SNW

SUSTAINABLE NONWOVENS

August / September 2020

Through the roof

How demand for spunmelt materials has rocketed in 2020

Rapid response
Latest developments from the PPE supply chain

Slimming program
Nonwovens solutions for under pressure automotive

Question time
In conversation with key industry figures

Technical Innovation and Industry Best Practice

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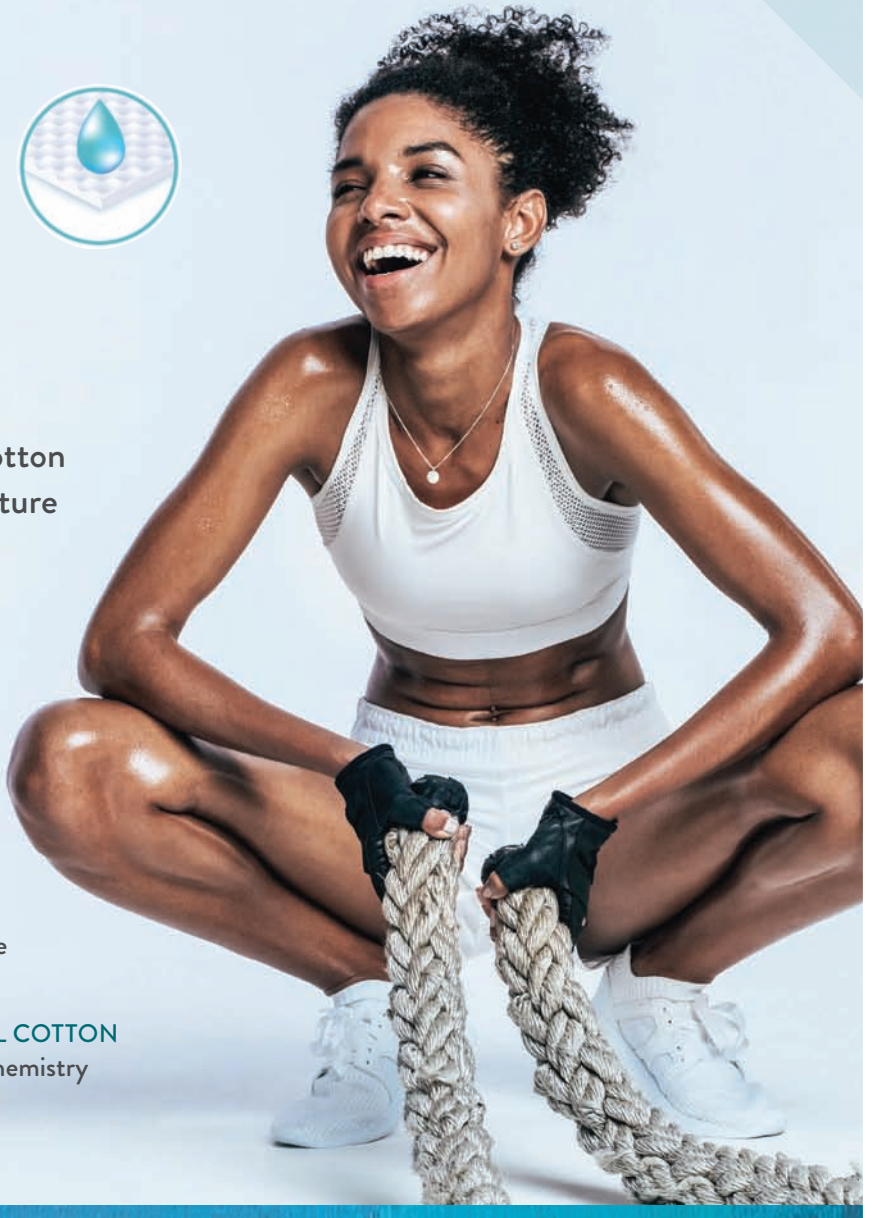

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Remote learning

It barely needs mentioning that the onset of Covid-19 has brought with it a number of new challenges and prompted new ways of working, particularly in countries that opted for strict lockdowns as a method of combating the spread of the virus.

Video conferencing solutions - whether its Zoom, Microsoft Teams or Google Meet - became the norm for everyone ranging from politicians delivering key policy announcements to grandparents staying in touch with their families. Even school children across the world suddenly had to become accustomed to 'working from home' with teachers delivering remote learning, backed up by online technology.

For the nonwovens industry, there was a new challenge. In contrast to other industries, the demand for new lines in some sectors barely abated, meaning that the wheels of manufacture, delivery and installation had to keep on turning.

It is here that companies that have made investments in digitalization and Industry 4.0 over the last few years have now been able to reap the benefits.

In this issue we hear from companies such as Andritz Nonwoven who explain the challenges faced when you have to put a line in operation without the technical staff on site. Unable to send technicians, the company carried out remote installations with its field service technicians sitting in their offices, perhaps using Google glasses or on computers helping technicians in China to put the lines into operation. It was new for all for and a very steep learning curve.

For Andritz with its Metris technology and others with similar tools in place, the lockdown has provided a wonderful stress test for machine installations as well for quality inspections and training.

Oerlikon Manmade Fibers, for example, also offers a full digitalization program for all of its technologies for the conversion of polymers into filaments, yarns and nonwovens, at both upstream and downstream stages. This includes operations such as automatic labeling, yarn packaging and fibre and nonwoven bale logistics with all functions and services brought together by the Oerlikon Plant Operation Centre. The company is confident that it is on the way to the fully networked factory and to production that is autonomously controlled – from the supply chain through to dispatch.

Add to this the capability to use digitalization tools for automatic reporting and information sharing at different company locations around the world, and we have evidence that if travel is restricted, having the tools that allow you to share and discuss the same data wherever you are in the world is a great way to increase production efficiency and help companies make decisions must faster.

Covid-19 has presented numerous tests and trials for the nonwovens sector. Fortunately, we have an industry that has been able to respond.

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NONWOVENS NEWS

LATEST INDUSTRY NEWS FROM WWW.NONWOVENSNEWS.COM

Hygiene product makers commit to consumer confidence program

BRUSSELS – European manufacturers of diapers, adult incontinence, and feminine hygiene products are committing to a new programme to give consumers further assurances about the safety of their products.

EDANA, the European Nonwovens Industry Association, which represent makers of most of these products placed on the European market, has launched the Stewardship Programme for Absorbent Hygiene Products.

Under the programme, open to all producers, participants commit to go beyond existing product legislation to give consumers maximum confidence in the safe use of these products.

Initial signatories include brand owners Kimberly-Clark, Procter & Gamble, Ontex, Johnson & Johnson, Paul Hartmann, Abena and Essity alongside key private label manufacturers Corman and Drylock, suppliers to many of Europe's largest retailers.

Developed in consultation with policymakers, subject experts and reviewed by scientists, the programme introduces an industry-wide list of trace substances (such as PAHs, PCBs, dioxins, furans, phthalates and formaldehyde) and guidance values that adhering companies will commit to not exceed using harmonised, consumer relevant test methods.

With the publishing of product composition and a commitment to enhance consumer understanding, the programme also serves to reinforce transparency, enabling consumers to make informed choices.

The safety of these products, including the 21 billion diapers sold annually in the EU, has been demonstrated through recent tests by the relevant Competent Authorities in France, Belgium, Sweden and Switzerland, amongst others.

"Absorbent hygiene products help millions of Europeans live active and healthy lives, from early childhood to old age. The Stewardship Programme is a sign of EDANA's members'

Fibertex certified to ISCC Plus

AALBORG - Fibertex Personal Care has become the first nonwovens producer to attain ISCC Plus certification (International Sustainability and Carbon Certification) for hygiene and medical applications enabling its site in Aalborg to sell ISCC Plus certified nonwovens.
Part of the company's aim to improve the sustainability of its nonwoven products, the new offering can be applied broadly as a drop-in solution since the nonwoven will maintain all its usual properties, Mikael Staal Axelsen, Group CEO said, adding that there are no changes to recyclability and other waste management processes.
"We are very excited about this – and we are now ready to meet customer demand for more sustainable nonwovens and to support the development of a more sustainable supply chain for plastics," Staal Axelsen said.
ISCC Plus is a supply chain certification for circular (recycled) and bio-based materials providing traceability along the supply chain. It also verifies that certified companies meet high environmental and social standards.
The ISCC Plus certification works on what is known as a "mass balance system". The system makes it possible to track the amount and sustainability characteristics of circular and/or bio-based content in the value chain and attribute it based on verifiable bookkeeping with predefined and transparent rules.
ISCC initiated the mass balance system to support a quicker scale-up of a sustainable bio-economy and circular economy, to gradually replace fossil resources and thereby significantly reduce climate emissions.
"This achievement is a good example of our continuous effort to seek new sustainable solutions – we always start by asking: how can we reimagine, reduce and reuse. In this case we reimagined our raw material supply chain," Mette Due Søgaard, QA & Sustainability Director, added.

commitment to ensuring that consumers continue to have full confidence in the safety of our products," said Pierre Wiertz, General Manager of EDANA.

Longstanding testing procedures for these impurities, which are found only at trace levels and do not represent health risks, are carried out at various steps throughout the production chain. The harmonised consumer-relevant testing methods this programme introduces makes it easier to reproduce these processes and ensure consistent quality.

"Companies are making a commitment that goes beyond what they are required to do under existing legislation. The tests for substances, which are present at only trace levels and pose no threat to human health, are based on the best available science and reflect real-life use," Wiertz added.

The EDANA website features further detail on the criteria for determining the relevant trace substances, their agreed thresholds, and the newly standardised testing methodologies. Participating companies are also listed.

The programme is also in line with the European Commission's advocacy of product safety codes of good practice in the General Product Safety Directive and will deliver on the EDANA Sustainability Vision for the nonwovens industry.
Web: www.edana.org

Record quarter for Berry Global

EVANSVILLE - Berry Global has reported record rises in both both net sales and earnings for its third quarter.

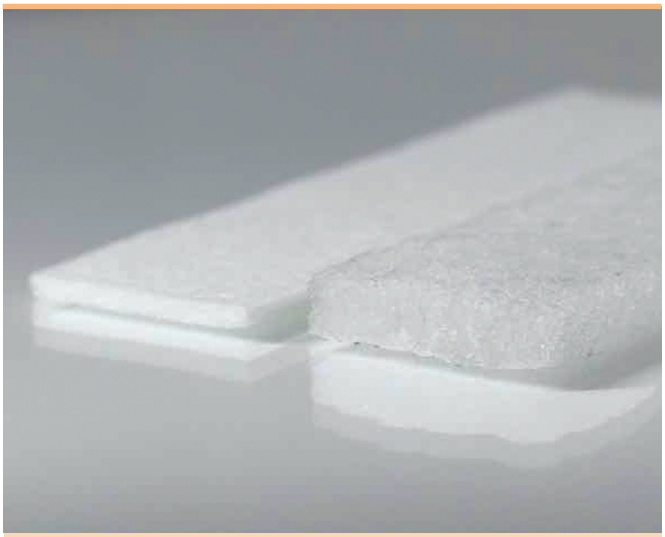
Net sales for the end of June 2020 were up 50 per cent to US$2.9 billion with operating EBITDA up 67 per cent to $581 million.

"Through our employees' relentless effort and dedication, along with our diverse, stable portfolio, we were able to deliver record earnings for any quarter in the company's history," said Berry's Chairman and CEO, Tom Salmon. "We have made progress and remain focused on our top three financial objectives of improving our strong balance sheet, organically growing our businesses, and integrating the RPC acquisition as demonstrated in this recently completed quarter.

Over the quarter, the Health, Hygiene & Specialties segment recorded strong volume growth of 14 per cent related to recent investments, targeted market approach, along with COVID-19 related benefits in the healthcare portfolio. "Excluding COVID-19 benefits, we believe the business delivered high-single digit growth in the quarter," Salmon added.

The net sales growth was primarily attributed to acquisition net sales of $1,092 million and a base volume increase of 2 per cent.

The net sales growth in the Health, Hygiene & Specialties segment was primarily attributed to base volume growth of 14 per cent, partially offset by lower selling prices of $24 million due to the pass through of lower resin costs, a $19 million unfavorable impact from foreign currency changes, and prior quarter sales of $34 million related to the divested Seal for Life business.



Eliminating EtO issues with low shrink SAF

GRIMSBY - Technical Absorbents Limited (TAL) has developed a new grade of superabsorbent fibre (SAF) specifically for use within a new range of SAF nonwoven fabrics that are more resistant to shrinkage. The new SAF was developed in response to the demand from the medical industry for a superabsorbent fabric suitable for use in advanced wound pad dressings. The fibre had to be capable of withstanding the moisture used in the EtO sterilization process that is frequently employed in the production of the pads, in order to ensure product safety and compliance, the company said.

EtO sterilization is a low-temperature process (typically between 37 and 63°C) that uses ethylene oxide gas to reduce the level of infectious agents. While generally applied in gas form, however, the EtO is usually mixed with other substances – and often steam.

"Obviously superabsorbents and moisture generally aren't a good combination at this stage in processing and can cause problems," says TAL product development director Dr Mark Paterson. "Other methods can be used, but when silicone materials are included, which is more frequently becoming the case, EtO is the preferred treatment method. Regular SAF grades tend to shrink a little and can become hard, which is often not desirable. This innovative SAF grade significantly reduces such potential problems."

The amount of shrinkage caused by EtO sterilization depends very much on the product design and construction, he adds, but in general, the new SAF has been tested and proven to reduce fabric shrinkage by around 70%. It is suitable for use in all SAF nonwoven formats, whether needlepunched, thermally bonded or airlaid.

While the proprietary process developed at TAL for the production of this new fibre and resulting fabrics was prompted by the specific requirements of wound pad dressings, TAL sees opportunities for its application in other areas as well.

"It's an extremely flexible fibre that can be easily switched with existing SAF grades when manufacturing fabrics and we have a number of current projects in which we're exploring other end-uses," Mark concludes. "We believe this new range could also open up entirely new application areas on the market."

Mann+Hummel to end production at Ludwigsburg site

LUDWIGSBURG - Filtration specialist Mann+Hummel has announced that it is to close the production line at its main site in Ludwigsburg. The site will remain as the company's headquarters and centre of R&D activities.

The plant will no longer be accepting any new production orders with existing production activities phased out or relocated. The specific timetable for the closure will be agreed in cooperation with customers and employee representatives, the company said, explaining that it will work in close cooperation with its partners to arrange socially responsible solutions for the staff at the Ludwigsburg plant. Around 400 jobs at the factory are currently set to be affected by the decision.

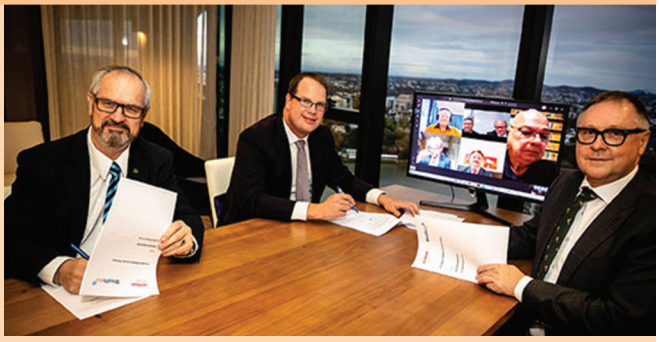
The company said that it continuously reviews its production sites to ensure its ability to meet evolving customer needs. Over the course of these strategic considerations, it was determined that the competitiveness of the Ludwigsburg production facility cannot be maintained.

"This has been an out most difficult decision – we have been producing in Ludwigsburg since 1954. However, this was a necessary measure to ensure the company's future. Of course, the company headquarters with the research and development center will remain here and we will continue to invest in the technology centre. We stand by the Ludwigsburg location," said the chairman of the Supervisory Board, Thomas Fischer.

Among other components, the Ludwigsburg plant produces fuel, oil and air filter systems for the automotive sector. The company says it will ensure a smooth transition for its customers and suppliers at the affected site and the receiving factories.

"As an international company, Mann+Hummel is not only responsible for the Ludwigsburg site," explained Hanno Höhn, chief supply chain officer and labor director of Mann+Hummel GmbH. "In order to remain competitive in the medium to long term and to safeguard the future of the company with 22,000 employees worldwide, we need to make this adjustment to our production network."

First Oerlikon meltblown technology plant sold to Australia



Neumünster - Australian firm OZ Health Plus has signed a deal with technology supplier Oerlikon Nonwoven for the installation of a meltblown line at its site in Queensland.

The deal will establish Australia's first manufacturing plant to make the critical meltblown and spunbond nonwoven fabric used in most protective face masks.

The fabrics are essential for the country's face mask manufacturers, who currently produce about 500 million medical and industrial masks per year.

However the fabrics have to be imported from overseas and access to these materials has been severely disrupted during the Covid-19 pandemic.

Oerlikon Nonwoven says it has now carried out the legal and commercial arrangements to supply the specialised machinery, which can manufacture the nonwoven material locally.

The meltblown plant is expected to commence operations in April next year, with a second stage planned for late 2021.

The Oerlikon Nonwoven plant can produce meltblown fabrics for 500 million masks per year, along with other medical and non-medical grade products, filtration products, sanitary items and antiseptic wipes.

Rainer Straub, Head of Oerlikon Nonwoven said: "We are very proud that we can now for the first time supply our Oerlikon Nonwoven meltblown technology to Australia. Due to the short delivery time, we hope to make our contribution to the Australian population and their safe supply of high-quality protective masks as soon as possible."

OZ Health Plus director Darren Fooks added: "Australia has access to raw polypropylene feedstock but lacks the plant to convert that raw material to specialised spunbond and meltblown fabrics. These fabrics are essential for local mask manufacturing. The Australian-based Oerlikon Nonwoven plant will fill the production chain gap for Australia by producing the fabrics we need for mask production and many other products – it will reduce Australia's protective mask supply chain from thousands of kilometres, to tens of kilometres."

"Our decision in favour of Oerlikon Nonwoven was a given once we had analyzed the material samples. It was a matter of course for us that the Business Unit of the Oerlikon Manmade Fibers segment could supply high-quality machines and systems."

OZ Health Plus' new facilities will take up 15,000 m2 of manufacturing space and will employ 100 full-time roles once the second stage of the project is complete. The company worked with both Queensland and Federal Government stakeholders as part of the project.

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1: THE GENERATION AND AQUATIC BIODEGRADATION OF MICROFIBERES PRODUCED FROM LAUNDERING FABRICS. Zambrano, M., et al. NC State University, Raleigh, NC, USA. Cotton Incorporated, Cary, NC, USA * 76% in waste water after 250 days with continued degradation projected. 2: Accumulation of Microplastic on Shorelines Worldwide: Sources and Sinks. Mark Anthony Browne, et al. Environmental Science & Technology 2011 45 (21), 9175-9179. DOI: 10.1021/es201811s

Lydall to create largest US meltblown centre

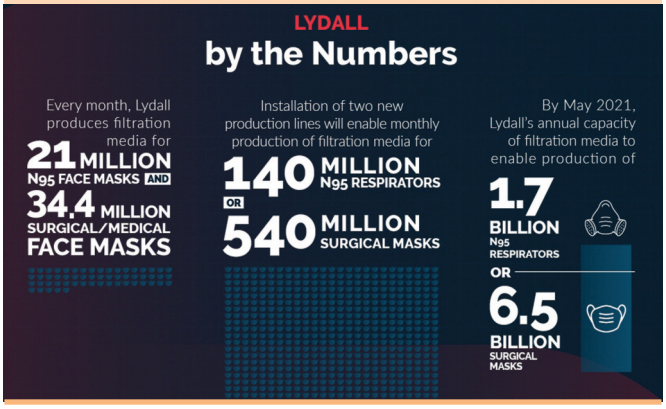
MANCHESTER – Lydall has secured a $13.5 million contract with the US Department of Defense (DOD) to support its investment in two new meltblown production lines – including the one announced on June 2 – at its plant Rochester, New Hampshire.

This investment will significantly accelerate Lydall's domestic production of meltblown filtration media that comprises the critical filtration layer of N95 respirators and surgical masks. By May 2021, Lydall will increase its capacity of meltblown filtration media to support the monthly domestic production of 140 million N95 respirators or 540 million surgical masks, and of high-performing air filtration media to improve air quality in indoor spaces.

"Face masks are the armour that protects Americans from contracting Covid-19," said Sara A. Greenstein, President & CEO of Lydall. "As with the equipment the military provides our soldiers, our face masks, and the filtration media inside, must be highly engineered, backed by science and adhere to the rigorous standards of the National Institute for Occupational Safety and Health. We are incredibly thankful to the US government for recognizing the importance of accelerating domestic production of N95 and surgical face masks and providing the grant we need to do just that. We also want to congratulate the state of New Hampshire and the city of Rochester on this investment and are grateful for their collaboration and partnership."

With the installation of these two new production lines, Lydall's New Hampshire facility will be the largest site for meltblown filtration media production in the United States and a centre of excellence for advanced filtration media innovation. To support the wider need for improved air quality beyond Covid-19, Lydall's innovation team is focused on developing new carbon-based, high-efficiency media for MERV, HEPA and ULPA-grade filters for hospitals, planes, restaurants, office buildings and other public spaces. Lydall expects to generate new jobs to support the increase in production.

"As a market leader in speciality filtration solutions for nearly 100 years, we are proud to bring the full extent of our deep manufacturing expertise, assets and people to bear in the production of personal protective equipment for our first responders, medical professionals, military personnel and the general public," Ms Greenstein added. "We have done everything within our capacity to ramp up our production of filtration media for N95 respirators and surgical face masks. With the support of the US government, we will increase production even further."



Global demand for meltblown nonwovens to rise 6.3%

CLEVELAND - The demand for meltblown nonwovens is forecast to grow 6.3% per year up to 2024 to $6.71 billion, according to a new Freedonia Group analysis.

The report suggests that a short-term demand spike will boost gains in 2020 due to surging demand for personal protective equipment (PPE) amid the Covid-19 pandemic.

According to Freedonia, the demand for meltblown nonwovens used in the production of masks and respirators is forecast to more than double in 2020 due to surging demand for these products amid the pandemic while the prices of fabrics that are needed for masks have also rapidly increased.

To meet soaring global demand and help markets renormalize, meltblown nonwovens producers are also expanding capacity to prevent the shortfalls seen at the onset of the pandemic.

Despite this short-term boost, growth through to 2024 will be similar to that of the 2015-2019 period, the research says. Longer term, market trends are expected to mostly renormalize by 2024, though countries are likely to retain some higher production to replenish stockpiles and to serve an expected higher use rate as mask use becomes more common among those suffering from minor illnesses around the world, as is already typical in major Asian metropolitan areas.

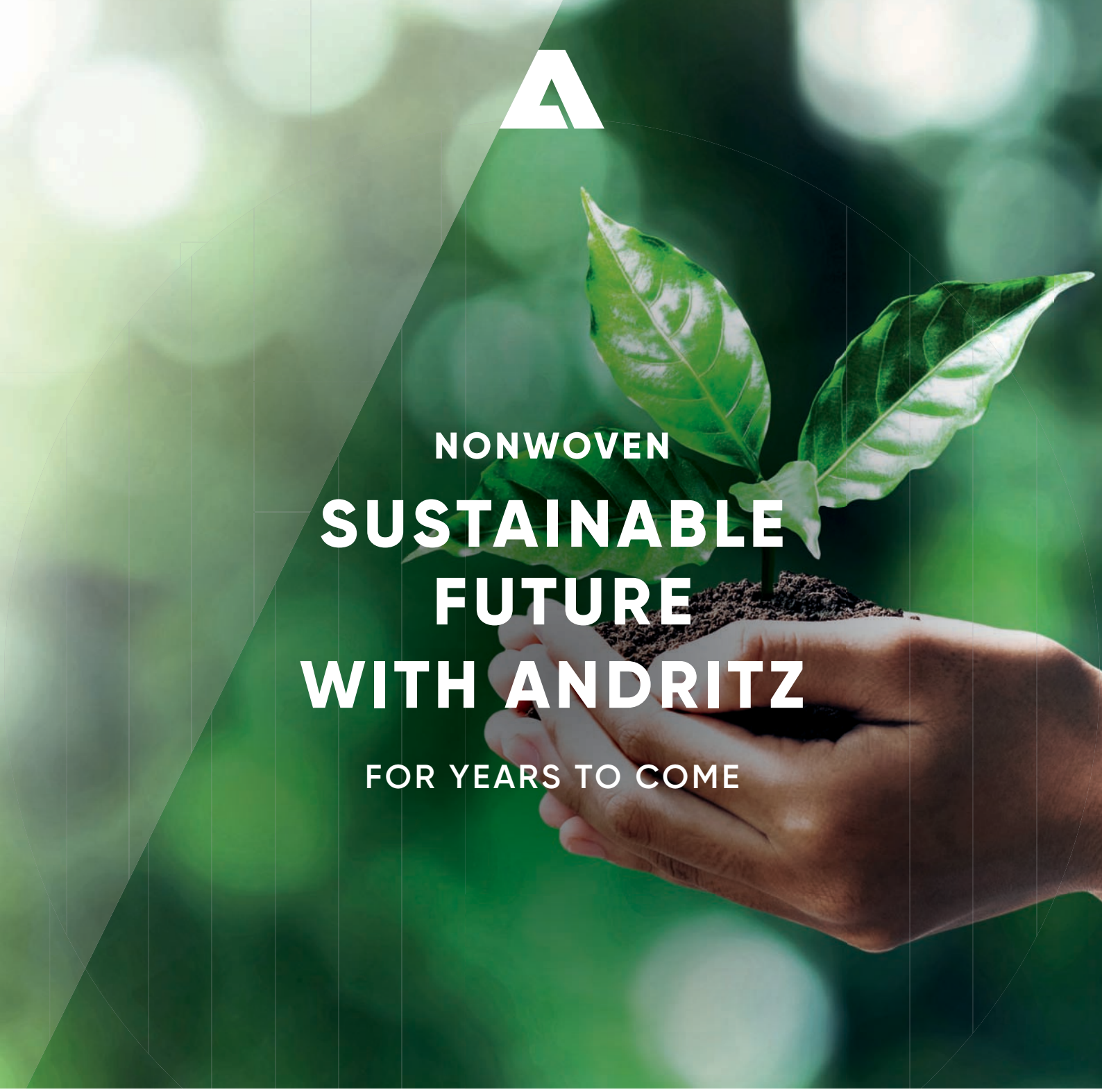
Pricing for meltblown nonwovens is also expected to return to a relatively normal growth pattern by 2024 as demand returns to more sustainable levels and supply chains face less pressure. Nevertheless, a certain amount of upward pressure on global prices will remain as suppliers set up production capacity in North America and Europe, which, the report notes, lack China's cost advantages in economies of scale and labour. *See feature on page 35*

Trützschler to exhibit at Turkish exhibition

EGELSBACH - Technology manufacturer Trützschler is to participate at the upcoming International Kahramanmara Textile Machinery Fair (KTM) exhibition which takes place in Turkey from September 24-26, 2020.

Trützschler says it is keen to maintain its business in a global context and as such it will promote a range of latest developments for the Turkish market including machinery for the nonwovens, spinning and synthetic fibres sectors as well as showcasing its new solutions for carding.

KTM will be held in the Kahramanmara Kafum Fair Center with the support of ITHIB and ATHIB and in cooperation with the Kahramanmara Chamber of Industry and Commerce.



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Autoneum launces eco-labeling scheme

WINTERTHUR - Automotive specialist Autoneum has launched a new ecolabel for its products, which will be used to signify components that meet the highest standards in terms of sustainability and environmental performance throughout the entire product life cycle.

The 'Autoneum Pure' label can be used as a guide for car manufacturers when looking for particularly sustainable technologies in their product selection for future models.

The label is based on a comprehensive set of criteria assessing the sustainability performance of a product in all four phases of its life cycle: material procurement, production, use and end of life. For example, components with a high content of recyclable materials or those that achieve significant weight savings compared to comparable standard components qualify for the "Autoneum Pure" label.

Current multifunctional technologies that already meet the high standards for Autoneum Pure products include: Ultra-Silent for underbody systems or battery undercovers, Di-Light for carpet systems, Prime-Light and IFP-R2 for inner dashes and floor insulators as well as Hybrid-Acoustics PET for e-motor encapsulations and engine-mounted parts, which was launched in fall 2019.

Mono-Liner, the latest innovation for wheelhouse outer liners is also included in the Autoneum Pure portfolio.

Among other things, the Mono-Liner-based components benefit from lightweight construction, thereby contributing to lower vehicle weight with correspondingly less fuel consumption and emissions.

Mono-Liner's life cycle assessment is also based on resource-saving manufacturing process. For example, production cut offs of the components, which consist to a large extent of recycled PET fibres, can be processed into pellets and completely returned to the manufacturing process as fibres.

An SUV and a crossover model from a US vehicle manufacturer already benefit from Mono-Liner wheelhouse outer liners.

Announcing the new concept, Anahid Rickmann, Head of Corporate Communications & Responsibility, said that as innovation leader in acoustic and thermal management, Autoneum was continuously investing in the development and production of resource-saving components that make cars lighter and thus more climate-friendly. "With Autoneum Pure we are the first automotive supplier to establish a sustainability label in the field of acoustic and thermal management. Autoneum Pure is part of the company's Advance Sustainability Strategy 2025 and sets industry standards in product communication," he said.

New study shows skin safety in cotton nonwovens

CAR0 - A clinical trial commissioned by Cotton Incorporated has concluded that cotton, which is widely used in medical, cosmetic and personal care nonwovens products, is safe for use on sensitive skin.

The objective of the clinical trial was to determine the safety of cotton on people with and without sensitive skin. A secondary objective was to learn about the differences between how natural cotton and purified cotton interact with skin. The clinical trial was done in partnership with an independent lab that specializes in clinical testing using the Human Repeat Insult Patch Test (HRIPT).

The trial, conducted between October and December of 2019, found that neither mechanically cleaned nor purified cotton fibres produce any irritation response on any type of skin.

"Today, consumers, retailers, manufacturers and governments are concerned about product safety. Cotton has always been understood to be safe but Cotton Incorporated has gone a step further to provide proof. This research clinically proves that cotton is safe for use against even the most sensitive skin," said Janet O'Regan, director of nonwovens marketing at Cotton Incorporated.

The clinical trial was conducted by Product Investigations Inc., an independent lab specializing in testing using HRIPT. Approximately half of the 200 participants had self-reported sensitive skin, and all participants were tested with both natural cotton and purified cotton fibres over a seven-week period.

The testing process consisted of weekly induction phases, a 2-week recovery phase, and a one-week challenge phase. In the induction phase, the participants' skin was graded for irritations 2 hours after removing the patch of cotton. In the challenge phase, the evaluation was conducted 15–20 minutes after the patch was removed.

In both the induction and challenge phases, there was no irritation response to the cotton fiber patch test on any of the over 200 participants. Through the trial, both forms of cotton produced zero irritation response on any of the participants.

Cotton fibre is often used in medical, cosmetic and personal care products where it comes into contact with skin. "From these clinical findings, individuals with or without sensitive skin can be assured knowing cotton will not cause any irritation," added Joseph B. Shelanski, CEO and director of biophysical research at Product Investigations Inc.

A brochure outlining the methods and results of the study can be found on cottonworks.com, Cotton Incorporated's online industry resource for education, research and market trends.

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Ascend launches antimicrobial technology

Houston - Ascend Performance Materials has introduced Acteev Protect, a breakthrough technology specially formulated to guard against the growth of mildew, fungi and other microbes to keep nonwoven fabrics fresher for longer.

The technology has a number of applications areas offering protection for face masks, apparel, upholstery, air filters and more, said Lu Zhang, Ph.D., Ascend's vice president leading the Acteev launch. "Bacteria, mildew and other microbes growing on fabrics and filters cause the item to break down, discolor and give off unpleasant smells," she said. "Acteev Protect guards against that microbial growth, keeping the articles clean."

The technology has been in development for several years, but with the recent shortage of articles resistant to microbial growth, Ascend accelerated the product launch by partnering with independent labs for testing and reallocating resources to scale up production. "The current global scarcity of microbe-resistant materials is not going to end unless manufacturers are able to obtain the right media," Dr. Zhang said. "We saw a way we could quickly meet those urgent needs with this innovative technology."

Acteev Protect combines zinc ion technology with polyamide-based woven, nonwoven and knit fabrics. The active zinc ions are embedded into the polymer matrix, providing a long-lasting solution that does not wash away, unlike topical finishes or coatings. The polyamide fabrics are durable yet soft to the skin, and the nonwoven filtration media – available as nanofibers, meltblown and spunbond – efficiently keep out unwanted particles.

The embedded zinc in its ionic form is a powerful inhibitor of bacterial growth, said - ikram Gopal, Ascend's senior vice president of technology. "Zinc is an essential element needed for bacterial growth, so bacteria readily allows it inside the cell body. But the zinc ion outcompetes other essential elements such as manganese and magnesium and chokes their ingestion channels," he said.

Additionally, these features will last the lifetime of the garment. "Because the zinc ions are embedded during the polymerization process, knit and woven articles made with Acteev Protect stand up to 50 washes or more," Schoots said.

Ascend is the world's largest fully integrated producer of polyamide resins and also manufactures fibres and chemicals. Acteev Protect is the company's first product offering available in ready-to-use fabric form factors. The company plans to extend the line in the coming months to include polyamide fabrics for medical applications and engineered plastics for high-touch surfaces.

Acteev Protect does not protect users or others against disease-causing bacteria.

Shemesh Automation unveils new look wet wipes technology

LONDON - Shemesh Automation has upgraded its flagship monoblock round packing technology for wet wipes with, the company says, a keen focus on sustainability issues.

Described as a robust, fully automatic, servo-driven vertical index machine, the Xpander, is specifically designed as a single block for the downstream packaging of round, nonwoven wet wipes in cans. It encompasses all aspects of round wipes downstream packaging from cans and wipes loading, dosing, and sealing through to capping, labeling, built-in) C and smart-weight checking. The Xpander has a throughput of up to 35ppm and, according to Shemesh, is the only machine of its kind available on the market today.

Its sister unit, the Xpander+ includes fully automatic feeding, so long as the lid and canister hoppers are kept filled and can be operated completely 'hands-free' - delivering even greater operating efficiencies.

All Shemesh machines are designed and built with sustainability in mind. For example, the Xpander's filling system has been engineered from the ground up to minimise waste. With every cycle the filling nozzles are positioned inside the can, exactly above the roll but below the can's opening – eliminating spillage. The Xpander has a portioning tolerance of just +/- 3gr of filling volume – dramatically reducing waste.

The Xpander's canister sealing system also has a low tolerance margin of 3-4mm, foil waste is reduced to just 15-20mm per batch.

With the company experiencing rapidly increasing demand during the Covid-19 pandemic, Shemesh CEO, Shai Shemesh said its customers required machines that were as efficient and eco-friendly as possible. "When manufacturers buy a Shemesh packaging machine, they know we are with them for the long-haul," Shemesh said. "A major part of that is pushing all boundaries necessary to ensure their line is as efficient and eco-friendly as it can possibly be. We're proud of our record of continuous improvement in terms of sustainability. For example, we can now offer nonwovens packaging machines so accurate that they liquid fill within +/- 3gr of filling volume and seal within a tolerance margin of just 3-4mm – keeping any waste

to an absolute minimum. We also continue to push for a lower footprint in all the incredible machines we manufacture and I'm proud to know that we are leaders in this area."

The Xpander machines also support both round, conic, rectangular and oval shaped cans, screw and push lids, and wrap around or front and back labeling.

Both the Xpander and Xpander+ have further been enhanced with a suite of improvements to quality control, production consistency, a revamped operating system and new Industry 4.0 features.

Essity confident despite sales dip

STOCKHOM - Global hygiene group Essity remains confident of an increase in demand for its hygiene and health products despite reporting a drop in sales for its second quarter.

Posting an 11.4% drop in sales for the three month to June 30, the Swedish firm said that an increased awareness of the importance of hygiene and health would underpin further developments with the company also reporting an increase in market share across a number of markets.

Organic net sales declined by 9.3%, of which volume accounted for -9.8% and price/mix for 0.5% following the impact of Covid-19 pandemic and related lockdowns as well as inventory adjustments following the stockpiling that took place among consumers and distributors in March 2020. In mature markets, organic net sales declined 14.7% while in emerging markets, which accounted for 39% of net sales, organic net sales increased 0.6%.

However, adjusted EBITA for the second quarter was up 1% compared with the same period a year ago.

The lockdowns mainly resulted in a temporary reduction in demand in Professional Hygiene and Medical Solutions. For Professional Hygiene, this was mainly the result of the negative effect of the lockdowns primarily in the customer segments of hotel, restaurant, catering, commercial buildings as well as schools and universities, Essity said.

Meanwhile, Professional Hygiene increased its sales of dispensers as a result of a greater focus on hygiene. In the Incontinence Products, Feminine Care and Baby Care categories, there was a temporary negative impact on demand as consumption declined slightly as a result of the lockdowns as consumers spent more time in the home.

Essity also noted that its adjusted gross margin for the second quarter of 2020 increased 3.2 percentage points to 32.2% compared with the corresponding period a year ago. The gross margin was positively impacted by a better mix, lower raw material and energy costs and costs savings. The lower raw material costs were primarily the result of lower pulp prices.

For the six months the end of June, net sales declined 1.0% to SEK 62,119m while operating profit before amortization of acquisition-related intangible assets (EBITA) increased 43% to SEK 9,159m. Adjusted EBITA increased 32% to SEK 9,115m with profit for the period up 38% to SEK 6,118m.

Jacob Holm launches investment drive

Basel - Spunlace specialist Jacob Holm has announced a two-year investment program that aims to expand its production capacity and enhance the company's sustainable manufacturing program.

Implementation of Project Boost began in May 2020, and is expected to be completed by the second quarter 2022 with the several key proprietary technology advances helping with fast-track implementation.

CEO Martin Mikkelsen said the company had completed a thorough review of all production lines to identify capacity increase opportunities that are aligned with market demand. "After a detailed analysis of market and business needs, we completed a reorganization in 2019 into clearly defined business units and significantly strengthened our executive management group with the addition of three new positions," he said. "I am very proud to see recognition of the efforts of this new team by the Board of Directors with their approval of Project Boost."

The Project Boost investment program is significant in scope, affecting all production lines of the company across all global production sites. The investment is expected to lead to the creation of at least 57 new full-time positions across the group's global manufacturing footprint.

Aligned with Jacob Holm's commitment to sustainability, the investment will target a clear upgrade of the capabilities for utilizing renewable raw materials. Additionally, the upgraded production methodology will further reduce waste and improve production efficiency, thus lowering the carbon footprint of the entire Jacob Holm and Sontara product portfolios.

"Project Boost is our response to the needs of our partners across the globe for increasing capacity, providing more sustainable substrate choices and continuing to uphold our position as an innovation leader in nonwovens," added Mikkelsen.

Medical disposables market to reach US$13.5b by 2027

NEW YORK - The global market for disposable medical nonwovens is expected to grow at an expected CAGR of 6.2% between now and 2027, indicating an increase from its current value of US$8.9 billion to nearly $13.5 billion.

The report, *Global Medical Nonwoven Disposables Industry*, noted that Surgical, one of the segments analyzed in the report, is projected to grow at a 6.1% CAGR to reach US$8.1 billion by the end of the analysis period.

After an early analysis of the business implications of the pandemic and its induced economic crisis, growth in the Incontinence segment is readjusted to a revised 6.4% CAGR for the next 7-year period. This segment currently accounts for a 39.8% share of the global medical nonwoven disposables market.

Geographically, the medical disposables market in the U.S. is estimated at US$2.4 billion in the year 2020 with the country currently accounting for a 27.07% share in the global market. China, the world second largest economy, is forecast to reach an estimated market size of US$2.9 billion in the year 2027 trailing a CAGR of 9.4% through 2027.

Among the other noteworthy geographic markets are Japan and Canada, each forecast to grow at 3.4% and 5.5% respectively over the 2020-2027 period. Within Europe, Germany is forecast to grow at approximately 3.9% CAGR while Rest of European market (as defined in the study) will reach US$2.9 billion by the year 2027.

Andritz to supply spunlace line to Eruslu Nonwoven

GRAZ - International technology Group Andritz has received an order from Eruslu Nonwoven Group to supply a complete neXline spunlace line for its plant located in Gaziantep, Turkey.

The line has a production capacity of 18,000 t/a and is scheduled for installation and start-up at the beginning of 2021.

This new spunlace eXcelle line will be able to process a wide range of fibres, such as polyester, viscose, lyocell, and bleached cotton, with weights from 30 up to 75 gsm.

The fabric will be used to produce high-quality wet wipes for cosmetics applications, fem care and baby diapers, dust wipes, hair dressing towels, medical bandages and gauzes, amongst other products. The new line will also enable Eruslu to diversify its product portfolio into new technical applications.

The complete line will cover the manufacturing process from web forming to drying and will include one complete set of Laroche opening and blending machinery, two inline high-speed TT cards, and a JetlaceEssentiel unit, which is the benchmark for hydroentanglement processes, including an Andritz full filtration unit.

The line also includes a neXdry double drum through-air dryer and the neXecodry S1 system for energy saving.

The installation at Eruslu is the fourth Andritz line the company has purchased since the two firms began their successful collaboration in 2009.

Investkonsult Sweden AB

Consultants to the nonwoven and absorbent hygiene industries

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Line is consisting of:
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01 x solventless 5-roll coating head with World mixer
01 x turret unwinder - max dia 1016 mm, with automatic splicing, edge guide, corona treatment
01 x laminator and 01 x solventless 5-roll coating head with World Mixer
01 x turret unwinder - max dia 1016 mm, with automatic splicing, edge guide, corona treatment
01 x laminator
01 x turret re-winder - max dia 1016 mm with automatic roll change
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Ahlstrom-Munksjö strikes gold for sustainability work

STOCKHOLM - Ahlstrom-Munksjö has been awarded with an EcoVadis Gold rating for the its sustainability management and performance for the fourth consecutive year.

Compared with the results from the previous year, the assessment identified significant progress in terms of sustainable procurement.

EcoVadis is a globally recognized business sustainability rating provider. The Corporate Social Responsibility assessment criteria include four themes; environment, labour practices, sustainable procurement and fair business practices.

The EcoVadis method is based on internationally adopted principles for sustainability reporting, such as the Global Reporting Initiative, United Nations Global Compact and ISO 26000, and is audited by independent sustainability experts.

Anna Bergquist, executive vice president, Strategy, Sustainability and Innovation said that the company's corporate responsibility was embedded into its mission of providing sustainable and innovative fibre-based materials. "We use EcoVadis to identify our strengths and development areas to improve further our corporate social responsibility," she said. "The rating allows us to communicate an independent view on our performance. I would like to thank all of our stakeholders, both internal and external, who have contributed to this achievement."

RKW sells ACE medical films business

FRANKENTHAL - Private equity firm Standard Investments has acquired RKW's ACE business, the manufacturer of embossed films and laminates for the medical industry.

Details of the transaction were not disclosed.

Established in 1973, ACE was among the first film producers for the hygiene and medical disposables markets. After becoming part of the RKW Group in 1999, ACE, based in Liege, Belgium, continued its business success and, today, is regarded as one of the global market leaders in its field of expertise. The company was an early member of EDANA, the global trade association for the nonwovens industry.

Announcing the deal, Harald Biederbick, CEO of the RKW Group said ACE will remain a strong stand-alone business with great growth potential. "RKW will cooperate with ACE during a limited transition period," he said. "This allows ACE to continue its journey, while at the same time enabling RKW to focus on its strategic markets and industries."

Utilizing cast film extrusion technology, ACE manufactures cast embossed polyolefin films, laminates of film to nonwoven, and apertured films for the medical and hygiene sectors. In its 2019 fiscal year, it generated sales of €30 million. The company employs a staff of 80 and, under its new ownership, continues to be led by Guy Pinchard, Patricia Featherstone and Régis Lamoline.

"We enthusiastically welcome ACE into the SI family," added Hendrik Jan ten Have, partner at Standard Investment. "Together with their management, we will actively support ACE's journey towards becoming a more flexible organization focused on innovation and sustainability".

INDA report provides outlook for facemask/respirator meltblown demand

CARY – With respirators and medical facemasks at the forefront of efforts to fight Covid-19, a new report from INDA, the Association of the Nonwoven Fabrics Industry, examines the market and outlook for the stand-alone meltblown process used to produce those products.

Available now, the report, *Meltblown Nonwoven Markets: COVID-19 Impact Analysis* (https://bit.ly/meltblownreport), presents an outlook on the meltblown required for medical facemasks and respirators in the U.S, providing critical insights for companies to make informed decisions during these times. The report also provides a global view of meltblown capacity.

"With U.S policymakers currently considering or putting in motion policies to achieve self-sufficiency in Personal Protective Equipment (PPE) base material, understanding the dynamics of supply and demand of meltblown, a critical base material for PPE, in North America and other regions is critical at this time," said Dave Rousse, INDA President.

INDA is continuing its role as a valuable resource connector by bringing together users of PPE with suppliers and working to facilitate increasing the U.S. production footprint of meltblown materials, a limiting factor to U.S. facemask production.

Based on extensive research, producer surveys and interviews with industry leaders, the report is authored by Brad Kalil, INDA's Director of Market Intelligence & Economic Insights, an industry leader on providing important information on this sector of the nonwoven industry.

This report is focused on the overall market and provides an introduction to meltblown techniques, the fibres' unique properties and end-use applications, historical capacity, and estimated U.S. and global volumes.

Meltblown Nonwoven Markets: COVID-19 Impact Analysis also provides valuable insights for companies involved in the meltblown supply chain from resin equipment producers to fabric producers to end-use converters involved in facemask production, the filtration industry and wipes markets.

Growing interest in flooring reuse & recycling

Flooring industry support for carpet waste reuse and recycling opportunities in the UK continues to rise, despite an overall 10% decrease in the total amount of carpet waste identified and recorded in 2019 compared to 2018, according to Carpet Recycling UK's latest report.

Since its formation in 2007, the not-for-profit, industry-led membership association has enabled both members and non-members to divert around 1.25 million tons of carpet waste otherwise destined for landfill.

Creating further landfill diversion solutions for carpet waste reinforces Carpet Recycling UK as the only independent 'go-to' body for organisations that want to drive forward sustainability and circular economy principles in the carpet/flooring sector.

CRUK's latest data for 2019 reveals the volume of carpet waste diverted from landfill in the UK was 158,577 tons compared to 175,252 tons in 2018, with the majority being post-consumer broadloom carpets compared to carpet tiles or post-manufacture waste. Material sent to the energy from waste sector as RDF/SRF declined in line with other reports in that sector.

However, CRUK's 2019 figures show sustained strong interest from across the supply chain in initiatives to reuse and recycle carpet waste where possible, with encouraging rises in activity including:

- Carpet tiles reuse has more than doubled.
- Use in carpet fibre recovery was up by more than 50%.
- Plastics recycling (from synthetic fibres) went up by just under 50%.

CRUK currently has around 110 members and its core funders are Balsan, Betap, Brintons Carpets, Cormar Carpets, DESSO, ege Carpets, Lifestyle Floors/ Headlam and Milliken.

In 2019, CRUK changed the way it generates industry data, by capturing additional information such as identifying captured carpet tile waste as a separate stream and recording other end-of-life use where possible, it is able to provide more specific areas of information.

Commenting on the latest data, CRUK Manager Adnan Zeb-Khan suggests that the 2019 reduction in collected carpet waste is due to a number of factors, such as market uncertainty, additional taxes/lower sales, company mergers/acquisitions and the waste sector seeing reduced waste streams generated within the UK.

Robust response from PPE supply chain

The nonwovens and related industries continue in their global response to the coronavirus pandemic.

As it calls on authorities for guarantees on the role of EU producers in the supply chain, EDANA, the leading global association serving the nonwovens and related industries. has confirmed that the EU's production of face masks, essential for tackling the coronavirus crisis, is set to increase 20-fold by November this year compared to pre-crisis times.

This means that EU-based producers will be able to make the equivalent of 1.5 billion three-layer masks a month, according to the latest figures.

Pierre Wiertz, EDANA's General Manager, said: "These figures show how EDANA's members in the nonwovens sector have responded in record time to the unprecedented challenge of the COVID-19 pandemic and the call by EU and national authorities to ramp up production of face masks to protect public health."

Wiertz added: "As soon as the European Commission and member states asked for an increase in the production of face masks, EDANA's members worked flat out to increase the production of meltblown nonwoven web, which is essential for face masks, in the EU and to overcome global supply shortages."

Over the last three months, EDANA has been liaising with partner associations including MedTech Europe, ESF, and EURATEX to ensure sufficient supplies of

Wiertz said that following this response, the industry faced some uncertainties which needed clarification. "The industry now needs clear official estimates of the current and future EU needs for medical-grade face masks and personal protective masks (FFP2/3) as well as guarantees that stockpiling and procurement procedures would favour EU players in the supply chain and enable their sustainable business development". This would reward their efforts to produce quality single-use products compliant with European Standards, he added.

Jacques Prigneaux, EDANA's Market Analysis and Economic Affairs Director, explained that at the start of the pandemic in March, "the main bottleneck in the global supply chain for face masks was a shortage of ultra-fine meltblown (MB) filament web, which is the indispensable high-tech filter layer used in all nonwoven masks. Once electro statistically charged, this nonwoven fabric is able to stop very fine particles and droplets carrying bacteria and viruses."

Prigneaux said that thanks to the efforts of EU-based producers there would be enough meltblown capacity in the EU by November to produce the equivalent of 1.5 billion three-layer surgical masks per month. He added that it normally took up to 12 months to install meltblown production lines but several contractors had managed to halve the time needed.

In contrast with the rest of the supply chain, where European players were no longer in a leadership position, the world's most sophisticated technology platforms producing meltblown nonwovens belong to European machinery companies, he said.

EDANA has also convened a new sector group representing face mask converters, nonwoven suppliers, testing laboratories and equipment manufacturers to work together to develop an independent and self-sufficient supply chain for medical face masks and personal protective masks in the EU. The group will work to ensure adherence to applicable European Standards and to encourage responsible product stewardship throughout the life-cycle of face-masks from raw material sourcing to end-of-life solutions.

In March 2020, EDANA offered rapid support in response to the call from EU member states and the European Commission to ramp up the production of face masks in the EU.

UK

The UK government has pledged £15 billion for the procurement of personal protective equipment as it looks to avoid a repeat of the widespread shortages experienced across the country at the start of the coronavirus pandemic.

UK Chancellor Rishi Sunak said the funds would be used for the purchase of masks, gowns and gloves.

Despite the initial pledge, and with understandable caution, Meg Hillier MP, chair of the Commons' public accounts committee, told *The Guardian* that they had asked the government for a clear plan on how PPE stocks will be managed. "They keep unveiling telephone number figures but not a plan to back it up. It takes time to get the flow right and we've had problems with the supply chain," she said. "The tragedy would be throwing money at bad PPE and that's not good for anybody."

The UK experienced a number of major setbacks in the first weeks of the pandemic as it looked to boost depleted and out of date PPE stocks. Between

February 18th and April 25th, the UK's NHS and associated industries burned though over a billion items of PPE – all of them, single-use disposables while a highly publicized major shipment of PPE from Turkey was found to be sub-standard.

The result of the obvious shortfall has been a significant investment in vital meltblown fabric production in the UK in over the last couple of months.

Don & Low in Scotland, which has both industrial spunbond and meltblown manufacturing, has received a £3.6 million repayable loan from the Scottish Government towards the £4.5 million purchase of a new meltblown line dedicated to the production of N95 standard filter media for facemasks and respirators.

Following the procurement of ten production lines, the government has also been working with suppliers in Port Talbot in Wales and Blackburn to start producing high quality face coverings. Another site in Livingston in Scotland will also start manufacturing face coverings in the coming weeks.

The production sites will ensure that public demand for face coverings does not impact on the supply of higher-grade face masks for NHS front line staff.

The government has bought ten production lines, which include 34 tons of equipment and machinery, and following checks and testing at a machine manufacturer, DCR Machines in Leeds, the machines have been set up across the UK.

A further ten production lines have been commissioned from a UK automotive company, Expert Tooling and Automation Ltd, based in Coventry.

The first production lines are being established at: The British Rototherm Group, in Port Talbot, Wales; Cookson & Clegg, Blackburn; and Transcal, in Livingston, Scotland.

This is the first time that face coverings are being made at such scale in the UK, the government said. Orders for the coverings have already been placed by a number of public and private sector buyers and the government is in discussions with a number of other retail companies on the purchasing of the items.

Medicom

Berry Global is to install a new meltblown line in the UK, part of a collaboration with Medicom to supply the UK Government with medical and respiratory masks.

Berry Global is working with the Medicom Group to design the manufacturing solution and guarantee the supply of the nonwoven fabric intended for use in producing hundreds of millions of face masks per year.

To do so, Berry is investing in a new meltblown nonwovens line, to be outfitted with its proprietary charging technology, at one of its UK based facilities to increase capacity of material necessary in the production of European-standard Type IIR and N99-equivalent FFP3 masks. The masks will be manufactured and sold under Medicom's European Kolmi brand.

According to Berry, the UK Government has enabled these investments through a long-term contractual commitment. The agreement confirmed support for Medicom's new UK-based production facility, which is scheduled to open later this summer. This move highlights the focus governments are placing on securing a supply chain that helps ensure a local supply of personal protective equipment.

"Berry has deep roots in the UK. We are pleased to support Medicom as they open their new facility and help advance safety and protection in the region well beyond the COVID-19 pandemic," said Curt Begle, President of Berry's Health, Hygiene, and Specialties Division.

The announcement adds to Berry's growing list of partnerships to expand capacity of protective materials and add certainty to crucial PPE supply chains.

Honeywell

Honeywell is to build a new production line capable of producing up to 4.5 million FFP2 and FFP3 disposable face masks per month at its Newhouse site in Scotland, United Kingdom.

The UK government has ordered 70 million of the locally produced Honeywell SuperOne face masks, with production expected to start as early as July. The masks will be distributed by the Department of Health and Social Care to the U.K.'s National Health Service (NHS) and social care settings to protect frontline workers.

The new mask production line is expected to create approximately 450 jobs at the site.

"As a global leader of high quality personal protective equipment, Honeywell is committed to getting safety gear to those who need it most, including workers on the front line of the fight against COVID-19," said Will Lange, president of Honeywell's personal protective equipment business. "Our Newhouse facility has both the physical capacity and technical capabilities to launch a large-scale respirator production line in such a short timeframe. We are proud of our teams who are bringing new manufacturing capabilities to the United Kingdom as quickly as possible to support the country's response to the pandemic."

This is the third new face mask production line Honeywell has announced in the last two months. The company started two new manufacturing lines in the United States for the North American market.

Honeywell's Newhouse plant specializes in electronic systems assembly and testing and other advanced manufacturing capabilities for several of Honeywell's business groups, and will continue to do so alongside the new face mask line.

Honeywell will supply the 70 million face masks from Newhouse to the UK government over an 18-month timeframe.

Drager

Germany's Dräger is to set up a mask production facility in Northumberland following the award of a €100 million

Dräger has added mask capacity with a new UK production line.

In conversation with...

Investkonsult

Johan Berlin, managing director of Investkonsult Sweden joined Haydn Davis for the latest SNW webinar, PPE Snapshots from Around Europe.

Haydn Davis: Would you like to introduce Investkonsult to anyone who doesn't know the company?

Johan Berlin: We work as highly specialised consultant and brokers of used equipment exclusively for global nonwovens producers as well as the absorbent hygiene producers globally. As well as health and hygiene we cover all elements of the nonwovens segments in the durables sector such as geotextile and automotive. We have been doing this for 25 years.

HD: You're located in Sweden, when did you first become aware that Covid-19 might become a problem in Europe?

JB: I think realised personally until around week 8 - end of February, early March when we started getting calls about increasing meltblown capacity in other parts of the world other than China.

HD: The strategy of the Swedish government and its decision not to go into lockdown in the same way its European neighbours did has been well publicised. What is your take on that?

JB: My personal take is that I think we did we did the right thing, but time will

tell. Perhaps we need to look at this again in a year's time and see if we actually did make the right choices. I believe both from an economic perspective and from a wider health perspective that we have done the right thing. Yes we have over 5,000 deaths out of a population of more than 10 million but the positive effects of having children going to school, especially in the troubled socio-economic groups, has been a benefit. Not having people lockdown at home who are suffering has had an overall positive effect. And of course the health effects coupled with the economic benefits. When you have layoffs people can suffer from depressions and there are increases in the suicide rates, so I think that overall we did choose the right strategy, but let's see.

HD: The pandemic means that all the talk has been of a huge demand, but then a shortage of specialised machines for the production of meltblown nonwovens. When did you first get a sense that this demand was going to arise?

JB: That was probably mid- or even early-February when we started getting emails from China that they could not produce enough meltblown fabric for their own domestic consumption. We started getting requests from China, which we usually don't, dealing with second hand equipment. Normally, there are two types of Chinese customer. Firstly, those that deal with the export market which tend to buy brand new European machines and secondly, those that deal with the domestic and Asian market which tend to buy brand new Chinese equipment. So normally, they never come to us for second hand equipment. When we started seeing that, we understood how severe the situation was. And maybe more importantly, the timing, because the delivery time for new equipment is quite long and they needed equipment as soon as possible.

HD: Was this unprecedented or have there been other epidemics before that have caused a spike in demand for these technologies?

JB: There has been, yes. The bird flu and the swine flu epidemics both produced an increased demand for facemask material in China back in 20011-12. We actually did sell a used meltblown line to a Chinese company because the delivery time for a new machine was too long. And that was a line we had been trying to sell for more than two years. With the start of the flu, a delegation of seven people from China flew in and said they would take it, simply because it could be delivered so quickly.

HD: What impact has this had on Investkonsult?

JB: With Sweden producing less than one per cent of total nonwovens absorbent hygiene output, we are used to traveling. There are three of us here who are on the road more than 140 days per year or even more; going out, visiting customers, inspecting equipment, consulting with customers and carrying out valuations. Obviously all that has been put on hold. My last trip to Poland was on February 6 and since then I have been in the country. That is the longest continuous period that I have been in Sweden since 1999. It has affected business, which has dropped, but we were fortunate enough to be able to complete all the business projects we had started. The time from initiating a business until its completed can be quite long, stretching from anywhere between six and 12 months which means that whatever we were able to finalise during the Spring had been imitated back in 2019. I'm assuming that 10 to 12 months from now, business will be less as we have not been able to do any groundwork for new business.

HD: Is the company now back to operating as normal?

JB: As we didn't have a lockdown, we have always been operating as normal. We are a small company and under normal circumstances we have one person in the office with three out traveling. But at the moment, we have three people in the office at any time, but with a lot of space, that is not really a problem. My father, who is over 70 has been working remotely but apart from that is hasn't really affected our day-to-day work. Business as usual.

HD: What do you think will happen to the machinery marketplace once the pandemic has passed?

JB: An interesting question as nobody really knows. If we look at converting equipment, and specifically facemask machines, I believe that you will have quite a lot of people in Europe and in the US that have purchased machines that could be idle 24 months from now. Because they will not be able to compete. Once all the governments and other bodies have filled up their stocks again then the small players, the ones that got in two months late and bought a fairly cheap machine from China, they are not going to be able to compete with the larger companies that bought a European machine which will have a very high output and a very low labour cost. I think those latter companies may be able to sustain. There may be a shift from where governments and health institutions are going to buy their material. A few will remain but a lot will be back on the second hand market and being Chinese made equipment will have a very low resale value, if any. We may end up with 30-40 companies that are going to have to scrap their equipment within a couple of years.

HD: What lessons will be learned for the future?

JB: One lesson that has already been learned is the issue of being so dependent on Asia and the subsequent supply chains. Absolutely, we are going to have a higher output of meltblown in Europe and we are also going to be more self sufficient in the actual production of PPE. That will come back here and in fact, I'm surprised that it hasn't come back before. It's not a high, labour intensive industry and if you go along with the European manufactured machines, you get a lot of material and a lot of product out with very low operating costs. So it should be possible to run these operations in Europe, producing at a competitive price. That lesson has already been learned. **SNW**

contract from the UK government to supply FFP3-standard respiratory protection masks.

The delivery of the order will start in 2020 and will last until the end of 2021.

Dräger will site the mask production line at its existing site in the Blyth area of Northumberland where it has operated a development and production site for respiratory protection technology for firefighters and other industries for over 50 years.

This is in addition to the existing production network in Sweden and South Africa and the recently announced new production sites in France and the US. The investment in the expansion of production capacities across all five production sites will require a mid-double-digit million euro amount in the 2020 financial year, the company said.

"We are very pleased about the major order from the British government. It gives us the opportunity to expand our international production network for FFP masks," said Rainer Klug, chief officer of Safety Division at Dräger, adding that the additional production unit would enable the company to increase volumes quickly and flexibly. "Our international production network enables us to react very quickly and specifically to national or local requirements on the one hand, and to cover international requirements in a closely networked and flexible manner on the other. Dräger thus operates a highly responsive manufacturing system for certified FFP respiratory protection masks, with a product design originating from our own development in Germany."

Jacob Holm

Jacob Holm's Sontara business is expanding capacity at its facility in Asturias, Spain, as it looks to ramp up production of medical nonwovens and critical cleaning wipes.

The investment will cover a significant upgrade of the existing production line to increase its capacity by over 60% and to add new line capabilities.

Martin Mikkelsen, CEO of Jacob Holm Group said the investment reflected the company's commitment to support the needs for medical nonwovens for face masks, surgical gowns and disinfectant wipes in Europe. "Sontara has been a trusted supplier of medical nonwovens for over 40 years," he said. "We are very excited that we can now offer our high-quality fabrics for personal protective equipment (PPE) directly from our facility in Asturias. Sontara Asturias has seen a significant uptick in demand for these items related to Covid-19 and, to date, has responded with donations of more than 1,000,000 masks worth of nonwoven material."

The main line upgrades and continuous improvement activities will be completed leading to a capacity increase of 50% by July 2020 with further investments to become active in the first quarter of 2021.

Meanwhile, the Sontara business in the USA has been working for the past few months with Baltimore-headquartered sports performance brand Under Armour on the development and production of personal protective equipment (PPE) including face masks and isolation gowns.

With US production facilities in greater Nashville, Tennessee, Sontara has been creating medical-grade fabrics for more than 45 years and has seen a multifold increase in demand for healthcare fabrics in the past few months, requiring a 65% increase in production in March over its 2019 projections and leading to the hiring of 67 new production employees.

"This situation is unprecedented," said CEO Martin Mikkelsen. "However, for Jacob Holm as a company, the only way forward is to lean in to what we know and use the full force of our experience to help contain the spread of Covid-19 and make a positive impact on the well-being of our communities."

Two of Jacob Holm's five manufacturing sites reported record production volumes in March, yet the company's production is limited to nonwoven fabrics, which then need to be converted to the products healthcare workers use.

Its partnership with Under Armour has been decisive.

"More than 50 Under Armour teammates from materials scientists to footwear and apparel designers from laboratories in Baltimore and Portland quickly came together in search of solutions," says Randy Harward, SVP of

Sontara is expanding its PPE production.

advanced material and manufacturing innovation at Under Armour.

Within a week, Under Armour and Jacob Holm had found their way to leverage their individual strengths and come to a quick understanding of what it would take to create a no-sew protective mask that could be produced quickly and at scale.

Under Armour is now converting Sontara material into its one-piece, no-sew mask design and has made the design and method available to other manufacturers.

By the end of April Under Armour had used nonwoven material to produce and supply more than 1.1 million face masks and nearly 20,000 isolation gowns to its partners.

Borealis

Polypropylene producer Borealis has teamed up in a social business initiative with Austrian stationery brand Paper Republic for the production of sustainable and reusable facemasks.

The new Mask Republic venture will supply facemasks across Austria thanks to a reliable network of value chain partners, local and regional government organisations, and NGOs. Testing at Borealis laboratory facilities has shown that the Mask Republic facemasks provide up to four times more effective filtration than conventional hand-sewn facemasks. Since washing the masks does not impact filtration effectiveness, they are perfectly reusable without losing their filtration performance and therefore help to counter waste.

Borealis is providing filtration media fabrics made using its new HL912FB PP resin for meltblown applications and the facemask design, manufacture and sales are being organised by Paper Republic.

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In conversation with...

EDANA

Sean Kerrigan, Director of Communications and Media Relations, EDANA, joined Adrian Wilson for the latest SNW webinar, PPE Snapshots from Around Europe.

Adrian Wilson: When did EDANA first become aware that Covid-19 might become a problem for Europe and what was your initial response to that?

Sean Kerrigan: Knowing the link between what our members make and the requirements brought out by the crisis for facemasks and other PPE, as well as steralising wipes etc., we understandably tracked this quite quickly and kept an eye on it, so we acted very early on in the process. In early March, building on long-standing relationships we have with the European authorities, we offered rapid support in response to the calls from member states to ramp up the production of facemasks, and also just to make them aware of the bottlenecks within the supply chain and the challenges that some of the producers of the raw materials were facing.

A matchmaking service was set up between providers of the raw materials and converters to see who could move on it and we worked closer than ever with partner associations such as the European Safety Federation and Euratex.

The final production of these facemasks and other items is something that had slowly shifted out of Europe over time, while the demand was here in Europe. We mapped that and were able to track and trace nearly 100 companies, some new to the market, to see how we could ensure supply and bring the bottlenecks and frustrations to the attention of the authorities.

AW: One bottleneck being the meltblown fabric in particular?

SK: Absolutely. It makes up the critical layer, of course, for filtration functionality within a mask, and mapping the meltblown production in Europe was one of the first things we looked at, to see where we could address some of the supply challenges. Coupled with that, I think we have to mention the rapid response of the industry, ramping up capacity where they could, people converting their lines to make products they hadn't made before, and really seeing growth in output

AW: That capacity now appears to be solidly in place. It's been a very rapid turnaround hasn't it?

SK: Yes, we can speak of a tripling of meltblown production just between March and May and a twenty-fold increase by November. That's unprecedented from an industry that was used to long term stable demand. So we're looking at meltblown output allowing 1.5 billion triple-layer masks per month to be produced within Europe.

AW: What about on the converting side? That seems a lot more fractured in terms of players, compared to the structured meltblown sector?

SK: There have been a number of new actors and we've seen a lot of nonwoven producers adapt their production models. As I mentioned, we've now identified close to a hundred mask producers, who will ensure there is a European supply.

AW: So what about support for them going forward? What does the industry need from external resources?

SK: Going back to the relationship we have with the regulators, we've seen measures put in place by the European Commisssion in respect of stockpiling and ensuring free flow. We are looking for guarantees on product quality to ensure that what's been produced is fit for purpose and we need to establish long-term independence from external factors to meet demand for a next wave, or the next virus. At the beginning of July, EDANA convened a new sector group for facemask converters, suppliers, testing labs etc. We will work together to create an independent and self-sufficient supply chain. We'll maintain our relationships with the authorities. We have a unified voice on this and that's really helpful in liaising with the authorities, in guiding them to ask the right questions and gain the pertinent answers they need. It's really important that we maintain those channels of communication.

At the same time, we need to be sure that as a business model it's sustainable, because it's an unprecedented peak, but you don't know how quickly that demand might fall off, so there's some reassurance needed there.

We shouldn't forget that the same producers will be looking to innovate. There was the dependence on meltblown, but they will certainly be looking at other processes and raw materials.

AW: That leads to a final question. We've got a big single-use disposable plastics issue here and in the longer term that's going to have to be addressed one way or another, isn't it? But there doesn't seem any way out of it right now.

SK: These products are crucial and there's a demand there that's being met. These are not luxury products but basic requirements. We do need to be wary, of course, of how they're disposed of and perhaps look at labelling measures in respect of disposal advice. This was discussed at the working group meeting

The Single Use Plastics Directive was drawn up before facemasks became a pressing concern, but we will need to be having that debate once producers have met the other problem of establishing a supply chain

This is a story that's not going to go away anytime soon. **SNW**

Testing at Borealis laboratory facilities has shown that the Mask Republic facemasks provide up to four times more effective filtration than conventional hand-sewn facemasks.

The initiative involves providing local and regional tailors, who would otherwise be unemployed or underemployed due to the coronavirus pandemic, with a custom-designed kit to assemble the masks from a light cotton fabric.

"Some months ago it quickly became clear that Austria, like many other countries around the world, was facing one of the biggest health and safety challenges in nearly a century," says Jérôme Bacquias, founder and managing director of Paper Republic. "We immediately knew that we had a mission to help the communities around us. These difficult times have brought us together with Borealis, in an extraordinary partnership that we are certain will benefit many."

The need for facemasks is expected to remain strong as European countries begin to loosen lockdowns and some introduce the mandatory wearing of them in public spaces.

Borealis is the European market leader in PP resins for meltblown fabrics, which are particularly effective in hygiene applications such as diapers and face masks, where micro and nanofibre materials are required for barrier purposes.

Due to the growing demand for facemasks, Borealis recently converted a meltblown pilot line at its Linz site in Austria for the small-scale production of fine fibre fabrics for these applications.

The newly developed Borealis grade HL912FB is already being used on this line to produce meltblown fabrics for customised inlays in cotton-based mouth-nose masks, conventional mouth-nose masks, and possibly later on also for high-end facemasks worn by medical professionals (FFP2, FFP3 and N95).

Lemo

Lemo has developed an automated production line for three and four layer surgical masks. Based on its experience in the hygiene and food packaging sectors, the CAPmat M-FFP-300 is a 100% automatic system which avoids human contact with the final product during the manufacturing process for FFP2 / NH95 facemasks.

The machine consists of the fully automatically, mask-production, the automatic packaging of masks in outer-bags and also the automatic packaging of multiple outer bags in a box.

The first line has been sold to a German company with each line able to process up to 1,000 masks per minute depending on the product specification.

Lemo currently has the capacity to deliver two lines per month. "When the coronavirus pandemic started, Lemo's owners Willi Fenninger & Bernd Schlarp decided to start development of a face mask machine," the company said. "Lemo has been operating automatic packaging machines for more than 20 years for many different applications so the key engineering was around the mask making process."

Hayat Kimya

Turkish consumer goods manufacturer Hayat Kimya has installed a surgical mask production line, an investment that will enable the company to produce more than 2.5 billion masks per year under its Goodcare and Evony brands.

The company, which describes itself as the world's 5th largest branded baby diapers manufacturer, and the largest paper tissue manufacturer across the Middle East, Eastern Europe and Africa, said the 100 million TL investment will make it the largest surgical mask manufacturer in Turkey.

"Turkey has strategic importance when it comes to face mask production as we are a key supplier of the raw materials," Enes Cismeci, General Manager, Turkey, told a press briefing. "Hayat Kimya is the only facemask manufacturer in the country that produces its own raw materials. There are a lot of masks in the market but I strongly urge consumers to look for those products with the appropriate quality certifications. The TSE Type 2 certified masks have three layers and offer 99% bacteria protection."

The company produces tissue, hygiene and home care products in 18 plants across Iran, Egypt, Bulgaria, Algeria, Morocco, Russia, Nigeria and Pakistan.

Freudenberg

Freudenberg Performance Materials is working with the Nonwovens Institute at North Carolina State University to manufacture face masks for UNC system universities, N.C. government organizations and hospitals.

As the fight against coronavirus continues, the need for essential face coverings continues to rise. Together with the Nonwovens Institute at NC State University, Freudenberg Performance Materials will begin production of earloop procedure and N95 masks.

The two organizations are aligning their expertise and supply chains to bring PPE to universities and healthcare workers as quickly as possible.

Through this partnership, NC State is supplying Freudenberg Performance Materials with the necessary roll goods needed for production while Freudenberg provides the textile manufacturing expertise and work force needed to install, operate and maintain the four new production lines.

"As the leader in the development of the next generation of nonwovens, we knew we could step in and help fill this critical need," said Behnam Pourdeyhimi, executive director of the Nonwovens Institute. "By partnering with Freudenberg, we will ensure the reliable completion of millions of protective face coverings to battle the coronavirus using NWI's novel filter media."

Once fully operational the site will be able to produce more than one million masks a month.

In addition to the face mask lines provided by NC State, Freudenberg is also in the process of installing six additional production lines to manufacture surgical and N95 masks. Not only will the lines help provide essential face coverings, but the addition of the lines has enabled Freudenberg add 50 new positions within the company to operate the lines.

SPONSORED CONTENT

How the right equipment and partnership helped protect a PPE manufacturer's bottom line

PPE manufacturing has accelerated dramatically because of the COVID-19 epidemic. This has left many companies scrambling to reduce labor and material costs, increase productivity and throughput, and improve product quality.

A manufacturer of polyester medical face masks faced something serious themselves — the new market realities of intense price pressures from both the competition and managed care providers. Despite significant cost-cutting measures, the scale of their operations, with over 50 machines spread across multiple locations, prevented extensive upgrades of their production lines due to costs.

Web Industries collaborated with the company to evaluate their existing production process, including a thorough cost analysis that included labor, benefits, overhead, machine depreciation, and space allocation.

After studying the challenge, a 4-point solution was agreed upon to solve the manufacturing problems:

1. Spools Instead of Pancakes Rolls: Replacing pancake rolls with spooled material achieved immediate throughput increase. Spools only needed to be changed once every two hours instead of once every ten minutes, reducing the overall number of splices, splice-based machine downtime and splice-based waste product.

2. New Unwind Machinery: Production lines were built to use narrow pancake rolls, so Web Industries' engineering team assisted in designing unwind stands that allowed spools to feed into the existing manufacturing equipment.

3. Standard Components: Standard components were used wherever possible to reduce the amount and type of equipment that had to be purchased and to keep capital costs under control.

4. Providing Spooled Material: To support the updated manufacturing process, Web Industries' precision converting services provided slit and spooled material custom-formatted for maximum efficiency.

Healthy results helped the company recover fast — thanks to a strong engineering partnership, Web Industries' spooling technology and a suite of products, services and suppliers. Together they produced:

- Nearly $1 million of annual labor savings
- Increased material yield by 10 million linear yards per year
- Number of splices per production run reduced by a factor of 20
- Splice-based downtime reduced significantly
- Improved production uptime
- Reduced overall waste

All of this was accomplished with an investment of approximately $1 million, less than 5% of the cost to convert the entire production line to new equipment.

The advantages of spooling. A closer look.

Web Industries provides outsourced flexible material converting, including "slitting and spooling." Spooling uses a special winding process to place narrow width material on a high-capacity spool instead of a relatively low capacity planetary or "pancake" roll. A spool can often hold ten times the capacity of a pancake roll, which greatly reduces the amount of splicing, roll swaps, and machine downtime needed during long production runs. This makes consumer product manufacturing more efficient and cost-effective.

For more information, visit www.webindustries.com

In conversation with...

Don & Low

Will Campbell, Group sales manager, Don & Low, joined Haydn Davis for the latest SNW webinar, PPE Snapshots from Around Europe.

Haydn Davis: Please tell us a little about Don & Low's regular activities, prior to the Covid-19 pandemic.
Will Campbell: Don and Low is one company comprised of four different business units. Our largest business unit is the nonwovens business, we have an industrial fabrics and yarns business, which is traditional woven polypropylene fabrics, a geotextiles business, and we also manufacturer artificial turf.

HD: When did you first become aware that Covid-19 could become a serious problem in Europe?
WC: Like most other pandemics it came onto everybody's radar when it hit China. By January and February, people seemed to be a bit more concerned but for Don & Low it was very much take it on a day-by-day or week-by-week basis and address the issues as and when they arose.

HD: What was the immediate response of the company?
WC: It was very much to follow government guidelines and the guidelines from our own company. We had a couple of different concerns, both internally for the health and welfare of the staff, and also for our customer base and for the financial health of the company. The government guidance given was relatively good. We actioned working from home quite quickly. Only those essential to the manufacturing process remained within the facility. And to support them we created new areas for canteens and with extra measures taken for hygiene and sanitation. We imposed bans on visitors and sales people visiting customers. It was really done on a step-by-step basis, initially monthly or weekly and then daily.

HD: And then I guess in April and May things got a little frantic?
WC: We started to see a lot of our customers start to shut down, particular in the wovens business. We then looked at the government schemes and furloughed some members of staff and shut down that part of the business. Those not furloughed were transferred into the nonwovens part of the business, which experienced a demand like we've never seen before. If we had double capacity, we still wouldn't have had a problem to sell. We had a huge demand right across Europe and as far as the US and even China as well. Ironically, the prices China was prepared to pay us were unheard of. But our demand is focussed on Europe and now, predominantly UK.

HD: At the same time you were developing a melt blown fabric to meet the requirements for surgical masks?
WC: We've had a meltblown line for around three years but its mainly been focussed on producing industrial grade meltblowns for air filtration and predominantly construction products. We had looked at facemasks previously and in particular surgical facemasks, but the market prices were so low we weren't competitive. That position changed so our development team quickly developed surgical facemask material to meet the Type II R standard, 98% PFE, and we've been selling that at full capacity for our line for the last three or four months.

HD: In May you then announced the installation of a new meltblown line dedicated to the production of FFP 3 standard filter media for face masks and respirators. Can you tell us a little more about it?
WC: Our current meltblown line doesn't have the capability to produce FFP3. With some upgrades on the existing line, which we are making, we may be able to achieve FFP2, but there is huge demand in the UK healthcare system for FFP3. There is a desire from UK and Scottish governments to bring more mask manufacturing back into the UK. As part of that, we've been working with Scottish government and have come to a finance agreement where we have invested in a meltblown line to produce FFP3 in the UK that will support the UK's national effort to produce more masks.

HD: When will the new line commence production?
WC: The new line should be up and running around October.

HD: Do you have any guarantees, or are you confident that demand for output from the line will continue once the current pandemic is over?
WC: That's a difficult question. I obviously hope so. What we are seeing is government wanting to produce more masks here so we're working with a number of different UK based companies as well as some global companies which are putting new lines into the UK to support that government effort. So hopefully, as they want a full UK supply

Will Campbell, Group sales manager, Don & Low.

chain, Don & Low's production lines will continue to remain full to supply these mask manufacturing assets.

HD: And is demand still as high or has it now peaked?

WC: I would say that it has peaked. There are a lot of meltblown lines coming on stream between now and Christmas. Market prices are still where they are, we haven't seen any reduction in these prices. The availability of meltblown has become a little easier.

HD: Have there been any subsequent developments?

WC: We've decided, as part of the UK effort, to also invest in a facemask production line. One of the problems the UK was experiencing, like Europe, was that lots of companies were buying and installing facemask lines but they weren't able to get the raw material and that has been a big issue. I worked very closely with UK government to put a deal together where we would supply finished masks in a full, vertically integrated system. So we make the meltblown fabric, the spunbond and the finished mask thereby guaranteeing that supply chain. We've also invested in a mask line which makes surgical Type II R masks with an annual capacity of over 200 million masks and we've committed all of those to the UK healthcare system. That line will be operational in September.

HD: What lessons do you think have been learned for the future?

WC: The big one, and its a hot topic within government, is our reliance on PPE. Whether that's facemask or gowns coming in from overseas, we don't have the manufacturing infrastructure over here to support our need or our requirements for NHS consumption. We've done this across face masks, we're also currently selling a huge amount of gown material to the government for the NHS because of the huge shortfall of materials coming in.

The big lesson here for government, is what can we do to support manufacturing PPE here in the UK? I'm hopeful that this discussion on mask will materialise and we will make more masks here at home. I can't see it on gowns. We'll supply 15-16 million metres of gown fabric between now and December. But the problem is that the cost of converting that material into a finished gown in the UK is just too high - six or seven times the cost of Asia. **SNW**

Freudenberg Mask.

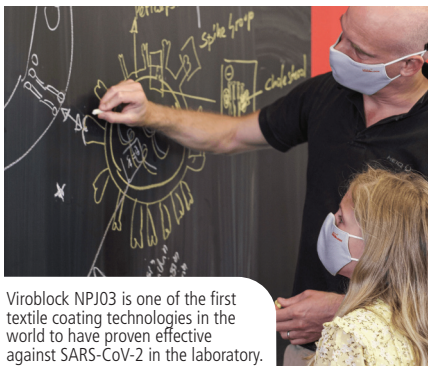
"Having the opportunity to make an impact in the fight against the pandemic and to help improve the safety of our community has given new meaning to our business, our operations and the engagement from our employees. We are happy we are able to take advantage of NC State's capabilities and align them with our own to make this happen," said Raoul Farer, General Manager, Regional Business Unit North America.

HeiQ

Viroblock NPJ03 is one of the first textile coating technologies in the world to have proven effective against SARS-CoV-2 in the laboratory, achieving a 99.99% reduction of the virus.

The treatment for industrial use has been developed by HeiQ of Switzerland and designed to provide textiles and nonwovens with antiviral and antibacterial properties. Its combination of silver antimicrobial technology and vesicle technology rapidly destroys enveloped viruses including coronaviruses. It has previously been tested against coronavirus 229E, another strain of virus in the coronavirus family.

The latest testing with SARS-CoV-2 virus was conducted by researchers at the Doherty Institute, a joint venture between the University of Melbourne and The Royal Melbourne Hospital, an internationally renowned institution combining research, teaching, public health and reference laboratory services, diagnostic services and clinical care into infectious diseases and immunity.



Viroblock NPJ03 is one of the first textile coating technologies in the world to have proven effective against SARS-CoV-2 in the laboratory.

The research project involved a disinfection test protocol that simulated the real-life interaction of small aerosol droplets contaminating clothing. A known concentration of SARS-CoV-2 virus was contacted with the sample fabric for 30 minutes followed by measurement of remaining infectious SARS-CoV-2 viruses.

The fabric sample treated with HeiQ Viroblock NPJ03 had no infective viruses left after 30 minutes. The result indicated a SARS-CoV-2 virus reduction of 99.99% relative to the inoculum control.

Carlo Centonze, Swiss co-founder and CEO of HeiQ Group, commented: "The confirmation of antiviral activity of HeiQ Viroblock against SARS-CoV-2 is an important milestone. This data forms part of our ongoing efforts to help provide textiles with greater levels of protection against viruses and contribute to efforts towards mitigation of the global pandemic."

"HeiQ appreciates the work of the Doherty Institute in conducting these tests and the tremendous efforts of their researchers in contributing to the global understanding of the COVID-19 pandemic," added Australian Dr Murray Height, co-founder and chief science officer of HeiQ Group.

Ascend

In the US, Houston-based Ascend Performance Materials has submitted a 510(k) premarket notification for clearance to the U.S. Food and Drug Administration to market its Acteev technology in a pair of high-efficacy surgical masks to protect against SARS-CoV-2, the cause of Covid-19.

The masks, a nanofibre and a microfibre nonwoven version each branded under the Acteev Biodefend line for medical devices, are said to offer a range of antiviral properties plus high-level barrier protection against microbes, harmful airborne particles and fluid splatter.

Acteev technology has been shown in laboratory tests to deactivate SARS-CoV-2, the coronavirus that causes Covid-19, and other pathogens including H1N1, betacoronavirus OC43, human coronavirus 229E and Gram-positive and Gram-negative bacteria such as staphylococcus and E. coli, according to Vikram Gopal, Ph.D., Ascend's chief technology officer. The testing was conducted following the protocols of ISO, ASTM or other international standards organizations.

The proposed masks also meet the requirements to qualify as Level III under ASTM F2100-19 standards, as tested by independent laboratories as well as Ascend scientists. Level III is the highest tier for physical barrier and safety properties, according to the common international testing standard.

Dr. Gopal said the combination of superior physical properties and antiviral protection is a breakthrough in medical device technology, as many masks succeed either at antiviral protection or at filtration and barrier effectiveness but not at both.

"Previous technologies rely on the materials within a mask to retain an electrical charge to achieve filtration efficiency," Dr. Gopal said. "But when antimicrobial agents are added, those materials lose their charge and begin to fail as barriers."

Acteev masks, however, achieve antiviral effectiveness through active zinc ions embedded within the polymer structure of polyamide 66, a hygroscopic nylon material whose equilibrium moisture keeps the zinc ions active.

"With Acteev, we have cracked the code of balancing top physical performance with antiviral protection," Dr. Gopal said.

The technology, covered by more than 15 patent families, has been tested in multiple end forms, including knit and woven fabrics; engineered plastics; and nanofibre meltblown, microfiber meltblown and spunbond nonwoven materials.

Ascend submitted its first 510(k) to the FDA last month. That submittal requests clearance to market a Level I surgical mask that is effective against SARS-CoV-2.

Also last month, Ascend launched Acteev Protect, an antimicrobial line of protection specially formulated to guard

against the growth of fungi, bacteria and other microbes to keep textiles and nonwoven fabrics fresher for longer. Acteev Protect, available for sale today in the United States and select other jurisdictions, can be used to make face coverings, filtration devices, and textiles for upholstery and apparel such as activewear.

Kuraray

Japan's Kuraray is to expand its meltblown nonwovens production in Japan from 900 tons to 2,700 tons annually – enough to supply the filters for 300 million face masks each year.

The new lines at the company's Kuraray Kuraflex in Okayama are expected to be operational by the end of November this year.

Currently, the company's meltblown fabrics are currently used as filter materials in various applications and benefit from a fine structure consisting solely of extremely thin polymer fibres that are firmly intertwined without the use of binders.

As a result of Covid-19, however, there has been a dramatic increase in the domestic demand in Japan for face masks as supplies have become depleted, the company reports – for the grades employed in surgical masks.

Electroceutica

A new electroceutical nonwoven with the ability to effectively eliminate coronavirus is currently awaiting FDA approval for use in facemasks,

The product is already marketed a broad-spectrum antimicrobial wound care dressing branded as Procellera by Tempe, Arizona-based Vomaris.

The electroceutical surface technology, called V.Dox, is proprietary to Indiana University and consists of a dot-matrix pattern of embedded microcell batteries that creates an electric field and wirelessly generates a low level of electricity when moist.

Kuraray is adding to its meltblown capacity.

It offers clinicians a non-antibiotic solution for infection risk reduction and potentially increases its value for use in face masks and possibly other surface treatments.

The omaris electroceutical dressing is made of polyester nonwoven fabric printed with alternating circular metal dots of elemental silver and zinc metals that create moisture-activated microcell batteries.

The term 'electroceutical' refers to a matrix of embedded microcell batteries that creates an electric field and wirelessly generates a low level of electricity in the presence of moisture.

It is well known that viruses can be electrically charged, while coronaviruses rely on electrostatic interactions to be able to attach to their host and assemble themselves into an infective form.

Their structure must remain stable in order to spread infection. A research team at Indiana University have exploited these electrokinetic characteristics to try to dismantle the infectivity of the virus via fabrics.

The fabrics are based on work at Indiana University, which has been heavily involved in the generation of foundational evidence of the electroceutical fabric's mechanism of action and use during the last six years. New research results from Indiana demonstrate that the ability of the virus to infect is fully eliminated within one minute of contact with the fabric, which disrupts the electrostatic forces the virus needs.

The immediate goal with the data findings is to receive approval through the FDA's Emergency Use Authorization programme to apply use of the fabric specifically for face masks which currently have little to no ability to kill viruses or bacteria.

"This work presents the first evidence demonstrating that the physical characteristic features of coronaviruses may be exploited to render them non-infective following contact with low-level electric field-generating electroceutical fabric," said Chandan Sen, principal author of the study and director of the Indiana Center for Regenerative Medicine and Engineering at the IU School of Medicine. "Our hope is that these findings will help Vomaris receive FDA Emergency Use Authorization and that we can utilize this fabric widely in the fight against Covid-19, ultimately saving lives."

3M

3M and researchers at MIT are developing a new cellulose-based rapid detection test for Covid-19. Accelerated research is underway to learn if the simple-to-use diagnostic device can produce highly accurate results within minutes and is feasible to mass manufacture, potentially using paper or nonwoven technologies.

The US National Institute of Health has selected the rapid Covid-19 test for accelerated development and commercialisation support, after rigorous review by an expert panel. The test is in the Rapid Acceleration of Diagnostics Tech (RADx Tech) programme, an aggressively-paced COVID-19 diagnostics initiative from the NIH's National Institute of Biomedical Imaging and Bioengineering.

"We are excited to collaborate with Professor Hadley Sikes and the team at MIT," said John Banovetz, 3M senior vice president for innovation and stewardship and chief technology officer. "Our approach is ambitious, but our collective expertise can make a difference for people around the world, so we owe it to ourselves and society to give it our best effort."

The test would detect viral antigens and deliver highly accurate results within minutes. It could be administered at the point-of-care and would not need to be sent to labs for testing.

The effort draws on 3M's technological expertise in biomaterials and bioprocessing along global medical device manufacturing. The 3M team is led by scientists, manufacturing and regulatory experts from its corporate research laboratories and health care business group.

The research team at MIT is led by Professor Hadley Sikes at the Institute's Department of Chemical Engineering. The Sikes lab specializes in the creation and development of molecular technologies to improve the performance of rapid, cellulose-based protein tests.

In conversation with...

Andritz Nonwoven

Tobias Schäfer, VP Sales Andritz Nonwoven (Germany) and Alexandre Butte, Director of Business Development, Andritz Nonwoven (France), joined Haydn Davis for the latest SNW webinar, PPE Snapshots from Around Europe.

Haydn Davis: Would like to quickly introduce Andritz Nonwoven to anyone who doesn't know the company?

Tobias Schäfer: Andritz Nonwoven is a manufacturer of processing equipment and solutions for the nonwovens industry, in particular the roll goods producers. We have a number of different processes for different nonwoven processes such as air-through bonding, needlepunch, spunlace, spunbond, wetlaid and finishing process, as well as converting machinery, such as facemask machines, through our subsidiary Andritz Diatec.

HD: Alexandre: you're located in France, when did you first become aware that Covid-19 might become a problem in Europe?

Alexandre Butte: We first heard about it in December and became really aware in January. We actually learned of it internally rather than through the news. Andritz has a number of locations in China and I was traveling there in mid January when we started to hear about Covid-19 and the lockdown in Wuhan. At this point we began to discuss and implement strict company policies for travel and health and safety.

HD: How do you think it was handled in France?

AB: Here at Andritz France, we pre-organised ourselves to work in a more digital way. Over the last two years our Nonwovens division has been taking steps to be more digital and we so we simply implemented what we had been preparing for over the last two years and the home office became the standard set up within 48 hours. We were able to successfully continue with customer meetings and everybody adapted very quickly to remote learning.

HD: Tobias: you're in Germany, was the experience pretty similar?

TS: Yes, it was very similar here. As we also have manufacturing, we implemented a number of measures to mitigate the risks, moving to a two-shift system. Our IT team had the most challenging time but this was also a driver for all of us. Systems such as MS teams, which was not previously a widely used tool became standard, but this was something that fit very well with the new generation of people who like to work remotely and have more freedom and flexibility.

Alexandre Butte, Director of Business Development, Andritz Nonwoven (France).

HD: What was the initial impact on the company in terms of the lockdowns?

TS: We have a large supply chain in terms of metals, most of the manufacturing of which takes place in Northern Italy. As we know, this area was hit quite hard so we had concerns that materials that were ordered were going to be late. We were in contact on a daily basis with our suppliers from there and all over other areas in Europe. As a shareholder company, there were also a lot of measures that needed to be taken from a financial side so there was lots of internal reporting to keep things under control. We initiated risk and special task force groups to carry out daily reviews in important areas and there was an extremely high level of communication. The result is that we were able to manage everything and keep delivery times for customers. This was our promise. If you cannot travel to customer sites, then you are obliged to do it somewhere else, and we managed to do that. We could carry on our business.

You can also imagine the challenges faced when you have to put a line in operation without the technical staff on site. We were not able to send technicians so we carried out remote installations with our field service technicians sitting in their offices, perhaps using Google glasses or on computers helping our technicians in China to put the lines into operation. It was new for all and a very steep learning curve.

HD: Can you tell us a little about the solutions you've developed specifically in response to the shortages of PPE and facemasks?

TS: The initiative started in February and March as the Covid challenge hit Europe. We were thinking about how best to contribute. We had a lot of different machines and solutions but for the facemask business, most of the machines were made in China with most of the production taking place there too. It quickly became apparent there were shortcomings in Europe and that we were overly dependent on supply chains from China so we had to reinitiate a lot of production and converting processes here. Our converting technology specialists said, 'we can build a diaper machine, so why not a facemask machine'. Remarkably, the idea and design process took less than two weeks and we had the machines in our workshop being tested and ready to be delivered by the end of June. There was a lot of confidence from our customers who relied on our expertise and we have had multiple orders across Europe. The first results from test plant have been very good enabling us to open a new chapter in our offer with this facemask technology.

HD: How are digital innovations from Andritz now making an impact?

AB: Andritz Nonwoven began looking at digitalization a couple of years ago although as Group, Andritz has been looking at a digitalization program for over 10 years, initially in the pulp and paper sector. We have now acquired those tools and have been implementing those programmes so that digitalisation can be used for the benefit of our nonwovens customers. In January we opened the first Metris Performance Centre dedicated for nonwovens - Metris being the umbrella name for the Andritz digitalization program. Here we have two main activities. Firstly, is the Metris remote assistance system. Lockdown provided a wonderful stress test for this in terms of quality inspection and training. We had delivered a machine to Ukraine from Italy just as lockdown began but obviously we could not send technicians. So we had only one solution and that was to use the Metris Remote System. We managed the full installation without technicians on site, we kept to

Tobias Schäfer, VP Sales Andritz Nonwoven (Germany).

the delivery schedule and we started the machine on time. Metris meant that we could successfully carry out immediate testing and the customer is now running the machine - an example of how digitalization has helped us support and keep customers for our customers.

The second aspect is the asset performances and predictive maintenance, the success of which has led to an increase in demand for digitalization processes. Customers that may be based in Europe but have line operating in the US or perhaps elsewhere in the world have a tool that can collect data, carry out automatic reporting, and then share the information between different factories and people. If travel is restricted, having a tool that allows you to share and discuss the same data wherever you are in the world is a great way to increase production efficiency and help you make decisions must faster. Access to the data means you can see what is happening and easily get support from our teams of experts.

HD: Is the company now back to operating as normal?

AB: The question is will it ever be completely back to normal? More employees are now used to working remotely but everyone has adapted quickly and there are no concerns about losing efficiency. We will need to re-establish personal contacts as fast as possible with our customers, to show innovations and discuss new developments and new contract opportunities. And we also need to see the machines; we deliver entire processes and we will still need to go on site. There will be a mix now between doing this remotely to increase efficiency and so less travel, but we will still sometimes need to see customers lines and how they are operating. Normal will be a mixture of how things used to be and what we have experienced over the last few months.

HD: What lessons will be learned for the future?

TS: Coivd-19 showed us that nothing is impossible. People thought it was impossible to start a machine remotely, and people said we do not have the right competences elsewhere in the world to install a line. People felt they had to travel in order to carry out installations and get the business. But we have a different picture today. We miss the face to face and the customer relationships. It will come back, but I don't see us flying as much in the next few months as things keep changing. We will see how things develop. Home working will become standard and we know now that we can do it very efficiently. One of big takeaways is that the nonwovens industry has always been a hidden champion business and as a result of this crisis, our products are now in the mainstream - masks, wipes etc. We have come out of this hidden area and now, we are also seeing governments helping to establish local nonwovens industries, which should be good for all of us.

AB: I agree. As an industry, we have become known and this is a big difference. We have changed from a hidden industry to one that can now support everyone in a situation that nobody had faced in the past. It's pushing the knowledge about nonwovens to be spread everywhere. Most of the machinery suppliers are based in Europe and with Covid-19 we are seeing that we can sustain our activities all over the world. It does not have to be concentrated in a few experts in Europe as nonwovens are necessary everywhere - there is a need for local support and local production. **SNW**

Testing by 3M.

"There is a pressing need for a highly scalable rapid test," Sikes said. "We are working with our colleagues at 3M to overcome the challenges to move this research from lab to impact, and find an innovative path forward to manufacture it at scale. Joining forces with 3M and the NIH has greatly enhanced our collective efforts."

The teams at 3M and MIT believe a diagnostic test can be deployed once validated and manufacturing equipment can be scaled to produce millions of units per day. They are also prepared to collaborate with the government's RADx Tech program to demonstrate the test's capability and to deploy it as quickly as possible.

RADx Tech's phased innovation funnel is initially supporting a four-week period of intense research to demonstrate that the test concept works and can be commercialised on a large scale. The project received $500,000 in validation funding from RADx Tech and is eligible for further investment.

Elsewhere, 3M's legal team members have investigated more than 4,000 reports globally of suspected fraud, counterfeiting, and price gouging related to the shortages of facemasks and respirators during the Covid-19 pandemic.

It has also successfully secured the removal of more than 7,000 websites with fraudulent or counterfeit product offerings and more than 10,000 false or deceptive social media posts to date.

In March the company launched a campaign to combat fraud connected to the COVID-19 pandemic, working with law enforcement authorities and partnering with ecommerce and technology companies to help protect the public against those exploiting the demand for critical 3M products.

3M has created hotlines and websites around the world to report suspected fraud, and published N95 respirator pricing information to help customers avoid inflated prices. It has filed 18 lawsuits in 10 US states and Canada and won six temporary restraining orders and four preliminary injunction orders from courts that halted unlawful actions.

The company stresses it has not, and will not, increase the prices of its respirators as a result of the pandemic. Any damages recovered in lawsuits are donated to Covid-19 relief efforts at nonprofit organizations, including Direct Relief.

Parkdale

Following a recent tour of the Parkdale Mills manufacturing facility in Gaffney, South Carolina, US Senator Lindsey Graham spoke with the media about the importance of establishing a reliable domestic supply chain for PPE.

Graham has led efforts to ensure the USA is no longer reliant on China for critical PPE, in early May he introduced the Covid-19 Accountability Act, which called for a domestic purchasing requirement of PPE for the Strategic National Stockpile.

In July he then introduced the US MADE Act which again called for strict purchasing requirements of PPE and a manufacturing production tax credit to further spur domestic manufacturing and job creation.

"Coronavirus has been a wakeup call for America, with 90% of the personal protective equipment that our doctors and nurses and our healthcare workers use to keep us safe is made in China," he said. "And we've become captive to China – the entire world has. So I have legislation that I've been working on with the South Carolina textile industry, really the national textile industry, to bring back the medical supply chain into the United States."

The road to bringing back medical supplies to the United States, when it comes to PPE, runs through the state of South Carolina," he added.

"I'm creating a $7.5 billion tax credit for companies that will go back into the PPE business to make gowns, masks, gloves, bedding, all the swabs, everything associated with caring for people under the pandemic. This tax credit will help revitalize an industry and bring back into the United States that PPE supply chain, so that we'll no longer be beholden to China. But equally important, we're going to treat PPE manufacturing the same as making American uniforms for the military.

"Under the Berry Amendment of the defense bill, there's a requirement that American military uniforms be made in America. Many of our textile plants in South Carolina, North Carolina, and Georgia get a good piece of their business by making American uniforms. My legislation would put PPE manufacturing under the Berry Amendment so our strategic stockpile would have to be made up of American-made PPE. The goal is to have 100% American-made in the strategic stockpile of PPE in the next five years. We believe that can be done through the tax credit and requiring PPE to be placed under the Berry Amendment."

WPT

Kentucky-based WPT nonwovens is to invest US$1 million in a new line for the production of surgical facemasks. Production of WPT Nonwovens ASTM Level 3 Earloop Procedure Masks is currently underway and although the company says it has a good stock, it is installing a new line, which will be up and running this month, as it looks to triple its procedure mask making capacity.

"Feedback on our procedure masks has been positive," the company says. "Not only have test results shown them to be of the highest quality in circulation, customers are reporting that they prefer the feel and quality of WPT procedure masks over Chinese-sourced masks."

Availability of N-95 respirator masks is also expected in mid-August. "At the onset of the COVID 19 crisis, WPT Nonwovens responded to the national emergency need for medical supplies with the high volume production of procedure masks and N-95 respirator masks," WPT added. "Our team stepped up as a local source to fill the need for masks when overseas suppliers virtually halted the supply chain for these critical care items."

WPT Nonwovens has already added two fully-automated mask-making machines, one for making procedure masks and one for producing N-95 respirators. **SNW**

Going back to the local...

Consulting editor Adrian Wilson examines new capacity expansions for spunmelt nonwovens – in the year when meltblown fabric has been dubbed "the golden fleece".

Primarily used for absorbent hygiene applications, as well as medical products, the spunbonding and meltblowing processes have usually been combined on multiple-beam machines, such as in popular SMS (spunbond-meltblown-spunbond) composite configurations, to exploit the properties of both types of web. These materials are commonly referred to as 'spunmelt'.

There has been significant investment in spunmelt technology for hygiene since 2010, but it slowed during 2018 and 2019, as the market played catch-up.

As the tables with this feature partly indicate, however, global investments in new capacities for spunmelt nonwovens have been completely skewed in 2020 by the demand for meltblown materials for facemasks.

These tables are far from the complete picture, since they list only investments which have been made public.

And now the demand for new SMS or other nonwoven composite lines has simply gone through the roof too.

Unprecedented demand

In a July interview with the Illinois-based Mcilvaine Company, Markus Müller, sales director for Reifenhäuser Reicofil, announced that his company, which is headquartered in Troisdorf, Germany, had received orders for no less than 40 meltblown lines of different configurations and varying widths between February and July this year.

"These orders have come from around the world and more or less followed the ›

spread of the virus," he said. "They started in the Far East and then more followed from Europe, and finally from the Americas."

While unprecedented for Reicofil, Müller said that some machine builders within China had also delivered more than 100 lines in the same period.

"Now they are desperately asking for help because they cannot achieve the N95 standard which is the lowest quality needed for a medical grade facemask," he said. "The lines are very cheap but at the end of the day, cost you more money because you are not able to produce. Unfortunately, some customers in Europe were blinded by this and have bought such machines, which are now sitting there and not able to produce."

At the same time, he added, an unbelievable number of new facemask converting machines have been installed all over the world, but there is no meltblown material to feed them with.

"China has invested heavily in new capacity, but the trend globally is to move away from China," Müller said. "This makes sense, because you cannot rely on the quality you are getting. We've had instances in Germany of the government ordering facemasks which never arrived, and others that did arrive, but didn't work. So now there's localising and we think that this is the right approach."

Markus Müller, sales director for Reifenhäuser Reicofil.

Explosion

Back in March, at the start of the Covid-19 pandemic reaching Europe, Reicofil was endeavouring to cut delivery times for meltblown machines from nine to three months. This has proved impossible in the longer term. The company has been delivering one machine a week and is sold out for the conceivable future. An order tomorrow would be delivered now in 14-16 months.

> "There is now an explosion in demand for SMS lines and materials, not least for medical gowns and other PPE. Basically, we are sold out for the next three years."

As for SMS lines, which saw a dip in delivery during 2018 and 2019, demand is now stronger than ever.

"Some customers with large composite spunbond and meltblown lines for diapers switched off their spunbond beams and focused on purely meltblown production," Müller said. "As a result there is now an explosion in demand for SMS lines and materials, not least for medical gowns and other PPE. Basically, we are sold out for the next three years."

The earliest Reicofil could supply a new order for SMS lines, he said, is in 20 months.

Nationalisation

Berry Global is Reicofil's biggest customer and as detailed in the key feature of the last issue of SNW, *The new Golden Fleece*, has announced a spate of new stand-alone meltblown installations around the world in response to facemask shortages during Covid-19.

Thomas Salmon, chairman and CEO of Berry Global agrees with Müller that his company's latest investments in meltblown capacity reflect nothing short of a new trend towards nationalisation.

"They reflect the desire of countries to have local supply chains and not to be reliant on third parties," he said. "We are fortunate to be recognised as a

EXAMPLES OF NEW CAPACITY EXPANSIONS IN THE AMERICAS

Company	Technology	Location	Operational
Atex	Meltblown	Gainesville, Georgia	2018
Avgol	Spunbond	Mocksville, North Carolina	2016
Berry Global	Spunmelt	Incremental at various plants	2018
Berry Global	Spunmelt	Statesville, North Carolina	2021
Berry Global	Meltblown	South America (TBC)	2020
Fitesa	Spunmelt	Sao Paulo, Brazil	2016
Fitesa	Spunmelt	San Jose Iturbide, Mexico	2016
Fitesa	Spunmelt	Simpsonville, South Carolina	2017
Fitesa	Spunmelt (4 new lines)	TBC	2021 onwards
Lydall	Meltblown (2 lines)	Rochester, New Hampshire	2020/21
Nonwovens Institute	Bicomponent spunbond	Raleigh, North Carolina	2016
NPS Corporation	Meltblown	Green Bay, Wisconsin	2021
Nutec	Ceramic spunmelt needlepunch	Huntersville, North Carolina	2016
Scalter	Spunmelt	Buenos Aires, Argentina	2016
Softbond	Spunmelt	Buenes Aires, Argentina	2015
Uniquetex	Spunmelt	Grover, North Carolina	2016
Uniquetex	Spunmelt	Grover, North Carolina	2018-19

EXAMPLES OF NEW CAPACITY EXPANSIONS IN ASIA-PACIFIC			
Company	**Technology**	**Location**	**Operational**
Asahi Kasei	Cellulose spunbond	Nobeoka, Japan	2016
Asahi Kasei	Spunmelt	Sriracha, Thailand	2015
Berry	Meltblown	Nanhai, China	2017
Berry	Spunmelt	Nanhai, China	2020
CNCFitesa	Spunmelt	Rayong, Thailand	2019
Fibertex	Spunmelt	Nilai, Malaysia	2017
Fiberweb India	Spunmelt	Nani Daman, India	2018
Global Nonwovens	Spunmelt	Maharashtra, India	2016
Kurary Kuraflex	Meltblown	Okayama, Japan	2020
Low & Bonar (Colback)	Spunmelt	Changzhou, China	2016
Low & Bonar (Colback)	Spunmelt	Changzhou, China	2018
Mitsui	Spunmelt	Nagoya, Japan	2016
Mitsui Sunrex	Spunmelt	Yokkaichi, Japan	2017
Oz Health Plus	Meltblown	Queensland, Australia	2021
SINOPEC	Meltblown (12 lines)	Various, China	2020
Toray	Spunmelt	Nantong, China	2015
Toray Polytech Foshan	Spunmelt	Foshan, China	2019
Toray Advanced Materials	Spunmelt	Gumi, Korea	2018
Toray Polytech	Spunmelt	Jakarta, Indonesia	2018
Toray Advanced Materials	Spunmelt	India	2018

> Berry Global's latest investments in meltblown capacity reflect the desire of countries to have local supply chains and not to be reliant on third parties.

leader in this space and our latest investments are being backed up by guarantees for a certain percentage of the new capacities."

The global shortages of facemasks have hinged largely on the scarcity of certain grades of meltblown nonwovens that are currently alone in achieving the necessary FFP2 and FFP3 quality standards for filtration efficiency.

In Europe, this has led to decisions at government and EU level which have elevated these nonwovens to critical equipment status, prompting action to establish self-reliance for their manufacture and supply within the bloc.

Robust response

Germany's response has been perhaps the most robust, with the German government putting the domestic manufacture of facemasks out to tender and guaranteeing prices for all that are produced until the end of 2021.

Around 50 German companies have secured a place on the government scheme to produce ten million specialised FFP3 masks and a further 40 million operating room standard masks a week from August 2020.

In France, the government announced its Resilience project to provide assistance to a number of converting companies to deliver up to 200 million masks per month to the country.

Cura Italia

The Cura Italia campaign in Italy has led to similar new investments.

Italy's drive to become more self sufficient in the production and distribution of meltblown nonwovens, facemasks and other essential items of PPE has been gaining momentum since March, reports Alenia NW, the nonwovens division of the Bergamo-headquartered Aeris Group.

Aeris specialises in the supply of filtration, process air treatment and integrated environmental microclimatic control solutions for industrial production processes and plants. As the group's specialist in nonwovens and disposables, Alenia NW has consequently been heavily occupied in the design and ›

Alenia heat recovery system.

installation of new facemask facilities, to varying cleanroom standards from ISO 3 to ISO 9, in addition to tailor-made solutions for planned meltblown lines.

"The energy consumption of the meltblown process has a big impact on production costs," said Santina Torri, Aeris Group's marketing and sales director. "With our technology, up to 75% of the air that is consumed by the web forming can be recovered and reused to achieve significant savings. In addition, our heat recovery system can be directly integrated with an air treatment unit to ensure the appropriate conditions for eliminating electrostatic currents, which can cause problems in production.

"The system maintains positive pressure within the working environment and an optimised working environment in terms of temperature and hygiene."

EXAMPLES OF NEW CAPACITY EXPANSIONS IN EUROPE

Company	Technology	Location	Operational
Avgol	Spunmelt	Dimona, Israel	2017
Bayteks	Spunmelt	Gaziantep, Turkey	2015
Berry (Avintiv)	Spunmelt	Taragona, Spain	2015
Berry (Avintiv)	Spunmelt	Nanhai, China	2020
Berry Global	Meltblown	UK	2020
Berry	Meltblown	France	2020
Don and Low	Meltblown	Forfar, Scotland	2016
Don and Low	Spunbond	Forfar, Scotland	2018
Don and Low	Meltblown	Forfar, Scotland	2020
DuPont	Flashspun (Tyvek)	Luxembourg	2021
Fibertex	Nanofibres	Aalborg, Denmark	2018
Fitesa	Spunmelt	Norrkoping, Sweden	2015
Fitesa	Spunmelt	Peine, Germany	2017
Freudenberg	Spunmelt pilot	Kaiserslauten, Germany	2015
Gulsan	Spunmelt	Gaziantep, Turkey	2015
Gulsan	Spunmelt	Gaziantep, Turkey	2018
Gulsan	Spunmelt	Cairo, Egypt	2018
H&V	Nanofibre nonwovens	Hatzfeld, Germany	2015
HIK-91	Spunbond	Plovidv, Bulgaria	2020
Innovatec	Meltblown	Troisdorf, Germany	2019
Innovatec	Meltblown (2 lines)	Troisdorf, Germany	2020
Johns Manville	Polyester spunmelt	Berlin, Germany	2015
Mogul	Spunmelt	Luleburgaz, Turkey	2016
Mondi	Meltblown (2 lines)	Gronau, Germany	2020
Naukatek AS	Meltblown	Trondheim, Norway	2020
Pegas	Bico Spunmelt	Znojmo, Czech Republic	2019
Pegas	Spunmelt	Cape Town, South Africa	2019
Radici	Spunmelt	Gandino, Italy	2018
Sandler	Meltblown	Schwarzenbach, Germany	2020
Spunchem	Spunmelt	Durban, South Africa	2018
Thrace	Spunmelt	Xanthi, Greece	2015
Union Industries	Spunmelt	Radomsko, Poland	2015
Nonwovens Ibérica	Meltblown	Spain	TBC
MELTBLO France	Meltblown	Frace	2021

> "China has invested heavily in new capacity, but the trend globally is to move away from China. This makes sense, because you cannot rely on the quality you are getting."

First in Europe

As the first European country to enter lockdown on March 9th, Italy's need for 90 million masks per month, as well as respiratory equipment and disinfectant gels, quickly became evident.

During March, the Italian government's Cura Italia Ordinance was launched, allocating €50 million to supporting Italian companies seeking to expand their businesses to the production of facemasks, visors, disposable gowns, safety clothes and respirators.

Managed by the Invitalia development agency, the initiative received a strong response from the Italian fashion and industries.

Textile companies like Calzedonia and Miroglio converted textile and garment machinery for the production of facemasks and PPE and the industry federation Confindustria Moda mobilised many of its member companies into action.

"All of the big fashion and luxury brands became involved in the initiative, from Gucci and Moschino to Prada and Valentino," said Torri.

Meltblown moves

Italy has its own meltblown machinery manufacturer in Ramina, based in Grantorto close to Padua, which only unveiled its 1.6 metre-wide Leonardo 01 SMS pilot line in December 2019.

The Leonardo is able to process not

Italy has its own meltblown machinery manufacturer in Ramina

only PP, but also PET and PLA with a maximum speed of 1,000 metres a minute and output of 200 kg/h/m for each spunbond beam and 50 kg/h/m for the meltblown beam.

By March the pilot line was in operation 24 hours a day producing 60 tons of 22-25gsm meltblown fabric per month – sufficient for 600 million facemasks. The company was assisted by spunbond supplier Texbond of Roverto, in this effort and six more Leonardo 1 lines are now reported to be under construction. the new demand has also been beneficial to other Italian manufacturers of nonwovens equipment, such as Comerio Ercole, which secured unprecedented orders for eight new calenders in just a couple of months.

Ahlstrom-Munksjö also expanded its meltblown capacity at its plant in Turin, where it is now making enough material for a monthly 60 million face masks.

Italy's Special Commisioner has also ordered 25 high-speed facemask production lines for surgical masks from Fameccanica Data. The patented new lines benefit from the latest automation and robotic technologies and are said to achieve the highest production speeds for facemasks to date.

These measures indicate that Italy fully intends to be self sufficient in the production of facemasks going forward.

"We have been proud to be involved in many air treatment projects for meltblown lines and facemasks installations with cleanrooms, and air treatment as a result of the Covid-19 demand," Santina Torri concluded.

In the UK, at the beginning of May, the Scottish Government announced it would provide Don and Low with a £3.6 million repayable loan towards the £4.5 million purchase of a new meltblown line dedicated to the production of FFP3 standard filter media for facemasks and respirators.

A second meltblown line was than announced by Berry Global at one of its plants in the UK. It will supply material to a new PPE production facility being established by the Canadian-headquartered Medicom Group in the UK.

The UK government has now pledged a further £15 billion for the procurement of personal protective equipment in 2020 as it looks to avoid a repeat of the widespread shortages experienced at the start of the pandemic.

All told, EDANA reports that the EU production of facemasks is set to increase twenty-fold by November this year compared to pre-crisis times, when EU-based producers will have the capability to make the equivalent of 1.5 billion three-layer masks a month. **SNW**

THE TECHNOLOGIES EXPLAINED....

Spunbonding process

Spunbonded nonwovens are distinguished from dry and wetlaid fabrics by their one-step, integrated manufacturing process – from the polymer straight onto beams, without any fibre preparation steps. This manufacturing involves a series of integrated – and now highly automated – operations, including melt preparation, filament extrusion and drawing, web forming and bonding.

By far the largest commercial application of spunbond nonwoven materials is in the hygiene sector, as the basis for baby and adult incontinence diapers and feminine hygiene products. The growth of the absorbent hygiene industry has propelled new innovations and productivity in spunbond manufacturing.

The first spunbonding systems originated from the proprietary technology of fibre producers such as DuPont in the USA, Rhone-Poulenc in France and Freudenberg in Germany.

DuPont is regarded as the first to have successfully commercialised spunbonding with its Typar product, launched as a tufted carpet backing system in the mid-1960s.

The first commercial spunbonding system to be offered was the Docan system developed by the German Lurgi engineering group in the 1960s and licensed to Corovin (now part of Berry Global) in Germany, Sodoca in France (also now Berry Global), Chemie Linz in Austria (subsequently split up and merged into other corporations), and Crown Zellerbach (now also part of Berry Global) and Kimberly-Clark in the USA.

The next major step toward the global commercialisation of the spunbond process was with the introduction of Reifenhauser's Reicofil system in 1984.

Reicofil's spunmelt technology is now in its fifth iteration and with the Reicofil RF5 systems, throughput for spunbond fabrics is now up to 270kg per metre of beam width and meltblown to 70kg per metre width. This represents a 35% overall increase in output allowing producers to run their lines at maximum speeds, even high weigh fabrics. Speeds are also up by 30%, to 1,200 metres of fabric a minute (the actual speed on the conveyor belt, not, as in the past the speed on the winder).

Meltblowing

Like spunbonding, meltblowing produces fibrous webs directly from polymers using high-velocity air to form the filaments. The process is unique, however, because it is used almost exclusively to produce microfibres rather than fibres the size of typical textile fibres. Meltblown microfibres generally have diameters in the range of 2-4 microns which enhances the softness, cover, opacity and porosity of the webs obtained.

The basic technology for producing microfibres was first developed in the 1950s by the Naval Research Laboratory. The commercial significance of the work was recognised by Exxon, which subsequently developed the technology further. Researchers at Exxon extended the basic design and first demonstrated the production of meltblown microfibres on a commercial scale by modifying sheet die technology.

Clear communication with nanofibres

Transparent masks are intended to replace the usual tri-fold green or white ones to ensure contact between caregivers and patients is less impersonal.

Having already secured funding of over one million Swiss francs, new start-up company HMCare is planning to rapidly scale up a new process for the production of fully transparent surgical masks based on biomass-based nanofibres.

The masks have been developed in a collaboration between Swiss research institutes Empa and EPFL and will be commercially available in 2020.

The transparent HelloMasks are intended to replace the tri-fold green or white ones healthcare workers usually wear, primarily to make contact between caregivers and patients less impersonal.

The idea came when Klaus Schönenberger, the head of EPFL's EssentialTech Center – whose mission is to help transfer modern technology to developing countries – was working in western Africa during the 2015 Ebola outbreak.

"It was touching to see that nurses – covered from head to toe in protective gear – pinned photos of themselves on their chests so that patients could see their faces," he says.

The following year, Schönenberger was approached by Thierry Pelet, now the CEO of the HMCare start-up, and Sacha Sidjanski, a project manager at EPFL's School of Life Sciences, with an initial design for a transparent mask.

Pelet and Sidjanski were inspired by Diane Baatard, a former storyteller at the Geneva University Hospitals, who found it unfortunate that the seriously ill children she entertained couldn't see her facial expressions as she spoke.

Membranes

Empa researcher Giuseppino Fortunato and his team from the Biomimetic Membranes and Textiles Lab in St. Gallen worked on the material development for the mask.

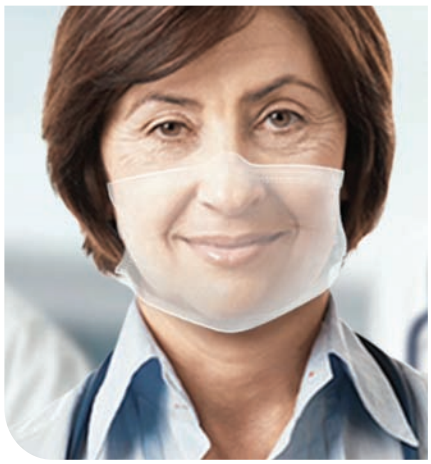
"You can find prototypes of masks that are partly transparent, but they're just normal masks with some of the fabric replaced by clear plastic," says Pelet. "Since that plastic isn't porous, however, it makes it hard for the wearer to breathe and fogs up easily.

The Empa and EPFL researchers spent two years finding the right combination of transparency, resistance and porosity and eventually came up with a membrane made from a polymer developed specifically for this application.

"We can produce fine electrospun membranes with a pore size of about 100 nanometres," explains Fortunato. "The architecture of the fibres creates extremely small gaps that allow air to pass through but hold back viruses and bacteria."

Because the new masks will be disposable for optimal efficacy, like existing surgical masks, the researchers focused from the start on finding a material that was either recyclable or biodegradable.

"Our masks are made at 99% from a biomass derivative, and we'll keep working on them until they're completely eco-friendly," says Pelet.



Electrospinning

The material is made via an electrospinning that has now been adapted for large-scale production. The material will be generated in spools from which individual masks can be cut and assembled.

While the research team initially planned to fabricate their masks in Asia, they're now considering keeping production in Switzerland. A number of companies – including HMCare – are planning to build surgical-mask plants in the country to meet the surging demand caused by the pandemic. Pelet is in talks with several other businesses and public-sector organizations.

The surging demand during the Corona pandemic also made fundraising easier for the start-up. The research on HelloMasks was initially funded by close to a dozen non-profit organisations and later by an Innosuisse grant. While the masks will first be sold to the medical community – dentists have also expressed an interest – they may eventually be marketed to the general public.

www.empa.ch **SNW**

New PPE decontamination methods

Two approaches to sterilising facemasks could see them safely reused in the future

The decontamination room at University Hospitals where the N95 masks are disinfected using the peracetic acid method.

NASA's Glenn Research Center and University Hospitals (UH), both in Cleveland, Ohio, have collaborated to develop new methods and technologies for decontaminating personal protective equipment (PPE), both for aerospace applications and for safeguarding the health of workers caring for patients with coronavirus.

Researchers have recently developed and tested two new approaches that could enable health care professionals to sanitize facemasks on-site and safely reuse them. Both may be useful to the aerospace community when traditional sterilisation techniques are unavailable.

The results of tests on both methods – atomic oxygen and peracetic acid – are promising. The atomic oxygen decontamination method is currently being evaluated and early results are favourable. The peracetic acid method has been proven to work for five cycles of decontamination, and the Food and Drug Administration is reviewing this method for an emergency use authorisation.

"While we currently have sufficient PPE on hand to care for the patients we have in our facilities today, we need to proactively and prudently plan for potential future needs," said Dr Daniel I. Simon, Chief Clinical and Scientific Officer at University Hospitals and President of UH Cleveland Medical Center. "This includes factoring in the potential for supply chain shortages due to Covid-19 surges in other states while also taking into account our need to restart non-emergent and elective services, which requires being mindful about current usage and putting in place go-forward conservation strategies. The opportunity to pool resources and quickly bring about PPE sterilization solutions for the benefit of our caregivers is truly remarkable."

Atomic oxygen method

Glenn research engineer Sharon Miller and physicist Bruce Banks of Reston, Virginia-headquartered SAIC (the Science Applications International Corporation) developed the process and hardware to decontaminate masks using atomic oxygen. Pervasive in low-Earth orbit, these single oxygen atoms can remove organic materials that can't easily be cleaned by other methods.

"On Earth, we create atomic oxygen by putting ozone (O3) in a chamber and heating it," Miller said. "As the ozone decomposes into atomic oxygen, it can kill organisms like viruses."

Further testing is needed to verify the method can be used to perform multiple decontamination cycles without damaging the PPE. Recent filtration tests performed at an independent testing laboratory showed N95 masks filter well and pass acceptance testing after 20 minutes of atomic oxygen treatment. In early May, NASA provided a prototype for UH to test on N95 masks. Early results confirm the method deactivates the virus, and continued testing will determine the minimum ozone concentration and exposure time needed for disinfection.

"Ozone diffuses easily through and around objects, which makes it promising for sterilizing inside an N95 mask filter or loosely stacked masks, and it could potentially sterilize without leaving a residue," said Banks. "The process could be scaled up to treat multiple batches of PPE or made portable for small hospitals in rural areas. No liquid chemicals would be needed, just oxygen and nitrogen gas."

Peracetic acid method

Doctors Amrita John and Shine Raju, infectious disease and critical care physicians in the Department of Medicine at UH Cleveland Medical Center, are examining peracetic acid – a chemical disinfectant commonly used in the health care, food, and water treatment industries – as an option for decontaminating PPE.

"We have some exciting results," said Raju. "We found that the peracetic acid disinfection method is very effective in killing 99.9999% of viruses and even highly resistant bacterial spores from contaminated N95 masks without any detectable loss of filtration, structural integrity and strap elasticity for up to five decontamination cycles. We believe that the peracetic acid disinfection method is the fastest method of mass-decontamination of N95 respirators currently available." **SNW**

Forum for issues, innovation and ideas

A stimulating and varied programme has been put together for INDA's All Virtual World of Wipes conference, which will be held from August 25-27.

In what promises to be a stimulating keynote presentation at WOW 2020, Pete Mento, managing director of Crowe LLC, will assert that the US economy is moving from one that has been focused on service and the exportation of high-engineered products towards an innovation economy focused on ideas.

"The current trade war with China is one in which we are trying to protect these ideas," he says. "It is these very ideas that are going to catapult us into the economy that we really ought to be managing for the next century and maybe beyond, which is one in which it doesn't really matter where something is made, but it does matter that the idea was created, curated, and protected in the United States."

Over the past year, he adds, tariffs have been weaponised as a means of diplomacy.

"It appears that we're returning to the days of the early 20th century when we used import taxes to protect certain industries and impose our political will on other nations, making them think twice about how they were going to manage their international trade relations with regards to the American economy. No matter who is in the White House, we are going to see this tactic used in one form or another."

Mento will focus on the idea that multiple plans will be neededif this happens, in order to avoid the over-dependence of purchasing all things from just one country like China or India as well as moving away from the idea that there is only one way of buying things.

Opportunities

With over $10 billion in retail sales in 2018 and nearly as much in estimated unmet potential globally, personal wipes remain an opportunity for the disposable hygiene industry.

The challenges ahead, however, include legislative pressures and the need to develop products that meet the rising consumer demand for more sustainable products.

Svetlana Uduslivaia of Euromonitor believes that as R&D into more eco-friendly wipes continues, there are a number of other innovation drivers that can help drive long-term demand and in an overview of the market will outline the largest and fastest growing markets for personal care wipes globally, assessing white spaces and opportunities for future growth, along with key global trends in wipe segmentation and positioning. She will also examine trends in adult care products and wipes as the world's population continues to age globally.

Heidi Beatty, project manager consultant at Crown Abbey, will look at 100 different brands in the personal care category of baby, cosmetic and flushable wipes and how their products are utilising new technologies, new packaging and new claims. She will highlight how local launches in individual countries are different to multi-regional launches, how start-ups carve out space compared to the big, traditional brands, and the advantages and challenges both face.

Flushability

After a brief lull in 2018, during 2019 and 2020, the wipes industry in the USA has seen a significant uptick in activity in respect of the flushability issue, with various states considering legislation intended to address wastewater system clogs being caused by the inappropriate flushing of products, including wipes.

Currently, several states, including California, Minnesota and New Jersey, are working on bills to address this issue while Washington state is on the verge of adopting joint industry-wastewater legislation that would focus on the 'Do Not Flush' labelling of non-flushable wipes after a months-long cooperative effort between industry and wastewater groups.

INDA's director of government affairs Jessica Franken will discuss legislative activity in the various states and what can be expected next.

Plastics issue

With governments and regulatory bodies also placing greater pressure on manufacturers to forge sound management practices for their use of plastics, and with some consumer groups even clamoring for a 'plastic-free world', the producers of consumer wipes stand at an innovation and investment crossroads, believes Jacob Holm director Geoff Collins.

"To remain competitive, the industry must determine a path forward that accounts for disparate, and sometimes conflicting, market forces," he says. "These include ecology and performance, waste reduction and waste management, raw material choices and processability, data-driven LCAs and consumer perceptions, stakeholder value and social responsibility, production and disposal costs, positive and negative labeling, and more. Compounding the challenge is the very definition of plastic which still remains unclear, with implications for material choices."

In order to consider what a strategic roadmap for consumer wipes producers might look like, his presentation will explore the concerns that have led to a heightened awareness of plastics in wipes and the resulting challenges, and discuss the larger picture of how the industry might address these concerns.

Navigating regulation, legislation and consumer opinions around this issue will be the subject of a further presentation by Richard Knowlson of RPK Consulting.

The full three-day WOW 2020 programme can be viewed at: *www.worldofwipes.org/conference.php* **SNW**

Urgent slimming regime required

Car manufacturers face average fines of €11.4 billion for exceeding EU carbon targets, a new report finds – the nonwovens industry can be of assistance.

Despite extensive lightweighting measures that have included the substitution of certain plastic and metal parts with nonwovens, as well as the extensive adoption of fibre-reinforced composites, not one of the top ten car manufacturers is close to meeting EU carbon targets in 2021.

As a result, they could face average annual fines of €11.4 billion each, new research from Netbet shows.

Netbet's Auto Emissions Report finds that Daimler AG is the carmaker furthest away from achieving the 2021 EU target of 95g CO_2/km average fleet emissions, while Toyota Industries is the closest to lowering its carbon footprint – but still faces significant fines.

Standards

Automakers need to substantially reduce their annual carbon footprint in order to meet EU emissions standards, or else face fines of €95 per g/km that exceeds the target, multiplied by unit sales. Based on the fleet emissions and unit sales of top manufacturers over the last year, this equates to a staggering €11,462,337,802 on average in penalties each.

As well as paying fines for exceeding EU targets, auto manufacturers would also have to offset the emissions of their annual sales. In 2019, the top ten car makers would have had to pay a collective €424 billion – or an average of 39.5% of their annual revenue each.

Analysis of the best-selling models of each brand reveals that Group PSA produced the most polluting cars on average last year, which would cost €1.3 billion to offset. Based on EU sales, the most polluting model sold last year was the Renault Clio.

Dissecting the running costs of the flagship models of the carmakers shows that the Mercedes-AMG GT was the most polluting model on the market last year, while the Peugeot 508 was the most environmentally friendly. Despite this, the 508's carbon footprint is still equivalent to consuming 12,208 litres of gas, or 10,659 litres of diesel.

The transport industry is one of the largest contributors to the global carbon footprint, accounting for an estimated 24% of the world's greenhouse gas emissions last year. Although many manufacturers are electrifying their fleet to reduce emissions, the car making sector is facing more pressure than ever to tackle their contribution to climate change.

Opportunities

Although woven and knitted fabrics continue to dominate the total amount

Alcantara is an advanced nonwoven employed in luxury car interiors as a preferred alternative to leather – as seen in the latest Alfa Romeo Giulia and Stelvio Quadrifoglio MY2020.

Manufacturer	Distance from EU target (CO_2g /KM)
Daimler AG	42
Mazda Motor Corporation	40.2
BMW	32
Fiat Chrysler Automobiles	29.4
Volkswagen Group	29
Ford Motor Company	28.7
Hyundai Motor Group	26.9
Groupe PSA	19.1
Renault	18.2
Toyota	6.3
Source: Netbet	

of textiles used within the automotive sector, nonwovens are becoming increasingly attractive to designers primarily due to their low weight and lower cost, as well as other key advantages, such as sound insulation.

Nonwovens are employed in upholstery and headliners, moulded parts and insulation, carpet and floormats, where needlepunched materials dominate. A wider selection of nonwovens is to be found in automotive filtration and belts, tubes and other high performance components.

EDANA – the European Nonwovens and Disposables Association – notes that the use of nonwoven fabrics in the European automotive industry grew by 11.3% per year between 2010 and 2015, notes, and around 143,000 tonnes were consumed by the sector in 2015.

This is despite the fact that the production of cars and light vehicles in Europe grew by only an average 1.3% annually between 2010 and 2015.

While this growth has slowed more recently since a good deal of material substitution has already taken place, six of the most notable recent trends involving the use of nonwovens in the automotive industry – and areas that will certainly see significant future growth – are:

- The use of nonwovens as exterior components.
- New multi-material combinations with polyurethane (PU) foams, or the direct replacement of the PU foa.
- The continuing adoption of natural fibre-based nonwovens in composites.
- The development of nonwovens based on recycled carbon fibre;
- The increased demand for advanced battery separators for electric vehicles.

Exterior components

While for many years, densely needled nonwoven layers have been used as acoustic insulation components for the interior of vehicles, they are also now being employed for the exterior – as undershields and outer wheel arch liners.

Nonwoven undershields as replacements for the heavy polyvinyl chloride (PVC) layers that have previously been applied to the rear of the floor panel provide a considerable reduction in weight at a comparable price and provide a number of other significant advantages.

Such components must withstand a lot of strain and, consequently, the demands on the materials from which they are manufactured are very high. The nonwovens for this component are distinguished by their high rigidity, but are considerably lighter than competitive products.

PU foam replacement

Impressive growth of around 10.5% annually has also been achieved in the automotive industry by PU foams. Foams, like nonwovens, are employed primarily because of their low weight and low cost. Often this is in laminated combinations with nonwovens and surfacing fabrics for applications including seating, headliners, A, B and C pillars, and acoustic and thermal insulation.

Foams, however, are restricted in the breathability they can provide and there are environmental issues related to their production.

PSA Peugeot Citroën group is one of the companies now replacing the PU foam in the seating of its standard vehicles with melt-bonded nonwovens.

Composites reinforcement

In door panels, a weight reduction of 25-30% can achieved with composites of natural fibre nonwovens and polypropylene (PP) resins, but in addition, the tooling for producing the composites is up to five times cheaper than injection moulding alternatives and also ensures there are no sharp edges during a side impact collision.

A 35% weight saving is also being achieved in instrument panels with flax nonwoven/PP constructions, in which small injected inserts are placed in the tool prior to compression.

Extremely light weight is achievable employing flax/PP in headliners as an alternative to polyester felts and/or cotton shoddy and this option is now employed in many small cars.

OEMs are also using flax/PP composites in wheel arch liners, as well as in spare wheel covers, seatbacks and parcel shelves.

Recycled carbon

BMW has established a recycling system in which it is turning the carbon waste for all of its i-Series processes into nonwovens.

The nonwoven roof of the BMW i3 is already made of recycled carbon fibre collected from the company's plants in both the US and Germany, and the structure of the back seat frame of the car also employs them.

Many other companies are now actively working with Airbus and Boeing on nonwovens based on recycled carbon.

Battery separators

Typical hybrid vehicles contain 50-70 lithium-ion (Li-ion) batteries, plug-in electric vehicles with range-extending motors have 80 to more than 200 batteries, and fully electric vehicles carry 150 or more.

Within each battery, the separator is a sheet positioned between the two electrodes. It functions as a barrier that prevents the electrodes from touching and shorting while letting lithium ions pass back and forth to allow the charge and discharge of the battery.

The overwhelming advantage of Li-ion cells over conventional designs is their much higher energy density. This is expected to increase even more in capacity and voltage over the coming decade.

To view the results of the Auto Emissions Report, visit: *www.netbet.co.uk/auto-emission-report/* **SNW**

Bio-inks for smart clothing

Development promises the mass-production of soft, wearable fabrics equipped with a large number of sensors.

New biomaterial-based inks have been developed to respond to and quantify chemicals released from the body, such as sweat and other biofluids, or those in the surrounding environment, by changing colour.

The inks, developed at Tufts University, can be screen printed onto textiles such as clothes, shoes or even facemasks in complex patterns and at high resolution, providing a detailed map of human response or exposure.

This advance in wearable sensing, reported in *Advanced Materials*, could simultaneously detect and quantify a wide range of biological conditions, molecules and, possibly, pathogens over the surface of the body using conventional garments and uniforms.

Screen printing

"The use of novel bioactive inks with the very common method of screen printing opens up promising opportunities for the mass-production of soft, wearable fabrics with large numbers of sensors that could be applied to detect a range of conditions," said Fiorenzo Omenetto, Professor of Engineering at Tufts' School of Engineering. "The fabrics could end up in uniforms for the workplace, sports clothing, or even on furniture and architectural structures."

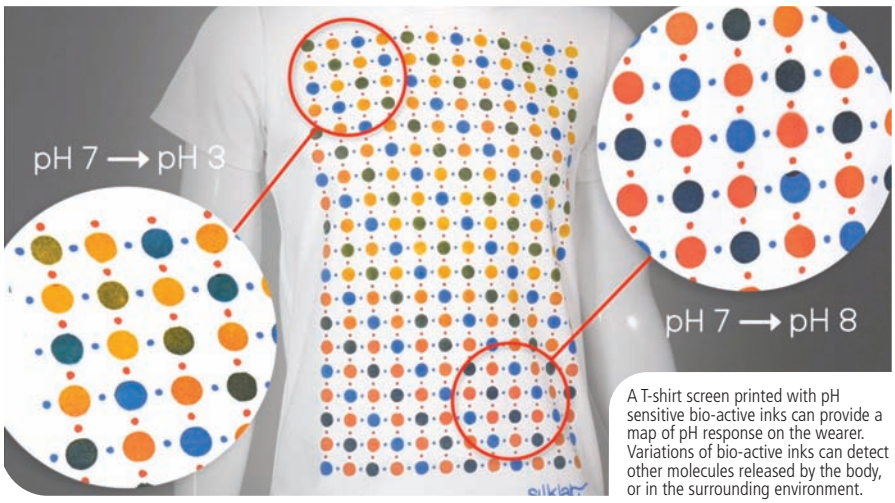
Wearable sensing devices have attracted considerable interest in monitoring human performance and health. Many such devices have been invented incorporating electronics in wearable patches, wristbands, and other configurations that monitor either localized or overall physiological information such as heart rate or blood glucose. The research presented by the Tufts team takes a different, complementary approach – the non-electronic, colorimetric detection, theoretically very large number of analytes, using sensing garments that can be distributed to cover very large areas – anything from a patch to the entire body, and beyond.

Silk-based inks

The components that make the sensing garments possible are biologically activated silk-based inks. The soluble silk substrate in these ink formulations can be modified by embedding various reporter' molecules, such as pH sensitive indicators, or enzymes like lactate oxidase, to indicate levels of lactate in sweat. The former could be an indicator of skin health or dehydration, while the latter could indicate levels of the wearer's fatigue. Many other derivatives of the inks can be created due to the versatility of the silk fibroin protein, by modifying it with active molecules such as chemically sensitive dyes, enzymes, antibodies and more. While the reporter molecules could be unstable on their own, they can become shelf-stable when embedded within the silk fibroin in the ink formulation.

The inks are formulated for screen printing applications by being combined with a thickener (sodium alginate) and a plasticizer (glycerol). The screen printable bio-inks can be used like any ink developed for screen printing, and so can be applied not just to clothing but also to various surfaces such as wood, plastics and paper to generate patterns ranging from hundreds of microns to tens of meters. While the changes in colour presented by the inks can provide a visual cue to the presence or absence of an analyte, use of camera imaging analysis scanning the garments or other material can gather more precise information on both quantity and high resolution, sub-millimeter mapping.

The technology builds upon earlier work by the same researchers developing bioactive silk inks formulated for inkjet-printing to create petri dishes, paper sensors, and laboratory gloves that can indicate bacterial contamination by changing colors.



A T-shirt screen printed with pH sensitive bio-active inks can provide a map of pH response on the wearer. Variations of bio-active inks can detect other molecules released by the body, or in the surrounding environment.

High resolution

"The screen printing approach provides the equivalent of having a large, multiplexed arrangement of sensors covering extensive areas of the body, if worn as a garment, or even on large surfaces such as room interiors," said Giusy Matzeu, Research Assistant Professor of Biomedical Engineering at Tufts School of Engineering. "Coupled with image analysis, we can obtain a high resolution map of colour reactions over a large area and gain more insight on overall physiological or environmental state. In theory, we could extend this method to track air quality, or support environmental monitoring for epidemiology."

www.tufts.edu **SNW**

INDEX 20 awards move online

Online ceremony will reward excellence in the nonwovens and related industries.

Despite the postponement of this year's INDEX exhibition, this year's prestigious INDEX Awards ceremony, which rewards excellence in the nonwovens and related industries, will still take place in October.

The awards ceremony is always an eagerly anticipated part of the show and even though it has been delayed until 7th – 10th September 2021, show organiser EDANA said it was vitally important to continue to demonstrate to the world that the creativity and ingenuity of the nonwovens industry and its suppliers is constantly evolving.

This year's Awards will therefore take place on-line with the event scheduled for 6th October 2020, from 15.00 – 16.00 hrs CET.

Nominees will provide a 45-second video, describing their product or service, explaining why it represents an innovation in the chosen category. The videos will be posted on the INDEX Nonwovens page on Linked-in in the run up to the ceremony, encouraging all nominees to get as many likes as possible for their submission. Correspondence will also be sent to to potential INDEX visitors regarding all posted videos and the imminent announcement of the winners.

During the INDEX show in September 2021, the nominated submissions and winners will be displayed at The Nonwovens Innovation Lab, the new

The INDEX Awards were last announced at the 2017 edition.

INDEX feature showcasing how invention and sustainability drive the industry forward. There will no new application process for that particular show.

Open to products commercially available by the 31st January 2020, and selected by a jury of experienced peers, the awards are regarded as the highest accolade for the best examples of excellence in the industry, highlighting creativity and innovations from businesses of all sizes, and from all parts of the nonwovens supply chain.

Nominees for each of these, in alphabetic order, are as follows:

Nonwoven Roll Goods

- Fa-Ma Jersey – Microfly - nanocham AG+
- Jacob Holm - Sontara Dual
- Sandler - New ADL

Finished products made from, or incorporating nonwovens

- Callaly - Tampliner
- Dupont De Nemours - Dupont Tychem 2000 SFR
- Hassan Group- Heatable Geosynthetic Material

Raw materials or components (e.g. fibre, binder, polymer, tape), of special relevance to the nonwovens industry and related converted products

- Beaulieu Fibres International - UltraBond
- Omya International - Omyafiber 800 (Calcium Carbonate)
- Pelsan – Biodegradable breathable film for hygiene & medical market

Innovation in machinery of special relevance to the nonwovens industry

- Campen Machinery – New patented airlaid beater forming technology
- Dienes Werke für Maschinenteile - Depth Control Senso Plus (Led)
- GDM - Expandable Welding Wheel

Achievement for the most original marketing campaign for a product made from, or incorporating nonwovens:

- Berry Global - J-Cloth Plus Biodegradable Communication Campaign

Sustainable Product

- Ahlstrom-Munksjö - Fiber+, Green Capsule oxygen barrier lid, Compostable k-cup filter
- Beaulieu Flooring Solutions - Rewind - Forward thinking carpet
- RKW – RKW HyJet Crop Cover

Sustainable process or management practice

- Fatersmart – Closing the loop on used absorbent hygiene products
- Diaper Recycling - Pureflow8
- TiHive - TULIPZ

The winners will also receive their specially commissioned bronze sculpture and a diploma. Designed by world-famous Belgian sculptor, Olivier Strebelle, the stunning work of art is both beautiful and representative of the diversity of EDANA's members and their products. Olivier Strebelle (1927-2018), a renowned artist by the age of 20, today has sculptures displayed in major cities across Europe, the United States and Asia. **SNW**

Essity adds breathability to TENA Intimates

PHILADELPHIA - Essity, the global hygiene and health products company and the maker of TENA incontinence and skin care products, has announced that TENA Intimates are now 100% breathable and designed with skin health in mind.

The upgrades to the TENA Intimates product portfolio are designed to help keep skin comfortable and dry while using incontinence products.

Seventy-seven percent of female incontinence product users experience skin discomfort of some kind. With skin health at the core of its new design, TENA Intimates combine 100% breathability with TENA's Triple Protection and ProSkin Technology, which includes a soft top layer and exclusive 3D technology that quickly wicks fluid away.

One of the best ways to help prevent skin damage due to incontinence is to keep the skin dry. TENA's patented ProSkin Technology minimizes the potential for skin to get overhydrated, which breaks down skin's natural layer of protection.

The new breathable technology lets humidity out, helping to protect sensitive, intimate skin. TENA's innovative design utilizes a fast-acting, highly absorbent core, that wicks moisture away from the skin surface to enable better comfort and functionality for the wearer. This absorbent core is surrounded by a unique outer layer with micro-pores that allow excessive moisture to evaporate, keeping the skin comfortable and dry, helping the skin to breathe.

"Essity's TENA brand has been at the forefront of continence care for more than 50 years and continues to evolve to keep up with consumer expectations and the latest technology innovations," said Carrie Harcus, Senior Director Marketing & Sales Consumer. "We're thrilled to launch the upgraded TENA Intimates line during World Continence Awareness Week. We always strive to offer a wider choice and more individualized options for different continence care situations that further improve the confidence and comfort of the wearer. Creating 100% breathable products that help to protect intimate skin is just one way that we innovate so we can support all different types of lifestyles and needs."

Filti launches N-95 home filters

LENEXA - US filtration specialist Filti has developed a new nanofibre air filter technology that meets N-95 standards.

The patent-pending 9500 Home Filter is an HVAC filter that is proven to filter 95% of aerosolized, airborne particles – like Covid-19 – moving through the material. As Filti notes, air conditioners and heaters recirculate air throughout a room or building. Typically, HVAC filters are designed to trap dirt, debris, allergens and other impurities from recycling into the airflow. However, microscopic viruses, such as Covid-19 which studies have proven to be airborne, can easily move through most low-efficiency HVAC filters. Without a filter material that can successfully trap the smallest pollutants, aerosolized particles can be recirculated in the building.

"We wanted to provide people with a similar level of safety and protection within their homes that they get from wearing an N95 mask," said Dakota Hendrickson, co-founder of Filti. "We knew we could use our expertise in filtration to truly make a difference, and it was important to give people a way to better protect themselves and their families at home."

The replaceable filter is said to be the only MERV 16 (Minimum Efficiency Reporting Value) residential HVAC filter on the market. The extremely efficient yet highly air permeable nanofibre fabric, allows for an increased airflow ratio that won't put additional stress on a residential HVAC system, the company says.

The launch of the 9500 Home Filter is a return to Filti's core products after pivoting in March to produce N95-quality nanofibre material that could be made into face masks. After selling enough material to make nearly 15 million masks, the company now hopes its new N95-quality HVAC filter will provide the next level of protection nationwide.

New Avgol fabric underpins sustainability commitment

MOCKSVILLE - Nonwovens manufacturer Avgol has developed a suite of fabric solutions for the hygiene market which, it says, demonstrate its ongoing commitment to sustainability.

The new natureFIT fabrics has been developed to reduce material impact for product designers, with a range of additional qualities that can be integrated into the material, including reducing resin use, the source and application of resin alternatives and natural additive technologies.

"With the Covid-19 pandemic still dominating headlines around the world, and Avgol's beneFIT Control and beneFIT Defense being designed to respond to the antimicrobial needs, the global environmental effort has been relegated from the top of the agenda for many," said Nick Carter, director of Market Business Intelligence and Intellectual Property at Avgol. "But as the whole world adjusts to this new paradigm, we are continuing to develop products that meet the growing, market-led demand for sustainable fabrics in hygiene applications, while driving even greater value through the supply chain."

Part of the Avgol Forward ›

Ingeo coffee capsules meet composting standard

BLAIR - Coffee capsules made using Ingeo have passed the EU standard for disintegration in composting following a series of field tests.

The manufacture of the capsules was the results of a collaboration between biopolymers supplier NatureWorks and Flo SpA, a major European food-packaging producer.

A combination of both PLA and nonwovens in a single product, the GEA capsules are made with Ingeo, a renewably sourced biomaterial from NatureWorks that can be used for all parts of the coffee capsule - traditionally one of the highest volume disposable packaging items on the market - from lidding to filters to the capsule body.

Both companies worked with the Italian Composting and Biogas Association (CIC) to conduct a composting field trial with capsules in an industrial composting facility. The goal was to evaluate the compostability of the capsules over an 83-day time period.

Designed to be compatible with A Modo Mio brewing systems, the capsules were filled with coffee, sealed, and submitted either unused or used (brewed).

The CIC selected a composting facility treating the following types of waste: garden waste, plant tissue waste, waste bark and cork, and wood packaging.

Capsules were put into specially designed vented testing bags used for monitoring the disintegration process which were filled with a mixture of 2/3 shredded green-waste and 1/3 compost, adding up to 1% by weight of the biopolymer to be tested.

A total of six bags were prepared – three containing unused coffee capsules and three containing used (brewed) coffee capsules. Capsules underwent 20 days of active composting where the bags were buried inside a static, aerated compost windrow, operated at 65°C (149°F) for 10 days and then at 60°C (140°F) for another 10 days.

These bags then cured for 65-70 days in windrows maintained between 50-55°C (122-131°F).

After a total of 83 days, all bags are removed, emptied, and the contents were manually sorted to detect visible, non-degraded coffee capsules.

The final results yielded that both the unused and brewed capsules showed a disintegration rate between 98 - 100%, which is fully compliant with the EU standard EN13432 for compostable biopolymers.

Ingeo biomaterials undergo a 2-step degradation process during composting. First, disintegration occurs when the moisture and heat in the compost pile fragment the long polymer chains into smaller polymers and lactic acid molecules. Second, through a process called biodegradation, microorganisms in compost and soil consume the polymer fragments and lactic acid as nutrients. These two steps result in carbon dioxide, water, and compost.

Padding technology achieves Cradle to Cradle

WEINHEIM - Freudenberg Performance Materials has received its first Silver level Material Health Certificate from the Cradle to Cradle Products Innovation Institute for its comfortemp air HO 80x product series.

The Material Health Certificate confirms that the materials used in the comfortemp air HO 80x series of fiberball paddings, which are 100 per cent recyclable, comply with the Silver achievement level for material heath.

Freudenberg says it has developed a new generation of paddings made entirely of nylon 6, which retains its high quality and performance even after several recycling operations. Post-recycling, nylon 6 granules can be used to produce new materials.

The comfortemp air H080x series paddings are lightweight and, says the company, are as efficient as conventional PES paddings. Moreover, the thermal insulation has a high thermal capacity, is soft and has excellent breathability. It also has high durability, even after many wash cycles, does not clump, and can be washed at a temperature of 40°C.

The company is now working on achieving Material Health Gold level certification for the comfortemp air H080x series.

Innovative Thinking (FIT) strategy, one new product from the natureFIT range, natureFIT Gentle, reduces the use of resin in production by as much as 40 per cent.

"Our advanced technology affords product designers a significant reduction in polymer consumption by harnessing naturally occurring minerals, while simultaneously enhancing softness and conformability," Carter added. "Importantly for our brand customers, despite significantly reducing the amount of resin we can now use in this type of product, we have maintained all the performance characteristics of our traditional fabrics."

natureFIT Gentle is also said to enable more effective value-driven product development across the hygiene sector, while reducing the environmental impact in terms of resources and waste in line with the company's sustainable product strategy.

"At Avgol, we thrive on developing creative nonwoven solutions that meet the evolving needs of the market," Carter said. "Over the last few months, we have seen people's attitudes shift and their attention focus on more immediate concerns, but the environment and sustainability issues have simply not gone away.

"Now, as we begin to slowly move towards re-establishing a sense of normalcy, it is important that we do not revert to old ways where concerns over environmental issues are set aside to be addressed in the future. Instead, we need to act now, and that's why we are committed to reducing the amount of resin we use in our products and therefore the amount of plastic that ultimately finds its way into the waste stream."

Avgol is also certain that brands' sustainability credentials will be increasingly important in the coming weeks and months, as consumers begin to focus on making choices influenced by their own values as opposed to purely by necessity.

"Globally, consumers are going to re-engage with eco-friendly products and processes, and the hygiene market is no exception," Carter said. "Our new suite of solutions adds another string to the bow of brands and product developers, turning what was previously a 'nice-to-have' into an effective and marketable competitive advantage."

PPE vending machines for US airports

EAST RUTHERFORD – Hudson, a travel experience retailer with more than 1,000 stores across North America, is introducing vending machines for PPE (personal protection equipment) to airports.

By the end of June, they will be installed in 27 US airports, stocked with individual and bulk packaged face masks, hand sanitizers and bulk hand sanitizer wipes, all-in-one hygiene kits, nitrile gloves and multi-use thermometers.

The machines will be located in pre-security locations, offering a convenient and seamless shopping experience for travellers and essential airport workers who may have forgotten their PPE at home, or are looking for additional ways to keep themselves and their families healthy and safe.

To ensure that it is a sanitary shopping experience, the vending machine's touchscreen will be sealed with an anti-microbial shield that eliminates germs on the surface for three to four months before replacement, and social distancing floor decals around the machine to maintain crowd control.

"With the gradual return of passengers to airports across North America following Covid-19, we're noticing a behavioral change in travellers which puts health and safety at the forefront of the travel experience," said Brian Quinn, Hudson's chief operating officer. "To meet these expectations, we've developed an extensive product offering that delivers traditional and technology-focused health and safety options."

Web: www.hudsongroup.com

Suominen develops new nonwoven for face mask applications

HELSINKI - Suominen is adding to its Fibrella range of products with the development of a nonwoven material for the manufacturing of face mask applications.

Fibrella Shield nonwoven has excellent filtration efficiency and pressure drop values meaning that the material provides protection while being comfortable and easy to breathe through.

Measured with an applied method by the VTT Technical Research Centre of Finland, results indicate that the Fibrella Shield nonwoven's filtration efficiency is higher than 99% reaching type II requirements but the material can also be used for lighter model Type I masks or uncertified masks.

"Fibrella Shield has received positive feedback from several user panel tests about its textile-like softness and being odorless," said Category Manager Johanna Sirén. "The panel results show also that Fibrella Shield is comfortable to use even for several hours and it doesn't build up moisture during use."

The new nonwoven has passed European Standard EN 14683:2019 Type II requirements in terms of filtration efficiency and pressure drop. This standard for medical masks is for end products and the converter has to repeat the tests to confirm the standard compliancy for the end product. The end product needs to comply also with the regional regulations, if any.

Fibrella Shield is already in production at Suominen's Nakkila plant. Currently the plant is capable of producing material for approximately 15 million masks per month.

Nice-Pak disinfectant products demonstrate efficacy against Covid-19

ORANGEBURG - Wipes manufacturer Nice-Pak has produced data showing that its line of disinfectant products has demonstrated efficacy against SARS-CoV-2, the virus that causes Covid-19.

The Nice-Pak's wipes are sold under the Grime Boss brand, as well as many popular private labels.

The testing was conducted in early May by Microbac, a testing laboratory that offers antimicrobial/antiviral testing for disinfectants, antiseptics, sanitizers and medical devices, and was completed in line with U.S. Environmental Protection Agency (EPA) test methods and guidelines.

The data will be sent to the EPA for review and approval. If approved, Nice-Pak will update its products' labels, providing consumers with a proven effective solution to kill the SARS-CoV-2 virus, when used according to label instructions.

"As the world continues to face the Covid-19 crisis – and as Americans start to reopen businesses and public spaces – effective cleaning and hygiene solutions will remain essential," said Jim Dalton, vice president and Head of Research & Development, Nice-Pak. "These positive test results support Nice-Pak's mission and commitment to protect consumers from harmful pathogens and help keep them clean and healthy."

The Centers for Disease Control and Prevention (CDC) and other health agencies and officials continue to recommend cleaning surfaces followed by disinfection (using EPA's List N: Disinfectants for Use Against SARS-CoV-2) as a best practice measure to help prevent the spread of Covid-19 in households and community settings. Frequent disinfection of surfaces and objects touched by multiple people is important, and can be easily done with a wipe product.

"Today's announcement marks a critical step forward as we learn how to control and mitigate the SARS-CoV-2 virus to keep our communities safe," said Robert Julius, chief executive officer, Nice-Pak. "We look forward to working closely with the EPA as they review these important data, while continuing our ongoing efforts to meet the increased demand for wipes."

Nice-Pak's sister-company, PDI, announced its Super Sani-Cloth wipes, designed for the healthcare sector, are also effective against SARS-CoV-2. The data has been submitted to the EPA for review.

New Pampers technology for premature babies

CINCINNATI - Procter & Gamble has launched Pampers Preemie Swaddlers, a new type of diaper aimed at supporting the development of premature infants weighing less than 4 pounds by protecting their sleep.

Sleep is critical for premature infants as it allows their bodies to grow and their brains to mature and develop. According to a recent study, diaper changes for a premature baby are considered as stressful as inserting a Catheter, Nasal CPAP or Heel prick. With up to 6 hours of absorbency, Pampers Preemie Swaddlers are carefully crafted to help minimize stressful diaper changes and outside disruptions, such as leakage.

The new design also helps support natural positioning to keep preemies comfortable and asleep.

"When babies are in the womb, they have this natural and nurturing environment that allows them to develop, both physically and neurologically," said Lynn Schuetz, Senior Director, R&D at P&G. "When they come out into the world earlier than expected, this process is interrupted, making sleep even more critical to their development than normal."

The new diapers include Swaddlers Ultra Leakguards with dual-layered cuffs to lock in leaks, Reversible Diaper Design with ComfortFit including soft, stretchy and re-attachable tabs for a customizable fit; Breathable layers featuring thousands of micro-pores to keep air circulating and skin dry; and PREEMIEum softness to provide ultimate comfort for baby's delicate skin.

Pampers Preemie Swaddlers support up to six hours of absorbency for uninterrupted sleep for babies under 1800mg. They can be found in sizes P3 and P2 and are available in select hospitals across the U.S.

Diamond Wipes offers protection against coronavirus

CHINO - Diamond Wipes International has announced that its HandyClean Steridol Wipes have demonstrated effectiveness against viruses similar to 2019 novel coronavirus (COVID-19) on hard, non-porous surfaces, and can be used against 2019 novel coronavirus when used in accordance with the directions for use against norovirus on hard, non-porous surfaces.

"The sustained presence of the virus in the U.S. caused immense demand for Steridol and hand sanitizers and Diamond Wipes will continue to shift its production focus to these products throughout the duration of the pandemic," said Diamond Wipes CEO Lance Leonard.

The HandyClean Steridol® Wipes are EPA-registered and proven to kill 99.9% of microorganisms tested, including bacteria, viruses, mold and mildew. The wipes are made in the USA and are designed for use in hospitals and healthcare centers, day care centers and nursing homes, schools, cafeterias, gyms, grocery stores, restaurants and bars, public transportation hubs and any other highly-populated areas where disease can easily spread.

The wipes are ammonia-free, bleach-free and phosphate-free and are packaged in a recyclable container.

According to the Centers for Disease Control and Prevention (CDC) website, Covid-19 has now has resulted in more than 4.8 million confirmed cases and over 157,000 deaths in the U.S. at the time of writing.

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New Braskem plant to address PP shortfall

LA PORTE - Biopolymers manufacturer Braskem has completed the construction of its new production facility located in La Porte, Texas with the new plant hoping to replace imported polypropylene volumes, which are currently addressing the shortfall in the US domestic market.

Braskem's new facility, the first built in the US since 2008, has a designed production capacity of over 450 kilotons (kt) or 1 billion pounds per year and has the capability to produce the entire polypropylene portfolio including a broad range of products such as homopolymer, impact copolymer and random copolymers.

Mark Nikolich, Braskem America CEO, said the construction of the facility positively affected the economy in the Texas Gulf Coast region, which employed approximately 1,300 development and construction workers to build the facility. An additional 50 Braskem permanent full-time jobs were created to support long-term commercial production.

"We are proud to announce the milestone of construction completion for our new polypropylene production facility, the newest in the United States," Nikolich said. "This world scale facility is a confirmation to our clients around the world that Braskem is committed to investing in their future. As commercial production begins later this year, Braskem will position the new facility's domestic production capabilities to replace imported polypropylene volumes, which are currently addressing the shortfall in the United States' domestic market.

"Commercial production activity at the facility, in conjunction with our new Global Export Hub in Charleston, South Carolina, will also directly support Braskem's global export capability to its clients throughout North America, South America, Europe, and Asia."

The commissioning process is currently ongoing, with Braskem now focused on completing all necessary steps to ensure a safe and successful startup, including the implementation of COVID-19 enhanced facility health and safety guidelines to help protect Braskem team members and contractors alike.

During this phase, the company is concluding functional tests and process tests to verify performance of controls and integrated safety systems. Initial production test runs are anticipated to begin in the next month with the first full scale commercial production activity currently expected in the third quarter of 2020.

"The Covid impact on the North American polypropylene industry during April and May affected durable segments such as automotive," added Alexandre Elias, vice president, Polypropylene North America. "However, this impact was partially mitigated with strong sales in nonwovens and packaging applications. In June, demand improved and Braskem's North American polypropylene outlook for the third quarter is positive as clients are ramping up operations and demand has rebounded."

Elias also said that Braskem's global supply chain has made preparations to leverage North America's competitive propylene and polypropylene position for exports, supporting its clients in North America, South America, Europe, and Asia. The combination of improved demand, planned outages in the third quarter, and export opportunities will support a smooth ramp up of the new facility, he added.

Colback contributes to Dutch healthcare initiative

Edgar Berkhout, Manager Business Development at Low & Bonar, Niels Berkhout, Supply Chain Director at AFPRO Filters and Frank Goené, Technical Development Manager at Low & Bonar at the AFPRO production location in the Netherlands.

Arnhem - Low & Bonar s Colback site in the Netherlands is providing support for medical face mask production for as part of a non-profit initiative for the Dutch healthcare system.

The specialist Colback spunbond nonwoven fabric will contribute to the shortage of personal protective equipment in healthcare institutions across the country as part of a public/private enterprise.

Colback nonwovens are now included as a reinforcement layer in FFP2-certified medical face masks. The masks themselves are produced by another company located in the Netherlands: AFPRO Filters. "Though both companies were new to the face mask business, they made it happen within a very short period. An outstanding achievement and a special journey," Low & Bonar said in a statement.

As in many other countries, the Netherlands was confronted with a global shortage of personal protective equipment as COVID 19 spread across the continents. Called upon by the Dutch Minister of Health and Sports, a unique public/private consortium came to existence, with selected Dutch companies invited to join and serve a single purpose: the realization of large-scale, non-profit based production of health protection items within the country to help protect their healthcare workers.

The cooperation is much appreciated by both sides. Niels Berkhout, Supply Chain Director at AFPRO Filters added: "We felt an enormous urgency to turn this project into a success and found an equal dedication at Low & Bonar. We experienced a very high degree of flexibility among all involved: engineering, production, planning and deliveries. So much technical knowledge was made available to us and always at very short notice. Together we were able to overcome all the obstacles along the way."

Colback is a spunbond nonwoven which adds a reinforcement layer in the FFP2-approved face masks. As an intermediate layer Colback provides the necessary sturdiness to the masks, keeping them in shape and place during wear. At the same time, Colback is very light-weight, thin and highly permeable which allows for easy breathing and improves user comfort.

Techtextil USA postponed until 2021

ATLANTA - Messe Frankfurt has confirmed that the Techtextil North America & Texprocess Americas shows have been postponed for a second time as a result of the ongoing Covid-19.

The show was originally scheduled for May 2020 but then put back to October of this year, as cases of the pandemic continued to rise. With concerns over the willingness and ability of exhibitors and visitors to travel, organisers have now taken the decision to hold the next edition from August 23-25 2021 in Raleigh, North Carolina.

"After many hours of consultation with our various stakeholder, exhibiting companies and our partners at the Georgia World Congress Centre, we have chosen to postpone Techtextil North America until the next edition, scheduled to take place August 23-25 in Raleigh, North Carolina," organisers said. "While we firmly believe that our health and safety plan exceeded all recommended guidelines to ensure a safe trade show environment, several outside factors including travel restrictions, quarantine mandates and other governmental regulations across the globe have made moving forward with an in-person event impossible at this time."

All exhibitors will be transfer their currently booked exhibition space and funds to a future edition.

For more information and access to the most recent program updates, deadlines, pricing information, and more, visit www.techtextilna.com or www.texprocessamericas.com.

Berlin backing for Berry Global

BERLIN – The German Government has recdently awarded Berry Global close to €1.7 million in subsidy support for its new Meltex meltblown line.

In the ongoing fight against Covid-19 and the continued demand for medical facemasks, the line is being installed at Berry's existing production facility in Berlin and will incorporate Berry's patented charging technology post installation.

The new line will focus on the production of highly efficient filter material for premium FFP2 (N95) and FFP3 (N99) grade filter media and is expected to be operational in October 2020.

"We are now beginning to see the localisation of varying forms of equipment that produce materials for PPE, as countries and governments look to be able to react with speed to any future outbreaks," said Cedric Ballay EVP and GM for Europe in Health, Hygiene, and Specialties at Berry. "We continue to provide timely solutions to those looking for assistance fighting the spread of COVID-19."

As the largest manufacturer of nonwoven fabrics, Berry makes materials for the world's leading and emerging brands. These products range in use from materials for face masks, respirators and protective healthcare apparel to packaging, many of which have been deemed essential in the efforts to fight the spread of COVID-19.

H.B. Fuller unveils new all-in-one adhesive

DALTON - H.B. Fuller has launched an all-in-one elastic attachment adhesive which, says the company, means nonwoven hygiene manufacturers no longer need to use multiple adhesives across various elastic and high stress applications.

Branded as Full-Care 8220, this next generation adhesive is said to demonstrate 'best-in-class' creep and sheer strength performance across all key adult and baby diaper applications. The new solution leakage and blowouts identified as the number one consumer pain point, according to the company's latest study.

The market trends for training pants, adult incontinence products, and alternative product designs with stretch features are driving the increase in elastic usage. According to Euromonitor International Outlook, global demand for training pants is expected to grow at 9% CAGR, significantly outpacing the growth of open diapers in the next five years, while improved product designs and fit drive elastics usage for the product category is expected grow at 5% CAGR from 2019-2023. Moreover, various elastic features, such as doubled cuffs and stretchable cores, in alternative product designs aim at improving fit and preventing core sagginess after insult. As an all-in-one elastic attachment adhesive, Full-Care 8220 can be used for these applications.

When tested against the industry standard elastic adhesive, Full-Care 8220 demonstrated excellent creep resistance at the lowest industry coat weights; robust sheer strength for high-stress tear, tab and insert attachment applications; and reliable curved elastic attachment performance on curved application for improved article fit.

Further benefits include potential for savings, with up to 25% add-on reduction on key industry substrates and excellent processability across various machine types, allowing for higher productivity and minimized downtime for hygiene manufacturers.

Also, when tested in a third-party lab against other leading adhesive suppliers in an elastic adhesive benchmarking study conducted by a North America adult incontinence product manufacturer, Full-Care 8220 is said to have outperformed four leading competitive elastic adhesive products, delivering zero creep.

People


Tony Bryant.

Following a period of unprecedented growth globally, **Shemesh Automation** is responding to increased demand for its industry-leading packaging machinery solutions by expanding its UK team with the appointment of Tony Bryant (pictured) as sales director in the territory.

The UK is already a major stronghold for Shemesh, where it has enjoyed over seven years of active UK sales and after sales operations, including the establishment of a marketing, strategy, business development and finance department headquartered in London.

Tony is an industry veteran, bringing with him over 27 years' experience in capital machinery sales. He joins Shemesh from Ilapak where he held the Technical Sales Manager role having previously headed up the EMEA region for Peco-InspX and the UK territory for Loma Systems.

Shemesh has also announced the appointment of Anna Kingsley as Chief Marketing Officer. Anna is an award-winning marketer with over 20 years' international business experience. She has worked with some of the biggest brands in the world such as Coca Cola, BBC, Sky, NBC and Match.com and has 6+yrs experience with Israeli Hi-Tech startups.

PFNonwovens Holding has appointed Cedric Ballay as the PFN Group's new chief executive officer. The appointment is the result of a long-planned succession process at the helm of the Prague, Czech Republic-headquartered group.

Ballay joins PFN from Berry Global Group, Inc. where he served as executive vice president and general manager for the health, hygiene and specialties division in Europe, the Middle East, Africa and India (EMEIA). He joined Avintiv, a Berry Global acquisition, in July 2013 as its vice president for sales and product development EMEIA after spending 16 years with General Electric, progressing through leadership roles in Information Technologies, Lean 6 Sigma, Commercial and General Management.

Ontex Group has announced that Charles Bouaziz is stepping down from his role of chief executive officer of Ontex, with effect from July 30, 2020. Thierry Navarre has been appointed chief executive officer ad interim.

Thierry Navarre has been on Ontex's Executive Leadership Team since 2009 when he was appointed chief operating officer, and became chief transformation officer in 2019. Previously, he was the Group supply chain director and has worked within Ontex for almost 15 years.

The Board of Directors has commissioned an executive search firm to coordinate the process of identifying a permanent chief executive officer among internal and external candidates.

Hans Van Bylen, chairman of the Board, said: "As a Board we believe that Ontex benefits from strong products and positions across our key categories and markets, with clear potential for further development. We will fully support Thierry Navarre and the Ontex management team to lead the successful execution of our ongoing transformation initiatives. Our firm ambition remains to further improve our performance and drive value for our shareholders."


Dr. Marina Crnoja-Cosic.

Dr. Marina Crnoja-Cosic has been appointed head of New Business Development at the viscose speciality fibre manufacturer **Kelheim Fibres**. She will also serve as a member of Kelheim's Management Board.

The chemist with a doctorate degree brings with her long-time experience in fibre and application development as well as in business development. Customised and market-oriented solutions, cross-company cooperation along the value chain and constant attention to long-term industry and particularly to textile trends have shaped her career path for the past 20 years.

EDANA, the leading global association serving the nonwovens and related industries, has unveiled its new board, with the reshuffle indicating a clear industry focus on sustainability and innovation.

EDANA has elected new Governors and a new team of Officers for 2020 - 2021. Mikael Staal Axelsen (Fibertex) remains as Chair, supported by Vice-Chairs Åsa Johansson (Essity, Sweden) and David Lamb (Nonwovenn, UK). Giorgio Mantovani (Corman, Italy) was elected as Treasurer.

Announced at EDANA's recent online Annual Strategic Review and AGM, the newly elected board began their term on July 1st.

"It is a pleasure to welcome such engaged and insightful new members to the board. Their experience and enthusiasm is acknowledged by the member confidence in our assembly to drive our ambitious new agenda," said Axelsen. "Aligning on the interests and meeting the needs of over 280 members is a complex yet ultimately rewarding challenge. It is heartening to know that we share values that our renewed focus on sustainable and innovative solutions, and transparent business practices demonstrates."

The following Governors were elected as new Board members:

- Mr Cédric Ballay, EVP & General Manager EMEAI, Berry Global, Spain
- Mr Roger Chantillon, Executive Board Member & EVP Sales & Marketing, RKW Group, Germany
- Mrs Sophie Rasmussen, Business Leader Essential Health EMEA & Global Women's Health, Johnson & Johnson, UK
- Mrs Patricia Sargeant, Vice President, Sales, Composite Fibers, Glatfelter, Canada
- Mr Markus Westerkamp, Executive Vice President BA Advanced Solutions, Ahlstrom-Munksjö, Germany

The team of Officers is reinforced by Executive Governors, co-opted by the Board: Mr Thorsten Habeck, Head of Business Management, Fiber Bonding EMEA, BASF, Germany; Mr Ulrich Hornfeck, Board Member & Chief Commercial Officer, Sandler, Germany; Mr Krzysztof D. Malowaniec, Senior Vice President, Paul Hartmann, Germany; Mr Jörg Ortmeier, CEO, TWE Group, Germany; and Mr Mark A. Thornton, Vice President, Global Materials, Procter & Gamble, Germany.

August 2020

24-27
Virtual WIPES Academy
Webinar
www.inda.org

24-27
Virtual World of Wipes (WOW)
International Conference
Webinar
Web: www.worldofwipes.org

September 2020

2-4
CINTE
Technical textile and nonwoven products in Asia
Shanghai, China
Web: https://cinte-techtextil-china.hk.messefrankfurt.com/shanghai/en.html

15
Nonwovens Introduction Webinar
EDANA training course
Web: www.edana.org

15-16
Virtual Elementary Nonwovens Training Course
Webinar
Web: www.inda.org

23-25
Outlook
The world's premier nonwovens personal care and hygiene & wipes products conference
Webinar:
https://www.edana.org/events/outlook

29-30
Virtual RISE (Research, Innovation & Science forEngineered fabrics)
Webinar: www.riseconf.net

October 2020

12-15
Absorbent Hygiene Products
EDANA Webinar
Web: www.inda.org

13
Circular Nonwovens Forum 2020
Shaping the Circular Economy for Nonwovens
EDANA Webinar
Web: www.edana.org/events/circular-nonwovens-forum

November 2020

16-19
Hygienix
The Roosevelt New Orleans
New Orleans
Louisiana USA
Web: www.hygienix.org

December 2020

7-8
Filtrex Asia
Shanghai
China
Web: https://www.edana.org/events/filtrex/filtrex-asia

April 2021

OUTLOOK 2021
The world's premier nonwovens personal care and hygiene & wipes products conference
Lisbon
Web: https://www.edana.org/events/outlook/outlook-europe

May 2021

4-7
Techtextil
Frankfurt
Germany
Web: https://techtextil.messefrankfurt.com/frankfurt/en.html

June 2021

50 years of EDANA 2021
More info to come
Lyon
Web: https://www.edana.org

August 2021

23-25
Techtextil North America
Raleigh
North Carolina
USA
www.techtextilna.com

Although every care is taken over the compilation of this diary to ensure accuracy of the dates, these can sometimes be changed due to local circumstances. It is therefore advisable to check with the appropriate organisers before travel arrangements are made.

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