



TrueFlow REFINER PLATES - PRECISION MEETS IMPACT

SUCCESS STORY

Strategic and precise conversion
of OptiFiner Pro* with ANDRITZ
TrueFlow refiner plates.

*OptiFiner is a trademark of Valmet Technologies OY

ANDRITZ



Optimize your OptiFiner*

In a world first, United Arab Emirates papermaker, Ittihad Paper, signed a multi-delivery contract to upgrade its OptiFiner Pro* pulp refiner system with ANDRITZ TrueFlow refiner plates. As Ittihad shows great interest in the plates, the project is even being expanded.

In Abu Dhabi, the capital of the United Arab Emirates (UAE), Ittihad Paper is no stranger to doing things differently.

Historically, most paper mills were built near trees and water. By contrast, Ittihad successfully did what most people wouldn't even have dreamed of – they built a world-class paper mill in the desert. Instead of trees and fresh water, they use imported pulp and desalinated water, (soon recycled water from effluent polishing plant) to run a 325,000 t/a uncoated woodfree mill that now sells to more than 60 countries around the world.

A FINER REFINER

It's clear that Ittihad and innovation go hand in hand. And the latest innovation came when they called ANDRITZ to upgrade their refiners. In fact, the champion of this whole idea is Ittihad's Plant Manager, Mika Viertola.

As part of this papermaking setup, Ittihad operates three OptiFiner Pro* refiner lines. In September 2024, they replaced the refiner plates on one of the refiners with ANDRITZ TrueFlow plates. These were tailor-made refiner plates that ANDRITZ designed especially for Ittihad alone, aimed at improving the efficiency of the refiner, ensuring that more of the pulp fibers would pass through the refining zone in everyday operation. Specifically, the aim was to ensure that energy input would be better reflected in the refined pulp, with consistent, controllable physical properties. This gave Ittihad the option of using less energy to produce the same quality as before, or using the same amount of energy to get higher-quality output. Or as Viertola says, "both".

ANDRITZ TrueFlow refiner plates, fitted onto two shallow-angled cones, use smaller exit zones to ensure that every single fiber passes through the refining zones. This prevents problems with unrefined and

over-refined fibers, delivering more uniform pulp quality, with controlled freeness, porosity and tensile strength. As Brijesh Bhutki, Production Manager at Ittihad, notes, "the TrueFlow plates give you predictability. You know what quality of pulp is going to come out of the refiner."

A TrueFlow upgrade also ensures full use of the OptiFiner Pro's* available refining capacity, as well as longer operating life and it improves paper machine runnability too, for no extra purchase cost. Ittihad has seen up to almost 50% longer run time, as Mika Viertola confirms, "The first set of plates set a lifetime record for the mill. They operated in load position for 3,200 hours and consumed 20kWh/t less electricity. Plus, we save even more money because we need to replace them less often." Emre Mendi, ANDRITZ's Regional Product Manager for LC Plates adds, "We could easily have run those plates for another month. With our metallurgical knowhow, we can increase plate lifetime from three or four months to five+ months."



"The TrueFlow plates give you predictability. You know what quality of pulp is going to come out of the refiner."

BRIJESH BHUTKI,
Production Manager IPM

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From left to right: Brijesh Bhutki, Production Manager IPM; Markus Müller, Product Director LC Plates ANDRITZ; Emre Mendi, Regional Product Manager LC Plates ANDRITZ; Mika Viertola, Plant Manager IPM.

Service to suit you

There's more to it than technological advancement. As Brijesh Bhutki adds, "Our contract is also very convenient. We keep a minimum of spare plates at the mill, and ANDRITZ stores the future sets for us. We only pay for them when they are shipped, so this deal keeps our delivery times to a minimum, and frees up our working capital."



Markus Müller, ANDRITZ's Product Director for LC Plates in the EMEA region, explains that ANDRITZ manufactures the TrueFlow plates in the USA, then stores them in Germany, which reduces supply lead times to just one month. This is called "Make and Hold", part of ANDRITZ's "3S" program.

Ittihad is an example of this "3S program". As Emre Mendi explains, "We are in continuous communication with Ittihad. The product sale is just the beginning. We are present in the mill to support the whole conversion process through to start-up. After that, we'll keep on coming back, we'll listen and we'll adjust, until they have the results they were looking for. Increasingly, we are becoming more like a consultant, not just a supplier of equipment and technology."

"ANDRITZ has a complete TrueFlow plate portfolio, so a mill can choose exactly what suits their operating conditions and product targets. We can even create a brand-new design that is completely unique to the mill, if we all agree that would make sense."

MARKUS MÜLLER,
Product Director LC Plates ANDRITZ

THE ANDRITZ "3S" PROGRAM:

- **Safety of supply:** ANDRITZ stores plates specific to each customer, guaranteeing availability and short lead times.
- **Support of your operation:** Before, during and after the initial supply, ANDRITZ supports the customer with Magnus simulations, fiber sampling and plate tracking, to ensure a strong start, followed by continuous improvement afterwards.
- **Success for your business:** Much more than just supplying refiner plates, this methodical, low-risk approach to sustainable and sustained improvement ensures your mill meets its goals.



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Emre Mendi continues, "Before we even talk about a potential sale, we examine the state of the refiner, and the results that our Magnus simulations suggest we should expect from different ANDRITZ TrueFlow plate geometries. In Ittihad's case, the first trial matched the Magnus simulations." Brijesh Bhutki confirms, "ANDRITZ's simulations persuaded us. They proposed a plate design; we gave them some pulp samples, and they carried out extensive trials. This way, there is less 'try and see' involved."

Having achieved the target pulp quality, saved on energy and set a new record for the refiner plate operating lifetime, Ittihad has signed ANDRITZ up as their contract partner. The mill has not only installed a new set of plates on Refiner 1, but they have now also added ANDRITZ TrueFlow plates to Refiner 2 as well (there are three at the mill, in total).

Ittihad's new TrueFlow plates have a slightly-tweaked design, aimed at improving the operating lifetime even further. As Markus Müller points out, "ANDRITZ has a complete TrueFlow plate portfolio, so a mill can choose exactly what suits their operating conditions and product targets. We can even create a brand-new design that is completely unique to the mill, if we all agree that would make sense." Emre Mendi adds, "We understand that every mill has different products and goals, so it is normal for the ANDRITZ Refiner Plates Division to create a specific solution for a customer."

All of the designs are compatible with ANDRITZ's well-established and trusted Kompressor, D-Floc-It, Spiral and DuraPack technologies, which help to deliver precise refining quality and energy efficiency. Emre Mendi says, "We believe these proven technologies can help to drive OptiFiner Pro* refiners far beyond their design capabilities." Mika Viertola is obviously convinced: "My wish is to continue with ANDRITZ. The refining is optimal with TrueFlow plates, and I want to use them for 100% of our refiner plates."



"The first set of plates set a lifetime record for the mill. They ran for 3,200 hours and consumed 20 kWh/t less electricity. Plus, we save even more money because we need to replace them less often."

MIKA VIERTOLA,
Plant Manager IPM

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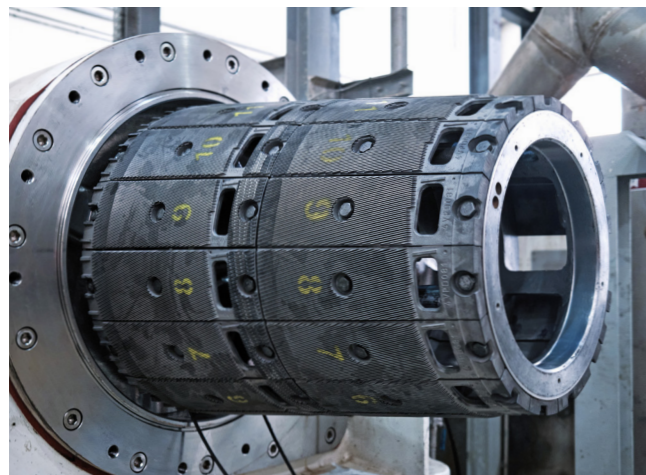
What next?

After working at Valmet, Mika Viertola spent about 15 years at various mills in Indonesia, Thailand, Korea and China, before moving to Ittihad in 2018. He has been calling for ANDRITZ to upgrade their OptiFiner Pro* refiners for years, since he was still working in Asia. Knowing this, and other stories like it, ANDRITZ believes there is great potential for TrueFlow refiner plates on modern paper machines that are using OptiFiner Pro* refiners.

ANDRITZ is already installing TrueFlow plates on OptiFiner Pro* lines at several other mills. ANDRITZ has decades of experience of working on competitors' equipment, and has ambitions to upgrade perhaps more than a hundred other OptiFiner Pro* refiners around the world. Prime candidates for these conversions include mills that are looking to achieve targeted

refining characteristics consistently, to produce their specific type of paper, and/or to maintain their quality, with less energy consumption.

Ittihad has proved that ANDRITZ TrueFlow refiner plates can improve OptiFiner Pro* performance considerably. And as Emre Mendi says, "We're not just talking about mills that are having technical difficulties. Our TrueFlow plates can even improve OptiFiner Pro* lines that are already running well."



"We understand that every mill has different products and goals, so it is normal for the ANDRITZ Refiner Plates division to create a specific solution for a customer. We have the flexibility to provide the results the customer is looking for."

EMRE MENDI,
Regional Product Manager LC Plates ANDRITZ

"If you had told me two years ago that it could be this good, I wouldn't have believed you. If I had to convince another mill to do this, I'd just tell them what happened here at Ittihad. I am very happy."

MIKA VIERTOLA



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

We also want to take up your challenges! For more information on the ANDRITZ TrueFlow Refiner Plates, please scan the QR Code below.

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