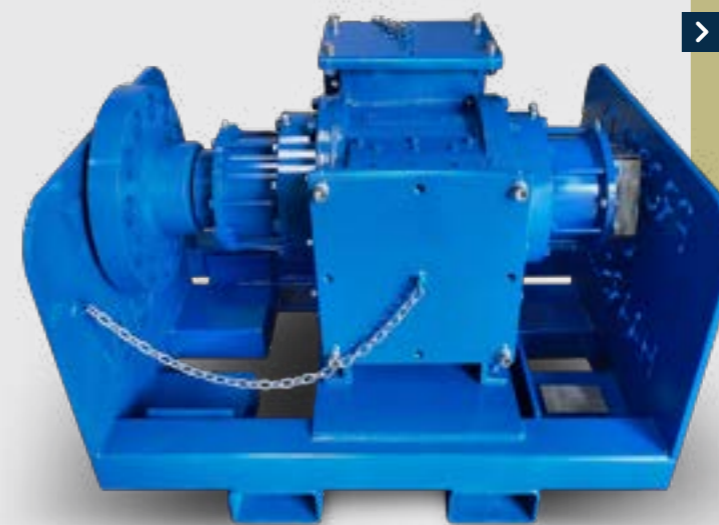
THE RESULTS OF REFURBISHMENT



HM 3000 SHAFT

> **AFTER**

Same shaft with new flights ready for mounting in a HM 3000 Fat Screw Press.



HM 35 PUMP

> **AFTER**

The same HM35 Pump after being rebuilt on a skid, ready for returning to the customer.



IMPROVEMENTS

STAY ON TOP IN A FAST-CHANGING WORLD



Installing processing systems is rarely a once-and-for-all decision. New technologies emerge, new capabilities are developed, improvements are made. Companies' requirements change, market expectations evolve, and new commercial opportunities arise.

Haarslev Global Services are a rapid, reliable way to revamp, improve, optimize and update your existing equipment or processing lines – whether supplied by Haarslev or not.

You get better results at lower cost, happier customers, and employees who are more satisfied with their jobs – and do them better.

Good data for better decisions

If you're going to make good decisions about revamping, improving or modernizing any part of your processing setup you need reliable, relevant data to back them up.

The Haarslev Global Services team provides comprehensive equipment and data monitoring services, performance and efficiency analyses, energy optimization assessments and special "try it and see" test facilities that give you the best info for planning your plant's future profitability.

Requirements change

Haarslev specialists are also on hand to help you deal with the constant changes in legislative requirements and environmental protection directives.

We can help reduce all kinds of emissions from your Haarslev processing equipment, by implementing new control and monitoring technologies, odor control systems and other specialist equipment.

Smooth implementation

Processing lines often require meticulous coordination and careful attention to multiple operating parameters. You can draw on experienced Haarslev service technicians to implement any revamping, updates or improvement measures smoothly and reliably, with an easy, well-planned transition.

The control quotient

One of the most cost-effective ways to improve your processing setup with minimum practical disruption lies in electronic control and monitoring systems that ensure faster reactions to changes in inputs and conditions, improve output consistency and quality, and help document compliance with quality requirements.

Haarslev control systems and automation capabilities can also link up and integrate different individual operations so you can significantly improve the efficiency of many processes.

We can also help you improve the performance of your processing setup by installing special CORE adaptive controllers. These use advanced software algorithms to automatically make on-line corrective adjustments, smooth out variations in operating conditions, and provide more consistent quality.

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360° FIELD SERVICE

The best way to stay on top of your maintenance and professional training needs is to join Haarslev's 360° Field Service program. This subscription-based service gives you:



> Included services	Regular Site Inspections	This is where it all starts – with regular, in-person visits to your factory, to inspect your setup, deal with more urgent issues, hear about new or future needs, and recommend required measures.
	Priority Access to Email and Telephone Support	When you call or email – or, if you have opted for 24/7 Software Support and experience an issue we can't solve immediately via our link to your control system – you go to the head of the line.
	Process Training at Regular Intervals	To meet changing needs and make sure you benefit from our latest experience and best practices, we provide regular, onsite training of employees who need a big-picture understanding of your processes and setup.
	Mechanical Training at Regular Intervals	Same as above, but training is more geared for machinery operators – especially useful where employee turnover is high.
> Special rates	Special Rates on Spare Parts	Save on spare parts every time you need them with a special discount on original Haarslev spare parts.
	Special Rates on Field Service and Repairs	Enjoy a special discounted rate on Haarslev field service, and on any repair or refurbishment work you order – even if Haarslev did not supply the equipment in question.
> Optional add-ons	24/7 Software Support	This add-on enables facilities using our control systems to link up to a Haarslev Global Service Center, where support technicians are standing by 24/7 to tackle faulty configurations and any other issue that can be dealt with via software adjustments. No more waiting. Get it fixed now.

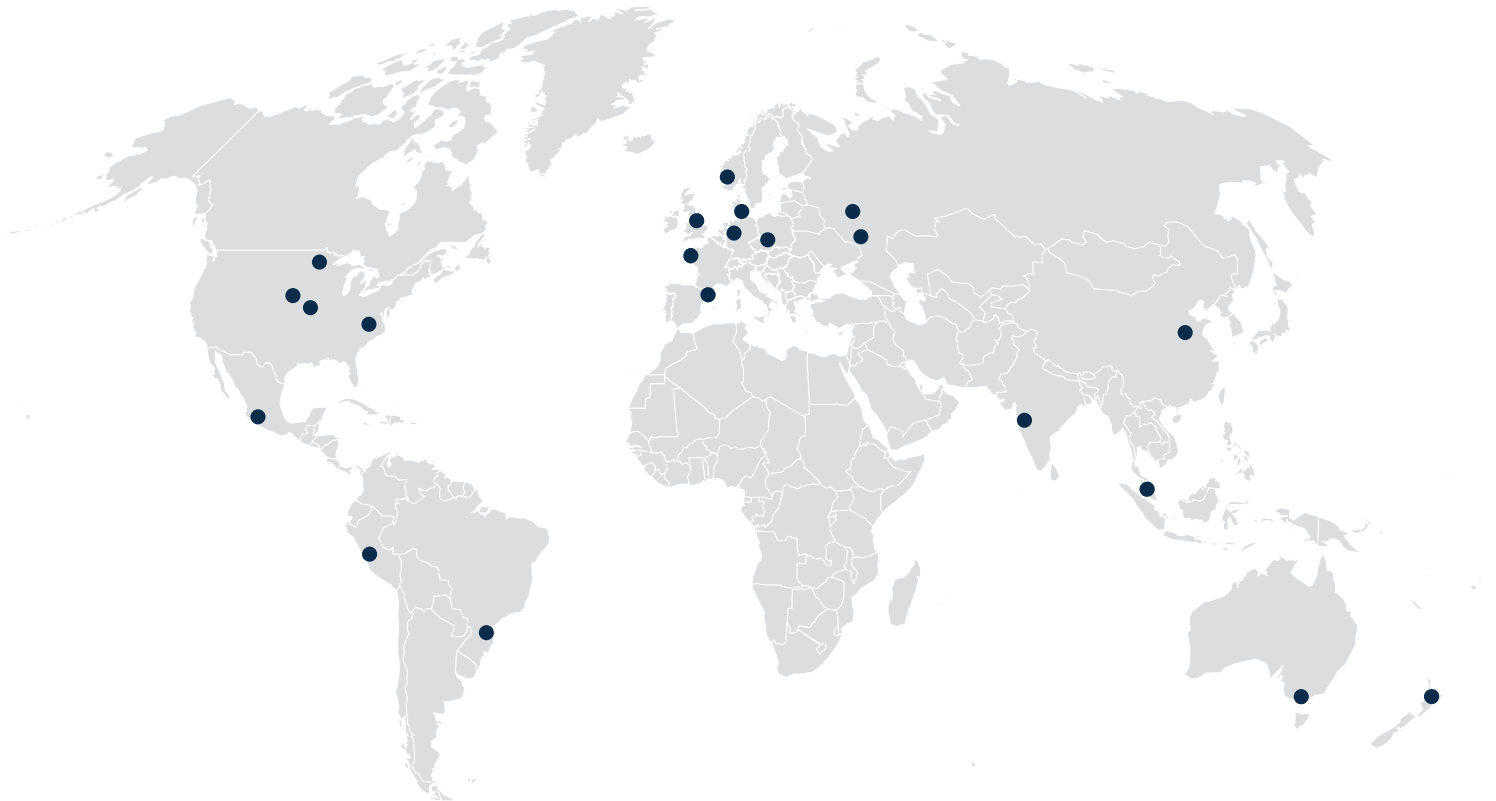


The service is a designed to help you get ahead and stay there, by maintaining peak performance and staying in compliance with codes and other regulations. Read more about it at haarslev.com/360



HAARSLEV™

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MASTER YOUR PROCESS

HEADQUARTERS

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