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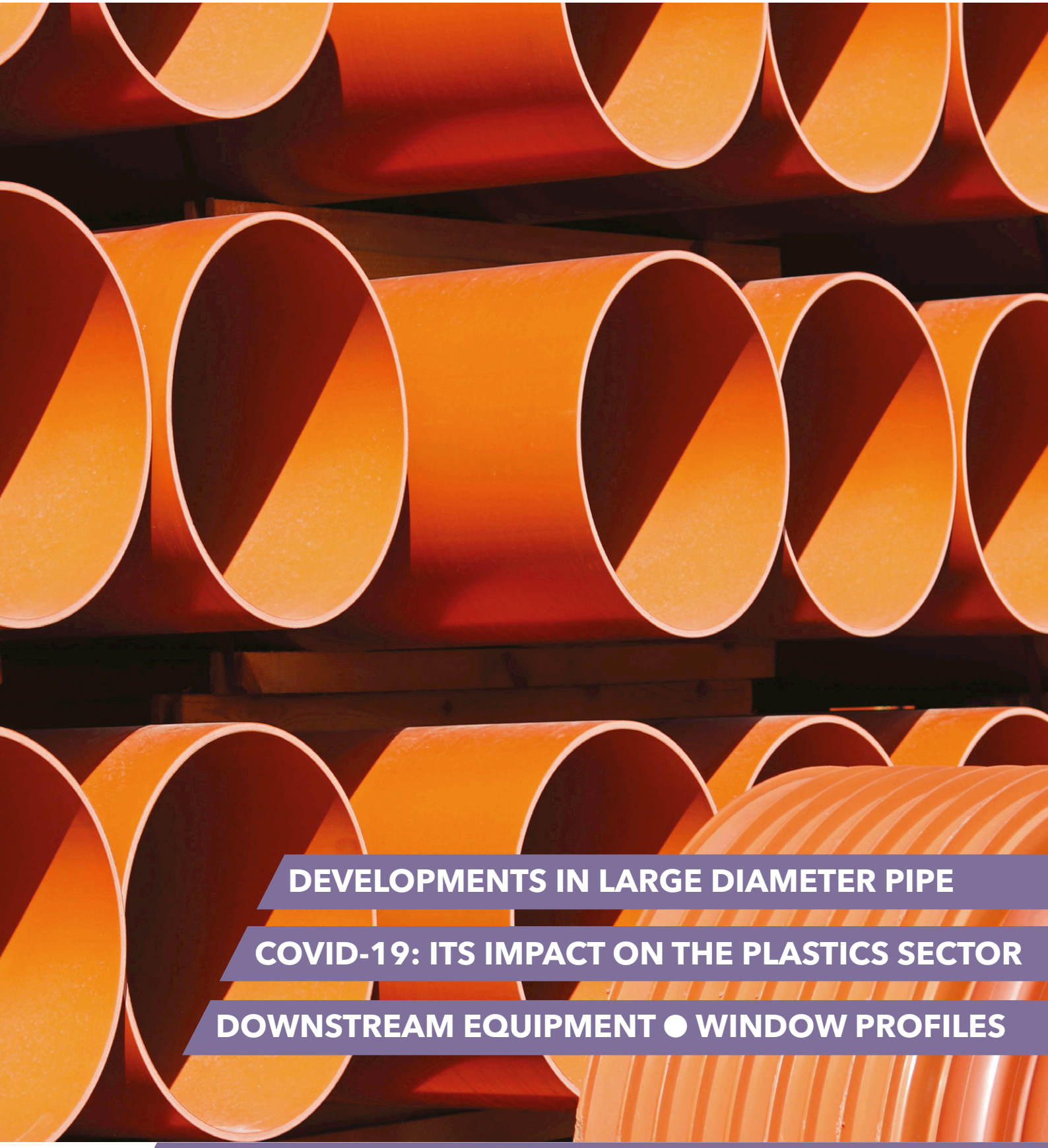

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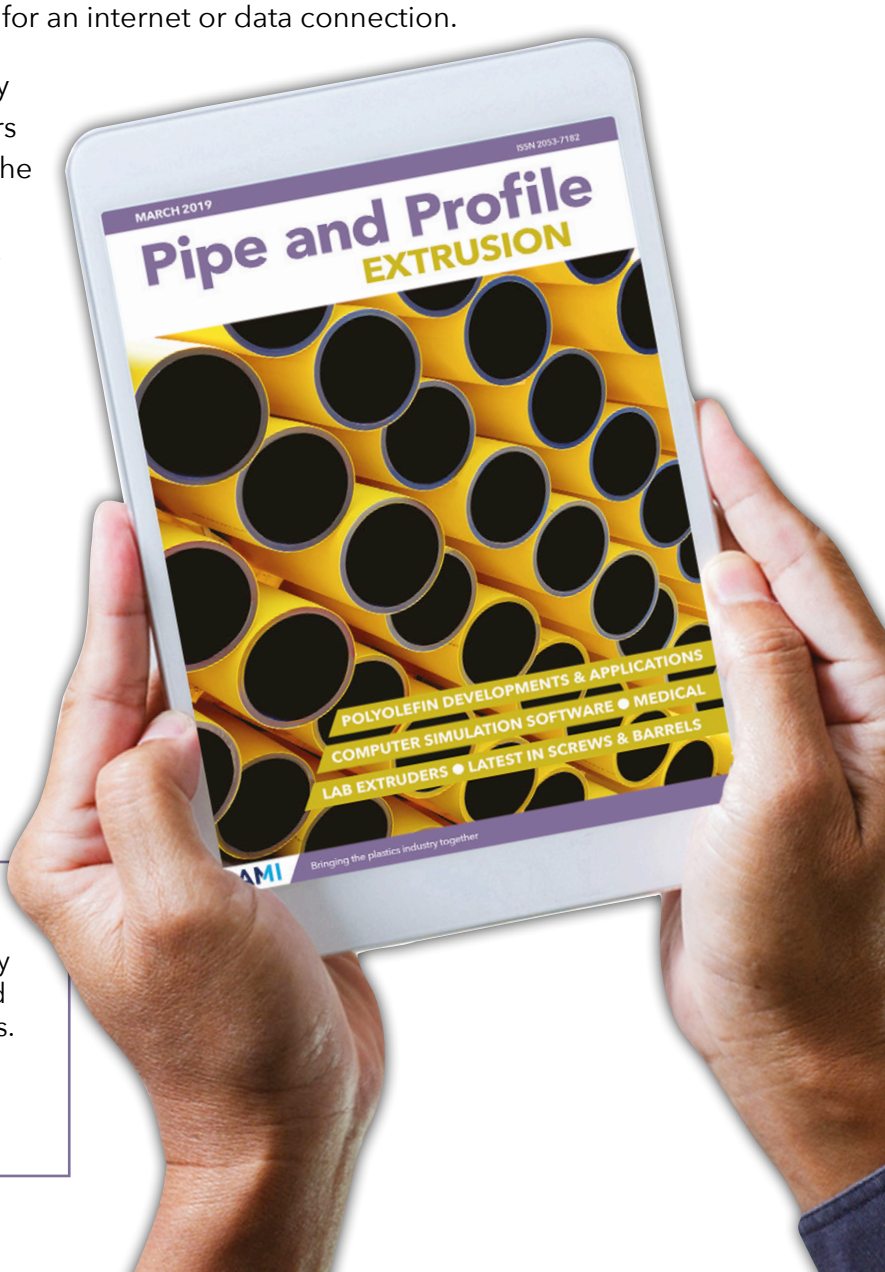

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BOOK YOUR PLACE

Uponor bucks the trend by growing in first half

Finnish pipe specialist Uponor has reported increased sales and profits for the first half of the year.

The company posted sales of €555 million (US$646m) – a growth of more than 2%. Its operating profit of €59m was nearly 50% ahead of the same period in 2019. For the second quarter, sales fell more than 5%, though profit was ahead by nearly 20% compared to H1 2019.

"During Q2, our net sales decreased mainly due to market slowness created by Covid-19 restrictions and related economic uncertainty," said Jyri Luomakoski, president and CEO of Uponor. "In many markets, activity started to pick up towards the end of the quarter."

Above: Luomakoski: "In many markets, activity started to pick up towards the end of Q2"

He said that all segments improved their profitability, thanks in part to "tight cost control and measures to right-size our personnel". The company's headcount fell by around 105 people in the first six months of the year.

Overall, performance in building solutions in Europe was down by about 1%, but up by 7% in North America. The company's infrastructure division also grew by more than 1% – and reported a one-third increase in profits after strong results in the Nordic countries.

The company says that continuing uncertainty will result in a slowing of new construction projects in both residential and non-residential segments in the third quarter. It has also declined to offer guidance on full-year results, due to "lack of visibility on the potential impacts of Covid-19".

› **www.uponor.com**

Veka UK loses 25 employees

The UK arm of window profile manufacturer Veka has shed 25 jobs, following a consultation process.

The company, based in Burnley, said that the Coronavirus pandemic had caused two of its important customers to collapse – which had a knock-on effect on its business.

The job losses represent less than 7% of the workforce. Veka said that it had originally planned to make close to 80 people redundant.

However, an upturn in sales in July and a positive outlook meant that a 'second phase' of redundancies did not proceed.

"I recognise that Covid-19 continues to impact communities and may, in turn, have further impact on business," according to Dave Jones, managing director of Veka UK – who is stepping down from his role in December to take a non-executive role at the firm.

› **www.vekauk.com**

Eurocell interim sales decline

UK-based window profiles manufacturer Eurocell has seen first-half sales fall by nearly one-third, as a result of the Coronavirus pandemic.

The company posted sales of £94 million (US$122m) for the first six months of 2020, which was 31% below the same period in 2019.

The company was closed between March and early May, in accordance with UK Government guidelines.

› **www.eurocell.co.uk**

Deceuninck posts reduced H1 sales and profits

Belgian profiles producer Deceuninck saw first-half sales and profits fall.

Sales in H1 fell to €289 million (US$336m), a decline of more than 7%. At the same time, an adjusted EBITDA of nearly €28m (US$33m) represented a decline of almost 8%.

While sales for the first quarter had increased by nearly 6%, those for Q2 were down by nearly 19% "due to various measures governments had to take to mitigate the spread of the Coronavirus".

Sales in Europe for H1 2020 were €147m (US$171m), a fall of 15%, while sales in Turkey and emerging markets declined by around 9%. However, North America saw a 15% increase in sales, to nearly €74m (US$86m), thanks to the acquisition of new large customers which compensates for the negative impact of Covid-19.

"Despite the significant impact of the Covid-19 pandemic, our performance remained highly resilient and allowed us to significantly reduce financial debt," said Francis Van Eeckhout, CEO of Deceuninck.

Net debt for HI 2020 fell by around 22% to €118m (US$137m), while sales performance in July "proved to be strong", said the company.

› **www.deceuninck.com**

Simona revenues fall in first half as North American sales slump

German plastics extruder Simona – whose products include plastic pipe and sheet – saw revenue dip by more than 12% in the first half of the year.

The company posted sales of just under €200 million (US$231m). The company ascribed this to a poor second quarter, a decline in its US business and a fall in demand from the aerospace industry.

"The effects of the coronavirus pandemic were clearly visible in the second quarter," said the company.

Year-on-year sales fell by 21% in Q2, compared to a dip of just 3% in Q1. Profitability (EBIT) for the first half of the year fell by nearly 20%, to below €15m (US$17m).

"EBIT rose markedly in Europe, whereas the USA saw a substantial decline in this key financial indicator," said the company. "The EBIT margin stood at 7.3%, compared to 8.0% for the same period a year ago."

Schönberg: "Against the backdrop of the global crisis, we are very satisfied with EBIT in the first half of the year"

While sales in Europe declined by nearly 8%, the fall in the Americas was just over 20%.

"Against the backdrop of this historic global crisis, we are very satisfied with EBIT achieved in the first half of the year," said Matthias Schönberg, CEO of Simona. "We are consistently pursuing our strategic goals of greater application and process orientation, which is illustrated by the acquisition of Stadpipe."

On 1 July, Simona acquired a 75% stake in Stadpipe, a Norwegian manufacturer of plastic pipe systems for fish farms. In future, the company says it will be the only supplier to offer pipes, fittings and sheet to the aqua-culture market.

Schönberg said it was too early to make a reliable forecast for the year as a whole. "Too much depends on the further course of the pandemic.," he said.

However, he said that the company will not achieve its original revenue target of €430-440m (US$498-510m).

› **www.simona.de**

Private equity for Molecor

Spanish private equity firm MCH has taken a "majority stake" in Molecor, the Spain-based producer of PVC-O pipes, fittings and machinery.

The takeover, which took place in August, has "significantly increased the company's capital, mainly to support future growth", said Molecor.

Molecor founding partners Ignacio Muñoz (CEO) and Jose Manuel Romero (CFO) continue to be shareholders, and retain their roles.

› **www.molecor.com**

Trex reports increased sales and profits in first half of year

US-based decking manufacturer Trex has reported a 9% increase in sales for the first half of the year.

The company, whose products are made from wood-plastic composites (WPCs), posted sales of US$421 for the period. Within this, sales of residential products rose 10% to reach US$396m. Profitability for the period (EBITDA) exceeded US$126m – a 35% increase on the previous year.

"Strong second quarter results demonstrated continued broad-based demand for our decking and railing products," said Bryan Fairbanks, chairman and CEO of Trex.

In Q2, sales grew by 7% to reach US$221m, while EBITDA rose 32% to more than US$67m.

Fairbanks said that the company's US$200m capital expansion programme is progressing on schedule, enabling it to meet continued demand growth.

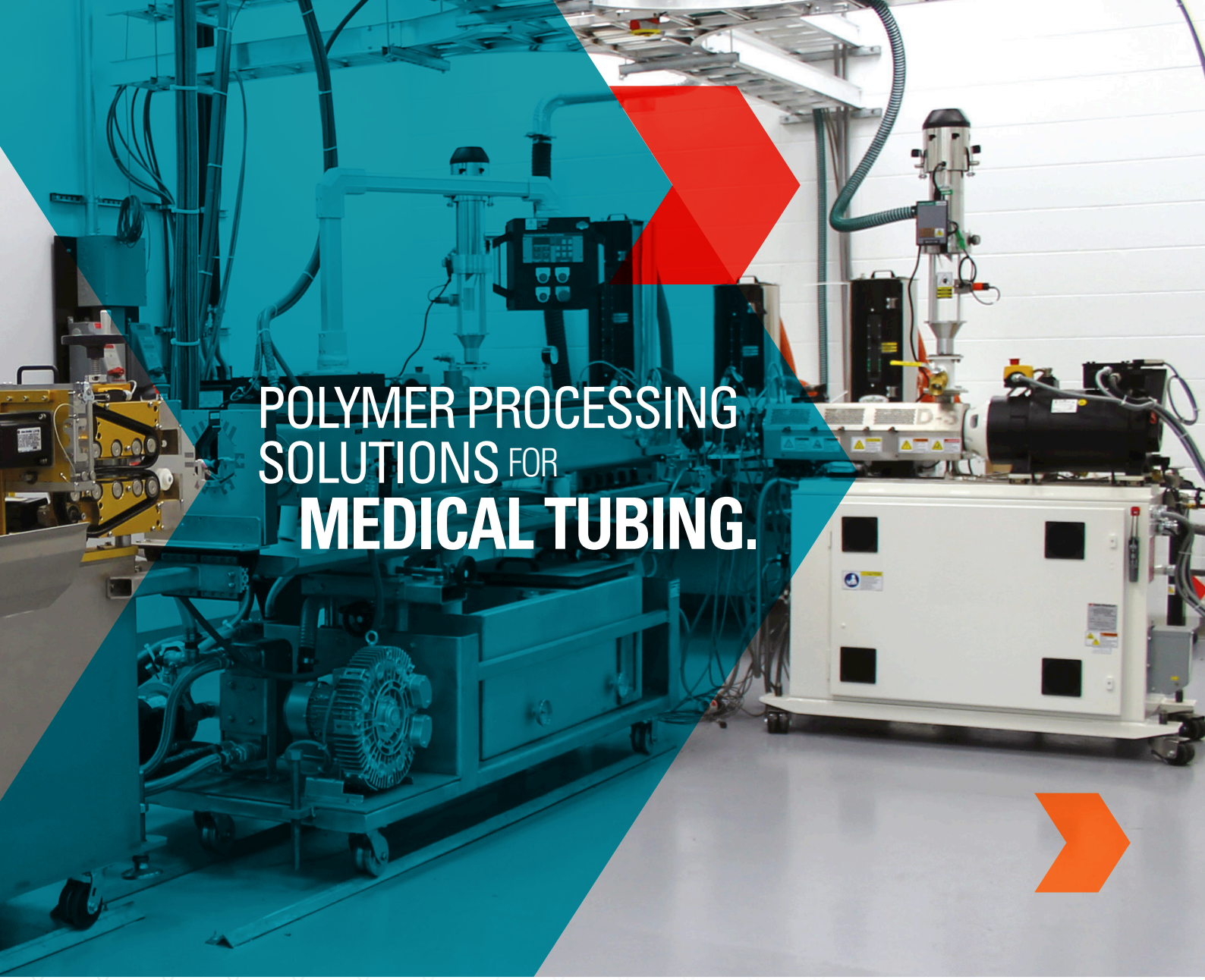
"We started three new production lines in our Nevada facility late in the second quarter and will continue to build out our new Virginia facility – which is scheduled to start coming online early in the first quarter of 2021," he said.

For the third quarter of 2020, Trex expects net sales of approximately US$215-225m, representing 13% year-over-year growth at the midpoint, he added.

For the full year, Trex expects to realise a gross margin of at least 45%, which includes extra expenses to deal with Covid-19. This compares to a gross margin of around 41% for 2019.

At the same time it expects full-year capital spending to be US$150-$170m.

› **www.trex.com**



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Tessenderlo extrusion falls by 8%

Belgian industrial group Tessenderlo recorded a small increase in sales for the first half of this year – though the division that includes pipe extrusion saw an 8% decline.

Group revenues rose about 1% to €935m (US$1.1bn) for the first six months of 2020, and a 25% increase in profitability (EBITDA) to €182m (US$213m). However, the industrial solutions division – which includes pipe extruder Dyka – experienced an 8% fall to €251m (US$293m). This equated to flat profits in the division.

"Dyka volumes were negatively impacted by the coronavirus pandemic in the period March to May – mainly due to the disruption of production at the French plant in Sainte-Austreberthe and the temporary closure of a number of JDP sales branches in the UK," according to the company.

› **www.tessenderlo.com**

German plastic machine orders fall in H1 2020

The German plastics machinery sector "nose-dived" in the first half of this year, with a 20% fall in orders compared to the same period in 2019.

VDMA, the trade organisation that represents German machinery manufacturers, said that this decline in orders is a continuation of poor results for 2019 – when exports declined by nearly 7%.

"The pandemic was the stab in the back for customer industries that had already been performing badly," said Thorsten Kühmann, managing director of VDMA. "However, we also notice that many machines are being supplied – particularly to the medical engineering and packaging sectors."

Exports for the first five months of this year were down by 19% compared to the same period in 2019, said VDMA. Sales to China and the US both fell by 3% due to the Coronavirus pandemic.

Above: Kuehmann: "Pandemic was a stab in the back for industries that had already been performing badly"

However, while the decline in exports to the US is "only the beginning", VDMA said there were positive signs for future exports to China.

Exports to several European markets were also affected, including Italy (down 31%), France (down 42%) and Spain (down 48%). While there was also a 73% reduction in sales to India, exports to Russia (up 28%) and Turkey (up 102%) both improved.

"The majority of manufacturers expect a turnover decline of up to 30% in 2020," said VDMA.

Most machinery manufacturers expect to wait until 2022 to see turnover volumes return to 2019 levels – although a few expect it to happen next year.

"For the second half of 2020, many expect incoming orders from Western Europe and China to recover, which indicates the first signs of a turnaround," said VDMA.

The organisation has also released full-year results for 2019 – which show 1% fall in sales and a 7% decline in exports.

Sales of core machinery slipped to €7.8 billion (US$9bn) – the first fall in 11 years – but more ominously, orders fell by 14% (fuelled mainly by a 24% decline in orders from the European Union).

› **http://kug.vdma.org**

Aliaxis reports 13% decline in first-half sales

Belgian pipes manufacturer Aliaxis has reported a 13% dip in sales for the first half of this year.

The company says revenue was €1.37 billion (US$1.59bn) in the six months to June, in preliminary results issued ahead of official audited H1 results later in September. At the same time, the company reported a profit of €189m (US$220m), which was down nearly 20% on the same period in 2019.

"After a promising start to 2020, the Covid-19 outbreak began to impact our business and results from mid-March," said Koen Sticker, acting CEO. "The most severe impact occurred in April, but we were able to recover some momentum in May and June."

Despite the reductions, Sticker said the results were "encouraging": for instance, results in the first two months of 2020 were ahead of the previous year, "driven by strong performance across all divisions".

In response to the Covid-19 outbreak, Aliaxis took immediate action to reduce costs, optimise working capital and delay certain investments. In addition, the divestment of Harrington Industrial Plastics in March increased liquidity – and helped to reduce net financial debt.

Aliaxis said the outlook for the second half of the year was "highly uncertain".

› **www.aliaxis.com**

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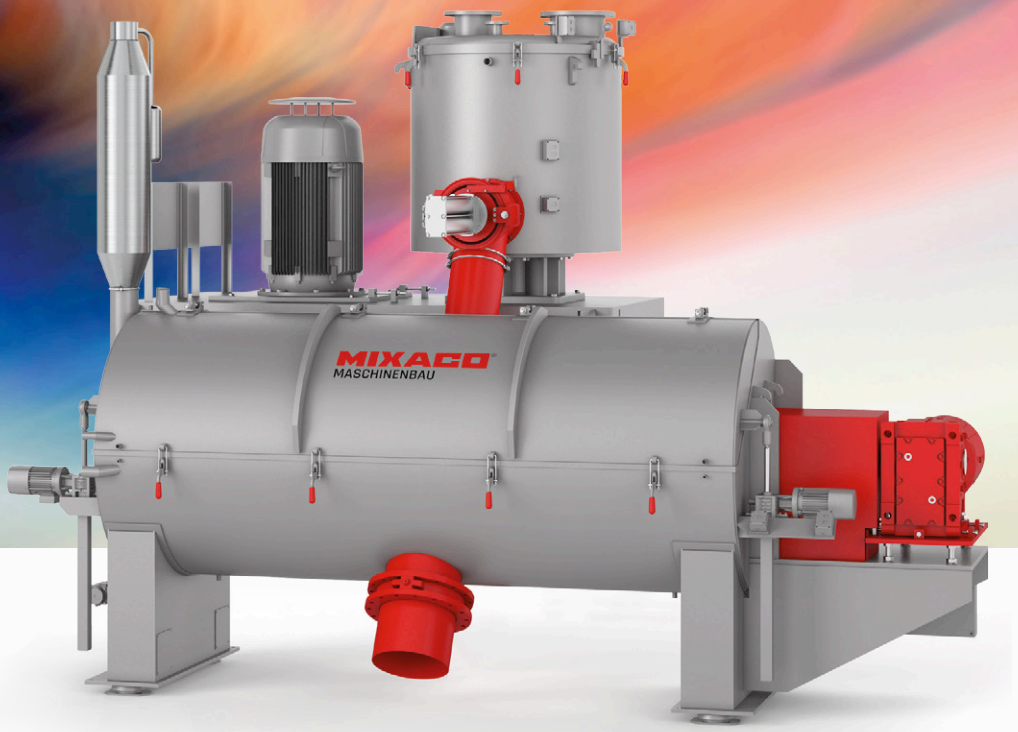







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AMI postpones European and North American plastics expos

AMI has announced that its plastics industry exhibitions – which were scheduled to take place in Germany in October and in the USA in November this year – have been postponed until June and November next year.

Ongoing uncertainty created by Coronavirus pandemic led to the decision to delay the Compounding World, Plastics Recycling World, Plastics Extrusion World and Polymer Testing World Expos according to AMI, which publishes *Pipe & Profile Extrusion*.

The four focused exhibitions will now be held at Messe Essen in Germany on 1-2 June 2021 and at the Huntington Convention Center in Cleveland, Ohio on 3-4 November 2021.

Rita Andrews, head of exhibitions at AMI, said: "We have been reviewing the fast-changing situations in Europe and America daily, and have been consulting with exhibitors, the venues, and local authorities.

Our primary concerns are for the health and safety of all attendees at our events, and delivering the very best audience for our exhibitors. With these factors in mind, we have taken the decision to postpone both expos to next year."

IMAGE: AMI

This year's events in Europe and the USA have been postponed until 2021

AMI announced the decisions to reschedule the events in early August of this year.

Andy Beevers, events director at the company, said: "We felt it was important to make and announce these decisions now, in order to end the current uncertainty and to allow exhibitors, speakers and attendees to plan effectively for the new dates. We have had tremendous support and understanding from the industry during this process and are now all looking to forward to returning to Essen and Cleveland with successful shows next year."

NEW DATES
Essen, Germany 1-2 June 2021
Cleveland, USA 3-4 November 2021

Admission to the four expos and their five conference theatres will continue to be free of charge. Registration for the Essen event will re-open later this year, while registration for Cleveland will restart next year. Visitors who have already registered for the 2020 events will simply be able to renew their free tickets for the 2021 exhibitions.

Any companies interested in exhibiting at the Essen or Cleveland events should contact AMI's expo team (on **exhibition_sales@ami.international**).

› **www.ami.international/exhibitions**

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Size matters: update on large diameter pipe

Plastic pipe diameters have risen steadily over the years and are used in a variety of applications – including one to expand the borders of Monaco

Main image: Reinert-Ritz produces couplings for increasingly large pipe sizes

Improvements in materials and extrusion technology have seen plastic pipe diameters continue to rise over the years.

Michael Ritz, managing director of German pipe fittings manufacturer **Reinert-Ritz**, believes that the size of polyethylene pressure pipe is only going to keep increasing.

He says that, since high pressure pipes were first developed in the 1930s, pipe diameters have steadily increased – following a definite pattern (see graph).

"When researching this, we noticed that there was no documentation on the development of the diameter of PE pipes in the market," he said. "So we contacted raw material manufacturers and PE pressure pipe manufacturers to develop the graphic."

Reinert-Ritz was looking back on the development of PE pipe systems because the company is celebrating its 50th anniversary in 2020.

"One of the decisive factors for the rapid spread of PE in pipeline construction was the array of economic advantages of the new type of pipe," said Ritz. "Unlike other materials, PE is corrosion-free – which over time has led to increasingly versatile applications, even for larger nominal pipe sizes."

A big leap forward – going hand-in-hand with larger diameters – was to produce long PE pressure pipes directly on the coast. The pipes were then extruded directly into the sea and towed to their destination. They could also be used to connect an island to the mainland: he cites the 80km 'peace water pipeline' – which delivers fresh water from the Turkish mainland to the island of Cyprus via PE100 pipe – as 'unparalleled'.

"The trend towards larger pipe diameters is favoured by the need to transport drinking water, sometimes over long distances," he said. "In addition, ever larger industrial plants are being built directly by the sea in order to be able to manufacture more economically. Using PE results in an increase of both the pipe diameters and the diameters of the necessary pipe connecting parts."

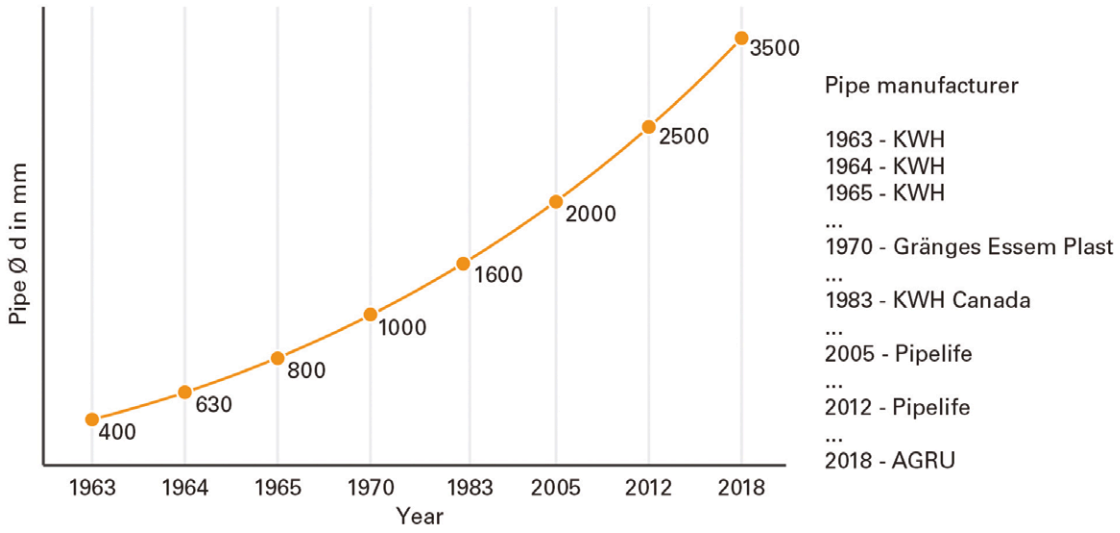
Metal extraction

Krah of Germany supplies both structured and solid pipe and has been active in the large diameter pressure pipe sector since 1995. Its helically-extruded pressure pipes are now produced from DN/ID 300mm to DN/ID 5,000mm in custom or standard pressure classes.

The company says its helical process can produce any wall thickness with no sagging or frozen-in stress. This production flexibility means Krah pipes have, for decades, been used by pressure pipe producers for fabrication of fittings, especially sub-ends and

PE pressure pipe diameters have grown steadily over the years. This analysis by Reinert-Ritz tracks developments in continuously-extruded large pipe designs (non-continuous helically-extruded pipe types not included)

Source: Reinert-Ritz



T-branches. This flexibility was exploited in a recent project for Jaeger Kunststoffwerk to supply a crystalliser to extract tantalum metal at chemical plants in Germany and Thailand.

The main purpose of the crystalliser is to generate crystals from a hot solution of tantalum salt solution and hydrofluoric acid. As it cools, the solution becomes oversaturated and crystals begin to form. The size and density of the crystals define the quality of the product. Therefore, temperature and agitator control are vital within the process. The crystalliser is designed for a maximum operation temperature of 95°C.

Jaeger has a long history of making this kind of apparatus, and of working with plastics. Crystallisers are a challenging product, due to the sensitivity of the chemical process and the need for highly accurate temperature control, says Krah. The crystallisers are made of polypropylene (PP) homopolymer due to its high temperature resistance, low thermal conductivity and low thermal expansion.

Krah pipes were chosen because they can be tailor-made according to the customer's specific requirements. The wall structure can be structured with an internal hollow profile and can change within the pipe. The pipe, made by Krah at its plant in Schutzbach, Germany, has an internal diameter of 2000mm and outside diameter of 2200mm.

It was produced on a preheated steel-mandrel in several layers to achieve the necessary wall profile and thickness. According to requirements, the pipe wall includes a strong inner wall, a spiral hollow profile for controlling tempering fluid during operation later on and a strong outer wall. Both ends of the pipes are homogenously closed during production by solid wall. All dimensions – such as wall thicknesses, spiral shape and diameter of the hollow profile – are made according to Jaeger specifications.

In this project, the PP homopolymer was the BE60-7032 grade from Borealis, which is approve by DIBt, the German-based technical authority and service provider for the construction industry.

The PP homopolymer acts as an insulator, so active cooling is required. It is done by integrating cooling pipes into the cylinder shell, while three extra cooling fingers are installed though the cover of the vessel. The design must consider all static and dynamic load cases. Assembly must be accurate: in particular, the contact area between the PP crystalliser and steel-frame must match – to avoid unnecessary stresses. Before leaving the factory, the crystalliser is quality-checked and tested. The integrated cooling pipes in the cylinder – and the cooling fingers -- must pass a pressure test at 3 bar for 24 hours.

Land extension

Agru is playing a role in helping Monaco – the world's second smallest country – to extend its borders into the sea, in the form of a new 60,000m^2 district.

A fortified platform consisting of concrete and sand will be filled up in the sea. Agru is supporting the project with XXL pipes – which serve as outfall pipes for clarified wastewater and stormwater.

When completed in 2025, the Anse du Portier Monaco will house apartments, shops, gardens and a marina – at a development cost of around €2 billion (US$2.3bn). It will sit 6m above sea level.

The project began in 2016, by relocating protected marine species. Since then, the foundations have been filled with 600,000 tonnes of sand. The new land must withstand tides and seismic forces, so will be secured with caisson walls. Each caisson weighs about 10,000 tonnes when filled with quarry material.

The foundations also contain the necessary infrastructure of the new district. Agru will supply

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Righ: Jaeger's crystalliser is made from PP homopolymer by Krah

several hundred metres of PE XXL pipes in outside diameters of 2500mm and 1400mm in SDR 26 for sewage and stormwater infrastructure, from its two large-diameter pipe plants in Austria and the USA.

Agru will also provide special large flanges made of a specific steel quality. Production of the extra-large fittings and pipe spools is carried out by the installation company onshore close to the site, by means of butt welding. For this, Agru has provided the required welding machine, product design and technical support. Due to the large size of the prefabricated pipe spools, they are transported on a barge to the site for offshore installation.

The installation on the seabed is demanding. Because the saltwater, ocean currents and rocky terrain is a difficult environment for any material, the Agru XXL piping system and associated fittings (made from PE 100 RC) had been chosen by the client and main contractor. The high resistance to slow crack growth of PE 100 RC pipes and fittings – resulting in a better point load capability – were required to increase safety and service life under these extreme operating conditions. In addition, the PE 100 RC pipeline is the best choice for this offshore pipe project, because of its corrosion resistance and flexibility, says Agru.

The pre-fabricated pipe spools are lowered to the seabed, after adding ballast weights to the pipe spools, in a pre-excavated trench. On the seabed, divers connect the pipe spools together using flange connections.

■ Separate to this – in its 2020 awards – Agru commended a project by its partner, Agru Korea Industry, which was responsible for managing the Kali project in Kuwait.

IMAGE: KRAH

Here, it said, the world's "largest fully pressure-resistant HDPE pipe was installed". Agru produced the pipe at its XXL pipe production facility in the USA and towed it across the Atlantic and Indian Oceans to Kuwait. The company manufactured extra-long pipe strings – with maximum lengths of 523m and maximum outside diameters of 3,260mm – for the seawater intake and outfall line of the process water circuit at its facility.

Going large

At last year's Ozpipe event in Australia, UK-based consultant **Simon Thomas** presented details of a variety of projects that use **Weholite** large diameter structured wall thermoplastic pipes.

They were: a 10,000m^3 flood alleviation scheme

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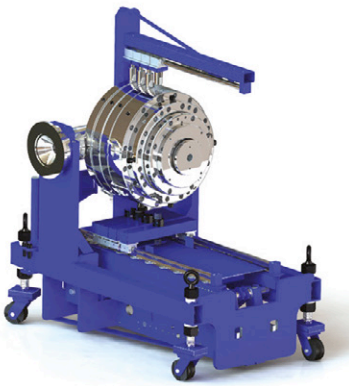

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Right: Agru provided a huge welding machine to make the pipe spools

in Scotland, using 2600mm internal diameter HDPE pipe; large intake and outfall pipelines for a large refinery in Asia; and an installation for a 3000mm diameter marine outfall in London.

"In the last few years, large diameter HDPE pipes have witnessed greater acceptance and strong growth in usage, particularly within the water industry," he said.

The first project was initiated in order to improve water quality at Irvine Bay in Scotland, caused by sewer overflows. The answer was to reduce the discharge from combined sewers by building an underground 'overflow' tank.

The design uses structured wall HDPE (SWH-DPE) pipe, in 15m lengths. In all, it uses around 2km of pipe. Compared with traditional reinforced concrete, these pipes were a more efficient alternative. From initial excavation to completion of backfilling, the SWHDPE system was installed in three months. Choosing SWHDPE also meant a smaller footprint on-site, he said.

The second project involved Petron's oil refinery in Bataan, which was expanded in 2015. The design consortium chose to use an SWHDPE system and brought in a team of experts from Uponor in Finland to oversee its design, delivery and installation – which included all intake and outfall pipelines, diffuser structures and a thermoplastic 'super-size' intake structure, made from SWHDPE profile panels.

"Structured wall HDPE pipes and panels can easily be welded together and do not corrode in the harsh salt water of marine applications," said Thomas.

Connecting pipelines were made of 610m of 2400mm internal diameter pipes. The pipes were joined in strings of 105m and submerged using the S-bend technique, using inflatable bags to control the sinking.

As well as the intake pipeline, there was a further 450m of 2200mm internal diameter pipes, installed as an outfall pipeline, using bespoke designed diffusers. The depth of submersion for both the intake and outfall pipelines was in the range of 12 to 18m.

Below: Weholite pipe was used in the Beckton Lee tunnel in London

IMAGE: AAMM FRANCE

As part of the redevelopment, a thermoplastic 'super-size' intake structure, made from a new patented concept known as Wehopanels – HDPE structured wall panels – was delivered. This system is lighter, faster to install, and so better value than traditional solutions for intake structures.

"Although this was not the first time SWHDPE pipe had been used for marine work in Asia, it was a milestone in the Philippines – the first time it had been used as the lead material for an application of this kind," he said.

The third example was as part of the outfall culvert of the Beckton Lee tunnel – part of London's huge sewage system. The project involved 880m of 3000mm diameter SWHDPE pipes laid as a twin culvert along with 12 large-scale Wehopanel SWHDPE boxes.

The original design had a concrete culvert as part of the design documentation. However, switching to a twin SWHDPE pipeline brought several advantages, including: a substantial weight reduction in the unit weight of the culvert; increased flexibility in the axial direction; and no need for piling to support the culvert, only a gravel bedding.

"The scale and scope of this installation meant that it became the UK's largest thermoplastic outfall pipeline and represented the UK's first ever subsea installation of a sectional installed multi-directional sewage pipeline," said Thomas.

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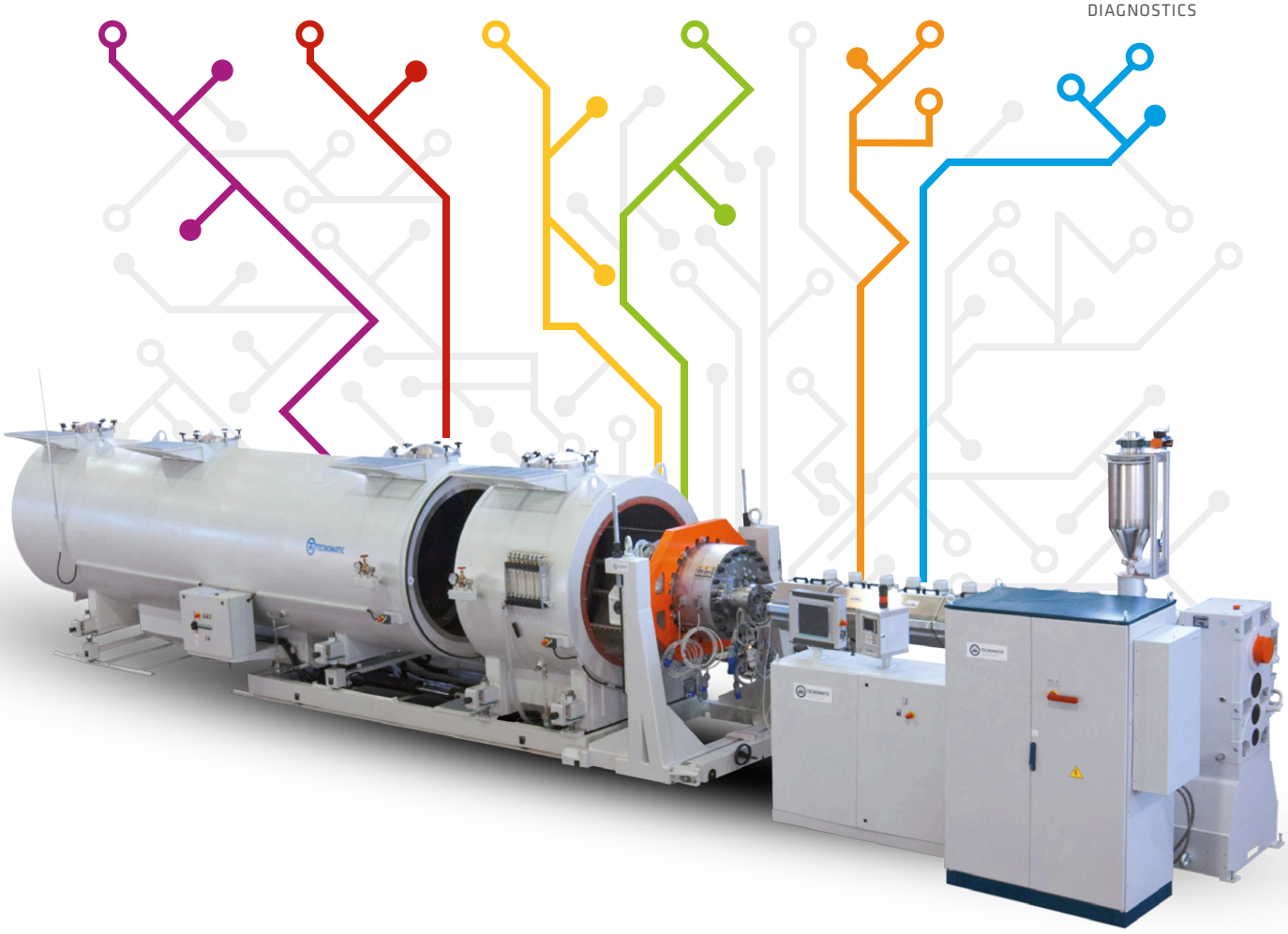

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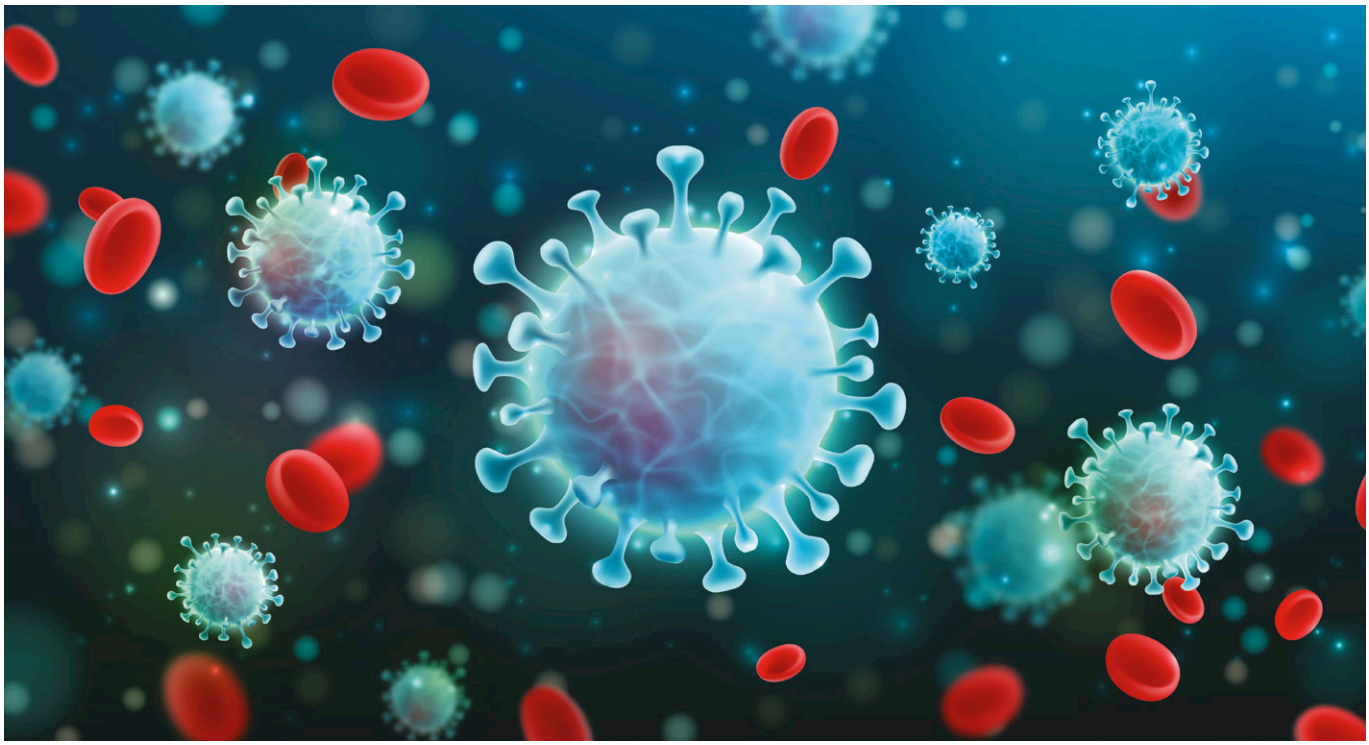


IMAGE: SHUTTERSTOCK

Gauging the business impact of the Covid-19 pandemic

The Covid-19 pandemic has hit the global economy hard. A new survey by *Pipe & Profile Extrusion* publisher AMI measures the impact on the plastics industry and expectations for recovery

The global plastics industry has certainly not escaped the impact of the Covid-19 pandemic with more than 60% of businesses experiencing a reduction in activity of 10% or more over the first half of the year, according to the findings of a global survey of plastics industry business sentiment carried out by *Pipe & Profile Extrusion* publisher AMI in the second half of June. However, the survey also reveals a high level of optimism among plastics industry players – more than 60% of respondents expect their business to have returned to per-Covid-19 levels by the end of 2021.

Unsurprisingly, the AMI survey confirms that the impact of the Covid-19 pandemic on the plastics industry was both sudden and significant. Most respondents experienced a negative impact on business activity during the first half of the year with a significant minority seeing their activity decline by 20% or more. It was also clear from responses that the impact of Covid-19 was felt at different points in time around the world – China in the first quarter, the rest of Asia together with Europe and North America around March, and South America and the Middle East and Africa through Q2. Aside from the timing, however, the business impact appears very similar in each region.

For the majority of the participating businesses – some 70% - the impact on their business was negative in H1, with 40% seeing a reduction in activity of 20% or more. The data shows that resin producers and masterbatch makers experienced some of the biggest immediate hits, most likely as a result of processors taking the opportunity to de-stock and use up inventory (which may correspondingly mean they see a faster pick-up). Companies active in automotive and transport were also hit hard, with 91% reporting a negative impact and more than 60% seeing a decline of 20% or more on H1 2019.

However, 14% of respondents reported no significant impact on their business, and 14% identified better than expected levels of activity. Businesses involved in flexible food packaging markets were the most bullish, with 30% of those experiencing an increase in business activity in the first half of the year compared to an industry average of 10%.

In terms of the challenges the pandemic presented to plastics businesses around

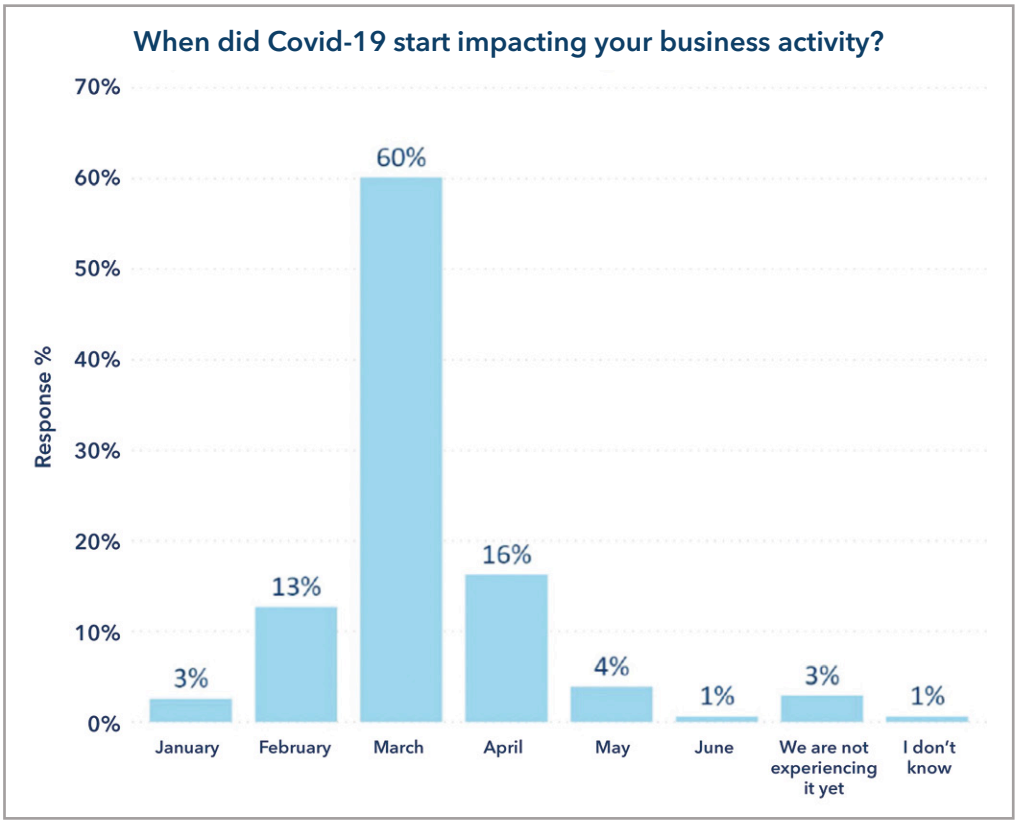
the world, the biggest by some margin was the sudden drop in demand, which was identified by 66% of respondents. Other key challenges included staff working from home (cited by 49%), implementing Covid-19 workplace safety measures (44%), logistical difficulties (31%) and material shortages (28%). For a minority of firms – 20% – the need to meet sudden demand spikes was a significant challenge.

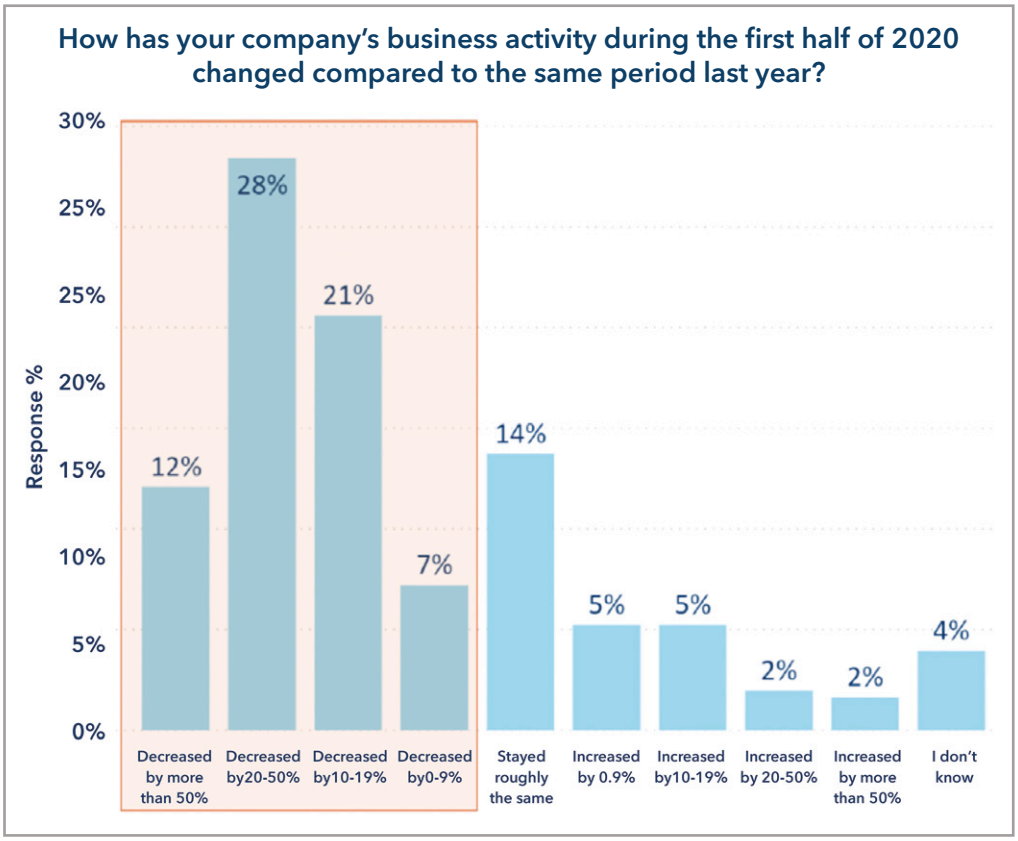
Production impact

Given that the majority of these and other less commonly identified business challenges were negative, it is no surprise to see that production capacity was impacted. Almost half of respondents (48%) said production was reduced against just 8% that recorded increases. Capital investment plans have also been negatively impacted with more than 40% flagging an immediate or significant reduction. Spending on new product development and sales and marketing remain neutral across the surveyed companies (meaning any intended reductions are balanced by planned increases).

In terms of the response to the Covid-19 challenges, the most intense focus is identifying and targeting new market opportunities. This was cited as a priority by 49% of respondents. Other common actions mentioned by respondents included renegotiating supplier contracts (23%), reducing sales prices (22%), identifying alternative materials and components (20%), and collaborating more closely with local companies (19%).

Other responses include reducing staff training (16%), streamlining product lines (15%), extending maintenance schedules (14%), and delaying supplier payments (13%). Despite the disruption the pandemic caused to global supply chains, only 3% of respondents said reshoring of production was a priority.





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The number of respondents was too small to be certain on any sectorial trends, but companies involved in flexible non-food packaging and rigid packaging showed a slightly higher interest in localisation of production.

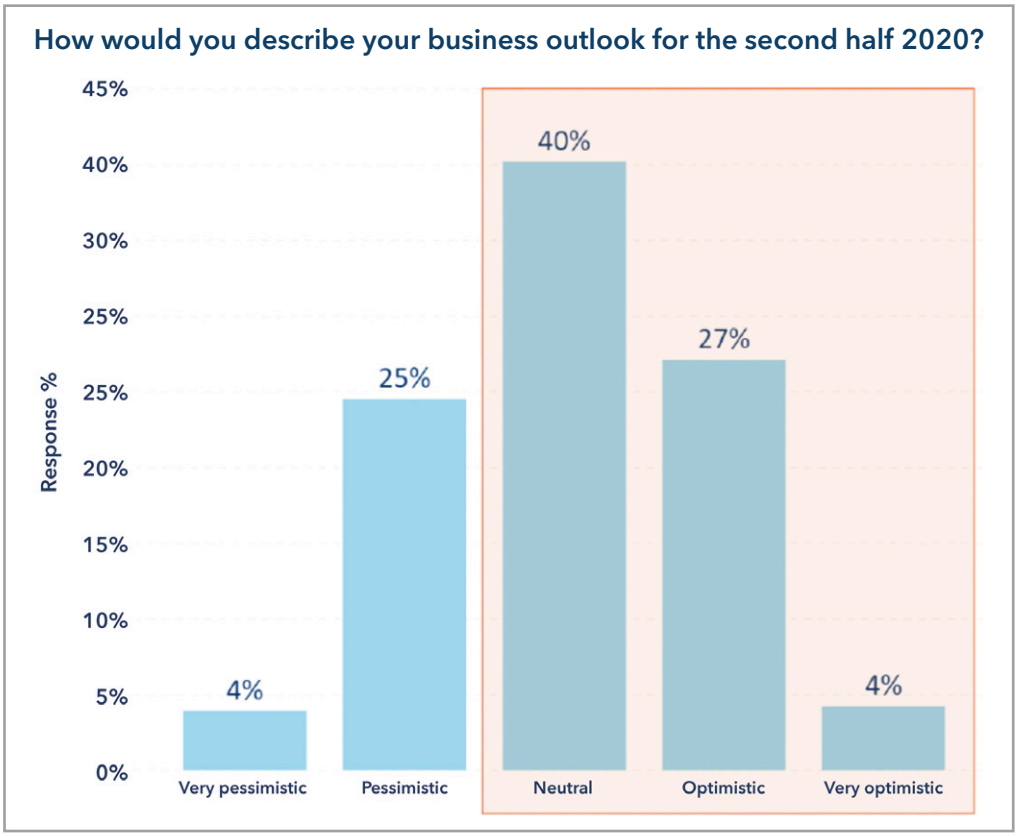
Optimism evident

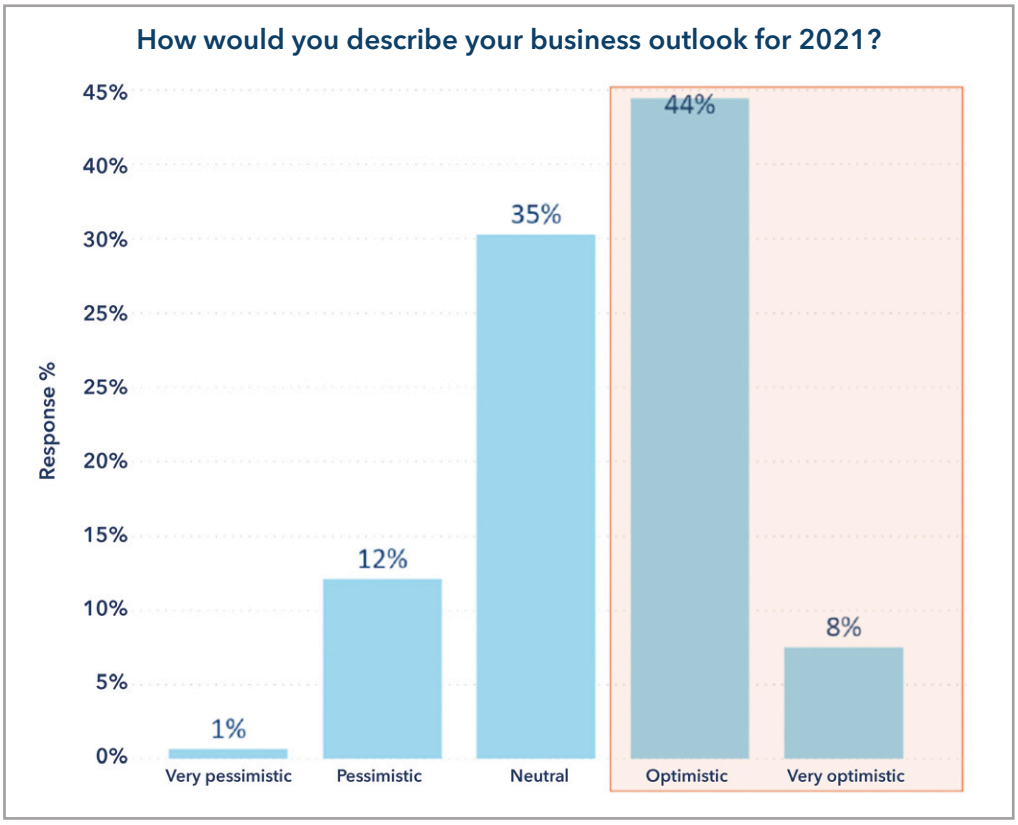
The survey confirms that many plastics companies experienced business conditions and impacts on an unprecedented scale and with no forewarning. However, optimism remains intact across much of the sector. More than 30% of respondents said they were optimistic or very optimistic for their business in the second half of the year, rising to more than 70% when including those with a neutral (no better, no worse) view. Less than 30% held a pessimistic view while 21% expect their business activity to return to pre-Covid-19 levels during this year.

Extending that timeframe to 2021 reveals an even brighter outlook, with 52% of respondents holding an optimistic view against just 13% pessimistic. In fact, the survey reveals 64% of respondents expect their business activity to be back to pre-Covid-19 levels by the end of 2021. Of those expecting a slower return to pre-pandemic activity levels, 30% are forecasting 2022 and just 6% beyond that.

In terms of the strategic actions plastics business are planning over the next two years to realise this recovery to pre-Covid-19 levels, the majority of companies said they will maintain or increase their activity in research and development (88%), sales and marketing (89%), and new product development (89%).

More than 60% of respondents said they would also increase their efforts to develop new markets. In terms of market focus, the survey revealed a 5% swing among respondents to medical and 2% swings to non-food flexible food packaging and to construction/infrastructure. Automotive and transport,





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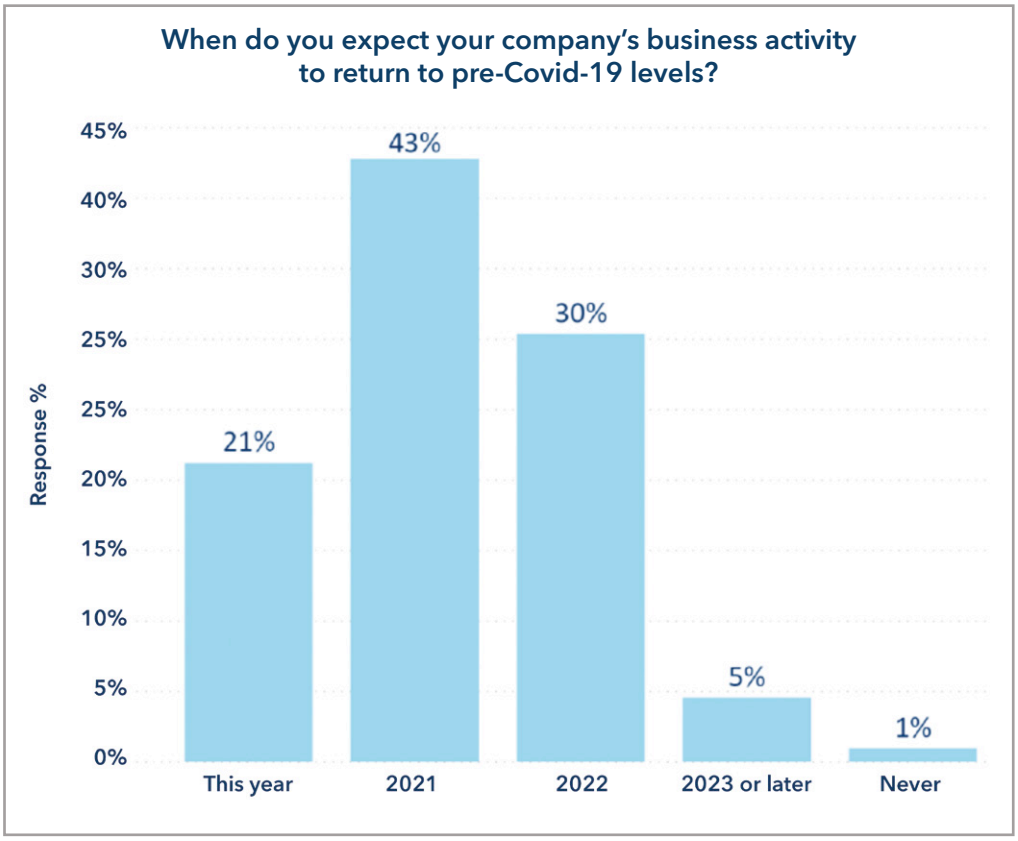
however, saw a -4% swing. That suggestion of the waning appeal of automotive is, perhaps, unsurprising given the stress the sector has experienced during the pandemic, with many car plants at a complete standstill.

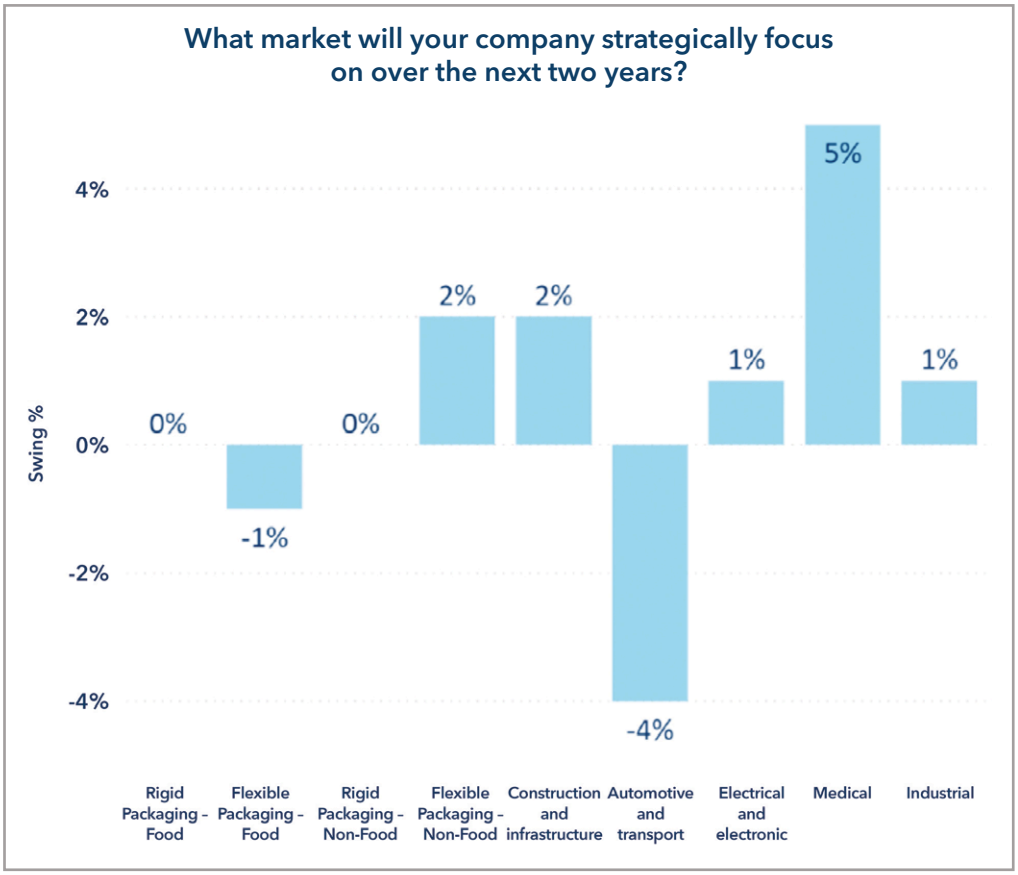
About the study

This article is based on a survey of the business sentiment, experiences and plans of 306 plastics companies around the world carried out by *Pipe & Profile Extrusion* publisher AMI over the period from 24 June to 5 July 2020. Responding companies were located in all five regions of the world and covered the entire plastics industry supply chain.

Classified by geography, 57% of survey respondents were based in Europe, 21% in North America and 15% in Asia. Analysed by position in the plastics industry value chain, 27% were processors, 16% resin suppliers, 15% machinery suppliers, 12% additive suppliers and 12% compounders. Plastics end users accounted for 3% of the survey respondents and recyclers 4%.

In terms of principal plastics markets, 21% of survey participants were involved in flexible food packaging, 13% in automotive and transport, 12% in construction and infrastructure, 8% in rigid food packaging and 5% in electrical and electronic. Non-food rigid and flexible packaging accounted for a further 7%.





The data was reported and discussed online in AMI's Plastics and the Pandemic Virtual Forum on 21 July 2020. That can be viewed on demand HERE.

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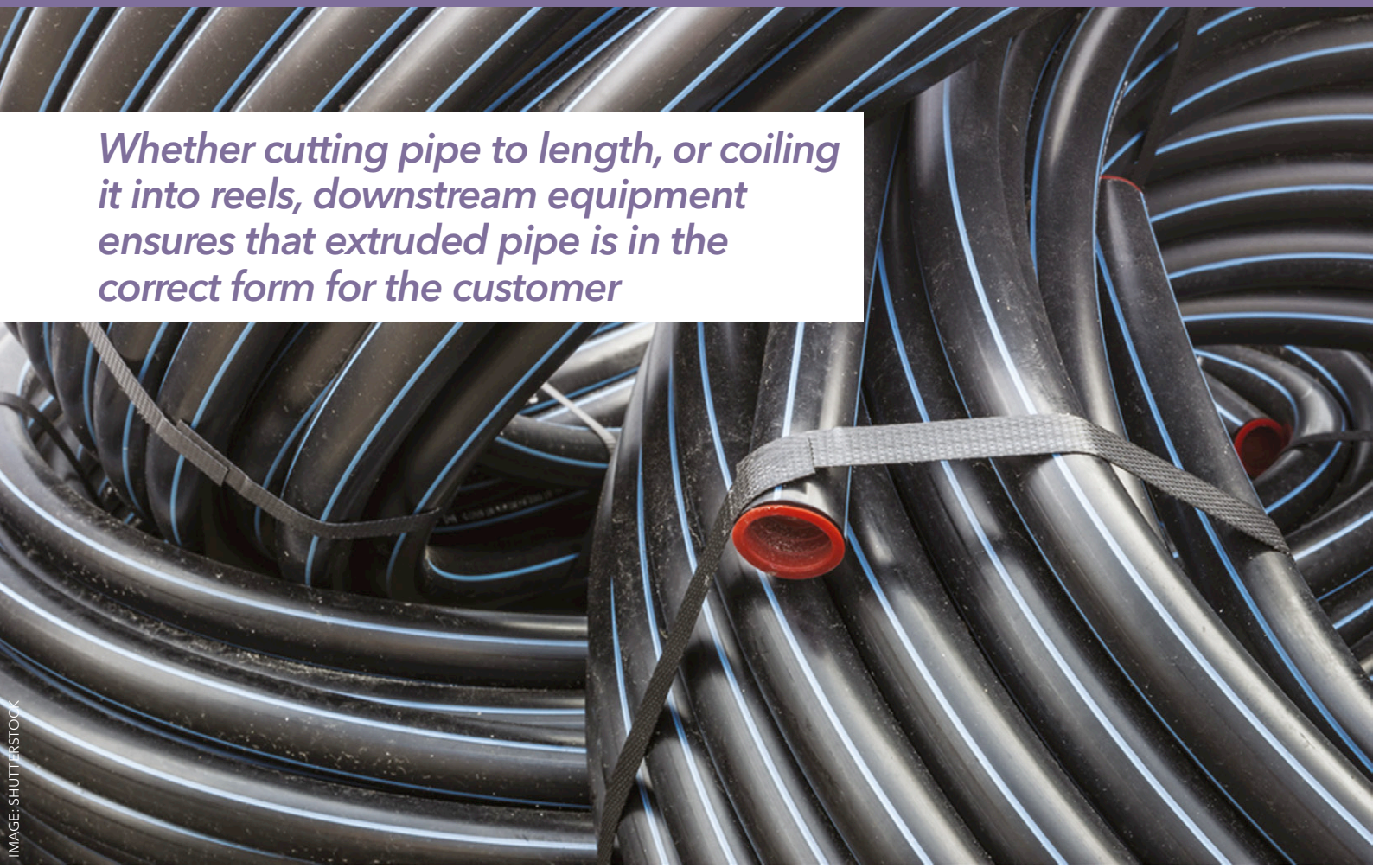


Whether cutting pipe to length, or coiling it into reels, downstream equipment ensures that extruded pipe is in the correct form for the customer

IMAGE: SHUTTERSTOCK

Reel world: advances in downstream equipment

Plastic pipe can be an unwieldy product, so once it has been extruded it needs to be either cut or coiled, in order to make it more convenient for customer use.

FB Balzanelli of Italy has introduced three new large diameter pipe coilers to its range.

The new models are: MSR3065PE for coiling pipes up to 110mm; MSR3015PE for pipes up to 125mm; and MSR3515PE for pipes up to 160mm.

All the models share a set of common features: all are single reel with the outer cut of the pipe and can clamp the pipe automatically or manually, depending on customer preference. Each is available with one or two strapping units and can execute automatic intermediate, final or double final straps through operator selection.

At the end of the strap operation, coilers can eject the coil automatically or semi-automatically, depending on customer needs, or the factory's layout.

Another important feature is modularity. A user can add extra components and customise the machine at a later date. For instance, adding a strapping unit – or a haul-off to reduce pipe ovality during coiling (Round Pipe Technology).

The models allow high speed coiling and packing, which boosts productivity.

Prior to this, Balzanelli developed its FB ML7 4012 and FB ML7 4024 models – in partnership with Lunardon – for coiling smooth PE pipes up to 180mm in diameter, and the FB5200PE for coiling PE pipe up to 250mm.

Main image: Pipe coilers need to work quickly and accurately to collect extruded pipe into reels

Automatic strapping

Conair says that a new coil strapping system for its ATC series of tube coilers automatically straps finished coils of small-diameter extruded tubing – helping to protect extruded tubing and simplify handling.

The system handles coils up to 24in (61cm) in diameter, and prevents both tube damage and unravelling. This makes the coils easier to grasp,

Right: FB Balzanelli has added three new large diameter pipe coilers to its range

handle and move, says Conair. It uses roll-fed PP and PET strapping and is FDA compliant for medical-tube applications.

The optional system comes in two pieces. The first is a separate steel stand that holds two large strapping rolls, which is positioned about three feet (1m) from the end of the ATC coiler. The second piece is the automatic strapping head unit, which is mounted on a steel base that attaches directly to the base of the ATC coiler on the coil-outlet side. This comprises a strap guide roller, alignment arm and combination strap cutter/welder head that affixes, cuts, and welds the strap material onto the coil.

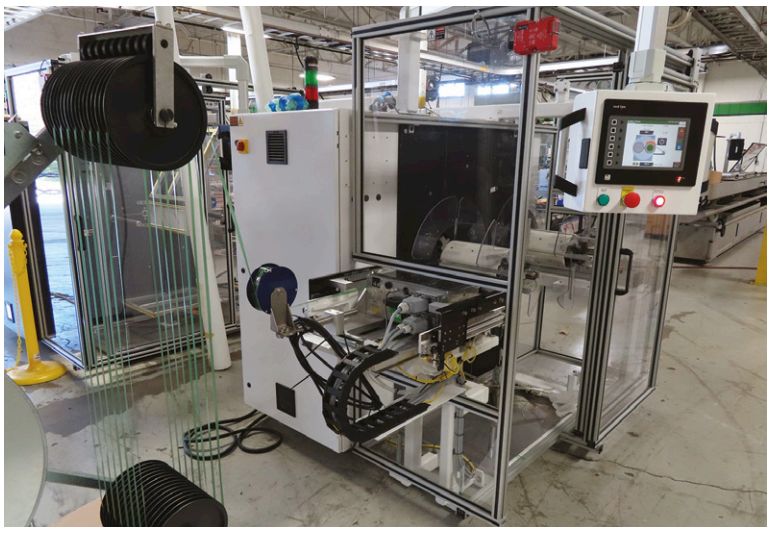
The strapping system control integrates directly with the ATC coiler control via a secure Ethernet communications connection.

The strapping system is fed by two 12,700ft rolls of PE or PET strapping material, each containing enough material to wrap up to 4,400 coils with one strap or 1,100 coils with four straps. If strapping material runs out, the coiler's automatic in-line accumulator ensures that tubing production continues while new strapping rolls are loaded. No line shutdown is required.

The system is available as a factory option for new ATC coilers or as a retrofit for existing units. Conair introduced the dual-spindle automatic cut-and-transfer ATC series coiler in 2013 to provide tensionless, high-speed winding of small-diameter flexible tubing in sizes from 0.040in (1mm) to 0.5in (12.7mm) on coils up to 24in (61cm) in diameter.

Conair is planning extra features – including automatic unloading, conveying and wrapping of strapped coils – for future release.

Below: Conair's coil-strapping system is offered with new ATC series tube coilers, or can be retrofitted to older models



Coiling tips

Maillefer – a subsidiary of **Davis-Standard** – says that selecting the right coiling and reeling technology for an extrusion tubing application is essential.

"Keeping the tubing together while maintaining tube integrity during transport is what it's all about," said the company. "It's also imperative to ensure operator safety during unloading."

To help companies improve their coiling and reeling processes, Maillefer has put together three key tips.

Its first tip is to use the latest drive and control technology. The winding pitch should be automatically calculated using pre-programmed tube sizes while allowing fine-tuning during production, it says.

"The dancer should have modern sensing technology for an extra-light touch on the tube," said the company. "This is especially important for medical tubing, where we recommend a contactless dancer to ensure product quality."

The end limits for reversing winding direction should be given by adjustable sensors, which allows for full edge-to-edge lays. This includes defining how a full reel is completed, either at its exact length or just a bit more to finish the lay-up to the edge.

Secondly, coilers should always ensure operator safety. Dual coiling, safe fully automated transfers, and ergonomic handling all play a role in operator safety, while boosting the quality of finished coils or reels.

Cut-off, strapping and coil unloading should be done automatically and safely within an operator-free enclosure.

Reels that unload from the front side should be at a convenient height for the operator. The unloading door should be positioned to protect the operator from the winding side of the machine when opened.

Reels that unload from the back side should be at a convenient height for the operator. A reel-lift should be used for large reels. As with front side machines, the unloading door should be posi-

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Right: Baruffaldi says that its iCut pipe-cutting technology differs from conventional systems by having no planetary blade

tioned to protect the operator from the winding side of the machine when opened.

Thirdly, it is wise to consider the specific application – as these will require varying conditions.

Some types of tubing – such as automotive, heating and plumbing, irrigation and micro-duct – are typically wound on strapped coils. Tubing should be run at a constant speed without interruption or ramping during coil transfers. Optional automatic coil ejection onto a trolley or reception table is recommended.

Cutting and pulling

Maillefer offers a number of downstream components for pipe production lines and recently launched two new products: a puller/cutter, and a new cutter.

The MPC 14 combines pulling and cutting in a single component. It is aimed at medical extrusion lines producing small diameter flexible tubes, from very short to very long lengths.

A high-speed, rotating blade cuts tube with high accuracy and precision. Depending on the tube produced and its use, desired cut lengths vary from very short sections (such as 20mm) to longer ones (such as 4000mm). At the same time, a straight-through feature allows the cutting head to be disengaged when a coiler/reeler is positioned downstream.

The knife blades are easily accessible for replacement or maintenance. Control functions are centralised on the front panel for easy reach. Downstream options include: integration with a reception bin for short lengths; a conveying belt, which comes in either a 2m or 4m cut length version; and a coiler/reeler for nearly limitless lengths.

Features include: maximum tube diameters of 14mm; maximum line speed of 300 m/min, and cut frequency of 2000/min. It also has a cut length accuracy down to ±0.5mm.

It has also developed the CMB 32, which is designed to cut medical or automotive tubes with high speed, accuracy and precision.

The modern drive system allows a wide speed range. Both low and high torque versions are available, depending on the diameters of tube produced. Options include a reception table as well as a straight-through feature when coiling is preferred over cutting.

It can handle maximum tube diameters of 12 or 32mm – according to torque version – and cuts a minimum tube length of 60mm. Cut length accuracy is 1%, with Maillefer haul-off.

Heated blade

Baruffaldi of Italy says that its iCut pipe-cutting technology – which was shown for the first time at K2019 last year – "redefines the standard for high-quality pipe cutting".

Where it differs from conventional systems is that it has no planetary blade. Instead, a heated blade moves along the axes through an independent mechanism powered by servo motors, says the company.

Advanced software allows iCut to simplify the cutting process. It can handle not just smooth or corrugated PVC, PE and PP pipe, but also profile geometries such as ovals, ellipses, rectangles and irregular shapes. ›

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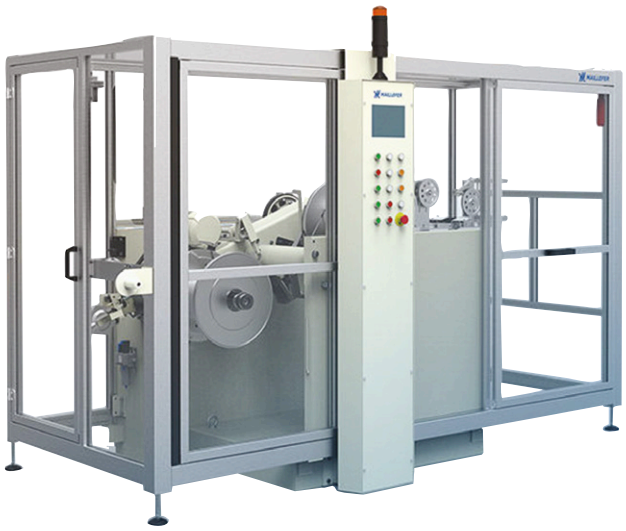

Right: Selecting the right coiling and reeling technology for extruded tubing is essential, says Maillefer

Complex cuts

Sica of Italy has developed an electric saw for cutting plastic pipes made from complex materials, or which have multiple layers.

Standard cutting systems may not be able to deal with pipes made from materials such as PVDF, PP-R or those reinforced with glass fibre. These would typically be used in medical or telecommunications applications.

The TRKC 160E saw can cut without producing chips or dust, up to a diameter of 160mm. It dispenses with hydraulic components and the need for manual adjustments – as required in previous versions – such as for positioning the cutting and counter-arms.

Everything is managed automatically by defining a few parameters – such as material type, and pipe diameter and thickness – from an operating panel. Each movement is electric, which reduces noise and increases precision. A compact servo-actuator, which integrates the motor and gear unit, improves the movement and performance of the cutting arm.

Pulling power

UK-based **Gillard** recently added to its Accra-Pull range of caterpillar-belt pullers with the UA-P75 model.

This new version, with a 75mm puller width and 550mm length, includes twin direct drive AC servo motors and Siemens colour touch screen. Its compact size makes it ideal for most light-medium duty pulling requirements, says the company.

In the drive train, the twin direct-drive AC servo motors are mounted onto zero-backlash planetary gearboxes. The gearboxes power the caterpillar belts. All gearboxes are oil-filled and sealed-for-life. No regular maintenance is needed, says Gillard.

Each servo motor is controlled by its own Lenze AC drive. Belt speeds are locked together electronically, meaning one belt cannot go faster or slower than the other. The UA-P75 is available in two versions: SD (where each motor has a torque of 2.3Nm), and HD (with a torque of 3.8Nm).

Above: Sica's TRKC 160E electric saw cuts multi-layer plastic pipes, or those made of complex materials

Extended range

UK-based **Boston Matthews** has extended its range of caterpillar haul-offs with a horizontal model.

The CH110 has similar specifications to its standard C110 caterpillar haul-off but has horizontal belt configuration. The C models are a medium-duty range for precision pulling of general profiles and tubes.

The model has an AC vector drive, which helps to maintain precise speed. There is a choice of belt widths up to 200mm. A wide range of belt choices is available – including poly-vee, flat or timing belt substrates, as well as profiled, slit, tangent contact and special belts for tailored solutions.

The company says that the AC motor has forced ventilation and encoder feedback driving through a precision helical gearbox. Other benefits include: high torque vertical shaft; and anti-backlash bearings and worm gearboxes – to ensure maximum transmission efficiency.

Boston Matthews says that the AC drive makes the model 10 times more accurate than a DC motor equivalent. At the same time, absence of motor brushes makes it almost maintenance-free. This, combined with an energy saving of up to 5%, helps to reduce running costs.

CLICK ON THE LINKS FOR MORE INFORMATION:

- **www.fb-balzanelli.net**
- **www.conairgroup.com**
- **www.maillefer.net**
- **www.davis-standard.com**
- **www.baruffaldi.eu**
- **www.sica-italy.com**
- **www.gillardcutting.com**
- **www.bostonmatthews.com**

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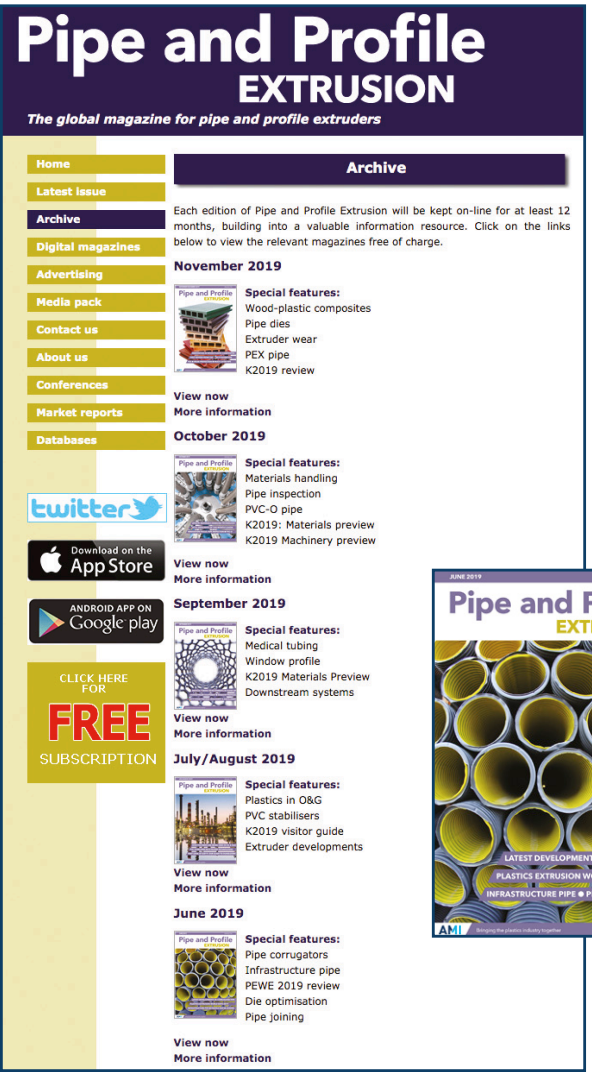

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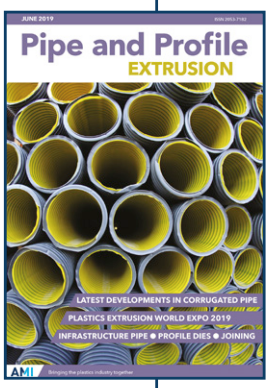

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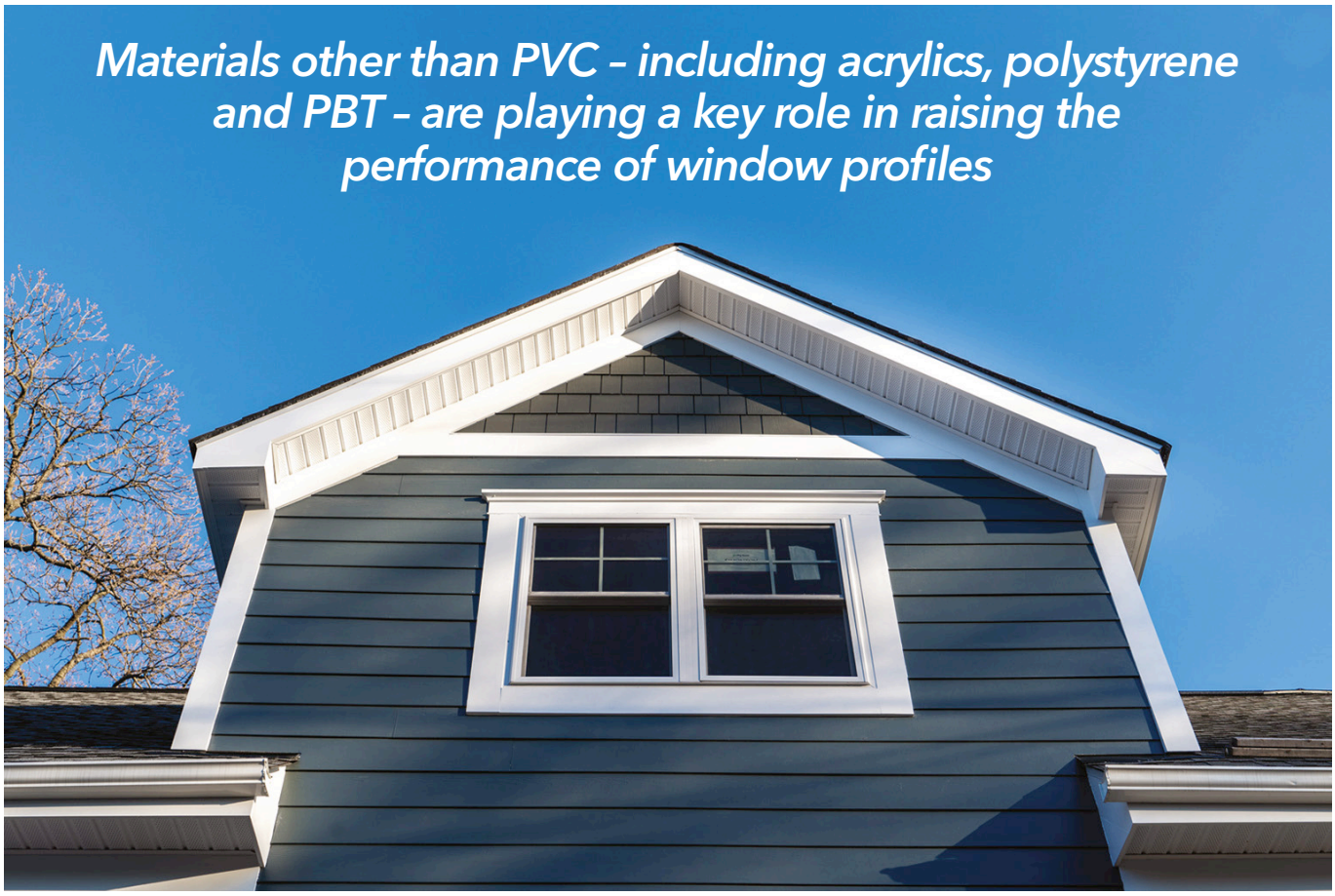
Materials other than PVC – including acrylics, polystyrene and PBT – are playing a key role in raising the performance of window profiles



In the frame: advances in window profile materials

PVC is critical for window profiles, but other materials can be used alongside it – such as for co-extrudable or foam inserts – to help enhance performance.

Teknor Apex has developed a series of acrylic compounds for highly weatherable, dark-coloured capstock layers in PVC exterior products such as windows and sidings.

Its entire range of capstocks is now branded as Weatherguard.

After 10,000 hours in QUV accelerated weathering tests, Weatherguard WG-8000 compounds exhibited a colour change of less than 1 Delta E for black, a significant improvement over an industry standard acrylic grade with comparable physical properties. This accelerated weathering performance is coupled with a high resistance to a phenomenon called 'water whitening' – a weathering defect caused by high humidity and rapid temperature changes that is most notable in dark colours.

This combination is ideal for applications where high aesthetics are required, according to John Macaluso, industry manager for building and construction in the vinyl division of Teknor Apex.

"These compounds exhibit similar or improved impact-resistance in comparison with acrylics commonly used in capstock applications today," he said. "We can modify the base technology to meet specific gloss targets, and customise processing properties, making it unnecessary for building product manufacturers to retool. This is particularly valuable in the case of complex profiles such as window and door profiles."

He added that the enhanced weatherability and low heat build of the compounds also helps manufacturers in their efforts to offer extended warranties on their products.

Teknor Apex supplies its Weatherguard products on a custom basis, with formulations tailored to customer requirements for colour, gloss level and

Main image: Teknor Apex has developed acrylic compounds for dark, weatherable capstock layers in products such as windows

Right: This co-extruded profile, made from BASF's Ultradur (in green) and PVC, forms the basis of highly insulating windows

many other properties. The entire range includes formulations for use with PVC substrates in window profiles and other products – including railings, fencing, siding and doors.

Extrudable PBT

BASF has developed several extrudable grades of its Ultradur PBT.

Until now, the melt strength of PBT was not high enough to allow it to be extruded. By connecting and branching the polymer chains – using tailor-made additives – BASF has raised the high melt strength of the grade, called Ultradur B6551 LNI. The company says it can be used to make profiles and other products, including pipes and mandrels.

The material has high melting point, good crystallinity and dimensional stability – as well as a good vapour barrier, said Tatiana Ulanova, of BASF's extrusion, medical and industrial manufacturing division.

"The main advantages of PBT are its higher mechanical properties and temperature resistance," she said.

BASF modified one of its existing additives, to join short polymer chains together in order to boost the melt strength, she said.

Alternative inserts

At the same time, BASF has developed a new grade of Ultradur for co-extrusion with PVC – that has an improved property profile. The grade, B4040 G11 HMG HP green 75074, offers a lighter way of stiffening PVC window profiles, compared to steel inserts.

The material is an Ultradur blend that is reinforced with 55% glass fibres. Its melt temperature has been lowered, which simplifies the co-extrusion process -- as its melting point is very close to the processing temperature of PVC.

"The grade offers profile manufacturers and window producers clear advantages in production," said Kay Brockmüller, project manager for construction at BASF. "Our product and the manufacturing process are amenable to trouble-free integration into existing production lines."

A co-extruded profile is weldable and can be machined on existing equipment. For window makers, this simplifies the production process by eliminating all steel-related activities. The lighter weight also makes handling easier – during both production and installation. A further positive feature for the customer, in addition to improved insulation performance, is that the profile exhibits high dimensional stability when installed and shows virtually no post-shrinkage after installation.

Window systems provider Profine has developed a profile called ProStratoTec – which is suitable for passive houses – using the technology.

Profine expansions

In addition, **Profine** recently the assets of UK-based Aperture – formerly known as Synseal.

Aperture is a system provider that owns a number of PVC window brands, including Legend, Synerjy and Evolve. Profine says that the UK has traditionally been one of its core European markets.

To date, Aperture did not have its own extrusion facility – but now production will begin under the name Profine UK Extrusions. It will have more than 20 extrusion lines, its own mixing plant and several foiling and injection moulding systems, said Profine. The company also plans to expand the UK

More PVC windows recycled in Europe

Recycling of PVC window frames increased in Europe again last year.

VinylPlus – the voluntary recycling commitment of the European PVC industry – said that around 363,000 tonnes of PVC window profiles and related building products were recycled in 2019. This is 47% of the total recycled, and an 11% increase on 2018.

However, the Coronavirus pandemic has caused a shutdown in European plastics recycling – which has affected PVC recycling rates. VinylPlus says this may mean it missing its target of recycling 800,000 tonnes/year of PVC by the end of 2020.

Another factor is that the European Parliament has voted against a plan to allow recycling of PVC that contains legacy additives (such as lead stabilisers).

Stefan Sommer, chairman of VinylPlus, said: "Legacy additives remain a thorny issue, and represent the main threat to our recycling targets."

Last year, trade body EPPA began a project aimed at understanding the potential hazard classification under European waste legislation of rigid PVC containing legacy additives. The study is investigating whether end-of-life PVC windows contain substances classified as 'HP 14' (Hazardous Properties ecotoxic).

› **www.vinylplus.eu**

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The event brings together the well established Compounding World and Masterbatch Asia conferences to create a wider industry meeting place for the whole supply chain.

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Above: SKZ says its method to inject foam into PVC profiles will help to improve insulation performance

workforce by more than 100 employees.

Profine will continue the activities of its Kömmerling brand in the UK, while individual products from the Aperture portfolio are to be marketed in other countries.

"With this acquisition we are strengthening our international market position and continuing our success story in the UK," said Peter Mrosik, CEO of Profine.

Earlier this year, Profine also opened new headquarters in Brazil. The company says that its new facility, in Osório in the southern state of Rio Grande do Sul, is conveniently located for delivering to customers.

The facility includes administration, training and conference rooms – as well as storage and logistics halls – in an 11,000 sq m building complex on a 50,000 sq m site.

Profine Brazil will supply its customers with Kommerling branded products.

"The new, larger headquarters enables us to increase customer service," said Mrosik. "It also offers space for our further growth in the country and throughout South America."

One-step filling

The **German Plastics Center** (SKZ) has devised a method to inject thermal insulation foam into PVC profiles in a single step.

It has developed a counter-rotating twin screw extruder for the PVC component and a foam extrusion line for the polystyrene. The two are connected by an extrusion die followed by a calibration and cooling section.

"Foam-filling a profile had been a multi-stage process," said Marieluise Lang of SKZ-KFE. "The challenge was to find a suitable machine concept and combine the single plant components into a complete system – but also to find the right foam formulation and design an appropriate extrusion die."

The foam extrusion part of the machinery has a co-rotating twin-screw extruder for mixing in the blowing agent, a gear pump for pressure build-up and two cooling mixers to cool down the melt.

The technique can be used for all PVC profiles in applications where high thermal insulation is necessary to reduce CO_2 emissions and heat loss – including exterior doors, facade profiles and conservatories.

CLICK ON THE LINKS FOR MORE INFORMATION:

- **www.teknorapex.com**
- **www.basf.com**
- **www.profine-group.com**
- **www.skz.de**

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CARBON BLACK

Dust-free powder dispensing

Orion Engineered Carbons has developed soluble, meltable packaging as a way of making its carbon black products easier to handle.

The new Minibags are available in a range of material types, melting points and sizes. They are designed to improve the production process and serve small order quantities of between 100g and 10kg. They are suitable for both powder and beaded carbon blacks.

Carbon black is dusty, and often presents handling and packaging challenges. Minibags overcome this by allowing the material to be incorporated directly into the production process without the need to open the bags.

Depending on the material, Minibags can be water-soluble or meltable in polymers. This reduces waste and enables dust-free processing. All common polyethylene (PE) and other compatible elastomer bases – as well as ethylene vinyl acetate (EVA) and polyvinyl alcohol (PVA) – are available as Minibags. The different material characteristics and melting points enable the adaption of the bags to customers' needs. Orion also offers small aluminium bags, where moisture protection of carbon black is most important.

› **www.orioncarbons.com**

PE100

Delivering water in a shortage

PE100 pipes from Simona have been used in a municipality in southern Germany – which had been struggling to cope with groundwater shortages.

At the same time, more water was needed due to the development of services for new residential areas. To guarantee the supply of clean drinking water, new drinking water wells had been built in recent years.

The wells were connected to the existing water supply network using Simona's PE 100 RC-Line drinking-water pipes, over a length of 9km. The material ensures high flexibility, light weight and high stress crack resistance. The pipes were laid using the trenchless torpedo ploughing method – a fast, economical way of laying new plastic pipes that causes minimal interference with the ground.

The pipes have SVGW and DVGW approvals, among others. They are easy to maintain and allow trouble-free sustainment of network operation, says Simona.

› **www.simona.de**

MASTERBATCH

PP resin with FR capability

US-based compounder Dynamic Modifiers has introduced a new flame retardant polypropylene concentrate/masterbatch.

PAL NH-LS Performance FR is a non-halogenated, non-antimony vapour phase flame retardant concentrate for use in the production of a range of products.

Exposure to flame results in a UL-94 V-2 level of flame-retardant performance in thicker gauge extruded parts and rapidly self-extinguishing behaviour without consuming the test specimen. When used in fibres or tape yarns it meets many of the vertical burn requirements of textile/film flame retardant standards, such as NFPA 701, says the company.

The PP concentrate contributes little to the overall specific gravity of the final product, preserving the lightweight properties characteristic of polyolefins. It is non-toxic, sustainable and yields advantages for brand-owners to gain LEED points in the Green Building market.

The product is also water-repellent, printable and chemically resistant – and can be tailored for specific needs, such as with UV resistance, colour and even glass fibres for extra stiffness.

› **www.dynamicmodifiers.com**

MEDICAL

Keeping high tube quality

NDC Technologies is helping a medical tube manufacturer maintain product quality as it ramps up production.

Onyx Hose & Tube of Canada makes medical tubing for oxygen delivery systems and ventilators, which are supplied to field hospitals in Central Park in New York City.

It is using NDC's AccuScan and BenchMike devices to measure the diameter and ovality of its products.

A second NDC customer was also increasing production of its medical product when its BenchMike device stopped working. NDC delivered a new unit the same afternoon. It also collected the broken unit – and repaired and returned it the next day.

› **www.ndc.com**
› **www.onyxhose.com**

TESTING

Cooling device allows low temperature dynamic tests

The Fraunhofer Institute for Structural Durability and System Reliability (LBF) has developed a new cooling device for its high-speed testing dynamic plastics machine – allowing it to perform low-temperature testing without a thermal chamber.

It will allow the LBF team to investigate plastic properties at temperatures as low as -40°C. In addition, it measures strain optically with Digital Image Correlation/Greyscale Correlation (DIC/GSC) – to determine a 2D strain field on the specimen.

Low temperatures are generated with compressed air cooled by liquid nitrogen, with the sample standing in the flow of this air. A thermal camera monitors temperature over a large area, and measurements begin once the correct temperature has been reached.

The advantage of mixing compressed air and nitrogen is that the compressed air is dry and only a few ice crystals form on the sample surface. The gas mixture from the cold reservoir also ensures a more constant temperature of the air flow than when nitrogen is applied directly.

The cooling unit – developed at Fraunhofer LBF – consists of a controller and switching element, a cold reservoir, a nitrogen tank and a supply line to the sample. The lack of a thermal chamber means there is no pane between the camera and the sample, which could tarnish or freeze or form air vortices when the pane is heated. This improves DIC and allows flexible testing of different component sizes and different load types.

› **www.lbf.fraunhofer.de**

ANCILLARIES

Simplified conveying of materials

Maguire Products has developed a new vacuum pump that simplifies the conveying of raw materials to blenders, dryers and machine hoppers.

The NVRBE pump is easy to install and operate. It can be configured within 'mini-central' systems with compact LowPro receivers mounted on multiple blenders.

Multiple units of the pump may be used in a single system. Its features include: a Clear-Vu dust collection bin, allowing the operator to easily see when cleaning is needed; a filter safety switch, which minimises dust contamination; and a pressure differential switch that acts as a clogged filter sensor – stopping the blower if the filter is clogged over 90%.

"The automatic features of the NVRBE vacuum pump and its simplicity of use make it especially compatible with Maguire's LowPro receivers," said Frank Kavanagh, vice president of sales and marketing.

As well as having profiles as much as 80% lower than traditional receivers – and being easier to configure – LowPro receivers are autonomously controlled.

"This makes them suitable for deployment in automated mini-central systems for conveying to multiple blenders," said Kavanagh.

The vacuum pump comes with a five-year warranty.

› **www.maguire.com**

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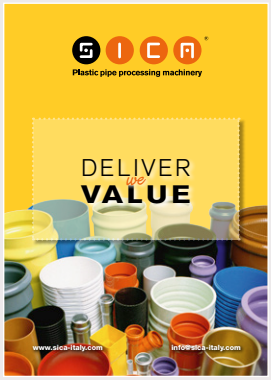
SICA: PIPE PROCESSING



This brochure from Sica covers the company's full range of performance pipe finishing equipment including its novel TRS-W cutting and chamfering, Unibell electric belling and robotised packaging machines.

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UNICOR: PIPE CORRUGATION

This brand new 48-page brochure from Unicor provides detailed insight into the design, production, applications and advantages of corrugated pipes. It includes specification data on the company's wide range of pipe corrugation equipment.

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DAVIS-STANDARD: PIPE & PROFILE

Davis-Standard supplies a wide range of extruders and extrusion systems for pipe, profile and tubing applications, including medical tubing. This brochure details the range of equipment available and key performance benefits.

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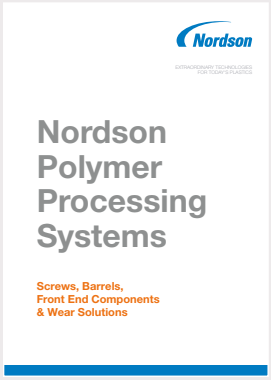
NORDSON: SCREWS AND BARRELS



Xaloy plasticising system components produced by Nordson Polymer Processing for extrusion applications include a range of bimetallic barrels and a variety of barrier and mixing screws. Learn more in this brochure.

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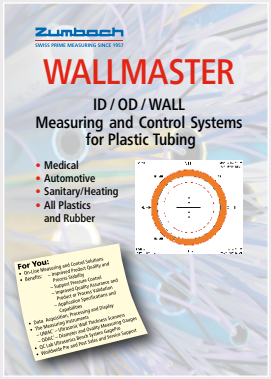
ZUMBACH: MEASUREMENT CONTROL



This eight-page brochure details the main features of Zumbach's Wallmaster measurement and control system for improving product quality, process stability and data capture in plastic tube and pipe extrusion applications.

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If you would like your brochure to be included on this page, please contact Claire Bishop claire.bishop@ami.international. Tel: +44 (0)1732 682948

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Compounding WORLD

5 REASONS WHY YOU SHOULD ATTEND:

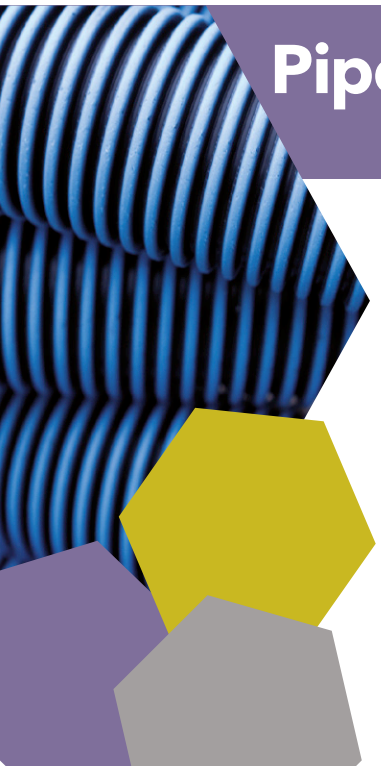
- Take a deep dive into the trends affecting polymer markets and their future prospects
- Deepen your understanding of the polymer supply chain and sourcing challenges
- Learn about the recycled polymer market and the impact of circular economy on supply chain dynamics
- Find out about the impact of Coronavirus on the plastics industry, and what the recovery may look like
- Meet and network with senior personnel from every part of within the polymer supply chain

Book your place

Star Piping Systems

Head office:	Wesel, Germany
Managing directors:	Andreas Bramert, Florian Lange
Founded:	1995
Ownership:	Private
Employees:	Around 125
Profile:	Star Piping, founded in 1995, manufactures polyolefin pipes and fittings. Its pipe is used in a multitude of applications, including industrial, drinking water, gas supply and sewage. Most are made from PE100 and PE100 RC. The company also manufactures fittings – including electrofusion fittings – and semi-finished products such as rods and bars. In addition, it sells and rents machinery for pipe installation, such as butt-welding machines.
Product lines:	Star Piping offers single- and multi-layer pipes, in diameters up to 1400mm. Its pipes, in PE100 and PE100 RC, are used in a variety of applications, and can be supplied as individual 6m or 12m lengths, or in 50m or 100m coils. Spigot fittings, in both PE and PP, are available as seamless bends. Star Piping says it is the only company that can make these with DVGW certification. The pipe bends also meet EN 12201 and EN 1555 standards. The company also offers flange connections, pressure fittings and welded fittings. It recently expanded the manufacture of its fittings up to 2000mm in diameter.
Factory location:	The company celebrated its 25th anniversary in 2020 and moved into larger premises on the Schornacker industrial estate in Wesel – where it was originally located. In its previous facility, the company used green energy – from a roof-mounted photovoltaic system – in the production of its fittings. In the new facility, this energy is also used for other operations, including pipe production.

To be considered for 'Extruder of the Month', contact the editor on lou@pipeandprofile.com



Pipe and Profile EXTRUSION FORTHCOMING FEATURES

The next issues of Pipe and Profile Extrusion magazine will have special reports on the following topics:

October 2020
PVC-O pipe
Pipe inspection
Materials handling

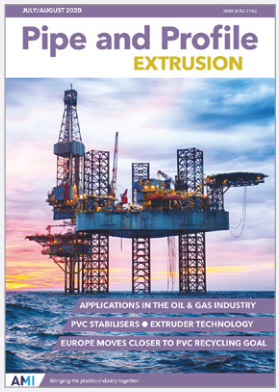
November/December 2020
Wood-plastic composites
Infrastructure pipe
Extruder wear protection
Multi-layer pipe extrusion

Editorial submissions should be sent to Lou Reade: lou@pipeandprofile.com

For information on advertising in these issues, please contact:
Claire Bishop: claire.bishop@ami.international Tel: +44 (0)1732 682948
Levent Tounjer: levent.tounjer@ami.international Tel: +44 (0)117 314 8183

Keep informed: read our latest editions

AMI publishes five process-specific FREE plastics industry magazines. Simply click on the cover below to read each magazine. Or download the issue in the relevant Apple or Android app



Pipe and Profile
July/August 2020
The July/August issue of Pipe and Profile Extrusion examines the technical advances in pipelines for the offshore oil and gas industry. Features also cover the PVC sector in its use of stabiliser additives and its achievements in recycling; plus the latest from extrusion technology suppliers.

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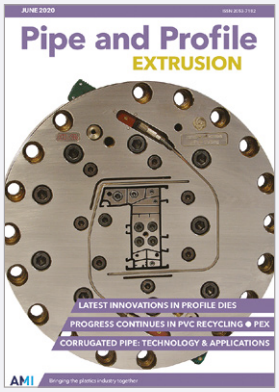

Pipe and Profile
June 2020
The June 2020 edition of Pipe and Profile Extrusion looks at how the rise in digital operations is influencing the way that profile dies are being designed and operated. Plus features on corrugated pipe, PEX pipe and PVC recycling.

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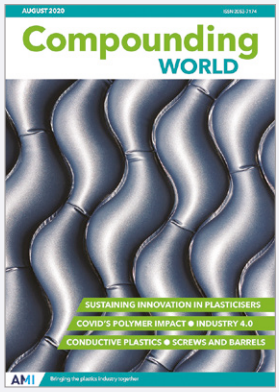

Compounding World
August 2020
The August issue of Compounding World delves deep into thermally conductive additives and production data usage, plus the latest on development of sustainable plasticisers and what's new in screws and barrels.

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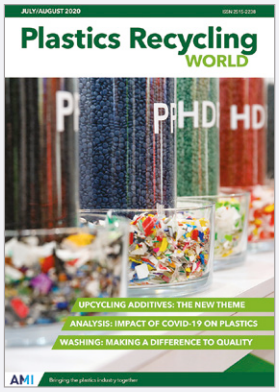

Plastics Recycling World
July/August 2020
The July/August edition of Plastics Recycling World looks at additives for "upcycling" recycled polymers, recycling of WEEE/ELV plastics, and washing technology. It also includes unique AMI data and analysis on recycling demand and the global impact of Covid-19.

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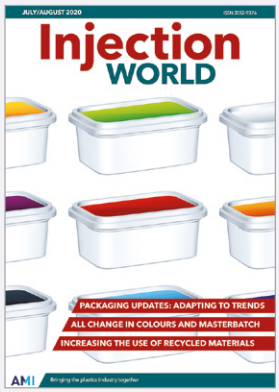

Injection World
July/August 2020
The July-August edition of Injection World has two articles on challenges and trends in rigid packaging. Plus there are features on increasing the use of recyclate in new injection moulded products and developments in colour masterbatch.

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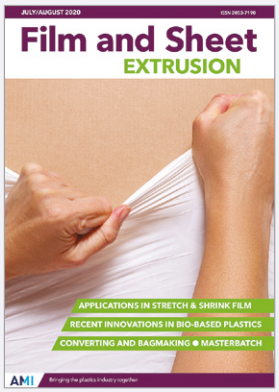

Film and Sheet
July/August 2020
The July/August 2020 edition of Film and Sheet Extrusion magazine looks at developments in shrink and stretch films. It also explores the latest in bioplastics, masterbatches, film conversion technology, and progress in European PVC recycling.

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Take out your own FREE subscriptions to any of the magazines. Click on the logos below to simply register on-line.

Compounding WORLD
Film and Sheet EXTRUSION
Pipe and Profile EXTRUSION
Injection WORLD
Plastics Recycling WORLD

GLOBAL EXHIBITION GUIDE

2020	**10-12 September**	Plasti & Pack, Lahore, Pakistan **ONLINE ONLY**	https://plastipacpakistan.com
	7-8 October	Plastics Extrusion World Expo Europe **POSTPONED**	https://eu.extrusion-expo.com
	29-31 October	MECSPE, Parma, Italy	www.mecspe.com
	4-5 November	Plastics Extrusion World Expo USA **POSTPONED**	www.extrusion-expo.com/na/
	24-27 November	Argenplas, Buenos Aires, Argentina **POSTPONED**	www.argenplas.com.ar
	14-17 December	Interplas Thailand, Bangkok, Thailand **POSTPONED**	www.interplasthailand.com
2021	**11-14 January**	Plastimagen, Mexico City, Mexico	www.plastimagen.com.mx
	9-11 March	JEC World, Paris, France	www.jec-world.events
	1-4 April	Plastics, Printing & Packaging, Dar-es-Salaam, Tanzania	www.expogr.com/tanzania/pppexpo
	13-16 April	Chinaplas, Shenzhen, China	www.chinaplasonline.com
	4-7 May	Plast 2021, Milan, Italy	www.plastonline.org/en
	17-21 May	NPE 2021, Orlando, USA	www.npe.org
	1-2 June	Plastics Extrusion World Expo Europe, Essen, Germany	https://eu.extrusion-expo.com
	15-18 June	FIP, Lyon, France	www.f-i-p.com
	22-25 June	Colombiaplast, Bogota, Colombia	www.colombiaplast.org
	29 June – 1 July	Interplas, Birmingham, UK	www.interplasuk.com
	10-12 August	Feiplar Composites, São Paulo, Brazil	www.feiplar.com.br
	14-18 September	Equiplast, Barcelona, Spain	www.equiplast.com
	12-16 October	Fakuma, Friedrichshafen, Germany	www.fakuma-messe.de
	3-4 November	Plastics Extrusion World Expo North America, Cleveland, USA	https://na.extrusion-expo.com

AMI CONFERENCES

15-16 Sept 2020	Wood-Plastics Composites Virtual Summit
27-28 October 2020	Plastic Pipes in Infrastructure, Hamburg, Germany
2-4 November 2020	Plastics Regulations Europe, Cologne, Germany
26-27 January 2021	PVC Formulation Asia, Bangkok, Thailand
2-3 February 2021	Polymers in Cables USA, Charlotte, NC, USA
3-4 March 2021	Medical Tubing & Catheters, San Diego, CA, USA
20-21 April 2021	Plastics Recycling Technology, Vienna, Austria

For information on all these events and other conferences on film, sheet, pipe and packaging applications, see

www.ami.international