Spanner in the works

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The PU machinery market in 2021 and outlook for 2022

Polyurethane for comfy shoes

PU helps protect sensitive military equipment

Front cover picture: Signposting our annual machinery focus, the colours of the Ukrainian flag highlight the importance of the relationships with PU converters there, and the rest of the world. Picture stock
A sticky wicket

The situation is difficult at the moment, for the PU industry and beyond. The Russian invasion of Ukraine has put all our friends, colleagues and their families there in danger. The dislocation to their lives is extensive, and the shock felt by people in the PU industry in Europe at their plight is strong and genuine. We have limited coverage in this publication only because there is so much detail and coverage elsewhere.

Away from the illegal invasion, supply chains remain a major problem for the machinery industry. As we see in this issue, there are shortages of many things and no guarantee of delivery times from suppliers all the way up the chain. If it is impossible to get regular supplies of items such as electrical motors, or if small parts are stopping machinery from being delivered, then supply chains are in a mess.

While these are acute, short-term problems, the industry is also addressing the long-term problem of climate change, as we see in this issue. A number of the larger chemical companies have started producing TDI and MDI that they claim is carbon-neutral to the factory gate. There are still carbon costs of transportation, conversion and so on, but they leave the gates of the factory at zero.

Perhaps by the time we can all buy carbon-neutral mattresses and sleep easily on them anywhere in Europe, the supply chains for them — and the machinery to make them — will be in a position to deliver regularly.

Let’s hope that day is close.
Repsol Reciclex®
Circular polyols range

Repsol commits to innovation by continuously developing new products that provide value to their customers. With them in mind, Repsol is building Spain's first chemical polyurethane foam recycling plant at its Puertollano Industrial Complex. It will be capable of processing over 2,000 metric tons of waste per year.

The polyurethane foam recycling plant represents a chance to create new business models that reflect Repsol's environmental commitment while helping our customers meet their sustainability objectives and respond to the growing need to recycle and extend the useful life of our products.

Repsol will start the production of its Repsol Reciclex® Polyol range at the end of 2022.
Kimteks invests in Latvia...

Istanbul, Turkey — Kimteks Poliuretan is planning an initial public offering on the Borsa Istanbul stock exchange in April. This follows a decision in 2021 to postpone the move.

CEO Cavidan Karaca said the delay in the offering is unlikely to have a negative impact on how investors view his company’s potential. ‘The delay is not a disadvantage,’ he told Turkish business daily Dunya. ‘We increased our [production] capacity by 20% and turnover by 13% last year.’

Karaca said Kimteks Poliuretan would distribute 50% of its net profit for 2021 among the company’s shareholders. The PU producer reported sales of TRY2.17bn (€133.7m) for the previous financial year, with an annual capacity of 129kT.

The Turkish manufacturer first announced its plans to secure control over a European PU plant in late 2021.

At the same time, the company said it was investing in a new PU factory in Duzce, which is situated in the northwest of Turkey.

... and eyes IPO amid rising sales

Polyurethane pioneer Fiorentini passes away

Saronno, Italy — Carlo Fiorentini, a former president of Cannon with many patents to his name, has passed away at age 91. His inventions included the FPL mix head to dispense polyurethane into open moulds and CarDiO technology for continuously cast flexible PU foams with liquid carbon dioxide.

He was awarded the FSK Gold Medal and inducted into the Hall of Fame of Polyurethanes by the American Alliance for Polyurethane industry.

Ukraine’s foamers need raw materials

Kvasilyv, Ukraine — Flexible foam makers in western Ukraine wanted to make foam but were being starved of raw materials by international companies who refused to supply them.

TDI producers contacted said they felt it was too dangerous to supply the chemicals into the light of the current situation.

Ukrainian foam and furniture producers said they wanted to keep making products for export. This is so the tax from their profits would help to fund the war effort as well as finding employment for displaced people.

‘The big companies decided that they will not supply to Ukraine because of the security measures,’ said Grzedzielski. ‘We will pick it up ourselves with our forwarders.’

Dual-hardness PU makes comfy running shoes

The Woodlands, Texas — Huntsman’s Daltoped dual density foam is finding a new application in Joe Nimble running shoes. The shoes are designed for runners who average more than 40 miles (60km)/week.

They feature a roomier toe volume to allow feet to be more naturally in the shoe.

A dual density system from Huntsman in the midsole returns a great deal of the runner’s energy. The sole is designed not to elevate the runner’s heel, and it combines a number of production steps in a single piece.

www.utech-polyurethane.com
French panel sales on the up

Paris — In 2021, panel sales in France totalled 31.4M m², an increase of 15.3% compared with a year earlier. This is according to data released by the local industry association, SNPU.

The industry body said the results posted by the French PU sector last year were spectacular, despite problems related to the supply of raw materials. It said: ‘This performance also] underlines the responsiveness and commitment of French producers from this sector to meet the strong demand [in their domestic market].’

Xavier Striebig, the secretary general of the Paris-based association, said in a statement that, while the industry body wishes to remain confident on the outlook for this year, several factors are casting a shadow on the perspective for 2022, including Russia’s invasion of Ukraine.

‘Problems related to the supply of raw materials have persisted since the beginning of this year, and they could be further aggravated by the conflict between Russia and Ukraine,’ Striebig said.

SNPU’s members include Recticel, Soprema, Knauf, IKO Insulations and Unilin, among others. The industry body says that more than 95% of the PU panels sold in the French market are produced by its members.

EuroPUR warns on price volatility

Brussels – The PU industry in Europe could be facing a ‘cultural price revolution’ with increased volatility along the chain value becoming the norm. This was the warning given by EuroPUR President Bart ten Brink in an open letter.

In the letter, published on the EuroPUR website, ten Brink said: ‘The players in the supply chain must adapt to the volatility of price and foresee the need for corrective mechanisms.’

Adding that the era of relatively long-term stable pricing in supply contracts may be over, he said that the change is not easy for mattress/furniture producers and automotive foam users who are not used to it, and cannot always adapt their prices on a weekly basis.

‘As the rest of the economy adapts to the current circumstances, the supply chain will need to find ways, too,’ ten Brink said.

News in Brief

Recticel completes sale of bedding business

Brussels – Recticel completed the sale of the majority of its bedding business on 31 March. It was sold to Spanish company Aquinos. ‘The closing went smoothly,’ said Oliver Chappelle, Recticel’s CEO.

MOL GROUP - TOWARDS PETROCHEMICALS

MOL Group is a leading integrated Central & Eastern European oil and gas corporation, headquartered in Budapest, Hungary. With operations in over 30 countries and more than 26,000 employees worldwide, MOL’s exploration and production activities are supported by 80 years of experience in the hydrocarbon field. The integrated business model provides stability in a fluctuating external environment.

Guided by the MOL Group 2030+ strategy – “SHAPE TOMORROW” – the company’s vision for 2050 is to be a key player of the low carbon circular economy. The updated long-term business strategy aligns with the European Union’s Green Deal ambitions to become a net-zero CO₂ emitter by 2050.

With its largest ever organic investment of EUR 1.3bn, MOL will operate a 200kt capacity polyol complex in Tiszajúváros, Hungary. With a state-of-the-art, energy-efficient technology, built on a fully integrated value chain, MOL Group will be enabled to serve its polyurethane, propylene glycol and propylene oxide customers in a sustainable way with the highest quality products, combined with excellent service.
How can different materials be perfectly released after moulding? With the CHT silicones and waxes we have developed a versatile range of highly efficient additives for release agents for your manufacturing processes. Our additives for conventional, semipermanent and food-compatible release agents have been optimally adjusted for complex industrial demands. For each corresponding application field, our additives offer outstanding release effects and characteristics such as excellent gloss, temperature resistance and provide a durable barrier to prevent sticking, together with food grade compliance according to worldwide standards.

Learn more: www.cht-silicones.com

OSV: a letter from Ukraine

Oleshky, Ukraine – Oleshky, which is home to polyurethane business OSV, was occupied by Russian forces on 24 February. Writing in mid-March, the company’s MD Alexey Kuznecov said: ‘Most of the staff are at homes in Oleshky or have evacuated to western Ukraine, which is relatively safe at the moment. They have food and are taking care of their families.’

Three staff members, Oleg Vaihanskyi, Yuriy Shafran and senior engineer Anton Ivanov, have moved to Poland and are trying to restart the business building dosing machinery there. The company has a Polish subsidiary, which can make payments and take orders.

Kuznecov said: ‘The most important thing that the polyurethane community can do to help our nation and our country is to immediately stop any business and relationships with Russia. And of course, after we return to the normal life and our usual job we would need a new orders for OSV metering and mixing machines.

“We’d like to thank our customers, suppliers, and business partners who support us during these terrible times.”

Bad March for car sales in Europe

Oxford, UK – Car registrations in Western Europe were down by almost 20% in March 2022 as supply chain problems and Russia’s illegal invasion of Ukraine hampered the market and dampened sentiment.

In March this year, the western European light vehicle market sold 1.02m units, according to data from LMC Automotive; in March last year, that number was 1.27m units. The European automotive market has shrunk by 11.3% in 2022 so far, to 2.48m units, down from 2.79m units at this stage a year ago.

“The start of the year has been very disappointing as the automotive industry continues to endure the impact of supply problems... the horrific war in the Ukraine only adds to these problems,” the consultants said in their monthly guidance.

“For now, demand is outstripping supply.”

PU plays role in self-sealing tanks

Gloucester, UK – Permali is licensing a self-sealing fuel tank for military vehicles that relies on polyurethane for its recovery properties.

The tanks are designed to prevent catastrophic fires and explosions occurring if tanks leak after being penetrated by shrapnel or a bullet.

The Battle Jacket system has multiple layers of elastomers which, the company said, allow projectiles to pass through the polyurethane coating into the fuel tank. It then instantly reseals.

The coatings’ thicknesses can be tailored to match the threat levels.
Higher prices along the chain helped BASF sales in 2021

Ludwigshafen, Germany – Sales at German chemicals giant BASF were €78.6bn in the 2021 financial year, up 32.9% on the same period last year. EBITDA across the business increased by 52.6% to €11.3bn.

‘It was a strong and successful year for BASF,’ said chairman Martin Brudermuller. ‘We increased sales prices by 25% and volumes by 11%. All segments achieved price and volume growth in 2021.’

The company said it had been hit by a €1.5bn increase in energy costs in 2021, with €800m of these occurring in Q4. Brudermuller said the company’s method of countering these is to implement further substantial price increases in the coming months to pass on the significantly higher costs and improve margins downstream.

Brudermuller said his company had a very strong start to the year. The January 2022 figures were higher than the January 2021 figures, Brudermuller said.

Selena opens new factory for CASE products in Poland

Wroclaw, Poland – Polish PU foam maker Selena has opened a new production facility in Wegrow, central Poland.

The factory will make tile adhesives, thermal insulation adhesives, waterproofing solutions, screeds and other products. The value of the investment has not been disclosed.

It will produce for the Polish market, but also for export sales to Ukraine, the Czech Republic and Slovakia. The new facility is operated by the company’s subsidiary Tytan EOS, it said.

Meanwhile, Selena is also pursuing a project to open a new production facility in Kazakhstan.

Construction will begin this year, and it is expected to be complete by 2024.

PU segment boosts PCC Rokita’s annual sales to record high

Brzeg Dolny, Poland – PCC Rokita reported record sales in 2021 of about PLN2.2bn (€467.2m). This is up 49.3% on 2020.

Net profit was PLN417m, a robust 355% year-on-year increase. The PU segment played a key role in expanding the company’s sales, according to the group’s annual report.

‘The year 2021 was the best in this segment’s history, in particular in the field foam sector. The EBITDA result of this segment increased by 203% compared with 2020,’ the company said in an accompanying statement. ‘Product prices remained at a high level, which was due to the result of a limited availability of polyols and the significant market demand for them. As a result, we have also reported a record profitability for this group of products.’

In 2021, the PU segment generated PLN1.28bn (€271.9m) in sales, and EBITDA of PLN329.7m (€70m). However, the Brzeg Dolny-based company remains cautious about the outlook for 2022. ‘The beginning of 2022 was strong across all major product categories, and by clear signs of inflation and geopolitical tensions.’

The company said demand was strong across all major resin and coating segments.

Earnings and sales gains at Perstorp in 2021

Malmo, Sweden – Perstorp, which makes specialty polyols, had total sales of SEK13.5bn in 2021. This is up 47.2% on the previous year sales. EBITDA rose by 131% to SEK2.5bn.

Looking at the fourth quarter, CEO Jan Secher said: ‘[There was] strong underlying demand across all three regions, EMEA, APAC and Americas. Tight availability in many sectors also proceeded, resulting in supply chain disruptions. The world economy is doing well but overshadowed by clear signs of inflation and geopolitical tensions.’

The company said demand was strong across all major resin and coating segments.

Outdoor gear maker Vaude designs fully recyclable TPU backpack

Tettnang, Germany – Outdoor gear company Vaude has developed what it claims to be the world’s first recyclable backpack made from a single material.

The backpack prototype also includes a 3D-printed suspension system, created in collaboration with 3D printing specialist Oechsler.

Backpacks typically use maybe five or 10 different materials, the company said, which makes them difficult to recycle completely. The Novum 3D uses just TPU.

The 3D printing enables an extremely lightweight honeycomb suspension system to be made. As well as providing ventilation, different degrees of hardness allow pressure distribution to be optimised.

The backpack is welded rather than sewn, removing the need for thread of a different material. It is undyed, so colourant additives are not necessary, either.

‘Thanks to 3D printing technology, suspension systems made of pure TPU are now possible for the first time,’ said Uwe Gottschalk, head of product at Vaude.
Price management key to Recticel profitability

Brussels – Recticel, the European rigid and flexible foam company that is currently undergoing a restructuring process, had total sales of €1bn in 2021. This is up 67.4% on last year. Adjusted EBITDA across the business increased by 146% to €109.2m.

CEO Olivier Chapelle said: ‘We are happy with the very positive sales and profitability development in 2021, a year marked by changes at our company.’ The company has restated most of its accounts this year because of the different stages of the divestment processes it is undergoing. Broadly speaking, the bedding business that has been sold to Aquinos (see page 7) has been separated. The remaining engineered foams business, which includes some Scandinavian mattress production and is being sold to Carpenter, is still consolidated. FoamPartner was fully consolidated from 1 April 2021.

‘The insulation and engineered foams business performed very well in a very volatile environment,’ Chapelle said. ‘Chemical raw materials supply remains tight, and prices are showing little signs of stabilisation. Transportation and labour costs are increasing at an unprecedented rate, while the steep energy cost inflation has a major impact.’ He said that microchip shortages and lockdowns in Austria, Germany and the Netherlands made the business more challenging but that Recticel showed strong resilience and generated solid profitability and strong cash flow.

In the engineered foams business, sales rose by 83.2% to €583.6m in 2021. This compares with €318.5m in 2020. Adjusted EBITDA in the division increased by 152.2% to €172.8m in 2021, up from €149m in 2020.

Sales in the insulation business increased by 56.7% to €146.7m. Sales were €6.5bn in 2021, up 20% and the backlog 28% up ahead of higher prices. Volatilisation of orders was particularly strong throughout the year. Sales volumes reached a record 80m m³, Murtagh said. ‘The volume of orders was up 20%, and the backlog 28% longer by the end of 2021.’

Strong 2021 for Kingspan panel and board sales

Kingscourt, Ireland – Sales at Kingspan, the large PU and PIr insulation manufacturer, were €6.5bn in 2021, up 42.0% on 2020. Trading profit across the business increased by 48.6% to €55m in the year.

CEO Gene Murtagh said: ‘The business delivered an exceptional performance last year. Whilst dramatic input price inflation was a major feature, our cost recovery efforts helped ensure continued margin improvement. Despite a slower fourth quarter, with a large order backlog we are cautiously optimistic about the outlook for this year.’

In the company’s insulated panels business, sales in 2021 were €4.2bn, up from €2.9bn the year before.

Trading profit in the division rose 61.8% to €19.8m. ‘Activity was particularly strong throughout the year. Sales volumes reached a record 80m m³,’ Murtagh said. ‘The volume of orders was up 20%, and the backlog 28% longer by the end of 2021.’

The company also said it is building more greenfield facilities in France, Romania, the US, Brazil and Vietnam as well as Australia.

Sales in the company’s insulated business sales grew 50.3% to €1.2bn in 2021. However, trading profit only managed a 24% increase to €146.7m. Sales were stronger in the first half of 2021 but they grew weaker towards the end of the year.

This was because as distributors started to sell more inventory, which they had built up ahead of higher prices. Volumes were up 11% to 70m m³.

Sales and earnings up at Sweden’s Trelleborg

Trelleborg, Sweden – Sales at industrial polyurethane processor Trelleborg were up 12% at SEK33.8bn ($3.7bn) in 2021. EBIT across the business rose by 25.8% to SEK5.1bn.

activity was particularly strong in the first half and recovered later. Overall in the division, sales were up by 14.6% between 2020 and 2021, reaching SEK12.5bn. EBIT in the division rose by 25.4% to SEK2.9bn in 2021, up from SEK2.14m in 2020. The numbers here were helped by higher volumes in the business in the Netherlands and France, some legal fees and the cost of exiting some onerous contracts.

The increases were driven by solid volumes increases and prices which offset rising raw material costs. The new Finnish plant came on stream and is expected to break even in 2022.

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Huntsman: MDI set to remain tight

The Woodlands, Texas – MDI levels look set to stay tight well into this year, senior Huntsman executives told an analysts meeting. The company’s new splitter, due on stream in H2, has already sold out before it starts operation.

In 2021, the company generated $8.45bn in sales, up 40.5% on the 2020 figure. Adjusted EBITDA across the business increased by 108% taking the number to $1.34bn.

CEO Peter Huntsman told the meeting: ‘The MDI industry is growing at 5 or 6% globally. I don’t have a problem with us being essentially sold out. We have plenty of MDI. I think, in the world. Huntsman needs to have better MDI, better margins, low costs and be able to take a great business and make it even better.’

Tony Hankins, vice president of the polyurethanes business, said: ‘The inventory level is as low as it’s ever been in MDI. We’re flat out; we can’t run any harder than we’re running now.’ The company confirmed that it expects the MDI splitter in Geismar to be mechanically complete and on stream in the second half of the year. It is expected to contribute $45m/year to EBITDA. The board also saw off a challenge from an activist investor, who wanted to change the composition of the board and company direction.

‘We have transformed our product portfolio to focus on value over volume and fully deleveraged our balance sheet earning an investment grade rating,’ Peter Huntsman said. ‘The outcome of the shareholder vote is validation of our portfolio strategy and recognition that the Huntsman of today is vastly different to the Huntsman of five years ago,’ he added.

Vahala expands in Indiana

Fort Wayne, Indiana – Vahala Foam is investing up to $7m in a new plant in Fort Wayne. The expansion could create up to 125 jobs by the end of 2024.

The company is leasing a 132,000ft² (2,300m²) facility in the city. It currently employs 230 people at two locations in Elkhart, about 100km from Fort Wayne.

Vahala EVP Rebecca Stahly credited the team for the company’s growth. ‘Together, we have earned a reputation for creating superior products for our clients and look forward to expanding those capabilities in the Fort Wayne area,’ she said. ‘We value our teammates and intend to build a culture of giving back to others and to our new community.’

The Indiana Economic Development Corporation has offered Vahala Foam up to $1m in tax credits. The company will be able to claim these after local workers are hired for the new jobs.

An ‘outstanding’ 2021 for Skechers

Los Angeles California – Skechers had total sales of $6.28bn in the first quarter of 2022. This is up 36.7% on the same period last year.

Gross profit across the business rose by 40.9% to $3.10m in first quarter.

‘2021 was an outstanding year, with four quarterly sales records, including fourth-quarter sales of $1.65bn and a new full-year sales milestone of $6.29bn,’ said David Weinberg, the company’s chief operating officer.

There was a triple-digit growth in sales through distributors in 2021, high single-digit growth in China, and double-digit growth in the UK, India, Spain and many other markets in 2021.

This growth is consumer-driven, as buyers want shoes that are comfortable, stylish, innovative and reasonably priced, the company said.

Strong consumer demand drove sales Nike in Q3

Beaverton, Oregon – Nike, the global footwear giant, had total sales of $10.8bn in the third quarter of its 2022 accounting year. This up 41% on the same period last year.

EBIT across the business rose by 19% to $1.7bn.

CEO John Donahoe attributed the increase to a growth in direct sales to consumers. The company said growth was strong in North America, APLA and EMEA, and this offset declines in Greater China.

Sales were also helped by consumers returning to stores. Sales through this channel were up 14% in the quarter, while sales through distributional channels were down 1%, and Nike Direct sales to consumers were up 17%.

The company said: ‘Marketplace demand continues to significantly exceed available inventory supply.’

NCFI Polyurethanes adds new mattress foam range

Mount Airy, North Carolina – NCFI Polyurethanes has introduced a range of bedding foams which it is marketing under the CoolRest brand. All of the foams are CertiPUR-US-certified.

There are three products in the range. CoolRest Hybrid, the company said, combines the properties of memory and high-resilience foams to give pressure relief without sinking.

CoolRest Breeze is a soft foam with high airflow, designed to provide pressure relief and maximum cooling. Both can be used as comfort or transition layers.

The third product, CoolRest Bounce, is a latex-like PU with a resiliency in excess of 65%.

The company said that this new foam is ideally suited for use in transition or support layers to keep the sleeper on top of the comfort layer.

‘This CoolRest launch is the latest in our commitment to provide our customers with solutions that perform and add value to their products,’ said NCFI EVP Christopher Bradley. ‘Through much hard work, along with listening to our customers’ needs, our team has created trio foams that provide unmatched performance in mattress applications.’
Difficult first quarter at Adient

Plymouth, Michigan – Adient had a tough first quarter of 2022, with EBITDA dropping by 165% in the EMEA region, 93% in the Americas and 24% in Asia, on global sales that were down in all regions except Asia. The automotive interiors company generated $3.5bn in the first quarter of 2022, down 9.6% on the same period last year.

2022, down 9.6% on the same period last year. The company's EMEA business sales fell 23.3% to $1.2bn in the first quarter of 2022. In the first quarter last year, sales were $1.6bn. Adjusted EBITDA in the most recent quarter was $43m, compared with $114m in the equivalent period in 2021. Lower equity income, higher freight costs and lower volumes affected the business in the EMEA region.

Sales in Asia, the smallest region, bucked the trend and were up by 41.5% at $784m in the quarter. This compares with $554m in the same quarter last year. Adjusted EBITDA in the region fell by 24.5% to $114m in the quarter.

Volumes were higher and the company made more profitable production in the Asia region during the quarter. However, the business was hit by higher freight and new product launch costs and a flood in Malaysia.

The company's balance sheet is stronger, and the company has managed to reduce net debt by about $100m to $1.5bn. Cash holdings have increased from $1.5bn in the first quarter of 2021 to $2bn in the 2022 quarter.

Lear powered through 2021, despite headwinds

Southfield, Michigan – Lear, an auto interiors and seating giant, generated sales of $19.3bn in 2021. This is up 13.0% on its 2020 performance. Net income across the business rose by 136% to $373.9m in 2021. This compares with $1.7bn in the equivalent period in 2021. Adjusted EBITDA was $9m, compared with $132m in the equivalent period in 2021.

Lear finished the year with better-than-anticipated sales and earnings, reflecting improving industry conditions at the end of 2021, according to Ray Scott, the company’s president and CEO. The business faced challenges from the coronavirus pandemic and semiconductor shortages. The company said it was able to gain new business and more profitable models.

In the company’s seating business, sales rose by 11.0% between 2020 and 2021, reaching $14.1bn. This compares with $12.7bn in 2020. Net income in the division was up 44.2% to $851.3m. This compares with $591m in 2020.

‘While we expect industry production volumes to improve in 2022, we are still facing uncertainties related to the coronavirus pandemic, semiconductor shortages and inflationary pressures,’ Scott said.

He remains optimistic about Lear’s prospects. ‘We have a very strong backlog of new business launching over the next three years,’ he said. ‘In addition, consumer demand remains extremely robust and industry inventory levels remain historically low, indicating that the auto industry is primed for a sustained recovery in production volume.’

Steepan stormed ahead in 2021

Northfield, Illinois – Stepan, a specialty polyols company, generated sales of $2.3bn in 2021. This is up 25.5% on the previous year.

Operating income in the business was flat at $171m in 2021, but adjusted net income, like sales, reached record levels.

‘The company delivered record full-year earnings in 2021, despite approximately $2m of supply chain disruptions. We have [offset] these headwinds with strong margin management, cost reductions and one-time tax saving projects,’ said CEO Quinn Stepan.

In the polymers business, sales rose by 61.7% between 2020 and 2021, reaching $731.4m. This compares with $452.3m in 2020. Operating income in the division rose by 7.9% to $73.6m, up from $68m in 2020.

Global sales volumes were up 29% on 2020, mainly as a result of the purchase of business from Invista. Supply chain disruption took $10m off polymer results.
Sheela Foam plans to expand Australian and Spanish sites...

Greater Noida, India — India’s Sheela Foam plans to expand its overseas facilities in Australia and Spain this year. In a filing with the Bombay Stock Exchange, the company confirmed it is investing in a second foam line at its plant in Adelaide, Australia. This is expected to come on stream by July 2022.

“Substantial expansion is also planned at the Spanish site, which is expected to be operational by October 2022,” the filing said. This plant serves the EU market.

Before these expansions, the company said it has the capacity to produce 123kT/year of flexible foam at its plants in India, a total 10.5kT/year at its five Australian plants, and the one plant in Spain has 22kT/year capacity. Sheela estimates that it has between one-quarter and one-fifth of the Indian market for flexible furniture foam, and 40% of the market in Australia.

Sheela was upbeat about the prospects for business in India because of the nation’s recent budget.

The company sees opportunities for its business with the 400-train expansion of Vande Bharat train network, and more housing planned for urban and rural poor.

...while Q3 sales crept up 6.7%

Greater Noida, India — Sheela generated sales of INR8.8bn ($117.8m) in the third quarter of its 2022 financial year, up 6.7% on the same period last year. However, earnings before interest, taxes, depreciation and amortisation across the business fell by 34.0% to INR9950m in the quarter.

Sheela said its results were hit by a slowdown in discretionary spending because of inflationary pressures. There was a relative decline in sales of comfort foam in the third quarter of 2022 because pent-up demand in 2021 made sales in that earlier quarter very strong. Higher raw materials prices and increased marketing costs hit margins and earnings.

Sales in the company’s Australia business were unchanged between the two years, at INR1.21bn. However, EBITDA in the division was down by 42.3% to INR190m, down from INR260m in the equivalent period in 2021.

The company’s Spanish sales were up 14.4% between the two quarters at INR1.14bn, up from INR1.0bn in the same period the year before.

Sales up at Sinomax, but margins squeezed in 2021

Hong Kong — Sinomax, the listed flexible foam and bedding manufacturer, generated sales of HK$4.26bn ($544m) in 2021. This is up 32.2% on the same period last year. Gross profit across the business increased by 14.9% to HK$716.9m.

The company’s total sales in China grew by 37%, up from HK$1.6bn in 2020 to HK$2.2bn in 2021. In North America, sales increased from HK$1.4bn to HK$1.6bn, a 14.7% increase in the period, while its sales in Europe and other overseas markets were up 12%, from HK$2.0bn to HK$2.3bn.

Sales in China improved as the country started to recover from the coronavirus lockdowns. In North America, Sinomax said it had won more new customers and had been successful in broadening its base of customers. Although sales were up, gross profit margins were squeezed because of higher raw material costs and higher transportation costs in 2021 than in 2020.

Business was made harder in 2021 because of coronavirus, the US-China trade war and anti-dumping duties on products imported to the US. Bed-in-a-box sales were strong and grew in the US. Sinomax confirmed there were delays to the startup of its facility in the US, but it expects product output will gradually increase in the second half of 2022.

Looking at this year, Sinomax added that it expects raw material costs to stabilise in the first quarter of 2022.

Rising prices help Manali in Q3

Chennai, India — Sales at Manali, an Indian polyol producer, rose by 38.8% in Q3 2021 to INR4.9bn ($65.4m). EBITDA across the business was up 48% at INR1.56bn in the quarter. This is because the company had to pay the cost of a 30-year lease of the land it occupied from 1987 to June 2020. The lease is in the process of renewal.

Chairman Ashwin Muthiah said his company has “bettered its financial performance even during tough times.” The company also said it will be expanding its Notedome brand into Germany. This will be through its holding company Amchem Speciality Chemicals Singapore, which owns Notedome UK.

PU Tech now rescheduled for April 2023

New Delhi — The Indian Polyurethane Association (IPUA) has postponed the triennial PU TECH exhibition by almost 14 months. The show was originally scheduled to run from 23 to 26 February 2022. The 6th Polyurethane Exhibition & Conference (PU TECH 2023) is now scheduled for 12 and 14 April 2023. The location will still be the India Expo Centre, Greater Noida.

“The majority of overseas exhibitors as well as trade visitors requested us to reschedule the show to next year,” said IPUA secretary Murali Mohan.

The event was rearranged because of pandemic travel restrictions.

News in Brief

Lubrizol TPU gains green credentials

Shanghai, China — Lubrizol’s TPU polymerisation and compounding plants in Shanghai have been awarded the International Sustainability and Carbon Certification.
BASF and Neveon launch user-pays end-of-life mattress project

Ludwigshafen, Germany – BASF and Neveon are collaborating on an end-of-life mattress recycling project. Neveon is launching Remomattress, a mattress take-back project, in Berlin.

The plan is for it to be extended across Germany later this year. Berliners were able to log in to a website, order a mattress collection and pay the fee. For a central Berlin address with collection on 25 February, this ranged from €75 ($85) for a 70x180cm mattress to €79 for a 200x220cm mattress. The price is €10 lower for each subsequent mattress. The mattress will then be taken away and dismantled, and the recovered foam fed into the BASF process.

‘The process enables original polyols to be recovered [and] the quality of flexible foam blocks made from recycled polyurethane are equivalent to those made from fossil fuel sources,’ BASF said.

‘We want to build a partner network along with Neveon and close the loop step by step,’ said Sven Crone, who is responsible for the company’s isocyanates and precursors.

Oliver Bruns who is Neveon’s CEO said: ‘We need to drive the transformation to a circular system where products at the end of their life cycle are not waste, but a valuable raw material.’

• BASF is now offering its customers MDI with zero CO2 impact up to the factory gate. The product, designated Lupranat Zero, is made exclusively from renewable feedstocks and energy.

‘[It is] the first greenhouse gas-neutral aromatic disocyanate,’ the company said.

Oregon mandates mattress recycling

Salem, Oregon – Oregon is the latest state to pass legislation to promote the recycling of end-of-life mattresses.

It becomes the fourth state, after California, Connecticut and Rhode Island, to pass such a mandate.

A state-wide product stewardship programme will enable the financing, collection and environmentally sound management of discarded mattresses. A fee is to be added to mattress sales to fund a recycling programme, with a private entity set up to collect and recycle mattresses and box springs.

This entity will be overseen by the state’s Department of Environmental Quality. There will be a collection site in every county, plus various others across the state, to make it easy for consumers.

‘In 2009, Oregon became the first state in the nation to enact an environmental stewardship program for paint products,’ said state senator Michael Dembrow. ‘Oregon has led on product stewardship programmes for discarded electronics and unused medicines. This legislation will protect our environment, conserve resources and create meaningful jobs.’

More mass-balance output from Covestro

Leverkusen, Germany – Covestro’s sites at Leverkusen and Dormagen have been given mass-balance certificates by ISCC Plus, and the company has rolled out MDI products that are climate-neutral as far as the factory gate. This follows its first commercial supply of a similar TDI product to Sinomax in early February.

The MDI is produced from raw materials derived from plant waste. The saved carbon dioxide is allocated to the products according to ISCC Plus methodology.

Chief commercial officer Sucheta Govil said the new MDI products will help support customers in large parts of the world transitioning to a circular economy. This means the company can supply components for rigid and flexible PU foams, PU coatings and adhesive raw materials and TPUs, it said. The company has both MDI and TDI produced in this way.

‘The raw materials we use for these products meet high sustainability requirements all the way back through the supply chain,’ said chief technology officer Klaus Schafer. ‘That’s why we want to make greater use of alternative raw materials such as these.’

Dow invests to simplify polymer reprocessing

Horgen, Switzerland – Dow is investing in Plastogaz, a startup with hydrocracking technology to help close the loop on polymer recycling. Dow said Plastogaz has unique technology that is less energy-intensive than other current forms of advanced recycling.

The advanced recycling process turns the waste plastic back into monomers, or precursors such as ethylene, propylene, benzene and toluene, in a cracker. New polymers and other chemicals can be produced from plastics waste with this process.

A number of highly controlled process steps are needed to convert waste plastic into a form that can be added to the crackers. The advantage of the greater process complexity is that it can cope with more difficult recycling problems, such as multilayer packaging that is hard to recycle using mechanical processes.
Isocyanates remain tight

Regina Sousa
Techno Orbichem

The North American MDI market started 2022 on the tighter side, even though most producers were reported to be back online in December. Ongoing logistic issues continued to tighten supply. Demand from construction traditionally slows down until early spring. In the auto sector, the slowdown continued throughout Q1. One MDI producer said the semiconductor shortage is expected to improve in the second half.

European MDI markets were seasonally quieter in Q1. The construction market was in its off-peak season until about March, but this sector is expected to see strong demand levels this year. In other applications, demand into CASE and other non-foam applications has been weaker because of softness in automotive. Supply was mostly restored.

In China, the major MDI plants ran at an average 70% operating rate in January. The Wanhua Chemical 400kT/year MDI plant in Ningbo is now back online, but it is running at low operating rates. BASF 400 kT/year MDI plant in Chongqing is also back online, with good supply of pure MDI supply. The Chinese domestic crude MDI market saw an upward trend throughout January, but weak demand pulled crude MDI prices down at the end of the month.

The US TDI supply and demand picture has not changed at the beginning of 2022. Demand from the automotive market has not improved, but this is expected to pick up in the second half of 2022. There continues to be some good buying appetite from some downstream sectors, and this is likely to continue. Comfort and bedding are still doing well.

The European TDI market continues to see slow demand from the automotive sector, but the expectation is for some improvement in 2022. Demand from comfort and bedding in Europe was lower in December. January levels were also low but expected to pick up again towards Q2. Supply was also low in Q4 because of ongoing supply disruptions in Europe, but reports suggest operating rates were ramped up in December.

Chinese domestic TDI market supply tightened at the beginning of this year with several plant maintenance outages. The Fujian Wanhua Chemical 100kT/year plant extended its maintenance turnaround and Gansu Yinguang 120kT/year site announced its maintenance plans. Total supply has become tight. In addition, Covestro’s contract levels had been sold out. During the middle of January, Fujian Wanhua’s 60kT/year first phase plant re-started at lower rates, so the market remained tight. However, with the approach of the Spring Festival holiday, the number of new orders weakened as some of downstream manufacturing sites closed for the holiday.

Feedstock costs
North American polyether polyol availability was good, and prices continued to follow feedstock costs in January. Propylene oxide supply is still tight, and there is a lot of catching up to do as plants have had production issues over the last three quarters. Polyols demand is in its off-peak season until early spring, but 2022 is expected to be another good year for construction. Automotive demand will also grow, but this sector is still weak in the light of ongoing semiconductor shortages.

In Europe, Dow declared force majeure on polyols at Terneuzen, Netherlands, after a cracker failure. The operator has three crackers at the site, and one had a technical problem on 29 November.

As ethylene oxide was disrupted, downstream plants such as polyols also had to declare force majeure. Dow’s plant is reported to be back online but not running at full capacity. Supply also continues to be under pressure because of the tight availability of feedstock PO. Polyether polyols demand was subdued during the off-peak season.

Replenish inventories
In China, polyether polyols producers replenished their inventories when PO prices slid to low levels. Market sentiment improved briefly and PO prices increased slightly, and this helped to push polyol prices up. After downstream buyers finished stock-building, market prices started to decline again. There is now plenty of supply in east China. Zhenhai has completed the second phase of its project, and it was able to launch new material into the market, further increasing the total supply of polyols in the domestic market.

On 24 February 2022, Russia invaded Ukraine, and there are growing concerns for European petrochemicals markets. As world economies decided to shut deals to Russian markets, there is the possibility of raw materials being affected by this decision. A better picture is starting to emerge, and the most significant changes have been the high increases in natural gas as Europe depends on Russia for its supply. This has led to huge increases in energy costs, and energy surcharges are starting to emerge for isocyanates and polyols. The next few months will be challenging in Europe, and it will impact all regions as a result.

For more pricing information, contact Regina Sousa at regina.sousa@orbichem.com or visit the Orbichem website at www.orbichem.com
### Day One | Tuesday 7 June 2022

**11:00** Opening Remarks  
Simon Robinson, Editor, Urethanes Technology International

**11:05 - 11:30** Welcome Keynote  
**Speaker:** Sustainability: the future shaper of the polyurethane industry  
Amir Naqvi, Regional Business Leader for Honeywell Fluorine Products, Middle East, Turkey and Africa (META), Honeywell

**11:30 - 11:55** The furniture and mattress market in Africa and worldwide  
**Speaker to be confirmed**

**11:55 - 12:20** Polyurethane – Quo Vadis  
Dr. Uwe Löchner, Associate Director Polyurethanes, IHS Markit

**12:20 - 12:45** SABIC’s product offering for the PU flexible foam industry and SABIC’s innovative foam and lightweight solutions  
Didier Leroy, PU MDTs Leader, SABIC  
Ramon Meijers, Global Business Leader, Foam & Lightweight, SABIC

### Day Two | Wednesday 8 June 2022

**15:25 - 15:40** End User Presentation: Effects of nano crystal structures on rigid polyurethane foam thermal performance  
Cahit Can Çanakçı, Polyurethane Specialist and Insulation Materials Product Owner, Arcelik-Beko Central Research & Development Center

**15:40 - 15:55** Utilization of low boiling point blowing agent replacements for HCFC – 141b in polyurethane foam in high temperature regions  
Amanullah Abdul Jabbar, Technical Manager - Foam, Middle East, Turkey and Africa, Honeywell International Middle East

**15:55 - 16:10** Polyurethane cryogenic insulation for space launchers produced with the next generation blowing agents  
Ali Sohrabi, R&D Manager, Caspian Polyurethane Technologies

**16:10 - 16:25** Fire resistant polyurethane foam  
Shivanand Shenoy, CEO, NamanTechnologies

**16:25 - 16:40** Recycling rigid PIR foam, phthalic anhydride and PET into commercial grade polyester polyol  
Miro Donabedian, General Manager, IP Harwal Polymer (a division of Interplast)
UGECH Middle East Foam & Polyurethane Expo is the only dedicated exhibition and conference in the region for the foam and polyurethane industry and your gateway to the Middle East and Africa markets.

Day Two | Wednesday 8 June 2022 continued

16:40 - 16:55 Halogen free bio PIR sandwich panel systems
Emrah Akbaş, R&D Manager, Kimpur

Day Three | Thursday 9 June 2022

12:05 - 12:20 Design and implementation of energy efficient high index polyisocyanurate systems with sustainable blowing agents
İlhan Kurt, Head of Research & Development, Pearl Polyurethane Systems LLC - Dubai

13:30 - 13:45 Latest developments in PU foam catalysis for insulation
Gabor Felber, Senior Global Market Development & Product Manager for Polyurethane Additives, Huntsman

13:45 - 14:05 Benefits of methylal as co-blowing agent with HFOs or HFCs: spray foams as a typical example
Michel Beaujean, Senior Scientific and Technical Advisor, LAMBIOTTE

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REGISTER TODAY!

Join us at the Dubai World Trade Centre this June to meet with representatives from companies including SABIC, Evonik, Flokser Kimya, Recaz Chemical / Sefox Adhesives, Foam Supplies, Jiahua Chemicals, Momentive, Ekosystem, and many others.

Registration is free of charge and gives you access to the three-day exhibition and conference as well as our co-located events, Sleep Expo Middle East 2022 and Adhesives, Sealants and Bonding Expo 2022.

To register, scan the QR code or visit mefpu.com
The past couple of years have been unusual, to say the least. There was a feeling that the machinery business had prospered in 2020 because of the momentum of orders placed in 2019, and the strong demand for more comfortable furniture by populations forced to lockdown at home. The question for 2021 was, would that continue?

It is certain that 2021 was a complicated year. It was characterised by the sputtering restart of business activity: the global economy tried to work its way through dislocated supply chains, bottlenecks, the Suez Canal blockage, raw material and computer chip shortages, and intermittent problems with raw material supply in the PU sector. As we will see later, these themes are continuing into the first part of 2022.

Looking at the results of the annual machinery survey, it seems that that the furniture and bedding sector came off the boil slightly in 2021. The 16 companies that responded to this year’s survey said sales in the sector were strong, but not as strong as in 2020. Nor were they quite as high as the five-year average.

Although our survey pointed to a slowdown in the flexible foam market in 2021, the greatest deceleration seems to have been in sales to general industry. Responses to the survey showed a significant fall between 2020 and 2021. In fact, the calculation showed that the index fell by 68% between the two years.

We calculate the numbers generated by the survey and the other relative numbers by counting the votes for each category, and dividing by the total number of responses to the question in each year. This gives a relative measure of responses, and helps to iron out the effects of different numbers of companies answering our survey in different years.

There was also a small drop in the index of companies suggesting that automotive was a the fastest growing sector in 2021, as that industry continued to labour under a shortage of computer chips. Several respondents were more downbeat about the automotive sector in the interviews that follow these numbers.

Respondents suggested that 2020 and 2021 were about the same for new business in the refrigerated appliance sector. However, the stand-out area for real growth was in building and construction. Here, the index of companies saying this was a fast-growing sector increased from 2020 to 2021, and headed towards the five-year average.

### Table 1: PU equipment suppliers by new PU machinery sales, 2021

<table>
<thead>
<tr>
<th>Company</th>
<th>PU sales ($m)</th>
<th>Total sales ($m)</th>
<th>PU employees</th>
<th>Total employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baumer</td>
<td>42.90</td>
<td>65.90</td>
<td>343</td>
<td>343</td>
</tr>
<tr>
<td>Fecken Kirmsel</td>
<td>35.00</td>
<td>44.00</td>
<td>155</td>
<td>190</td>
</tr>
<tr>
<td>SAIP</td>
<td>20.00</td>
<td>23.00</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Edge-Sweets</td>
<td>12.00</td>
<td>20.50</td>
<td>30</td>
<td>60</td>
</tr>
<tr>
<td>Tec Mac</td>
<td>2.41</td>
<td>2.41</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>Auto/RIM</td>
<td>1.80</td>
<td>2.10</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>OEV Technology</td>
<td>0.79</td>
<td>2.05</td>
<td>14</td>
<td>43</td>
</tr>
<tr>
<td>Joao Oliveira</td>
<td>0.50</td>
<td>1.00</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Linden Polyurethane</td>
<td>NG</td>
<td>7.50</td>
<td>32</td>
<td>32</td>
</tr>
<tr>
<td>Fincorp</td>
<td>NG</td>
<td>1.00</td>
<td>35</td>
<td>35</td>
</tr>
<tr>
<td>Hennecke</td>
<td>NG</td>
<td>700</td>
<td>700</td>
<td>700</td>
</tr>
<tr>
<td>Rim Polymers</td>
<td>NG</td>
<td>65</td>
<td>95</td>
<td></td>
</tr>
<tr>
<td>Con-Tek</td>
<td>NG</td>
<td>27</td>
<td>27</td>
<td></td>
</tr>
<tr>
<td>Covestro Elastomers</td>
<td>NG</td>
<td>NG</td>
<td>NG</td>
<td>200</td>
</tr>
</tbody>
</table>

Notes: “greater than 200; information in US$, if supplied in other currencies converted on 30 March 2022; NG=not given
Looking regionally, Central and Eastern Europe returned to the top spot in 2021 as the standout region for sales growth. According to respondents, the index of fastest-growing sales in the region was 2.3x the five-year average, and 2.5x higher than in 2020. The index for 2021 was higher for Central/Eastern Europe than at any time since 2011.

North America also recorded its highest growth index since 2011, and was comfortably ahead of its 2020 result and five-year average. This is also reflected in the interviews. There was strong performance in Middle East purchases in 2021.

Western European numbers were down slightly on the average in 2021, and more markedly compared to 2020. Far fewer companies said growth was strong in China in 2021, as the country dealt with coronavirus through a programme of vaccination and regional lockdowns. This reduced the demand for polyurethane products and the need to invest in new machinery to make it.

Sales down everywhere
Sales were down in every region in 2021. The country where the respondents’ perception that the fall was greatest was China, where it was down to 25% of its level the year before. This was followed by south-east Asia, South America and Central/Eastern Europe.

How are the machinery companies facing the difficult market situation?
According to the survey, while they may be very concerned about their ability to complete machinery at the moment, they are quite upbeat.

Among the respondents, more companies than the five-year average said they were considering business acquisitions. In contrast, the survey suggested the number of companies looking to expand in 2021 was down from both 2020 and the rolling five-year average.

Overall, however, global polyurethane machinery-makers’ confidence crept upwards in 2021 to above the long-term average. In 2021, the UTMechIndex was 4.75, up from 4.70 in 2020, but down from the all-time high of 6.19 in 2019. The average annual figure since 2012, when we started calculating the index, is 4.68. Over the past five years, the industry has been becoming slightly more optimistic, returning an average value of 5.0.

Urethanes Technology International/UTECH-polyurethane.com generated this year’s Index after surveying machinery companies across the world in February and early March 2021. Companies were asked if they wanted to expand their business, upgrade facilities, consolidate, build new plants, buy competitors, or sell part or all of the company. We then normalised the respondents’ results in each category by the number of respondents, and an index is calculated. This accounts for how positive the actions are.

Two companies were notably positive going into 2022. One, Saip, recently announced plans to expand into the US with a facility in Columbus, Ohio. Also in Ohio, Linden Industries, based in Cuyahoga Falls near Akron, has been investing in plant. A third company, Edge-Sweets (ESCO) has also been looking at its product line and changing its focus.

Walter Pozzi, Saip’s CEO, said moving some people and opening a facility in Columbus was a natural development.

‘We have been active in the US for many years,’ he said. ‘This growth was entirely because of customers asked to be there. We believe that the US market will be more important for us. Besides rigid and flexible panel insulation lines where Saip has been performing positively, growth sectors for Saip in the US include cold chain, from refrigerators to vending, and automotive. We want also to reinforce flexible foam applications, such as in mattresses and pillows, and we have experimented with success in this market.’

Strategic position
Columbus is located in a strategic position to serve markets in the north-east and north of the US plus the Midwest states, and also Canada, Pozzi said. Logistics from the site are very good. There will be an initial staff of three: two technical support and one technical sales. ‘They will offer aftersales support and spare parts that customers will be able to buy directly and receive quickly thanks to our warehouse,’ he said.

As well as a warehouse, the site will have a fully equipped lab with high pressure machinery for customer trial and validations, he added. The second phase of Saip’s development will include the establishment of a commercial section led by Luca Ceresa, SAIP commercial director. There could be also production at the site in the future.

Linden Industries is situated about 130 miles (210km) to the north-east of Columbus, in Cuyahoga Falls. Its CEO, Jon Cocco, used 2021 to invest in processes and equipment at his factory there and in nearby Akron. Cocco bought Linden in 2019, and said he has been growing this business in North America. ‘We have three strategic partnerships currently, and are looking to expand through joint ventures and acquisition,’ he said.

Continued on page 20
The company invested $500,000 in a new CNC machine shop in the fourth quarter of 2021 and first quarter of 2022. It was also spending $350,000 on a new polyurethane test lab for customers, which was due to be complete in the first quarter of 2022.

The CNC machine is used to manufacture high-performance mix-heads. ‘While our investment in new CNC machinery equipment was important, we did not stop there. We also improved our ability to translate 3D models directly into CNC G-codes for accurate set-ups and improved manufacturing. We run simulations on each mix head before manufacturing. This reduces errors, and allows us to improve machining time. A part that historically took us to 16 hours, but now can be machined in less than 4 hours.’

**Up-front investment**

That investment has a large up-front capital investment, but the value gained by the reduced lead time, better tolerance and more rapid prototyping will be long-lived, he believes.

He said the inspiration for the investment came from working with a large aerospace company about 18 months ago. ‘This customer liked our laboratory space because we had the ability to bring in large airplane sections into our building for foaming,’ Cocco said.

The test lab also allows them to talk with a wider range of people at their clients. ‘We are engaging the R&D engineers at our customers at an earlier stage in their product lifecycle, and are a part of the design of experiments,’ he said. ‘These customers like to use the facility to understand the chemistry and how it interacts with Linden’s machinery. We have completed six or seven development tests for our customers over the past couple of years.’

Further north, this time in Michigan, Edge-Sweets’ Rick Hungerford is also changing his company’s direction. ‘In the past several years, we have stopped making many types of machine because the opportunities come from CNC produced parts and cutting lines,’ he said. ‘It is better to build four or five lines, and buy in bulk for orders that I am 90% confident will come through in the next six or so months.’

He added that the company is not turning its back on machines made in the past, but wants to move towards more standardised parts. ‘On the workshop floor, people don’t need to be artisans,’ he said. ‘The business is moving away from steel fabrication. We are in the middle of a project to change the way we build machines.’

This change in direction is in response to a changing competitive landscape. ‘Other companies are trying to build themselves machinery, it is the reverse of business consolidation. It is more disruption. Big furniture manufacturers want to make their own machinery,’ he said. The move to CNC machinery is leading to large time savings.

**Tariffs have given us a big opportunity to sell our machines in the US**

Francis Pinckers, Fecken Kirfel
Adding recycled content to hot cast elastomers is easy with new CASTECH™ kit

Huntsman’s new equipment can boost recycled content of engineering elastomers

Huntsman Tecnoelastomeri has developed a new piece of solid dosing equipment that can be coupled with its CASTECH™ machines to produce hot cast elastomer systems, which contain recycled content and, crucially, are bubble-free.

With sustainability now top of the agenda for most companies, Huntsman wanted to find a way to seamlessly incorporate recycled content into its hot cast elastomers systems, which are widely used to make wheels, castors and other industrial parts that need to perform in extreme working conditions.

Acting as a bolt-on tank that can be added to existing CASTECH™ machines, the new piece of kit, can meter a mix of recycled or recovered fillers into any of the three components that are typically combined to make Huntsman’s TECNOTHANE® engineering elastomers.

The system enables customers to add different percentages of filler to their systems to suit requirements. Fillers can be made from recycled rubber, solid PU and TPU, and other fibres. Once mixed with the system, the fillers flow freely into the mold and bond well.

CASTECH™ machines are a low-pressure, equipment solution for the efficient metering, mixing and hot casting of elastomers based on two or more components. Using CASTECH™ machines, it’s possible to produce high-grade elastomers with a very high mix quality, based on MDI, TDI and NDI prepolymers, or microcellular foam systems. Customizable in multiple ways, CASTECH™ machines are the flexible elastomer equipment choice – enabling users to specify their processing machine.

NB: *Huntsman’s new equipment is compatible with CASTECH™ machines produced after 2018.

Contact: castech@tecnoelastomeri.com
www.huntsman.com
strategy came about in 2021 because of the strength of business in 2020. After the initial lockdown shocks, contracts signed in 2019 were honoured, and machinery sales continued. In 2021, the economies in Europe and the Americas were less constrained by coronavirus and the struggle back to some sort of normality started.

Rolf Trippler, chief sales officer at Hennecke, confirmed the strength of the North American market. ‘In North America in particular, we had an excellent order intake in 2021 in the area of sandwich panel lines from Hennecke-OMS,’ he said.

While the global automotive business has not been performing particularly well, Trippler is sure that it will come back in big steps. ‘In slabstock foam applications, we have seen increased demand in Asia, as the US market is already saturated,’ he said. ‘Nevertheless, US producers are continuing to invest in plant technology from the world market leader here, too, because some production lines that we originally intended to supply to Asia were diverted to North America because of the tariffs, and ultimately sold there.’

Import tariffs
Baumer’s Christoph Hauck also reports strong business in the US in 2021. ‘We generated about a third of our revenue there,’ he said. ‘The growth started in 2020 when the US import tariffs on Asian goods came into force. Many of our key customers in the US ordered Baumer machines. Currently we are planning to expand and start a new location in the US.’

Table 2: PU machinery companies — general data and plans

<table>
<thead>
<tr>
<th>Company</th>
<th>Location</th>
<th>Plants</th>
<th>Total m²</th>
<th>R&amp;D as % of sales</th>
<th>Services supplied</th>
<th>Plans for 2021</th>
<th>Web address</th>
</tr>
</thead>
<tbody>
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The situation is crazy right now. We have little clarity on delivery dates from our sub-suppliers”
Christoph Hauck, Baumer

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Francis Pinckers, vice-president at Fecken-Kirfel, echoed Hauck’s point about US tariffs on Chinese imports. Started by Trump and continued by Biden, they have stopped a lot of imports from China. ‘This has given us a big opportunity to sell our machines in the US because they could not import from China any more,’ he said. ‘We have delivered machines to one Chinese “transplant” company [in the US]. We also heard of another which uses Chinese machines, and has issues because they get little support. The relationship between China and the US prevents Chinese technicians entering the US to repair or maintain equipment.’

Quality machinery
As a result, some companies are moving to western suppliers to extend their production lines and cutting equipment. ‘The US market needs parts made with good quality machinery,’ he said.

Bruno Savarino, global head of marketing at Covestro Elastomers, which makes CASE machinery in addition to materials, said business was much better in 2021 than in 2020. ‘It was a surprise,’ he said. ‘We expected to be more impacted by the pandemic. During coronavirus, we made machines for stock in our Alpha range of industrial machines. These have a common basis that can be modified for customer needs.’

As an example, the offshore windfarm industry is booming in Asia and Europe, and the company makes machines tailored to this sector. ‘Mining is also strong and requires machines,’ he said. The company also delivered automatic production lines to make castors and polyurethane slabs for forklifts in automated warehouses.

Savarino added that demand for his company’s Omega range of more complex machines was consistent in 2021. ‘This could be because during the coronavirus crisis, companies using standard machines can probably still take on new work with only a minor change to their machine,’ he said.

‘If you have a project that needs something specific, that may not be possible with the existing equipment, and you need to invest. This helped us to achieve good results in 2021. The share of these complicated projects increased significantly compared to earlier years.’

Linden’s Cocco said revenue at his company increased by a little more than 200% in 2021 compared to the 2020 figure, albeit 2020 being a slow sales year. ‘It was a strong year for bookings in 2021,’ he said. ‘So we felt good about the industry and what customers were doing with capital. It feels like it’s going to continue through 2022, and we are forecasting our sales to grow by another 150% over 2021. We like where the market is going and, even more so, we like our position in the North American market.’

Linden is also benefiting from the growth in the construction and insulated panel market. ‘Also, the military, recreational vehicle and refrigerant segments continue to be resilient,’ he said. ‘While automotive is a significant part of our business portfolio, it continues to be challenging because of the cyclical nature and the pricing pressure.’

High-throughput shots
Cocco highlighted the fact that his company’s machinery has the capability for high-throughput shots. ‘We have just commissioned a project with 100lbs/min (76kg/s) throughput, which we have experience of in the past with our military partners,’ he said. ‘This technology, developed with the military, helped us improve the production of commercial boats. The result is a more productive process for our customers so they can increase their build volumes.’

North American polyurethane panel fixtures maker Con-Tek had a good 2021, according to Ross Willoughby, the company’s soon-to-retire managing director;
Continued from page 23

An average of 2016/hyphen.case2020212020

AVERAGE 2016/hyphen.case2020212020

Continued from page 23

The big issues facing machinery-makers as they look towards the rest of 2022 are the high prices, shortages, and unreliable delivery times of the components they need. 'The after-effects of coronavirus are not over, especially in the supply chain,' said Saip's Walter Pozzi. 'Many companies are struggling to source products. From computer chips to carbon steel, everything is short, and prices are rocketing.'

Hennecke’s Tripler said that in 2021, the company’s order intake was above budget. 'The first half was critical in terms of order intake because of the impact of coronavirus,' he said. 'But the second half compensated for this, and allowed us to finish the financial year ahead of our budget.' Looking to 2022, we want to do better than 2021, and take the momentum into the first quarter, which is very positive in terms of order intake. But to keep that momentum, with all the worldwide issues of the supply chain, the coronavirus outbreak in China and the Russia-Ukraine situation, it will be difficult. My concern is that we will see a hit later in the year because of these influences.'

In terms of business at Fecken-Kirfel, Pinkers said that 2022 is shaping up to be the same as, if not better than, 2021. 'As a machine manufacturer, we had delivery times of 4–6 months on average,' he said. 'Nowadays, we have 10–14 month delivery time. It is really difficult for our customers to see so far into the future. What is needed today could have changed in 12 months. But our customers agree with the timeframe. If people want cutting machines of quality, they have to go with us or a competitor, who have similar delivery times.'

Parts please!

He said that some of the biggest supply problems are around parts which machine builders view as commodities like motors. 'We have shipped a machine recently without a motor; we had to ship the motor afterwards,' he said. 'We had one motor here to test and commission the machine internally. We shipped the machine without it, and the motor afterwards. We kept the second motor to commission new machinery.'

Hennecke’s Tripler echoed this experience. 'We test machines, but may have to send them to the customer incomplete, with other parts following by airfreight because they are not available when the machine is delivered,' he said. 'Proper planning is impossible. Even if the supplier tells you that the part will be delayed four weeks, they cannot ensure that they will be able to keep their schedule. There were delays in the past but not so many, and if they gave you a new delivery time, they kept to it. Now, they call you a
In uncertain times, our customers were happy to invest to keep their machinery running

Philip Hindson, AutoRim

few days before delivery is due and say, “We can’t make it, it will be another four weeks.” This is the reality today.’

Baumer’s Hauck agrees with him. ‘The situation is crazy right now,’ he said. ‘We have little clarity on delivery dates from our sub-suppliers. For example, we have delays of HMI, drive systems or I/O cards. You name it, tomorrow it will be yet another late delivery item. Getting valid delivery dates and forecasting is like gambling. It could be years before we get back to normal conditions.’

For Covestro, the year has started strong and quickly, with a number of complicated machines on order. But Savarino said the current supply situation is adding to business pressure.

‘Our purchasing department is doing a lot of work to bring security to our supply chain,’ he said. ‘We put a lot of effort into finding new suppliers to fill the gaps. For almost all the machines we have in the order-book, we can maintain delivery times. There are one or two cases with a one or two week delay. This is very reasonable at the moment, but the rest, we have fulfilled. I don’t have a crystal ball, so I can’t say if there will be delays for our machines in the future, but I can say supply is a priority for us.’

Con-Tek’s CEO Simma is optimistic his company can cope. ‘There are supply chain issues,’ he said. ‘But in the world of custom equipment, generally speaking, our lead times are adequate enough to absorb shocks.’

Hennecke’s Tripler is optimistic for the future of the sector, too. ‘Supply chain and costs are impacts, and world crises with coronavirus in China and the Russia-Ukraine situation will hit the machinery business in the next quarters,’ he said. ‘I think that, despite these current negative influences, polyurethane is a product that continues to generate demand. It is therefore worthwhile continuing to be active in this industry.’

And, he said, the industry still has many tasks ahead of it. ‘One example is the issue of sustainability,’ he said. ‘But at the same time, we are talking about a raw material that, despite the PU-specific debate about circular economy, has many positive aspects in the area of resource conservation. Just think of the topics of insulation and lightweight construction. PU has so many positive aspects that, overall, I have a positive outlook.’

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In addition to the new category on Composites in Electric Vehicles, the presentations are organized into the following categories: Thermoplastic Composites; Thermoset Composites; Modeling; Additive Manufacturing & 3D Printing; Enabling Technologies; Sustainable Composites; Bonding, Joining & Finishing; Carbon Composites; and Business Trends/Technology Solutions. Paper abstracts are requested as soon as possible and are due by May 16th, 2022. Final papers or non-commercial presentations are due June 17th, 2022. Authors who submit full papers (not presentations) in the proper format will be considered for the conference’s Best Paper Awards, which are presented during the event’s opening ceremony. A template for papers can be downloaded from the SPE ACCE website online via http://speautomotive.com/acce-forms. Inquiries about submitting papers can be sent to ACCEpapers@speautomotive.com.

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From Norway to the world

Laader Berg’s factory sits near a stunning fjord, about 450km outside the Arctic Circle on Norway’s glorious west coast. Simon Robinson headed north to talk with the company about its growing business.

There are few places to match Alesund on the coast of Norway for stunning beauty, as it nestles within a combination of spectacular fjords and big, shaggy mountains. But the price of this beauty is that there is very little land to farm or build on. Legend has it that the shortage of land and a growing population drove the Vikings to expand out of the region just before the turn of the first millennium. They also make a good case in Alesund that the Queen of England is descended from Rollo, a local boy made good.

While Vikings had a reputation for fearsome violence, they also mastered the art of the team. Getting 20 people across a sea in an open boat is most certainly a team effort, and it is the team that comes through in conversations with CEO Per Henning Vaagen and his colleagues on a visit to the factory next to the Storfjord and Geirangerfjord in early March.

But, like many other conversations at the moment, the meeting was overshadowed by the situation in Ukraine. ‘We have recently sold three machines in Ukraine. We think about the people and friends we have made inside those companies. [The situation there] is having a big influence here in the company. Not only as businesspeople, but as friends.’

Friends in danger

Kaland added that, for them, there is more to the situation than simply what they see in the media and on the news. ‘It is connected to names and people we know,’ he said. ‘We didn’t just have business meetings. We went fishing with them. We drank vodka together. We are friends. We are used to being in countries and areas where there are difficult times, but this is very close to us. It is closer for us to fly to Kyiv than to Rome.’

As this goes to press, the situation in Ukraine is uncertain but, perhaps, the past holds a key to the future. According to Vaagen, Laader Berg has previously helped companies rebuild in other conflict-damaged regions. ‘We had several customers in Syria who were able to escape during the worst period of the civil war,’ he said. ‘Two years ago, when things started to settle down, one showed us pictures of their ruined factory and told us they want to go back and restart the business. This week, we finished the installation and commissioning of the machine in Damascus, and he can now start production. We see people who have lost almost everything; they reinvest in their country and want to take part in rebuilding the country. To be allowed to be part of it, it is something special.’

Away from the current situation, Laader Berg, like other machinery companies, did well because of the coronavirus lockdowns in 2021. ‘Sales revenues were €11-12m,’ he said. ‘We have 50 employees, and you don’t find many mechanical companies where you have sales of more than €200k/employee.’

The company is focused entirely on the flexible foam machinery market. It seems counterintuitive that a producer in a high-cost country could compete with low-cost companies where you have sales of more than €200k/employee.’

The company’s factory sits near a stunning fjord, about 450km outside the Arctic Circle on Norway’s glorious west coast. Simon Robinson headed north to talk with the company about its growing business.
PIR COMPOSITE PANELS CONSTRUCTION: HOW TO BUILD CONFIDENCE IN FIRE SAFETY PERFORMANCE

Major trends in energy efficiency and fire safety are influencing market requirements for polyurethane insulation. This, coupled with a complex and fast paced regulations landscape within the context of the EU Green Deal, is creating opportunities for product differentiation and growth.

In this webinar, Huntsman will address the impact of these trends and the changing regulations and will share knowledge to help enable the value chain to make this important transition together while meeting building fire safety objectives. Innovative PU systems which underpin the fire safety performance of PIR composite panel construction will also be discussed.

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Unable to join live? Continue with your registration and you will be sent a link to the recording after the webinar ends.
Kaland added that for foam makers, competitiveness is not about the unit cost of the machine. ‘It is about the unit cost of the products made,’ he said. Vaagen said they have sold 550 machines in 100 countries. ‘The machines are not costly; they are valuable,’ he said. When designing new machines, he said he often asks the customer whether they are sure they really need it straight away. ‘Consider having it later when you need it. Equipment will cost the same in the future as now.’

‘It can take months or years for companies to decide to set up a new factory or move into the business. The company also tries to sell the customer what it needs rather than what it wants. Sales and after-service manager Oystein Haugen said: ‘I had a meeting with a customer in South Africa, and they asked for a lot of expensive equipment. We found out what they wanted and sold them something appropriate. It’s not like an internet shop.’

Laader Berg can supply a plant master plan with details of foaming, tank-store, cutting, storage and finished goods areas. It will also provide return-on-investment calculations. ‘We help customers understand the financial benefit of a new machine or upgrading an old one,’ Vaagen said. This is available to new greenfield customers and those that want to understand the benefits back integration.

‘Once machines ship, the company sends installation supervisors to assemble the parts and train the purchaser’s staff. ‘We do all kinds of service remotely for free,’ Haugen said. ‘We like the machinery owner to give us a call and they can often discuss with the installation supervisor who built the machine on-site and helped train operators,’ he said. ‘The supervisors will spend up to 10 weeks on an installation and are very important for us.’ Salespeople may sell the machine, he said, but the installation supervisors are the bridge to a long-term relationship between the support, service departments and the customers.

Kaland said that Haugen is the key to new development leads. ‘Our service manager is our front line. It is impossible for the sales team to meet everyone,’ he said. ‘The installation supervisors at customer sites are good at identifying opportunity for customers.’ Laader Berg also uses agents from companies in complementary areas such as additive suppliers that have greater contact with foamers to act as its eyes and ears.

‘Modular machinery design makes it possible to upgrade and retrofit in the future, so customers can keep investment down. ‘We don’t run into problems with obsolescence,’ technical director Ove-André Strand-Larsen said.

‘We try to widen the horizon so that parts fit from generation to generation. The wet part is more tailor made. It is made using standard components, but each customer has different demands. The control system is fixed around Lenze; there is no reason to change, as it will communicate with other IT systems. We have long-term relationships with several pump and gear suppliers.’

The company dramatically changed the way that it made machines six years ago when it purchased a CNC facility. ‘By redesigning our product lines and investment in new warehouse and production machinery like metal folding machines and CNC machines, we have stopped pre-assembly the foaming tunnel and working platform,’ Vaagen said. ‘We have turned a lot of indirect and inefficient time into value-added production.’

‘A tour around the clean, modern, spacious factory reveals that production is arranged in clusters with all the parts near to the operator. ‘We use a visual can ban or two-box system,’ he said.

‘The supplier comes by twice a week, and if a box is empty, it is replaced with a new full box.’ An invoice is then immediately issued and paid.

‘Today it is all prepared part by part,’ said Strand-Larsen. ‘When the machine is sold, the parts can be picked off the shelf and assembled on-site. Most of the dryside components such as the tunnel are supplied from stock.’

**Thousands of combinations**

The company claims to keep bigger stocks of PLCs than wholesalers and a relatively large stock of pumps and gears. ‘We can assemble parts in thousands of combinations. We have about 95% of our parts in stock,’ Strand-Larsen said. Some pumps can have lead times of over six months and therefore they chose to keep them in stock for planned production, and this also gives them the capacity to respond to urgent needs for spare parts or replacements.

Laader Berg has no bank loans and has good working capital, Vaagen said. ‘This enables a strong, customer-oriented strategy with large stock of components and quick response to customer demands.’

‘That ability to address issues rapidly, allied to that Viking teamwork approach, means the partnership between the company and its customers is strong. As Strand-Larsen said: ‘A sale is not made in a month. It may be made over years, so you build a personal relationship. You are under each other’s skin. It’s not a trade; you develop a partnership.’
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Contact: Kay Wright
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6-9 June
NFPA Conference and Expo
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Tel: +1 617 770 3000
Email: exhibitors@nfpa.org

8-9 June
EuroPUR Annual Conference
Hotel Berlin Central District
Berlin, Germany
Contact: Raffaella Salerno
Tel: +32 2 741 82 81

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Web: www.feipiar.com

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9-10 November
PFA Fall meeting
Omni Mansion Del Rio
San Antonio, Texas
Contact: Kay Wright
Tel: +1 865 657 9661

2023
9-12 May
Interzum
Cologne, Germany
Tel: +49 606 077 050

About the graph

Global PUD consumption by end-use market 2021 (400kT)

The global market for PUD resins was stagnant between 2020 and 2021 because of raw material prices and shortages. While the overall size of the market was static in 2021, there is expected to be high growth from 2023, according to IAL Consultants.

The figures come from its most recent report, Global Overview of the Polyurethane Dispersions Market 2022. The largest markets for PUDs are in textiles and leather, followed by wood and furniture coatings, adhesives and sealants, and then the automotive sector.

Asia-Pacific is the largest consuming and producing region. PUD consumption in the region is expected to grow post-2023 and will be driven largely by the performance of the footwear business, the consultants added.

In 2021, the world market stood at 400kT dry tonne PUDs. Production in the Asia-Pacific region accounted for 186kT. In 2020, consumption fell by 4.5% in the Americas, 5.6% in the EMEA reagina and 1.7% in APAC as coronavirus led to production disruption in consuming sectors.

SOURCE: IAL CONSULTANTS

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