



ANDRITZ

FEED AND BIOFUEL

DEDICATED TO KEEPING YOUR BUSINESS RUNNING

HOW CAN WE HELP SERVE YOUR BUSINESS?

ANDRITZ

ENGINEERED SUCCESS

Feeding and fueling the planet

Dedicated to feeding and fueling the planet

ANDRITZ is vital to ensuring a reliable global supply of aqua feed, animal feed, pet food, and biofuel. With full process lines accounting for half the world's production of aqua feed and biomass alone, we continuously support leading producers in achieving the highest levels in safety, quality, and control from feedstock to final product.

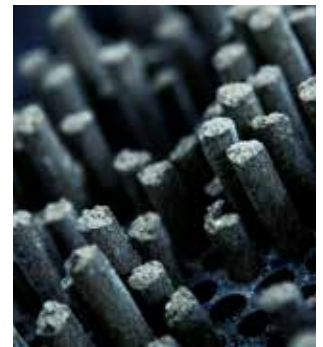
**HOW
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LET'S FEED AND FUEL YOUR BUSINESS

The future of food and energy is full of ambitious ideas such as novel nutrient blends, unique feed properties that boost conversion rates, and high capacity process lines that virtually eliminate waste. To seize upon these opportunities, feed and biofuel producers demand a partner they can trust to deliver the right production capacity with the right service and expertise today – and for decades to come.

As a partner with more than 180 years of industry experience, no one knows more about these opportunities than ANDRITZ. From initial feedstock analysis to grinding, conditioning, and drying. From extrusion and pelleting all the way through to the largest parts and service supply chain on the planet. Together with leading producers in all major markets worldwide, our knowledge, services, and solutions continue to drive the evolution of tomorrow's feed and biofuel production.



High-quality feed pellets

Keep your business growing with our global service network

ANDRITZ is a leading global supplier of technology and services for producers of animal feed, aqua feed and pet food as well as industrial and biomass applications.

KEY MACHINERY AND COMPLETE PLANT SOLUTIONS

ANDRITZ is a full-range partner and supplier for feed and biomass producers. We offer a simple and efficient “one-stop-shop” concept, which means we cover the entire production process and can supply all of the machines needed in the processing line. We have decades of experience in designing and building feed and biomass plants, including engineering, installation, start-up service, and commissioning of the plant.

THE ANDRITZ CONCEPT

Our production lines are based on a full program of well-proven process machinery and equipment in combination with integrated IT solutions that ensure easy operation, high plant efficiency, and full process traceability. All ANDRITZ equipment and solutions take account of the demand for reliable processing, cost efficiency, and uniform, high-quality feed and biomass products.

WE OFFER

- Process line solutions
- Single machines
- Technical consultancy
- Engineering services
- Aftermarket services and support



Global aftermarket service and support

We are a global partner with a local presence.

At ANDRITZ, we know how important it is to be accessible to our customers. So, no matter where you are, we will get to you with the services you need from a support hub located nearby. It is our ongoing objective to provide unsurpassed services and support from the most experienced staff with the best tools available.





When it comes to your business, we go full circle

At ANDRITZ, we partner with our customers to maximize equipment performance, efficiency, and value over the entire life of your production plant. With a wide range of value added services you will find a cost effective solution that fits your business needs.

NEW EQUIPMENT AND PRODUCTION LINES

ANDRITZ manufactures the highest quality equipment for every step in the processing line for the production of animal, aqua, and pet food as well as the key equipment necessary for many types of industrial and biofuel applications. Our engineers specialize in expert Installation, testing, and analysis of new equipment as well as full production

lines to assure your facility is meeting or exceeding your operational requirements.

MAINTENANCE SERVICES

Once commissioning is complete and your facility is fully operational, we partner with you to create a comprehensive service agreement, thus reducing the risk of unexpected downtime. Scheduled maintenance and mechanical inspec-



tion, as well as routine repair and re-furbishment services, are a predictable component of your routine, allowing you to mitigate future production losses.

ANDRITZ PROCESS PERFORMANCE SERVICES

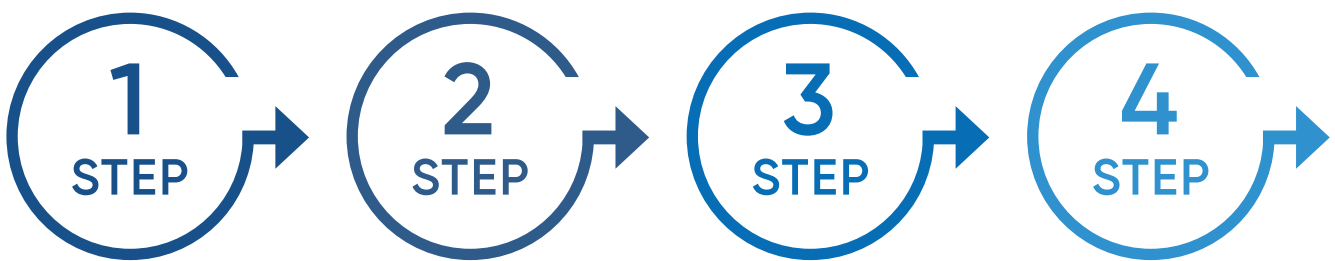
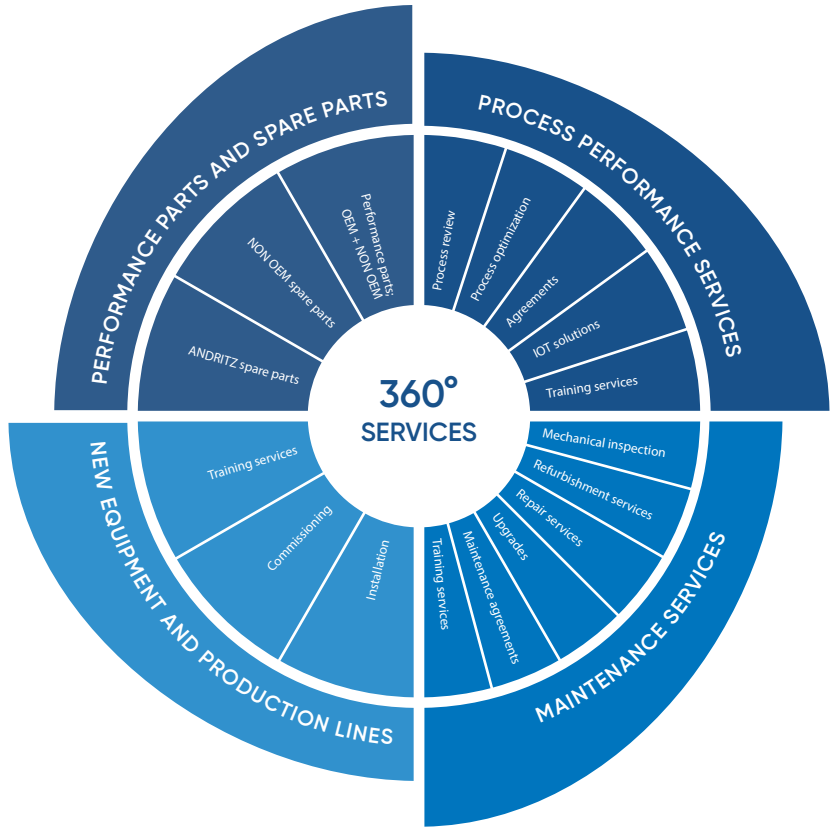
Performance Services start with a complete process review to accurately assess the condition of your equipment as well as your processing lines. Based on the review, an ANDRITZ service expert determines the best course of action for extending the lifetime of your equipment and optimizing operational performance. Performance services are customized to meet the individual needs of your equipment and business objectives. All ANDRITZ solutions are compatible with our automation systems, which allows you to measure performance in real time, diagnose and adjust inconsistencies, and analyze outcomes for peak performance and greatest cost savings.

TRAINING

ANDRITZ provides comprehensive training service to your facilities personnel so you can be confident that your newly installed equipment continues to function according to its original design intent, meeting project requirements for years to come.

PERFORMANCE PARTS AND SPARE PARTS

All the equipment and services provided by Andritz are backed by our superior spare and performance parts manufactured, not only for original ANDRITZ equipment but for the many makes and models of equipment on the market.



Mechanical inspection and/or process performance review

- Comprehensive overview of mechanical and/or process conditions

Report and recommendations

- Conclusions
- Findings
- Recommendations
- ROI of proposed improvements

Execution of prioritized recommendations

- Maintenance
- Repairs
- Training services
- Spare and performance parts
- Equipment and automation upgrades
- Process optimization

Service agreements

- Maintenance
- Process performance
- Automation

ANDRITZ expertise translates into savings for your business

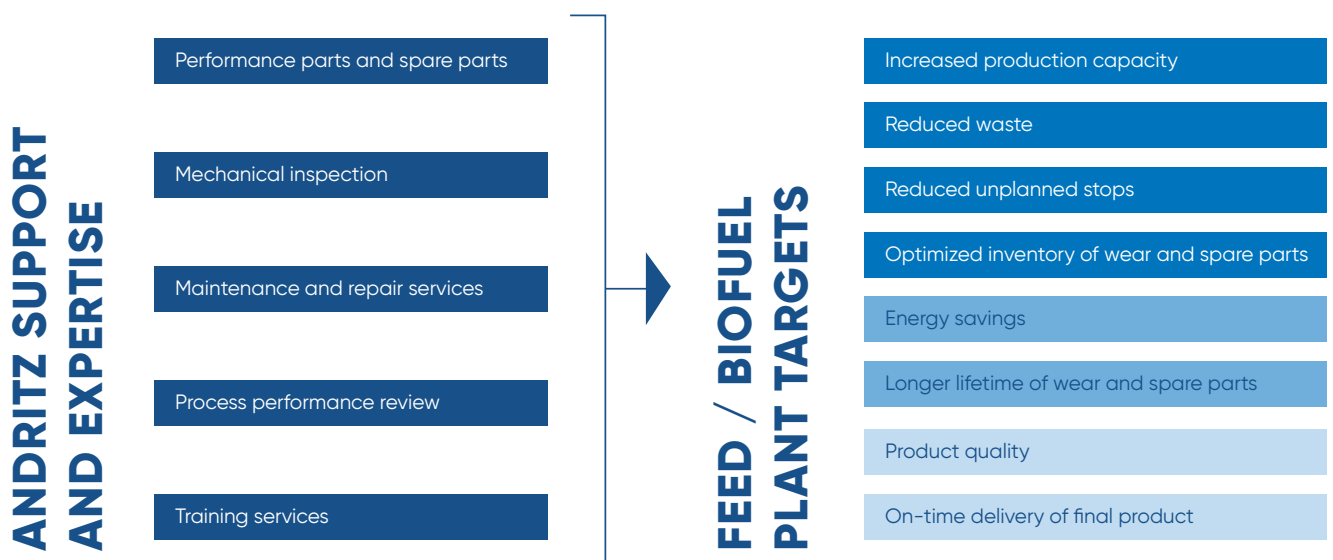
All ANDRITZ products and services are designed based on our extensive experience as a global market leader in the feed and biofuel industry.

The quality and innovation behind our equipment, performance parts, and spare parts, combined with the expert engineering capabilities we utilize in initial construction, as well as long-term maintenance of your processing lines, translates into substantial savings for your business.

There are significant cost savings, and there is also the added benefit of maintaining a more sustainable facility. These savings are a result of a reduction in energy consumption and waste. Additionally, the need for fewer and less frequent repairs and replacement parts extends the life for your equipment and reduces maintenance expenses.

ANDRITZ technology contributes to a significant return on your capital investment by delivering more efficient production results. The results equate to increased output, and our maintenance and inspection services mean routine downtimes that can be a part of your overall processing plan, so there is never a lag in product capacities, and delivery of your product is reliable, thus increasing customer retention.

Working with ANDRITZ also helps save your sanity. Because we are your partners for the lifetime of your equipment, you know you always have someone you can count on if a problem arises or when production parameters change.



We have a full spectrum of analytical tools, maintenance programs, and repair services to help you reach a cost-effective solution.



PICK-UP-AND-DROP-OFF

ANDRITZ pick-up-and-drop-off services are available in select areas.

ANDRITZ:

The hands that help an international animal nutrition powerhouse deliver

De Heus Animal Nutrition is a leading global supplier of nutritional products for animals and the power behind the progress of egg, meat, milk, and fish producers around the world.

De Heus was founded in 1911, and though they are an international company producing seven million tons of feed annually in more than 70 countries located in Europe, Asia, the Middle East, Africa and Latin America, they are still a family-owned company that can trace their roots back to the Netherlands. In fact, half a million tons of the feed produced by De Heus comes from the mill in the Maasbracht, Netherlands and their aftermarket partnership with ANDRITZ helps keep them running.

When De Heus purchased the mill in Maasbracht in 2013, everything inside had to be replaced. Marcel Jeurissen, the plant manager at this long-established mill located along Julianakanal remembers it well and recalls that it was a stressful and exciting time for De Heus. "The company had just purchased the facility, but even so, it had to be up and running in a very short window of time. The equipment was all very old; everything had to be pulled out, new electrical systems and automation were required, but the ANDRITZ machines were there, and we had it up and running on schedule, April 1st, 2014."

"The feed industry is unlike any other manufacturing industry. When you make a car or a refrigerator the parts are the same every time, but we are working with natural ingredients – these ingredients are different each time you encounter them. We have to make con-

stant adjustments, and we have to make progress with these ingredients every day. The world depends on a healthy supply of food products, and this originates from quality feed. We can only meet this growing demand by exploring new markets and introducing innovative formulas that help farmers get more eggs from one chicken and more meat from one cow."

"This is our mission; providing tailored solutions for every kind of farmer because no two farms are alike. Say a farmer grows his own wheat, and he wants to utilize that resource; De Heus creates a formula that provides his animals with the nutrition they need from the wheat he grows."

De Heus currently produces over 700 of these individual formulas with each one running at approximately 15 tons per hour. Their equipment must run longer



hours with less downtime to meet the needs of each individual farm and farm animal.

This is why the ANDRITZ equipment was a must for De Heus. The high capacity motors and the quality construction of their pellet mills, conditioners, and expanders provided an increased range of 20 tons per hour, meaning De Heus could run above capacity while maintaining a high-quality product.

“Running at this capacity makes regular maintenance absolutely necessary to prevent an outage, but when an emergency does happen, ANDRITZ is right there.” Jeurissen shared, “An incident occurred just a few weeks ago – we had a broken shaft bearing. This particular piece of equipment usually takes two weeks to deliver, but we couldn’t wait that long. We called ANDRITZ for a solution, and while we were on the phone with their customer service representative, they located an available engineer.” Jeurissen exclaimed, “He loaded the parts into his vehicle and drove them straight to the plant in the Netherlands. We were up and running again within 24 hours.”

This kind of responsiveness is the main reason De Heus chose ANDRITZ equipment. “The equipment is good, but their aftermarket service is the best in the industry. We know that if we need a part or an engineer, ANDRITZ will not hesitate to send someone – not just to the Netherlands but from Brazil to Vietnam.”



ANDRITZ INSTALLATIONS AT THE MAASBRACHT PLANT, NETHERLANDS:

- 4 x Pellet mills, PM 919
- 4 x Conditioner, CM 902 PM
- 4 x Feed Expanders, FE34
- 4 x Crumbler, GRM81
- 1 x Pellet Mill, PM 1600

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MARCEL JEURISSEN,

Plant manager, Maasbracht, De Heus Animal Nutrition, the Netherlands.



GLOBAL PARTNER – LOCAL PRESENCE

With sales, service, engineering, manufacturing and production sites located all around the world, ANDRITZ Feed and Biofuel is truly a global organization with a local presence. ANDRITZ is vital to ensuring a reliable global supply of aqua feed, animal feed, pet food, and biofuel. With full process lines accounting for half the world's production of aqua feed and biomass alone, we continuously support leading producers in achieving the highest levels in safety, quality, and control from feedstock to final product.

How can we help grow your business?

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