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Awaiting a return to normality

The Covid-19 pandemic led to a year of extremes for many sectors of the timber and furniture industry. A plunge in demand caused by the first lockdown in spring 2020 forced many businesses to institute short-time work, adjust production and take downtime. The resulting inventory reductions throughout the entire value chain is still reverberating to the present day.

Markets then rebounded in summer 2020; shifts in end consumer spending to the construction and furnishing sector paved the way for an unexpectedly strong recovery. This revival actually intensified in the second half of 2020 and continued virtually unchecked in 2021, as well. Producers in various areas did not have enough capacity to process incoming orders that had been high for several months. Lead times became much longer as a result. These lead times also helped to bridge the second lockdown, which created severe restrictions for brick-and-mortar shops from December onwards.

More robust demand after the lockdown was lifted starting in April compounded supply problems that had already emerged since autumn 2020 in some areas during the second quarter. Substantial price increases ensued. Prices for some products have more than doubled within a

year. Many prices have risen more quickly and substantially during the first half of the year in the wake of a sharp hike in raw material costs and delivery constraints. The strained logistics situation has created additional problems.

This situation continued over the summer in many areas. A genuine change is considered rather unlikely this year, not least due to the sizeable order cushion. Until now, the first signs of just a slight relaxation have emerged for only a few products. Most companies still expect that the tide will turn in the medium term, though.

EUWID has provided in-depth and up-to-date reporting on these trends on timber and furniture markets in the past few months in its weekly publication EUWID Wood Products and Panels and on its websites www.euwid-holz.de and www.euwid-wood-products.com. This issue of EUWID Special: Wood-Based Panels provides an overview of these developments, as usual. The next English-language special issue is scheduled for publication in March 2022.

I look forward to your feedback and suggestions. You can contact me by emailing aruf@euwid.de.

Yours sincerely **Andreas Ruf** Publisher

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Turkey's wood-based panel industry has invested more heavily in ramping up its laminating capacity in recent months. For instance, Kastamonu has commissioned a new short-cycle press at its modernised Samsun particleboard mill. (Photo credit: Wemhöner/GIM Export Group)

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Guararapes places orders for new MDF line

The orders for the main items of production equipment have given more concrete shape to the recent news of the investment plans of the Brazilian plywood and MDF manufacturer Indústria de Compensados Guararapes Ltda. of Palmas, Paraná, to set up a third MDF production line at the Cacador facility in Santa Catarina, Similar to the second plant delivered in 2015, Siempelkamp Maschinen- und Anlagenbau GmbH will be supplying all the main components from the debarker through to the packaging section. The order also includes the chipper line, fibre dryer from Büttner Energie- und Trocknungstechnik GmbH of Krefeld, the "Ecoresinator" gluing system, and the forming and press line fitted with a 9 ft x 48.7 m ContiRoll. According to Guararapes, the refiner is being supplied by Valmet Oyj. The order for the power plant has been placed with Vyncke Energietechniek N.V. of Harelbeke, Belgium. Schrader Apparatebau GmbH of Ennigerloh is to supply the wastewater treatment plant. A short-cycle press from Wemhöner Surface Technologies GmbH & Co. KG is being installed for valueadding operations. Siempelkamp says the extent to which it is involved in the project is similar to the scope of the order for the second plant. There is evidently going to be a change of supplier with regard to the refiner, however. Andritz AG had supplied the refiners for each of the first two lines. Building work for the third plant was scheduled to begin by the middle of 2021. Machine assembly is to begin in the first quarter of 2022; the start-up is planned to take place by the end of 2022.

Guararapes had made its debut in MDF production in 2009 with a multiple-opening plant supplied by Shanghai Wood-Based Panel Machinery Co. Ltd. (SWPM). The annual capacity of almost 200,000 m³ achieved with this plant was subsequently almost trebled when the first Siempelkamp line was installed in April 2016. This plant was initially geared to an annual capacity of around 365,000 m³ or 1,100 m³ per day with a 9 ft x 37.1 m continuous press, but it can meanwhile produce up to 400,000 m³. Siempelkamp says the now projected third plant is designed for an annual capacity of around 500,000 m³ or 1,500 m³ per day. The start-up will boost Guararapes' total MDF capacity by 90% to around 1.140m m³. Guararapes says it believes this will give it the biggest MDF facility in South America. Residues from production at the company's own two plywood works in Palmas and Santa Cecilia, Santa Catarina, will be used as raw material. These two plywood factories each have a total annual capacity of around 350,000 m³.



Caçador site

(Photo credit: Siempelkamp)

Büttner to replace dryer at OSB mill in Genk



Existing dryer in Genk

(Photo credit: EUWID)

Norbord Europe has awarded Büttner Energie- und Trocknungstechnik GmbH a contract to modernise drying systems at an OSB mill in Genk, Belgium.

One of the two existing drum dryers in dimensions of 6.0 x 32 m and with eight cyclones will be replaced by a new 6.5 x 33 m unit with four cyclones. Along with delivering and assembling the new dryer, the order placed with Büttner will include dismantling the old equipment, installing new ducting and modifying the mixing chamber. The OSB mill in Genk had been commissioned in April 2001 by the previous owner Agglo N.V. with a continuous production line from Dieffenbacher GmbH Maschinen- und Anlagenbau.

Büttner had already delivered two drum dryers to an OSB mill in Inverness, also owned by Norbord Europe in recent years. The first step entailed installing a 6.5 x 36 R single-path drum dryer and an energy plant with a total capacity of 55 MW in a replacement project; this technology was commissioned in September 2017. A second phase that wrapped up last year also included a 6.5 x 36 R single-path drum dryer and a 41 MW energy plant.

The dryer modernisation project in Genk was the third order that Büttner has publicised in spring. The company is to deliver a chip dryer and a multi-fuel burner for a replacement project planned at Uvadrev-Holding OAO's Uva headquarters. In January, the Turkish wood-based panel manufacturer Starwood Orman Ürünleri Sanayi A.S., based in Inegöl, also ordered a fibre dryer with an hourly throughput of 30 t as part of an overall order placed with Siempelkamp Maschinen- und Anlagenbau GmbH.

Finsa orders three PROjets and one EVOjet system

The Spanish wood-based panel manufacturer Financiera Maderera S.A. (Finsa), headquartered in Santiago de Compostela, ordered four glue-saving systems from Dieffenbacher GmbH Maschinen- und Anlagenbau in January 2021. This technology is to be installed at a particleboard and MDF mill in Nelas, Portugal, that does business as Luso-Finsa Indústria e Comércio de Madeiras S.A. Assembly and commissioning of the first two systems is to take place during the second quarter, with the start-up of the two other lines scheduled to happen by late summer.

Two PROjets will be installed in the MDF line set up to make thick boards, which has two refiners and two fibre dryers. The Superpan production line commissioned in Nelas during 2015 will gain an EVOjet P and a PROjet. Superpan is made up of a particleboard core layer covered top and bottom by MDF surface layers. The EVOjet P will be used for core gluing and be installed directly upstream of the glue mixer. The PROjet system aims to reduce glue usage in surface-layer gluing.

The PROjet integrated into the MDF/HDF blow line can deliver resin savings of up to 15%, according to Dieffenbacher. Similar savings are to be achieved by the EVOjet P version now ordered by Finsa. The EVOjet M used to make MDF/HDF, which has been available in the revised 2.0 version since the Ligna 2019, can make resin savings of up to 25%, according to Dieffenbacher.

Siempelkamp delivers another line to Metro-Ply

The Thai firm Metro-Ply Group has ordered a particleboard line from Siempelkamp Maschinen- und Anlagenbau GmbH for a greenfield project in the province of Surat Thani. Signed in April 2021, the contract includes the forming and press line with a ContiRoll press in an 8 ft x 40.4 m format, plus board handling and interim storage systems. Büttner Energie- und Trocknungstechnik GmbH will provide the dryer and

energy plant, while Pallmann Maschinenfabrik GmbH & Co. KG will supply the chipper and all size-reduction technology to produce the core and outer layer chips.

Siempelkamp said that work to start assembling the new particleboard line would commence in early 2022. Given its location in a region with many rubberwood plantations, the mill will solely process wood from these resources. It will be the third particleboard line that Siempelkamp has delivered to Metro-Ply. The second project also used a ContiRoll in an 8 ft x 40.4 m format. Upon commissioning in January 2011, Metro-Ply Group's particleboard capacity jumped by 500,000 m³ to 850,000 m³ per year. Towards the end of October 2019, Metro-Ply had ordered its first MDF line from Siempelkamp in a replacement project in Kanchanburi. According to Siempelkamp, this line made its first board in April, as planned, despite coronavirus-related challenges. The group had previously commissioned two lines delivered by Dieffenbacher GmbH Maschinen- und Anlagenbau to boost its wood-based panel capacity in 2017. □

Siempelkamp line now up and running at Huang Ge

An ultra-thin MDF line that Siempelkamp Maschinen- und Anlagenbau GmbH delivered to a site in Linyi, Shandong Province, operated by the Chinese MDF manufacturer Shandong Huan Ge Decoration Co. Ltd. made its first board on 29 May 2021. The order, which was placed via Siempelkamp Qingdao Machinery & Equipment Co. Ltd., included the forming and press line with a 9 ft x 28.8 m ContiRoll press, trimming units, diagonal saws and a fully automated storage system.

The line is to make ultra-thin MDF in a thickness of 1-9 mm. Siempelkamp now lists its production capacity at roughly 250,000 m³ per year. The press release announcing the contract had put capacity at 315,000 m³. According to Siempelkamp, Shandong Huan Ge Decoration's order was the first time that a fully imported line had been completed to make ultra-thin and wide board in China.



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Kadant records significant increase in incoming orders

In the second quarter of 2021 US equipment manufacturer Kadant Inc. of Westford, Massachusetts, received orders totalling a value of US\$213.2m (April-June 2020: US\$133.0m). The increase of 60% vis à vis the comparative period last year represents a new record, according to the company.

All three business divisions contributed to the increase in incoming orders. The industrial processing business division, comprising the wood processing equipment subdivision which includes OSB stranders, chippers, rotary debarkers and forest machinery, as well as the stock preparation subdivision which includes recycling systems for use in the paper and cardboard industry, developed along over-proportional lines. In the second quarter, incoming orders of this business division virtually doubled (+92%) to US\$101.9m (53.1m). Turnover rose by 26% to US\$82.7m (65.7m), after the preceding year's figure had been exceeded for the first time over a considerable period in the previous quarter (+7% to US\$69.2m). The increase in turnover was primarily due to business with spare parts and wear components, which rose by 32% compared to the respective period last year and by 11% compared to the previous quarter.

Adjusted EBITDA of the business division increased by 46% to US\$20.7m (14.2m) in the second quarter, partly due to a favourable product mix, and the resulting EBITDA margin rose by 3.4 percentage points to 25.0% (21.6%). As orders in hand reached a new record at the end of the quarter, the outlook for the second half of the year is also positive.



Kadant strander at Ipan mili

(Photo credit: Imal-Pal)

Raute receives new order from Vyatsky Plywood Mill

Vyatsky Plywood Mill LLC of Kirov, Kirov oblast, belonging to Segezha Group of Segezha, both Russia, is aiming to enlarge its veneer-production capacity by the end of 2022. The company has ordered the required equipment from the plant and machinery manufacturer Raute Oyj of Nastola, Finland. According to a release issued on 7 July 2021, Raute will be supplying new rotary-cutting lines as well as an updating package for existing machines. The order is worth a total of €16m. The equipment is scheduled for delivery during the course of next year. A sizeable proportion of the facilities is likely to be put into operation before the turn of the year.

Raute had already supplied two complete production lines for birch plywood for Vyatsky Plywood Mill in the past. Initially, a birch-plywood works with an annual capacity of around 100,000 m³ was put into service in 2008. A second production line was then added to this by July 2018, raising the facility's total annual capacity

to 192,000 m³. A complete plant geared to an annual capacity of 125,000 m³, also supplied by Raute and currently being assembled in Galich in the Kostroma region, is due to commence operation towards the end of this year.

The latest order is part of a bigger project in which Segezha intends to invest RUB6bn, roughly equivalent to €70m, in expanding Vyatsky Plywood Mill. The aim behind this is to enlarge the plywood capacity by roughly a third to 255,000 m³. The value-adding segment is being extended as well. The equipment due to be set up includes new laminating units as well as CNC-machining resources. Machines for coating birch plywood with UV-cured coatings are being installed as well. This will almost treble production capacity for higher-quality assortments from 42,000 m³ at present to 119,000 m³ in future, boosting their share of the total output from 22% to 47%. Once the project is completed, Segezha's birchplywood will initially rise to 380,000 m³. Another plant with an annual capacity of 200,000 m³ is to be built in the Omsk region by the end of 2024. \Box

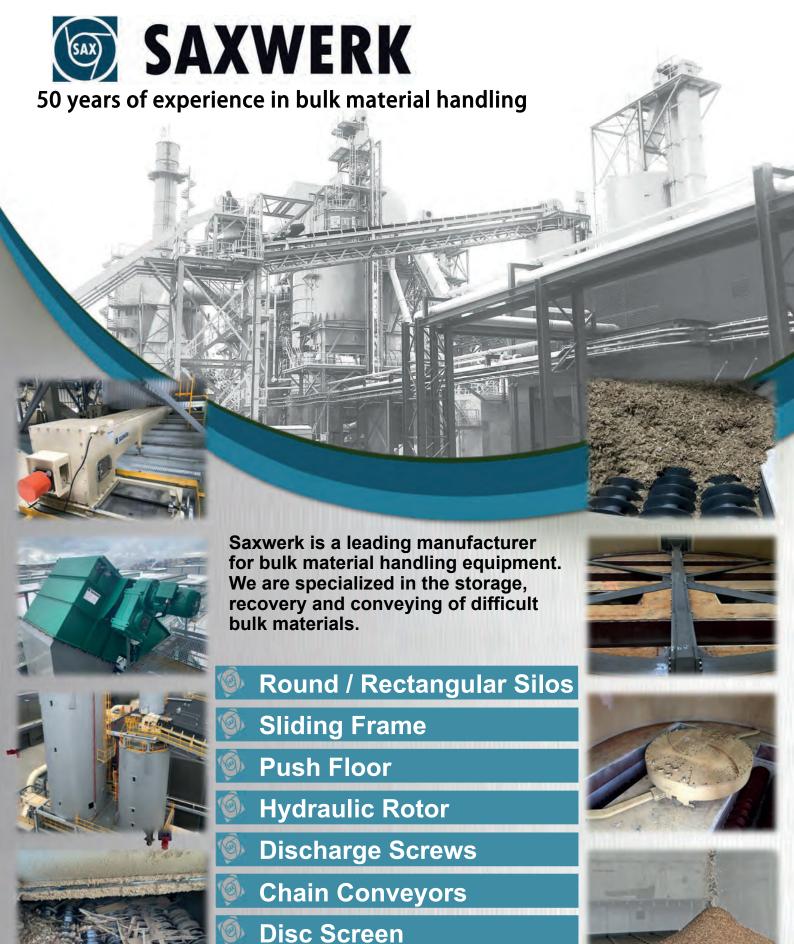
Raute's sales revenue up but results remain negative

Raute Oyj succeeded in significantly increasing its receipts of orders and sales revenue in the second quarter of 2021. Receipts of orders were five time higher than a year earlier at €65m (April-June 2020: €13m). Even if the major order concluded in May for a complete LVL plant worth €30m for UAB Vakaru Medienos Grupe (VMG) of Klaipeda, Lithuania, is left aside, receipts of orders were more than doubled. The backlog of orders given as €98m as at the end of March rose by €31m over the second quarter. Sales revenue increased 45.5% in the same period to €35.5m (€24.4m).

The growth achieved in sales revenue in the second quarter did not lead to any recognisable improvement in the earnings position, however. The operating and pre-tax loss were only negligibly below last year's level at -61.0m (-60.7m), and -60.7m (-60.7m),

respectively. The loss for the period was reduced to $- \in 0.3 \text{m}$ ($- \in 0.9 \text{m}$).

Over the whole of the first half-year, Raute concluded new orders worth a total of €95m (Jan.-June 2020: €38m). Europe gained in importance with a share of 53% (28%), North America's share rose to 20% (14%). Only 14% (40%) of the new orders came from Russia in the first half-year because buyers are currently sooner holding back with the investment decisions. The Asia-Pacific and Latin America shares fell to 8% (13%) and 5% (6%), respectively. Raute says business is slow in both regions. Although several projects are in planning in China, Raute has not landed any orders there recently. At the end of the half-year, Raute had an order backlog worth €129m (€80m). Half-year sales revenue was raised by 24.9% to €60.2m (€48.2m). 53% (46%) of this was generated in Russia, 21% (24%) in Europe, 14% (13%) in North America, 6% (10%) in South America, and 6% (7%) in the Asia-Pacific region.





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Export (-13.9%) and import figures (+4.9%) for 2020 were revised in February

VDMA association raised forecast for woodworking machinery in 2021

Following unexpectedly positive business development during the first quarter of 2021, the VDMA Woodworking Machinery Association has significantly raised its production forecast for the year as a whole.

The association had previously anticipated growth of 3% to around €2.95bn. This estimate, first made in November 2020, was confirmed again in mid-February when preliminary figures for the 2020 financial year were published. However, the upward trend concerning incoming orders for manufacturers of wood processing machinery, which was already observed in the fourth quarter, has intensified in the following months.

According to the assessment of the VDMA association, in the first quarter an increase of approximately 50% vis à vis the comparative period of the preceding year, which was already impacted by the corona crisis, was recorded. Domestic business developed somewhat more positively than exports; business with machinery and equipment for primary

and secondary wood processing has developed generally in parallel.

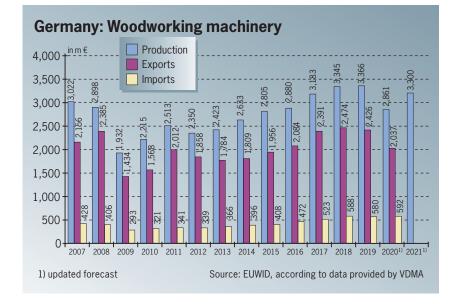
A production increase of 15% to around €3.3bn is now considered possible for the year as a whole. Such an increase would bring the German wood processing machinery sector back to the level of 2018 and 2019 already in the current year. In 2018, the industry had achieved a production value of €3.345bn; 2019 was even slightly better, at €3.366bn.

According to assessments of the VDMA association, the sales markets - almost all of which are running significantly better again - would also allow for even stronger growth than the expected 15%. However, the disruption of global supply chains, which is also noticeable in the machinery and plant engineering sector and is reflected, for example, in problems concerning the provision of individual supply parts, as well as the impediment of sales contacts, assembly and installation assignments due to ongoing travel restrictions also pose a risk to turnover. According to a VDMA survey, approximately 20% of German manufacturers of wood processing machinery continued short-time work in April, at least in some areas; this can also lead to delays in production.

According to figures that were slightly revised again by the VDMA association, last year production declined by 14.5% to €2.876bn. Already in the first quarter, production of wood processing machinery had fallen by 9.4%; the second and third quarters were both closed with a decline of 19.6%. In the fourth quarter, at -9.8%, the decline was then back down to the single-digit percentage range.

The marked slump in full year 2020 meant that the tide has turned on Germany's woodworking machinery industry, which has been growing since 2012. Production had risen consistently from 2003 (€2.03bn) to 2007 (€3.02bn). The global economic crisis had initially prompted a small decrease to €2.90bn in 2008 and then a collapse to €1.93bn in 2009. After two years of stronger growth rates again, production dipped again to €2.35bn in 2012. The consistent improvement seen over the next seven years translates into a compound annual growth rate (CAGR) of 5.7% for the period from 2009 to 2019.

The export trade statistics had to be adjusted slightly more in comparison to previous publications. On the basis of figures available at that time up until November, the VDMA association had assumed in mid-February 2021 that exports would decline by 16.0% for the entire period of 2020. In the case of imports, an increase of 2.1% had been projected. According to the final figures, exports declined by 13.9% to €2.089bn (2019: 2.426bn). Imports, in contrast, rose by 4.9% to €608m (580m).



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- From GBW 80 to GBW 1250
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EWK's sale to Valmet is an issue for the wood-based panel industry too

Winds of change have blown into the WESP technology market

Several changes have emerged among the ranks of providers of wet electrostatic precipitator (WESP) technology used for the electrostatic precipitation of particles and aerosols from gas flows over the past few months.

On 1 July 2021, the Finnish Valmet Oyi completed a deal agreed on 9 June to purchase EWK Umwelttechnik GmbH. Along with EWK, Valmet has also bought ECP Group Oy, headquartered in Vantaa, Finland, which delivers electrostatic filters, among other products. Andritz AG also acquired key parts of GE Steam Power's Air Quality Control Systems (AQCS) business with effect from 1 July. By embarking on these takeovers, both Valmet and Andritz have expanded their portfolios to include WESPs for industrial applications. Until now, EWK has primarily delivered this technology to the wood-based panel industry; the insulating material and pellet industries are among other buyers. ECP Group mainly supplies electrostatic filters to the pulp and paper industry and to power plants. The firm also provides the sawmilling industry with these units. Valmet intends to deliver larger WESPs to the pulp and paper industry and power plants in the future following these two acquisitions. These two segments are also the focal areas for the AQCS activities now purchased by Andritz. The Austrian company thinks that the metal industry and mining are other potential uses.

Dürr AG had entered the WESP business back in early October 2018 when it acquired environmental technology operations from the US boiler manufacturer Babcock & Wilcox Enterprises Inc. (B&W). Dürr Megtec LLC, the company based in De Pere, Wisconsin, created by this transaction, has since refined its WESP concept and modified it to take account of additional requirements for the woodbased panel industry. The group has since become Dürr Systems Inc. In April 2021, Dürr's Clean Technology Systems (CTS) division announced that its WESP business for the wood-based panel industry,

which until then had largely focused on North America, will expand to Europe and Asia in the years ahead. In 2018, ceATec Engineering GmbH, a firm based in Eberschwang, Austria, that was then majority-owned by the Austrian group POS Industries Holding GmbH, launched its own WESP concept and claims to have since sold several units.

The wood-based panel and pellet industry primarily uses WESPs to treat exhaust gas from dryers. The main suppliers are EWK and Scheuch GmbH, that offers two versions: the two-stage SEKA system and single-stage SENA option. Following Valmet's acquisition of EWK, it remains to be seen how EWK's integration into a major company and planned expansion of its range of applications to include the pulp and paper industry and power plants will affect the processing of orders from the wood-based panel industry. Until now, Dürr Systems' previous incarnations have delivered a larger number of WESPs to the North American OSB industry. It is still unclear to what extent the refined technology concept can be replicated in the particleboard and MDF/ HDF industry and in other regions. ceATec has a few references in the wood-based panel industry, but is no longer viewed as an independent supplier. R&R Beth GmbH, headquartered in Bad Lobenstein, Germany, has reportedly also landed a few orders from the wood-based panel industry in the past.

Among the ranks of technology providers from the wood-based panel and surface sector, Deurotech Group GmbH (DTG) is one of those that had recently displayed an interest in entering the WESP business. The company has gradually built up its exhaust air treatment activities with several acquisitions since 2014. Unconfirmed reports suggest that Deurotech was also involved in the negotiations to find a buyer for EWK for a time.



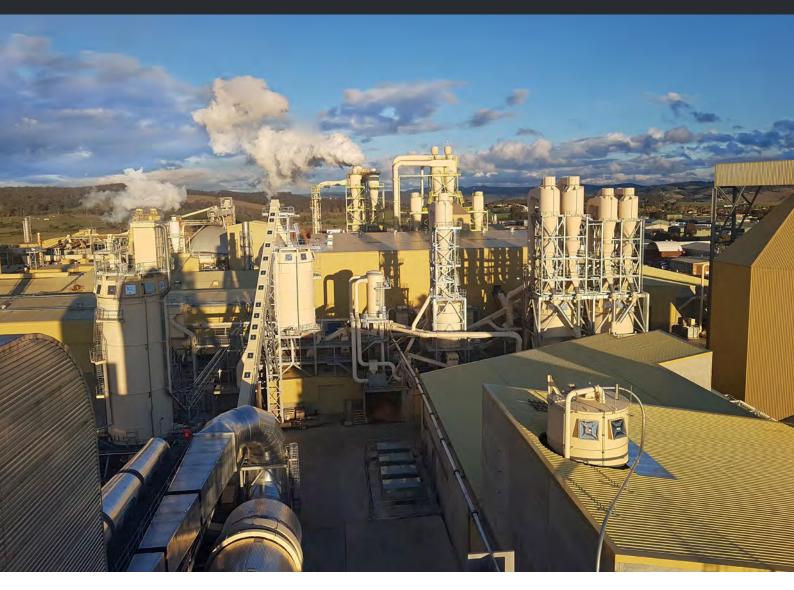
SEKA-WESP of Scheuch installed at Yidiz Entegre's MDF plant

(Photo credit: Scheuch)



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SOLUTIONS FOR WOOD BASED PANELS PRODUCTION

More orders placed by European sawmilling and wood-based panel industries

Holtec completes several woodyard installation orders in the last months

In the last few months, the plant and machine manufacturer Holtec GmbH & Co. KG, geared primarily to logyard systems, has completed several of the orders it had received from the Central European sawmilling industry in 2019 and 2020.

Parallel to this, the company was awarded the contracts for other sawmill projects. These orders have recently shifted the focus of the company's operations increasingly towards the sawmilling industry again. Another of the orders Holtec received from the wood-based panel industry was the log yard for the thin MDF/HDF board plant planned by UAB Homanit Lietuva for Pagirai, Lithuania, at the beginning of this year. The order placed through Dieffenbacher GmbH Maschinen- und Anlagenbau includes a disc-chipper with a diameter of 3,100 mm; the start-up is scheduled for early 2022. In June, Holtec concluded the modernisation of the log yard at Homanit GmbH & Co. KG of Losheim. Part of the order placed in December 2019 involved replacing the existing drum debarker with a "Variobarker" rotary debarker. In March, Swiss Krono Group gave the go-ahead for the production of the log-yard systems already ordered in autumn 2019 for the OSB project at the Scharija facility in the Kostroma region, Russia. Holtec is going to install a dual-line woodyard including debarking lines and "SmartCon" conditioning systems there by the beginning of 2023.

The order from UAB Vakaru Medienos Grupe (VMG) of Klaipeda, Lithuania, that had been under negotiation for the LVL plant at the Akmene facility for quite some time was able to be secured in August. The contract includes the debarker, the roundwood sorting system, a SmartCon roundwood conditioning plant, the cross-cutting station, and the feeder into the peeling systems supplied



Holtec supplied Steico's LVL mill in Czarna Woda

(Photo credit: Holtec)

by Raute Oyj. Holtec is also integrating into it package plant and machinery from the sub-suppliers Valon Kone Oyj, Ness Wärmetechnik GmbH and Sennebogen Maschinenfabrik GmbH. Raute had received the contract to supply the whole plant in May. The order, worth a total of approximately €30m, covers all of the main sections from veneer production through to a 6 ft by 25 m press geared to an annual capacity of 125,000 m³.

In the sawmilling industry, Holtec had already renewed the oldest of three sorting units at Mayr Melnhof Holz Leoben GmbH in August 2020. The log yard for the small-diameter log works set up by the joint venture Gelo Timber GmbH of Weissenstadt at its Wunsiedel facility was put into operation in December 2020. This was followed in April by the start of production at the new sawmill of Säge Handlos Summerau GmbH of Rainbach, Austria. At the Kerkingen sawmill of Holzwerke Ladenburger GmbH of Bopfingen-Aufhausen, Holtec installed a new feeder in April/May parallel to operating the old

system; the reconnection took place during a relatively short standstill period. A new shortwood sorting system was installed at the sawmill Schwaiger GmbH & Co. KG of Hengersberg in the second quarter as well.

During the course of the third quarter, Holtec began assembling the dual-line feeder ordered by Binderholz Oberrot I Baruth GmbH for the Baruth facility. The next projects are the dual-line shortwood sorting system for the sawmill planned by Holzwerk Gebr. Schneider GmbH of Eberhardzell at the new location in Messkirch, the refit of the log yard at the Frankenmarkt sawmill of Stallinger Holding GmbH of St. Georgen im Attergau, the addition of another shortwood line to the Morbach sawmill of Elka-Holzwerke GmbH, and a new shortwood sorting system for the existing sawmill of Maderas José Sáiz S.L. of San Vicente de Toranzo, Spain. Each of these plants are to be installed during the course of the next few months and put into operation by the beginning of 2022.

Starwood orders the refiner for second MDF project at almost the same time

Kastamonu Entegre orders chipper and refining systems from Andritz

The wood-based panel and buildingelement manufacturer Kastamonu Entegre Agac San. ve Tic. A.S. of Istanbul, Turkey, has placed an order with Andritz AG for delivery of a disc chipper and a pressurised refining system for the planned addition of an MDF/HDF plant to the Balikesir particleboard site.

The key components of the plant from the dryer onwards are being supplied by Siempelkamp Maschinen- und Anlagenbau GmbH. This will be the first time Andritz has been involved in an MDF/HDF project of Kastamonu in Turkey. In each of the existing MDF/ HDF sites in Kastamonu, Gebze, and Adana, Kastamonu uses refiners from Pallmann Maschinenfabrik GmbH & Co. KG. Kastamonu had placed its first order for a refiner to Andritz in 2012 for setting up the MDF/HDF and laminateflooring plant in Alabuga in Tatarstan, Russia. This order had included the woodyard, and frontend of a rotary debarker, a disc chipper, an S2070 M 70"

refiner, and the associated conveyor systems.

The scope of the latest order is similar. Andritz Oy is contributing an HQ disc chipper. The actual pressurised refining system is subdivided into a chip bin discharger, a 74" digester, and an S2070 M refiner. Andritz will also be overseeing the assembly and start-up process. Production is scheduled to begin at the end of 2022.

Starwood Orman Ürünleri Sanayi A.S. of Inegöl placed a follow-on order with Andritz almost at the same time as Kastamonu's order. The company had only placed the order for the refiner for the MDF/HDF thinboard plant planned at the second facility in Inegöl, previously only used for wood preparation, in November 2020. Besides the 60"-1 CP refiner, Andritz is also supplying a disc chipper and the chip washer for this project. The package of orders also includes another chip washer for the older of Starwood's two existing MDF

plants. Andritz has meanwhile delivered the machinery. Siempelkamp is supplying the forming and press line. The start-up was originally scheduled for the end of 2021 but now looks unlikely to take place before the second quarter of 2022 due to delays in the overall project.

In July, Starwood completed the main orders for the MDF/HDF project also planned at the new facility. Dieffenbacher GmbH Maschinen- und Anlagenbau is supplying the equipment from the dryer to the finishing line. Andritz is supplying the pressurised refining system with an S2064 M refiner. The first board is to be produced at the end of 2022.

Andritz says the facilities ordered by Kastamonu and Starwood have strengthened its position in the Turkish wood-based panel industry. In the last few years, the company had supplied items such as the refiners for the two MDF/HDF lines of AGT Agac San. ve. Tic. A.S. (Antalya), for the MDF project of Camsan Entegre Agac Sanayi Ve Ticaret A.S. (Istanbul) in Sakarya, for Starwood's second MDF/HDF plant, and for the companies Divapan Entegre Agaç Panel San. Tic. A.S. (Duzce) and Beypan Entegre Orman Ürünleri San. ve Tic. A.S. (Kayseri). AGT placed the orders for two S2064 M refiners in 2012 and 2018. The two MDF/HDF lines were commissioned in March 2014 and in September 2019. Çamsan Entegre and Starwood are using the same type of refiner. The order submitted by Starwood in 2014, included the disc chipper, the chip washing system and the refiner system. Camsan Entegre placed its order with Andritz in 2015. Divapan and Beypan are using smaller refiners in their MDF plants. Divapan had ordered a 50/54-1CP in 2013; in the same year Beypan fixed the contract for a refiner S2064 M.



Signing ceremony for the new refiner for Kastamonu Balikesir

(Photo credit: Andritz)

European orders have recently shifted focus towards the furniture industry

Anthon to supply cut-to-size and sanding line for new Merino mill in India

Anthon GmbH Maschinen- und Anlagenbau, a machine and plant manufacturer that specialises in cut-to-size and feeding systems for the woodbased panel and furniture industry, is to deliver sanding and cut-to-size technology for a particleboard mill in Halol, Gujarat.

The Indian plywood and laminate manufacturer Merino Industries Ltd., based in Kolkata, West Bengal, is behind the project and placed the order directly with Anthon. The firm had awarded Dieffenbacher GmbH Maschinen- und Anlagenbau a contract to deliver the front end, dryer, forming and press line and final assembly systems in the first quarter of 2021. Steinemann Technology AG will provide the sanding machine. Anthon will deliver the technology in the third quarter of 2022, with the entire line slated for commissioning at the end of 2022.

Merino's order is Anthon's second major reference project in India. Last year, the firm delivered a sanding and cut-to-size line for a thin board project that the laminate and wood-based panel manufacturer Rushil Décor Ltd., based in Ahmedabad, Gujarat, is planning in Atchutapuram, Andhra Pradesh via Siempelkamp Maschinen- und Anlagenbau GmbH. Steinemann delivered the sanding machine for this project too. Designed to make board 2 mm thick and have a feed rate of up to 120 m/min, this line started operating in the first quarter.

Several more investment projects for new particleboard and MDF/HDF lines are afoot in India at the moment; Anthon is already in talks to deliver the sanding and cut-to-size lines. In South-East Asia, Anthon recently delivered a sanding and cut-to-size line to an MDF mill built near Hanoi by the South Korean firm Dongwha Holdings Group, headquartered in Seoul. Siempelkamp provided the forming and press line for this project. The first piece of MDF was made in June. Anthon also landed an order for a particleboard mill in Surat Thani province planned by Metro-Ply Group, headquartered in Nonthaburi, Thai-

land, during spring 2021. Siempelkamp is the main supplier here too.

Anthon is presently processing six orders from the wood-based panel industry in China. The firm is delivering a high-capacity sanding and cut-to-size line for a new particleboard mill that Guangxi Fenglin Wood Industry Group Co. Ltd., based in Nanning, Guangxi, is planning. This line is being installed downstream of a Dieffenbacher forming and press line. The Turkish group Starwood Orman Ürünleri Sanayi A.S., based in Inegöl, is currently receiving a cut-to-size line from Anthon for a thin MDF/HDF line ordered from Siempelkamp Group along with feeding/stacking technology for a new lacquering line.

Anthon's sales activities serving the Central European wood-based panel industry currently focus on insulating board. The company said that it is to provide the entire final assembly systems for two greenfield projects. These orders entail all key areas downstream of the double diagonal saw, including cut-to-size systems, profiling with feeding and stacking and packaging technology. The double-end profilers for profiling are being provided by Homag GmbH, which entered into a sales partnership with Anthon in autumn 2018. Dieffenbacher is providing the upstream technology for both projects. Anthon did not name the specific clients; unconfirmed reports suggest that they are Gutex Holzfaserplattenwerk H. Henselmann GmbH & Co. KG, based in Waldshut-Tiengen, and Ziegler Group, headquartered in Plößberg. Anthon had previously carried out several insulating board projects for Gutex and Pavatex AG, headquartered in Fribourg, Switzerland.

Anthon also won major orders from the European furniture industry during the Covid-19 pandemic. The Lithuanian firms UAB Vakaru Medienos Grupe (VMG), head-quartered in Klaipeda, and SBA Group JSC, based in Vilnius, have each ordered several



(Photo credit: Anthon)



Back in February 2021, Anthon reached an agreement with Homag Group AG of Schopfloch to acquire a site in Hemmoor that used to be part of Homag Automation GmbH, based in Lichtenberg. At the end of 2020, Homag Group had ceased production at the site.

furniture manufacturer Wren Kitchens Ltd.,

based in Barton-upon-Humber, is receiving two cut-to-size saws from Anthon that will be integrated into a body production line

with technology to glue edges.

Anthon has operated Anthon Handling Systems GmbH (AHS), formerly the assets that it acquired from the insolvent company J.B. Anlagen- und Maschinenbau GmbH, Lamstedt, with effect from 1 January 2020, at its new location in Hemmoor. AHS has moved into the halls, which have a total area of about 13,000 m², following the dismantling of machinery and plants that Homag used to operate in Hemmoor.

AHS's production range mainly comprises feeding and stacking systems, handling and transport technology and packaging machinery. Its recent orders include feeding, stacking and packaging technology for a short-cycle press planned by Wemhöner Surface Technologies GmbH & Co. KG for Rheinspan GmbH & Co. KG, headquartered in Germersheim, Germany, and feeding and cut-to-size systems for an edge gluing line that Homag is delivering to the Swedish kitchen furniture producer Ballingslöv International AB, based in Malmö.



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Remsstraße 24 73630 Remshalden - Germany Tel. +49 (7181) 9675 1 New production hall in Zaisenhausen to be moved into by end of this year

Fantoni group ordered short-cycle press from Dieffenbacher Zaisenhausen

Dieffenbacher Maschinenfabrik GmbH of Zaisenhausen, Germany, has completed three more orders for deliveries of short-cycle presses in 2020 and in the first months of 2021.

A US company ordered one last year; the two other orders were received from Italy and Turkey in the first quarter of 2021. The wood-based panel producer Fantoni S.p.A. of Osoppo, Italy, will be taking delivery of a 2,300 x 5,800 mm Dieffenbacher short-cycle press with a pressing force of 6 N/mm² and 225 cycles. The delivery is scheduled for the end of this year, enabling the start-up to take place in the second quarter of 2022.

According to Dieffenbacher, the plant is designed to permit rapid changes in format and product. The width of the laminated boards can be selected within a relatively wide spectrum of 1,220-2,250 mm. Fantoni will be using the plant mostly to laminate MDF for its own furniture-production operations.

Dieffenbacher Zaisenhausen cannot name the customers in the USA and Turkey. The plant for the USA was delivered in December. First board was expected to be laminated in June or July. The 1,600 x 6,300 mm press is to run with a pressing force of 5 N/mm² and 225 cycles. The order from a Turkish wood-based panel manufacturer that was finalised at the end of March is for a 2,500 x 5,800 mm shortcycle press designed to reach a pressing force of 7 N/mm² and 200 cycles. The delivery has been set for March 2022; production is scheduled to commence in summer 2022.

In 2018 and 2019, Dieffenbacher Zaisenhausen's sales had included two short-cycle presses to Swiss Krono Group, one to Sonae Arauco S.A., and three plants of largely identical design to Algeria. The plant delivered to Swiss Krono S.A.S. of Sully-sur-Loire, France, (2,000 x 5,800 mm, 6 N, 225 cycles, single-sided EIR) was put into service in mid-May 2019. The plant set up at Swiss Krono TOB of Broshniv-Osada, Ukraine,

(2,200 x 5,800 mm, 7 N, 211 cycles) has been up and running since the second half of 2020. The start of production of the short-cycle press (1,900 x 5,500 mm, 5.5 N, 220 cycles) delivered to the Sonae Arauco White River plant in South Africa was in January 2020. Along with this plant, Dieffenbacher also supplied the storage systems for raw boards and melamine films. In the second half-year 2018 and the first half-year 2019, Dieffenbacher had also received three orders from the Algerian companies EURL Ghamoud (El Eulma-Sétif), Aggoun S.à.r.l. (Sétif), and Cogepan S.à.r.l. (Algier-Kouba). The three largely identical 2.200 x 3.800 mm plants with a pressing force of 4 N and roughly 180 cycles were delivered by the beginning of 2020 but have not been able to be set up and put into operation yet due to the continuing corona-related restrictions.

Dieffenbacher Maschinenfabrik GmbH has two production facilities; the headquarters in Zaisenhausen and the Polish subsidiary Dieffenbacher Maschinenfabrik Sp.zo.o. of Koscian founded in 2005. Currently, the company is building a new production hall with an area of 1,700 m² at the Zaisenhausen works. Its completion is planned for November, which will result in the company vacating the currently rented halls 3 and 4; the rental contract expires at the end of the year. Like the new hall, the halls 1 and 2 still in use have a combined area of roughly 1,700 m², enabling Dieffenbacher Zaisenhausen to use a total area of approximately 3,400 m² for parts production and preassembly at the headquarters in future. The Koscian site with an area of around 3,000 m², located roughly 40 km south of Poznan, mostly supplies parts and simpler components, such as conveyor systems and roller tracks. The production programme is to be extended to include more complex plant components in future, however.



Start of construction for the new production halls

(Photo credit: EUWID)



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Strong increases at Homag Group are main reason for increase in group's forecast

Dürr's woodworking machinery division developed better than other segments

In its half-year report presented on 5 August 2021, Dürr AG confirmed the figures for sales revenue and results that it had already provisionally reported for the "Woodworking machinery and systems (WMS)" division comprising Homag Group AG figures in an ad hoc release on 26 July.

Order intake was 79.8% higher than a year earlier at €886,7m (Jan.-June 2020: €493.2m). The growth was achieved above all in business with individual machines; according to Dürr, the plant business is picking up again as well. Within the Dürr group, order intake grew by 42.3% over the first half-year to €2.111bn (€1.483bn). Owing to the bigger rate of growth, WMS's share of the group's total receipts of orders rose to 42.0% (33.3%). The order backlog given only for the group at the end of the first half-year was 24.2% higher than a year earlier €3.175bn (€2.479bn).

WMS also developed significantly better than the other segments in terms

of sales revenue and financial results. With an increase of 19.2% to €657.4m (€551.5m), Homag's sales revenue recovered more rapidly than anticipated. The Service sales revenue included in this was even boosted by 29.4% to €170.4m (€131.7m) to the extent that the share of Homag's sales revenue accounted for by Service rose to 25.9% (23.9%). Dürr attributed the expansion of Service business at Homag Group partly to the high level of capacity utilisation in the wood, wood-based panel, construction element, and furniture industries, which is also reflected in heavy demand for spare parts.

The high level of sales revenue, the expansion of the Service business, and the effects of the restructuring measures implemented since November 2019 in particular, all enabled the Homag Group to achieve a disproportional improvement in all key performance figures. At €61.0m (€29.2m), EBITDA was more than twice the figure for a year earlier. EBIT adjusted for non-recurring items

was increased almost fourfold to €39.6m (€10.7m), and total EBIT was almost ten times higher than last year's figure at €33.0m (€3.5m). The operating result was given as 6.0% (1.9%). In total, WMS achieved an EBIT margin of 5.0% (0.6%). Here, the second quarter turned out to be considerably better than the first three months; at 7.5%. Homag achieved the third highest operating margin for a single quarter since its integration into the Dürr group in mid-2014.

Owing to the mostly longer lead times of the orders in the other Dürr divisions, the group's sales revenue only rose by 1.1% in the first half-year to €1.633bn (€1.615bn). €508.8m (€441.0m) of this was accounted for by 15.4% higher revenue from service sales; their share of the consolidated sales revenue increased to 31.2% (27.3%). The growth rates in the group's key performance figures were similar to those for WMS.

As the positive development in the WMS division had not been anticipated to this extent, Dürr has also made substantial upward adjustments to its forecasts for sales revenue and results for 2021 as a whole. Now, WMS's receipts of orders are expected to be in the region of €1.550-1.650bn instead of the previously expected €1.170-1.270bn. The value of the additional expected orders is thus estimated at €380m. The forecast for WMS's sales revenue has been adjusted by €130-180m from the former €1.120-1.220bn to the latest €1.250-1.400bn. WMS's operating margin is now expected to rise to 6.0-7.0% instead of the former 4.0-5.0%. The group as a whole has set its sights on order intake of €4.000-4.200bn (previously €3.600-3.900bn) and sales revenue of €3.600-3.800bn (previously €3.450-3.650bn). The operating EBIT margin is expected to be 5.0-6.0% (previously 4.2-5.2%) and the EBIT margin 4.1-5.1% (formerly 3.3-4.3%).



Production at Homag's premises in Schopfloch

(Photo credit: EUWID)

OC Danmark Holding sold its 70% stake in Kallesoe Machinery to Homag

Homag added press manufacturer to its new Construction Elements division

Homag Group AG has acquired a majority stake in Kallesoe Machinery A/S, a Danish machinery manufacturer based in Lem that specialises in presses for the production of cross-laminated timber (CLT), as part of its efforts to expand its timber construction activities that were accelerated last year.

OC Danmark Holding A/S, which is controlled by Otto Christensen and which became a silent shareholder in Kallesoe Machinery in 2010, transferred its stake of about 70% to Homag Denmark A/S when the deal closed on 28 April 2021. Otto Christensen was the main shareholder with a direct stake of 40.2%, with approximately 30% in the hands of Allan and Torben Christensen. Homag put the purchase price in the low double-digit million-euro range. The remaining stake of almost 30% will be retained by the Kallesøe family, represented by Bruno Kallesøe and his two sons Kristian and Jens Kallesøe.

The transfer of these shares also led to changes on Kallesoe Machinery's supervisory board. Otto Christensen, Allan Christensen, Kristian Kallesøe and Lars Bugge have parted ways with the board, which is now made up of Homag Group AG's CFO Rainer Gausepohl, Jan Jensen Samuelsen and Bruno Kallesøe. Since the start of 2014, Samuelson has served as CEO of finger-jointing technology specialist System TM A/S, based in Odder, Denmark. System TM has been majority-owned by Homag Group since the end of October 2020. Bruno Kallesøe had served as CEO from 1993 to 2018, before handing over this role to Bjarne Andersen. Andersen will continue to head Kallesoe Machinery after its integration into Homag Group.

Kallesoe Machinery's portfolio of products includes individual machines, press lines and complete system solutions for making CLT, glulam timber, glulam panels, frame/window timber and double or trip-



 ${\it HF press of Kallesoe for gluelam production}$

(Photo credit: Kallesoe)

le beams. Kallesoe Machinery claims to have delivered roughly 500 presses since its creation in 1969, approximately 65 of them high-frequency presses. These high-frequency presses are increasingly delivered to plants making CLT. The company has also partnered with System TM on several of these CLT projects.

According to Homag, Kallesoe Machinery generates annual revenues of about €20m and employs roughly 70 people. Kallesoe Machinery did not detail its revenues in its 2020 annual report, which was released in early March 2021. However, its gross earnings had dropped by 10.6% to DKR45.4m (2019: 50.8m) in the wake of the coronavirus pandemic. This figure had been a little lower from 2016 to 2018 (2016: DKR35.1m, 2017: DKR42.1m, 2018: DKR38.9m). Earnings have also headed in mixed directions in recent years. EBITDA dived to DKR6.4m (10.4m) last year, while EBIT reached just DKR4.5m (8.8m).

Homag Group integrated its majority stake in Kallesoe Machinery into its new Construc-

tion Elements Solutions division. With the addition of Kallesoe Machinery's presses, Homag believes that it will be able to deliver around 70% of the machinery and plants needed to make glulam timber elements in the future. Other components will be provided through partnerships with other machinery and plant producers.

Until spring, the Construction Elements Solutions division has mainly comprised Weinmann Holzbausystemtechnik GmbH, which was acquired in full in June 2020, and its 80% stake in System TM. Homag can also acquire the remaining 20% at a later date under an option. Its woodworking segment, which has so far been made up of System TM entities and Homag Group's solid wood operations, generate consolidated full-year revenues of around €30m, according to a recent investor presentation from Dürr AG. Kallesoe Machinery will boost this figure to over €50m in the future. Its house construction activities with Weinmann and partnership with Hans Hundegger AG add around €45m at the moment.

Two firms' total operating revenues to reach €100m in the medium term

Kraft Maschinenbau bought a stake in Becker Sondermaschinenbau in May

The building product machinery and plant specialist G. Kraft Maschinenbau GmbH, based in Rietberg Mastholte, has acquired a majority stake in Becker Sonder-Maschinenbau GmbH, which is headquartered in the nearby town of Langenberg and makes packaging machinery and saws.

An agreement to this effect was inked on 7 May after preparatory talks lasting around a year. The two companies serve similar sectors. Kraft Group has specialised in complex, largely automated production lines in recent years, primarily to the door and frame industry. Kraft also delivers machines and plants for flooring, insulating materials, building products, packaging, warehousing and material flow systems, as well as for special areas.

Its ongoing projects in the door and frame industry include a current expansion of a frame plant run by Grauthoff-Türengruppe GmbH at its Rietberg-Mastholte headquarters. The new frame line delivered by Kraft will likely start operating in the third quarter. Kraft had previously delivered new drilling technology to Grauthoff's site in Güsten in 2020. The interior door manufacturer Prüm-Türenwerk GmbH, which is based in Weinsheim and part of the Swiss group Arbonia AG, has also ordered machinery for its new frame plant from Kraft.

Like Kraft, Becker delivers technology to door producers and handles projects in the wood-based panel, furniture and flooring industry. In addition to the US window and door company Jeld-Wen Holding Inc., based in Charlotte, North Carolina, the firm's reference list includes the kitchen furniture producers Nobilia-Werke J. Stickling GmbH & Co. KG of Verl and Häcker Küchen GmbH & Co. KG of Rödinghausen and the wood-based panel firm Swiss Krono Group.

The two companies will gradually flesh out the actual details of their future

partnership. The businesses' brand identities will first be standardised, with distribution operations to be merged by the year's end. In a next step, the firms want to work together more closely on procurement and administration and unlock production synergies.

Kraft and Becker's total operating revenues, which is based on revenues and inventory changes, is to pass the €100m mark in the medium term. Given their recent performances, this goal may be met in the next two years. Revenues were equally split between domestic operations and exports of late. Kraft has also had its own sales and service entity abroad since 2018 with the US entity Kraft Machines Inc., headquartered in Conyers, Georgia.

The companies said that this revenue growth should be powered by joint market cultivation and by investments. Kraft recently invested a substantial seven-digit sum in boosting its coating capacity and installing a new portal milling centre for metalworking. Hall space will first be expanded at Kraft and Becker's two production sites. This space is needed for pre-commissioning machinery and plants, among other tasks. The envisaged upgrades will also create space for a later increase in manufacturing capacity.

The two firms believe that there is still significant growth potential in the door and frame industry and in the building products sector in general. There are still considerable growth opportunities for the packaging sector, which is primarily served by Becker, primarily due to the trend towards sustainable cartonboard packaging solutions. Synergy effects from the shared use of the two companies' automation capacity should be leveraged to further boost total revenues, as well.

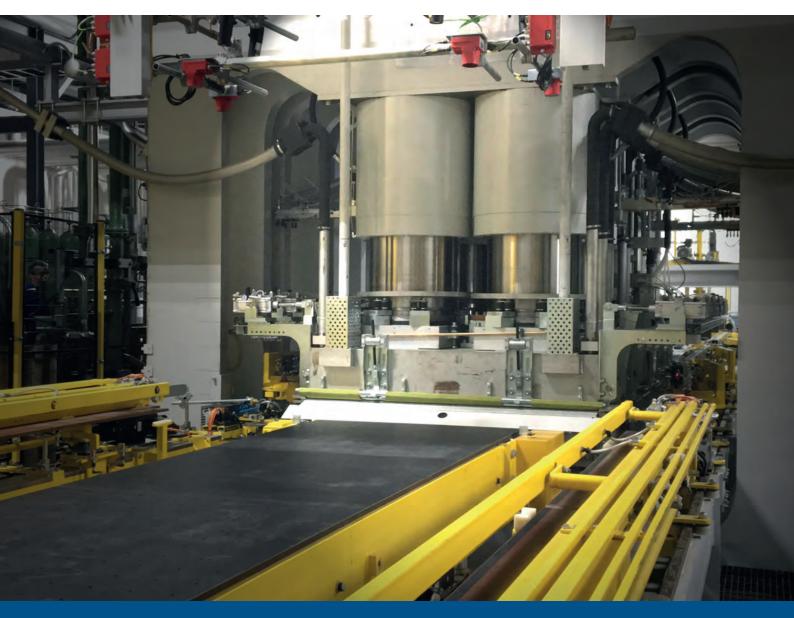


Production site in Rietberg-Mastholte

(Photo credit: Kraft Maschinenbau)



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BASF to launch bio-based resins in 2022

BASF SE carried out the first production tests on a new bio-based adhesive resin called Sustainable Wood Binder at an unnamed European particleboard manufacturer in the second quarter of 2021. This product has been under development since last year. A second series of tests was planned before the summer. The new type of resin, which does not contain formaldehyde or PMDI, is to be tested on other particleboard manufacturers' lines in the second half of this year. BASF intends to launch this new type of adhesive resin next year if proof of concept is secured. The line used for development and testing purposes will be able to make the first deliveries. If the product is well-received, BASF intends to invest in an industrial-scale plant.

The company had first deliberated developing new resins that will significantly reduce CO2 emissions by using renewable raw materials and adjusting production methods in 2019. The development project itself was launched last year at the group's innovation centre. BASF has now applied for patents, too. This new resin should

be a drop-in product that can be used without requiring additional investments in wood-based panel lines. In the initial phase, its use will be limited to particleboard production. Switching to other types of wood-based panels, notably MDF/HDF and OSB, is envisaged at a later date.

Along with developing and launching biobased adhesive resins, BASF is also pursuing other ways to reduce CO2 emissions. Replacing natural gas with biogas is already possible; at the same time, the energy used at production facilities can be switched to renewable sources. However, the woodbased panel industry has so far been rather cautious, given the cost hikes associated with these changes. Possible next steps will likely happen from 2024 onwards with processing blue or green ammonia. Steam crackers will be replaced by e-crackers in upstream product manufacturing in the medium term; the sharp increase in demand for power at its Ludwigshafen complex as a result will be met by the Offshore-to-X wind power joint venture forged with RWE AG in mid-Mav.

Cornerstone and Hexion declare force majeure

Just a few days after announcing another dramatic price increase, the US firm Cornerstone Chemical Co., based in Waggaman. Louisiana. declared force maieure for melamine deliveries from its plant in Avondale-Fortier, Louisiana on 29 August 2021. By way of explanation, the group cited power cuts caused by Hurricane Ida. The facility itself had not been damaged. Cornerstone shut down production on 27 August, as planned. The suspension of melamine deliveries from Waggaman trickled down to converters' manufacturing operations within just a few days. The resin producer Hexion Inc., headquartered in Columbus, Ohio, also declared force majeure for melamine-formaldehyde resin deliveries from its site in Morganton, North Carolina, on 2 September.

These force majeure declarations have meant that the strained supply situation for melamine and melamine resin seen in the past few months has taken another turn for the worse in North America, too. Prices will likely continue to climb as a result.

Panneaux de Corrèze utilises Evertree system

Ensuing from a management buy-out of the French MDF plant in Ussel in April 2015, the company Panneaux de Corrèze S.A.S. is the first industrial user of the bio-based, formaldehyde- and PMDI-free adhesive system developed by biochemical start-up Evertree S.A.S. under the name "Green Ultimate". The basic product uses proteins that are a by-product of the vegetable oil production of Groupe Avril SCA, Evertree's sole shareholder. Initial development work for the Green Ultimate adhesive system commenced at the beginning of 2018 at the Groupe Avril development centre in Compiègne. Following completion of the laboratory trials carried out in 2018 and 2019, Evertree conducted first industrial trials in Ussel during the course of last year. Regular production has been underway since the beginning of 2021.

The transition to selling the product, which had initially been scheduled to start

shortly thereafter, was delayed until the middle of the year due to the corona crisis. This period was used to further optimise production and build up stocks. With a joint product presentation on 1 July. Evertree and Panneaux de Corrèze launched sales of MDF produced with the Green Ultimate adhesive system, under the name "Next naturalpanel". According to the two companies, the adhesive system can be utilised in conventional MDF facilities; no major investments are required. With the new system, it is possible to achieve production speeds comparable to those achieved with the currently widely used urea-formaldehyde adhesives. According to Evertree and Panneau de Corrèze, the physical properties of Next naturalpanel are comparable to those of standard MDF.

As a first step, Panneaux de Corrèze is aiming for an annual sales volume of some

10,000 m³ for the new panel type. In the medium term, the company intends to use up to one-third of the production capacity, which is stated at around 150,000 m³, to produce Next naturalpanel. Supply through Evertree is not exclusive; other MDF manufacturers can also utilise the Green Ultimate adhesive system. In a next step, Evertree also intends to transfer the Green Ultimate technology for use in particleboard production. Industrial trials at several European particleboard manufacturers are scheduled to take place during the course of 2022. Commencement of regular production is expected by the end of

Evertree has so far produced the Green Ultimate adhesive systems in a Groupe Avril plant near Bordeaux. With the current capacity, up to 100,000 m³ of MDF can be produced. In a next step, additional Green Ultimate capacities are to be built up at other Groupe Avril locations.

OCI sold less melamine than in the first three months

OCI Nitrogen B.V., headquartered in Geleen, the Netherlands, raised its melamine sales by 12% to land at 32,800 (April-June 2020: 29.300) t in the second guarter of 2021 compared with the same stretch last year, which was hit hard by the pandemic. However, melamine sales were down for the third time in a row compared with the previous quarter. The company had recorded much higher sales in the third guarter of 2020, in particular, with 47,900 t. Some 37,000 t had been sold in the first three months and 34,200 t in the fourth quarter of last year. The first half as a whole thus ended with a 12% yearon-year improvement in sales to 67,000 (Jan.-June 2020: 59,800) t. Altogether, OCI Nitrogen sold 151,900 t of melamine in the last 12 months to the end of June. compared with 144,600 t in 2020 and 135,800 t in 2019. OCI Nitrogen still has a total capacity of 219,000 t, comprising 164,000 t at its site in Geelen and 55,000 t from its Chinese joint venture. OCI Nitrogen owns a 49% stake in the joint venture but holds exclusive marketing rights for 90% of its overall capacity.

According to an overview of the trend in benchmark prices contained in OCl's quarterly reports, melamine prices increased markedly in the second and third quarters, too. OCl indicated that European contract prices had risen by 23% between the first and second quarters to end up at €1,965/t. OCl noted that contract prices had amounted to €1,393 in the second quarter of 2020, representing a year-onyear increase of 41%. The benchmark statistics show that prices had dropped by 5% to €1,330 in the third quarter of 2020.

The trend in prices then reversed course in the fourth quarter, with prices climbing by an average of 5% to €1,390. According to OCI, prices then jumped by another 15% to €1,595 in the first quarter. Looking ahead to the third quarter, the firm anticipates additional markups of around 18%. European melamine prices had reached an average of €1,780 per tonne in the first half combined, making them 27% higher than the previous year's figure of €1,399, the OCI analysis showed.

Demand for methanol to grow by 20%

In 2020, 41m t of methanol was used in chemical applications, including in formaldehyde production. Total global demand was estimated to stand at 81m t in the same year. Consumption for Methanol-toolefin (MTO) production was about 14m t, with 26m t used in the energy sector. IHS Markit reached this assessment in its Chemical Supply & Demand Update. These findings were summarised in an investor presentation drawn up by Methanex Corp., based in Vancouver, British Columbia. All three areas are projected to see similar compound annual growth rates (CAGR) of 3-4% in the coming years. Demand from the chemical sector is set to grow by 9m t to reach approximately 50m t by 2025. Within the MTO sector, the looming start-up of two more plants in China (Tianjin Bohai, Qinghai Damei) is the main factor prompting a forecast of 3m t growth in demand to 17m t in the same period. Demand from the energy sector is projected to climb by 4m t to 30m t. All told, IHS expects demand to swell by 16mt to 97m t. This would represent a growth of around 20% compared with 2020.

According to the Methanex presentation, global manufacturing capacity will rise by a total of 14.1m t between 2020 and 2025 based on the investments in new capacity and expansion increases

announced to date. The majority of these projects should be completed by the end of 2022. Capacity expansions will slow markedly after that. The start-up of a joint venture plant run by Caribbean Gas Chemical Ltd. (CGCL) in La Brea, Trinidad & Tobago, in the fourth quarter of 2020 added 1.0m t. The joint venture YCI Methanol One LLC, based in Houston, Texas, is currently ramping up production at a plant in St. James, Louisiana, that has an annual capacity of 1.7m t. Several debottlenecking projects at US facilities, including Methanex's plant in Geismar, Louisiana, will tack on another 0.8m t of capacity by the end of 2021. Two plants in Iran (1.7m t) and Russia (0.5m t) are set to come online by the end of 2022. Chinese methanol capacity will increase by roughly 6.6m t in the same period. A significant proportion of this sum is connected to the two vertically integrated MTO plants. The only project announced to date for the period from 2023 to 2025 is the construction of a third plant at Methanex's Geismar complex (1.8m t). According to Methanex, the gap between the expected growth in capacity and demand will have to be met by existing facilities raising their output, although they are battling constraints in a variety of regions (Iran, Trinidad & Tobago, Venezuela and China).

Methanex completes debottlenecking in Geismar

A few months prior to resumption of construction work on the third methanol plant at the Geismar, Louisiana, site, methanol producer Methanex Corp. of Vancouver, British Columbia, has completed debottlenecking at the two existing plants. The company had announced the project in the fourth quarter of 2018 and subsequently implemented it within planned maintenance downtimes. Since conclusion of these expansion investment measures involving an amount of US\$125m, total capacity of the site has increased from previously 2.0mt to 2.2mt. Completion of Geismar 3, meanwhile scheduled for the end of 2023, is expected to increase capacity by a further 1.8m t.

Construction of the third methanol plant, temporarily suspended in April 2020, will be resumed at the beginning of October. The Methanex board of directors approved the necessary investments on 16 July. In parallel, the investment volume required for the overall project was reduced from the originally estimated US\$1.3-1.4bn to an amount of US\$1.25-1.35bn. By the end of the care and maintenance period, which according to the present decision lasts until the end of September, Methanex will have invested a total of US\$435m in the Geismar 3 project. The remaining US\$800-900m are to be used for work which is still required.

New emission limit might be between E1 level of 0.1 ppm and 0.04 ppm

Formaldehyde positions of ECHA, RAC and SEAC were summarized

The European Chemical Agency (ECHA), headquartered in Brussels, published a long-awaited final background document on potential limit values for formaldehyde and formaldehyde-emitting materials on 2 March 2021.

This 107-page background document, which was completed on 17 September 2020, summarises the positions of the ECHA and its Committee for Risk Assessment (RAC) and Committee for Socio-Economic Analysis (SEAC). In an Annex XV restriction report unveiled back on 20 March 2019, the ECHA had proposed a limit value of 0.124 mg/m³ or 0.1 ppm ascertained using chamber testing. This level is consistent with the E1 emission class that has long been prescribed in several European countries (including Austria. Germany, Italy and Sweden). By making this proposal, the ECHA also wants to permanently end the manufacturing and sale of wood-based panels in emission class E2, which is still permitted in other countries. The ECHA was also guided by the WHO's recommendation of 0.1 mg/m³, a level below which the WHO believes that health impacts can be ruled out.

The RAC feels that this limit does not go far enough. The Committee thus put forward a chamber test limit value of 0.05 mg/m³ or 0.04 ppm, which is consistent with around 40% of the E1 limit value, in a report presented on 13 March 2020. When making this proposal, the RAC also made reference to lower limits already put in place in a few countries and voluntary rules imposed by businesses. In an opinion issued on 17 September 2020, the SEAC landed in-between these two positions. The SEAC sided with the RAC in its assessment that a few countries or companies have lower limits. The SEAC also believes that limit values below E1 are also possible for a few products or applications. However, this Committee concludes that applying these lower limit values is not economically feasible.

After the final background document was published, the European Commission had

90 days to come up with its own legislative proposal based on these positions. The proposal is then presented to the ECHA Member States Committee (MSC) for a decision. The Member States Committee generally meets four times a year in Helsinki to decide on the classification of substances under Annex XIV and on adding limit values to Annex XV of the REACH Regulation. The next MSC meetings were scheduled for the middle of June (MSC-74), middle of October (MSC-75) and middle of December (MSC-76). The decision about formaldehyde limits thus might not be made until the first half of 2022. Once the decision is made, an implementation date and transition period will be specified. Implementation by the start of 2023 is considered realistic.

The recommendations now issued by the ECHA, RAC and SEAC apply to all materials emitting formaldehyde. Once the new limit values have taken effect, they have to be implemented in standards and legislation applying to the different areas of application. Examples of such legislation in the wood-based panel sector might be the Construction Products Regulation EU no. 305/2011, the harmonised standard applying to wood-based panels in construction DIN EN 13986 or, at a national level. the German Chemical Prohibition Ordinance (ChemVerbotsVO). These limits have to be viewed in the context of the testing methods used to determine formaldehyde emission values. Sources in the wood-based panel industry feel that the ECHA is leaning towards using EN 717-1 as the reference method rather than DIN EN 16516, which has been required in Germany since 1 January 2020.

The European Panel Federation (EPF), based in Brussels, and the Association of the German Wood-Based Panel Industry (VHI), headquartered in Berlin, feel that the process under way via the ECHA and REACH Regulation will definitely lead to an improvement in emission rules in Europe.



Formaldehyde testing

(Photo credit: EPH)

Manufacturing and transportation of chemical raw materials still limited

Methanol, melamine and resin prices verging on record-high levels again

Procurement markets for a variety of raw materials used to make adhesive and impregnating resins are not settling down after the holidays, either.

Melamine and methanol production has been further curtailed in the third quarter of 2021 after plants went offline, experienced technical troubles and took downtime for inspections. European melamine production is running well below capacity, due to unplanned outages at several plants. Melamine manufacturers outside Europe have also faced further restrictions.

Several Central European methanol producers are having a hard time ramping up production after stoppages for inspections in June and July. Two companies have issued force majeure declarations as a result. In North America, plants in Louisiana are offline in the aftermath of Hurricane Ida. Other companies had to suspend manufacturing for maintenance, rebuilding or repair work. The North American chemical industry is also still battling the knock-on effects of Winter Storm Uri in mid-February, which severely restricted logistics and caused some damage to facilities, too. Methanol producers around the globe are also experiencing rising costs for natural gas and coal.

The fraught situation with logistics all over the world is also causing restrictions, which are also manifesting themselves in sharp hikes in logistics costs. International deliveries are being hampered by a lack of containers and shipping capacity. There is also a shortage of lorries and rail tankers for national transportation. These problems, some of which have been around for a long time now, have been compounded by the effects of the Covid-19 pandemic. Train strikes in Germany have caused additional disruption in the past few weeks.



(Photo credit: Egger)

By contrast, demand remains brisk and, in the case of melamine, has tended to strengthen during the third quarter. With supply constraints already evident in the first quarter of 2021, many melamine converters had requested extra amounts from European manufacturers and suppliers in other regions and sometimes entered into contracts to this effect during the first half of the year. However, several months of delays delivering on these contracts have sometimes materialised in the wake of sharp price hikes in the second and third quarters. Converters now think that suppliers will no longer fulfil contracts inked at prices that were relatively cheap from today's perspective, first and foremost in the case of shipments from China. The affected companies had to launch fresh attempts to secure melamine to make up for the shortfall. Nonetheless, melamine shortages have led to multiple production cutbacks or stoppages in the European wood-based panel and surfaces sector during the past few months. All relevant methanol sales avenues are performing well, something that is also evident in brisk demand almost across the board in all regions. However, businesses are finding it easier to deal with the challenging supply situation for methanol than with the shortage of melamine.

The imbalance between supply and demand for methanol and melamine is sending contract prices for these two chemical raw materials soaring to new record highs. The methanol contract price will likely top €450/t FOB Rotterdam in the fourth quarter, and insiders are not ruling out the possibility of it climbing to €500. Melamine prices have already more than doubled within the span of a year. The projected markups in the fourth quarter will likely boost prices above €2,500/t. Market players have already seen asking prices of up to €3,000 in the import business. Adhesive and impregnating resin prices have also increased almost consistently amidst rising methanol, melamine and urea prices and growing additive costs.

Divested activites had generated revenues of US\$600m in full year 2019

Hexion concluded sale of activities to Black Diamond end of April

At the end of April, US resin manufacturer Hexion Inc. of Columbus, Ohio, concluded the sale of its activities in the areas of phenolic specialty resin, hexamine and European-based forest products resins to the investment company Black Diamond Capital Management LLC of Greenwich, Connecticut, and a subsidiary of Investindustrial VII L.P., based in London.

The sales agreement was reached at the end of September 2020. Since that date, Hexion consolidated the activities held for sale under "discontinued operations". The European Commission issued its approval of the planned sale in mid-January. Finally, the closing took about a month longer than planned. At the time of the signing the takeover agreements, the companies involved had set themselves the target of closing by the end of the first quarter.

According to the agreement at that time, Black Diamond and Investindustrial paid around US\$425m for the acquired activities. The proportion of cash funds and assumed liabilities of approximately US\$335m is slightly higher than the originally planned US\$305m. The outstanding sum of around US\$90m is to be settled in subsequent payments, the amount of which will be calculated on the basis of future development of results. Hexion intends to use the net proceeds from the transaction for purposes such as reducing liabilities and making additional investments.

The divestment included the two German production sites in Iserlohn and Frielendorf. other European plants in Barry and Cowie (UK), Lantatron (Spain), Botlek (the Netherlands), Sobiate (Italy) and Kitee (Finland), the two US-American sites in Louisville, Kentucky, and Acme, North Carolina, as well as the division's 50% stake in the joint venture Hexion Schekinoazot Holding B.V., which makes adhesive resin for the Russian wood industry. In the 2019 financial year, the activities sold to Black Diamond and Investindustrial generated revenues of US\$600m. On a group-wide scale, total revenues stood at US\$3.374bn (2018: 3.797bn) in that year, with the former divisions Forest Products Resins contributing US\$1.485bn (1.682bn) and Epoxy, Phenolic and Coating Resins US\$1.889bn (2.115bn).

At the beginning of 2020, Hexion had restructured its business segments. Global adhesives activities were attributed to the new segment "Adhesives". In addition to the wood adhesives business, including former Forest Products Resins assets in North and South America, Europe, Australia and New Zealand, this also included activities in the areas of formaldehyde and phenol resins. After the separation of the activities sold to Black Diamond, the Adhesives segment has 15 production sites in the US, Canada, Brazil, Australia and New Zealand. In the full year of 2020, the Adhesives segment generated revenues of US\$1.188bn. Construction adhesives made up for 74% of that sum. Intermediates & Derivates contributed 24% and Industrial adhesives 2%. 77% of 2020 revenues were generated in North America, 11% in South America, 10% in Asia-Pacific und 2% in Europe. Turnover of the "Coatings & Composites" segment was at US\$ 1.322bn in 2020. 51% of that related to Performance Coatings, 34% to Composites and 15% to Base Chemicals. In North America and Europe, the Coatings & Composites segment recorded 39% of turnover each, with 22% coming from Asia-Pacific.

Black Diamond Capital Management had purchased a majority stake in Arclin Inc., based in Roswell, Georgia, together with Silver Point Capital LP, headquartered in Greenwich, in a debt to equity swap in January 2010. Six months before that, Arclin had applied for reorganisation in accordance with the Canadian Companies' Creditors Arrangement Act (CCAA) and Chapter 11 of the US Bankruptcy Code. Arclin ensued in July 2007 from the spin-off of the Dynea North America business division from Dynea Chemicals Oy, Helsinki.



Hexion headquarter

(Photo credit: Hexion)

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Last year, total wood-based panel production down 2.1% compared with 2019

European insulation board and OSB output bucked overall trend

A slump in European wood-based panel production that was recorded in 2019 after six years of growth continued at a similar pace in 2020.

Total output had last increased in 2018, climbing by 1.5% to 60.319m m³. The European Panel Federation (EPF), based in Brussels, had reported a 1.8% decrease to 59.246m m³ for 2019; it has since slightly revised the originally reported figures. According to the EPF's annual report 2020, overall wood-based panel output dipped by 2.1% to 58.009m m³

in the following year. The downturn in production in the first quarter and especially in the second quarter caused by the Covid-19 pandemic was almost erased by growth in many markets in the second half of the year. Demand from the construction sector remained largely consistent without major disruption. The furniture industry staged a strong recovery in the months after a second-quarter collapse. The EPF noted that a sharp rebound in deliveries to the main sales segments later on in the year allowed the European wood-based panel industry to

fare much better than the economy as a whole. The EU-27 faced a 6.1% drop in gross domestic product (GDP) in 2020.

Four of the six product groups mapped separately in the EPF annual report did not fare as well as in 2019. Insulation board and OSB alone bucked the trend. Insulation board production improved by 5.7% to 5.008 (2019: 4.738m) m³, while OSB output was 4.1% higher at 7.022m (6.744m) m³. Both product groups had already encountered bigger changes in previous years. Softboard production

1,000 m³	2016	2017	2018	2019	2020	2020/2019 in %	2019/2018 in %	2018/2017 in %
Particleboard	30,568	31,343	31,948	32,096	30,684	- 4.4	+ 0.5	+ 1.9
MDF/HDF	12,140	12,564	12,604	12,201	11,980	- 1.8	- 3.7	+ 0.3
OSB	6,625	6,903	6,828	6,744	7,022	+ 4.1	- 0.8	- 1.1
Hardboard	547	544	550	514	506	- 1.4	- 7.3	+ 0.8
Insulation board	4,579	4,895	5,184	4,738	5,008	+ 5.7	- 8.6	+ 5.9
Plywood	2,926	3,149	3,206	2,954	2,808	- 5.0	- 7.8	+ 1.8
Total	57,386	59,398	60,319	59,246	58,009	- 2.1	- 1.8	+ 1.5

¹⁾ for plywood EU-27/UK, for all other product groups EU-27/UK and EFTA

Source: EPF

Europe: Uses for wood-based panels 1)

2019			2020

	Furniture	Construction 2)	Packaging	Other 3)	Furniture	Construction 2)	Packaging	Other 3)
Particleboard	67	26	2	5	63	29	2	6
MDF/HDF	51	31	3	15	54	27	7	12
OSB	3	82	6	9	3	82	6	9
Hardboard	15	8	26	51	16	8	26	50
Insulation board	0	80	0	20	0	64	0	36
Plywood	30	40	9	21	30	40	8	22
Total	49	38	3	10	47	38	4	11

1) in % 2) incl. doors and flooring 3) incl. DIY, mouldings, exports outside the EU

Source: EPF

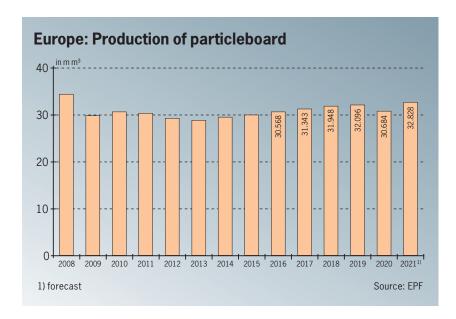
subsequent corrections of previous year's figures: 2016-2018 for particleboard and hardboard, 2019 for all product groups except insulation board and plywood

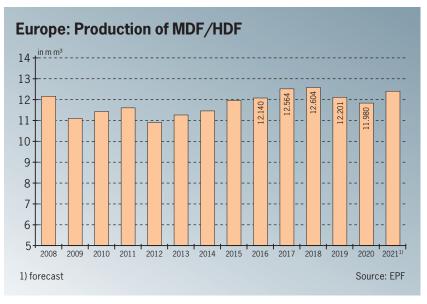
had shown the biggest jump of 5.9% in 2018, while OSB was the only product group to face a downturn (-1.1%) in that year. In 2019, OSB production dipped by another 0.8%, while insulation board manufacturing tumbled by 8.6%, faring even worse than hardboard (-7.3%) and plywood (-7.8%).

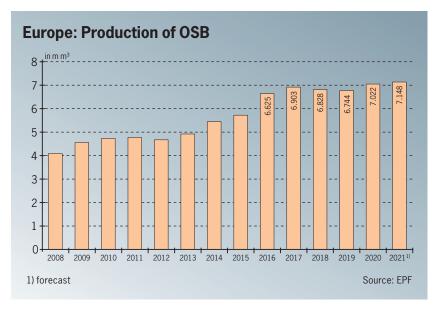
The EPF reported that plywood (-5.0% to 2.808m m³) and particleboard (-4.4% to 30.684m m³) production had declined the most last year. Particleboard production saw a reversal in fortunes from the slightly positive trend in previous years. Particleboard output had risen by 1.9% in 2018 but was only marginally higher in 2019 (+0.5%), MDF/HDF (+0.3%) and hardboard (+0.8%) output were up at least slightly in a year-on-year comparison in 2018 but down by 3.7% and 7.3%, respectively, in 2019. The slump in MDF/HDF production was roughly halved last year. For the first time since 2014, though, output was back below the 12m m³ mark with a 1.8% decrease to 11.980 m (12.201m) m³. Hardboard production had dipped by 1.4% to 506,000 (514,000) m³ last year.

These shifts in either direction meant that particleboard accounted for 52.9 (54.2) % of wood-based panel production last year. MDF/HDF's share stood at 20.7 (20.6) % and OSB's at 12.1 (11.4) %. Insulation board (8.6%), plywood (4.8%) and hardboard (0.9%) all made up single-digit percentages. The plywood figures reported by the EPF cover the EU-27 and the UK. All other product groups also include the amounts made in the EFTA region.

According to the EPF annual report, six of the eight countries and regions documented separately played a part in last year's downturn in particleboard production. France (-17.6% to 2.753m m³) and Belgium/the UK (-10.4% to 2.826m m³) booked double-digit slumps. Italian particleboard production was 9.4% lower at 2.668m m³; the combined Iberian Peninsular/South-East Europe region only fared a little better with an 8.2% fall to 4.959m m³. The EPF reported that German manufacturing had decreased almost half as much as European output







1,000 m ³	2016	2017	2018	2019	2020	2021 1)
Finland	1,139.0	1,241.0	1,230.0	1,090.0	990.0	1,100.0
Baltic States	332.2	357.3	394.9	408.8	461.6	488.0
Spain	369.2	422.7	432.6	403.3	369.5	370.0
Italy	280.0	300.0	320.0	300.0	265.0	300.0
France	250.0	254.0	259.0	252.9	233.9	259.6
Poland	277.2	306.0	301.7	244.5	232.5	271.
Other	278.2	267.5	267.8	254.9	255.3	262.6
EU-27	2,925.8	3,148.5	3,206.0	2,954.5	2,807.8	3,051.3
Russia	3,769.3	3,727.5	4,018.0	4,062.0	4,000.0	4,100.0
Turkey	120.0	120.0	112.0	110.0	300.0	300.0
Belarus	183.3	258.1	297.5	298.3	275.4	310.0
Ukraine	178.0	184.2	188.6	177.4	189.5	190.0
Other	53.2	54.0	62.2	64.8	66.2	71.3
Europe	7,229.6	7,492.3	7,884.3	7,666.9	7,639.0	8,022.6

with a 2.2% drop to 5.592m m³. Scandinavian output was just shy of 2019's level (-0.2% to 1.293m m³), while the East/Central Europe region enjoyed slight growth (+0.6% to 6.592m m³). In Poland, the ramp-up of two new particleboard mills resulted in a sharp increase for the second year in a row. Output also passed the 4m m³ mark with an 8.3% rise to 4.001m m³. Germany was thus responsible for 18 (18) % of European particleboard production. Poland strengthened its position as number two with a share of 13 (12) %. France's share dipped to 9 (10) %, with Italy also providing 9 (9) %. These four countries account for 49 (49) % of total European production.

The EPF noted that the downturn in MDF/HDF production was solely down to a second-quarter collapse caused by the pandemic. Output was higher in a year-on-year comparison in the three other quarters. The biggest producer, Germany, tracked in line with overall production, facing a 1.8% decline to 3.5m m³. There were few changes in the shares held by the different countries. Germany made up 26 (26) % of total European output. Poland followed with 20 (20) %, Spain with 9 (9) %, Italy and the UK with 8 (8) % each, and France with 7 (8) %. These

six countries had a combined share of 86 (87) %. In terms of the different products, 42 (44) % of the MDF/HDF made in Europe last year was thicker than 9 mm. Thin MDF with a thickness of less than 5 mm rose to 30 (29) %, while MDF/HDF 5-9 mm also gained one percentage point to 28 (27) %.

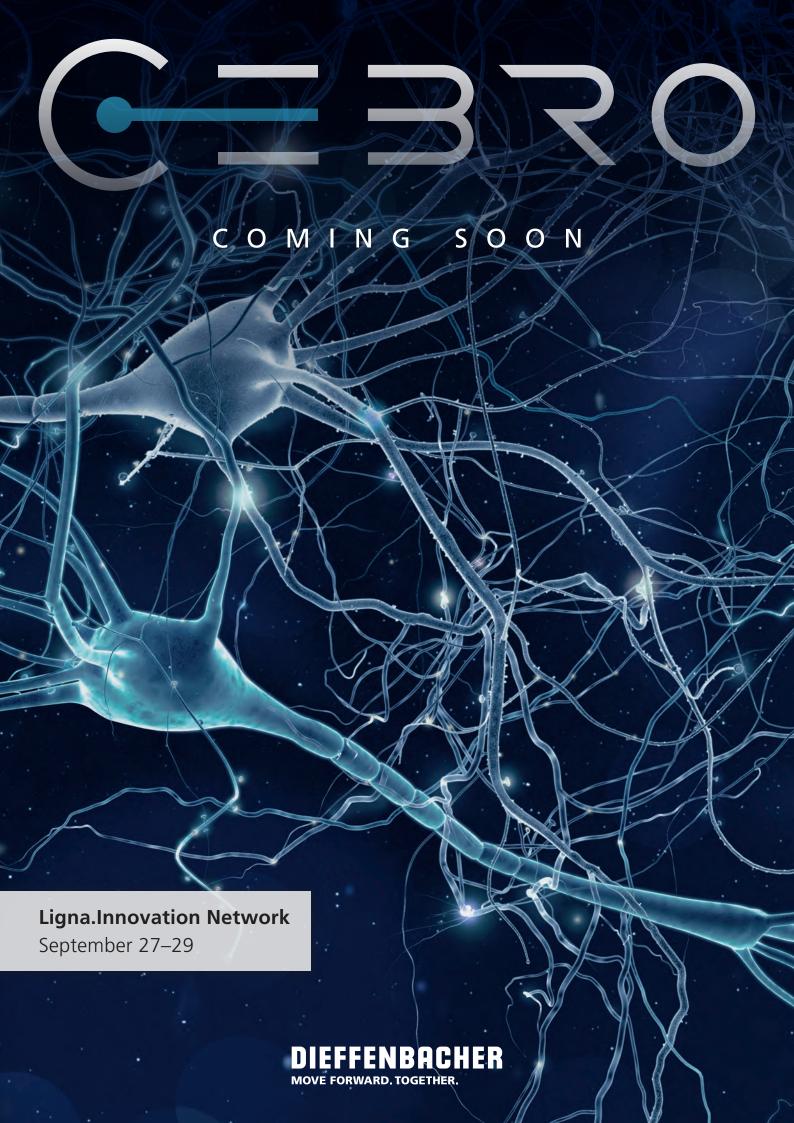
The EPF annual report noted that European OSB production had surpassed the previous year's level for the first time since 2017 last year thanks to growth recorded mainly in the second half. Output also topped the 7m m³ mark for the first time. Germany (17%), Romania (14%) and Poland (12%) maintained their positions as Europe's three largest OSB producers, followed by the Czech Republic (9%), the UK (8%), Ireland and Latvia (7%) and Belgium (6)%. The UK's share increased by one percentage point, while all other countries showed no change. Altogether, these eight countries are responsible for about 80% of Europe's total OSB production.

EPF expects plywood production to recover

Plywood production in the EU-27 suffered a setback for the second year in a row in 2020 after several years of growth. Estimates from EPF indicate that last year's slump was not quite as strong as 2019's with a 5.0% fall to 2.808m (2019: 2.955m) m³. The previous year had ended with a 7.8% downturn. The Baltics and 'Other' countries not listed separately were the only regions to show growth. An upturn in manufacturing recorded in previous years actually intensified in the Baltics. Additional investments in new mills and capacity upgrades boosted output by 12.9% in a year-on-year comparison to land at 461,600 m³. By contrast, the EPF reported stronger-than-average decreases in Italy (-11.7% to 265,000 m³), Finland (-9.2% to 990,000 m³), Spain (-8.4% to 369.500 m³) and France (-7.5% to 233,900 m3). Polish plywood production showed a similar drop to the EU-27 as a whole, with a 4.9% reduction to 232,500 m³. Following a positive trend in the first few months of this year, the EPF thinks that production might increase by 8.7% to 3.051m m³ in 2021, which would be much higher than 2019's level, too.

However, plywood manufacturing has consistently increased in countries located outside the EU-27 in recent years. Stronger growth in 2018 (+7.8% to 4.678m m³) gave way to smaller increases in 2019 (+0.7% to 4.713m m³) and 2020 (+2.5% to 4.831m m³). The EPF anticipates a 2.9% improvement to 4.971m m³ this year, raising overall European output by 5.0% to 8.023m (2020: 7.639m) m³. EPF estimates show that total European production (excluding Russia) broke down into 59% hardwood plywood, 35% softwood plywood and 6% tropical plywood in 2020.

EPF released its Annual Report 2020/2021 at a virtual annual general assembly on 10 June. Running at around 330 pages, it has a similar length to last year's edition. The Annual Report 2020/2021 can be ordered as a printed copy and a USB stick for €1,950 (excluding VAT); the last two reports for 2019/2020 and 2020/2021 are available for a combined price of €2,050. Orders can be placed via the EPF's website or by emailing info@ europanels.org. □



Sort of easing on OSB markets has yet to materialise for particleboard and MDF/HDF

Mixed trends in prices for particleboard MDF/HDF and OSB in Central Europe

Price trends on Central European particleboard, MDF/HDF and OSB markets decoupled from one another for the first time in a while in July and August after rising almost in lockstep with one another in the second half of 2020 and the first half of 2021.

OSB prices have not increased further on average. Manufacturers that had not raised their prices as much in the second quarter did so in late June or early July, imposing relatively sizeable markups. However, other producers had already reached a very high price level in May and June after elevating their prices sometimes every week. The relatively broad spectrum of OSB prices has narrowed again after peak prices were capped in July and August. This trend is due to factors including the improving supply situation.

The supply situation on Central European OSB markets has gradually improved from the start of the third quarter. Shortages and delivery delays that lasted into May and June are largely a thing of the past. There are several reasons for the relief that came in July and August. Demand

from the woodworking trade cooled more than expected at the start of the summer holidays. Merchants have experienced a sharp downturn in their order intake as carpenters are working less, primarily because of the holidays, but also due to delays to construction projects or even order cancellations. These issues have sent inventories much higher at affected merchants. These companies have scaled back their purchasing of OSB substantially in the last weeks. The inventory reductions that both merchants and woodworkers aim to achieve is already trickling down to OSB producers. Most firms are reporting a noticeable slump in demand.

OSB manufacturers' average lead times have become much shorter in recent weeks as supply has improved. At the same time, OSB mills have seen their inventory levels climb. This inventory building is happening to varying degrees, though. Manufacturers in Russia and Belarus are already battling sales problems because of the economic downturn there. Falling prices in North America have also had knock-on effects. OSB producers that exported larger amounts across the Atlantic

in the last few months have to redirect or put these deliveries in storage. Resurgent softwood plywood supply and ensuing price cuts are having a similar impact on OSB sales, at least in a few sectors, especially packaging. However, some markets are performing well at stable or even rising prices, especially France and the UK.

This sort of easing on OSB markets has yet to materialise for particleboard and MDF/HDF. Stoppages for inspections and rebuilding work and persistently strong internal demand from manufacturers ate away at raw material supply in July and August. Longer-lasting troubles sourcing melamine and melamine-formaldehyde resin have also resulted in curbed production of special grades and laminating activities. A few companies were forced to reduce their manufacturing of moisture-resistant and flame-retardant raw particleboard. Several producers have also had to scale back their impregnating and laminating operations. These problems have tended to intensify in the third quarter. Buyers report that additional amounts of standard particleboard had entered the market at short notice as a result. These shifts on the supply front have only brought relief here and there, though. The trajectory in particleboard and MDF/HDF prices has levelled off a little in the past few weeks because of the holidays. Most manufacturers want to raise their prices again in September or October, though. An imminent reversal in fortunes is considered rather unlikely.

The state of affairs on Central European particleboard markets has hardly altered despite the holidays. The supply situation remains strained. Stoppages for inspections and rebuilding work that many producers scheduled for the second half of July and early August had further trimmed the availability of raw and laminated particleboard. These stoppages, several of which could no longer be put off, had averaged seven to ten days. Some of them

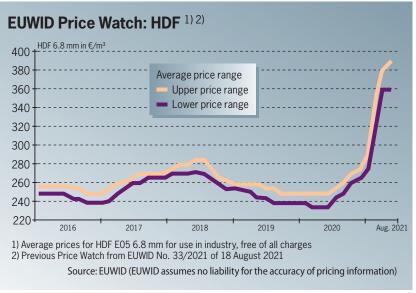


were a few days shorter than originally planned. In a few cases, though, longer stoppages lasting two to three weeks were also held. Most lines were supposed to get up and running again in the first or second week of August, allowing production in the Central European particleboard industry to gradually return to normal from the middle of August onwards. Buyers report that a few manufacturers are planning to perform rebuilding work again in the autumn, though. Such plans are apparently mainly afoot in Eastern Europe.

Companies in the furniture industry and its suppliers and the building products industry have also shut down for holidays. Most of these company holidays lasted for two to three weeks. Other firms have continued operating without stoppages, albeit at reduced capacity. Busier furniture manufacturers operated at largely normal rates during the holidays. However, the ongoing difficulties sourcing upstream products are standing in the way of additional weekend shifts, which might be added to reduce lead times that some insiders still describe as too long. With supply problems still sticking around, buyers continued to purchase particleboard at normal rates even as they curb their output for summer holidays or because of supply issues. Several companies have replenished their inventories to safeguard supply with this approach. Nonetheless, many converters are still trying to arrange additional deliveries, too, although such requests can hardly be accommodated by manufacturers in Germany, Austria and Switzerland, Imports from regions located farther away, especially from South-Eastern Europe and Turkey, appear to have increased a little. These shipments should continue in the long term, too.

The supply situation on Central European MDF/HDF markets still seems to be more challenging than in the particleboard sector, even though most MDF/HDF manufacturers have operated more consistently during summer after taking scheduled downtime for inspections and rebuilding work mostly in the second quarter. The laminate flooring business remains fairly brisk almost all over the world. As a result, MDF/HDF producers with downstream laminate flooring production capabilities





are using most of the substrate they make in-house and have largely stopped selling HDF to external buyers, except for smaller deliveries to regular customers. Several companies also had to keep buying HDF from other producers. These additional purchases and enquiries from laminate flooring manufacturers facing a shortfall mean that MDF/HDF manufacturers without own downstream refining operations are sold out for several weeks. Additional amounts are available only in isolated cases.

Many MDF/HDF buyers have been trying to make purchases in regions located farther away for a long time now to offset the shortfall. They had initially focused on

Southern and Eastern Europe and Turkey but had expanded their sights to overseas markets at the end of the second quarter.

Demand for the different types of MDF/HDF has remained unchanged at a strong level in recent weeks. Buyers from the floor coverings, panel, moulding, door and furniture supplier industries are finding that MDF/HDF supply is limiting their production activities in most cases. Many converters are unable to run at full speed, resulting in repeated delivery delays and a few shipments being reduced. Echoing the situation for particleboard, production curtailments because of the holidays and the supply situation have not had an impact on availability.

Finnish plywood output above preceding year

In the second quarter of 2021, the Finnish plywood industry continued to exceed the production level recorded in the same period last year. According to the Finnish Forest Industries Federation (FFIF), Helsinki, output increased by 7.2% to 296,000 m³ (April-June 2020: 276,000 m³). The volume of 302,000 m³ (Jan-March 2020: 197,000 m³) recorded for the first quarter was not quite achieved, however. The 53.3% increase vis à vis the first guarter of 2020 was mainly due to strike-related production interruptions in January 2020. Over the entire first half of 2021, Finnish plywood production rose by 26.3% to 598,000 m³ (Jan-June 2020: 473,000 m³).

For the individual quarters of 2020 FFIF had indicated only rounded production volumes. The percentage changes, on the other hand, were calculated from the exact figures. For the first quarter just under 200,000 m³ (-35.1%) had been reported, and just under 280,000 m³ (-6.3%) for the second quarter. The third quarter was concluded with a 16.0% decline to around 240,000 m³; in the fourth quarter Finnish manufacturers had produced approximately 300,000 m³ again for the first time. For the year as a whole, a decline of around 9% to slightly more than 1.0m m³ (2019: 1.090m m³) consequently ensued.

USA: softwood plywood imports from Brazil double

In the second quarter of 2021, development of US softwood plywood imports was again largely determined by higher deliveries from Brazil. At 359,215 m³ (April-June 2020: 177,707 m³), they more than doubled compared to the same period of the previous year, according to the current export trade statistics of the US Department of Agriculture, Foreign Agriculture Service (FAS), Washington D.C.. In previous quarters, the FAS had already recorded significant double-digit increase rates (Q3: +52% to 317,865 m³, Q4: +79% to 316,965 m³, Q1: +49% to 199,337 m³).

Imports from Chile, by contrast, which is the second most important supplier country, declined again by 24% to 92,676 m³ (121,583 m³). By comparison to the first three months of the year, all other relevant supplier countries also contributed to the 49% increase in total imports to 648,029 m³ (435,896 m³). This means that softwood plywood imports have risen to the highest level since the third quarter of 2018 (688,250 m³). Between then and now, they had mostly been clearly below the 500,000 m³ mark. The only times this figure was exceeded was in the third (589,841 m³) and fourth (599,725 m³) quarters of 2020.

Sveza reports sharp increase in production

The Russian birch plywood and particle-board manufacturer Sveza Group raised its output by 11.4% to 662,000 (Jan.-June 2020: 594,000) m³ in the first half of 2021 after a sharp fall last year. Sales were 7.2% higher at 655,000 (611,000) m³. The company managed to raise its sales of speciality plywood and custom-made products by around 4% in the first half of the year. Altogether, this product area now accounts for around 10% of total sales volumes.

Sveza invested approximately RUB1.0bn (1.66bn) or roughly €11.5m in the first six months of the year. One of the biggest projects is the construction of a research and development centre at its Ust-Izhora production facility in St. Petersburg, which is set to open in September. Sveza finished work on its Uralskiy mill in the region of Perm to boost its production capacity by 25% to 274,000 m³ of birch plywood. The company also intends to put the finishing touches to work at its Novator mill in Veliky Ustyug, in the Vologda region before the year's end. These investments in capacity upgrades and modernisation work will increase its capacity at this site by 52,000 m³ to 192,000 m³ of birch plywood. Sveza operates seven mills altogether in Russia and has a combined annual capacity of approximately 1.4m m³, breaking down into 1.2m m3 of birch plywood and about 200,000 m³ of particleboard.

Egger Group reactivates its Building Products division

The Egger Group reactivated its "Building Products" division, which specialises in lumber and wood-based panels for structural applications, at the turn of its financial year on 30 April 2021. The division had previously been created at the start of the 2011/2012 financial year before being dissolved when the group's structure was reorganised on 1 May 2018. Egger had subsequently consolidated its two OSB mills in Wismar and Radauti via its decorative divisions, which were organised regionally in the new structure. Its sawmill in Brilon became part of the new Other

Egger is reviving this division, which will encompass the two OSB mills, the sawmill and global distribution of OSB and DHF in the future, in response to stronger growth in the timber construction and timber construction product markets. The new division is to participate more in this growth in the future by developing system solutions for industrial series manufacturing and more sophisticated refining. Development efforts are currently focusing on a hollow box system for ceiling construction that combines OSB and lumber, as well as on refining OSB, for instance to use in fire-protection systems and ready-to-paint surfaces. The new division will also tap into manufacturing synergies, for instance, by coordinating glue formulations or standardising OSB and DHF packaging. The new division employs a total of some 460 workers. Its manufacturing capacity is listed at 880,000 m³ of OSB, more than 20,000 m³ of DHF and about 550,000 m³ of lumber. Commissioned in May 2008, the Brilon sawmill can currently cut around 1.1m m³ per year.

The addition of Egger Building Products means that Egger Group has been structured into six divisions since the start of its 2021/2022 financial year. Egger Decorative Products is organised into the West, Central, East and Americas units, while its flooring business is pooled in Egger Flooring Products.

Huber planning Minnesota OSB site

The OSB manufacturer Huber Engineered Woods LLC (HEW) of Charlotte, North Carolina, belonging to J.M. Huber Corp. of Edison, New Jersey, announced the construction of a new OSB plant at the Cohasset facility in Minnesota on 21 June 2021. The final decision on whether or not to go ahead with the investment is still dependent on the closure of the land purchases, receipt of the required permits, and affirmation of state funding. The works is to be built on an area of 400 acres or roughly 160 ha. Links to infrastructure exist in the form of US Highways 2 and 6 and a planned railway siding. The power supply is to be provided partly by the nearby Boswell Energy Center of Minnesota Power. Huber intends to invest a total of around US\$440m in the project. Roughly US\$60m is to be financed by public funding commitments already in place. Construction work is scheduled to start in autumn 2021 or spring 2022.

Huber currently operates five OSB works: Easton (Maine), Commerce (Georgia), Crystal Hill (Virginia), Spring City (Tennessee), and Broken Bow (Oklahoma). Huber uses continuous presses at the Spring City and Broken Bow works that were put into operation in 1997 and 2004, respectively; the other three works use multiple-opening systems. With a current total annual capacity of almost 2m m³, industry insiders estimate

that Huber holds a share of approximately 8 % of the North American OSB market. At the new site, which local newspaper reports say will be geared to an annual capacity of around 700,000 m³, Huber wants to produce the "ZIP System" and "AdvanTech" product lines in particular. The main sales markets are said to be in the Midwest region and the West of the USA.

Huber had examined a variety of potential locations in the West of the USA and Canada for the greenfield project. The decision in favour of County Itasca was then taken partly on the grounds of the good supply of wood and the possible expansion of the sales market via the new location.

Several wood-based panel facilities were shut down in Minnesota between 2006 and 2012, including the OSB works Grand Rapids (2006), Bemidji, and Cook (both 2008) of Ainsworth Lumber Co. Ltd. of Vancouver, British Columbia, and the Duluth hardboard works (2012) of Georgia-Pacific Wood Products LLC of Atlanta, Georgia. Several wood-processing paper manufacturers that used to process mainly spruce and balsam fir have also discontinued production in the last two years. Like the Ainsworth works in the past, however, the wood supply of the OSB works planned by Huber will be geared above all to poplar.

Roy O. Martin investing US\$211m in a new OSB mill

The US company Roy O. Martin Lumber Management Co. LLC, based in Alexandria, Louisiana, is poised to add a third OSB manufacturing facility via its subsidiary Corrigan OSB LLC at Corrigan, Texas. Construction work is set to commence before the year's end in direct proximity to the Corrigan OSB mill, which started operating in 2018. Commissioning is slated to take place during 2023.

According to the group's chairman, CEO and CFO Roy O. Martin III, the site's production capacity will increase by 70% as a result of this project. Like its OSB mill in Oakdale, Louisiana, the Corrigan mill,

which was also a greenfield project, has an annual capacity of around 850m sqft ($3/8^{\circ}$ basis) or around 750,000 m³ and uses a 12 x 26 ft 14-opening press delivered by Dieffenbacher GmbH Maschinen- und Anlagenbau.

A press release issued by Texas Governor Greg Abbott on 13 August put the total investment at approximately US\$211m, with the project expected to create 50 new jobs. Roy O. Martin had set aside US\$235m to build the first mill in Corrigan, which employs 154 or so people. The company is currently investing in downstream refining activities at its mill in Corrigan, too, including the addition of a line to make flooring board. Roy O. Martin also wants to start making laminated OSB in Corrigan.

West Fraser: Chambord mill back up and running

A mill in Chambord, Québec that is now owned by West Fraser Timber Co. Ltd., based in Vancouver, British Columbia, is making OSB again after being offline for more than 12 years. Manufacturing resumed towards the end of March 2021 following completion of modernisation work that began in mid-2018, including the installation of a new drum dryer from Büttner Energie- und Trocknungstechnik GmbH. With a previously listed capacity of around 440m sqft, the mill's capacity increased to about 550m sqft as a result of the investment. Manufacturing will gradually ramp up over the next few months. with the mill reaching maximum capacity within 18 to 24 months or by the end of 2022 and start of 2023.

The firm then known as Norbord Inc., based in Toronto, Ontario, had estimated that the project to restart the Chambord mill would entail a total investment of US\$71m when the final investment decision was made in July 2018. According to Norbord's annual report, which was released in early February, some US\$58m of this amount had been spent by the end of 2020, with US\$13m still outstanding. The Covid-19 pandemic had significantly slowed the project last year. Norbord had even suspended work temporarily in the second quarter. The firm invested US\$2m in Chambord in the first quarter, before spending US\$1m in the third guarter and US\$4m in the fourth quarter. Investments thus reached around US\$7m in 2020 as a whole. On a group-wide scale, Norbord envisaged investments of around US\$124m last year, and has earmarked US\$185m for this year.

The Chambord mill used to be owned by Louisiana-Pacific Corp., based in Nashville, Tennessee, and was transferred to Norbord in a mill swap in November 2016. In return, Louisiana-Pacific acquired Norbord's former mill in Val-d'Or, Québec, and subsequently converted it to make siding. Norbord was integrated into West Fraser with effect from 1 February. Its North American OSB mills became part of the new Engineered Wood division headed by Norbord's former CEO Peter Wijnbergen.

West Fraser planning to invest another US\$180m

West Fraser Timber Co. Ltd., based in Vancouver, Canada, is moving forward with investing another US\$180m to optimise its existing mills as part of its strategic capital programme. This step came after the firm wrapped up projects at its sawmill location in Dudley, Georgia, and at the Chambord OSB mill in Québec. In the Lumber segment, the firm plans to spend around US\$150m on modernising five sawmills in the South/ South-East of the US. These investments will boost production capacity, increase the mix of higher-margin 2x4s and reduce fixed and variable costs, according to West Fraser. In the North America EWP segment, which was created as part of the integration of Norbord Inc., the firm has earmarked US\$30m for two OSB mills where steps will be taken to boost productivity and reduce production costs. The implementation of these projects planned at seven North American locations is set to commence during the second half of 2021 and continue through 2023 in some cases. The payback period for these projects is expected to be three to four years. West Fraser said that it was making these investments in response to delays on big projects to build new mills because its technology partners having lengthy lead times. Despite these delays, West Fraser reiterated its capital expenditure target of US\$450m for 2021.

GO Lab starts assembling insulating material plant

A project to install an insulating material plant by the US start-up GO Lab LLC, based in Belfast, Maine, at a site in Madison, Maine, is running around two years behind the original schedule. Three lines to make blow-in insulation, flexible insulating mats and pressureresistant insulating panels are to be put into service in several phases by the end of 2022. According to plans unveiled in mid-2019, the company originally intended to make blow-in insulation starting in autumn 2020. The commissioning of two more lines was then planned by the end of 2020, expanding production to include between-rafter insulation and pressure-resistant panels.

This technology is to be installed at the site of a paper mill that Madison Paper Industries closed at the end of May 2016. GO Lab had purchased this industrial site in August 2019 and has since been carrying out preparatory work. The paper machine and hydropower plant in Madison had been sold and dismantled prior to the purchase by GO Lab. In the next phase, the firm disassembled existing machinery, pipelines and electrical systems and stored some of them for later use. GO Lab had then torn down the boiler house, turbine room and several oil tanks starting in mid-2020 to create space for storing and processing wood chips used in insulating material production.

A second-hand steam generator was installed in the first quarter, having been acquired from a former Canadian paper mill. Second-hand machinery will also primarily be used in manufacturing. GO Lab had acquired the insulating board line from a plant in Berga that Homanit Building Materials GmbH & Co. KG closed at the end of 2018 and a second-hand refiner bought from the assets of Modul Systeme Engineering GmbH in the second quarter of 2019. This technology was initially placed in interim storage in the port of Bremen. This machinery arrived in Searsport, Maine, in February after being shipped in the fourth quarter.

Former Norbord mills: sales lagging behind output



OSB mill in Inverness

(Photo credit: Norbord)

The Norbord mills integrated into West Fraser Timber Co. Ltd., based in Vancouver, British Columbia, with effect from 1 February 2021 made more of almost all products than they sold in the second quarter. The European mills, which are now part of West Fraser's new Europe EWP division, manufactured 318m sqft (3/8" basis) or roughly 281,000 m³ of OSB, 134m sqft or 237,000 m³ of particleboard and 94m sqft or 166,000 m³ of MDF/HDF (3/4" basis). OSB sales totalled 307m sqft or 272,000 m³. The gap between production and sales was even more pronounced for particleboard (sales: 104m sqft or 184,000 m³) and MDF/HDF (84m sqft or 149,000 m³).

Therefore, Europe EWP generated second-quarter revenues of US\$178m. Adjusted EBITDA more than tripled compared with the first quarter to US\$39m. Operating profits stood at US\$15m and

pre-tax profits at US\$14m. The company booked consolidated first-quarter revenues of US\$112m and adjusted EBITDA of US\$11m for Europe EWP from 1 February onwards.

The NA EWP division, which comprises both Norbord's North American OSB mills and West Fraser's existing MDF/HDF, plywood and LVL activities, made 1.634bn sgft or almost 1.450m m³ of OSB and sold 1.585bn sqft or 1.400m m³ in the second quarter. The division manufactured 209m sqft and sold 213m sqft of plywood. Production and sales of MDF/ HDF (production: 59m sqft, sales: 60m sqft) and LVL (production: 637,000 ft³, sales: 636,000 ft³) were almost identical. Altogether, the division generated revenues of US\$1.581bn (April-June 2020: 87m). This figure includes US\$1.301bn (0) from OSB, US\$274m (84m) from plywood, LVL and MDF/HDF along with US\$6m (3m) from other products.

Adjusted EBITDA also tripled compared with the first quarter to end up at US\$1.106bn. Operating and pre-tax profits were almost the same at US\$1.017bn and US\$1.016bn, respectively. For the two consolidated months, NA EWP booked first-quarter revenues of US\$781m, made up of US\$595m from OSB and US\$180m from plywood, LVL and MDF/HDF. Adjusted EBITDA reached US\$298m.

Luli Wood set to triple its OSB production capacity

The OSB manufacturer Shouguang Luli Wood Industry Co. Ltd., which is part of the Chinese Luli Group, commissioned a second OSB line in Shouguang, Shandong Province. With a designed annual capacity of 600,000 m³, the continuous production line will triple Luli Wood's OSB capacity. The company started making OSB in August 2015 using a line delivered by Dieffenbacher GmbH Maschinen- und Anlagenbau. Featuring a continuous press in dimensions of 8.5 ft x 39.5 m, it had an annual capacity of 300,000 m³. Luli Wood ordered the second line from Dieffenbacher, too. This order, which includes strand production and drying systems, along with the forming and press line with a CPS+ in an 8.5 ft x 65 m format, was signed in late November 2019.

According to Dieffenbacher, both production lines can make standard and fine OSB. Upon commissioning the first line, Luli Wood became China's first company to produce fine OSB. Its better surface quality compared with standard OSB allows this product to be coated using short-cycle presses. Fine OSB can thus be used as a substitute for plywood applications in interior constructions and in furniture production. According to Luli Wood, marketing opportunities have improved markedly since Chinese authorities have now drawn up a national standard for fine OSB.

Canada: shifts in OSB exports overseas

In the second quarter of 2021, Canadian OSB exports amounted to 1.450m (April-June 2020: 1.290m) m³ and were thus at a level similar to the first three months, when 1.455m m³ had been exported. In both quarters the respective previous year's figure was exceeded by 12%, this followed an increase of 9% recorded for the first time in a considerable period in the fourth quarter of 2020. The export value more than tripled to Can\$1.626bn (442.9m) in the second quarter due to

the price increase still ongoing at the time.

In the second quarter, 1.383m (1.203m) m³ OSB was exported to the USA. Concerning exports to other countries, considerable shifts in volume were recorded. Deliveries to Japan dropped by 21% to 37,138 (47,251) m³. Exports to South Korea, at 1,515 (14,580) m³, only amounted to slightly less than one-tenth of the previous year's volume; Vietnam completely disappeared as a sales market in the second quarter. China only just exceeded the preceding year's level at 18,074 (17,686) m³. 4,974 m³ were exported to Mexico and 4,793 m³ to Chile.

USA achieve increase in OSB exports again

Following declines recorded across virtually all regions and markets in 2020 as well as in the first quarter of 2021, US OSB exports improved again in the second quarter. Total exports increased by 21% to 35,984 (April-June 2020: 29,849) m³. The export value rose almost twice as much, by 41% to US\$14.5m (10.3m). Deliveries to the two neighbouring North American countries increased by 22% to 32,532 (26,689) m³. Of this volume, 30,214 (19,550) m³ was exported to Canada and 2,318 (7,139) m³ to Mexico.



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Before the turnaround, prices increased more than six-fold since January 2020

North American OSB prices tumbled by two thirds since the end of June

North American OSB prices have plummeted by more than two thirds within the span of just a few weeks in all relevant regions after peaking in late June.

Prices for the benchmark grade, 7/16", had climbed to a maximum of up to US\$1,345/1,000 sqft or US\$1,302/m³ on an FOB mill basis in the north-central region. Random Lengths put prices at just US\$415/1,000 sqft or US\$402/m³ in the first half of August. In other words, prices have plunged by US\$930/1,000 sqft or 69.1% within six weeks. Price cuts had been more moderate in the first half of July.

The downward trend then picked up the pace starting in the middle of July. The first week of July had ushered in a US\$20 markdown to US\$1,325 before prices tumbled by another US\$50 to US\$1,275 in the second week of the month. The benchmark price then dropped by US\$550 in the north-central region in a short time starting in mid-July onwards, putting prices at just US\$725/1,000 sqft or

US\$ $702/m^3$ at the month's end. Another US\$310/1,000 sqft was shaved off in the subsequent two weeks.

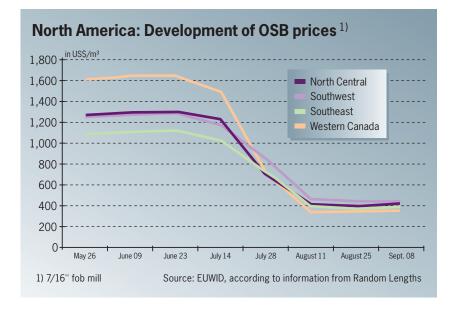
A similar fall in 7/16" prices has been witnessed in other regions covered by Random Lengths. On 11 August, average prices were put at US\$405/1.000 sqft or US\$392/m³ in the south-east region (mills in Georgia, Alabama, Mississippi), down from US\$1,160/1,000 sqft (US\$1,123/m³) in late June. Prices in the south-west region (mills in Texas, Louisiana, Arkansas and Oklahoma) plunged from US\$1,330/1,000 sqft (US\$1,288/m³) to US\$475/1,000 sqft (US\$460/m³) in the same period. Western Canadian prices had stood at US\$1,700/1,000 sqft (US\$1,646/m³) almost all June long. According to Random Lengths, prices are not at just US\$340/1,000 sqft (US\$329/m3), a dive of US\$1,360/1,000 sqft or 80%.

Softwood plywood prices had already started to decline almost two weeks earlier in late June. What is more, the initial markdowns were even bigger than those for OSB. As a result, the structural panel composite price mapped by Random Lengths, which sums up the trend in prices for a variety of OSB and softwood plywood grades, has fallen more and more over the past two months.

The composite price gradually decreased in the weeks after it peaked at US\$1,705/1,000 sqft on 24 June. The biggest markdowns occurred in the first three weeks of July (1 July: US\$1,673, 8 July: US\$1,567, 15 July: US\$1,341, 22 July: US\$1,050, 29 July: US\$795). Random Lengths has already reported a price of US\$668/1,000 sqft for 5 August.

According to information released by the National Association of Home Builders (NAHB), based in Washington DC, North American OSB prices increased more than six-fold between January 2020 and June 2021. Southern yellow pine and western fir plywood prices have climbed roughly half as much, having more than tripled over the past 18 months.

All told, structural panels prices have risen much more than softwood lumber prices. According to the NAHB, lumber prices roughly quadrupled in the period from April 2020 to May 2021, but have since receded significantly. The upward trend in structural panel prices has lasted almost throughout the entire first half of 2021. Softwood plywood prices fell for the first time in a while in late June, before dropping even more sharply in the first two weeks of July. Initial price cuts emerged in the OSB business in Canada and the southern US in early July, while prices initially stayed the same in the northcentral region. Other regions were hit by this trend in the second week of July.



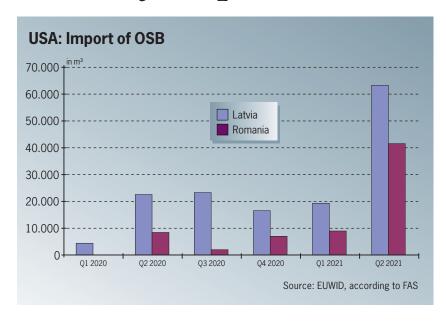
Increases from quarter to quarter, already seen in 2020, intensified in the current year

EU-27 quadrupled OSB deliveries to the US compared to the first quarter

In the second quarter of 2021, US imports of OSB from overseas regions continued to increase significantly.

Delivery volumes from the EU-27, the CIS states and East Asia were each also considerably higher than the volumes recorded in the first quarter, whilst imports from South America slightly decreased again. According to the export trade statistics of the US Department of Agriculture, Foreign Agriculture Service (FAS), Washington D.C., a total of 110,655 (April-June 2020: 38,262) m³ was delivered from the EU-27 in the second quarter. This represents almost a tripling of the preceding year's volume. Compared to the volume of 28,473 m³ recorded in the first quarter deliveries almost quadrupled. Imports from Latvia increased by 181% vis à vis the preceding year to 63,223 (22,514) m³; Romania caught up further at an increase of 395% to 42,465 (8,380) m³. There have been no imports from Ireland during the second quarter. In the first quarter, Latvia had delivered 18,795 m³ and Romania 8,783 m³.

In the case of the CIS states, the increase from the first to the second quarter was even more significant. For the first quarter, a volume of 5,096 m³, all of which had come from Russia, had been recorded in the FAS statistics. In the second quarter, Belarus supplied 18,887 m³ and Russia 16,222 m³, resulting in a total volume of 35,174 m³. From China, the only supplier country in East Asia, 7,024 m³ OSB were imported into the USA in the second guarter, after 1.812 m³ in the first guarter. In contrast, deliveries from Brazil, meanwhile the only relevant South American supplier country, amounted to 832 (50) m³ and were thus again below the 1,290 m3 recorded for the first quarter.



Overall, US OSB imports in the second quarter increased by 24% to 1.537m (1.242m) m³; in the same period the import value rose by 354% to US\$1.374bn (302.4m). Deliveries from North America, which come almost exclusively from Canada, were up by 15% to 1.383m (1.203m) m³. In the first quarter, total imports had risen by 18% to 1.425m m³. At that time, North American imports had already increased at somewhat less significant rates (+15% to 1.388m m³). Over the entire first half of the year, the US imported a total of 2.962m (Jan-July 2020: 2.452m) m³.

In 2020 as a whole, the 27 EU member states shipped 96,048 (2019: 44,650) $\rm m^3$ OSB to the US. Latvia shipped 146% more to the US with a total of 66,567 (27,009) $\rm m^3$. Imports from Romania increased more than five-fold to 17,284 (3,013) $\rm m^3$, but were still lower than in 2017 (56,016 $\rm m^3$) and 2018 (28,921 $\rm m^3$). FAS statistics show that deliveries from Ireland dived 19% to 11,686 (14,356) $\rm m^3$.

After making a strong improvement between the first and second quarters, OSB imports from the EU-27 receded as the year went on in a quarter-onquarter comparison. Nonetheless, deliveries were still much higher than the previous year in all four quarters. The EU-27 shipped 4,659 m³ of OSB to the US in the first quarter. Deliveries stood at 38,262 m3 in the second quarter and 29,648 m³ in the third guarter. The final three months of 2020 produced another fall in shipments to 23,479 m³, although deliveries were still 152% higher than in the same stretch in 2019. Latvia provided the US with 16,473 (9,280) m³ and Romania supplied 6,955 (0) m³.

Imports from Canada tumbled 21% to 4.962m (2019: 6.319m) m³ in 2020 as a whole. Rising shipments from other regions meant that total imports were 20% lower at 5.066m (6.368m) m³. After the EU-27, the CIS was the US's third-largest supplier with 3,511 (3,513) m³. South America shipped 1,816 m³ to the US, while imports from China reached 1,300 m³.

Final decision is expected by mid-December

EU imposes preliminary anti-dumping duties on Russian birch plywood

After publication in the EU Gazette on 11 June 2021, the preliminary anti-dumping duties imposed on birch plywood from Russia by the EU Commission became effective as of 12 June.

From that date importers of Russian birch plywood into the EU are required to deposit 15.0-15.9% of the import price on a cif EU border basis. Individual duty rates of 15.0% (Syktyvkar Plywood Mill), 15.3% (Zheshartsky LPK) and 15.9% (Sveza Group) have been stipulated for three different Russian manufacturers; other companies involved in the investigation are subject to a duty rate of 15.7%. For all other companies a preliminary duty rate of 15.9% applies.

The range of preliminary duty rates is narrower than initially planned. In the "pre disclosure" document released on 12 May the EU Commission had suggested preliminary anti-dumping rates in the range from 15.0-17.2%. The preliminary duty rates are valid for a six-month period. In the continuing anti-dumping investigation the EU Commission is expected to take a final decision by 11 December, according to the recent schedule which had been delayed repeatedly because of formal errors and imposed restrictions due to the corona pandemic.

The implementing regulation 2021/940 adopted on 10 June and published the next day describes on a total of 30 pages, inter alia, the initial situation of the anti-dumping investigation which is ongoing since mid-October 2020 as well as the individual procedural steps. The investigation was launched on the initiative of several European birch plywood manufacturers who joined forces in the so-called "Woodstock Consortium". In the petition filed with the EU Commission on 31 August 2020, the consortium accused Russian producers of price dumping in the range from 23-84%. As a consequence, imports of Russian



Production of birch plywood

(Photo credit: UPM Plywood)

birch plywood into the EU increased more and more over the past years. The volume and price pressures caused thereby led to significantly lower earnings and a loss of jobs from the consortium's point of view.

The investigation by the EU Commission covered the period from 1 July 2019 to 30 June 2020 and included imports of raw and laminated birch plywood. In a first step, the EU Commission had launched the review by means of sampling, asking all interested parties to submit corresponding information. A total of 13 importers and 15 Russian manufacturers participated in the sampling. Three EU producers, Russian manufacturers and importers respectively were chosen for conducting further reviews. Latvian Latvijas Finieris AS, based in Riga, Polish Paged Pisz sp. z o.o of Pisz, and Finnish Espoo-based Metsä Group's division "Metsä Wood" were selected as EU representatives. The group of Russian producers included Sveza Group of Moscow, Zheshartsky LPK/UPG, based in Zheshart, and Syktyvkar Plywood Mill Ltd., Syktyvkar. The importers selected for the investigation were Czech Orlimex CZs.r.o. of Osik, French Group ISB, based in Pacé, and German Robert Neudeck GmbH & Co. KG of Germersheim. Due to the corona crisis the originally planned on-site inspection visits were not possible. Instead, data were collected remotely.

According to the EU Commission 1.192m m³ of birch plywood from Russia were imported into the EU during the investigation period, an increase of 37% compared with 2017. The Russian producers increased their market share from 46% in 2017 to 56 % in the review period. Import prices fell by around 10% on average. EU manufacturers recorded sales declines of 17% and a reduction in market share to 32 (2017: 44) % during that same period of time. The EU Commission concluded that the rise in imports at dumped prices from Russia caused significant damage to the EU plywood industry. Further damages are to be prevented by means of the anti-dumping measures that have been imposed just

EU consumption increased since 2017/imports from Russia up by 36.9%

Market share of European birch plywood industry has decreased

Between 2017 and 2020, birch plywood manufacturers in the European Union experienced production declines of approximately 14%. Total EU consumption increased by 14% in the same period. The fact that domestic producers could not benefit from the growing market is related to the significant increase in Russian birch plywood deliveries into the EU.

According to the implementing regulation introducing provisional anti-dumping duties on birch plywood from Russia, imposed by the EU Commission on 11 June 2021, a total volume of 1.875m m³ birch plywood was consumed in the EU in 2017. Based on this figure, up to the period of the specified anti-dumping investigation from 1 July 2019 to 30 June 2020, total consumption had increased by 13.6% to 2.130m m³. Total EU consumption was determined on the basis of three data sources. The Woodstock Consortium, an amalgamation of several European birch plywood manufactur-

ers, requested for the EU Commission to examine anti-dumping duties on 31 August 2020. Data submitted in this connection were cross-checked with the sales volumes reported by selected EU manufacturers in the investigation procedure as well as with import statistics from Eurostat.

Imports from Russia, recorded on the basis of Eurostat data, amounted to 871,050 m³ in 2017. Accordingly, the market share was 46%. In 2018, the import volume increased by 7.2% to 933,329 m³ and the market share to 47%. In 2019, there was a further increase of 15.9% to 1.082m m³; the market share increased to 52%. During the investigation period, import volumes reached 1.193m m³, representing an increase of 36.9% vis à vis 2017. The market share here amounted to 56%. Since 2017, average import prices from Russia have decreased by around 10%.

Manufacturers in the EU produced a volume of 848,900 m³ birch plywood

during the investigation period. Compared to the base figure of 982,658 m³ in 2017, this corresponds to a decrease of 13.6%. In 2018, the production volume had initially increased to 1.010m m³ and then fallen to 879,540 m³ in 2019. Production capacities were built up between 2017, at 1.244m m3 (capacity utilisation: 79%), and 2019, at 1.328m m³ (capacity utilisation: 66%). During the investigation period, capacities were reported at 1.203m m³ (capacity utilisation: 71%). The production figures are based on information from the Woodstock Consortium and data from EU manufacturers selected by the EU Commission. Eurostat data were also included in order to determine the sales volume. Overall, EU manufacturers have suffered a continual decline in sales volumes since 2017, from 821,341 m³ to 680,243 m³. The market share has thus decreased from initially 44% to 32%.

The average sales prices per unit of the sampled EU manufacturers decreased slightly by 3% during the period under consideration. On the other hand, costs per unit produced increased by 10%, against the background of raw material price developments and capacity utilisation. Profitability was significantly reduced as a result. Concerning cash flow, an average decline of 14% was determined. According to the EU Commission, the deterioration in the economic situation of domestic manufacturers coincided with a significant increase in imported volumes from Russia. Such Russian products imported at dumping prices prevented necessary price increases. In response to the price pressure from Russia, EU producers were forced to introduce cost-reduction measures, which led not least to a significant drop in the number of employees, from 6,039 in 2017 to 5,308 in the investigation period.

2017	2018	2019	RP 1)
1,244,310	1,296,650	1,328,000	1,203,000
982,658	1,009,772	879,540	848,900
821,341	818,621	757,103	680,243
98,324	96,327	93,892	101,866
30,894	43,550	35,706	37,685
871,050	933,329	1,081,937	1,192,712
182,335	248,344	241,746	257,371
82,029	100,935	104,962	106,785
81,638	112,922	75,961	93,231
18,668	34,486	60,822	57,354
1,874,725	2,000,293	2,080,786	2,130,325
	1,244,310 982,658 821,341 98,324 30,894 871,050 182,335 82,029 81,638 18,668	1,244,310 1,296,650 982,658 1,009,772 821,341 818,621 98,324 96,327 30,894 43,550 871,050 933,329 182,335 248,344 82,029 100,935 81,638 112,922 18,668 34,486	1,244,310 1,296,650 1,328,000 982,658 1,009,772 879,540 821,341 818,621 757,103 98,324 96,327 93,892 30,894 43,550 35,706 871,050 933,329 1,081,937 182,335 248,344 241,746 82,029 100,935 104,962 81,638 112,922 75,961 18,668 34,486 60,822

from the EU Commission's Implementing Regulation 2021/940

Another sawmilling company, Schilliger Holz, to enter the fray

New and bigger projects set to speed up the increase in insulating board capacity

The sawmilling firm Schilliger Holz AG, headquartered in Küssnacht-Haltikon, Switzerland, is to invest in a new insulating board plant.

Schilliger is joining the ranks of Steico SE (Feldkirchen), Gutex Holzfaserplattenwerk H. Henselmann GmbH & Co. KG (Waldshut-Tiengen), Ziegler Holding GmbH (Plößberg) and Holzwerk Gebr. Schneider GmbH (Eberhardzell), which have already announced investment projects. With a designed annual capacity of 350,000 m³, the facility is to start operating in 2023 and use the dry method to make both pressure-resistant and flexible mats.

Alongside ongoing upgrade projects in Czarna Woda, Poland, and Casteljaloux, France, and plans for a new facility in Gromadka, Poland, Steico has embarked on preliminary planning work for its first plant in Germany and is eyeing a location in the Landsberg area. The Czarna Woda and Casteljaloux sites are currently installing a wet and dry line, respectively, to make pressure-resistant board. Three dry lines

will initially be commissioned in Gromadka starting at the end of 2022.

Ziegler Holding unveiled plans in March to start making insulating board in Bärnau, but ditched this project in late May because of permit problems. The search for an alternative site has now been completed. According to a statement published on 26 August, Ziegler now plans to build the insulating board plant in the "Hütten-Nord" industrial area near Grafenwöhr. Ziegler has also raised its investment substantially as part of the new plans. In addition to the pressure-resistant board technology that it has already ordered, the firm is to install a line to make flexible insulating mats. This step will quadruple total capacity compared with the original plans to about 2m m³. Start-up is still scheduled to take place in the fourth quarter of 2022 despite the change in location and plans.

Delays have also occurred in the permit process for an insulating board facility that Schneider is planning in Hermagor, Austria. The company has now developed a similar project for a site in Meßkirch in southern Baden-Württemberg, where a sawmill with downstream refining systems is already being built. The permit documents are currently being prepared for both projects. Which project comes to fruition first depends mainly on how the permit process goes. The company currently thinks that it is realistic that production will begin during 2022. Schneider wants to start making pressure-resistant insulating board first, and expand to flexible insulating mats and blow-in insulation at a later date. Schneider has yet to firm up the envisaged production capacity at the two locations.

At the end of the first quarter, Gutex managed to secure an environmental permit that it applied for on 9 November 2020 for an insulating plant planned in the Breisgau industrial park near Eschbach. The public hearing that the permit authority, the Freiburg Regional Council, scheduled for 22 March was cancelled since no objections were raised. A commissioning date in early 2023 thus still appears possible. Gutex intends to make pressure-resistant insulating board using a production line at the new site. The permit documents put the annual capacity at around 1.5m m³.

These projects mean that there are currently relatively firm investment plans for at least six new insulating material plants in Germany, Austria and Switzerland. Steico is also installing one line each at two existing facilities in France and Poland and plans to build another site near the German-Polish border. The production capacities have already been unveiled for locations in Gromadka (1.5m m³ with three lines) and for Gutex's project in Eschbach (1.5m m³), Ziegler's project in Grafenwöhr (2m m³ with two lines) and Schilliger Holz's project in Perlen (350,000 m³). These four projects are to add almost 5.5m m³ in the next three years. Schneider's plans in Hermagor and Meßkirch will bring the capacity increase towards 6m m³.



Piece of land for the new Gutex mill near Freiburg.

(Photo credit: Stadt Neuenburg)

Two lines to be commissioned in Casteljaloux and Czarna Woda in fourth quarter

Steico to open Gromadka with three lines and planning first German site

The insulating board and LVL manufacturer Steico SE, based in Feldkirchen, is planning to install three lines to make wood-fibre insulating materials at a new facility it is planning in Gromadka, Poland, in the very first phase.

Steico's Management Board approved the project at its meeting on 9 March 2021. Two lines will make flexible insulating mats with a combined capacity of around 1 million m³ per year. Another line with an annual capacity of about 500,000 m³ will produce stable insulating board. All three lines will use the dry process. Construction work on the new facility begun this summer, with commissioning slated for the end of 2022.

Steico said that it intends to invest approximately €75m in the first phase. At the beginning of November 2020, the firm spent around €1.2m to acquire a 16.5 ha piece of land at an industrial estate on a former airport in Gromadka. Steico now has access to a total area of around 18 ha thanks to additional property purchases. Up to three more production lines can be installed there in future expansions. Steico can also buy more space nearby for subsequent investments.

The new location is around 70 km east of the German-Polish border and situated just off the Polish A4 motorway. Once up and running, the Gromadka site will focus on serving the German market. The plant in South-West Poland will also supply markets in the Czech Republic and Austria. By contrast, Steico's existing facility in Czarnków will concentrate on Poland and neighbouring Eastern European markets in the future. With a portfolio of products focusing on bitumen-coated board, footfall sound insulating mats and LVL, the Czarna Woda plant has specialised in exports. Steico's facility in Casteljaloux, France, mainly caters to sales markets in South-Western Europe.



Preparation of the new Gromadka site

(Photo credit: Steico)

The start-up of a second line to make flexible insulating mats in the first quarter doubled the French plant's capacity to roughly 900,000 m³ per year. The two flex lines have so far been supplied by a shared front end with one refiner and one flash-tube dryer each. The installation of a second refiner and dryer is to boost insulating mat capacity in Castelialoux in the medium term. In addition to the two insulating mat lines, Castelialoux is also currently adding a line for stable insulating boards, which will likely get up and running in the fourth quarter of 2021 with an annual capacity of approximately 250,000 m³. In Czarna Woda, Steico intends to commission another wet line to make stable insulating board in the fourth quarter of this year. Its manufacturing capacity is listed at 135,000 m³.

Alongside the projects in Czarna Woda, Casteljaloux and Gromadka, Steico is exploring the possibility of building its first location in Germany in the Landsberg area. These deliberations have recently focused on an unused piece of woodland in the hamlet of Stillern in the south-eastern state

of Bavaria. The Bavarian State Forestry Agency has operated a 7-ha wet storage yard that can store up to 100,000 m³ of roundwood at this site, which is bordered to the south by the A 96 motorway, since the middle of 2017. Opponents to locating the plant in Stillern had recently raised the prospect of other sites in the region, including at the Penzing airbase and an available piece of land in Fuchstal-Leeder. Steico cautioned that these plans were preliminary. No firm talks about buying land have been held to date. Financing has not been arranged and the supervisory board has not given the green light yet, either. Financing has not been arranged and the supervisory board has not given the green light yet, either. Steico is also exploring alternative locations in Germany and other countries for the construction of its fifth plant. In Germany, the use of an existing industrial site might allow the project to come to fruition more guickly. Sites in South-Eastern Europe are the primary candidates for additional expansion outside Germany, with an investment in Slovenia considered possible.

Withdrawal from LSL production / Examining strategic alternatives for EWP

Louisiana-Pacific to switch Sagola OSB plant to siding production too

After the ongoing conversion of the OSB/LSL site in Houlton, Maine, Louisiana-Pacific Corp. of Nashville, Tennessee, wants to switch the OSB plant in Sagola, Michigan, to the production of "SmartSide" strand sidings as well.

Corresponding plans had already been presented in mid-February 2021. OSB production in Sagola, geared to an annual capacity of 420m sqft (3/8" basis), is thus going to be phased out by the end of 2022. Following the refit, the works is expected to achieve a sidings capacity of around 300m sqft. At the time of the project's announcement, the company had been aiming to commence production in the third guarter of 2023. In the meantime, the schedule has been brought forward. According to the updated plans, strand siding production in Sagola is now scheduled to start as early as the first quarter of 2023.

The conversion of the Houlton plant is scheduled for completion before the end

of this year, in line with the latest planning. Production of strand sidings is scheduled to commence at the end of the first quarter of 2022. As recently as spring, the investment volume anticipated for this project was raised from previously US\$80-85m to around US\$95m.

The plant currently has a laminated strand lumber (LSL) capacity of 5.5m ft³, but it can also be switched to OSB as required and then produce up to 250m sqft per year. By switching its Houlton facility to strand sidings, Louisiana-Pacific will be withdrawing from LSL production. Once up and running, the site is to have an output of around 220m sqft of sidings. According to Louisiana-Pacific, the capacity of converted siding works is usually around 75-85% of the former OSB capacity.

Along with its withdrawal from LSL production, Louisiana-Pacific is also examining strategic alternatives for the remaining engineered wood products (EWP) activities. Under consideration is a sale of the activities in full or just certain sections.

In Wilmington, North Carolina (4.6m ft³), and in Golden in British Columbia (4.0m ft³), Louisiana-Pacific operates two LVL plants with a combined capacity of 8.6m ft³. The company's own l-joist production is concentrated on the works in Red Bluff, California, (annual capacity 80m ft). Another 140m ft of l-joists can be produced via a 50/50 joint venture with Resolute Forest Products Inc. of Montréal, Québec, in St. Prime, Québec, and in La Rouche, Québec.

The reduction in Louisiana-Pacific's total OSB capacity resulting from the two conversion projects is to be offset by the recommissioning of the "Peace Valley" plant in Fort St. John, British Columbia, which was shut down for an indefinite period in August 2019. This plant produced its first board at the end of June, and production is scheduled to be gradually ramped up until reaching the full annual capacity of 800m sqft by the second quarter of 2022.

The combined capacity of the eight OSB plants is given as 4.515bn sqft in Louisiana-Pacific's business report for 2020. The capacity of the six sidings plants had amounted to 1.740bn sqft at the end of 2020. Louisiana-Pacific's aim behind the conversion projects in Houlton and Sagola is to bring its total capacity of sidings towards 2.3bn sqft by 2024. OSB capacity is then to amount to around 4.1bn.

The conversion measures are Louisiana-Pacific's response to the growth in sales volume and revenue achieved with SmartSide sidings in the last few years. In its business year 2020, the company sold 1.393bn sqft (2019: 1.234bn sqft) of SmartSide sidings. The generated sales revenue rose to US\$915m (US\$797m), and adjusted EBITDA to US\$243m (US\$163m). As such, average annual growth (CAGR) of 14% and adjusted EBITDA of 23% has been achieved since 2015.



(Photo credit: Louisiana-Pacific)

€250-300m to be invested in expansion and optimisation by 2025

Swiss Krono Group plans several projects in Wittstock-Heiligengrabe

Within the scope of its medium-term investment planning, the Swiss Krono Group intends to invest a total of €250-300m by 2025 in various expansion and optimisation projects at the OSB, MDF/HDF and laminate flooring location in Wittstock-Heiligengrabe, which operates under the name Swiss Krono Tex GmbH & Co. KG.

Some of these projects, such as the modernisation of the OSB facility approved in December 2018, or the installation of a single-pass digital printing system, preparations for which have been in place since the first quarter of 2019, are already at a relatively advanced stage. Construction of a new high-bay warehouse is to commence this year. The modernisation and expansion of laminate flooring production as well as the construction of an additional biomass power station with a cogeneration function are among the projects scheduled for the next few years. In parallel to this, the Swiss Krono Group wants to implement several measures to improve internal logistics and the plant's connection to public transport. In order to create the spatial conditions necessary in this connection, the company had already submitted an application to expand the plant at the beginning of 2020. In March 2020, the municipality of Wittstock-Heiligengrabe had subsequently decided to draw up a development plan and to adjust the land-use plan with regard to an area adjacent to the plant covering around 51 ha. The preliminary draft of the plan has meanwhile been completed. The Swiss Krono Group intends to use the newly added area for purposes such as relocation of the wood yard.

The largest individual projects in the area of production will be the already well underway modernisation of the OSB facility, which went into operation in March 2001, and the construction of the new power station. Conversion work in connection with



Swiss Krono site in Heiligengrabe

(Photo credit: Gemeinde Heiligengrabe)

the OSB facility, carried out during several brief shutdown periods, concentrated on the front-end and the finishing processes. During the third quarter of 2020, finishing was converted from the previously practised method of online distribution after pressing to masterboard production. The majority of the work was contracted out to Schermesser S.A.S. of Altkirch, France. At the front end, a third strander supplied by Pallmann Maschinenfabrik GmbH & Co. KG is currently being installed. Commissioning is scheduled for October.

The project involving the power station, planned for 2023 and 2024 with an investment volume of around €60m, is intended to enable the Swiss Krono Group to further reduce its use of fossil fuels, primarily natural gas. The medium-term goal is to achieve essentially CO2-neutral production. The production facilities in Heiligengrabe will be supplied with thermal energy via the existing biomass power station, which went into operation in October 2002; furthermore, electrical energy will be fed into the public grid.

Concerning laminate flooring production, plans include several capacity expansions, the construction of a high-bay warehouse as well as the conversion of the order-picking warehouse. This conversion, the outcomes of which should include an increase in shipping capacities for the online sector, has already been completed. The investment volume amounted to approximately €1m. The new high-bay warehouse, in which around €15m will be invested until 2023, is intended to fully automate the supply of coated substrate boards for laminate flooring production. A RotaJET 225 type single-pass digital printing system, supplied by Koenig & Bauer AG (KBA), Würzburg, was already installed in the actual flooring production during the second half of 2020. The system, designed for printing on decor paper, has been in regular operation since March. In a next step, laminating and profiling capacities are also to be expanded - at a total cost of €18m. The replacement of a short-cycle press is planned, for example.

Pfleiderer East works to pass to Kronospan



Grajewo site

(Photo credit: Pfleiderer)

According to as yet unconfirmed information, the Kronospan group appears to have placed the winning bid in the sale process originally launched for the two Polish works of Pfleiderer Group B.V. & Co. KG of Neumarkt in the fourth quarter of 2019. In the last round of the sale process, which had been interrupted and then resumed in the third quarter of 2020, not only Kronospan was involved but a Polish group of investors led by Bogdan Kaczmarek as well. Kaczmarek originally came from the clothing industry, but meanwhile has stakes in various furniture manufacturers too. Some of these furniture manufacturers also have connections to the Ikea group. In earlier stages of the sale process, interest was shown not only by financial investors but by several companies in the wood-based panel industry as well. These included Kastamonu Entegre Agac San. ve Tic. A.S. (Istanbul, Turkey), Gruppo Mauro Saviola s.r.l. (Viadana, Italy), and Paneles Arauco S.A. (Santiago de Chile).

Nothing has been heard from Pfleiderer or Kronospan about the result of the sale process yet. The underlying reason for this is the preparatory work for the cartel application. Owing to the size of the companies involved, the transaction must be subjected to scrutiny at the EU level. Wood-based panel and furnitureindustry insiders believe approval from the cartel authorities will not be easy to obtain. Kronospan is already represented in Poland with two particleboard and MDF/ HDF works in Szczecinek and Mielec. An acquisition of the particleboard works in Wieruszów and the works in Grajewo geared to particleboard and thin MDF/HDF would give Kronospan high market shares in both product areas at least in Poland. Besides Kronospan and Pfleiderer, there are three other particleboard manufacturers in Poland (Swiss Krono Group, Egger Biskupiec Sp.zo.o., and Tanne Sp.zo.o.) and three MDF/HDF producers (Swiss Krono Group, Homanit Polska Sp.zo.o. and Homanit Krosno Odranskie Sp.zo.o.. and Ikea Industry Poland Sp.zo.o.). There is relatively heavy concentration as regards buyers, too, at least in the furniture industry. The largest recipients include Ikea Industry, Fabryki Mebli Forte S.A., and Black Red White S.A. (BRW). If a direct takeover of the two Pfleiderer works by Kronospan becomes questionable in the eyes of the regulatory authorities, the transaction could still be approved with conditions attached.

The sale process and the agreement now reached only apply to the "Panel East" division with the two wood-based panel facilities. The glue and impregnating-resin manufacturer Silekol Sp.zo.o. of Kedzierzyn-Kózle is not part of the transaction. The Silekol shares were transferred within Pfleiderer Group in the first quarter 2020 and are meanwhile held by PCF GmbH.

Pfleiderer Group issued a €750m sustainability bond

Pfleiderer Group B.V. & Co. KG issued a sustainability-linked senior secured bond with a total volume of €750m via PCF GmbH in mid-April 2021. Both companies are headquartered in Neumarkt. The bond terms are linked to a number of sustainability goals. For instance, the company has committed to increasing its use of recycled wood to 44% by 2022 and 50% by 2025.

Scope 1 and scope 2 greenhouse gas emissions will also be lowered by 8% and 21% by 2022 and 2025 respectively from their 2020 baseline. Pfleiderer will pay a penalty interest rate if it fails to meet either of the 2022 targets. According to Pfleiderer, this is the first sustainability-linked bond to be offered by a German issuer. It also includes the first euro-denominated sustainability-linked floating-rate note.

On 12 April, the rating agency Moody's Deutschland GmbH set the corporate family rating (CFR) for PCF GmbH at B2 and the probability of default rating (PDR) at B2-PD in connection with the issue of the new sustainability bond. The outlook was described as stable on this basis. According to Moody's, Pfleiderer plans to use the proceeds from the new bond to refinance a €445m revolving line of credit, among other projects. When drawing up the rating, Moody's drew on the planned new group structure that will solely comprise the Panel West and Silekol units after the reorganisation approved last year. П

Lower revenues at Sonae Industria and Sonae Arauco

The coronavirus pandemic left its mark on both Sonae Industria SGPS S.A., headquartered in Maia, Portugal, and the joint venture Sonae Arauco S.A. in the 2020 financial year in the form of a decrease in their revenues. Sonae Arauco saw its recurrent EBITDA take a turn for the worse, too, while Sonae Industria experienced a slight year-on-year improvement.

Sonae Industria's total revenues tumbled by 12.2% to €201.8m (2019: 230.0m) last year. The company blamed this €28.8m decline on much lower sales and revenues at the Canadian particleboard manufacturer Tafisa Canada Inc., based in Lac-Mégantic, Québec. The company booked full-year recurrent EBITDA of €28.0m (26.4m) and a margin of 13.9 (11.5)%. Sonae Industria again recorded a net loss for 2020 at -€6.0m (-13.4m).

Based on the proportional figures announced by Sonae Industria, the joint venture Sonae Arauco generated revenues of approximately €670m (752m) and recurrent EBITDA of €71.8m (74.8m) in the 2020 financial year.

Deadline extension for Kronospan Italia

In the authorisation process for the particleboard line planned by Kronospan Italia s.r.l. for San Vito al Tagliamento, the autonomous region of Friuli Venezia Giulia extended the deadline for statements on 1 July 2021 to 10 January 2022. In this period, the company can respond to the objections raised in the course of the provedimento autorizzatorio unico regionale (PAUR) to date and during a public hearing on 9 June as well as to expert opinion from Prof. Marco Boscolo of the University of Triest University commissioned by the local council.

In a meeting on 13 May, San Vito al Tagliamento's local council had agreed in principle to the project presented by Kronospan Italia publicly for the first time on 30 December, but it also stipulated the examination of various effects on the

environment. This environmental impact is also the main bone of contention held by the citizens' initiative of "ambiente bene per la comunità (ABC)" established when news of the plans came out. Kronospan Italia had last promised to provide additional information on multiple occasions; interested parties are also to be given a tour of the existing works and access to the approval documents.

On the basis of the information available to date, the planned particleboard works will have a production capacity of around 1,750 m³ per day or almost 600,000 m³. The main purpose of the particleboard produced is to provide the laminating facilities already operating at the works with rough boards, which are currently delivered by other, predominantly Southern European Kronospan works. The new works' wood

supply is to be geared largely to recovered wood; the annual requirement is estimated at around 550,000 t. According to the information currently at hand, the start-up is to take place sometime in 2023. The cost of the investment is given in Italian newspaper articles at approximately €200m.

Kronospan currently operates a laminating plant in San Vito, put into operation in the first half-year 2008 with two short-cycle presses from the former Hymmen Industrieanlagen GmbH. A third Hymmen short-cycle press went into service in 2015. In October 2013, Kronospan had also held out the prospect of building a 250,000 m³ MDF/HDF line for the Italian facility, which, on the basis of the plans at that time, was to start operating in 2015. The project that was then no longer pursued in spite of the already well-advanced approval procedure is to be replaced by the particleboard works now in planning.

EU approved sale of Kaindl shares

With the decision published on 30 March 2021, the EU Commission has given its approval of the aggregation of all the shares in the Austrian company M. Kaindl OG of Wals, Salzburg. Upon completion of the transaction and through Kronospan Holdings plc of Nicosia, Cyprus, Peter Kaindl will hold all the shares in the wood-based panel, laminates, worktop, and laminate-flooring manufacturer with production facilities in Wals-Siezenheim and Lungötz.

Peter Kaindl originally had a non-voting share of 20%. After the death of his father, Matthias Kaindl, his 40% share with voting rights passed to Peter Kaindl. The remaining 40% with voting rights was originally held by Ernst Kaindl. Via succession, this stake had been transferred to lnes Kaindl-Benes. Now that the acquisition of the shares previously held by Kaindl-Benes has been approved, Peter Kaindl's stake will increase from the former 60% to 100%.



Kaindl's history includes also ski production

(Photo credit: EUWID)

This complete takeover had been registered with the EU Commission on 5 March. At that time, 14 April was set as the date for the final decision. The EU Commission thus completed its examination two weeks earlier than expected.

The businesses belonging to M. Kaindl OG include Kaindl Flooring GmbH as well as the stake in the logistics joint-venture Container Terminal Enns GmbH (CTE) of Enns, Austria, held through Kaindl Invest GmbH. Kaindl's plant in Lungötz is the origin of the Kronospan Group, which is controlled by Peter Kaindl, and Swiss Krono Group, which is now managed by Ines Kaindl-Benes. The Kaindl family had established a sawmill there in 1897. A particleboard mill was installed in Wals starting in the late 1950s and began manufacturing in 1962. In 1966, the firm had built its first international site with Kronospan AG in Menznau, Switzerland. A short time later, the firm was split into two branches: Kronospan Group and Krono Group Switzerland, which has done business as Swiss Krono Group since 2015. However, its two locations in Wals and Lungötz continued to operate jointly. However, there are no direct corporate law ties between the Kaindl companies in Austria and Swiss Krono Group.

Production downtime at MDF plant of Valbopan

Portuguese MDF manufacturer Valbopan Fibras de Madeira S.A, based in Famalicão da Nazaré, was forced to shut down production following a fire on the evening of 14 April 2021. According to unconfirmed information, the downtime lasted for several weeks. The MDF plant in Famalicão da Nazaré approximately 100km north of Lisbon was established in 1988 and is equipped with one of the smallest production lines in Europe. The single-opening press in 2,440x7,310mm format supplied by Fjellman Press AB, a company dissolved in 2001, has an annual production capacity of around 45,000m3. Valbopan's production programme mostly contains coloured MDF, which is sold via the two product lines Valboard and Valchromat.

In Germany, Valchromat panels are sold by various timber wholesale companies. According to information from the woodbased panels sector, there are only a few suppliers of coloured MDF; in addition to Valbopan, a broader range of colours is covered by Sonae Arauco Deutschland GmbH, based in Meppen, Spanish Financiera Maderera S.A. (Finsa) of Santiago de Compostela and Korean MDF manufacturer Foresco Co. Ltd., headquartered in Incheon. Sonae Arauco sells coloured MDF under the name Innovus Coloured MDF. Finsa coloured MDF is available under the Fibracolour brand. Foresco sells its Forescolor programme in Europe via wholesale trade company EM Living (Lisbon). Other MDF manufacturers, for example Pfleiderer Deutschland GmbH of Neumarkt and the boards division of Unilin byba, based in Wielsbeke, Belgium, are able to supply a limited range of colours, especially black and grey coloured MDF.



Valchromat coloured MDF

(Photo credit: Valbopan)

VMG particleboard factory damaged by explosion



(Photo credit: Delfi

The particleboard factory of AB Klaipedos Mediena, which belongs to UAB Vakaru Medienos Grupe (VMG), located on the outskirts of Lithuanian port town Klaipeda, was significantly damaged by an explosion in the front-end area on 3 May 2021. As a result of the explosion, parts of a building collapsed. The main production facilities, including the forming and press line which comprises a single-opening press designed for a capacity of around 180,000m³, were not damaged. However, due to the significant damage in the front-end area, particleboard production cannot be resumed for the foreseeable future.

According to information that has not been confirmed as yet, the VMG Group decided in mid-May not to reconstruct the damaged parts of the facilities and thus not to continue production. Instead, the reduction in volume caused by downtime of the Klaipeda factory is to be made up for by the particleboard factory in Akmene, which was newly commissioned in summer 2020 and, with a continuous press in 8ft x 45.5m dimensions, achieves an annual capacity of around 660,000m³. Due to the internal reorganisation, the VMG Group has had to reduce particleboard deliveries to external customers. In Akmene, a furniture plant is also to be constructed in a second investment phase. Originally, it was to be commissioned over the course of 2021, however, according to current information, this will be delayed until 2022.

The particleboard factory in Klaipeda has so far mostly produced melamine-faced particleboard in 2,440 x 1,830mm format, which was delivered to the kitchen furniture plant at the same location also owned by AB Klaipedos Mediena. This kitchen furniture plant produces exclusively for the lkea Group. Bürstadt Furniture GmbH of Bürstadt is the second supplier for lkea kitchen furniture in Europe.

The VMG Group operates another particleboard factory at VMG Industry FLLC in Mogilev, Belarus, with an annual capacity of around 165,000m³, which was commissioned in 2013 and supplies a furniture plant at the same location. □

Wood-based panel sales in Brazil remain at high level

In the second guarter of 2021, the Brazilian wood-based panels industry sold virtually the same volumes as in the first three months. According to the evaluation of sector association Indústria brasileira de árvores (IBÁ), Brasilia and São Paulo, total sales amounted to 2.314m m³ (April-June 2020: 1.447m m³). The preceding year's figure, which especially in April and May had been strongly affected by the effects of the corona crisis, was exceeded by 59.9%. Domestic sales rose by 66.8% to 2.040m m³ (1.222m m³). By comparison with the previous year, at an increase of +75.8% to 835,000 m³ (475,000 m³), particleboard business developed along even somewhat better lines than MDF/ HDF sales, which increased by 61.3% to 1.205m m³ (747,000 m³). A volume of 274,000 m³ (225,000 m³) was delivered to other countries, representing a rise of 20.9% compared to the previous year.

In the first quarter, Brazilian wood-based panels manufacturers had sold 2.032m m³ on the domestic market, this volume consisted of 1.207m m³ MDF/HDF and 825,000 m³ particleboard. Including the export volume of 296,000 m³, total sales had amounted to 2.328m m³.

In full year 2020, a significant double-digit growth in the third and fourth quarter boosted particleboard and MDF/HDF sales by 6.5% to 8.223 (2019: 7.720) million m³. This figure was also well above 2018's total of 7.988 million m³.

Wanhua starts assembling two more strawboard lines



Use of straw in a Wanhua plant (Photo credit: Dieffenbacher)

The wood-based panel producer Wanhua Ecoboard Co. Ltd. begun the assembly of two more strawboard lines in May and June 2021. This firm was founded in 2006 with the involvement of the Chinese PMDI producer Wanhua Industrial Group Co. Ltd., based in Yantai, Shandong Province. The two new lines will expand its spectrum of products, which has so far focused on particleboard, to include fine OSB and MDF.

Wanhua Ecoboard has ordered nine strawboard lines from Dieffenbacher GmbH Maschinen- und Anlagenbau since 2015. The first six lines all make straw particleboard. Equipped with a CPS press in dimensions of 9 ft x 23.4 m, the first had an annual capacity of around 110,000 m³ and started operating in Chenzhou, Hunan Province, in October 2017. The second line was commissioned in the first half of 2018 using a 4 ft x 23.6 m ContiPlus press delivered by Shanghai Wood-Based Panel Machinery Co.

Ltd. (SWPM) and with an annual capacity of around 50,000 m³. The third line with an 8.5 ft x 28 m CPS has been operating in Jingmen, Hubei Province, since the second half of 2018.

All subsequent orders for Wanhua Ecoboard have been equipped with the next-generation CPS+ press. The fourth and fifth particleboard lines were installed in Tonglin, Anhui Province, and Jingzhou, Hubei Province, and started operating just a few days apart in mid-June 2019. The sixth line followed in Bengbu, Anhui Province, at the end of 2019 and was handed over at the start of March 2020. Using a CPS+ in 9 ft x 28 m, the straw particleboard lines commissioned during 2019 each have an annual capacity of about 245,000 m³.

The fine OSB production line now planned in Lankao, Henan Province, is to achieve an annual capacity of 250,000 m³ using a CPS+ in dimensions of 8.5 ft x 33 m. The fine OSB made by Wanhua only uses straw in the outer layer. The core is solely made out of wood-based strands. The MDF line, which will be installed in Yiyang, Jiangxi Province, and has a designed annual capacity of about 210,000 m³ using a CPS+ in dimensions of 9 ft x 32.4 m, is to run completely on straw. Wanhua Ecoboard ordered another strawboard line from Dieffenbacher during the past few months. П

Rushil Décor puts MDF works into operation

The laminate and wood-based panel manufacturer Rushil Décor Ltd. of Ahemdabad in Gujarat, India, finished assembling the new continuous MDF plant in Atchutapuram, Andhra Pradesh, at the beginning of 2021 after the work had been interrupted at times due to the effects of the corona crisis. During the first quarter, the company has commenced commercial production on the complete line (annual capacity: 240,000 m³) supplied by Siempelkamp GmbH & Co. KG. The greenfield project thus took roughly a year longer than originally planned. After the strict ban on entering India was relaxed, the company ultimately managed to keep to the schedule. At the end of October, it had been assumed that commercial production would start on 1 April.

Rushil Décor had entered MDF production in Chikmangluru, Karnataka, on a multitier plant (annual capacity: 90,000 m³) supplied by Shanghai Wood-Based Panel Machinery Co. Ltd. (SWPM) in 2012. The company had announced the plans for building the second MDF line in 2016, followed by the placement of the order with Siempelkamp in the fourth quarter of 2017. Rushil Décor wants to enter the MDF export business as well through the works located on the Gulf of Bengal where thin MDF can also be produced in future, the company said.

New Merino particleboard plant to open in late 2022

The Indian plywood and laminate manufacturer Merino Industries Ltd. of Kolkata, West Bengal, is setting up its planned particleboard plant, with which the company will also be making its debut in particleboard production, at the new Halol facility in the West Indian state of Gujarat. The authorisation procedure was completed in the first quarter of 2021. At the same time, the company placed an order for a whole plant with Dieffenbacher GmbH Maschinen- und Anlagenbau. The order includes the woodchipper and particle-preparation unit, a drum dryer, the forming and press line with an 8 ft-wide CPS+, and the raw-board conveyor with a downstream Lukki storage system. The scope of the order also covers the press exhaust-air purification unit as well as the pneumatic transport and dust-extraction system. The start-up of the plant, geared to an annual capacity of around 270,000 m³ is scheduled for the end of 2022. According to information from the Times of India, the cost of the investment in the greenfield project, which also includes the installation of laminating capacity and a furniture-production plant, amounts to INR6.30bn (roughly equivalent to US\$86m).

Merino Industries currently operates four production facilities in the states of Uttar Pradesh, Haryana, Tamil Nadu, and Gujarat. The products made at the main site put into operation in Hapur, Uttar Pradesh, in the early 80s, include laminates, furniture parts, and formaldehyde. The works in Rohad, Haryana, assigned to the subsidiary Merino Panel Products Ltd., started operation in 1996; the product range includes laminates, plywood, and laminated wood-based panels. The Hosur plant in Tamil Nadu is geared solely to laminated wood-based panels. Another laminate plant was put into operation in Dahei, Guiarat, in 2017. The meanwhile three laminate facilities give Merino Industries a total annual capacity of almost 50m m². As one of two Indian manufacturers, the company also uses a double-belt press for producing laminates.

Centuryply plans to triple MDF capacities



MDF mill in Hoshiarpur

(Photo credit: Centuryply)

Indian wood-based panels and laminate manufacturer Century Plyboards (Centuryply), Kolkata, West Bengal, plans to invest around INR5.00bn, which is equivalent to US\$67.4m, for construction of a second MDF plant over the next two years. According to executive director Keshav Bhajanka, the greenfield project in the south-Indian state of Andhra Pradesh is to be financed primarily via existing liquid funds and the current cash flow, and only to a minor extent by taking up short-term liabilities. He explained that commissioning of the plant, which is designed for a capacity of 700 m³/day or 231,000 m³/annum, is scheduled for the first quarter of the 2023/2024 financial year at the latest. In the coming weeks, the company plans to purchase a suitable industrial site, negotiations with local authorities have already reached an advanced stage.

In a first stage, Centuryply is currently expanding the MDF plant in Hoshiarpur

(Punjab), which commenced operations at the end of July 2017 and has a capacity of 600 m³/day or 198,000 m³/year, with a thin-board line (capacity: 400 m³/day or 132,000 m³/year). Commissioning of the line, scheduled for the end of the current financial year, means that MDF capacity will temporarily increase by two-thirds to a total of 330,000 m³. Upon completion of the second expansion stage, Centuryply will then have a total capacity of around 560,000 m³/year, representing an increase of 183% compared to the current capacity.

According to a statement published on 22 June, Centuryply also plans to expand its plywood capacities. Until the first guarter of 2022/2023, a veneer and plywood factory, designed for annual production of 60,000 m³ plywood, is to be constructed in the state of Punjab. This investment of a total volume of INR750m is to be financed via internal reserves. Centuryply currently owns six plywood factories in India, one of which is operated as a 51% joint venture. According to the current publication, together with a site in Myanmar these factories have an annual capacity of 300,000 m³. Total capacity of the existing locations is already to be improved by approximately one-quarter in the current financial year, this is to be achieved by debottlenecking measures.

Greenpanel to increase MDF capacities by around 20%

In the current 2021/2022 financial year, Indian Greenpanel Industries Ltd. of Tinsukia, Assam, plans to eliminate existing bottlenecks at its two MDF locations in Routhu Suramala, Andhra Pradesh, and Pantnagar, Uttarakhand. This is meant to increase total capacity of the two plants by 20%, from previously 540,000 m³/year to then 650,000 m³/year. In its current investment planning, the company estimated INR250m for this expansion, which is expected to be completed in the third quarter of the financial year.

According to Greenpanel, in the last quarter both locations produced at the limits of their capacity for the first time, total capacity utilisation was indicated at 102% (Routhu Suramala: 105%, Pantnagar: 96%).



(Photo credit: Greenpanel)

Greenply plans to build an MDF mill in Western India

The Indian plywood manufacturer Greenply Industries Ltd., based in Tinsukia, Assam, is set to acquire all shares in Baahu Panels Pvt. Ltd., a company based in Kolkata, West Bengal that was established in May 2021. Greenply's Board of Directors approved the takeover on 4 August, with the transaction set to close by the end of this month.

Baahu Panels had developed plans to build an MDF mill in Sherpura in the Western Indian state of Gujarat in recent months. An industrial entrepreneurship memorandum (IEM) had been submitted to the Indian Ministry of Commerce & Industry as part of this process; it has now been approved. The Department of Industries of the State of Gujarat has also authorised the purchase of a piece of land where the MDF mill is to be built.

Greenply intends to bring the greenfield project to fruition by the end of its 2022/2023 financial year. With a designed annual capacity of 240,000 m³, the mill is to entail an investment of INR5.480bn or around US\$73.8m. The company currently has three sites making plywood. Another plywood mill is to be built in Sandila, Uttar Pradesh, by the end of the current financial year. The group's MDF division, which has been in existence since 2010, was spun off to Greenpanel Industries, a company created for this purpose, with effect from mid-July 2019. Dieffenbacher GmbH Maschinen- und Anlagenbau delivered the continuous production lines for its mills in Pantnagar, Uttarakhand (annual capacity: 180,000 m³) and Routhu Suramala, Andhra Pradesh (360,000 m³).

According to joint managing director Sanidhya Mittal, this latest MDF project will also use a forming and press line delivered by a European manufacturer, but the contract had not been signed to date. Mittal noted that all of the other pieces of key production machinery would come from Europe, with European companies accounting for 60-70% of deliveries. However, an Indian producer will provide the energy plant, with sub-components being bought from Chinese businesses.

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New mills have a share of 20% (particleboard) and 9% (MDF/HDF)

North American composite panel capacity decreases in spite of new production lines

North American composite panel manufacturing capacity has dipped slightly in both 2020 and 2021 after rising continually between 2014 and 2019.

According to a presentation given by Andy O'Hare, who has served as the president of the Composite Panel Association (CPA), headquartered in Leesburg. Virginia, since the start of August 2020, at the annual general meeting of the European Panel Federation (EPF), based in Brussels, total particleboard, MDF/ HDF and hardboard capacity had fallen by 4.4% to 9.171bn sqft (3/4" basis) or 16.232m m³ last year. The CPA expects a small 0.4% decline to 9.136bn sqft or 16.169m m³ this year. The presentation summed up the key findings of the 2021 North American Composite Panel Industry Capacity Report, which the CPA published in early April. This 17-page annual capacity overview sets out the current capacity of composite panel manufacturers in the US, Canada and Mexico. The report also describes capacity trends since 2009 for each product group.

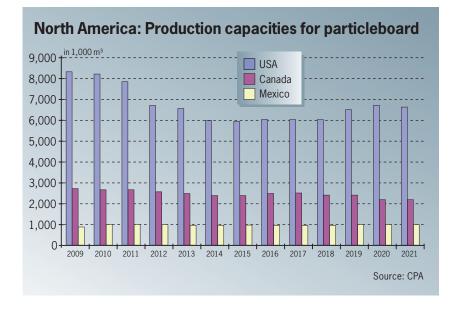
According to the CPA overview, North America is currently home to 32 particleboard mills with a combined capacity of 9.705m (2020: 9.788m) m³. This 83,000 m³ or 0.8% year-on-year slump is mainly due to the closure of a mill doing business as Webb Particleboard that was run by Vaughan-Bassett Furniture Co. in Galax, Virginia, and a capacity cutback at a mill in Albany, Oregon, operated by Arauco North America. A total of 19 particleboard mills are up and running in the US, accounting for 6.534m (6.617m) m³ or 67.3% of North American capacity. Eleven mills with a combined capacity of 4.040m m³ are located in the south/ east of the US and eight with a capacity of 2.494m m³ in the west. Canada's four particleboard mills have an unchanged combined capacity of 2.173m (2.173m) m³. As in the two previous years, the nine Mexican particleboard mills can make 997,000 (997,000) m³. Canada therefore accounts for 22.4% and Mexico for 10.3% of North American particleboard capacity.

The presentation indicated that there are still relatively major variations in terms

of the technology used, capacity, production ranges and level of downstream refining from one particleboard mill to another. Several mills in Mexico and the US still have annual capacities well below 100,000 m³. Tafisa Canada Inc., based in Lac-Mégantic, operates the largest mill with two continuous production lines and a combined capacity of 910,000 m³. The next places are occupied by Arauco's new mill in Grayling, Michigan (800,000 m³), a mill in Sayabec, Québec, run by Uniboard Canada Inc., headquartered in Laval, Quebéc (two production lines with a capacity of 644,000 m³), a new mill operated by Egger Wood Products LLC in Lexington, North Carolina (600,000 m3), and Arauco's mill in Bennettsville, South Carolina (584,000 m³).

After plunging in 2020, North American MDF/HDF capacity has rebounded slightly, rising by 21,000 m³ or 0.4% to end up at 5.818m (5.797m) m³ this year. An increase in capacity at Kronospan's mill in Shippenville, Pennsylvania, was listed as the main reason. Some 13 of the 24 MDF/HDF mills are located in the US (63.1% share of overall capacity), 6 in Canada (22.8%) and 5 in Mexico (14.1%). The US's total capacity edged slightly higher to 3.671m (3.650m) m³ thanks to the expansion of the Kronospan mill. On the other hand, Canada and Mexico's capacities were unchanged at 1.324m m³ and 823,000 m³, respectively.

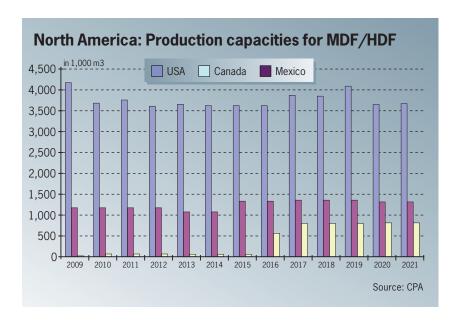
North American MDF/HDF producers also have differences in technology and capacity, but they are less pronounced than those faced by particleboard manufacturers. With two production lines and a combined capacity of almost 560,000 m³, the former Plum Creek mill in Columbia Falls, which is now owned by Weyerhaeuser Co., based in Seattle, Washington, is the largest MDF/HDF production site in North America.



Kronospan LLC in Eastaboga, Alabama (329,000 m³), and Arauco's two mills in Malvern, Arkansas, and Sault Ste. Marie, Ontario (310,000 m³ each), take the next places, followed by 12 mills with capacities ranging from 250,000 m³ to 300,000 m³.

New particleboard and MDF mills have been commissioned over the past two years, although they could not offset the closure of several old lines. The first pieces of particleboard were made at new mills commissioned by Arauco in Grayling and by Kronospan in Eastaboga during 2019. Egger's mill in Lexington was commissioned in September 2020. With a capacity of almost 800,000 m³. Arauco's mill accounts for about 8.2% of total North American particleboard capacity. Egger's mill is responsible for 600,000 m³ or 6.2%, with the Kronospan mill adding 550,000 m³ or 5.7%. Altogether, these three mills make up 20.1% of North American capacity with 1.949m m³. In the MDF/HDF sector, Swiss Krono LLC commissioned a new line in Barnwell, South Carolina, in August 2019. CalPlant 1 LLC's efforts to start up a rice strawboard line in Willows, California, which have been delayed several times, are now in progress. The Swiss Krono mill can make 280,000 m³ or 4.8% of total MDF/HDF capacity. Cal-Plant will reportedly have a capacity of almost 250,000 m3 (4.3%). The CPA estimates these two new locations' total capacity at almost 530,000 m³, representing 9.1% of overall capacity. At the moment, there is little prospect of additional new capacity in North America. In its capacity overview, the CPA only lists a strawboard mill planned by Great Plains MDF Inc. in Equity, Alberta. CPA data indicates that this mill will start operating during 2023 with two MDF/ HDF production lines and a total capacity of 850,000 m³.

Conversely, a total of nine particle-board and MDF/HDF mills were permanently closed or idled indefinitely in North America in 2019 and 2020. Georgia-Pacific Wood Products LLC, based in Atlanta, Georgia, closed particleboard mills in Thomson, Georgia (capacity: 265,000 m³), Monroeville,



Alabama (265,000 m³), and Hope, Arkansas (354,000 m³), in rapid succession during 2019. Particleboard lines at Arauco's mills in St. Stephen, New Brunswick (216,000 m³), Moncure, North Carolina (262,000 m³), and the Webb Furniture plant in Galax (44,000 m³) followed last year. The latest MDF/HDF divestments at Neucor Inc., headquartered in White Swan, Washington (21,000 m³), and at Arauco's mills in Eugene, Oregon (154,000 m³), and Bennettsville (251,000 m³) all took place in 2020.

Older particleboard and MDF/HDF mills had repeatedly been closed in previous years. Investments in new mills and capacity upgrades only partly offset the resulting capacity cutbacks. North American particleboard capacity fell by a total of 2.072m m³ or 17.6% from 2009 (11.777m m³) to 2021 (9.705m m³). By contrast, a slight decrease in MDF/HDF capacity from 2009 to 2014 was more than erased by mills that were built and expanded mainly up until 2019. Altogether, capacity had risen by 429,000 m³ or 8.0% between 2009 (5.389m m³) and 2021 (5.818m m³).

The CPA statistics showed that hard-board production capacity has not altered of late after falling in recent years. As in 2020, capacity was listed at 647,000 (647,000) m³ this year. This total capacity is broken down into four

mills in the US with a combined capacity of 593,000 m³ and one mill in Canada with a capacity of 53,000 m³. Hardboard capacity had softened slightly between 2009 (1.049m m³) and 2011 before recovering briefly in 2012. Following a stronger downturn in 2013, capacity did not alter in 2014 and 2015, before dipping again in 2016. It stayed at this level of 912,000 m³ until 2019. Capacity then decreased by 265,000 m³ in 2020 after a mill in Roaring River, North Carolina, run by Louisiana-Pacific Corp., based in Nashville, Tennessee, switched from fibre to strand siding at the end of 2019.

The CPA presentation at the EPF annual general meeting also briefly delved into the trend in sales on North American composite panel markets. Total particleboard, MDF/HDF and hardboard sales all declined in the past three years. Following minor falls in 2018 (-2%) and 2019 (-4%), the CPA initially feared in April and May 2020 that last year would end with a dive of up to 20% in sales after the coronavirus pandemic broke out. A substantial recovery in the second half of the year limited the slump to -7%. This revival has continued so far in 2021, meaning that the CPA believes that this year will end with a growth of up to 11%. The association is making this forecast based on average capacity utilisation rates having improved from 73% in the middle of 2020 to 80-85% now.

Ongoing consolidation in the industry boosting average capacity

Chinese particleboard and MDF/HDF capacity decreased slightly in 2020

Continuing consolidation within China's wood-based panel industry culminated in the first minor reduction in total particleboard and MDF/HDF capacity in a while last year. However, average production capacity per line did increase again.

According to an industry overview finalised by the Forest Products Industry Planning and Design Institute within the Chinese Ministry of Forestry and the China National Forest Products Industry Association (CNFPIA) in February 2021, 24 Chinese provinces were home to 329 particleboard manufacturers with a total of 348 production lines at the end of 2020. Their total capacity was 3.5% lower than in 2019 at 36.9m m³ after increasing in each of the four previous years. Conversely, average capacity rose again last year to 106,000 m³ per line. Some 92 older lines were taken out of service during 2020, while 16 new lines were commissioned. Consequently, China now has 73 continuous particleboard lines with a combined capacity of 17.6m m3. This accounts for 21.0% of the total number of lines or 47.8% of overall capacity. Shandong heads the list of provinces in the particleboard category. Last year, total particleboard capacity there bucked the overall trend, climbing again to 7.4m m³. Guangdong and Hebei, which took second and third places respectively, shed a little capacity last year. Guangxi Province overtook Jiangsu with a rise to 3.3m m³. The CNFPIA knew of a total of 25 other particleboard projects throughout China at the start of 2021. These projects are to add another 6.8m m³ of capacity, bringing total particleboard capacity to more than 40m m³ by the beginning of 2022. Eighteen of these new projects will feature a continuous press. These continuous lines will represent 84.5% of new capacity with 5.7m m³.

The start-up of three new production lines raised the number of OSB lines in China to 26. With locations in seven provinces (Shandong, Hubei, Guangxi, Anhui, Jiangsu, Guizhou and Yunnan), OSB production is spread across much fewer regions than particleboard and MDF production. Overall OSB capacity leapt by 18.5% in a year-on-year comparison to land at 4.2m m³. Average capacity thus stood at 160,000 m³. This data also includes OSB with a fine

particleboard surface layer. Seven more investment projects for OSB or OSB with a fine particleboard surface layer are in the pipeline at the moment. This 2.2m m³ of additional capacity will more than double total Chinese OSB capacity to over 6m m³ by the beginning of 2022.

The CNFPIA identified a total of 392 MDF/ HDF producers operating 454 production lines combined in 25 provinces at the end of 2020. Total capacity decreased for the second time in a row and was 1.3% lower than in 2019 at 51.8m m³. The number of manufacturers and production lines fell. However, average capacity per line increased to 114,000 m³. Some 15 new lines with a combined capacity of 2.8m m³ were commissioned during 2020. A total of 118 older lines were shut down or mothballed. Altogether, 136 MDF/HDF lines operated continuous presses at the end of 2020. This equalled 30% of the total number of active lines. With a total figure of 26.9m m³, these continuous lines account for as much as 52.0% of overall capacity. Shandong Province leads the way in terms of MDF manufacturing, too, with a capacity of 8.0m m³. Hebei moved up to second place with a growth to 5.7m m³. On the other hand, MDF/HDF capacity in Guangxi Province declined to 5.4m m³. According to the CNFPIA, a total of 22 additional MDF/ HDF lines with a combined capacity of 4.9m m³ are currently under construction in China. Nineteen of these projects involve a continuous press. With a capacity of 4.6m m³, these projects represent 95.2% of new capacity. The start-up of these new lines will boost China's overall MDF/HDF capacity to more than 55m m³ by the start of 2022.

The CNFPIA industry overview shows that total annual particleboard, OSB and MDF/HDF capacity reached 92.8m m³ at the end of 2020. This figure breaks down into almost 40% particleboard, 4.5% OSB and nearly 56% MDF/HDF.

China: Continuous production lines

	Particleboard			MDF/HDF			
Province	Plants	Capacity 1)	Share 2)	Plants	Capacity 1)	Share 2)	
Shandong	11	2.59	35.0	24	4.47	56.0	
Guangxi	8	2.28	70.2	14	3.00	56.1	
Guangdong	8	1.94	52.0	9	1.78	45.5	
Anhui	7	1.95	78.3	11	2.24	59.1	
Jiangsu	6	1.60	52.6	n.a.	n.a.	n.a.	
Hubei	6	1.50	77.7	12	2.24	61.4	
Henan	6	1.48	66.0	9	1.78	48.0	
Hebei	6	1.27	37.8	14	2.93	51.8	

Share of total particleboard or MDF/HDF capacity in the province
 Source: EUWID, according to information from CNFPIA

Final reports from the Directorate General of Trade Remedies were published in spring

India wraps up two anti-dumping investigations into MDF/HDF

In spring 2021, the Indian Ministry of Commerce and Industry's Department of Commerce in New Delhi put the finishing touches to two of four anti-subsidy and anti-dumping investigations into MDF/HDF imports from South-East Asia that were launched in 2019 and 2020.

Final reports from the Directorate General of Trade Remedies (DGTR) were published in the Gazette of India on 20 April and 3 May. Launched at the end of February 2020, the sunset review (SSR) process for imports of raw MDF with a thickness of 6 mm and above from China, Malaysia, Thailand and Sri Lanka had been completed at the start of January 2021. The decision lifted anti-dumping duties that have so far applied to imports from China due to their limited importance in quantitative terms. General duties for shipments from Malaysia, Thailand and Sri Lanka were upheld. The separate duty set for the Malaysian MDF manufacturer Robin Resources Sdn. Bhd., based in Mentakab, was more than doubled, while the duty for Merbok MDF Lanka Pvt. Ltd., headquartered in Ingiriya, Sri Lanka, was dropped.

The ruling issued on 20 April expanded anti-dumping duties that have long applied to raw MDF imports from South-East Asia to include board with a thickness of less than 6 mm. According to the decision, Panel Plus MDF Co. Ltd., headquartered in Hat Yai, Thailand, was the only company exporting thin MDF to India in the review period that escaped punitive duties by cooperating with the DGTR anti-dumping investigation. The Indonesian MDF manufacturers P.T. Mukti Panel Industri (US\$227.47/ m³) and P.T. Sumatera Prima Fibreboard (US\$244.60/m³) face individual duties. An anti-dumping duty of US\$258.42/m³ applies to all other Indonesian firms and all Thai and Malaysian companies. Shipments from Vietnam will be subject to a US\$255.35/m³ duty. These anti-dumping



(Photo credit: EUWID)

duties only apply to unlaminated thin MDF and exclude door skins.

Launched in November 2020, the review of countervailing duties (CVD) on shipments of laminated and unlaminated MDF/HDF from Indonesia, Malaysia, Sri Lanka, Thailand and Vietnam was completed on 3 May. According to the DGTR, the review bore out suspicions that manufacturers in these countries had unduly benefited from subsidies to the detriment of Indonesian producers. The affiliated Thai manufacturers Agro Fiber Co. Ltd. and Green Fiber Co. Ltd. were the only companies to be exempt from countervailing duties, which are calculated on a CIF basis. Several MDF/HDF producers that had also cooperated with the DGTR during the review face individual duties. These duties will apply to four companies or groups from Thailand (Vanachai Group Public Company Ltd. and Vanachai Panel Industries Co. Ltd.: 18.54%, Panel Plus Co. Ltd. and Panel Plus MDF Co. Ltd.: 11.47%, Metro MDF Co. and Advance Fiber Co. Ltd.: 8.29%, Wisewoods Co. Ltd.: 13.90%) and two each from Malaysia (Segamat Panel Boards Sdn. Bhd.: 10.52%, Robin Resources Sdn. Bhd.: 15.95%), Vietnam (MDF VRG Quang Tri Wood Joint Stock Co.: 14.46%, Kim Tin MDF Joint Stock Co. and FSC Vietnam Corp.: 12.36%) and Indonesia (PT. Sumatera Prima Fibreboard: 14.77%, PT. Mukti Panel Industri: 13.69%). The DGTR has imposed a uniform duty on all other companies based on the country of origin. Imports from Sri Lanka will generally be subject to a 12.37% punitive duty. A somewhat higher countervailing duty will apply to deliveries from Indonesia (15.78%), Malaysia (18.08%) and Vietnam (19.13%), with the highest rate of 27.52% imposed on shipments from Thailand.

On the other hand, a decision has yet to be made in an anti-dumping investigation into the Vietnamese firm Kim Tin Group that began in May 2020. In the first case concerning raw MDF imports thicker than 6 mm completed in May 2016, the firm had been exempted from the anti-dumping duties imposed at that time on other producers from Vietnam and Indonesia that applied until July 2021.

Business expected to slow once new projects are put to bed

Turkish panel manufacturers place orders for several production lines

Turkey remains a hotspot for investments in new wood-based panel lines, even though business has now cooled.

Two new lines have already been commissioned during the first half of 2021. Kastamonu Entegre Agac San. ve Tic. A.S., based in Istanbul, has replaced a multiopening press with a forming and press line featuring a 7 ft x 37.1 m ContiRoll press that Siempelkamp Maschinen- und Anlagenbau GmbH Germany, delivered to its Samsun particleboard mill. The first piece of particleboard was made on 27 February. Commissioning took place on almost the exact day as was targeted when ordering was completed in December 2019. On the other hand, Camsan Ordu Agaç Sanayi ve Ticaret A.S.'s plans to commission an MDF/HDF line at its Ordu headquarters in February were delayed into the spring. The first piece of board was made using a production line with an 8 ft x 38 m CPS+ press delivered by Dieffenbacher GmbH Maschinen- und Anlagenbau on 5 May. Turkish wood-based panel manufacturers have also placed five more orders for new particleboard, OSB and MDF/HDF production lines since the beginning of this year. Back in January, Starwood Orman Ürünleri Sanayi A.S., headquartered in Inegöl, Turkey, awarded Siempelkamp a contract to deliver a thin MDF/HDF line via GIM Export Group GmbH & Co. KG. The building material and wood-based panel manufacturer Küpeliler Endustri A.S., based in Eskisehir, placed orders with Siempelkamp for the forming and press lines and a variety of upstream and downstream components to modernise its particleboard and OSB manufacturing operations, also via GIM Expert Group, during the second quarter.

In July, Kastamonu and Starwood inked orders for two MDF/HDF lines in rapid succession. Kastamonu will install the line ordered from Siempelkamp via GIM Export Group alongside a particleboard line commissioned in Balikesir in 2005. Like the thin board line, a large MDF/HDF line that Starwood is to receive from Dieffenbacher will be installed at its second location in lnegöl that has so far only been used for wood processing purposes.

Küpeliler is poised to replace a single-opening press at its Eskisehir headquarters with the new continuous particleboard line. The 7ft x 23.8m ContiRoll earmarked for the project is set up to have a designed production capacity of about 700 m³ per day or roughly 230,000 m³ per year. Particle preparation operations will be complemented by several pieces of new technology from Pallmann Maschinenfabrik GmbH & Co. KG. A sanding machine from Steinemann Technology AG will be integrated into the final assembly area. The OSB line with a 4 ft x 33.8 m ContiRoll is to be installed in Kütahya and replace a Chinese multi-opening line. The front end, which included a strander from Kadant Inc., and the final assembly area will only see modifications. The technology to make OSB is to be delivered before the year's end. Start-up is scheduled for the middle of 2022. The delivery date for the new particleboard line is spring 2022, with the first piece to be made in autumn 2022.

Starwood has changed suppliers once again with its latest order. After buying four Siempelkamp lines, the company had ordered a new particleboard line from Dieffenbacher at the start of 2018. The thin MDF/HDF line will once again come from Siempelkamp. Even before assembly work began, Starwood ordered its next MDF/ HDF line from Dieffenbacher. Siempelkamp had also previously planned various details and submitted a bid for this project, too. The originally planned 7 ft x 55.3 m press was switched to a 9 ft x 63.5 m press during preliminary negotiations. The larger width press will allow the 2.80 x 2.10 m size prevalent in Turkey to be produced transversely. Master boards are then cut to 2.10 m in the cut-to-size line. In addition to the forming and press line, Dieffenbacher will also deliver the fibre dryer, screen, adhesive preparation, the press exhaust system, raw board transport, raw board storage, sanding line as well as electrics and automation for the entire line. Assem-



New particleboard line for Starwood

(Photo credit: Dieffenbacher)

WEMHÖNER

bly work is slated to commence in the second quarter of 2022, with commissioning scheduled for the end of 2022.

Featuring an 8 ft x 28.8 m ContiRoll press, the thin board line is to make its first piece of board in the second guarter of 2022. Assembly work was supposed to take place in June, but was pushed back to the end of August because of delays to preparatory construction work. Siempelkamp and Anthon GmbH Maschinen- und Anlagenbau have already delivered the bulk of the technology to the site earmarked for the project. These pieces of machinery were placed in storage in a new hall, which Starwood had built as part of its plans to start making laminate flooring. The laminate flooring project was then ditched a short time before production was set to begin. A profiling line that Homag GmbH had delivered and already installed in the hall was sold to Kastamonu. This technology has already been dismantled and is to be reassembled at Kastamonu's Russian mill in Alabuga, Tatarstan.

The ContiRoll press designed for the proiect to add a Siempelkamp MDF/HDF line to Kastamonu's Balikesir mill is just 8 ft wide, but longer than the CPS+ press destined for Starwood at 63.7 m. Kastamonu intends to use this width adjustment to make board 6 ft, 7 ft and 8 ft wide and manufacture finished board up to 3.66 m long. Deliveries from Siempelkamp will include sifters, the forming and press line, a cooling and stacking line, interim storage as well as a sanding line. The fibre dryer is to be supplied by Siempelkamp subsidiary Büttner Energie- und Trocknungstechnik GmbH. Steinemamm is to supply the 12head grinding machine. Andritz AG has been commissioned to deliver the disc chipper and the refiner. For further processing, Kastamonu has ordered a total of three short-cycle presses from Wemhöner Surface Technologies GmbH & Co. KG, two of which are to be installed in Balikesir. The third one is intended for expansion of laminating capacities at the Russian MDF/HDF and laminate flooring plant in Alabuga. In Balikesir production of laminate flooring is also planned, the profiling line is to be supplied by Homag GmbH. Within the scope of the overall project, Kastamonu also plans to establish impregnation capacities in Balikesir; negotiations concerning placing of a treater order are apparently still ongoing. The technology is slated for delivery in spring 2022, allowing the first board to be manufactured before the end of 2022, as well. Kastamonu also intends to install a variety of pieces of downstream technology in the new MDF/HDF mill as part of the overall project.

All of these projects mean that Turkey will add three more MDF/HDF lines, one particleboard line and one OSB line in the next two years. While the replacement work planned by Küpeliler will not have a major impact because of the modest increase in capacity, Starwood's and Kastamonu's projects will ramp up MDF/HDF capacity dramatically. This is especially true of the two newly designed lines, which are among the largest MDF/HDF lines in the world with presses more than 63 m long. In light of this situation, it is thought likely that there will be little margin for new projects, especially in the MDF/HDF sector, in Turkey in the years ahead. AGT Agac San. ve. Tic. A.S., headquartered in Antalya, is the only company with firm investment plans. This group is planning to install up to three new wood-based panel lines at a site that it has just bought in Denizli in the medium term. Along with boosting its MDF/HDF capacity, the company is also thinking about starting to make particleboard and OSB there.

By contrast, Kastamonu will mainly focus on expanding or modernising its existing lines in Turkey in the coming years. It has no plans for major new investment projects on the horizon. The same is true of Yildiz Entegre Agac San. ve Tic. A.S., based in Kocaeli, which intends to complete its long-planned purchase of assets from Yildiz Sunta Orman Ürünleri Sanayi Tesisleri lth. Ihr. ve Tic. A.S., a firm headquartered in Izmit that has been insolvent since early 2019, in the next few months. Working in consultation with the administrator, Yildiz Entgre has commissioned two MDF/HDF lines and several treating and coating lines early at the Yildiz Sunta mill, substantially increasing its wood-based panel capacity in Turkey. The company has also recently invested more heavily in other areas, for instance, significantly expanding steel production activities that started just a few years ago.

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Kastamonu Entegre and Yildiz Entegre to pay 59% of total fine

Turkish wood-based panel producers fined more than 270m lire for collusion

The Turkish Competition Authority (Rekabet Kurumu) wrapped up an investigation under way since November 2018 into 13 wood-based panel manufacturers from Turkey and the Turkish wood-based panel association (MDF ve Yonga Levha Sanayicileri Dernegi) during the first quarter of 2021.

The final decision, which was reached on 1 April and published on 6 April under case number 21-18/229-96, imposes total fines of 271.1m lire or €28.0m on eleven companies. Individual anti-trust fines were determined based on revenues generated in 2020.

Almost 59% of the total fine, 159.2m lire or €16.4m, is to be paid by two companies: Kastamonu Entegre Agaç San. ve Tic. A.S., based in Istanbul, and Yildiz Entegre Agaç San. ve Tic. A.S., headquartered in Kocaeli. Kastamonu Entegre is fined 91.5m lire or €9.4m, while Yildiz Entegre will have to shell out 67.6m lire or €7.0m. Anti-trust fines in the tens of millions of lire were also handed down to AGT Agaç Sanayi ve Tica-

ret A.S. (Antalya) with 39.1m lire, Starwood Orman Ürünleri Sanayi A.S. (Inegöl) with 21.4m lire, Teverpan MDF Levha Sanayi ve Ticaret A.S. (Istanbul) with 13.6m lire and Orma Orman Mahsulleri Integre San. ve Tic. A.S. (Istanbul) with 10.2m lire.

Kronospan Orman San. ve Tic. A.S. (Kastamonu) and Çamsan Ordu Agaç Sanayi ve Ticaret (Ordu) will pay less than 10m lire with fines of 9.4m lire and 9.1m lire respectively. Divapan Entegre Agaç Panel San. Tic. A.S. (Duzce) has to hand over 5.5m lire. The laminate manufacturer Gentas Genel Metal San. ve Tic. A.S. (Ankara), which operates a relatively small particleboard mill in Bursa, received a fine of 3.4m lire. Yildiz Sunta Orman Ürünleri Sanayi Tesisleri Ith. Ihr. ve Tic. A.S. (Izmit), which ceased all manufacturing activities in January 2019 after filing for bankruptcy, got off relatively lightly with a penalty of 181,031 lire.

However, other companies that were initially involved in the investigations were acquitted. The anti-trust authority stated that the two companies Çamsan Entegre

Agaç San. ve Tic. A.S., headquartered in Istanbul-Levent, and Çamsar Orman Ürünleri Tic. ve San. A.S., based in Istanbul, could not be proven to have been involved in colluding on particleboard and MDF prices and volumes, which mainly happened during 2018. The competition authority had initially investigated the Turkish woodbased panel association (MDF ve Yonga Levha Sanayicileri Dernegi), as well, but dropped this inquiry during the course of the proceedings.

Kronospan Orman and its previous incarnation SFC Entegre Orman Urunleri Sanayi ve Ticaret A.S. had not featured on the list of defendants when the investigation began in November 2018, but was apparently included after all. The inquiry had encompassed the majority of Turkey's wood-based panel industry with the eleven fined companies and the acquitted firms Camsan Entegre and Camsar Orman. The Turanlar Group subsidiary Vezirköprü Orman Urunleri Ve Kagit San. A.S., headquartered in Sefaköy-Küçükçekmece, and Beypan Entegre Orman Ürünleri San. ve Tic. A.S., based in Kayseri, were the only firms left off the statements released by the competition authority.

The anti-trust investigation followed complaints from the Turkish furniture industry. The competition authority had subsequently begun preliminary inquiries during the third quarter of 2018, which were completed on 1 November 2018. The competition authority launched an official investigation at the end of November 2018. Companies involved in the cartel were accused of infringing a variety of articles in the 1994 Act 4054. Along with colluding on price and volumes, the parties allegedly also allocated types of wood for particleboard and MDF manufacturing and agreed on delivery terms. The different companies had been involved in this collusion to varying degrees, which was also reflected in their respective fines.



(Photo credit: Rekabet Kurumu)



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Authority intends to watch how prices develop if the market climate changes

Federal Cartel Office will not launch an anti-trust investigation for now

Based on indications from market players and public reporting by a number of media outlets, the German Federal Cartel Office has reviewed whether supply constraints and rising prices on particleboard markets might be the result of agreements that hinder competition or of one or several manufacturers having too much market power.

Since the start of 2021, in particular, the authority had received tips suggesting that companies were curtailing the amounts that had previously been agreed in contracts, instituting retroactive drastic price increases and unilaterally deviating from arrangements. According to the German Federal Cartel Office, these practices were especially prevalent for raw particleboard, although other grades were also affected to a lesser degree.

During the investigation process, which included interviews with manufacturers and converters, the Federal Cartel Office concluded that production curtailments

prompted by the Covid-19 pandemic and the subsequent sharp uptick in demand had distorted the market situation. The Office's Decision Division found no indications that manufacturers had artificially reduced capacity in an effort to implement higher prices. In point of fact, these price increases had been a knock-on effect of a shortage that has lasted for several months. Additionally, a sharp rise in the cost of many raw materials had played its part. Based on these findings, the Federal Cartel Office has decided not to open cartel administrative or abuse proceedings against one or several particleboard producers.

The German Federal Cartel Office also explored whether individual manufacturers have abused their market power. The Decision Division has decided not to investigate this matter for the time being. Instead, it reviewed whether individual buyers are dependent on suppliers in the current market climate. However, the authority did not find that individual buyers were hindered or treated unequally. The available amounts

had been sold in accordance with largely transparent criteria.

The authority also investigated the justification for the price increases sought by particleboard manufacturers. In the view of the German Federal Cartel Office, these demands are understandable given brisk demand, empty warehouses, higher chemical, energy and paper costs and supply constraints as mills ran at maximum capacity. However, the competition authority did raise question marks about the substantial hikes in the prices of wood that particle-board manufacturers alleged in interviews.

In the case report for these investigations, which was published on 23 July, the German Federal Cartel Office did announce plans to watch how particleboard prices evolve going forward. This announcement can also be interpreted as a warning to the particleboard industry.

The German Federal Cartel Office provides a relatively detailed assessment of developments in the German particleboard market over the past 18 months, especially changes in supply and demand, in the fivepage case report entitled "Investigations into High and Surging Sales Prices for Particleboard", Raw particleboard supply has been trimmed by factors including lost capacity after E05 rules were introduced with effect from 1 January 2020, the sustained increase in downstream refining capacity in the particleboard industry and production cutbacks and downtime in April and May 2020 caused by a plunge in demand associated with the pandemic. Particleboard lines have been operating at maximum capacity again since the middle of 2020, with some inspections even being shortened or postponed. Nevertheless, the shortfall resulting from the spring 2020 production cutbacks has not been offset to date. Much stronger demand from almost all buyer segments since the middle of 2020 is mainly to blame.



(Photo credit: Bundeskartellamt)

Ruling relates to particleboard cartel penalised by German Federal Cartel Office

German Court sets damages arising from anti-trust fines at €8.9m

The First Anti-Trust Senate of the Celle Higher Regional Court in Germany has ruled that claims set out in proceedings for damages arising from anti-trust fines imposed by the German Federal Cartel Office against five particleboard manufacturers in September 2011 are justified.

The case was brought by a northern German bedroom furniture manufacturer against one of its particleboard suppliers in December 2012. The Anti-Trust Senate's ruling confirmed a verdict issued by the Hanover District Court on 31 May 2016. The Higher Regional Court also calculated damages based on raw particleboard sourced by the bedroom furniture manufacturer at excessively high prices from 2002 to 2009. The damages, which the Higher Regional Court fixed at €8.954m, were lower than the plaintiff's originally sought sum of €26.0m. This figure reflected its own claims of €11.2m and claims of €10.5m and €4.3m from two affiliates. The judgement is enforceable, but still subject to appeal.

The companies involved in the case are not named in the full written judgement published in mid-August, which sets out 273 points on 35 pages. The same is true for companies and individuals listed in the overview of the cartel contained in the judgement and the experts and witnesses questioned in the case. However, the context suggests that the case for damages was brought by Oeseder Möbel-Industrie Mathias Wiemann GmbH & Co. KG of Georgsmarienhütte and the affiliates Möbelwerk Heidenau GmbH & Co. KG of Heidenau and Themex Möbel GmbH & Co. KG of Themar against previous incarnations of Sonae Arauco Deutschland GmbH, based in Meppen. These previous incarnations are Glunz AG, based in Meppen, and Hornitex-Werke Gebr. Künnemeyer GmbH & Co. KG, headquartered in Horn-Bad Meinberg, which Glunz bought out of insolvency in July 2006. Glunz had renamed



Hornitex-Werke GHP Holzwerkstoffproduktions GmbH after the deal closed.

The full written verdict first provides an overview of the motions made by the two parties. The rulings made by the Higher Regional Court (including an amendment to the first-instance ruling, admissibility of the case, admissibility of Möbelwerk Heidenau and Themex being represented by Wiemann, determination of the level of compensation) are then described and explained. The verdict then paints a picture of the competitive situation at the time of the cartel and an overview of the agreements made during the cartel and resulting collusion among individual particleboard manufacturers. The description of price trends on particleboard markets at the time of the cartel takes up a relatively large amount of space, and is used as the basis for damages calculated by the Higher Regional Court. At the request of the parties to the proceedings, an external private report and EUWID market and price reporting were used as external sources.

The four companies Glunz, Pfleiderer AG (Neumarkt), Kronoply GmbH (Wittstock-Heiligengrabe) and Rauch Spanplattenwerk GmbH (Markt Bibart) were fined a total of €42m for colluding on particleboard, MDF/HDF and OSB prices between 2002 and 2007 in anti-trust proceedings brought by the German Federal Cartel Office that ran from early 2009 to September 2011. Several German subsidiaries of Egger Group escaped the cartel fine as part of a leniency scheme. Some €31m of the overall fine was for the particleboard cartel, which involved Glunz, Pfleiderer, Rauch, Egger and two other producers. The OSB cartel, which comprised Glunz, Kronoply and Egger, was fined €10m. Ten managing directors and authorised representatives connected to the cartels also faced fines of €1.5m. Following the Federal Cartel Office's ruling, several buyers filed claims for damages against wood-based panel manufacturers involved in the cartel. Some of these suits were settled in recent years. Other cases are still under way in a second instance.

Production will be focused on the sites in Missoula, Taylorsville and Simsboro

Roseburg plans to close Dillard particleboard plant during autumn

On 25 August 2021 Roseburg Forest Products Inc., Roseburg, Oregon, announced the closure of its particle-board plant in Dillard, Oregon.

A specific date has not been disclosed. According to the announcement, however, activities will gradually be shut down by the end of October. The 179 employees affected by the divestment decision will be offered jobs in other divisions of the company. In Dillard, for example, Roseburg operates a sawmill, a plywood factory and a biomass power station. Other employment opportunities in the state of Oregon exist in Springfield (administration), Medford (MDF), Coquille (plywood), Riddle (plywood, LVL) and Coos Bay (chip terminal).

The particleboard plant in Dillard, which is equipped with a multi-daylight press, has an annual capacity of around 280m sqft, equivalent to almost 500,000 m³. Roseburg also operates a laminating plant at the site. By terminating activities in Dillard, the company focuses its particleboard production on the sites in Missoula, Montana (capacity 200m sqft or 350,000 m³), Taylorsville, Mississippi (185m sqft or 330,000 m³) and Simsboro, Louisiana (280m sqft or 500,000 m³). The Missoula plant, for example, will supply customers in the western states of the USA, as Dillard has done in the past, while the Taylorsville and Simsboro plants will focus on markets in the east and southeast of the USA. The Simsboro plant, acquired by Roseburg in summer 2011, operates a continuous production line supplied by Dieffenbacher GmbH Maschinenund Anlagenbau, commissioned in August 2002. The other plants are equipped with multi-daylight systems. Taylorsville is a raw particleboard plant; the other two sites also have laminating capacities.

Following closure of the Dillard plant, Roseburg's total particleboard capacity will be reduced from 945m sqft (almost 1.680m m³) to 665m sqft (equivalent to



Particleboard production at Roseburg's Simsboro mill

(Photo credit: Roseburg)

1.180m m³). Particleboard capacity thus represents around 12.8% of the total capacity amounting to 5.204bn sqft or 9.205m m³ indicated for North America following subtraction of the Dillard plant volume according to figures in the 2021 North American Composite Panel Industry Capacity Report of the Composite Panel Association (CPA) in Leesburg, Virginia. In the USA, following the divestment, Roseburg will contribute a proportion of 19.5% of total capacity.

Roseburg's total laminating capacity, most recently estimated at around 350m sqft/annum, has not been further specified by the company regarding capacities of the sites in Dillard, Missoula and Simsboro. The extent of reduction in laminating capacity following closure of the Dillard plant can therefore not be assessed. So far, there is also no information available as to whether Roseburg intends to relocate equipment from Dillard to other sites. With its current capacity, Roseburg is the fourth-largest laminating company in North America; in the USA Roseburg ranks third. Based on

the total US capacity of 1.710bn sqft, Roseburg has so far achieved a capacity share of 20.5% in thermally fused laminate (TFL).

In the MDF/HDF segment, Roseburg operates three plants: Medford, Oregon (capacity 130m sqft or 230,000 m³), Pembroke, Ontario (167m sqft or almost 300,000 m³) and El Dorado, Arkansas (150m sqft or 265,000 m³). At a total capacity of 447m sqft or 795,000 m3, based on the volume of 3.287bn sqft or 5.818m m³ currently available on this market according to the CPA, the company has a capacity share of 13.6% in North America. The two plants in the USA account for 14.3% of the total US capacity of 2.074bn sqft or 3.671m m³. In Canada, 22.3% of the total capacity of 748m sqft or 1.324m m³ is contributed by the Pembroke plant. The Pembroke and El Dorado plants, acquired by Roseburg in April 2018 and early 2019 respectively, are each equipped with continuous presses. The Medford plant, acquired in September 2015, produces on a multi-daylight system. All three sites produce raw panels, there is no laminating capacity.

Fresh attempt to build a North American mill to make MDF out of straw

Great Plains MDF has been planning to start construction in autumn 2021

Great Plains MDF Inc., a firm that was originally created as a project company, intends to commission an MDF mill designed to process wheat straw in the Canadian province of Alberta during 2023.

The company had inked a memorandum of understanding with the engineering firm PCL Construction Inc., based in Edmonton, Alberta, for the project back in February 2016. However, not much information about progress on the project was revealed over the next four years. In the first quarter of 2021, Great Plains MDF has moved ahead with preliminary talks with potential straw suppliers in the region. At the same time, Great Plains MDF firmed up funding for the project, which is to involve investments totalling about CAD800m or roughly €530m.

In January, the company had walked away from a proposed location in Stettler, Alberta, because of logistical challenges. According to a press release issued by Great Plains MDF in mid-February, the project will now move forward in the town of Equity in Kneehill County, which is around 100 km north-east of Calgary. The new location is around 80 km south-west of

Stettler between Trochu and Three Hills. Under current plans, Great Plains intends to buy a piece of land around 500 acres or about 200 ha in size to house production facilities covering about 140,000 m².

Building work on the MDF mill is to commence this autumn. Current plans indicate that the mill will have two continuous production lines with a total capacity of around 400m sqft (3/4" basis) or 700,000 m³ per year using presses roughly 40 m and 70 m long. Wheat straw needed as raw material will be sourced from fields in a radius of 125 km around the mill. The facility will need around 200,000 t in the first year after production is ramped up in a multi-stage process; demand will ultimately reach roughly 2,500 t per day or around 800,000 t per year. Great Plains MDF has also explored using oat, barley, and rapeseed straw to expand its raw material footprint.

Great Plains MDF's management team is currently made up of 12 people led by President and Chairman Brian McLeod. Lanny Hammock joined the firm as Vice President Sales & Marketing and Wade Gregory became Vice President Operations during the first quarter. Gregory had worked for a variety of North American wood-based panel manufacturers up until the end of 2017, including Sierra Pine Ltd., based in Roseville, California, and Arauco North America, headquartered in Atlanta, Georgia. In January 2018, he became a consultant for Columbia Forest Products Inc. (CFP), based in Greensboro, North Carolina, His work focused on preparations for the introduction of rice straw MDF to the market. This MDF is to be made by CalPlant I LLC in Willows, California. Previous information indicates that Columbia Forest Products has a stake of almost 19% in this firm. Commissioning of this mill in Willows has been delayed multiple times because of financing problems. The first piece of board was made in November 2020. However, additional technical modifications were required before regular operations. Therefore, start-up of commercial production dragged on into June or July. Hammock has almost 40 years of experience in the MDF industry. Over the years, he has worked for Weyerhaeuser Co. (Seattle, Washington), Plum Creek MDF Inc. (Columbia Falls, Montana), Sierra Pine and a Ranger Board MDF mill then owned by Blue Ridge Lumber Co.

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Mid-July, the Brazilian company decided to change its corporate brand to Dexco

Duratex aiming to enlarge laminating capacity by 45%

On 14 July 2021, the board of directors of Duratex S.A. of São Paulo, took the decision to change the name of the company to Dexco. An investment programme for a total of BRL2.4bn (roughly equivalent to US\$500m) was approved at the same meeting.

The renaming of the company comprising the three divisions "Wood" (woodbased panels), "Deca" (sanitary ware), and "Ceramic Tiles" was approved at an extraordinary general meeting scheduled for 18 August.

The planned investment projects are to be implemented over the next three years. Roughly BRL510m or almost US\$100m is to be spent on the Wood division. Around BRL90m of this is to be used for debottlenecking projects in particleboard and MDF/HDF production. The projects are designed to enlarge total capacity by roughly 10%. There are no plans, however, to revive the new investment projects that were considered

in recent years but then shelved. Instead, Duratex wants to set up three more short-cycle presses and thereby increase laminating capacity by around 45% with an investment volume of approximately BRL180m. The remaining BRL240m is earmarked for purchasing more forest areas in northeast Brazil. These forest investment projects are to be handled by the joint venture Caetex Florestal S.A. of Maceió, Alagoas.

In the Deca segment, Duratex wants to invest a total of around BRL1.150bn. At BRL600m, capacity in the "Metals" subdivision is to rise by 35%. Roughly BRL550m has been set aside for enlarging capacity for sanitary ware. Around BRL600m will be used for a new plant for ceramic tiles in Botucatu, São Paulo. This will increase total capacity by around 35%. Another BRL20m is to be spent on optimising the existing tile works in Santa Catarina. Duratex also wants to purchase a minority share for BRL102.3m in the interior-finishing retailer ABC da Construção S.A. (ABC) of Belo Horizonte,

Minas Gerais, which operates more than 150 stores in the federal states of Minas Gerais, São Paulo, and Rio de Janeiro. This transaction is still subject to approval from the Brazilian competition authority Conselho Administrativo de Defesa Econômica (CADE).

In the second quarter of 2021, the Wood division sold a total of 755,902 (April-June 2020: 499,831) m³ of wood-based panels. This figure was 51.2% higher than in the same period last year, which was hit hard by the Covid-19 pandemic in April and May 2020 especially. Raw board sales increased by 44.0% to 434,622 (301,829) m³, while laminated board sales soared by as much as 62.3% to 321,280 (198,002) m³. With a 60.0% growth, exports increased a little more than domestic sales, although no rate of change was reported for these deliveries.

The Wood division failed to replicate the first quarter's sum of 801,588 m³ sold, which in turn had been 36.3% higher than the same stretch in 2020, because of scheduled maintenance in the second quarter. Duratex mills ran at slightly lower capacity utilisation as a result. Duratex had operated at 94% of its capacity in the first three months of 2021 (particleboard: 99%, MDF/HDF 90%). Particleboard mills then reached 87% of their capacity and MDF/HDF mills 91% of their capacity in the second quarter. Overall capacity utilisation stood at 89% as a result.

Improvements in the product mix and price increases combined with higher sales volumes, helped to double revenues to BRL1.118bn (555.3m). Adjusted EBITDA more than quadrupled in a year-on-year comparison to BRL332.7m (70.3m), with the related margin jumping by almost two and a half to 29.7 (12.7) %. Operating profits before financial items skyrocketed to BRL529.5m (24.0m).



Agudos plant

(Photo credit: Duratex)

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Investments set to swell by around 50% in the current financial year 2021/2022

Egger is in a better financing position to fund new investments once more

Egger Group, based in St. Johann, Austria, scaled back its investment activity markedly in the 2020/2021 financial year (ended 30 April), as announced.

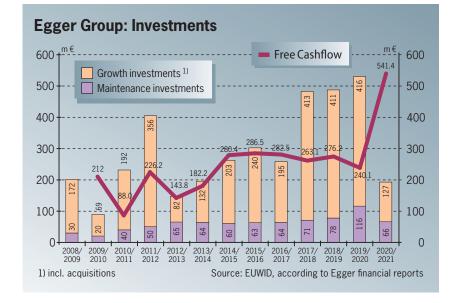
This move came after the company undertook several major projects and made total investments of €1.504bn in the three previous years. Investments were not even a third of the previous year's level at €193.0m (2019/2020: 531.4m) in 2020/2021. This figure includes €127.0m (415.7m) in growth investments and acquisitions, a 69.4% downturn. Maintenance investments were back in the long-term average range of €60m-70m seen from 2012/2013 to 2017/2018 at €66.0m (115.7m). The previous year's much higher figure included €24.5m for using leasing agreements that had to be capitalised because of the firm's first-time usage of IFRS 16 principles. Excluding these exceptional expenses, maintenance investments would have totalled €91.2m in the 2019/2020 financial year. Egger attributed this 27.6% downturn on factors including inspections and modernisation work being pushed back because of the pandemic in spring and summer 2020. These delayed projects were not fully caught up by the end of the financial year.

The completion of a new particleboard mill in Lexington, North Carolina, which made its first piece of board on 19 September 2020, swallowed up a significant proportion of the firm's growth investments last vear. Two short-cycle presses started up close to that time. A few follow-up projects were also completed at Egger's particleboard mill in Biskupiec, Poland, that started operating in July 2019. The firm carried out major upgrade projects at its mills in Brilon and Wismar and at its particleboard mill in Rambersvillers, France. This work focused on downstream refining systems and infrastructure. Egger also embarked on a small acquisition in the past financial year with the early November 2020 purchase of a 27.5% stake in the Italian coating company Cleaf S.p.A., based in Macherio. Conversely, Egger sold back a 9% shareholding in Roomle GmbH, headquartered in Linz, Austria, that it acquired in early July 2019 to other shareholders with effect from the end of 2020.

The Americas division accounted for €71.4m (291.1m) or 37.0 (54.8) % of the €193.0m invested in the past financial year. It was followed by the Decorative Products Central division with €40.3m (70.1m) or 20.9 (13.2) %, Decorative Products East with €31.5m (88.0m) or 16.3 (16.7) % and Decorative Products West with €25.1m (41.9m) or 13.0 (7.9) %. The company invested €18.5m (25.1m) in its Flooring Products division; investments in the Other division, including the Brilon sawmill, slipped to €6.2m (15.1m).

Egger is planning to invest roughly €300m again in the 2021/2022 financial year, including about €200m in growth investments and roughly €100m in maintenance investments. Major projects are on the cards in St. Johann, Hexham and Wismar. Egger is to invest a total of around €70m in St. Johann by the end of 2023, including in a second high-bay warehouse, a new waste wood line and a second biomass boiler. The company has also earmarked €17.5m for the installation of a third recycled wood line in Hexham. Egger has budgeted €65m for Wismar, with plans including the construction of a new adhesive plant, a new flooring packaging line and the overhaul of factory infrastructure. Standalone measures include a new treating line in Radauti. Romania. the modernisation of the phenolic coating unit in Gifhorn and the replacement of a short-cycle press in Brilon.

Egger said that its financing situation had improved markedly in 2020/2021 thanks to its unexpectedly solid performance starting in summer 2020. The company might well bring forward investments again or explore possible takeovers as a result. Lower investments and a sharp upturn in earnings meant that free cash flow more than doubled to $\$ 541.4m (240.1m). Conversely, Egger trimmed its net liabilities by $\$ 366.3m or 30.6% to $\$ 831.5m ($\$ 1.198bn). The equity ratio increased to 42.0 (37.9) %.



Higher waste gas limits for TVOC and formaldehyde to apply until end of 2022

Pfleiderer applies for exemption permit to operate four dryers at Neumarkt site

The technical environmental protection department of the Neumarkt district administration office intends to grant Pfleiderer Neumarkt GmbH an exemption permit for the operation of the four indirect chip dryers at the Neumarkt location.

The company had prepared a corresponding application on 25 November 2019. On 16 August 2021, the district administration office submitted a draft for the planned temporary adjustment of the emission limit values for formal-dehyde and TVOC to the current maximum possible technical framework conditions. This draft was published in the Official Journal a few days later and will remain open for inspection until 20 October.

According to the draft, the exemption is to remain in effect until 31 December 2022. For this period, emission limit values of the waste gas purification plant downstream of the dryers will be set at 400 mg/m³ TVOC and 20 mg/m³ formaldehyde. From 1 January 2023, legal limit values of 200 mg/m³ TVOC and 10 mg m3 formaldehyde are to apply. Concerning limit values for total dust (10 mg/m³) and odour-intensive substances (1,800 GE/m³), no exemptions are foreseen. Compliance with the TVOC and formaldehyde limit values must be proven via emission measurements every six months for the duration of the exemption. Pfleiderer must furthermore submit a report to authorities twice, in each case summarising the measures taken to reduce emission levels. The exemption invalidates a ruling from 29 September 2020 prescribing lower limit values. These limit values ensue from the conclusions outlined in the EU Directive 2010/75/EU concerning best available technology (BAT) for wood-based panel production, and according to the implementing decision



Drying section in Neumarkt

(Photo credit: Pfleiderer)

EU 2015/2119 derived therefrom must be put into effect within four years, i.e. from 2019.

In the application submitted in November 2019, Pfleiderer had argued that the limit values derived from the BAT conclusions could not be complied with due to the technical conditions prevailing at the Neumarkt location. This limitation was primarily due to the drying concept implemented by way of indirectly heated tubular bundle dryers. According to Pfleiderer, this concept is characterised by a high degree of energy efficiency and gentle drying conditions. However, the low volumetric flow of the waste gas causes it to contain higher pollutant concentrations, even though the actual pollutant load is not significantly higher than that emanating from the direct dryers now typically used in the particleboard industry.

The measures described in detail to comply with the limit values (such as conversion to direct drying, changes in wood use or adhesive systems, or conversion or

new construction of filtration systems) are not economically justifiable, according to Pfleiderer. However, measures have been implemented to ensure permanent compliance with the limit values requested within the scope of the exemption. The installation of a urea dosing system and adjustments within the production process were referred to as examples. According to Pfleiderer, since January 2020 these measures have ensured permanent compliance with the limit values requested in the exemption application. This compliance was confirmed by two emission measurements, monitored by the state office for environment, in October 2020 and April 2021.

The draft submitted to Pfleiderer in mid-August comprises 36 pages in total. The two-page ruling was followed by an extensive reasoning, addressing points such as the technical conditions prevailing at the Neumarkt particleboard plant, the legal framework conditions and the process of the approval procedure for the exemption.

Resopal turnover dropped below €110m



(Photo credit: EUWID)

In the 2020 financial year, turnover development of laminate and elements manufacturer Resopal GmbH, based in Groß-Umstadt, was quite clearly affected by the coronarelated temporary production shutdowns implemented by its customers and by affiliated companies in the UK. Resopal itself was nevertheless able to maintain production operations by making use of short-time working arrangements. In the second half of the year, monthly turnover was again back near the average figures of the previous year again. It was, however, not possible to compensate for the corona-related losses recorded from March onwards. As a result, the turnover increase actually being aimed for following an economic slowdown in the year of 2019 could not be realised.

In the 2019 business report of superordinate Wilsonart Holdings GmbH, prepared at the beginning of December 2020 and published in March 2021, group turnover for the 2020 financial year was estimated at around €108m based on the figures available at the time. This corresponds

to a decline of around 9% compared to 2019. The decline primarily ensued in connection with exports to France, Great Britain and the Benelux region, as well as in intercompany business with the sister company Wilsonart Ltd. in the UK. The retail/distribution sales segment, on the other hand, developed along better lines. This was due, for example, to new supply contracts in the kitchen segment, launch of a new collection for Bauhaus GmbH & Co. KG as well as renovation business, which increased especially in the second half of the year.

To cushion the impact of the turnover declines on results figures, Resopal had introduced various cost-cutting and restructuring measures during the course of 2020. Examples include the introduction of short-time work from April 2020 onwards, postponement of investments as well as the intensification of cost control, receivables and cash management. These measures were intended to improve the results situation for 2020 as a whole again. In the outlook of the 2019 business report, Resopal was aiming for a turnover level for the current 2021 financial year similar to 2019; a results forecast was not made.

In the 2019 financial year, group turnover of Wilsonart Holdings GmbH had declined again by 3.9% to €119.1m (2018: €123.9m) following two years of minimal increases.

Mayr-Melnhof completes Kotkamills acquisition

At the start of August 2021, Mayr-Melnhof Karton AG wrapped up its purchase of all shares in Kotkamills Group Oyj, based in Kotka, Finland, in a deal that was struck in early December 2020. This step came after the European Commission's Directorate General for Competition gave the green light to the deal on 11 June 2021. The company now does business as MM Kotkamills.

The transaction means that Mayr-Melnhof is significantly expanding its virgin-

fibre cartonboard activities. The main synergies come from Kotkamills's ability to make online barrier-coated food service board, which can replace PEcoated cartonboard, and by it entering the cupstock business. Its cartonboard production, which was listed at roughly 260,000 t in 2020, should be ramped up to the capacity level of 400,000 t per year as quickly as possible. Saturated kraft sold by Kotkamills under the Absorbex brand, which is made using the PM 1 in Kotka with a designed annual capacity of 170,000 t, and softwood lumber are new product groups for Mayr-Melnhof.

Koehler experiences sharp downturn in revenues

The Covid-19 pandemic left a deep imprint on the speciality paper and energy specialist Koehler Group, based in Oberkirch, during 2020. The first quarter had been a period of little disruption. With slightly higher revenues of about €230m in a year-onyear comparison, the positive trend seen in 2019 had continued at first. According to a press release issued on 28 July, full-year group revenues fell by 11.7% to €769m (2019: 870.1m) last year. This figure was below 2017's level of €783.6m, as well. Operating profits were also still well below the previous year's level of €80.3m at €66m last year: they were also much lower than forecast. Nonetheless, equity improved by €29m to €590m, resulting in an equity ratio of 57.2% at a lower balance sheet total. Koehler Group invested €91m during 2020. The single-largest projects were a paper and coating machine (PL8) at its plant in Kehl and a biomass-fired power plant in Dollbergen.

Koehler intends to book strong growth again this year based on last year's level, which was hit hard by challenging export business. All areas apart from thermal paper and fine paper are forecast to play a part in the projected growth in revenues. The Energy division, which is handled by Koehler Renewable Energy GmbH, based in Oberkirch, Germany, will also reap the rewards of its 1 July purchase of a 60% stake in the logistics and residual wood merchant Zollikofer GmbH & Co. KG. headquartered in Bad Wurzach. Koehler's energy operations are also being expanded through additional investments and acquisitions, with the company planning to build two more biomass power plants. An existing power plant in Oberkirch is to switch completely to biomass by the end of 2024, as well.



Decor paper production on PM6

(Photo credit: Koehler)

Surteco pool's shareholding climbs to 57%

The Surteco pool saw its stake in Surteco Group SE, headquartered in Buttenwiesen, increase to 56.87% with effect from 8 June 2021, including shares held by the Schürfeld pool and the completion of a voluntary public takeover offer by PKG Schürfeld GmbH, based in Hamburg. A variety of people and entities from the Schürfeld pool, which was created at the end of 2020, and shareholders from the former owners, the Linnemann, Schlautmann, Bausch and Ahrenkiel families, are members of the Surteco pool. Surteco Group disclosed changes to its direct and indirect stakes in 21 ad-hoc statements released on 14. 15 and 16 June.

The Luda Foundation, a Kronosopan affiliate headquartered in Liechtenstein, is the second-largest shareholder. Luda has a total stake of 26.22% after buying shares in the fourth quarter of 2018, the second quarter of 2020 and the first quarter of 2021. Lazard Frères Gestion S.A.S. still

owns 4.7% of the shares in Surteco Group, with other shareholders still having 12.2%. All told, there are 15.506m shares in Surteco; a recent shareholder overview put the free float at 16.9%.

The voluntary public takeover offer that PKG Schürfeld GmbH made for non-pool shares in Surteco on 9 April has met with little interest in the second subscription period, either. In the first offer period, which ended on 7 May, the mandatory offer was only accepted for 4,700 shares. PKG Schürfeld had received commitments for another 2,542 shares by the time that the second offer period ended on 26 May. Consequently, this offer has only been accepted for 7,242 shares, representing 0.047% of its total share capital of 15.506m shares. Schürfeld Group had only offered the statutory minimum price at €24.07 per share. Surteco's share price has been mostly above this minimum in the past few months. П

Neodecortech: Q1 revenues grew by close to 20%

The Italian decor paper and surfaces manufacturer Neodecortech S.p.A., based in Filago, generated revenues of €40.2m (Jan.-March 2020: 37.1) in the first three months of 2021. Sales and service revenues increased by 13.9% compared with the prior-year period, which was hit by a Covid-related slump in sales and production stoppages, to land at €39.6m (33.2m). The Printed Decorative Paper division fared the best with a 27.6% jump, primarily on the back of printed decor paper, printed PVC, laminate and EOS surfaces operations. Revenues from the Decorative Paper division edged 19.9% higher. Energy activities booked a 4.9% improvement in revenues.

Neodecortech reported even bigger variations in its different sales markets. Italian revenues showed similar growth to overall revenues with a 19.2% rise to \leq 20.8m (17.5m). Revenues in the rest of Europe leapt by 27.3% to \leq 15.5m (12.2m). On the other hand, markets outside Europe fared worse than last year. The Middle East

encountered a small downturn of 1.5% to €1.7m (1.7m), while revenues in the Americas dipped by 1.8% to €1.0m (1.0m); Neodecortech saw its Asian revenues plunge by 63.4% to €0.1m (0.4m). African revenues stayed the same at €0.4m. This meant that 52.6 (52.7) % of the firm's sales and service revenues were booked in Italy. The rest of Europe's share climbed to 39.2 (36.8) %, while overseas business encountered a fall to 8.2 (10.5) %.

Despite this substantial growth in revenues, Neodecortech suffered a downturn in first-quarter earnings in the wake of rising raw material costs. Total EBITDA dropped by 7.2% to €5.1m (5.5m). This factor, combined with higher revenues, trimmed the total EBITDA margin by almost four percentage points to 12.8 (16.5) %. However, the previous year's figure did include special effects of €2.8m, including insurance payments for damage to a biomass power plant. Adjusted EBITDA nearly doubled when adjusted for these special effects. EBIT dropped by 14.6% to €2.9m (3.3m), while net profits tumbled by 22.0% to €1.8m (2.3m).

Jagenberg Converting buying a stake in WDB

The Kleinewefers GmbH subsidiary Jagenberg AG is set to ramp up its decor printing and coating technology operations by acquiring a majority shareholding in WDB Systemtechnik GmbH, headquartered in Enger. Until now, its activities have focused on retrofitting existing machinery by replacing controls, drives and register controls with new systems.

Within Jagenberg, these operations are mainly carried out by Lebbing Engineering & Consulting GmbH, based in Bocholt. Lebbing had already expanded its longstanding partnership with WDB in recent months and created a new branch at WDB's site in Enger for decor and packaging printing projects in January 2021. Jagenberg Converting Solutions GmbH was also created under the Jagenberg umbrella in October 2020. This firm is to plan and carry out complete printing and coating machines as a general contractor.

Jagenberg Converting Solutions GmbH is handling the purchase of the stake in WDB, which will close after the necessary approvals have been received. With a workforce of around 20 people, WDB primarily makes machinery for the paper, film and printing industry, making core components at its own mechanical production facility. Jagenberg Converting Solutions will be able to use this manufacturing capacity in the future, too. WDB will initially manufacture printing and coating units for Jagenberg Converting Solutions as a component supplier. Until now, the two companies have mainly worked on rebuilding and upgrade projects as part of the existing partnership. One current project involves integrating EBC curing technology into an existing coating machine. WDB is responsible for mechanical engineering and project coordination as the general contractor, while Lebbing will provide the control system. For its part, Lebbing has mainly performed retrofits in the printed decor sphere, including at Interprint GmbH in Arnsberg and Surteco GmbH in Buttenwiesen-Pfaffenhofen. In recent years, WDB has modernised a second-hand printing machine bought from the Russian group OOO Slotex-Decor in Proba.

Last year's downturn was much smaller than first feared

Global decor paper sales might enjoy small double-digit growth in 2021

Worldwide sales of decor paper (excluding China) look set to grow substantially in 2021 on the heels of a downward trend in the past three years.

The upswing in demand that emerged in the second quarter of 2020 and has continued so far this year might even pave the way for a double-digit improvement. Ahlstrom-Munksjö Germany Holding GmbH forecasts an 8-10% upswing in sales in its Decor Paper Market Research 2020 report, which was drawn up in June 2021. This upward spiral is poised to continue at a slightly slower pace in the next two years, as well. Ahlstrom-Munksjö believes that annual growth will be in the region of 2-3% in 2022 and 2023.

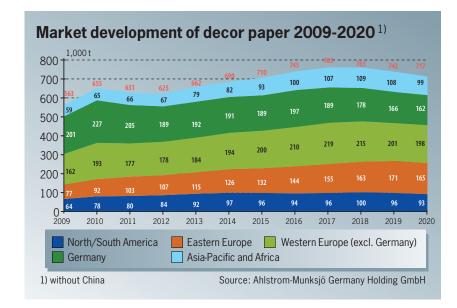
In retrospect, last year ended up being better than initially expected. A plunge in demand caused by the Covid-19 pandemic and ensuing production cutbacks in the wood-based panel, surfaces and furniture industry had led Ahlstrom-Munksjö to fear a 12-16% decrease in full-year sales at first. The company then upgraded this forecast in September, but did not

rule out the possibility of small double-digit losses compared with 2019 at that time, either. A marked recovery in the second half of the year helped to limit the fall in sales to 3.4% after all, according to the latest market research. Ahlstrom-Munksjö estimated that 717,000 (2019: 742,000) t of decor paper had been sold around the world in 2020. Decor paper sales had reached 765,000 t in 2017 and 2018 after a period of growth lasting five years.

Sales are even forecast to exceed this level in 2021 at a projected 775,000-785,000 t. Ahlstrom-Munksjö thinks that sales might even reach 790,000-810,000 t in 2022. Even in a worst-case scenario, sales should top the 800,000 tmark at 805,000-835,000 t in 2023. A compound annual growth rate (CAGR) of 1-2% would thus be booked for the period from 2018 to 2023. Worldwide decor paper sales (excluding China) had grown at an average of 6.8% between 2001 and 2006. Ahlstrom-Munksjö had recorded a negative CAGR of -2.4% from 2006 to 2012, followed by a positive CAGR of 2.9% between 2012 and 2018. Virtually all of the regions mapped separately in the market report played a part in last year's downturn in sales. South America alone enjoyed a small 1.6% improvement to 51,800 (51,000) t. With a 2.9% dip to 161,600 (166,500) t, Germany again fared worse than other Western European countries, which only faced a 1.4% year-on-year decline to 197,700 (200,600) t due to better sales in Turkey, which is counted towards this region. Eastern European decor paper sales fell by 3.0% to 165,500 (170,600) t. Consequently, pan-European sales were down 2.4% at 525,000 (537,700) t.

The sharpest downturns outside Europe were witnessed in North America and the Asia-Pacific region (excluding China). North American sales were 9.1% lower in a year-on-year comparison at 41,100 (45,200) t. Stronger South American sales helped to contain the decrease in the Americas to 3.3% or 92,900 (96,200) t. The Asia-Pacific region saw sales that were 9.2% worse than the previous year at 83,900 (92,400) t. Ahlstrom-Munksjö reported a 3.9% slump to 15,200 (15,700) t in the Middle East and all other regions.

The market report also breaks down the trend in sales in each region by product group. These variations are even more pronounced than the differences from one region to another. Melamine paper (printing base paper, single-shade paper) sales declined by 4.5% in a year-on-year comparison to land at 586,500 (614,000) t. The edgebanding paper business (-4.3% to 11,000 t) suffered a slump similar to decor paper. Backer paper and pre-impregnated paper sales were higher than in 2019, though. A minor upswing in laminate flooring production observed in the first half of 2020 sent backer paper sales 2.2% higher to 47,000 (46,000) t. At a 2.8% year-on-year growth to 72,500 (70,500) t, pre-impregnated paper sales demonstrated a similar increase to the previous year.



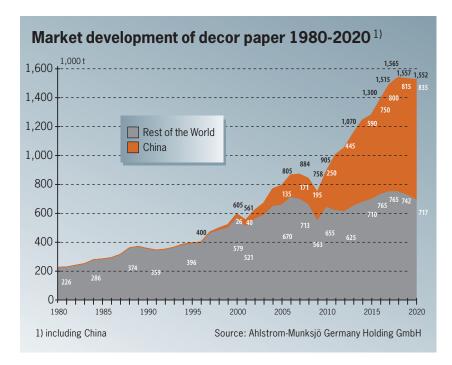
Global decor paper market in decline for the second year in a row

Growth in the Chinese decor paper market has slowed again in 2020

Chinese decor paper production has risen only slightly of late after experiencing double-digit growth rates in recent years.

According to figures from the China National Forest Products Industry Association (CNFPIA) compiled in the Decor Paper Market Research 2020 report drawn up by Ahlstrom-Munksjö Germany Holding GmbH, a total of 1.150m t was made in 2020. This figure was 2.0% higher than the previous year and represented the smallest increase since 2015 (+1.6%). Double-digit growth rates in 2016 (+15.7%) and 2017 (+13.5%) had given way to an upturn that was only almost half the size in 2018 (+7.4%). According to the CNFPIA, sales had risen by just 2.5% in 2019.

In its latest market research, Ahlstrom-Munksjö again stressed that the figures collected by the CNFPIA also include very basic decor paper grades that are not comparable with products made in Europe. Ahlstrom-Munksjö still estimates that these basic grades account for roughly 20% of total Chinese production. Relevant production in China thus reached roughly 920,000 (2019: 900,000) t processed by decor printers, treater operators and coaters last year. This is a year-on-year improvement of easily 2.2%. On the other hand, Chinese decor paper exports did not get over previous year's level for the first time in a while in 2020 after continually rising since 2010. Including exports, which are still primarily headed to Asian destinations, and imports, that are largely limited to special grades, Ahlstrom-Munksjö found that net exports stood at 85,000 (85,000) t last year. Chinese domestic sales edged 2.5% higher to 835,000 (815,000) t in keeping with higher output. This figure comprises 815,000 (793,000) t of melamine paper (printing base paper, single-shade paper), 16,000 (18,000) t of backer paper,



3,000 (3,000) t of edgebanding paper and 1,000 (1,000) t of pre-impregnated paper.

Combining Chinese sales with the figure of 717,000 (742,000) t reported by Ahlstrom-Munksjö for all other sales markets, the worldwide decor paper market had a volume of 1.552m (1.557m) t in 2020. For the second year in a row, sales were marginally lower than the previous year. A 0.5% decrease recorded in 2019 was followed by a 0.3% fall last year. As in 2019, pre-impregnated sales were the only category to show an improvement. Last year's 2.8% growth to 73,500 (71,500) t doubled the previous year's rate of 1.4%. Continuing the trend seen in 2019, melamine paper sales slipped by 0.4% to 1.402m (1.407m) t. Backer paper (-1.6% to 63,000 t) and edgebanding paper (-3.4% to 14,000 t) sales recorded even bigger falls, as happened in 2019.

Since printing base paper mainly underpins the growth in Chinese sales, global

deliveries to decor printers were up 3.6% at 920,400 (888,700) t in 2020. Deliveries to treater operators and foil producers were down 1.5% at 127,200 (129,200) t. Ahlstrom-Munksjö reported a 5.1% drop in deliveries to LPL laminators to 425,600 (448,700) t. Decor paper sales to HPL/CPL manufacturers fell by as much as 12.8% to 78,800 (90,400) t, primarily because of a strong downward trend in India.

These diverging sales trends meant that China's share of the global decor paper market swelled to 53.8 (52.3) %. Europe accounted for 33.8 (34.5) %, North and South America for 6.0 (6.2) %, the Asia-Pacific region for 5.4 (5.9) % and the Middle East/other regions for 1.0 (1.0) %. Chinese mills made as much as 59.3 (57.8)% of the decor paper produced worldwide last year. Some 36.7 (37.8) % of the total was manufactured in Europe and 3.3 (3.5) % in North and South America.

Takeover of Chinese decor paper producer Hebei Minglian is behind the schedule

Ahlstrom-Munksjö revived divestment process for Decor Solutions division

Ahlstrom-Munksjö Oyj, headquartered in Helsinki, Finland, has resurrected the process of selling its "Decor Solutions" division, which it had temporarily put on ice.

This step came after the consortium Spa Holdings 3 Oy completed the purchase of a majority stake in the company. In recent months, the group moved forward with spinning off this area within its structure. At the same time, Ahlstrom-Munksjö firmed up negotiations to buy the Chinese decor paper producer Hebei Minglian New Materials Technology Co. Ltd., based in Xingtai, Hebei Province. The Chinese firm started making decor paper at the end of 2018 when it commissioned a paper machine with a designed annual capacity of about 50,000 t. Ahlstrom-Munksjö had signed a non-binding letter of intent back in late November 2019; the purchase price had been fixed at about €60m on a debt-free basis at that time. A closing date that had been slated for the first quarter of 2020 had been initially pushed back into the second half of the year after the coronavirus pandemic broke out. The two companies had extended the exclusivity period to carry out due diligence and final negotiations until mid-2021 as social-distancing and travel restrictions ended up lasting longer than expected.

After the revival of the divestment process, Ahlstrom-Munksjö firmed up contacts with potential investors in its decor paper activities. Candidates received an information memorandum in early summer to help them to submit a non-binding offer. Private-equity investors will be in the spotlight. Selling these assets to strategic investors does not seem to be a serious option due to potential competition law restrictions and the time needed for an anti-trust review. Nonetheless, rumours did the rounds for a short time in April that companies in the wood-based panel and surfaces sector were among those interested.

Ahlstrom-Munksjö had announced plans for a strategic reorganisation of its Decor Solutions division in an ad-hoc statement issued on 17 September 2019. At that time, the firm said that the reorganisation would entail a merger with a Chinese decor paper manufacturer and subsequent spin-off of this division into a separate company. The required transactions should be financed by bringing external investors on board.

The Decor Solutions division suffered an 11.9% downswing in revenues to €369.7m (2019: 419.6m) in the 2020 financial year. Adjusted EBITDA improved to €37.6m (34.5m), mainly thanks to lower raw material costs, translating into a margin just in the double digits at 10.2 (8.2) %. First-quarter revenues declined by 2.4% in a year-on-year comparison to €103.7m (Jan.-March 2020: 106.2m), but revenues were higher than in the three previous quarters (Q2: €65.0m, 03: €96.7m. 04: €101.7m). Comparable EBITDA dropped in both a year-onyear comparison and compared with the fourth quarter of 2020 to land at €11.0m (12.7m). The EBITDA margin fell to 10.6 (11.9) % as a result. Ahlstrom-Munksjö mainly blamed the deterioration in earnings on rapidly increasing raw material costs. For the second quarter, the Decor Solutions division did post a 60.8% leap in second-quarter revenues to €104.5m (April-June 2020: 65.0m), Adjusted EBIT-DA soared to €8.9m (0.6m), resulting in a margin of 8.6 (0.9) %.

Between the first and second quarter, the decor paper operations delivered barely any growth in revenues and earnings, even though the company has raised its prices since spring 2021. Higher prices failed to fully offset the strong uptick in raw material prices that has lasted for a few months now. Looking at the first six months combined, revenues were up 21.6% at €208.3m (Jan.-June 2020: 171.3m). Adjusted EBITDA jumped by 50.4% to €20.0m (13.3m) in the same period, with the related margin reaching 9.6 (7.7) %.



Unterkochen paper mill

(Photo credit: Voith Paper)

In full year 2020, increase in revenues only partially erased the decrease of 2019

Glatfelter enjoyed strong growth in overlay business in the second quarter

Glatfelter Corp., headquartered in Charlotte, North Carolina, has announced that its overlay paper business, which is referred to as Composite Laminates and part of its Composite Fibers business unit (CFBU), delivered strong growth in the second quarter after a subdued first quarter of 2021.

Overlay paper shipments were 15% higher than the same stretch last year. Including price increases instituted in the past few months, revenues jumped by as much as 29.8% to US\$10.5m (April-June 2020: 8.1m). In the first quarter, shipments had been 6% lower, while revenues were still marginally higher than a year earlier at US\$9.8m. The overlay paper business thus boosted its first-half revenues by 13.8% to US\$20.4m (Jan.-June 2020: 17.9m).

Even though shipments improved in most product areas, the CFBU's total revenues did not grow as much as overlay paper revenues in both periods. Wallcovering base paper (+95%) and technical specialty paper (+27%) shipments had improved even more in the second quarter. Tea and coffee filter paper shipments, which are pooled in its Food & Beverage unit, jumped by 27%. The end of metalised paper production in Gernsbach in the second quarter of 2020 sent shipments in the Metallized Products unit tumbling by 28%.

The business unit's total shipments were 18.7% higher at 34,471 (April-June 2020: 29,032) t. However, revenues were up just 16.0% at US\$141.6m (122.1m). The CFBU would have recorded a 7.1% year-on-year growth at constant exchange rates. By contrast, the CFBU saw its EBITDA edge only marginally higher to US\$18.1m (17.9m), which translated into an almost two percentage point decrease in the EBITDA margin to 12.8 (14.7) %. By way of comparison, the business unit had ended the first quarter with a margin of 16.3%. Operating profits even decreased



(Photo credit: EUWID)

by US\$0.4m to US\$11.1m (11.5m) in the second quarter. Higher sales prices (+US\$2.0m), increased sales, a better product mix (+US\$1.2m) and an upturn in its operations unit fuelled by better capacity utilisation (+US\$3.0m) failed to entirely wipe out a negative impact of US\$6.0m caused by higher raw material and energy prices. Currency effects made a US\$0.6m dent into operating earnings.

Looking at the first half in its entirety, Glatfelter reported a 5.5% upswing in the CFBU's shipments to 68,611 (Jan.-June 2020: 65,015) t. Revenues had been 10.9% higher at US\$282.8m (254.8m). Operating profits were at least marginally higher than the previous year at US\$27.1m (26.6m); the different factors had headed in similar directions to the second quarter (prices: +US\$1.9m, sales/mix: +US\$2.3m, raw materials/energy: -US\$7.3m, operations +US\$4.1m, currency effects; -US\$0.5m).

In the full year of 2020, revenues from overlay paper increased by 4.5% to US\$36.9m. A slump in its composite

laminates operations in 2019 was only partially erased, though. Overlay paper revenues had fallen by 7.6% from US\$38.2m in 2018 to US\$35.3m in 2019. According to Glatfelter's annual report, which was published in late February 2021, its Food & Beverage and Technical Specialties operations hoisted their revenues above 2018's level thanks to last year's growth. Revenues from tea and coffee filter paper had been just shy of the previous year's level (US\$279.5m) at US\$278.8m in 2019. Last year produced a 2.5% growth to US\$285.7m. Technical specialties delivered revenues of US\$81.3m in 2018, US\$79.5m in 2019 and US\$84.3m last year.

Revenues from Wallcovering and Metallized operations decreased in all three years. Wallcovering revenues had been in the triple digits in 2018 at US\$103.7m. After plunging to US\$81.7m in 2019, 2020 brought only a small decrease to US\$79.3m. The downward trend in Metallized activities was compounded by production ceasing at the site in Gernsbach, Germany. Revenues thus fell to US\$38.9m (2019: 46.4m).

One of two double-belt presses moved from Horn-Bad Meinberg to Italy

Neodecortech and Surforma forge non-exclusive CPL partnership

The Italian surfaces manufacturer Neodecortech S.p.A., headquartered in Filago, and Surforma S.A., a laminate manufacturer that is part of Sonae Industria SGPS S.A. and based in Maia, Portugal, entered into a non-exclusive partnership to sell continuous pressure laminate (CPL) back in January 2021.

This cooperation is tied to the late 2020 cessation of laminate and element production operations at Sonae Industria's site in Horn-Bad Meinberg. Surforma, which runs an HPL production facility in Maia, Portugal, will source CPL products from Neodecortech in the future and sell them through existing distribution channels in Europe and North America.

Neodecortech hopes that the partnership will allow it to maximise the use of CPL capacity in Casoli di Atri, which had been increased markedly in recent years, as quickly as possible. This site became part of the group in late August 2018 when it acquired assets from Corbetta Fia s.r.l.,

based in Carugo. At that time, the company made CPL using just one 640 mm-wide press. A 1,320 mm-wide double-belt press was commissioned during 2019. The modernisation of a formerly closed press whose working width was increased from 1,300 mm to 1,420 mm followed at the start of 2020. By adding this wide press, Neodecortech has expanded its portfolio, which used to focus on thin laminates for profile wrapping, to include CPL to use in worktops.

After forging the sales partnership with Surforma, Neodecortech relocated one of the two CPL presses from Sonae Industria's site in Horn-Bad Meinberg to Casoli di Atri during the first half of 2021. This 1,320 mm press started operating in June. All four double-belt presses were originally delivered by Hymmen GmbH Maschinen- und Anlagenbau. Neodecortech lists its total capacity at about 13m m² per year. The firm made a total of approximately 4.6m m² using the three lines that it operated in the 2020 financial year; the four lines that it now runs are

set to manufacture a total of around 6m m² this year. Capacity reserves are to be gradually used up in the years ahead through its own distribution activities and the partnership with Surforma.

Neodecortech sells its CPL under the Texte brand within the EOS laminato, Micro Top, Thin Top, Laminex and Cover Lac product lines. EOS products use acrylic film with anti-fingerprint characteristics as the surface. Micro Top products are mainly used in wrapping. Thin Top laminates serve as standard and post-forming CPL in worktop production. The Laminex and Cover Lac lines are designed as edging materials. Neodecortech intends to shift its product range to include more higher-quality surfaces by expanding its laminate business, anti-fingerprint surfaces sold under the EOS brand and PPLF used in areas including flooring. Its main product groups still comprise decor paper made by Cartiere di Guarcino S.p.A. and printed decors, finish foils and melamine film made mainly at its Filago headquarters.

Sonae Industria had announced plans to stop making laminates and elements in Horn Bad-Meinberg back in June 2019. At that time, the firm had still operated one multi-opening HPL press, two continuous CPL presses and two worktop lines.

Laminate and element operations in Horn-Bad Meinberg were assigned to Sonae Industria. Production was handled by Sonae Arauco's subsidiary Glunz Holzwerkstoffproduktions-GmbH (GHP) as a manufacturing service provider. When announcing the divestment back in June 2019, GHP said that several factors had played into the decision to close the operations in Horn-Bad Meinberg. Persistent competition in the laminate and element business has long resulted in very low capacity utilisation. Therefore the site could not achieve lasting profitability.



CPL production in Casoli di Atri

(Photo credit: Neodecortech)

Phenol treating capacity set to double/New production hall and warehouse

Egger investing €18m in production and logistics at its Gifborn laminate facility

Egger Group, headquartered in St. Johann, Austria, is set to invest approximately €18m in its laminate plant in Gifhorn, which does business as Egger Kunststoffe GmbH & Co. KG, by the middle of 2022.

This work will entail building a new production hall and warehouse, expanding its shipping area, modernising its phenol treating operations and optimising infrastructure. These steps will prepare for a potential further increase in its CPL capacity. Egger Kunststoffe had previously carried out several major investment projects in Gifhorn in the past few years. Two more double-belt presses had been commissioned in the first guarter of 2014 and towards the middle of 2018. Once optimisation was completed, the eight presses, all of which were supplied by Hymmen GmbH Maschinen- und Anlagenbau, can make up to 45m m² of CPL each year. A third melamine treater started up in Gifhorn in December 2014; this technology was provided by Vits Technology GmbH. Egger had also entered the digital printing business in Gifhorn in the first quarter of 2017 using a single-pass machine delivered by Hymmen. A highbay warehouse for impregnated products used to supply the CPL presses followed in 2017 and 2018.

The current investment plans were unveiled in December 2020. Construction work has now begun. In a first stage, a new production hall and warehouse with a total area of 2,700 m² will be built on the site of a former employee carpark. The hall will initially house 14 tanks for phenolic resin. The existing tanks will only be used for melamine resin in the future. Along with the new tanks, a new phenol line is to be installed in the coming months to replace existing technology. At the same time, a regenerative thermal oxidiser (RTO) with heat recovery systems will be installed. This machinery will be delivered by a variety of entities within Deurotech Group GmbH



CPL production in Gifborn

(Photo credit: Egger)

(DTG). Vits will supply the phenol line, with resin preparation systems coming from IFA Technology GmbH and the RTO from Wessel-Umwelttechnik GmbH. The planned start-up in summer 2022 will double its annual phenol film capacity from 50m m² to around 100m m². No new investments are planned in its melamine treating activities for the time being.

The new hall will also add a warehouse with around 1,000 spaces to store laminates. This new store is to replace the current block storage system with around 300 spaces. This block storage area mainly stores thin laminates for the door industry at the moment, while thicker laminates for worktop production and merchants are delivered directly to Egger locations, notably those in Brilon, St. Johann and Biskupiec, Poland. The block storage area will be retained as a backup once the new warehouse is up and running. The current investments will also entail the creation of a new 1,000 m² shipment area in Gifhorn where deliveries are to be loaded onto heavy goods vehicles.

The investments that are now planned primarily aim to improve the supply of upstream products and optimise intralogistics. Total demand for phenol film has swelled sharply in recent years because of a consistent increase in production and the growing share of thicker laminates.

Altogether, Egger Kunststoffe had produced 22.3m (2009/2010: 19.8m) m² in the 2010/2011 financial year (ended 30 April). This figure had reached 29.2m (2014/2015: 27.8m) m² by 2015/2016. CPL production had increased by another 5.0% to 41.6m (2019/2020: 39.6m) m² in 2020/2021. Output should come close to its theoretical technical capacity of around 45m m² this year. Capacity building projects in St. Johann and Biskupiec have significantly enhanced production of 0.6 mm-thick laminates for internal worktop production. Egger also sells more and more standard 0.8 mm-thick laminates to merchants. Plans to increase production in the coming years will also pave the way for growth in all three of its main sales avenues (door industry, worktops, merchants).

In 2020, group net revenues dropped by 6% to roughly €720m

Schattdecor enjoyed growth in finish foil business despite the pandemic

Schattdecor AG, headquartered in Thansau, managed to make up for much of a slump in revenues caused by the Covid-19 pandemic in the first half of 2020 by delivering a recovery in almost all product areas and sales markets from August onwards.

In June and July of 2020, the company still feared that the year as a whole would end with a substantial double-digit fall in revenues to the tune of 15-20%. Preliminary figures indicate that group revenues ultimately dropped by 6% to approximately €720m in 2020 as a whole. Revenues in Turkey even surpassed the previous year's level. Brazilian activities also held up pretty well, primarily because of a strong jump in demand for melamine film in the second half of the year. On the other hand, revenues declined by varying degrees in other sales markets. Italy posted the biggest losses.

Schattdecor had initially reported revenues of approximately €780m for the 2019 financial year. According to a recently pu-

blished annual report from Retis Holding GmbH, that previously operated as Schatt Holding GmbH, revenues had actually improved by 3.8% to €770.3m (2018: 742.4m). At that time, German revenues had tumbled by 26.7% to €51.3m (69.6m), while export revenues increased by 6.9% to €718.9m (672.8m). A much stronger performance on international markets had sent the proportion of group revenues generated outside Germany higher to 93.3 (90.6) % in the 2019 financial year.

In terms of the different product groups, the finish foil business fared the best last year. Total output of pre-impregnated and post-impregnated products bucked the trend, climbing to 430m m². Melamine film production dipped slightly to 330m m². All told, the Schattdecor Group manufactured about 760m m² of melamine film and finish foils, 5.5% more than in the previous year. In 2019, total output of melamine film and pre-impregnated and post-impregnated products leapt by as much as 18.6% to 721m (2018: 608m) m², due to factors including the integration

of mills in Lexington, South Carolina and Bestari Jaya, Malaysia that were acquired at the end of 2018 and in the first guarter of 2019 respectively. By contrast, its printing output decreased by a good 7% to roughly 105,000 t in 2020. The downward spiral seen in previous years actually intensified. Schattdecor had thus reported a 2.5% decrease to 112,697 (115,589) t for 2019. At that time, the increase in volumes in manufacturing at printing sites in the US (+8%) and Italy (+3%) was more than erased by a downswing in Germany (-9%) and Poland (-7%). As in 2019, Schattdecor produced around 2.4bn m² of finished surfaces in 2020 within the product groups of printed decors, finish foils and melamine film. Schattdecor had also separately listed the printing output included in the total volume at about 1.7bn m² for 2019. The Chinese joint venture Kingdecor Co. Ltd., headquartered in Quzhou, made about 250,000 t of decor paper last year. Decor paper production also stood at about 250,000 (235,000) t in 2019.

The Covid-19 pandemic also curbed Schattdecor's investment activity last year. Ongoing projects encountered delays because of travel restrictions and guarantine requirements. Expansion projects planned at treating sites in Bestari Jaya and São José dos Pinhais (Paraná, Brazil) are cases in point. The installation of a third line in Bestari Jaya was largely completed before the outbreak of the pandemic, but commissioning was no longer possible. The fourth line delivered to the Brazilian plant in spring 2020 had to be temporarily stored because of the coronavirus-related restrictions. Assembly work resumed in early November; production got up and running by the end of March. The additional line in Malaysia commenced operations in spring. In the past year, the company also finished setting up a treating line in Chekhov, Russia. Delays initially materialised with installing and commissioning a



Schattdecor headquarter in Thansau

(Photo credit: Schattdecor)

new line delivered by Rotodecor GmbH Maschinen- und Anlagenbau and with rebuilding a lacquering unit transferred from a site in Shanghai. The overall project also entailed transferring a treating line from a location in Shatura to Chekhov. Consequently, the company closed its Shatura facility in the middle of 2020. The next investment phase will see the group add an impregnating resin production plant in Chekhov. Schattdecor ordered another treating line for its São José dos Pinhais plant in autumn 2020, which is to get up and running in spring 2022. A second reactor is to be added to an existing resin production facility in São José dos Pinhais this year. However, longstanding plans to build a resin production plant in Rosate. Italy have not been fleshed out.

Along with these reactivated treating projects, major investments this year will involve installing two new lacquering lines in Tarnowo Podgórne, Poland and Lexington, South Carolina and commissioning another paper machine at Kingdecor. Schattdecor decided to invest in increasing finish foil capacity in October. The main technology orders have now been placed, as well. Schattdecor said that both new lines are to be delivered before the end of this year and start running in the first quarter of 2022. The start-up of what will be the sixth decor paper machine at Kingdecor is slated for the end of this year. Known as PM 5, this machine will have a working width of 3,900 mm like PM 3 and PM 4. Kingdecor's PM 1 and PM 2 and PM 13, which is still operated by its joint venture partner Zhejiang Xian He Special Paper Co., are all 2,800 mm wide. The current investments will boost Kingdecor's total annual decor paper capacity by 50,000-60,000 t from around 270,000 t at the moment to over 300,000 t. Schattdecor does not have any firm decor printing projects this year.

Looking ahead to 2022, the group is considering increasing manufacturing capacity at a plant in Quzhou, Zhejiang Province commissioned in May 2019 and the installation of a third printing machine at its US location in Maryland Heights, Missouri. In Quzhou, Schattdecor currently prints on four narrow machines that are 4 ft wide. The plant will remain a dedicated printing

site, at least for the time being. The firm has shelved deliberations about installing a finish foil production unit. Its capacity in Maryland Heights last increased with the November 2017 start-up of the second 7 ft-wide printing machine. No additional investments in digital printing are envisaged for the time being. The first machine, which PadaLuma Ink-Jet Solutions GmbH (Palis) set up in Thansau in the first half of 2016, has been operating since the first quarter of 2017. The installation of a second digital printing machine was considered but then dropped. The firm plans to decide whether to revive the project once current work to qualify production of digital printing ink is completed at Arcolor AG, based in Waldstatt. Switzerland.

Schattdecor started construction work on a new office building at its Thansau headquarters before the end of March. The project will last two years altogether. The four-storey building will offer an additional 2,700 m² of office space and house Schattdecor's group management team and the parent group Retis Holding GmbH. Along with constructing the new building, Schattdecor is planning to modernise and enlarge its showroom in Thansau, which is to open in 2024.

The spin-off of Arcolor AG, whose shares were fully acquired by Retis Holding during 2019, and shutdown of production activities in Shatura reduced the number of Schattdecor production sites from 18 to 16 last year. The company currently operates 42 printing machines, one digital printing machine, 17 treating lines, eight lacquering lines and five paper machines. Its various sites also have 10 rotogravure printing laboratory facilities. The Thansau complex also has two laboratory plants for lacquering operations. Ongoing investments will add three more treating lines, two lacquering lines and one paper machine by the middle of 2022.



Neue Alno GmbH to cease operations



Alno site in Pfullendorf

(Photo credit: EUWID)

No investor could be found for insolvent companies Neue Alno GmbH and BBT Bodensee Bauteile GmbH, both Pfullendorf. Since it is not possible to continue the two companies unassisted, business operations must be discontinued by the end of September 2021. The remaining orders are to be produced by then. According to management of the companies, no potential investor was ultimately willing to provide the necessary bridge financing for the planned investments in new machinery and software.

The possibilities of setting up a transfer company are currently being examined. The establishment of such a company is still subject to various as yet unspecified conditions, however. Some 230 employees are affected by the insolvency. Neue Alno GmbH had already axed almost 60 jobs across all divisions in spring 2020. Employees were informed of the current development on 7 September.

The district court in Hechingen opened the insolvency proceedings in self-administration concerning Neue Alno GmbH and BBT Bodensee Bauteile GmbH on 1 September. A corresponding application from the end of June had been granted by the court on 5 July. At that time, reasons given for the shortage in liquidity had included delays in the receipt of payments from the sale of a property in Pfullendorf, higher pre-financing expenses in connection with

the corona crisis, delayed payments from customers and increased material costs. The investor process has been continued in recent weeks. According to earlier information, discussions were held both with strategic investors and with financial investors from Germany and abroad. Neue Alno GmbH had already announced in April that the London-based financial investor RiverRock European Capital Partners LLP had commenced with the search for a co-investor.

On 1 January 2018, RiverRock had acquired key assets of Alno AG, which had been insolvent since mid-2017. Component production had then been transferred to BBT Bodensee Bauteile GmbH in mid-August 2019. Most recently, around 70% of the components produced by BBT were sold to Neue Alno GmbH while the remaining 30% were sold to external customers such as shop construction companies, furniture manufacturers and competitors from the kitchen furniture industry.

Change of ownership at Cabinetworks Group

Private equity company American Industrial Partners (AIP), based in New York, sold US kitchen furniture manufacturer The Cabinetworks Group to Platinum Equity, headquartered in Los Angeles, California. The Cabinetworks Group ensues from the renaming of ACProducts Inc. (acpi) in April 2020. Both companies announced the signing of a binding sale agreement on 5 April 2021. The transaction also includes transfer of the Cabinetworks shares held by state holding company GIC Private Ltd. of Singapore and other minority shareholders. Platinum Equity handled the acquisition via the buy-out investment funds Platinum Equity Capital Partners V and Platinum Equity Small Cap Fund, which hold investment volumes of approximately US\$10bn and US\$1.5bn respectively.

According to its own estimation, The Cabinetworks Group is the second largest independent manufacturer of kitchen and bathroom furniture in the USA, with meanwhile 17 production locations and 19 brands. The predecessor company ACProducts was formed from the sale of

the kitchen division of former Armstrong World Industries Inc., based in Lancaster, Pennsylvania, to AIP, which was completed in October 2012. The activities acquired through the AIPCF V investment fund were subsequently expanded through further acquisitions. The takeover of Elkay Wood Products Company, which belonged to Elkay Manufacturing Company of Oak Brook, Illinois, agreed in November 2018 made ACProducts the fourth largest kitchen furniture manufacturer in the USA, according to in-company information. In mid-February 2020, the company concluded the acquisition of the cabinetry products business division of Masco Corp., based in Livonia, Michigan, which had been agreed in mid-November 2019. Through this transaction, kitchen furniture manufacturer Masco Cabinetry LLC of Ann Arbor, Michigan, with a total of seven kitchen furniture plants and the brands Merillat, KraftMaid, Cardell and Quality Cabinets was integrated into AC-Products. According to figures published at the time, Masco Cabinetry generated turnover of US\$950m and operating profit of US\$86m in the 2018 financial year. The purchase price for Masco's kitchen division had been reported at US\$1.0bn, of which US\$850m was accounted for by a cash payment and US\$150m via newly issued shares. Prior to the integration of Masco Cabinetry, ACProducts had generated turnover of approximately US\$770m with six production locations.

After the merger of ACProducts and Masco Cabinetry, the company manufactured in six component plants and 14 assembly locations. During the course of last year, three locations were closed, including the plant in Mount Union, Pennsylvania. According to the latest information, The Cabinetworks Group now operates three additional component plants and 14 assembly locations. The company was most recently reported by AIP to have a group turnover of around US\$1.7bn. In January 2021, it became known that, in addition to various other strategic options being investigated, AIP was also considering selling The Cabinetworks Group. According to Bloomberg business information service, these considerations were based on a corporate value of US\$3.5bn.

Nobilia opened new manufacturing plant



New Nobilia plant in Saarlouis

(Photo credit: Niemeier)

The kitchen manufacturer Nobilia-Werke J. Stickling GmbH & Co. KG, based in Verl, officially opened its new plant V in Saarlouis on 19 May 2021. The company had announced the investment plans for the new site at the end of February 2018. At the beginning of March 2018 a property stretching over 29 hectars had been secured in the industrial park Lisdorfer Berg. The construction permit applied for in the fourth quarter of 2018 had been granted at the end of February 2019. Construction works then commenced in May 2019. In a first step a production hall of almost 120,000 m² had been erected. Commissioning of the machinery delivered among others by Homag Group AG and IMA Schelling Group had been started at year end. Homag delivered a production line for processing long parts in the first expansion stage, machinery for worktop production was delivered by IMA Schelling.

In a first phase, components will be supplied to a larger extend by Nobilia's plants I and II based in Verl-Sürenheide and Verl-Kaunitz. Together with the parts manufactured in Saarlouis, they will be assembled into kitchens. At the time of the opening, around 100 employees in Saarlouis manufactured about 100 kitchens a day. In the final expansion phase, Nobilia is to employ around 1,000 workers in plant V. Production volume is to reach 1,600 kitches/day in the future and will then be similar to that reached in plants I and II. How fast production can be ramped up depends on the development of demand in the months ahead. Further expansion plans include the installation of additional machines and production lines in the existing manufacturing facility. At a later point in time additional production halls are to be built. Nobilia intends to invest a total of around €200m in Saarlouis.

At the end of 2020 plant III in Gütersloh-Spexard that had been under construction since the end of 2018 was likewise put into operation. In the thus completed first construction phase a production hall with a total area of almost 35,000 m² had been erected on a plot of land measuring 13 hectares. Above all custom parts are manufactured here for the meanwhile three Nobilia kitchen plants.

Another business sold in US kitchen furniture industry

After the sale of the US company The Cabinetworks Group of Ann Arbor, Michigan, to Platinum Equity of Los Angeles, California, at the beginning of April 2021, United Cabinet Company LLC of Nashville, Tennessee, operating on the market under the name of "Kabinart", is to be run by a private-equity investor as well in future. According to a release published on 30 April, the former owner family Murray has sold the kitchenfurniture manufacturer, geared mainly to the higher-quality market segment, to Hyperion Capital Partners LLC of Los Angeles. Those involved in financing the

transaction were the mezzanine lenders Oxer Capital Inc. of Grandview Heights, Ohio, and Salem Investment Partners Ltd. of Greensboro, North Carolina.

Kabinart has a total of around 135 employees at the 170,000-sqft works at the headquarters in Nashville, Tennessee. Sales of the manufactured kitchen furniture are directed mainly towards the US East Coast, predominantly through independent distributors. The company is to remain under the present management following the completion of the sale. According to unconfirmed information from the US kitchen-furniture industry, Kabinart generates annual sales to the tune of US\$20m.

Wren Kitchens opens new worktop plant

British kitchen furniture manufacturer Wren Kitchens Ltd., based in Barton-upon-Humber, commissioned a 150,000 sqft quartz stone worktop processing plant at its Scunthorpe site in July 2021. Built in a former DHL facility at Foxhills industrial estate, production is now to be gradually ramped up and is expected to be operating at full capacity by December. Wren Kitchens has invested a total of £20m in the new plant, which was built on account of the significant increase in demand for quartz stone worktops in Great Britain. Wren Kitchens already manufactures quartz stone worktops at its headquarters in Barton-upon-Humber, just under 25 kilometres from Scunthorpe. In Scunthorpe, where Wren Kitchens operates a kitchen furniture plant, there are plans to create a total of 300 additional jobs in worktop manufacturing.

In addition to Scunthorpe and Barton-upon-Humber, the company operates a third kitchen furniture production site in Howden. At the end of 2019, Wren Kitchens also began construction of a fourth, 1m sqft-kitchen furniture plant in Barton-upon-Humber, where 900 people will be employed in future. The total investment volume amounts to £120m. Commissioning is scheduled for summer 2022.

Wren Kitchens products are distributed through its own kitchen studios. A new showroom in Carlisle, opened in May 2021, was the most recent addition. This brings the current number of facilities in Great Britain to 106 locations. Outside Great Britain, Wren Kitchens has also been represented in the USA since the beginning of November 2020 where it has opened its first kitchen studio in Milford, Connecticut. Wren Kitchens' further expansion plans in the USA feature the opening of up to 700 kitchen studios by 2035. To supply the US studios, the company has built a kitchen furniture plant in Wilkes Barre, Pennsylvania. The investment volume amounted to US\$15.4m. As a first step, 360 people are to be employed there in production, logistics, administration and customer service. In Great Britain, Wren Kitchens currently employs around 5,500 people.

Blum turnover increased by one-fourth



Blum's main plant in Höchst

(Photo credit: EUWID)

Austrian fittings manufacturer Julius Blum GmbH, based in Höchst, exceeded the €2bn turnover mark for the first time in the 2020/2021 financial year (30 June), recording turnover of €2.377bn (2019/2020: 1.907bn). Compared to the preceding year, this corresponds to an increase of €470m, or 24.7%. In addition to the sustained high level of demand observed since mid-2020, the financial year was also characterised by shortages in the supply of upstream products and the associated massive cost increases.

Growth was recorded across all regions in the 2020/2021 financial year. Particularly strong growth was observed in Western European markets, especially Italy, France, Great Britain and Germany. In Eastern Europe, where the level of the preceding year was also significantly exceeded, demand increased strongly in markets such as Poland, Russia, the Czech Republic and Turkey. In North America, Asia and Oceania, growth was driven by positive development in the USA and China. Increases were also achieved in Africa, South America and the Near and Middle East. The establishment of Blum Indonesia during spring increased the number of foreign subsidiaries to 33. Turnover distribution developed along virtually constant lines last financial year. The EU still accounted for 44% of total turnover. The largest individual market, the USA, accounted for 13%; all remaining markets accounted for 43%.

According to the current status, construction work for the new production facility in Shanghai could be completed at the beginning of 2022. The facility is located in the direct vicinity of the Chinese sales subsidiary. Construction had commenced in the second half of 2019.

In the 2020/2021 financial year, Blum invested a total of €259m in new buildings, machines and plants. Of this, €176m was invested at the Vorarlberg locations, where Blum operates eight plants. The new production building at plant 4 in Begrenz was scheduled for commissioning this summer. In addition, the 20,200 m² expansion of the production and high-bay warehouse at plant 6 in Gaißau began in March; commissioning is scheduled for mid-2023. The location in Poland is also to be expanded. Construction work also commenced in March; Blum is expecting completion in autumn 2023. □

Grass expects turnover to increase in 2021

Despite shortages in the supplier sector, Austrian furniture fittings manufacturer Grass GmbH of Höchst achieved a 28% turnover increase in the first half of 2021. Growth, therefore, was higher than originally expected. Due to the positive order situation, the company is also expecting significant growth for the year as a whole. However, risks ensue from the continued limited availability of raw materials as well as uncertainties in connection with further development of the corona situation.

According to the company, all markets are currently developing along positive lines. With regard to important export countries such as Germany, Italy, Spain and Great Britain, even increases in the double-digit percentage range are being recorded. Grass also reports high demand in Canada and Scandinavia. Markets in Asia, Australia and the USA, however, are recovering more slowly.

In the 2020 financial year, Grass' turnover declined by 1.3% to €375m. Following a good start, the company was subsequent-

ly faced with declines in the double-digit percentage range during the first corona wave. In the second half of the year, demand picked up well again and the losses recorded in spring were almost offset. Back in 2019, Grass' turnover had already decreased by 2.8% to €380m. In 2018 turnover of €391m had been achieved.

Full-scale commissioning of the new logistics centre in Hohenems, Austria, took place as scheduled in September 2020. Construction work had already been completed at the beginning of 2020, after a period of approximately one and a half years. For the current year budgeting arrangements have been made for investments to the amount of €58.4m. The majority of this sum is to be used for production expansions at the locations in Austria. These expansions include the planned acquisition of a new production line for the Vionaro drawer system. Furthermore, a new customer centre is currently being built at the Hohenems location; it is expected to open at the end of September.

Herman Miller concludes acquisition of Knoll

On 19 July, US office and living room furniture manufacturer Herman Miller Inc., based in Zeeland, Michigan, concluded the acquisition of Knoll Inc. of East Greenville, Pennsylvania, which had been announced in April 2021.

Herman Miller acquired Knoll within the scope of a cash and stock transaction to the value of US\$1.8bn. Following the merger, Herman Miller shareholders hold 78% and Knoll shareholders 22% of the company, which in future will operate under the new name Miller Knoll. The Herman Miller and Knoll brands as well as all other brands included in the portfolios of both companies are to be continued. Jointly, Herman Miller and Knoll will have a pro forma annual turnover of US\$3.555bn. Of this figure, US\$2.319bn is accounted for by Herman Miller and US\$1.236bn by Knoll. Pro forma adjusted EBITDA of the group amounts to US\$552m (Herman Miller: US\$325m, Knoll: US\$127m). This already includes the synergies of US\$100m expected within two years of the takeover's conclusion.



Story 3/4

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Pre-crisis level unlikely to be reached again before mid-2023

Furniture industry achieved 4.3% rise in turnover in the first half of 2021

In the second quarter of 2021, the German furniture industry was able to more than offset the turnover declines recorded during the first three months caused by the re-imposed lockdown.

The significant increase of 38.9% recorded in April was followed by growth of 15.3% and 8.9% in May and June respectively. The first quarter (Jan.:-13.0%. Feb.: -8.1%, March: -2.7%), on the other hand, had been characterised by declines in all individual months. According to the figures published by the Federal Statistical Office, compiled by the Herford-based furniture associations, half-year turnover rose by 4.3% to €8.396bn vis à vis the same period last year. Domestic turnover increased by 1.5% to €5.615bn; and exports by 10.7% to €2.781bn. However, the increases in the first half of the year are put into a slightly different perspective against the background of the poor figures recorded in 2020, due to corona. Total turnover at the time was down by 10.2%, domestic turnover by 8.6% and export turnover by 13.4%. Compared to the respective six-month period in the precrisis year of 2019, turnover generated by the furniture industry in the first half of 2021 declined by 6.3%.

With regard to the individual segments, there were considerable differences in turnover development in the first six months. The upholstered furniture industry achieved the most significant increase in terms of percentage, at +17.5% to €500.7m (domestic: +7.0%, export: +39.5%). Turnover generated with kitchen furniture rose by 16.3% to €2.868bn (domestic: +7.6%, export: +29.3%). According to the VDM, both segments benefited from a high level of orders in hand at the end of 2020. Increases in the single-digit range were recorded by manufacturers of shop and other contract furniture (total: +4.4% to €867.3m; domestic: +2.1%, export: +11.0%) and mattresses (total: +3.5% to €363.1m, domestic: -1.4%, export: +37.9%). Declines were recorded in the miscellaneous furniture segment (total: -5.8% to €2.837bn, domestic: -2.2%, export: -13.8%) as well as for office furniture (total: -0.3% to €960.1m, domestic: -1.8%, export: +5.6%).

Concerning the second half of the year, the VDM expects a revival in demand in the furniture industry, however the turnover level recorded in the same period last year will probably not be reached again. Apart from corona-related restrictions, it is possible that business until the end of the year will be slowed down by the continued restricted availability of materials, which, according to the association, has already led to delays in production during the first half of the year. The sharp cost increases associated with the shortages in material supply are also making it increasingly difficult for manufacturers to calculate their costs.

For the year as a whole, the VDM anticipates stable turnover development compared to 2020, whereby price increases are likely to play a role. Last year, sector turnover amounted to €17.23bn (2019: 17.90bn). Compared to 2019 this corresponds to a decrease of 3.7%. According to the association's estimates, the furniture industry will not return to pre-crisis levels until mid-2023.

In 2020, export business was impacted much more severely by the corona crisis than domestic business. While domestic turnover declined by just 1.6% to €11.85bn, exports fell by 7.9% to €5.39bn. The export rate thus declined by 1.5% percentage points to 31.2%.

Classified according to segment, the best results were recorded for the kitchen furniture industry, with turnover growth of 4.5% to €5.26bn (domestic: +7.8% to €3.15bn, export: +0.1% to €2.11bn). Turnover generated by manufacturers of upholstered furniture increased by 1.9% to €0.92bn (domestic: +8.9%, export: -10.6%). The other four segments, by contrast, recorded turnover declines. \square



(Photo credit: EUWID)

Further over-proportional increase for mail order/online pure players

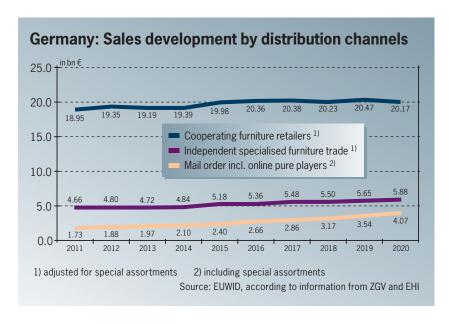
EHI: furniture trade turnover up 1.2% to €35.36bn despite corona situation

In 2020, the German furniture trade generated turnover (including value added tax) to an amount of €35.36bn (2019: 34.95bn).

As can be derived from the EHI Möbelreport 2020, which is compiled by the Cologne-based EHI Retail Institute on behalf of the Mittelstandsverbund ZGV, it was possible to achieve growth of 1.2% despite corona-related restrictions especially in the brick-and-mortar furniture trade, and the springtime slumps could thus be made up for. Nevertheless, it was not quite possible to achieve the increase rate recorded in 2019, when following marginal growth in the two preceding years of 2018 (+0.3%) and 2017 (+0.9%) turnover had actually increased again at a somewhat higher rate of 2.3%. Compared to 2015, when total turnover of €32.85bn had been achieved, the value increased by 7.6%. This corresponds to an annual increase rate of 1.5%.

In 2020, once again, the mail order area including businesses operating exclusively online made a very significant contribution to the overall rate of increase with an improvement of 15.0% to €4.07bn (3.54bn). The market share of the segment consequently increased to 11.5% (10.1%), Calculated on the basis of the €2.40bn recorded in 2015, turnover has increased by more than two-thirds over the past five years. In 2019, turnover generated via this distribution channel increased by 11.7%; in both 2018 and 2016, growth of 10.8% had been recorded in each case. In 2017, at +7.5%, the increase rate was in the upper single-digit percentage range.

An over-proportional increase was also recorded last year in sales of furniture via DIY and garden stores (+12.6% to €1.16bn), as well as via other suppliers such as hypermarkets/consumer markets, the specialised technical trade, emporiums/department stores and other non-sector



companies (+8.5% to €1.02bn). The proportions of total turnover accounted for by the two segments consequently improved to 3.3% (2.9%) and 2.9% (2.7%) respectively.

Whilst an increase of 4.1% to €5.88bn (5.65bn) was determined for the specialised furniture trade operating independently of associations, turnover in the specialised furniture trade organised within associations deteriorated by 1.5% to €20.17bn (20.47bn). Thus, the overall market share of the specialised furniture trade amounted to 73.6% (74.8%) and remained by far the most important sales channel, despite the decline of 1.2 percentage points vis à vis the preceding year. The market share of the specialised furniture trade organised within associations declined to 57.0% (58.6%) in 2020, reflecting a continuation of the downward trend observed over past years. As recently as 2015, the specialised furniture trade organised within associations had achieved a share of 60.8%. By contrast, the market share of the furniture trade operating independently of associations rose by 0.4 percentage points to 16.6% (16.2%) in 2020; the increase determined for the past five years amounted to 0.8 percentage points.

In addition to the specialised furniture trade organised within associations, a further three of the total eight separately classified distribution channels suffered turnover declines. The most serious decline, of 11.2% to €1.66bn (1.87bn), was recorded in the office equipment/paper-office-stationery specialised trade sector. In the direct sales/skilled manual trade sector and in the furniture wholesale trade, which operates particularly in the commercial area, the rates of decline were low in the single-digit percentage range, at -3.9% to €0.98bn (€1.02bn) and -2.3% to €0.42bn (0.43bn) respectively.

Turnover distribution in 2020 experienced a slight shift in favour of business with private customers. Turnover here increased to €32.41bn (31.99bn), and the market share to 91.7% (91.5%). Turnover generated with commercial customers last year amounted to €2.95bn (2.96bn). This figure, as a proportion of total turnover, thus fell to 8.3% (8.5%).

Existing shareholders planning equal involvement in new entity Alpagroup

French companies P3G Industries and Alsapan preparing merger

The furniture and particleboard producer P3G Industries S.A.S. of Saint-Loup-sur-Semouse and the furniture-components and laminate-flooring manufacturer Alsapan S.A.S. of Dinsheim-sur-Bruche want to merge their activities into a holding company trading under the name of Alpagroup.

According to a joint release published on 4 May 2021, both companies have commenced exclusive negotiations on a merger. The existing shareholders in P3G Industries and Alsapan are to hold equal shares in the new company, which will comprise a total of 19 production facilities in France, Romania, the USA, and Asia with a combined total of 4,300 employees, 2,000 of them in France.

The transaction is still subject to approval from the French competition authorities. The legally prescribed consultation procedure with the employee representatives must be performed as well.

P3G Industries currently operates eleven plants in France, Romania, and Asia. The company generates sales revenue of around €320m with 3,300 employees. The production programme includes furniture, furniture components, and shelves, which are supplied above all to big furnishing chains such as But and Conforama. The group also has two particleboard plants. When production at the site trading under the name of Compagnie Française de Panneau (CFP) in Corbenay was discontinued in March 2020, however, raw-board production was concentrated on CF2P S.A.S. in Lure, which was taken over from Ikea Industry AB at the beginning of 2019 and which is one of Alsapan's main suppliers. The CFP plant in Corbenay, on the other hand, was geared to further processing the raw particleboard processed in Lure.

Alsapan produces predominantly furniture parts at its headquarters in Dinsheim-sur-Bruche. The group also owns the ready-to-assemble furniture factories in Erstein, Boulay-Moselle, and La Courtine, the worktop site in Wasselonne, the laminate

and vinyl-flooring plants in Marlenheim, and a parquet plant in Ardentes. This plant emerged from the acquisition of France Parquet Production Innovation (FPPI), which was concluded in May 2019. Alsapan also operates a purchasing and distribution company in China in the form of Direct Global Sourcing (DGS) of Shenzen, Guangdong province, which was founded in 2003. The latest project is the construction of a worktop factory in the USA, which is scheduled to commence operation in early 2022. The Alsapan group last generated annual sales revenue of around €245m with approximately 840 employees. The main recipients are the lkea group and Groupe Adéo S.A. of Ronchin with its DIY chain "Leroy Merlin".

The plans for the merger are P3G and Alsapan's response to the increasing consolidation amongst suppliers and buyers. The first thoughts about the move arose a few years ago. In view of the supply and delivery problems created by the corona crisis, concrete talks were conducted over several months, which ultimately led to the agreement.

The two companies' intention behind the planned merger is to cover the whole valueadded chain in future, from particleboards to finished furniture. The annual production volume is given as roughly 10 million items of furniture (bedroom furniture, living-room furniture, kitchen furniture, bathroom furniture, upholstered furniture), and around 12m m² of flooring. The furniture-component and furniture factories of the two companies are to get their supplies of particleboard mainly from the works in Lure. In laminate and vinyl-flooring production, however, the company is still reliant on external sources of HDF. In sales, the synergy effects are relatively large due to the overlaps in product ranges, sales markets, sales channels, and customer groups, which are all to be utilised to the full when the two companies complete the merger.



Furniture production at Alsapan

(Photo credit: Alsapan)



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Mohawk sales higher than in first quarter

In the second quarter of 2021, US flooring group Mohawk Industries Inc., based in Calhoun, Georgia, was able to increase its turnover figures to new record levels, despite numerous supply-related production shutdowns. Results were even better than expected, although significant cost increases were recorded in raw material purchasing. Once again all business figures far exceeded those of the previous year, which had been strongly affected by the corona crisis. Even compared to the first quarter, all three segments recorded increases both in turnover and results.

The "Flooring Rest of the World" segment once again developed along the most positive lines. Turnover increased by more than two-thirds vis à vis the comparative period of the preceding year to US\$833.1m (April-June 2020: 496.4m); adjusted to account for considerable positive exchange rate effects, the increase still amounted to 50%. Operating profit more than quintupled to US\$163.9m (US\$29.5m) due to increases in sales volume, in some cases multiple price increases as well as improvements in the product mix, consequently the operating margin rose to 19.7% (5.6%). The two other segments were able to reverse the losses recorded in the previous year and were clearly back in the black. The "Flooring North America" business division recorded turnover of US\$1.081bn (801.0m) and operating profit of US\$115.9m (-45.5m). In the "Global Ceramic" segment turnover amounted to US\$1.040bn (753.3m) and operating profit to US\$136.4m (-33.8m). This means that both segments, at 10.7% and 13.1% respectively, recorded operative margins in the double-digit range. Group turnover in the second quarter rose by 44.1% to US\$2.954bn (2.050bn), operating profit amounted to US\$404.4m (-61.0m).

All three business units were again faced with shortages in material and personnel during the second quarter. Supply problems in the raw material sector repeatedly led to production cutbacks and shutdowns. Availability of imported products, deliveries to customers as well as export business were furthermore affected by bottlenecks in the logistics sector and resulting increases in freight costs. As a result of these logistics problems, which according to Mohawk have continued into the third quarter, especially LVT sales in North America and Europe remained below their potential. With regard to distribution, the company was still faced with corona-related restrictions in various sales markets, particularly at the beginning of the second quarter. \Box

Deconinck fails to acquire all Tarkett shares

The Deconinck family has failed to fulfil its objective of acquiring all of the outstanding shares in the French floor-coverings group Tarkett S.A. of Paris-La-Défense. Upon expiry of the offer period set for 10 June to 9 July, the company Tarkett Participation founded for the purpose of the acquisition holds 86.3% of the share capital and 85.4% of the voting rights. As such, 13,7% of the Tarkett shares are still in free float. A free float of less than 10% would have led to the initiation of a squeeze out followed by delisting. The Autorité des Marchés Financiers (AMF) of Paris had already ruled out an extension of the takeover offer beforehand.

With the support of the investment company Wendel Group of Paris, the Deconinck family had announced its plan to acquire all of the shares in Tarkett in April. To achieve this, the smallholders were presented with a simplified tender offer (OPAS) on 26 April at a price of €20 per share. This equated to a markup of 38.1% on the weighted average share price of the preceding 20 days. Deconinck had already been Tarkett's majority shareholder at that time. The family put its share of 50.8% at that time into the takeover company Tarkett Participation. The intention behind the additional involvement of Wendel Group in Tarkett Participation, along with other Tarkett lenders, was to finance the stock takeover.

FEP: slight increase in parquet production in 2020

According to the annual statistics of the Federation of the European Parquet Industry (FEP), Brussels, the member countries achieved an increase in their production volume by 0.6% to 76.172m (2019: 75.728m) m² in 2020. According to the association's assessment, production in the remaining European countries not belonging to the FEP declined by 4.9% to 13.5m (14.2m) m² last year. Accordingly, the total production volume in Europe reached 89.672m (89.928m) m², slightly below the preceding year's figure.

In its annual statistics for 2019, FEP had reported a production increase of 1.6% to 78.003m m² among its members. As in previous years, however, the figures for various countries had to be retrospectively adjusted. According to this revision, the production volume decreased by 1.1% in 2019. The figures for the three preceding years were also adjusted again. This resulted in negative development for 2018 as well, after increases in production volume had been recorded in 2016 and 2017.

During the reporting period, FEP members produced 62.580m (61.771m) m² of multi-layer parquet, representing an increase of 1.3%. The largest multi-layer parquet producer was Sweden, at a volume of 11.644m (11.847m) m², followed by Poland at 9.430m (8.988m) m², Austria at 7.617m (7.541m) m² and Germany at 7.217m (6.649m) m². Production of solid parquet decreased by 2.7% to 11.962m (12.292m) m². The leading solid parquet manufacturers were Poland at 2.482m (2.365m) m², France at 2.393m (2.619m) m², Austria at 1.953m (1.933m) m² and Spain at 1.325m (1.312m) m². In the mosaic parquet segment, production decreased by 2.2% to a volume of 1.630m (1.666m) m².

Oak is still the predominant wood type among FEP manufacturers. In 2020, the proportion of oak parquet flooring increased again to 81.8 (80.6) %. The use of ash decreased to 5.6 (7.2) %, while the proportion of beech rose to 2.8 (2.0) %. The use of tropical wood types amounted to just 3.0 (3.4) %.

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Companies with own patents have brokered reciprocal non-assert agreements

New agreements settle patent disputes over new material flooring products

I4F Licensing N.V., Välinge Innovation AB, Unilin bvba, Classen-Gruppe, U. Windmöller Consulting GmbH & Co. KG (UWC), Shaw Industries Inc. and US Floors Inc. signed several non-assert agreements in late March 2021.

These arrangements put an end to conflicts and legal disputes over new material flooring products with click connections that have already lasted several years in some cases. This product area comprises a variety of types of plastic-based floor coverings, such as luxury vinyl tiles (LVT), PVC, multi-layer or modular (MLF), waterproof polymer core (WPC), solid polymer composite (SPC), expanded polymer core (EPC) and magnesium oxide (MgO) flooring as well as flooring elements made out of polypropylene (PP) or polyurethane (PU).

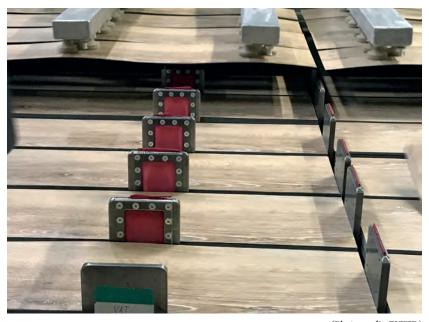
These agreements come on the heels of a deal struck between I4F, Välinge Innovation and Unilin in late October 2019 that covered these three companies' patents. All three firms had subsequently held talks with other patent holders about including

their patents. These negotiations were supposed to be wrapped up in the first half of 2020, but then dragged on much longer because of the relatively complex issues involved. Travel and social-distancing restrictions imposed because of the pandemic further hampered talks and led to additional delays.

The non-assert agreements, that have been reached in early spring, should make sure that the companies involved cannot be sued by other partners for patent infringements when awarding licences for their own product or process patents for new flooring material products with click connections. The licensors and their respective licensees will thus be released from potential patent claims by all companies involved in the new arrangements. Moreover, the exclusive or semi-exclusive licensing or sub-licensing rights issued for some of these patents in the past have been lifted. All companies involved will thus receive equal access to the patents covered by the new deals. Essentially these patents were already covered by bilateral arrangements. A few companies have also added additional patents.

In principle, the patents held by the companies involved are pooled in the new agreement. The different companies can each award licences for their own product and process patents that are protected against claims by other companies involved in the new deal through non-assert agreements. The licensors will receive licence fees for the use of their respective patents. Proportionate payments to the respective patent holders will be made for the release of patent claims held by other companies. The details relating to the collection and payment of licence fees were the subject of confidential arrangements in the respective agreements and will not be disclosed to licensees, either. These agreements shall apply to both existing and new licences.

The signature of the agreements also ended all cases and legal proceedings under way between the parties in front of various patent and civil courts. The proceedings launched in recent years, which have reached varying stages of progress, were suspended for the duration of negotiations. After the deal was brokered, they were terminated for good. The different businesses were embroiled in these disputes in varying constellations and to varying degrees. The biggest quarrels involved Classen Group, Välinge Innovation and Unilin about the rights of use for Megaloc patents and between UWC, Unilin and I4F regarding the award of licences for UWC patents. In both instances, the firms involved had different opinions about the exclusivity of licence awards and about calculating licence fees. Conflicts over licence awards had subsequently led to patent appeals and reciprocal patent infringement suits. In a second phase, licensees, especially those from the flooring trade or DIY shops, had also been caught up in patent infringement cases.



 $(Photo\ credit: EUWID)$

Strong demand around the globe boosting sales by double-digit amounts

HDF supply problems culminating in shifts on the laminate flooring market

European laminate flooring producers are benefiting from persistently strong demand in both Europe and on key export markets to varying degrees.

Manufacturers integrated across all production stages managed to raise their output markedly as they have directed their HDF lines to supply in-house laminate flooring production and scaled back deliveries to external customers. A few companies had already largely stopped selling HDF already in the first quarter. Others halted the majority of their external deliveries in the spring. Even though more and more of the HDF made is being used in-house, a few companies still had to purchase HDF from other manufacturers. In some instances, companies were able to meet this additional demand via deliveries from affiliated mills, especially in Eastern Europe and Russia.

Laminate flooring manufacturers without their own in-house HDF production capabilities have battled limited core board supply for several months now. These non-integrated producers are lagging behind the market because they are able to source enough HDF for normal production at best. Even basic supply has only been guaranteed by purchasing HDF from foreign MDF/HDF producers for a long time now. While buying had still focused on European producers in the fourth quarter of 2020 and the first quarter of 2021, most laminate flooring manufacturers had to switch to imports from Turkey, Ukraine and Russia in recent months. Several companies have also recently explored the possibility of sourcing HDF in markets outside Europe, including in the Middle East, South-East Asia and South America. However, receiving some of these deliveries also involves accepting quality concessions. Moreover, HDF imported from Turkey, Eastern Europe and overseas cannot be used in all product lines and sales markets, which is also causing an additional burden on the manufacturing, distribution and logistics fronts.

Sourcing melamine film had already been challenging in the first quarter. The si-

tuation then took a turn for the worse during the second quarter. Following unscheduled stoppages at melamine manufacturers and the resulting shortage of melamine-urea-formaldehyde resins, several treater operators had to scale back production, which also limited melamine film deliveries.

These bottlenecks in HDF and melamine film supply, which have been at least temporary in nature, are also having an impact on laminate flooring production. Several non-integrated producers have been unable to operate at full capacity for a long time now, with repeated cases of shifts being shortened and mills taking downtime on a daily basis. The resulting fixed cost burden and higher costs, especially for buying HDF, have made a dent into most companies' earnings. This effect can hardly be outweighed by price increases instituted in the first half of the year and slated for the third quarter. Several laminate flooring producers also underscored the fact that integrated manufacturers had not raised their selling prices as much because of the cost advantages of using their own HDF. The shift in market share caused by variations in HDF supply is being further compounded by this price strategy. A few companies fear that integrated laminate flooring manufacturers might use the current situation to launch a market shakeout by leveraging HDF sales and laminate flooring prices.

Virtually all manufacturers report that the positive trend in the global laminate flooring business seen in the second half of 2020 has continued to play out so far in 2021, as well. Almost all markets are growing, sometimes at significant rates compared with last year. At the same time, shifts in the product range are emerging because more firms are selling more higher-quality products and eliminating promotional products.



Production of laminate flooring

(Photo credit: Classen)

Parallel to the investment in Croatia, planning for a US site is under way

Pervanovo specified investment plans for Woodura site in Ogulin

In October 2020, Pervanovo Invest AB, based in Viken, Sweden, and controlled by Darko Pervan, commenced with preparatory work in connection with the construction of a plant for powder-based hard flooring (Wood Fibre Floor WFF) at the Croatian site in Ogulin.

The project, which is being carried out via Pervanovo's subsidiary Bjelin d.o.o., had already been announced as early as the beginning of 2018. According to planning at that time, construction work was to begin during the course of 2019. However, the necessary land purchases and the approval procedures required longer than expected. Following the investment decision at the beginning of 2020, the corona crisis then led to further delays. According to Pervanovo, the company took advantage of the longer lead time to further develop its production technology. In parallel, the projected capacity was more than doubled compared to the original planning.

According to the plan presented in January 2018, the production concept implemented in the first WFF plant at the Viken site, with a continuous double-belt press, was also to be implemented in the new project in Ogulin. Depending on the production programme, this was planned to facilitate annual production capacity of 6-8m m²/annum. According to revised planning, the investment in Ogulin will now be implemented in several stages. The first investment stage provides for the installation of a short-cycle press in the 2,100x2,400mm format, a profiling line, a coating plant and a packaging line. The short-cycle press is intended to laminate around 4m m²/annum. The profiling line and coating plant are already designed for a capacity of approximately 6m m². In a transitional phase, coated boards from the Viken plant will also be processed on these systems. Assembly is scheduled to begin in mid-2022 and commissioning is accordingly planned for the beginning of 2023. With the subsequent construction of two additional production lines, Pervanovo and Bjelin intend to achieve a total capacity of up to 15m m²/annum in the new WFF plant in Ogulin in the medium term. It has not yet been decided which press technology will be used in the capacity expansion. According to Pervanovo, both short-cycle presses and double-belt presses are possible.

MDF/HDF purchased from external sources will initially be used as substrate board. By 2025, establishment of the company's own substrate board production in Ogulin is also planned. Detailed planning regarding the substrate board line, designed for an annual capacity of up to 100,000m³/annum, will commence in the coming months; placement of the order for the equipment is anticipated to take place in 2022.

The overall project, known as Ogulin 2, is to be realised on a site covering approximately 330,000m², which is directly adjacent to the parquet plant operating under the name Ogulin 1. Pervanovo and Bjelin will establish a total building space of 100,000m² for construction of the plants and the delivery warehouses; building work has already commenced. The total investment volume for the project, which is to be implemented until 2027, is estimated by the two companies at around €200m, approximately €50m of which will be spent on the first investment stage with the short-cycle press and downstream further processing.

So far, Pervanovo has set up two production lines at the Viken site for production of wood fibre floors in the Nadura and Woodura variants. These lines were transferred to Pervanovo's majority shareholding Välinge Innovation AB when they were commissioned in 2016 and 2018 respectively. In parallel to the ongoing project in Croatia, Pervanovo has also begun preliminary planning for a WFF plant in North America. The feasibility study currently being carried out for several locations assumes an initial investment volume of around US\$45m and an annual capacity of around 4m m².



Construction work for the new Woodura plant in Ogulin

(Photo credit: Pervanovo)



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PATENTS & TECHNOLOGIES

Acquisition of JAF veneer mill in Brasov/Romania to close by the year's end

Unilin set to invest in top layer production to safeguard supply

At the start of May 2021, Unilin byba's Flooring Division, based in Wielsbeke, Belgium, reached a deal with the Austrian group JAF International Services GmbH, headquartered in Stockerau, to buy a veneer mill in Brasov, Romania, that does business as J.F. Furnir.

Unilin, which is owned by the US flooring materials group Mohawk Industries Inc., headquartered in Calhoun, Georgia, put pen to paper with the seller on 7 May. The deal is expected to close during the second half of this year, subject to conditions including anti-trust approval. As part of the transaction, which will take the form of an asset deal, Unilin will acquire J.F. Furnir's property, buildings and production machinery and continue to employ about 100 workers. The financial details of the transaction were not disclosed.

Unilin will initially continue veneer manufacturing to a limited degree, which JAF Group had already scaled back during the second half of 2020. A decision will

be made at a later date about whether to continue production in the long term. The takeover mainly aims to switch to making oak top layers for parquet manufacturing. Work to install the necessary machinery and plants is to begin as soon as possible. The site should initially have an annual capacity of around 2m m² top layers available from spring 2023. There is still space available at the site if another increase in capacity is needed.

By adding its own top layer production facility in Brasov, Unilin intends to safeguard supply to its parquet mill in Sungai Petani, Kedah, that does business as Unilin Malaysia. The late February 2020 shutdown of manufacturing at Magnum Parket a.s., a firm headquartered in Vyškov, Czech Republic, that it acquired in January 2014, resulted in Unilin pooling its parquet production activities in the Mohawk Flooring Rest of the World division at its plant in Malaysia. This facility's manufacturing capacity was subsequently increased from around 2.5m m² to more than 3m m² per year by transferring machinery from the

closed mill and performing subsequent optimisation work. Since the shutdown of the Vyškov plant, Unilin is producing all of the parquet grades distributed under the Quick-Step and Pergo brands at its Malaysian plant. The parquet produced in Malaysia is then shipped to the distribution centre in Wielsbeke, from where it is distributed on a commission basis together with laminate flooring and LVT flooring.

Following the start-up of the new machinery in Brasov, the Malaysian parquet mill will source the majority of the oak top layers that it needs internally. The remainder is to be purchased from some of its current suppliers. Unilin primarily makes oak multi-layer parquet in Sungai Petani; it also processes much smaller amounts of other types of timber like walnut or jatoba. These different types of parguet are then delivered to the group's distribution centre in Wielsbeke and sold from there together with laminate flooring and LVT flooring on a commission basis. Unilin parquet is sold under the Quick-Step brand in most European countries. The Pergo brand is used in Scandinavia. To a lesser degree, Unilin also provides private labels for a few big buyers.

The JAF Group had previously put the Brasov mill's processing capacity at around 30,000 m³ of roundwood per year. Along with making veneers, the J.F. Furnir site also produces lumber and thermal timber via its affiliate Holver. The sale of the veneer mill to Unilin does not affect Holver's activities, which remain part of the JAF Group. JAF will also continue veneer and lumber trading activities in Brasov. By contrast, a statement released by JAF in July 2020 indicated that raw veneer production was supposed to cease by October 2020. The firm only wanted to splice veneers from that date. In reality, three slicing machines and one Staylog unit have made veneer on a contract basis for veneer suppliers without their own manufacturing capabilities in recent months.

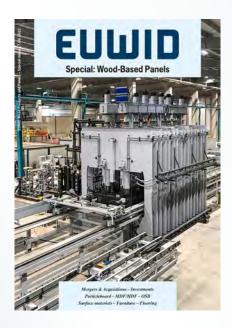


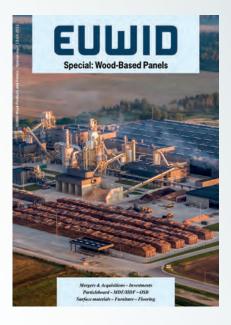
Veneer mill in Brasov

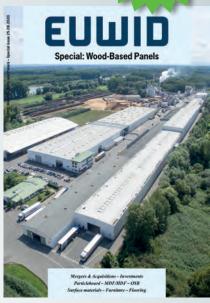
(Photo credit: J.F. Furnir)

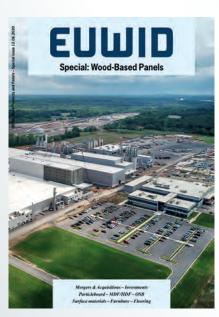
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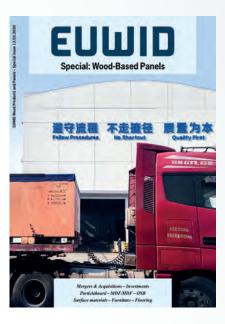


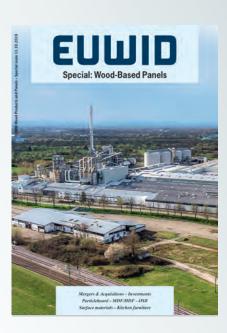


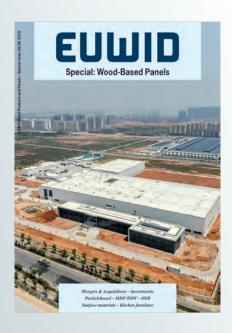












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