

SUCCESS STORY

Turkish plant reaps the rewards of ANDRITZ servicing and upgrading competitor equipment



PANELBOARD

YILDIZ ENTEGRE BREAKS MILLION M³ BARRIER AT MERSIN MDF PLANT

COSTS FALL AS PRODUCTION TAKES OFF

ANDRITZ

ENGINEERED SUCCESS



"We're the Usain Bolt of our industry!"

By switching its plug screw servicing to ANDRITZ, Yildiz Entegre's Mersin plant in southern Turkey can now process more than a million m³ of chips between services and is saving tens of thousands of euros on energy costs.

International firm, Yildiz Entegre, is the largest panelboard manufacturer in Turkey, producing MDF, panels for flooring, doors, decorative and other uses. For this ANDRITZ Success Story, our focus is Yildiz's 1,500 m³/day Akdeniz Facility in Mersin on Turkey's south coast, which serves domestic Turkish customers and also operates as a gateway to the Middle East and North African markets.

no woodchip washing. Although the PSF is from a competitor OEM, this huge step up in performance resulted from ANDRITZ taking servicing and upgrading of the existing PRS24 plug screw feeder. Over

the years, after tremendous improvements in terms of lifetime and performance of the PRS24, the plant also ordered a brand new screw and a range of equipment for the other areas of the refiner system.



"We decided to go ahead with this investment because quality is the top priority at this plant, and ANDRITZ has been a good technological partner for us."

AZMI KÖSELERLI,
Wood Yard and MDF Production Chief, Yildiz Entegre

With ANDRITZ's help, the Mersin plant has made several breakthroughs, including a headline making one million m³ plug screw feeder (PSF) run, which we believe is a world record for a plant with



YILDIZ ENTEGRE, THE LARGEST PANELBOARD MANUFACTURER IN TURKEY



From left to right: Azmi Köseleli, Wood Yard and MDF Production Chief, Yildiz Entegre; Raphael Eichinger, Global Product Manager, Panelboard Service, ANDRITZ; Cihan Ayla, General Manager, Hanex; Fevzi Kidak, Plant Manager, Yildiz Entegre; Arda Soylu, Production Manager, Yildiz Entegre; Fikret Ayaz, Maintenance Manager, Yildiz Entegre



Staying power

These latest (and perhaps greatest) successes were made possible by the good track record between Mersin and ANDRITZ. Mersin's MDF Production Supervisor Azmi Köseerli explains, "We decided to go ahead with this investment because quality is the top priority at this plant and ANDRITZ has been a good technological partner for us - we have had many meetings where they gave us good advice." Plant Manager Fevzi Kidak adds: "ANDRITZ have proved themselves. We have worked together with them for years on many projects."

In fact, Yildiz began cooperating with ANDRITZ in 2017 and has been placing orders since 2018. As a result, the plant's refiner system - originally from another OEM - now mainly consists of ANDRITZ equipment. However, the main recent investments have been on Mersin's PRS24 plug screw feeder and refiner. In that context, the Mersin plant ordered a refurbishment of the PSF screw itself, as well as a new bearing unit and AdvaProtect Segment Housing, in addition to modernising much of the refiner.

Most of these investments were installed/completed in 2020 - so why are we only talking about it now? Because the upgraded PSF screw kept on running for more than two years (26 months, to be exact) before it needed to be changed! So the capacity between services has skyrocketed from less than 400,000 m³ to more than one million m³, following refurbishment by ANDRITZ's in-country facility in İzmir. As Fevzi Kidak says, "That's such a magical number. It brings a smile to everyone in the plant. We're the Usain Bolt of our industry!"

ANDRITZ Key Account & Global Product Manager, Raphael Eichinger, shares the credit with the customer: "Yildiz Mersin has very good control of its processes and raw materials. Also, we cooperate well, face to face - we tell us the truth. This success would not have been possible without their contribution." ANDRITZ Hydro (İzmir) Workshop Engineer Mustafa Erbay agrees, "The main point of this collaboration was the continual, free communication between the ANDRITZ and Mersin teams. They shared what they needed in terms of lifespan and delivery times, then İzmir provided it."



Capacity between services has skyrocketed

from less than

400,000 m³

to more than

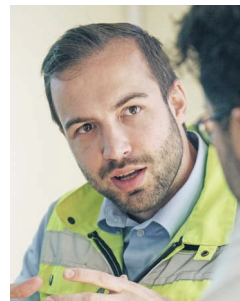
1.000,000 m³

following refurbishment by ANDRITZ's
in country facility in İzmir.



"That's such a magical number. It brings a smile to everyone in the plant. We're the Usain Bolt of our industry!"

FEVZI KIDAK,
Plant Manager, Yildiz Entegre



"We cooperate well, face to face - we tell us the truth. This success would not have been possible without their contribution."

RAPHAEL EICHINGER,
Global Product Manager,
Panelboard Service, ANDRITZ





Outside the comfort zone

Having a presence in Turkey helped the whole process. As Fevzi Kidak says about ANDRITZ İzmir: "There's a big advantage to having such a major workshop in Turkey. Transport, time, customs – there's no need to wait for shipping. One week from İzmir would take three months from Austria. That's a big motivation for us."

But even so, it still wasn't obvious that this particular project would actually happen. As Fevzi Kidak explains, "One of the biggest challenges was to make the decision to change our comfortable behaviour. We didn't have any big problems. We didn't have to make this change for technological or price reasons – everything was normal. We could have continued what we were doing." ANDRITZ, however, persuaded the firm that it could do a lot better. As Fevzi Kidak continues, "Raphael Eichinger (Key Account Manager) has such an energy – he loves what he's doing. But that alone is not enough. What makes him different is that he can back it up with really deep technological knowledge. We are all engineers (on both sides), so it's the combination of his energy and the technological knowledge" that makes the difference. "Every investment like this comes with a risk factor, but we are so glad we did it."

The solution from ANDRITZ was customized to the Mersin plant's specific needs. In this case, that mean re-designed wear and process parts inside the AdvaProtect

Segment Housing, which are influencing the compression at the end of the screw. That has helped to reduce CO2 emissions by 176 t/year and energy consumption by 520 MWh/year, saving Yildiz Mersin 50,000-70,000 euros/year in electrical energy costs. Regarding the return on investment, Azmi Köşelerli also adds: "We have had 2.5 times more production from the ANDRITZ upgrade, but the prices were similar to what we were paying with our old supplier. It has had such a huge impact and has more than repaid the cost."

Re-designed spool insert for the PSF housing.

Reducing CO₂ emissions:

176 t per year

Reducing energy consumption:

520 MWh per year

"We have had 2.5 times more production from the ANDRITZ upgrade. It has had such a huge impact and has more than repaid the cost."

AZMI KÖŞELERLİ,
Wood Yard and MDF Production Chief, Yildiz Entegre

Good news travels fast

Mersin's Production Manager Arda Soylu expands on how big the impact has been: "When our group tries out new technology at one site, everyone knows about it. When we achieved the one million m³ mark, we emailed all the data to the top people in the group. Other plants in our group have now followed our example." Raphael Eichinger confirms, "Mersin was the first Yildiz plant to try a PSF upgrade from ANDRITZ. We had orders for the plug screw feeder and refiner from four plants in this group." Arda Soylu says it went even further, "When we hit the million m³ mark, even our competitors got in touch with us, to check if it was true." Raphael Eichinger concludes, "One million m³ is the highest total I know of in any plant that has no chip washing."

What may surprise some people is that the total could have been even higher. As Fevzi Kidak continues, "While the production numbers kept on increasing, we wondered: shall we keep going for even more? The sensors were not showing any problems, even at one million m³." Arda Soylu confirms, "The biggest challenge was deciding when to stop" to install the new ANDRITZ screw. "Normally, we see signs on our sensors or in electrical consumption, but there were no signs this time. We were scared!" Fevzi Kidak adds: "We decided not to risk it, but we found out that we could have gone even longer."

It was in May 2023 that the million m³ ANDRITZ-improved PRS24 screw was replaced with a new ANDRITZ-manufactured screw. The new unit features design innovations such as new geometry and compression, that ANDRITZ believes will deliver even more performance and energy savings. Arda Soylu says the initial signs are good: "We now have a brand new PSF screw from ANDRITZ and it has even less motor load than the previous one, with 5% less electricity consumption. We're expecting it will be able to handle even more than a million m³ of fibre."



"When we achieved the one million m³ mark, we emailed all the data to the top people in the group. Other plants in our group have now followed our example."

ARDA SOYLU,
Mersin's Production Manager

Breakthrough from a different angle

Besides the million-m³ milestone, this project was also a breakthrough for ANDRITZ in terms of servicing plug screw feeders from its competitors. It's a reminder that ANDRITZ can upgrade equipment from other OEMs, even when it's difficult. As Mustafa Erbay explains: "One of the challenges of this modernization was to restore the original shape of the equipment, which had been distorted by work carried out previously. But the engineering team's technical support ensured that we always had the correct data and instructions."

This is all part of ANDRITZ's strategy for non-ANDRITZ systems. Since the Mersin project, ANDRITZ has dramatically expanded its servicing of competitor units. As explained by Cihan Ayla, who owns ANDRITZ's Turkey agent, Hanex, "Our competitors can't service our machines, but we can service theirs. For example, ANDRITZ now carries out more than half of the after-sales service work on PR refiners, worldwide."

This project was also a breakthrough from another angle, because Mersin had already switched its PSF servicing from the OEM to a third party Turkish company, mainly for cost reasons, and had been using that company for 10 years. So to transfer the service work from the Turkish firm to an internationally renowned company like ANDRITZ was quite a big deal for Yildiz.

Another advantage was the new AdvaProtect Segments for the PSF's compression housing:

"We used to have to send the housing out to be refurbished, but now we just change the segments ourselves. And we have also reduced our energy consumption by 15%."

AZMI KÖSELERLI,
Wood Yard and MDF Production Chief, Yildiz Entegre

According to Raphael Eichinger, there were **FOUR REASONS WHY MERSIN MADE THE MOVE:**

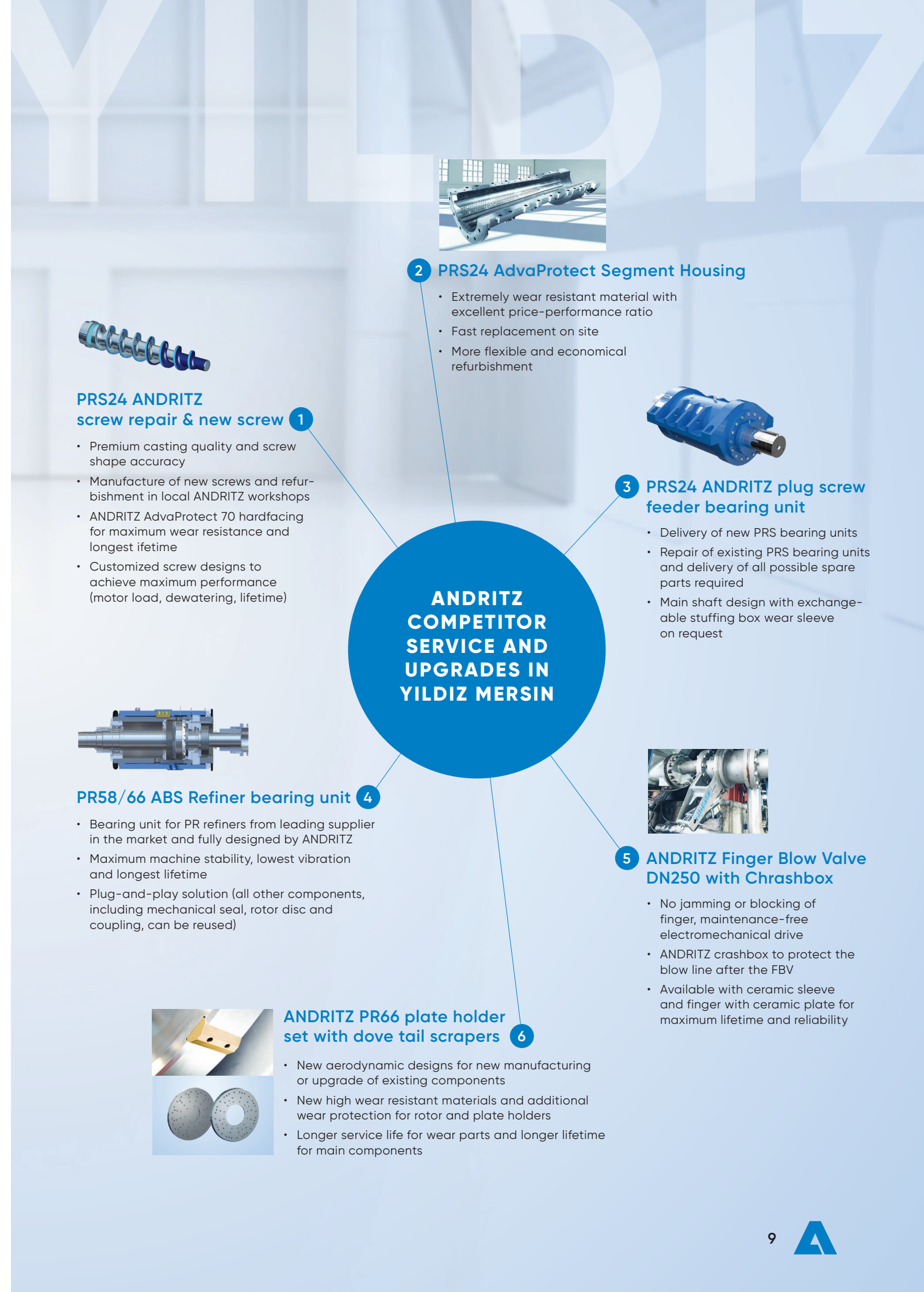
1. The improved alloys/wear resistance technology massively increased the lifetime of the screw
2. Reliable and consistent quality
3. A solution customized to the specific plant's needs
4. The in-country ANDRITZ İzmir plant is now Turkey's leading workshop for PSF servicing

Another advantage was the new AdvaProtect Segments for the PSF's compression housing. Azmi Köşelerli elaborates, "We were expecting that the AdvaProtect Segments would give us an easier time with changeovers and maintenance, but they've been far better than we expected. We used to have to send the housing out to be refurbished, but now we just change the segments ourselves. And we have also reduced our energy consumption by 15%."



"Our competitors can't service our machines, but we can service theirs. For example, ANDRITZ now carries out more than half of the after-sales service work on PR-refiners, worldwide."

CIHAN AYLA,
ANDRITZ's Turkey agent, Hanex



Refiner things in life

Fevzi Kidak admits that “when the success is as big as this, it can overshadow some other areas where we are cooperating with ANDRITZ. We are happy to tell everyone about all of it.” Cihan Ayla gives this example, “Yildiz is using ANDRITZ to upgrade its refiner system at Mersin.” Piece by piece, ANDRITZ is repairing and replacing most of the refiner system. Mersin has already installed or ordered a PR58/66 ABS (‘ANDRITZ Bearing Solution’) bearing unit, to increase the Refiner’s stability, reliability and lifetime, PR66 plate holders with dovetail scrapers, a new PRS24 bearing unit, and a finger blow valve with crash box.

And other plants in Turkey are following Mersin’s example. Although many main MDF manufacturers made their

choice for competitor refiner systems (PR) in the past, both for service contracts and for new, turnkey refiner systems. In fact, the last 10 years have seen ANDRITZ supply almost every new MDF refiner system in Turkey. Also, as mentioned earlier, ANDRITZ is the only OEM that services non-ANDRITZ refiners in the panelboard industry, and is rapidly also gaining market share from third party service firms, too. ANDRITZ now has most of the sector’s refiner service business in Turkey, including most of the country’s PR refiner systems.

Raphael Eichinger says this growth has had a lot to do with Hanex’s commitment. For example, the first sale took 15 visits! Since then, ANDRITZ’s business in Turkey has grown dramatically.

I / Robot

A side effect of all this expansion is that the ANDRITZ İzmir workshop has developed quite an unusual reputation – namely, their hand-welded plug screw repairs are said to be almost indistinguishable from robot-welded repairs. The key factor is that Mustafa Erbay at ANDRITZ İzmir is an expert with years of experience in steel, alloys, welding technology and complex operations for ANDRITZ Hydro in the energy sector. When ANDRITZ İzmir began refurbishing PSF screws in 2019, Erbay took the PSF repair guidelines from the MDF sector and adjusted the welding position, speed and temperature. This upgraded the process to such an extent that the hand-welded refurbished screws from ANDRITZ İzmir are causing customers to ask whether they really are hand-welded – or in fact, robot-welded repairs carried out by ANDRITZ in Graz, Austria.

Raphael Eichinger explains, “When ANDRITZ İzmir started performing PSFS screw repairs, Mustafa Erbay quickly positioned himself to take care of this.” But apparently, Mustafa Erbay wants none of the cred-

it. Instead, he simply points out that “the İzmir welding team includes two dedicated welders, who are specially trained for hard-facing materials. And that is the only type of welding they do. Also, the welding process is always under control of the technical team, including welding engineers and inspectors.” Commenting on the Mersin project specifically, he concludes, “The best thing we gained was the customer’s trust. Of course, there were business priorities, but if customer is satisfied with the result and knows that ANDRITZ is here when they need us, that’s what makes us happy.”

“The best thing we gained was the customer’s trust. Of course, there were business priorities, but if customer is satisfied with the result and knows that ANDRITZ is here when they need us, that’s what makes us happy.”

MUSTAFA ERBAY,
ANDRITZ İzmir



“ANDRITZ now has most of the sector’s refiner service business in Turkey. This growth has had a lot to do with Hanex’s commitment.”

RAPHAEL EICHINGER,
Global Product Manager,
Panelboard Service, ANDRITZ



“We understand the regional challenges and specific industry requirements and can therefore provide services to local conditions.”

MUSTAFA ERBAY,
ANDRITZ İzmir



“When the success is as big as this, it can overshadow some other things that ANDRITZ have done. We are happy to tell everyone about all of it.”

FEVZI KIDAK,
Plant Manager, Yildiz Entegre



THE ANDRITZ REFINING SERVICE TEAM – GLOBAL SUPPORT FOR ANY KIND OF REFINER

We also want to take up your challenges! For more information on ANDRITZ services, please visit andritz.com/refiner-service for details.

EUROPE

ANDRITZ AG
Vienna, Austria
p: +43 50805-0

SOUTH AMERICA

ANDRITZ Brasil Ltda.
Curitiba, Brazil
p: +55 41 2103-7601

NORTH AMERICA

ANDRITZ Ltd.
Brantford, Canada
p: +1 519 754-4590

CHINA

ANDRITZ (China) Ltd.
Foshan, China
p: +86 757 8296 9222

ANDRITZ.COM



All data, information, statements, photographs and graphic illustrations in this leaflet are without any obligation and raise no liabilities to or form part of any sales contracts of ANDRITZ AG or any affiliates for equipment and/or systems referred to herein. © ANDRITZ GROUP 2024. All rights reserved. No part of this copyrighted work may be reproduced, modified or distributed in any form or by any means, or stored in any database or retrieval system, without the prior written permission of ANDRITZ AG or its affiliates. Any such unauthorized use for any purpose is a violation of the relevant copyright laws. ANDRITZ AG, Stattegger Strasse 18, 8045 Graz, Austria.

