

# KNITTING TRADE JOURNAL

July / August 2020

## Intelligent design

A custom-made supply chain for sustainable knits

### Highly active

Sportswear firm  
eyes a seamless future

### Crisis management

Knitting sector plays its  
part in Covid-19 fight

### In the net

Warp knitting  
for home textiles

The technical magazine for the global knitting industry

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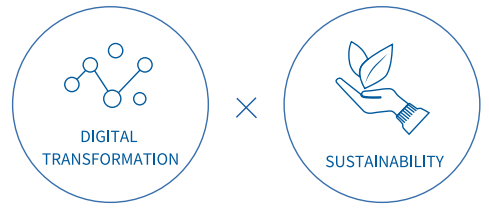
# Make It SPARKLE, MAKE IT Fiz.

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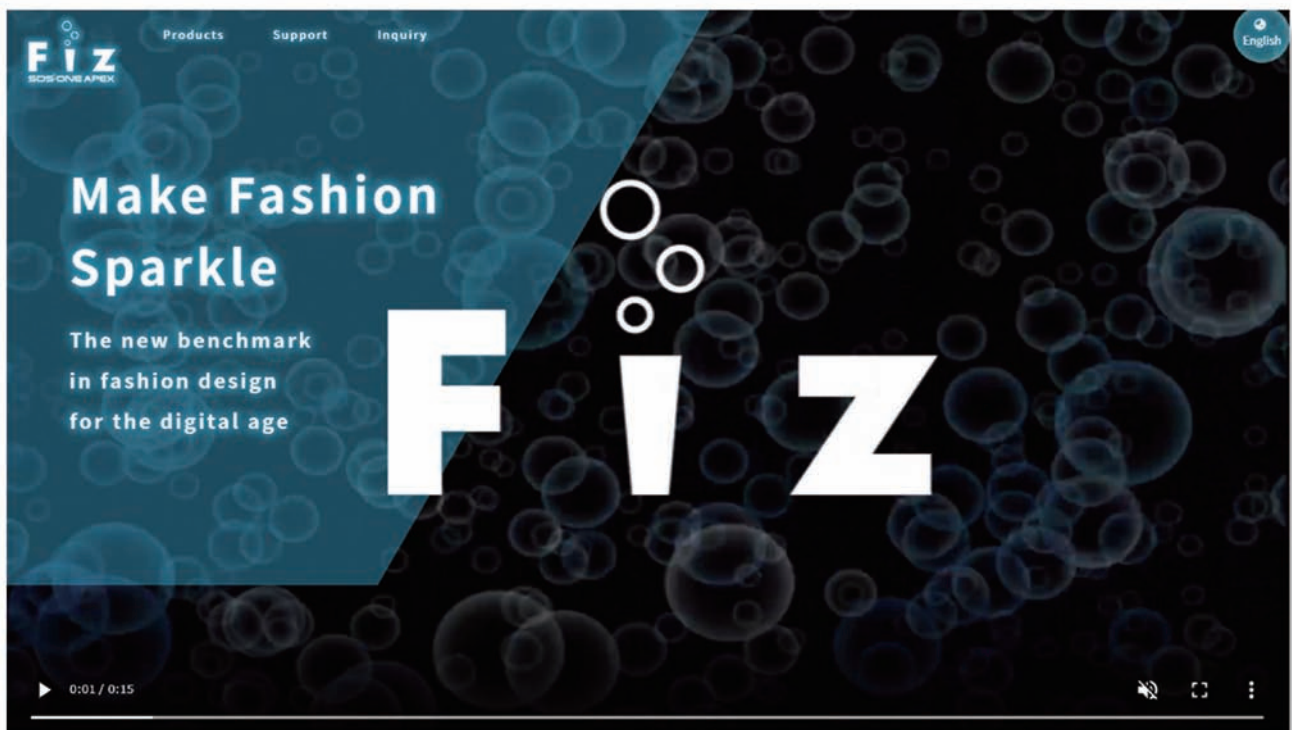
Introducing\* Fiz, a new kind of subscription-based design software from SHIMA SEIKI. Carrying over proven functions from our benchmark SDS-ONE APEX series, those strengths are now enhanced with the added versatility to adapt to different working styles of the “new normal” including teleworking and telecommuting.

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or access the following link:  
[www.shimaseiki.com/fiz](http://www.shimaseiki.com/fiz)

\*Fiz goes on sale in October 2020.

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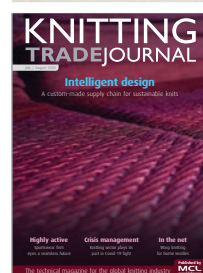
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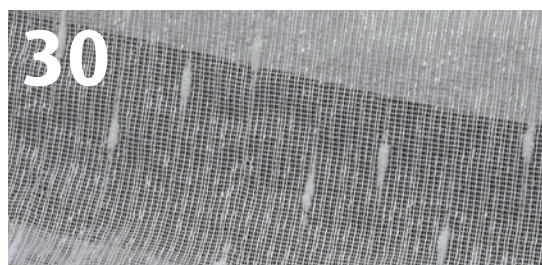
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# Crisis management

The impact of the global coronavirus pandemic continues to dominate the headlines across the knitting and wider textile industries, local and national governments as well as the global media.

As we have seen, and continue to see in this issue, the knit supply chain is continuing to respond to this perfect storm of healthcare, political and economic crises in the best way it can - with research, development and innovation from fibre and yarn suppliers, machinery builders and knitwear and knitted fabric manufacturers as they all look to play their part in this global fight.

Despite the severity of the situation, many countries are starting to ease lockdown restrictions with various routes being taken in an attempt to find this new normality and kick-start industry and commerce.

While many elements of the knit supply chain have continued to work throughout the pandemic, we are also starting to see the green shoots of recovery return to a sector that is vital to our industry; the international exhibition circuit.

Understandably, as the dreadful effects of Covid-19 spread, the textile exhibition

calendar was a noticeable casualty with each and every scheduled event falling by the wayside.

Now though, the first signs of a return to some sort of normality are starting to show. As we go to press, the September edition of *Premiere Vision* is striving to be the first show back, albeit with certain restrictions and Covid-19 ready rules in place. Other shows such as *Intertextile Apparel Fabrics*, *Performance Days* and *Techtextil USA* also look set to go ahead before the end of the year.

This re-emergence of exhibitions is warmly welcomed. As an industry, we are a tactile bunch; the feel, drape and weight of new fabrics are what really gets buyers excited. For many, getting up close with the latest high-tech knitting technology is also key to making investment decisions, not to mention the social aspects of catching up with colleagues and friends from around the world. Exhibitions tend to be where we also see those exciting new prototypes that may or may not make it into commercial production.

Still, for some, the return of the exhibition circuit raises questions; will people travel? What are the budgets for buyers in the wake of the economic

slowdown? How will rules to make spaces Covid-secure impact the run and flow of exhibitions?

There are many questions, the answers to which will only become clear once the sector is up and running again. In the meantime show organisers are offering digital options and virtual trade shows which offer a level of fulfillment for buyers but, ultimately, are not as satisfactory as the real deal.

How, and in what form, the sector returns will be clearer by the end of year. Until then, we wish the best of luck to show organisers, their exhibitors and visitors from around the world.



**Haydn Davis**

Editor

hdavis@mclnews.com

## What's hot on [knittingtradejournal.com](http://knittingtradejournal.com) – our most popular online stories

### Design with a twist from Shima Seiki

Wakayama - Shima Seiki has developed a new design software system and web services aimed at helping the sustainable and digital transformation of the fashion industry.

### Warp meets weft

Obertshausen - Warp knitting machine builder Karl Mayer has completed its acquisition of Stoll, officially creating a trans-technology global player that can offer the industry the latest in both warp and weft knitting expertise.

### Munich Fabric Start cancels September edition

Munich - The Munich Fabric Start exhibition, scheduled from 1-3 September 2020 has been cancelled following concerns over coronavirus with a scaled-down event taking place instead.

## Turkey's textile exports halved

Istanbul - Exports of textiles and raw materials from Turkey plunged in April as the impact of the coronavirus on supply chains and the retail sector took its toll.

The industry exported goods worth US\$414, down 51 per cent compared to \$857 million in the same period in 2019.

The export of textiles was also down 44 per cent in April compared to March as retail orders and supply chains were hit by the global pandemic. Despite this, Germany remained the main market in the January-April period, although textile exports were down 7.5 per cent to \$252 million.

Turkey's second biggest market, Italy also saw a drop with exports in the first three months of 2020, down 25 per cent to \$214 million.

Exports to the US were down 21.4 per cent in April to \$35 million and by 7.7

per cent for the four-month period January to April.

Elsewhere in April, the UK market was down 62 per cent to \$14.7 million.

Turkey's textile and apparel industry is regarded as the driving force of the Turkish economy, accounting for 35 per cent of the country's total exports, 11 per cent of employment, 10 per cent of GDP and 25 per cent of the total amount of industrial investments in the country. The latest data shows that the Turkish textile industry is in sixth place in terms of exports with more than 50,000 workplaces and a total of 2.5 million employees. As the world's seventh largest textile manufacturer, Turkey is currently the second biggest supplier to European Union countries.

Turkey is also the fourth largest buyer of textile machinery with the country's

textile manufacturers relying heavily on imported machinery and technologies for their investments when domestic production does not meet the demand.

In 2018, of the US\$27.5 billion spent on textile machinery globally, Turkey was the fourth largest investor, spending \$1.9 billion.

The latest figures from TURKSTAT (Turkish Statistical Institute) show that of the \$1.9 billion total investment, \$523.2 million was for the machinery used in preparation of yarns and fibres. Weaving machines ranked as the second highest with \$316.9 million dollars while flat and circular knitting machines ranked third with \$316.1 million.

The fourth most imported machinery group was machines used in textile finishing. Imports of machinery in this group reached \$273.6 million in 2018.

### Karl Mayer offers jersey fabric option

Obertshausen - A new project from Karl Mayer demonstrates how fabric types usually associated with weft knitting machines can be adapted and produced on warp knitting technology.

Karl Mayer's innovation department has recently developed a collection of warp knitted jersey fabrics titled Jersey Evolution which are produced on the company's high-performance, HKS 2-S technology.

"With these innovative jersey warp knitted fabrics, we want to open new doors in the world of innerwear, or fabric worn close to the skin," said Textile Technician Melanie Bergmann, explaining that the particular benefits of these new fabrics include a soft, sleek feel that's fine and smooth to touch, with high elasticity but resistance to permanent loss of shape, as well as smooth, free-cut edges.

These characteristics, says Bergmann, are backed by specially chosen machine configurations and lapping technology with the high recovery capacity of the bi-elastic fabric created by implementing a two-needleoverlap.

"Thanks to a special meshing of the elastane threads, firm and straight edges are created which have a very low or zero tendency to curl. The chosen lapping, together with a high machine gauge, ensures a smooth, fine surface and a flowing fall – or a look and feel customary to circular knit fabrics."

In comparison to circular knit, Karl Mayer says that the manufacturing process of the highly elastic, warp knitted power jersey is substantially more productive. A HKS 2-S boasts the same output as around 2.5 circular knitting machines.

This high-performance warp-knitting machine also offers advantages with regards to spare parts. The needle leads in warp knitting machines can last up to six times longer than those in circular knitting machines, the company says.

Thanks to this long usage cycle, costs for a set are halved, which results in running costs being lowered considerably.

Gabriela Schellner, senior manager of Textile Technology at Karl Mayer noted that Jersey Evolution garnered a lot of attention at Interfilière with its impressive performance. "We had many conversations with representatives from international lingerie labels. There were also some knitwear manufacturers among them, who wanted to learn more about the technology and its possibilities," she said.







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\*The STOLL oronasal masks are neither medically nor otherwise tested and certified.

# Lonati launches new hosiery machine

Brescia - Lonati has added a new four feed model to its Donna family of hosiery knitting machines, which is certified to ACIMIT's Green Label standard.

The new single cylinder machine, Donna LB04Y7 is a single cylinder, four feed machine with electronic controls for the production of stockings and pantyhose with individual electronic needle- by-needle selection unit on each feed.

Possibilities on this 4 ins diameter

machine in 32G, include pantyhose in jacquard, baguette and bikini patterns.

The LB04Y7 is equipped with four motorized stitch cams for gradual or partial stitch narrowing or widening in any part of the sock, a motorized needle raising cam and electronic yarn finger control with a plating option at different heights and a motorized yarn finger for angular movement.

With a maximum speed of 850rpm, it also has single or double dial jacks and

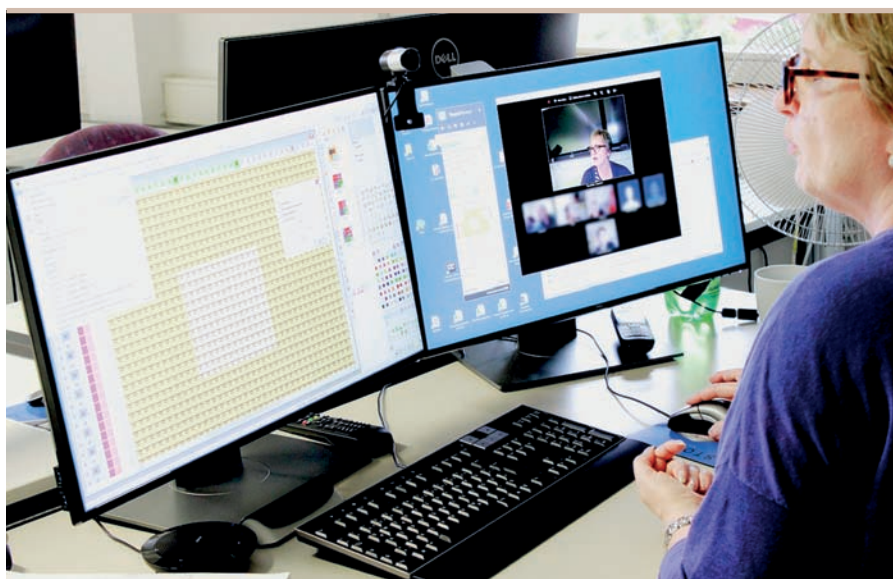
an electronic device to maintain the speed at any temperature of the machine.

Possible knitting structures include:

- Plain knit
- 1:1, 3:1, 5:1, 7:1, 1:3 fixed mesh, micromesh and diagonal mesh
- Different selections for vertical cutting bands
- Several 1:1, 2:2 (cut boss) pattern, bikini pattern, pattern heel, pushup
- Supp-hose on 2 or 4 feeds
- Plain knit plating on 2 or 4 feeds
- Supp-hose on 2 or 4 feeds

The LB04Y7 is also certified to ACIMIT's Green Label, a self certification process which assesses the quantity of equivalent emissions of carbon dioxide emissions while also measuring water consumption, energy usage and acoustic emissions to give an overall environmental footprint measurement.

Once achieved, manufacturers are then entitled to display the appropriate certificate while also displaying the Green Label on the machine.



## Online flat knitting training from Stoll

Reutlingen - Stoll has launched a series of online courses which allow users of its flat knitting machines to continue their technology training and education safely and comfortably during the coronavirus pandemic.

"The Covid-19 pandemic keeps large parts of the world in suspense while drastically restricting economic and social life," said Stoll. "In such an unprecedented situation, it is important to have a strong and reliable partner like Stoll at your side.

"Stoll has always been available to you as a reliable and loyal partner, that's why we offer a selection of Online Training Courses according to customer inquiries; this enables us to respond specifically to your wishes and questions."

The greatest demand for training course at the moment seems to be for Stoll's pattern software M1plus which are currently being offered in English.

With the online system, Stoll says that participants are always live and active, can ask questions directly and interact with the online trainer/other training participants. In addition, you can be flexible and in any location, saving travel time and travel costs as well as being 100% safe at all times.

"You benefit specifically from the Stoll trainers, who have years of training and education experience in the field of knitting and software technology," the company said. "The positive feedback from our training participants confirms that we are right. Use our know-how and many years of experience for efficient further education and learn 100% safely and easily from home."

For more details go to: [www.stoll.com/en/service/online-training-courses/](http://www.stoll.com/en/service/online-training-courses/)



# New management team for Evolution St. Louis

St. Louis - As it continues on its mission to create the flat knitting supply chain of the future, high-tech knitting facility Evolution St. Louis has announced a new management board, bringing together a team with a combined expertise in the key areas of fashion, technology and finance.

The knitting facility, which uses the latest Stoll 3D and complete garment seamless knitting technology, says the new Board of Managers will help build on Evolution St. Louis' success and drive its growth and future innovation.

Jon Lewis, CEO and co-founder of Evolution St. Louis said the board was composed of highly accomplished individuals that have run investment companies, led corporations and been featured in Forbes and Project Runway: Fashion Startup. "We value and appreciate our Board members for bringing their expertise and focus on excellence, to help drive our continued

growth and success," Lewis said. "The response to Evolution St. Louis has been nothing short of overwhelming, and I thank our Board of Managers for being willing to serve and advance our vision for the future."

"Our Board members share our passion and commitment to reinvent, recreate and revitalize the knit sector so we can bring made-in-the-U.S. products to new customers and new markets," added John Elmuccio, COO and co-founder of Evolution St. Louis. "We have been humbled by the rapid success of and support for Evolution St. Louis, and we are truly grateful for their time, talent and expertise."

The five-member Board of Managers includes: Gary Wassner, CEO of Hilldun Corporation and founding member and chairman of Interlux Holdings; Barbara Archer, managing director and partner at Hightower Wealth Advisors St. Louis; Jon

Lewis, CEO and co-founder of Evolution St. Louis; John Elmuccio, COO and co-founder of Evolution St. Louis; and John Kalishman, strategy and marketing consultant, founder and president of Harcourt Group and executive at Insituform Technologies Inc..

"St. Louis has a strong tradition in the fashion industry and deep roots in manufacturing, and I believe Evolution St. Louis will establish the city as a key player in the global manufacturing market and supply chain," said Barbara Archer.

Evolution St. Louis operates from a 32,000 square foot state of the art facility in the Grand Center Arts District of St Louis. It is equipped with the latest generation Stoll CMS and ADF flat knitting machines in a range of gauges with a production capability that covers a wide portfolio ranging from fully fashioned knitwear to complex shapes, footwear and smart textiles.



Gary Wassner



Barbara Archer



Jon Lewis



John Elmuccio



John Kalishman

## Knitters welcome India facemask decision

Tirupur - Mills in Tirupur, often regarded as the knitwear hub of India, have welcomed a government decision to allow the export of non-medical, non-surgical masks.

The Tirupur Exporters' Association from India's largest garment hub said that move could generate anywhere between US\$500 million and \$1 billion per year going forward as mask wearing is set to become a universal norm globally, following the Covid-19 pandemic.

Initially, the Indian government had prohibited the export of facemasks with the full capacity earmarked for domestic use. However, the regulations have now changed with the government permitting the exports of non-medical and non-surgical masks of cotton, silk, wool and knitted while continuing to prohibit all other types such as N-95 and surgical masks.

TEA president Raja M Shanmugham told the Financial Express: "We are happy to have been allowed to export the non-surgical and non-medical masks, which came at a time when the garment industry is under stress with the exports due to Covid-19 across the world. We have been getting enquiries for masks for some time now but could not do so as the government prohibited export of such masks. The decision to allow not only brought immense prospects to the textile industry but also will help generate additional revenue for the 1,500-odd export units."

He continued: "We are expecting an additional revenue generation to the tune of \$500 million in the immediate future, and has the potential to generate \$1 billion over the next few years as the world, particularly the US and the European Union will witness 'new normal' going forward. Even countries across the world have started demanding masks for their regular usage."

# Busi unveils new sock software system

Brescia - Hosiery machine specialist Busi Giovanni has released an updated version of its latest sock graphic software.

The company has been working on upgrading its ART-GEN package which, with a range of highly intuitive features, allows its customers to generate customized sock knitting programs in just few minutes, ready to be sent and installed onto knitting machines.

"Despite the Covid emergency situation that lots of countries have been facing, it was a real opportunity for us to face it positively and make Coronavirus an enemy to fight

as well as get it fruitful for our mutual business anywhere," said Leonardo Busi, global export & technical manager. "Our customers know the potential value of our high-performing, effective ART-GEN software which is also extremely user-friendly, even for beginners."

Mr Busi also noted that while customers are familiar with the software's highly intuitive features which enhance their graphic design possibilities, the company's technical staff is constantly implementing and upgrading the ART-GEN package.

The Graphic section of the program, for example, enables the preparation of the drawings in a very simple manner, using advanced functions specifically designed for the textile computer graphics like. This includes automatic contouring, a "Magic copy" of areas defined by one or more solid colours, pattern fill and a colour change on a selected area or on the whole

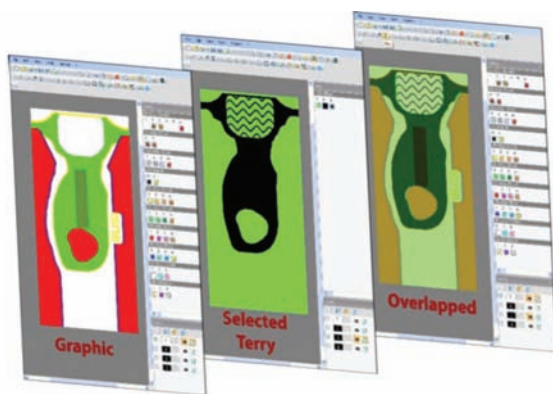
drawing. Further possibilities include a colour swap, automatically spaced repetitions, and the ability to import several graphic file formats (bitmapped).

ART-GEN can also be used to simplify the preparation of technical drawings which requires the graphic programming of different functions such as the elastic selection or the selected terry. The program uses various layers for the different functions and the layers can be viewed one by one or with overlapping.

The program can also import images from a scanner and it has specific functions that will reduce the number of colours and the dimensions of the scanned image.

Busi says it has also continuously improved its software following valuable feedback and input from its partners and customers.

The suggestions are then evaluated by the company's technical department and can be implemented into the software, which, the company says, demonstrates how it is offering increasing levels of service as well as new ideas for sock designs and graphics.



## Südwolle and Lycra partner on high performance yarn

London - The Lycra Company and worsted yarn specialist Südwolle Group have delivered a new long staple yarn technology, which is said to bring both high performance and sustainability benefits to the wool market.

Described as the first of its kind, the new GRS certified cationic dyeable Coolmax EcoMade long staple yarns can be processed with wool without compromising its unique properties.

Among the existing types of recycled polyester that can be blended with wool, Coolmax EcoMade technology distinguishes itself by its cationic dyeability. This property considerably facilitates the dyeing process in piece or cone dyeing and enables a gentler dyeing process at lower temperatures using less energy.

According to Lycra, this not only helps to ensure that the touch and handle of the wool are not impacted but is also a positive development for sustainability within this market. The cationic dye process is also designed to deliver better colour and colour fastness.

"This new Coolmax EcoMade fibre is the perfect partner to wool, combining the performance of uniquely engineered cross-sections of Coolmax fibres, offering better breathability and moisture management, with the natural attributes of wool," said Jim Sweeney, Business Development Director for The Lycra Company specialty polyester.

To highlight the new product's unique qualities, as well as challenge the presumption that sustainable fibres compromise on performance, Südwolle blended the Coolmax EcoMade fibre with their Merino yarns to develop a range of sports and outdoor samples.

Several key customers were then invited on a winter sports weekend to launch the products. "Never judge a book by its cover, nor judge a yarn without physically testing it! The participants' feedback was very positive. They in particular highlighted that the blend performed outstandingly well in terms of moisture management and comfort," added Michel Mastio, director for Circular Knitting and Hosiery Yarns, Südwolle Group.

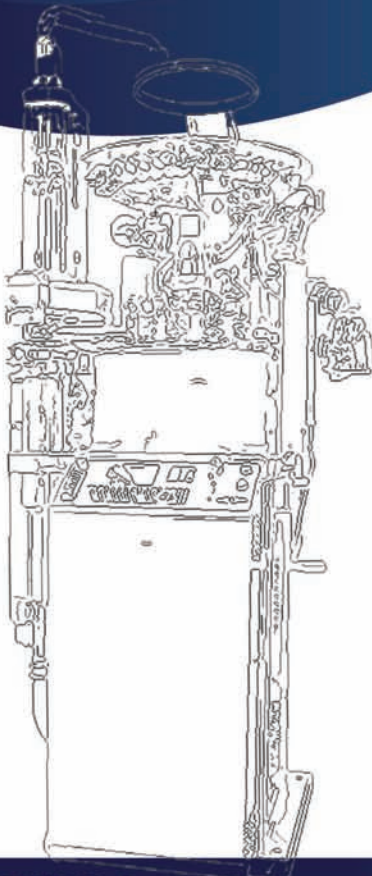




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# Sharp quarterly decline for Italy's textile machinery sector

Milan - The Italian textile machinery sector suffered an unsurprising drop in the first quarter of 2020 as the initial impact of the coronavirus pandemic took

its toll in the industry.

With the impact on the sector still apparent with manufacturers suspending operations during the Italian lockdown, Italian textile machinery body ACIMIT

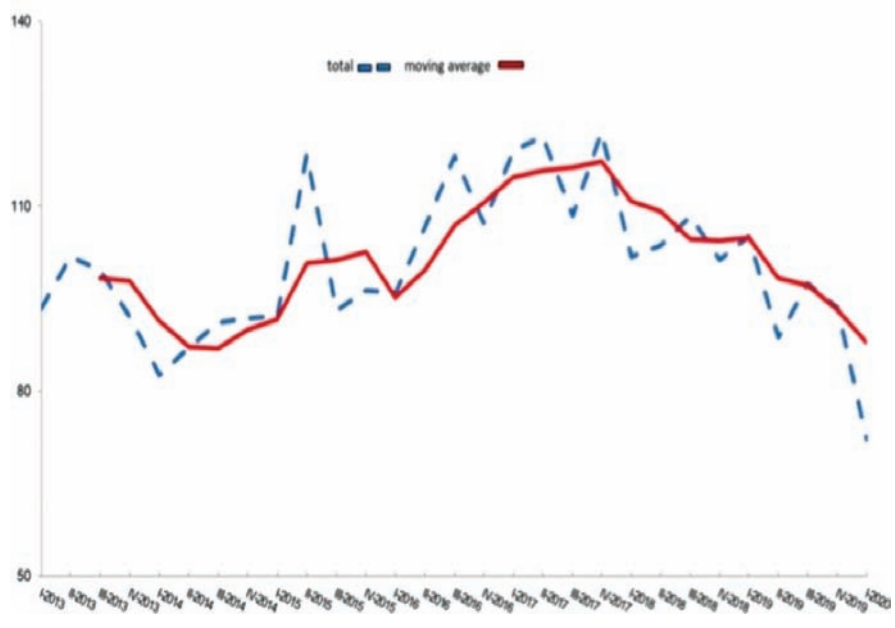
warned that there will be a further drop in orders during the second quarter of the year. The index of orders intake for textile machines drawn up by ACIMIT for the period from January to March 2020 fell by 31 per cent compared to the same period of 2019. The index value stood at 72.2 basis points (2015 = 100).

The order intake was negative on both foreign markets and domestic markets. In the foreign markets orders were down 26 per cent, while on the domestic market they were down 57 per cent compared to the first quarter of 2019.

"The orders index sank compared to 2019, a year already negative," Alessandro Zucchi, president of ACIMIT said. "Indeed in 2019 the Italian textile machinery industry observed a decrease both in production (-13 per cent) and in exports (-14 per cent) compared to the previous year.

"Following a difficult year, the Italian textile machinery had to face Covid-19 pandemic, which led, as a first consequence, to the slowdown of the main markets in the sector, China, Turkey and India, in the first month of 2020."

## ITALIAN TEXTILE MACHINERY The index of orders intake at constant value (bases 2015+100)



## Coats launches new app for yarn calculations

Uxbridge – Coats, a major supplier and manufacturer of industrial and consumer sewing thread to the knitting sector, has developed a new app which features a yarn blend calculator that's said to detail fabric properties and optimise compositions for end-use in personal protective equipment (PPE).

The Coats Synthesizer is described as a bespoke tool that leverages sophisticated 'blend predictor technology' to ease some of the pressure on customer sampling, providing insight on yarn properties which could be beneficial if deployed, for example, in PPE manufacture.

The app establishes fabric properties such as whether they provide burn protection, abrasion resistance or ATPV (arc thermal protective value), streamlining the development phase for its users.

"We continue to push the boundaries to provide tools and services to help improve our customers productivity and speed to market," said Coats' president of performance materials, Ronan Cox.

"This app reduces the need for a long, costly pre-production sampling and will enable Coats to continue to drive to support our customers more efficiently in the competitive post-COVID world," he added.

Coats says it is one of many firms to have supported manufacturers in their transition to produce PPE, at a time when appetite for fashion items has dipped.

Its technology-focused subsidiary, Coats Digital, recently launched its PPE Fast Track software in an effort to streamline companies who had to reconfigure their solutions to develop masks, gowns and other items.

Using this, Coats says customers get a "fast, detailed and accurate order confirmation process and a production plan which is optimised for delivery, efficiency and speed."

The Coats Synthesizer app provides another string to the bow of companies striving to provide support in these trialing times.

# Soaring demand for digital fabric development platform

Taipei - Frontier, a co-working software as a service (SaaS) designed to digitize fabric materials, enhance supply chain management between textile mills and brand partners, and boost 3D design capabilities, has experienced huge growth since its launch in April 2019.

The collaborative, cloud-based platform, which allows mills and brands to efficiently communicate, says it has seen overall growth of 300 per cent following the travel restrictions and trade show cancellations resulting from Covid-19.

The Frontier platform is one of the largest databases of searchable online fabrics in the world containing 20,000 materials and growing from mills around the Asia Pacific area.

These databases are created by allowing users to easily upload their textile products with a scanner. The heavy lifting is maintained via cloud

computing to reduce upfront investment.

Once uploaded, the platform allows members to communicate, collaborate, and develop products seamlessly and cost-efficiently without having to get on an airplane, visit a convention center, or spend costly express delivery charges incurred by shipping samples back and forth.

Bob Ryan, sales president at Frontier, said he believed fewer administrative tasks had helped make more room for creative work. "We've seen a big jump in the adoption of our platform during the coronavirus as more mills and brands have wanted to move their businesses to the cloud, cut costs, and work as efficiently as possible from home," said Ryan, adding that Frontier was unique in that its technology visually brings fabrics to life. "As touch and handfeel are such critical aspects of selecting fabrics, we've collected enough information where we

can attempt to build up the language around the handfeel of materials to help designers grasp their properties. In terms of drape, with the images and data we collect, our tech team will soon be able to compute how a material will fall around a silhouette."

According to Steven Proulx, VP Global Sales at Sues International, a developer of functional materials for the activewear market, Frontier focuses on three pillars to make its platform as user-friendly and productive as possible.

The first is collaboration. Frontier makes sure its files can be easily shared to eliminate the barrier of entering digitization. The company plans to integrate chat messenger into the platform soon to encourage interactive data sharing.

The second is search. As the largest digital fabric library on the planet at the moment, Frontier wants to make sure users can easily discover and find the fabrics when they need them.

The third is compatibility. Frontier encourages connecting with other digital applications that require fabric data. It presently partners with Bespokify, virtuality.fashion, and C-Design PLM, a PLM SaaS based in France.

Frontier also anticipates ongoing growth with similar SaaS partnerships.

"While we look forward to the economy opening back up and getting back to our new-normal, we want to make sure our online interaction continues to build community between suppliers and brands with regards to fabric samples, inventory, price quotes, general questions and answers and more – all of which are part of Frontier," added Ryan.



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## Stoll Italia demonstrates home textile possibilities

Reutlingen - The latest offering from Stoll Italia is a new collection of home textile samples which demonstrates the capabilities of Stoll's ADF flat knitting technology.

Stoll Italia has always been a trendsetter and is a pioneer in the field of innovative and unusual knitting

patterns on the Italian and the world market. Their impressive patterns and ideas are regularly presented at the most famous exhibitions in the world such as Pitti Filati and ITMA.

Stoll Italia says it offers inspiration to industries outside the usual knitting sector and shows the latest trends in the



field of home textiles such as lampshades, carpets, curtains, room dividers, acoustic and decorative panels, pillows, chairs, poufs and many others proposals produced using Stoll flat knitting technology.

The idea behind the development of these patterns was to give Stoll customers, as well as all the visitors at ITMA and Pitti Filati, a new direction for their products, the company says..

Stoll presented ideas for new product applications to offer interior designers and manufacturers a different point of view. The collection offers diverse knitted home textiles and accessories and accentuates the advantages of the flat-knitting technology e.g. no minimum orders, less yarn and set-up time compared to a weaving loom, waste reduction, product customization and 3D shaping.

The samples are knitted with the ADF technology that offers a great variety of colour combinations. Featured ADF machines in the collection are: ADF 530-24 ki BW in gauge E 7.2, ADF 530-24 ki BcW in gauge E14 and ADF 830-24 ki W in gauge E18.

## Terrot reports new orders as market begins to show positive signals

Chemnitz - Circular knitting machine builder has published an update of its activities during the current coronavirus pandemic with the Chemnitz-based firm confirming that the first tranche of new orders are starting to come in.

In spite of limited travel activities, Terrot says it has kept in close contact with its clients and it is continuing to carry out its usual business activities, such as R&D work on new technologies and future fabric development.

The result is that the company is receiving its first new incoming orders, indicating, it says, positive signals from the market.

"In a direct cooperation with clients and external partners, Terrot is testing new technical features and putting them into practice," the company said. "Terrot impressively demonstrates that even in difficult times its R&D department is at the side of its customers."

As well as its core knitting machine business, the company is also continuing with the production of mouth-nose masks.

Together with regional and international partners, Terrot says it is producing high quality masks according to its customer requirements.



# Japanese partnership officially launches sustainable facemasks

Tokyo - The sustainable, reusable facemasks developed by TBM and yarn manufacturer Bioworks, and produced on Shima Seiki WHOLEGARMENT knitting machines, are now available for both the domestic Japanese and international markets.

The Bio Face Cool and Bio Face Lite Cool washable face masks have been created to help resolve the shortage of face masks worldwide, while at the same time striving to improve the environmental footprint by using renewable biomass-based resources including PLA (polylactic acid).

The masks are designed to help to prevent spray from coughing and sneezing and can also reduce exposure to various allergens. They can be washed and reused around 30 times and have been reported to be antibacterial and mildly acidic (close to human skin) by a Japanese testing laboratory.

The masks are comfortable and fit the shape of a face, since they have a 3D knit shape that leaves room around the mouth. They can also be equipped with commercially available virus filters, cotton gauze, and similar accessories.

The biomass-based yarn, meanwhile, provides



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premium comfort for the hot summer season when wearing a mask can be uncomfortable under high temperatures and humidity.

The production of Bio Face follows collaboration between TBM and Bioworks and flat knitting machine builder Shima Seiki. Together, the companies achieved a mask design that is comfortable and easily fits the shape of a face, by knitting masks three dimensionally on WHOLEGARMENT machines using the PLA yarns developed amongst the three parties.

With WHOLEGARMENT technology there also are added environmental

benefits with a removal of fabric waste achieved during the knitting process.

"Despite the global mega trend to turn away from single use plastics, use of disposable masks has tremendously increased due to the current coronavirus pandemic. It is resulting in the increase of single use plastic waste," said Nobuyoshi Yamasaki, CEO of TBM. "We believe that instead of disposable masks, more reusable, environment-friendly masks will become the standard in the market. As summer begins, we added a cool feeling function to our Bio Face masks for premium comfort."

# Ascend launches antimicrobial technology for knits

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 knitted textiles 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 embedded zinc in its ionic form is a powerful inhibitor of bacterial growth, said Vikram Gopal, Ascend's senior vice president of technology. "Zinc is an essential element needed for bacterial growth, so bacteria readily allows it" ■



Image: © Michael Kuhn

## Troubling times for cashmere market

Ulaanbaatar - Mongolia, one of the world's key suppliers of cashmere, has seen demand for its luxury fibre plunge during the coronavirus pandemic with sales falling by nearly 70 per cent. For years, cashmere production was struggling to keep up with increasing demand as the growth of luxury groups and the focus of trends on ultra fine gauge knitwear dominated the supply chain.

The country trades approximately €265 million of cashmere annually, processing only 15 per cent of cashmere domestically with the remaining 85 per cent exported. The main global destination of processed cashmere is Italy, one of the countries most affected by Covid-19. The results is that Mongolian farmers and traders have being left with too much unsold fibre as their traditional customers in turn faced cancelled orders from those further down the supply chain.

For Mongolian wool processor Khatant International, there has been a raft of cancelled orders as the demand across key retail markets has plummeted following the pandemic. Chief Executive Bayarmaa Byambaa told the Nikkei Asian Review that "partners in Italy don't talk about business or price at all. All they say is, 'Stay healthy then we will meet someday.'" Currently over 40 per cent of the world's cashmere originates from Mongolia, but the country's herders, traders and processors depend on Chinese buyers who purchase more than 80 per cent of their wool for further processing, reports the Asian Review.

"There is almost no demand for cashmere," Shu Quming, a Chinese trader, told Nikkei Asian Review. "I can't tell the price because of the uncertainty, so I am not buying now."

According to the NAR, the price raw cashmere has dropped to about \$16 per kilo from about \$39 last year.

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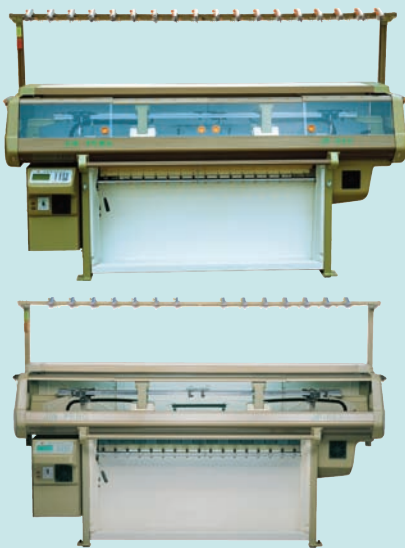
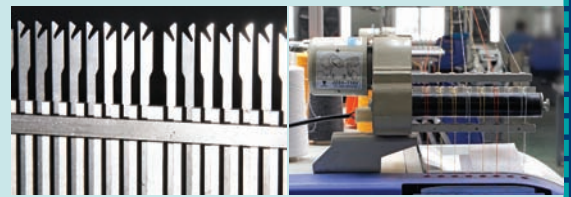
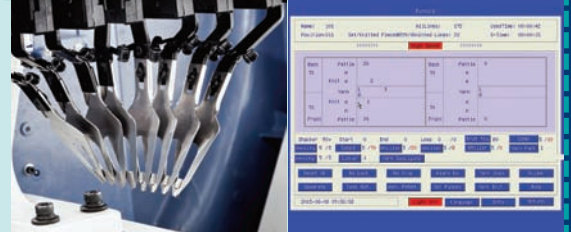
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inside the cell body. But the zinc ion outcompetes other essential elements such as manganese and magnesium and chokes their ingestion channels," he said. "Without those minerals, the microbes can't grow or reproduce."

Other products use silver as an antimicrobial, Dr. Gopal said, but that metal comes with unwanted environmental consequences. "Silver is typically used as a finish or a coating," he said. "That process is water-intensive, and the excess silver has to be disposed of, eventually ending up in our waterways."

Zinc, however, is labeled Generally Regarded as Safe by the U.S. Food and Drug Administration.

Additionally, the fabrics feature all the benefits of premium polyamides, which offer more comfort than polypropylene in single-use masks and allows knits and wovens to be dyed, printed on and laundered.

Polyamide 66 wovens and knits have considerable advantages over other types of nylons in garments and other textile applications, said Harrie Schoots, president-elect of the American Association of Textile Chemists and Colorists and a senior business leader of Ascend's textile business.

"This material resists abrasion and



doesn't pill or shed microfibers. It has a soft hand and excellent drape, and it can be dyed solid or bright colors," Schoots said. "Uniforms or activewear made with Acteev Protect will be durable and comfortable and can be designed to match current color trends."

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 66 resins and also manufactures fibers 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 66 fabrics for medical applications and engineered plastics for high-touch surfaces.

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

## Lowesby welcomes first Jinlong machine

Leicester - Lowesby Investments, the long-established, Leicester-based agency has confirmed the arrival of its first flat knitting machine from its Chinese partner, Jiangsu Jinlong.

The model is a fully equipped Premier-132SS, a 3 system machine with a working width of 132cm in 7/5G. The jacquard machine is equipped with sinkers, three take down devices being a supplementary lap, a normal roller, and a comb start. The feeders are remote and automatically programmed while there is cutting and trapping on both sides of the needle bed and positive feeding devices at both ends of the machine. It also comes with software and pattern preparation by Raynan.

"With the UK hopefully starting to bring back manufacturing jobs, we feel it's a good time now to show our very affordable machines, which offer everything including complete garment technology, shoe uppers as well as all the normal functions of a modern machine," said Lowesby's Duncan Johnson. "The Raynan pattern preparation which can be used on a normal laptop, is included while the company, which can be reviewed on their website, long-xing.net, offers all the online support required. Should it be required, Jiangsu Jinlong also has a very large modern training facility in the factory in Changshu."

Lowesby Investments is also the UK agent for circular knitting machine builder Sintelli and Chinese flat knitting machine builder Jin Peng, which has recently entered the European market.

Jin Peng are described as the leading Chinese trim flat knitting machine builders, offering 10 to 20G plain, mini jack and full jacquard machines. A key advantage of these machines, says Johnson, is that the needles and spare parts consumption are minimal while the fully electronic machines are inverter controlled, 220 volt single phase, without pasteboard cards or films. Programs can be stored on USB, while the needle beds are cut in-house and are equipped with Groz Beckert needles.

Sintelli machines are available in both single and double jersey producing 3-end fleece, terry velour, single and double knit full jacquard and 4/6 colour computerized striper fabrics. Open width frames are also available. Diameters range from 4 to 60 ins diameters and in gauges ranging from 4 to 40G with the machines equipped with Groz Beckert needles, Kern Liebers sinkers and a selection of optional ancillary equipment from Germany's Memminger including MPF L positive feeders, MER Lycra feeders and the Pulsonic oiler.

# Trans-technology partnership

The completion of the Karl Mayer and Stoll deal has created a new force in the world of warp and weft knitting.

**W**arp knitting machine builder Karl Mayer has completed its acquisition of Stoll, officially creating a trans-technology global player that can offer the industry the latest in both warp and weft knitting expertise.

With the completion of the deal, Karl Mayer is now a major provider of solutions for the two most important stitch-forming processes, flat knitting and warp knitting with this expertise along with technical textiles, warp preparation for weaving and digital solutions now housed under one roof.

Under the terms of the deal, the financial details of which were not disclosed, Stoll will continue its activities within the Karl Mayer Group as an autonomous business unit with the brand carrying on independently.

Karl Mayer will also rely on Stoll's proven management with previous CEO, Andreas Schellhammer, becoming president of the Stoll business unit within the Karl Mayer Group.

Welcoming the deal, Karl Mayer Arno Gärtner said that with Stoll's excellent know-how and committed staff, the companies would build on a good basis for further joint developments. "Stoll and Karl Mayer complement each other perfectly in terms of technology, they consistently rely on the proximity to their markets, and they are the innovation leaders in their sectors," he said. "The merger offers the basis for new machine-based solutions, textile products and digital offerings, which will make a major contribution to strengthening our customers in their business environment."

In the area of machine development, Karl Mayer said it was now possible for both companies to have access to each others technological principles whilst in the development of new textiles, customers would now be able to rely on a broader, cross-sector expertise.



"(Customers) can benefit from the Group's entire textile-technological know-how in the fields of warp knitting and flat knitting with an even increased application-oriented focus," Karl Mayer said, adding that the customers' contact persons will remain the same.

A further benefit of the acquisition will be seen in the production process where Karl Mayer says there will be an increase in added value for more know-how protection, increased flexibility and delivery times. For example, components from the production line will be used group-wide, if possible, and the manufacture of the Stoll machines in China will be integrated into Karl Mayer's location in Changzhou. With a surface area of 90,000 m<sup>2</sup> and modern factory halls, the Chinese plant offers the perfect conditions for continuing Stoll's high-quality production in the region.

As Andreas Schellhammer noted, the integration project has been running smoothly, despite the added complexities of the coronavirus pandemic. "The teams from Stoll and Karl Mayer are full on schedule," he said. "They cooperate closely and being extremely dedicated, they complement each other's strengths, and successfully live the merger."

The companies also highlighted how customers in China will remain with their usual contact partners and be able to rely on the resources and organization of Karl Mayer (China) for service and spare parts. Manufactured in-house, the spare parts are stored in larger quantities in China and are dispatched directly, ensuring short delivery times.

In terms of digitalization, the merger will also raise expectations for innovation leaps with advantages for both Stoll and Karl Mayer customers. Karl Mayer's KM.ON system is a highly agile software start-up that uses the potential of cloud-based concepts and of artificial intelligence to develop new digital solutions while Stoll also offers many years of experience in the software sector. "Together it will be possible to accelerate digital product developments enormously," Karl Mayer said. "When it comes to the manufacture of products for warp knitting, warp preparation for weaving and the areas of technical textiles, Karl Mayer is the innovative market leader with more than 2,300 employees worldwide. Stoll, with roughly 1,000 employees, stands for progressive tools and services for tomorrow's knitting." **KTJ**

# Hosiery International

## Wolford debt-free after repayment of all loans

**Bregenz - Luxury hosiery manufacturer Wolford says it is now debt-free following repayment of all outstanding loans, marking a significant financial milestone in the company's ongoing restructuring plan.**

On May 28, 2020, the buyer of the company property in Bregenz, the neighboring Blum Group, transferred the agreed purchase price of approximately €72 million to Wolford AG. At the same time Wolford repaid all credit lines to its financing banks. Simultaneously, the company repaid its shareholder loan including interest granted by Wolford's main shareholder Fosun Fashion Investment Holdings (HK) Limited. "This means that our company is now debt-free and also has sufficient funds available to overcome the current crisis and drive forward the further development of the company as planned," said Wolford Executive Board member Andrew Thorndike.

In terms of the company's response to the corona crisis, the Executive Board and management of the Wolford AG said it expects noticeably negative consequences for the development of sales and earnings of the Wolford Group.

As previously announced, this will have a corresponding impact on the figures for the completed fiscal year to April 30, 2020, which will be presented on July 23, 2020, as well as on the operating profit (EBIT) for the current fiscal year. However, the successful sale of the property will be reflected in the financial statements of Wolford AG for the 2020/21 fiscal year as non-recurring income in the form of a book profit of approximately €49 million.

## Ciclo technology for sock yarns

**Valdese - Meridian Specialty Yarn Group (MSYG) is now offering polyester yarns processed with Ciclo technology, which allows polyester fibres to break down in landfills and the ocean at rates comparable to a natural fibre like wool.**

The company is currently introducing the yarns with Ciclo technology to hosiery markets, initially for performance and hiking socks.

Yarns with Ciclo technology are also available to manufacturers of medical PPE for use making medical gowns, lab coats, medical setting curtains and other medical textiles typically made from polyester.

Meridian's new yarns with Ciclo technology can be treated with antimicrobials proven effective at reducing exposure to viral infections and have the same beauty, wear-ability, durability, functionality, and performance characteristics consumers expect from polyester. At the same time, when thrown away, Ciclo yarns reduce the persistence of synthetic textile accumulation in landfills and synthetic fiber fragments in the ocean.

The yarn is being processed in the United States in MSYG's new manufacturing plant in Valdese, North Carolina.

The plant has been engineered to use dramatically less water and power than comparable textile operations and generates much less effluent as a byproduct of the dyeing and drying process.

The result, the company says, is a high quality polyester yarn with all of the performance and PPE characteristics brands, consumers and front line medical professionals rely on - but with a verifiable sustainability story and reduced environmental impact.

"This represents a breakthrough for the performance apparel and hosiery industries, which have been looking for sustainable alternatives to traditional synthetic fabrics," said Tim Manson, president of MSYG. "Fabrics made from yarns with Ciclo technology can be treated to have the same performance characteristics as the synthetic fibres and yarns now widely used in performance apparel, including outdoor hiking and running socks."

## Compression market to grow 5.6% to 2026

**Portland - The global compression hosiery market will reach US\$2.44 billion by 2026, driven by changes in lifestyle, development in fabrics and garments designs, rise in number of chronic venous leg ulceration (VLU) patients, and an increase in demand from the growing geriatric population.**

A new report from Allied Market Research says that with the sector valued at \$1.6 billion in 2018, the period from 2019 to 2026 will see a CAGR of 5.6 per cent.

The report also notes that the thigh-high segment will retain its dominance during the estimated period. Based on product type, the thigh-high segment accounted for more than half of the global compression stockings market share in 2018, and is expected to maintain the lion's share by the end of 2026. Some of the key features such as flexibility coupled with multiple benefits provided by thigh compression stockings boost the growth of the segment.

The knee-high segment, on the other hand, is projected to register the fastest CAGR of 6.20 per cent during the study period. Availability of the product in various designs and attractive colors is expected to fuel the segment growth.

Based on demography, the women's segment held the largest share in 2018, generating more than half of the global compression stockings market. This is because majority of the compression stocking products are being designed targeting the female customers. Simultaneously, the men segment is predicted to grow at the fastest CAGR of 6.20 per cent till 2026. Certain innovative products facilitated by manufacturers targeting the male population look set to drive the segment growth.

Based on geography, North America contributed to two-fifths of the global compression stockings market revenue in 2018, and is anticipated lead the market during 2019-2026. A rise in popularity of compression wear in different sports coupled with continuous innovation being carried by regional manufacturers will help drive the demand. At the same time, Asia-Pacific is expected to witness the fastest CAGR of 6.90 per cent.

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# Home comforts

As knitted mattress cover fabrics strive to keep their market share, circular knitting machine suppliers are keeping pace with demand by developing faster, flexible and more advanced machines.

The mattress market has undergone a seismic shift in the past few years. High streets and retail parks are still full of department stores and specialist bedding shops where consumers can go and try out mattresses.

But pressure is growing on this traditional distribution model with a growing trend for bed-in-a-box products disrupting the market significantly. Sold online and delivered compressed in vacuum packaging, bed-in-a-box mattresses are taking an increasingly substantial slice of the market.

As knitted mattress cover fabrics strive to keep their market share, offering increased elasticity and improved lying comfort, technology suppliers are keeping pace with demand by developing faster, more advanced machines.

The result is that the industry's leading technology suppliers are continuing to up their game - in terms of speed, energy efficiency and the feel and aesthetic appeal of the final fabric - when it comes to the latest circular knitting machines available on the market.

That is mainly because circular knits, in contrast to woven fabrics, are much more stretchable and flexible. This makes them easier to handle and their elasticity enables them to adapt much better to the contours of the mattress itself.

## Monarch

Among the latest developments from Monarch Knitting Machinery UK is a new mattress striper machine.

The M-LEC4DSCFY5 is an electronic double knit jacquard machine with needle selection on the cylinder and on the dial with a five colour auto striper.

This machine is a continuation from the previous model which was a four colour system but that was two way

selection with a fixed cam system on the dial. On this new model there is two way selection on the dial as well as two way selection on the cylinder.

A further key feature of this new model is a patent pending welt stitch mechanism. As Monarch's Matthew Brunton explains, on a normal striper machine in the cam boxes there is a stitch cam, and when the machine welts, sometimes the needles rise which can cause yarn breakages.

To alleviate that issue, Monarch has developed a new welt stitch cancelling mechanism which means that when the needles go up the cam race, or when the machine is welting, the new mechanism stops the needle from raising which reduces the issues with yarn breakages. Essentially, the welt stitch mechanism ensures that needles which are selected to the welt position do not draw yarn while passing the stitch portion of the cams.

The result of this new innovation is that less technical intervention is required when setting the machine. It also has less downtime and can run for longer as

it is able to cope with with lower quality yarns - if for example a poorer batch of yarn is used - as the risk of breakages is significantly reduced.

The M-LEC4DSCFY5 is available in 60/30 feeds, a range of diameters from 34 to 38 ins and in gauges ranging from 18 to 28G.

It is also equipped with the latest yarn feeding system from Italy's LGL. In fact, Monarch was the only company at last year's ITMA exhibition demonstrating the Twin, an electronic positive feeder with yarn retrieving function, which is suitable for naked and covered elastomers as well as for rigid yarn.

This system is modular with up to 4 feeders able to be stacked - which offers significant space saving options - and also includes a yarn measurement system, offers a quick reaction to speed variations of the machine, a ceramic tensor sensor ensuring precision, accuracy and quick response, maximum torque at low speeds and low power consumption.

A second key offering from Monarch is a machine capable of knitting high quality mattress fabrics that offer several of the properties of woven products - technology that has really gained traction since its introduction at ITMA 2015.

The M-LEC6DSI, in 38ins and 28G with 72 feeds, is the first 28G dial selection machine for mattress ticking fabrics. It is capable of knitting high definition multi colour jacquard designs and the latest 'woven look' fabrics with stretch and soft handle. This machine offers 3-position needle selection (knit, tuck & miss) on the cylinder and 2 positions on the dial (knit and miss) with SS actuators, which allows designers to create the latest generation of mattress ticking fabrics.

The final fabric looks woven but it has a very soft handle and a little bit of stretch that basically takes the creases



Monarch's M-LEC4DSCFY5.



out of the mattresses. The stretch also applies itself to foam mattresses and when the buttons are inserted, there are no creases as you might find with a woven fabric.

According to Monarch, the size of its SS actuators enable this highly productive double jacquard machine to be built with 72 feeds on a 38 ins machine. This amounts to 20 per cent more productivity over its predecessor model, the V-LEC4DSI.

On this model, the reliable needle selection is guaranteed by using a newly designed needle jack connection system which helps with the production of high quality mattress ticking as the non-selected yarns is knitted to the back (dial side). This gives a very clean appearance and allows the use of darker yarns without fear of grin through. It also ensures that the borders and outlines of jacquards are exact as the yarn tension is easily controlled.

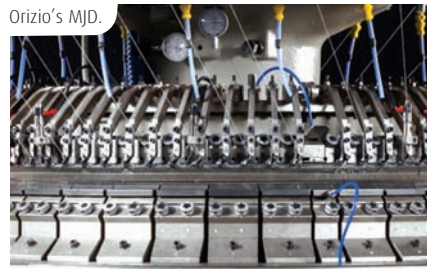
The M-LEC6DSI is available in diameters 36, 38 and 42 ins and in gauges ranging from 12-28G. It is also equipped with Monarch's latest M frame, which lends itself to high-speed operation and a quick-change facility for cylinder and dial.

## Control

One of the latest models from Italian circular knitting machine builder Orizio includes a new double jersey machine for the production of interlock-base and rib-base stitches.

Unveiled at last summer's ITMA exhibition, the DE 1.6 30 ins diameter was on show in 24G and with 48 feeds - 1.6 feeders per inch. This is a double jersey machine for the production of interlock-base and rib-base stitches with electronic selection of the needles in three technical ways - knit, tuck and miss. This machine is especially recommended for the production of spacer and mattress ticking fabrics and is equipped with the Ori-Tec control system with a coloured touch screen, USB port for quick data loading and or software updating.

"This 48 feed machine competes the range for this model," Mr Orizio said. "We had the demand for it. Sometimes on these machines the customer requires a great deal of sampling for some



customers and the more straightforward 48 feeds makes life easier than the 72 feed model."

Also worthy of note is the MJD/CE, which is a double knit circular knitting machine for the production of all interlock-base and rib-base stitches with needle-by-needle selection possible in three technical ways.

The MJD is equipped with the traditional Orizio modular frame, which has been renovated to increase functionality, robustness, and aesthetics. It also comes with the new, integrated 'Oritec' control panel which adds a range of functions including the diagnostic indication and visualisation of stops and alarms, the setting of the take-down percentage for easy roll extraction as well as improved operational management and control of the optimal rotation speed and guaranteed greater control over the constant tension of the fabric roll.

The MJD comes with 2.4 feeds per inch and has totally closed dial camtracks, with double cam (inner and outer) in one single block, mounted on 72 dial camboxes (one at each feed), which are easily replaceable.

It also has individual tilting yarn carriers, which are mounted on a single ring to make adjustments easier. The yarn feeding units are set on two, or three rings if the elastomeric yarns feeding units are in use. The cylinder needles selection is obtained by using electronically controlled, piezo-ceramic actuators (one at each feed with 16 levels).

Available in a range of diameters from 30 to 38 ins and in gauges ranging from 14-28, the MJD/CE can be used for numerous types of fabric production including rib and interlock as well as structures such as mattresses ticking fabrics with two or more colours for jacquard patterns. The electronic needle selection also allows for the immediate switch from one structure to another one

as well as the partial or total removal of pattern to allow detailed pattern placing.

Optional extras include lay-in devices for quilted fabrics, terry jacquard kit on 36 feeds and dial cams for different structures.

## Competitive

Anything that gives you the edge in the increasingly competitive business of fabric production is worth exploring, particularly when you are aiming to build up a share in a market that was previously dominated by a completely different sector of the textile industry.

Germany's Mayer & Cie discovered this when building up its presence in the mattress covers or ticking sector, a market, which up till recently was dominated by woven fabrics.

While different qualities of woven jacquard fabrics have dominated the high and medium end and printed stitch bonded fabrics offered cheap alternatives at the lower end of the market, in recent years circular knitters have been able to penetrate this market with knitted fabrics that offer mattress manufacturers a range of properties, which allow them to give their customers greater choice.

As Mayer's customers have offered their customers a range of choices, so the kitting machine builder has done the same. "We have altered various elements of our technology," says Mr. Muller, "such as altering the needle selection mechanism or reducing the number of cams. We have had customers that wanted faster speeds of say 24rpm rather than 18rpm but still wanted 1.6 feeds per inch - others wanted a higher number of feeds. This has led us to adjust various items such as needle selection techniques - say on the cylinder and on the dial - and also improve the rolls in order to improve efficiency."

Knitted mattress covers also offer patterning reliability and the high speed of pattern changeover, which turns costly hours spent resetting into economically productive time.

One of the company's latest developments for this sector is the OVJA 2.4 EM. This mattress machine is a fully electronic model which produces up to 30 kilograms of fabric per hour, which, the

## Circular knitting

company says, demonstrably makes it the most productive machine of its kind in the world. It also scores points for ease of use and the variety of patterns it can produce.

The OVJA 2.4 EM is also specially geared to recent changing requirements in the manufacture of mattress cover fabrics. Its focus is on maximising output, which it achieves by means of a combination of a larger number of knitting systems and a higher rotation speed.

“With a system density of 2.4 the OVJA 2.4 EM tallies precisely with the current trend toward higher system densities that make higher productivity possible,” explains Thomas Zizmann, area sales manager at Mayer & Cie. “The OVJA 2.4 E produces up to 30 kilograms of fabric per hour. That makes it demonstrably the most productive machine of its kind in the world, as shown by its speed factor of 950.”

In addition to high productivity, the OVJA 2.4 EM's features include ease of use and a wide range of patterns. The horizontal weft yarn guide on each cylinder segment ensures even, easy operation, short changeover times and a high level of reliability. Thanks to the improved thread guide and the air-controlled thread fluctuation control system the thread tension remains constant even at high speeds. That keeps thread vibration to a minimum and the thread is transported safely to the needles.

Despite the high productivity, the especially gentle needle guidance ensures an unusually low level of needle wear and tear. At the same time the OVJA 2.4 EM offers a wide range of designs that can be changed very quickly thanks to electronic single needle selection in the cylinder.

Mayer & Cie has also continued to develop the OVJA 1.6 E for making mattress covers, leading to the



OVJA 2.4 EM.

appearance of the OVJA 1.6 EM, a highly productive electronic jacquard machine with the OVJA 1.6 EM HS a double-knit jacquard machine with electronic single needle selection

The OVJA 1.6 EE, meanwhile, comes with a further increase in numbers of patterns and structures. Electronic single needle selection in both the cylinder and the rib dial opens up many new options. The OVJA 2.4 E, also an electronic jacquard machine designed mainly for production of mattress cover fabrics, knits all known structures including relief and combines high productivity and ease of operation.

### Flexible

Germany's Terrot offers a number of flexible machines that have applications in the mattress ticking sector.

The high speed UCC594M is a double jersey model, which is said to offer high yield levels and comes with Terrot's latest high industrial C6/3 frame.

Terrot says that while demand for machines for the mattress ticking sector are often for 38 ins machines with 60 feeders, the additional feeders on the UCC594M can increase productivity while also offering improved quality.

Equipped with piezo needle selection, which improve the machine operation for finer gauge models operating at high speeds, the UCC594M is available in gauges 18-22G and a 38 ins diameter.

Also available is the UCC548MS which has 1.6 feeders per inch and also in gauges 18-22G and 38 ins diameter. The 'S' in the model name here denotes high speed and is geared towards mattress ticking producers looking to increase their production capacity whilst staying with Terrot technology.

The technical design of Terrot's mattress machines has also deliberately left space between the knitting systems allowing them to be adapted with a range of supplementary attachments for the production of a number of interesting patterning variants such as quilted effects with weft threads, patterned or plain spacer fabrics and 3D spacer functional knit goods, matt/gloss effects through the combination of fashion yarns, and the use of super elastic fabrics with plated Elastane yarns.

Terrot mattress ticking machine, the UCC594M.



The traditional UCC548 models are capable of manufacturing mattress cover fabric in a wide range of different fabric weights and yarn types. Production output is claimed to be approximately 20 mattress covers per hour in a fabric widths of up to 270 cm (with a 42 ins diameter machine) for king size beds. Spacer depths are between 4 – 5 mm.

According to Terrot, the company's mattress ticking technology is also capable of providing increasingly efficient processing at the finishing production stage in terms of the provision of large fabric bales in the knitting factory.

Terrot has also developed a new transfer relief model, the UCC 572-TRE3, which although especially designed for the knitted footwear market, can be converted.

According to Terrot, the huge potential of this particular transfer relief model is based on the stitch forming edges, which can produce hole or perforated patterns in combination with continuously designed areas. The model has 2.4 feeds per inch and 3-way technology in cylinder cam and 2-way technology in dial cam to ensure unlimited multi-colored pattern designs.

Available in a range of gauges, a further advantage is that this machine can be easily converted into the UCC 572-ME3, a Terrot flagship model that was original developed for the production of double jacquard mattress ticking. A further special conversion kit also allows for the production of special spacer structures, which can be also used in the field of mattress or shoe upper materials. Both machine models offer unlimited numbers of knitted structures and fashionable designs, Terrot says. **KTJ**

# Design with a twist

Shima Seiki's new design software and web services will aid the sustainable and digital transformation of the fashion industry.

**F**lat knitting solutions provider Shima Seiki of Wakayama, Japan has developed a new subscription-based, design software system, as well as two other web services, to enhance its users' experience.

The new set of products and services is intended to aid in the digital transformation of the fashion industry for supporting business in the post-Covid-19 era, in which new work styles and methods are being adopted including teleworking and telecommuting. At the same time, they are geared toward streamlining and improving efficiency to achieve sustainability through reduced waste.

## APEX

Fiz is the latest addition to Shima Seiki's proven SDS-ONE APEX series design system lineup, but with an unprecedented twist. Whereas previous APEX-series design systems were offered as an all-in-one proprietary hardware/software package, for the first time in its nearly 40-year history of design system development, Shima Seiki has released its new SDS-ONE APEX Fiz as subscription-based design software that can be installed on customers' individual computers.

Maintaining proven functions that have made the SDS-ONE APEX series so popular with fashion designers, with Fiz those strengths are now enhanced with the added versatility to adapt to different work styles and environments of the 'new normal'.

Furthermore, Fiz is available in five different 'flavours' that can be selected according to the customer's needs including Fiz Design Pro, Fiz Design Weave, Fiz Design Knit, Fiz Design Standard and Fiz Design Jr.

Fiz software has been designed to support the creative side of fashion from planning and design to colorway



Virtual sampling on Fiz.

evaluation, realistic fabric simulation and 3D virtual sampling.

Virtual sampling on Fiz and other APEX series is a communication tool that is not only an accurate representation of the product, the company says, but it also digitally bridges the gap between the studio and the factory. By sending data to the knit manufacturer it can be converted to machine programming data, shortening lead times and allowing the production of items faithful to their design as originally intended by the designer.

That accuracy allows virtual samples by Shima Seiki to be used effectively as prototypes, replacing sampling and consequently reducing time, cost and material that otherwise goes to waste. Fiz thereby fulfills its role as a spearhead for realizing sustainability in fashion.

"Fiz is based on 'Fizz,' the sound or state of carbonation," Shima Seiki says. "It represents energy, excitement, vitality and spirit. As the name of Shima Seiki's new design software, Fiz symbolizes inspiration for creativity as it bubbles up like a well-spring and makes designs sparkle!"

## yarnbank

Shima Seiki has also launched yarnbank, which is described as the world's first online web service for searching and

viewing the latest yarns, developed with cooperation from yarn companies from around the world. Registered users have free access to the yarnbank archive of yarn information and digital yarn data. Users can also download yarn data for free, for use in fabric simulation and virtual sampling on Fiz and SDS-ONE APEX4, avoiding the need to scan yarn on their own.

By using yarn that is used in actual production, knit manufacturers and apparel companies can furthermore rest assured that the simulations created using yarnbank are not merely realistic images but accurate representations using yarn that can actually be purchased and used in production.

yarnbank also serves as a new promotional platform for yarn companies with the opportunity to present their yarns directly to their customers. In that respect, yarn companies can reduce their dependence on traditional sample books as a means to promote their products, saving time, cost and material and doing their part for sustainability. yarnbank brings together each player in the supply chain—spinner, knit manufacturer and apparel company—and connects them digitally.

## SHIMANAVI

The third new offering is SHIMANAVI, an e-learning system that allows APEX series users to experience online training when and where it is convenient, and at their own pace, supporting new work styles and environments such as teleworking and telecommuting. Several courses are available in different languages to suit the needs of individual customers as well.

All three of the new systems are due to launch in October 2020. URLs (coming soon) for the new systems are:

<https://www.shimaseiki.com/fiz>

<https://online-services.shimaseiki.com/en/>

<https://online-services.shimaseiki.com/en/> **KTJ**

# Odlo keen to explore a seamless future

As a large-scale manufacturer of all types of functional sportswear, and a major exponent of seamless knitting technology, Odlo International has been synonymous with high-quality clothing and accessories which are optimally attuned to their respective sports activities.

**A** Swiss company with Norwegian roots, Odlo International describes itself as one of the European market leaders in the functional sports base layer sector.

With its outdoor, running, bike, x-country, tec-shirts and kids collections, Odlo says it has repeatedly and successfully set trends with the company's functional knits renowned for functionality, high wearing comfort and skin-friendly properties.

After an uncertain few years, the company has recently been acquired by private equity firm, Monte Rosa Sports Holding.

Monte Rosa is owned by Hugo Maurstad and Christian Casal with the former leading a number of investments in the branded sport and leisure industry, including Rossignol Group (Rossignol, Dynastar, Lange, Look), Helly Hansen, Navico (Simrad, B&G, Lowrance), SATS,

XXL Sport Retail and Dale of Norway. Hugo is a Norwegian citizen, previously resident in Switzerland. Christian Casal is the former Head of McKinsey Switzerland and brings vast corporate and turnaround experience.

"We see many similarities between the Helly Hansen and Rossignol investments and Odlo International," said Maurstad. "The company has a fantastic starting point with a globally recognized brand and strong position in its core markets and segments. We believe bringing Odlo back to its core roots and focus will fortify Odlo's position as the leading outdoor base layer company in Europe. The management team has done a formidable job in preparing the company for the next phase and we believe we can support the company in delivering profitable growth over the next years."

Knut Are Høgberg, CEO of Odlo International added: "We are proud to see, that even in the current challenging

business environment, the underlying strong momentum of the Odlo brand has been appreciated by our new owners. We warmly welcome Monte Rosa to the Odlo team and onto our quest – more relevant than ever – to inspire consumers to an active life in the outdoors."

The company was founded in Norway in 1946 by sports-enthusiast Odd Roar Lofterød senior and began with the production of women's underwear. Also on the production line were special training tights made of Helanca fibre for his son Odd Roar junior who was a member of the youth speed skating team. This was followed by the launch of Odlo Termic in the 1970s, the first fully-synthetic sports underwear.

The 1980s then saw significant expansion culminating in 1987, together with Swiss partners, with the launch of Odlo International AG in Hünenberg near Zug in Switzerland as the new headquarters of the Odlo brand. In the



The Odlo headquarters in Switzerland.



Odlo produces a range of different premium fabrics for the sportswear market.

same year, the company launched what it called its 'revolutionary' athletic clothing system based on the three-layer principle for the first time. Today the company has a global presence in 35 countries and has subsidiaries in Switzerland, Germany, France, Belgium, Holland, Austria and Norway.

The company's benchmark in the development of its sportswear is the feeling of well-being and comfort of the wearer at skin level, the result of which is the three-layering principle developed by Odlo and which is used today in all types of functional textiles for sport and outdoor use.

Important here is the use of seamless knitted garments on machines such as Santoni's SM8-TOP2V, the single jersey electronic circular machine with 8 feeds and 2 points of selection per feed for the production of single seamless garments for underwear, outerwear, beachwear and sportswear. Gauges for this machine range from 16 to the very fine 40G making it ideal for Odlo.

The SM8-TOP2V offers exceptional productivity levels - on average 30 per cent higher productivity than the current similar model. Energy efficiency is also improved, particularly with the use of the materials such as carbon fibre, fewer movements and lower electricity consumption. It is also described as user friendly and comes equipped with completely newly developed knitting parts i.e. the yarn-finger group, a new sinker cap for high quality wool yarns and other natural yarns as well as improved plating possibilities, all of which contribute to an improved final product quality.

Odlo's knitted fabrics therefore offer layer upon layer of specific functionality. The first and lowest layer regulates the moisture content, the second optimises the body climate and the third protects against weather influences of wind, rain and snow. All Odlo collections are based on this three-layering principle in order to create an optimum body temperature.

## System

Odlo's most important product segment is sports and functional underwear. The company has also specialised in a comprehensive all-year range for the outdoor, running, bike and cross-country



All of Odlo's collections are based on the three layer principle.

skiing sectors with products for both women and men.

It rounds off its product offerings with a special product range for children and an accessories range to match the skin collections. All the collections and products are based on three concepts: the Odlo three-layering principle, the 'Zoned Function', i.e. the use of functional materials where the athletes need them, and the 'Free-move' cutting technology for unlimited freedom of movement.

In its latest product and technology development Odlo only uses synthetic fibres which have functional properties that are outstandingly well-suited for regulating moisture and heat and which at the same time are pleasant and comfortable to wear.

Through the combination of innovative fibres and material developments - for example, the 'effect by Odlo' in which an anti-odour effect is achieved through the use of silver ions in the fibre - as well as through its state-of-the-art manufacturing technologies, such as the 'cubic' method, a special knitted design with a cubic structure for an improved climate regulation, the company says it reinforces its high standards and aspirations for modern functional clothing. "Our uncompromising quality standard is 100% function, 100% performance and 100% comfort," the company says. "But multi-functional use alone is not a guarantor of promised success. This is why we also make create collections with attractive designs, fresh styles and sophisticated colour highlights."

With the four heat qualities of cool, light, warm and x-warm, the Odlo

functional underwear collections cover the entire temperature and activity spectrum. Depending on the requirement, the focus of the functional properties is on breathability, moisture transportation or heat insulation. In addition, all items in the underwear collections and the tec-Shirts in the Odlo mid-layer sector comply with the human/ecology requirements of the Oeko-Tex Standard 100 and signal to consumers through the "Confidence in textiles" label that the textile products are harmless to health in relation to possible pollution through harmful substances.

The company has also implemented the concept of sustainability into its work processes and decisions.

All Odlo suppliers have signed the Fair Wear Foundation Code of Conduct while Odlo also works with fewer than 20 producers and on a long-term and partnership basis.

Furthermore in 2011 the company produced about 75 per cent of the 6.6 million parts primarily in its own production facilities and mainly in Europe (Portugal and Romania).

This situation enables Odlo to have a direct influence on the production conditions and it also makes transport routes shorter and easier to control. In addition Odlo says it produces quality products with a long lifespan, not 'throw-away products'.

Key recent developments from Odlo include a range of sustainable, seamlesswear which is designed to meet the highest standards of performance and functionality. Called Evolution Greentec, the 100 per cent recycled material uses pure polyester spinning waste and at the same time is 100 per cent dedicated to function. Through the use of these recycled polyester fibres, 29 per cent less water is used in the production process.

The launch of the Evolution Blackcomb underwear range has also seen the Greentec concept being revisited and integrated into the new Blackcomb range. This stylish, high-performance, sustainable underwear range has been awarded the prestigious ISPO Gold Award demonstrating that 70 years on, Odlo is still demonstrating how innovation is one of its greatest strengths. **KTJ**

# Fountain Set upgrades circular knitting operations

Upgrades across its circular knitting machine portfolio and its dyeing and finishing equipment have improved production capacity and efficiency at Fountain Set.

**D**espite a sluggish year, Fountain Set, one of the world's largest manufacturers of knitted fabrics, has invested heavily in improving manufacturing efficiency at its key production sites.

As global financial markets experienced a turbulent ride in 2019 primarily due to the US-China trade dispute and slow global economic growth, the Hong Kong-based firm saw its net profit for the year dip 6.4 per cent to HK\$166.6 million, down from \$178 million in 2018.

Since the end of 2019, Fountain Set says been working on a decisive reduction of low-value orders, the proactive abandonment of the order demand from low-cost customers, and a commitment to raising the company's average selling price level.

Meanwhile, facing a slowdown in the global textile market, the Group says it

has actively responded, adopted decisive measures to adjust its sales strategy, and worked to ensure the number of high-quality orders from the top 20 key customers in order to stabilise the number of orders for basic categories. "We have actively developed customer demand for small-volume, high-value varieties to meet the needs of major customers for the trial production and development of new varieties and increase the supply capacity of high-value products, thereby increasing sales prices and optimising the cost structure of product manufacturing," the company said.

Revenues for the year ended 31 December, 2019 were down by 12.1 per cent to HK\$6,605 million which was partly attributable to the proactive reduction of low-value orders. The fabric year-on-year volume reduction was approximately 19.3 per cent whereas the

average selling price increased by 7.1 per cent year-on-year due to the change of product mix. Earnings before interest, tax, depreciation and amortisation (EBITDA) was HK\$438.5 million, up from HK\$429.23 million.

Facing such a difficult environment, the company says it made adjustments to its operational strategy, improved production capacity and devoted more efforts to developing and refining products, and adapting to the market changes. "All staff members of the Group had built team spirit in the past five years," the company said. "With the enhancement of our overall operating capability and management standards, the significant upgrade of production techniques, and the gradual increase in product development capability, the Group has entered a new stage of growth."

## Upgrade

Throughout 2019, Fountain Set says it has continuously replaced and upgraded numerous, relatively older and less efficient production facilities in its fabric mills, including circular knitting machines, continuous tumble dryers, stenters, fabric shrinkage machines, fabric dyeing machines and fabric printing machines with new models which provide better production efficiency, less wastage and higher energy savings.

In terms of increasing efficiency, Fountain Set says it has also set a new production pattern at its three primary circular knitting production facilities, namely Jiangyin Fuhui Textiles, Dongguan Shatin Lake Side Textiles Printing & Dyeing Co., and Yancheng Fuhui Textiles. "Our production capacity



was enhanced noticeably," the company said. "We have established an operation and management system focusing on the integration of production, supply and sales, thereby laying a solid foundation for the Group's sustainable performance and steady growth as well as the continuous enhancement of management standards."

Jiangyin Fuhui fabric mill was built in 2001 with a current monthly production capacity of 12.50 million pounds of finished fabric. It is the Group's primary fabric mill and after streamlining the processes, enhancing lean manufacturing and management and upgrading the equipment, Fountain Set says it has become a mill with an extensive range of products - a multi-batch, short delivery timeframe and mass production plant that satisfies market demand with high-quality products and services.

Dongguan Shatin fabric mill was built in 1998 with a current monthly production capacity of 7.50 million pounds of finished fabric. It has become a major fabric mill with a restructuring of its production and management model improving its workshop of synthetics fabric printing, knitting and dyeing.

Yancheng Fuhui fabric mill was built in 2009 with a current monthly production capacity of 4.50 million pounds of finished fabric. Its key development direction is to carry out product research and development and manufacture refined products in line with Japan and the PRC domestic markets through upgrading the equipment and improving the production techniques and product development standards.

In order to promote high-quality development, the company's R&D department says it has worked on adjustments to product structure and new product development. Recent developments include a new range of high-needle and high-density knitted fabrics, improvement of multi-roller combined brushed fabrics, and a variety of fibre composite fabrics. "Product recognition by major overseas and domestic customers played a key role in improving the product quality and product mix of the Group," the company said.

In 2019, Fountain Set also secured two invention patents from the National

Intellectual Property Administration. These were a "manufacturing process technology with unidirectional wet functional fabric" and "high-shrink staple fibre knitted fabric with anti-wrinkle and windproof performance and its manufacturing methods". There was also a range of collaborations with the textile and apparel faculties at a number of universities with focuses on design and the development of jersey and functional fabrics.

2019 also saw the continuation application of new fibres and new materials and a number of research projects were transformed into new products and launched in the market. The successful development of DuPont Sorona Plus elastic cool fibre knitted fabric enhanced the functional fabrics offering which are currently in mass production.

In addition, a batch of products characterised by high wearability, strong texture, energy saving and environmental protection, such as atmospheric tangible cationic polyester staple fibre products, expanded acrylic mixed fibre products, and polyester filament products hit the market.

The development and improvement of multi-layer composite structure fabrics also achieved new results. Through continuous research and tests in recent years, the development of three-layer composite fabrics was extended to a five-layer composite fabric without altering the existing equipment. In 2019, multi-layer composite sports and casual apparel fabrics became one of main products of the Group.

## Finishing

According to Fountain Set, its investments in new production equipment and the the significant improvement of its finishing process technology has significantly improved overall production efficiency.

"At present, the fierce market competition in the textile industry expanded from competitions of product prices to equipment technologies and rapid response capabilities; an upgrade of equipment technologies was imperative," the company said.

New investments in 2019 included the

introduction of an advanced mercerizing machine, relying on the equipment's automatic control system and process test function, which has improved the mercerizing effect of fabric and the stability of quality. The spraying and washing method of the equipment has also improved the washing effect on the fabric surface, but also saved a lot of water, reduced costs, improved economic benefits, and increased production efficiency by over 40 per cent when compared with the old mercerizing equipment. The input of new equipment filled the shortage of Jiangyin Fuhui's mercerizing processing capacity, and the production capacity was enhanced to help meet the needs of the high-end Japanese, European and American markets.

By introducing two high-temperature sample dyeing machines and four automatic feeding and compounding machine auxiliary production equipment, Fountain Set says it has also effectively eased the production pressure of the increasing number of development and test samples, improved the reproduction accuracy of samples, and improved the initial dyeing accuracy.

In order to upgrade the printing and finishing equipment, the Group also updated a flat screen dryer, two shrinking machines and a dry cloth machine, optimising the printing process of the screen drying equipment and the pulp mixing efficiency, which could shorten the time for each suit by 40 per cent.

The new shrink and dry cloth machines were put into use, which greatly increased the output of the finishing process. Without increasing manpower, the single-day processing capacity increased by 30,000 pounds, electricity consumption decreased by one per cent, and the steam consumption decreased by 14 per cent.

A degreasing machine was also introduced to meet the pre-treatment requirements of high-needle and high-density chemical fibre fabrics, expanding and increasing the product raw product category, and also improving the pre-processing capacity of the fabrics. In 2019, the volume of pre-treatments for degreasing increased by 130 per cent compared to that of 2018. **KTJ**

# Karl Mayer steps up home textiles operations

Karl Mayer is offering new options for the net curtain sector with the latest version of its Weft.Fashion TM 3 technology.

**N**et curtains produced on warp knitting machines with magazine weft insertion are described as the perennial “evergreens” in the window fashion sector.

Karl Mayer is now looking to gain market share in this established market segment, and is offering some specific new developments.

This commitment to window fashions has two main focuses: the fine fabrics with a woven look produced on the Weft.Fashion TM 3 by processing fancy yarns and the transparent, voile-like embroidery grounds, produced on a TM Weft with the appropriate configuration.

If the pattern effects are not going to be embroidered on, but rather incorporated directly into the net curtaining fabrics, the

Weft.Fashion TM 3 would be the machine of choice, Karl Mayer says.

This new tricot machine has three guide bars and can insert medium-weight fancy yarns as magazine weft yarns. “We incorporated more than ten different fancy yarns in the weft zone, and combined them with a ground made from polyester multifilament yarns of 40 den or 50 den. The tests ran perfectly smoothly, and we produced some exceptional patterns,” explained Kay Burkhardt from Karl Mayer’s Application Technology Department.

Textiles produced on the Weft.Fashion TM 3 were a highlight on the company’s stand at ITMA 2019. The delicately patterned fabrics combine fine lattice grounds with a variety of attractive linear designs to create a stylish look that has

been a popular feature of woven fabrics for some time.

Strict geometrical patterns, as well as irregular, organic structures with a natural look and many other designs can also be produced.

As well as offering a wide variety of different looks, the slip-resistant fabrics deliver all the technological advantages of warp knitting over weaving for producing fabrics, i.e. no sizing process and a higher productivity.

The Weft.Fashion TM 3 is described as an efficient tricot machine featuring weft insertion in line with the stitches for producing medium-weight home textiles. According to Karl Mayer, the machine delivers an exceptional cost:benefit ratio, runs extremely reliably, and is easy to operate. It is available in a gauge of E24 and with a working width of 132 ins. Net curtain lengths of up to 3.25m can be worked.

The result is that it can produce articles having an on-trend look in the style of popular gauze-like fabrics made from monofilaments and fancy yarns, yet it enables fabrics to be produced without sizing at a production rate that is 10 to 11 times higher than that of comparable looms, the company says.

The nature of the technology also means that the lightweight, transparent, warp-knitted fabrics have a high slip resistance. These advantages impressed the visitors at the ITMA exhibition with the Turkish visitors in particular keen to explore the technology further.

## Feedback

Encouraged by the positive feedback, the textile specialists at Karl Mayer have been

The TM Weft at its launch in China.





continuing with their development work, and processing fine monofilament rather than multifilament yarns on the warp knitting machine with weft insertion.

In the first stage, a lustrous yarn of dtex 22 was processed in all the yarn systems. A very delicate, extremely transparent, feather-light fabric with an organza ground was produced, which weighs just 20 g/m<sup>2</sup>. Despite its ethereal look, the fabric is extremely stable and is suitable for embroidering.

Burkhard, was particularly pleased with the look of the fabric. "We processed a very dense structure at 35 stitches/cm to produce an extremely uniform appearance," she said.

When hanging in front of the window, the net curtain creates a subtle interplay with the light to produce shimmering, glittering and moiré effects in all the colours of the rainbow. In subsequent development stages, a ground made from monofilament yarns was combined with a weft made from different fancy yarns. Yarns featuring knops, nodules and crimps were processed and – what was particularly ingenious – a relatively thick yarn was used, which was first formed into a cord-like structure by pillar stitches.

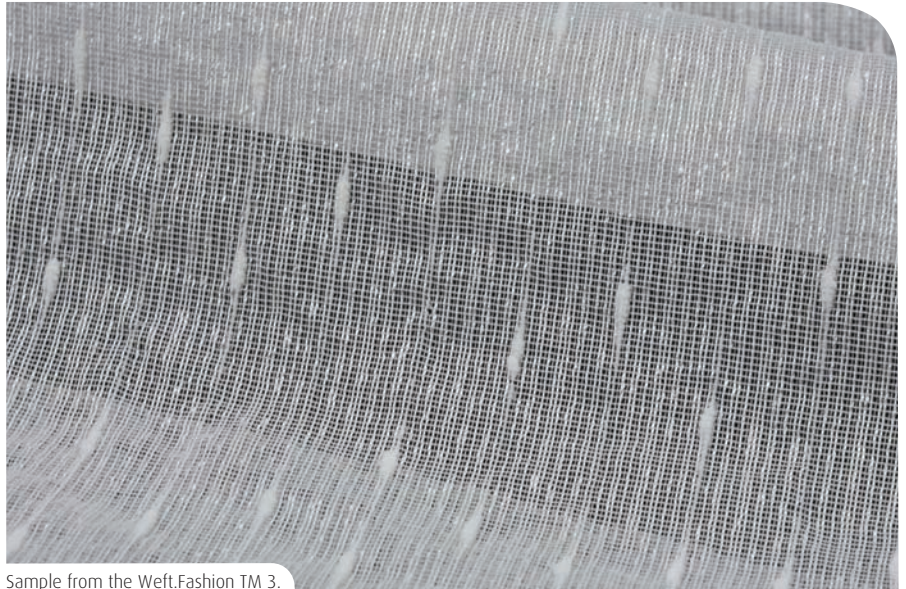
The optically dominant weft materials almost hide the ground with the result being that completely new textile constructions are produced, which the company hopes will stimulate the trend for net curtains with puristic-looking yet discreetly subtle patterns.

## Transparent

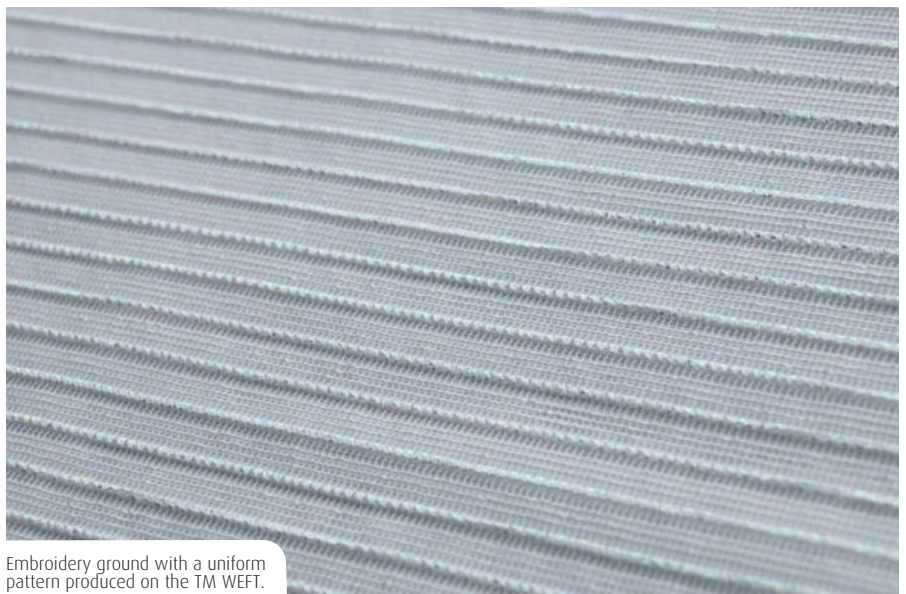
For transparent, voile-like embroidery grounds, the machine of choice is the TM Weft.

This machine, with a gauge of E24, was launched in January 2019 as an innovative new machine for producing interlinings efficiently although Karl Mayer is currently working on a gauge of E28 for home textile applications. With its finer gauge, this tricot machine with weft insertion is designed to produce fashionable embroidery grounds. Delicate veil-like fabrics with lustrous effects produced by the shimmering yarns can be produced, as well as filigree fabrics with subtle linear designs.

This uniform look is based on working different stitch densities and a specific



Sample from the Weft.Fashion TM 3.



Embroidery ground with a uniform pattern produced on the TM WEFT.

pattern. The TM Weft works a combination of a pillar stitch, inlay and magazine weft to produce unconventional embroidery grounds. The yarn, which is incorporated over the entire working width, creates a different look and guarantees crosswise stability, which prevents undesirable elongation when the fabric is rotated about an angle of 90° for use as net curtains.

More designs can be produced by using different yarns that are easy to process. Jan Hippich says that this concept for the embroidery ground business has been particularly well received by Turkish producers, who are leading this sector. The Head of Product Portfolio Management at Karl Mayer presented the weft-inserted, warp-

knitted fabrics for this application at Heimtextil, a demonstration which prompted a number of conversations.

Representatives from the weaving sector were also interested. Their leno weaves mean that they are familiar with the look and slip resistance of fabrics produced on the TM Weft, but they can be produced much more efficiently.

Once all the development work had been completed, the TM Weft, with a working width of 247 ins, should be able to simultaneously produce two net curtain webs, or 120m of net curtaining per hour. Furthermore, there is generally no need to carry out sizing when producing warp-knitted net curtains with stylish, on trend fabrics therefore produced for an attractive cost. **KTJ**

# From the yarn up

A Dutch textile studio is working closely with machine suppliers and brands to create bespoke, high quality and sustainable knitted textiles.

**A** collaboration between textile innovation studio BYBORRE and circular knitting machine builder Mayer & Cie is a clear example of how different elements of the supply chain can both benefit from a close-knit partnership.

Based in Amsterdam, BYBORRE develops for a wide variety of clients, ranging from sports and fashion brands to interior clients to world-class exhibitions.

Using some of the latest technology available on the market, the studio offers a clear step-by-step workflow where brands and designers can make their own decisions in the design process to produce the perfect textile for their user. BYBORRE guides their clients throughout their process, using their licensed supply network and providing them with the details of the machines they use and the precise settings suppliers need to produce the fabrics.

A key element of the studio's offering is on-demand production using the existing capacity of its partners. It's described by founders Borre Akkersdijk and Arnoud Haverlag as an open source

Borre Akkersdijk.



mentality. Through BYBORRE, designers have access to sustainable building blocks, industry innovations and creative tools, all in one place with the studio positioning itself as a service, ready for brands to twist textiles into their own aesthetic, requirements and style.

BYBORRE's origins can be traced back to 2015 when Akkersdijk and Haverlag joined forces. Borre had had a long trajectory in textile innovation before officially starting the company, always embedded in the fashion & design industries. Haverlag, meanwhile, was involved in the tech industry at a young age, and was in fact one of the first Dutch Tech Entrepreneurs. After selling his third company to the Royal Dutch Post, the two met and soon after, teamed up to push BYBORRE to where it stands today; a textile innovation hub creating innovative, sustainable textile (solutions) from the yarn up.

"The company maintains a collaborative and problem solving attitude, both within the supply chain as well as with its business partners," explains Akkersdijk, adding that the goal is to make the



Mayer & Cie sales director Wolfgang Mueller.

supply chain transparent as well as highlighting all supply partners and associated ingredient brands.

## Bespoke

A key element in the creation of on-demand, bespoke textiles is BYBORRE's Textile Development Kit (TDK): a design tool to make the creation, development and production of sustainable custom textiles digestible and easy for all creators.

With the assistance and help of the BYBORRE team, the resulting textiles have applications in various markets, ranging from the automotive industry to fashion and the interior design sector.

As well as development and production, BYBORRE provides specialised design services to stimulate new specific developments and adaptations of its responsible textiles. "A lot of people will recognise BYBORRE through its private fashion label, which releases cross seasonal editions," notes Akkersdijk. "Functioning as a showcase, these collections feature the latest textile developments the brand has created. It is a window into the latest developed textiles, to inspire new and existing clients."

Underpinning BYBORRE's technical expertise when producing collections for its clients are close collaborations with knitting technology suppliers.

"These (collaborations) are essential to us, to push the boundaries of material innovation and application of textile. We have to collaborate with technology suppliers," says Akkersdijk. "The ongoing process of creating highly functional textiles, does not allow for one to be fully equipped with the tools and tech needed beforehand, simply because every problem asks for new solutions."

In the last few years, one of these key partnerships has been with Germany's Mayer & Cie, a relationship that began

almost by accident. On a visit to a textile museum, a knitting machine caught Akkersdijk and Haverlag's attention.

Having scheduled time to use this circular knitting machine at the museum and setting it to work, the team were so pleased with the results that they contacted the machine's original manufacturer; Albstadt-based Mayer & Cie.

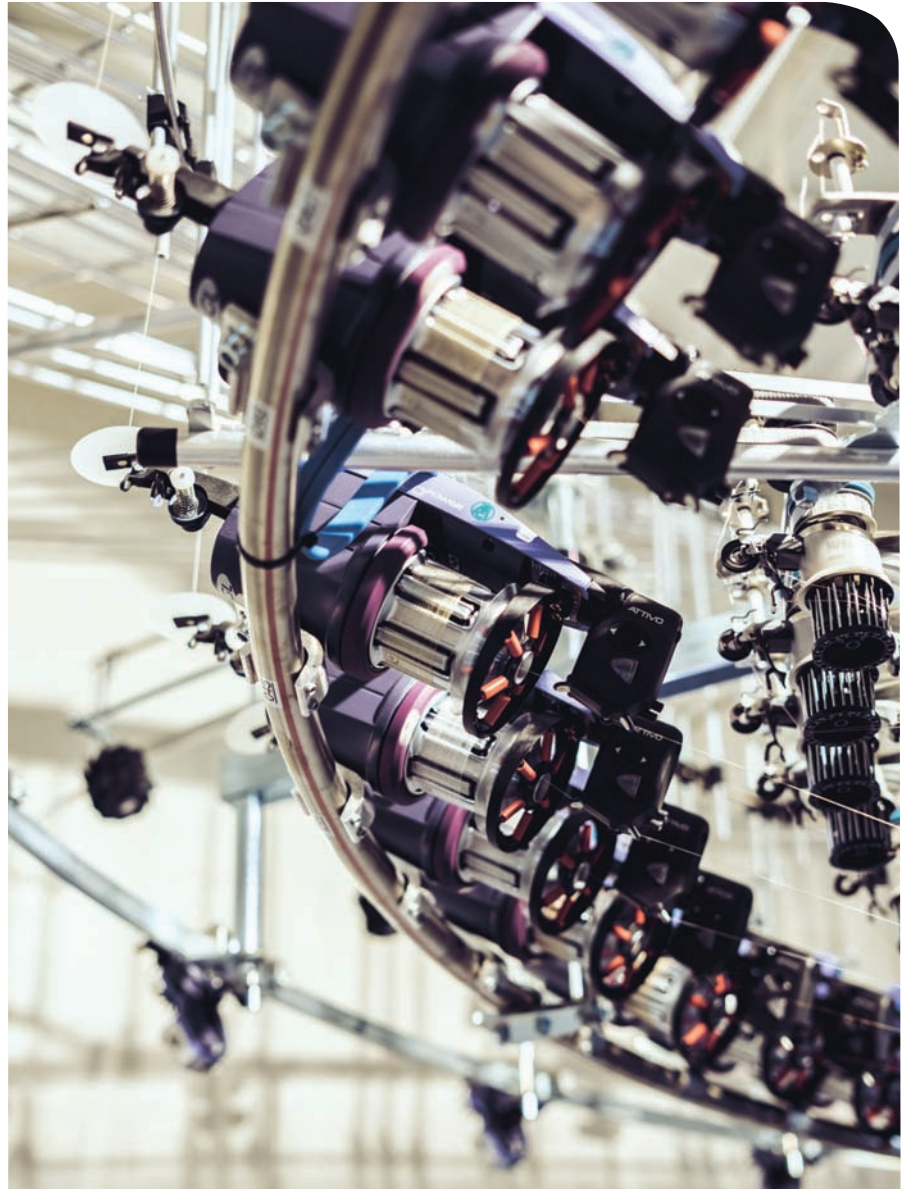
This in turn led them to an investment in Mayer & Cie's OVJA 1.6 EE 3/2WT. The team was immediately attracted by the machine's wide technological range of options for knitting.

"We deemed this specific Mayer & Cie model as very innovative and with a broad range of applicable ability," Akkersdijk says, noting that the investment was a great addition for the company's R&D activities. "The machine offers a wide variety of options, whilst promising the ability to scale up our newest developments. The combination of this scalability, speed and flexibility resulted in a lot of interest from some of our biggest clients."

"BYBORRE's product range is unique, high quality and outstanding in terms of usage," adds Mayer & Cie sales director Wolfgang Mueller. "They don't merely create attractive designs but provide innovative toolkits for the textile industry. Their service is targeted at premium brands, so BYBORRE needs premium suppliers to fulfill these standards. In our OVJA machines, we combine fine engineering skills and long-standing expertise. Knitters using these machines can rely on their productivity, versatility and durability – so exactly the qualities BYBORRE is looking for."

## Intelligent

A key driver behind BYBORRE's growth has been its belief of an 'intelligent design ethos'. For Akkersdijk though, it is not about intelligent design ethos for its own sake. "We are always looking towards a horizon, and beyond the known application of the machines and textiles," he says. "We are always looking to contribute to delivering products with high functionality and comfort to the end consumer. We try to maximize the outcome, and always design for the end product."



For BYBORRE, he adds, this is the start of the design process so that the studio can create a product that is high quality in terms of function, as well as environmentally and socially responsible. "It's not about producing and selling as much as we can within our silo within this industry, rather we want to produce as efficiently as possible and be of service to the industry at large. We don't see value in selling as much as possible, while draining our shared resources."

A key draw of the OVJA technology therefore has been its ability to produce spacer and interlock fabrics with the studio identifying a number of benefits of these types of fabrics to its clients. "Our collaboration with BYBORRE started with an older OVJA 1.6 E model they came

across by accident," says Mueller. "On this machine, they started their 3D fabric collection. This is a telling name referring to any thicker fabrics with relief structures, meaning double face and spacer fabrics, all in full jacquard. For these particular purposes, our OVJA 1.6 EE 3/2 WT is the perfect match. It pairs spacer and double face with extra flexibility, multi-coloured designs and microstructure elements. If desired, you can knit coarse gauges up to E16 on the OVJA 1.6 EE 3/2 WT. Obviously, this is what BYBORRE has been after: something that makes them stick out while being easily reproducible for their potential customers. Both requirements can be easily met with that machine."

"It is one of the markets we focus ▶

## Circular knitting

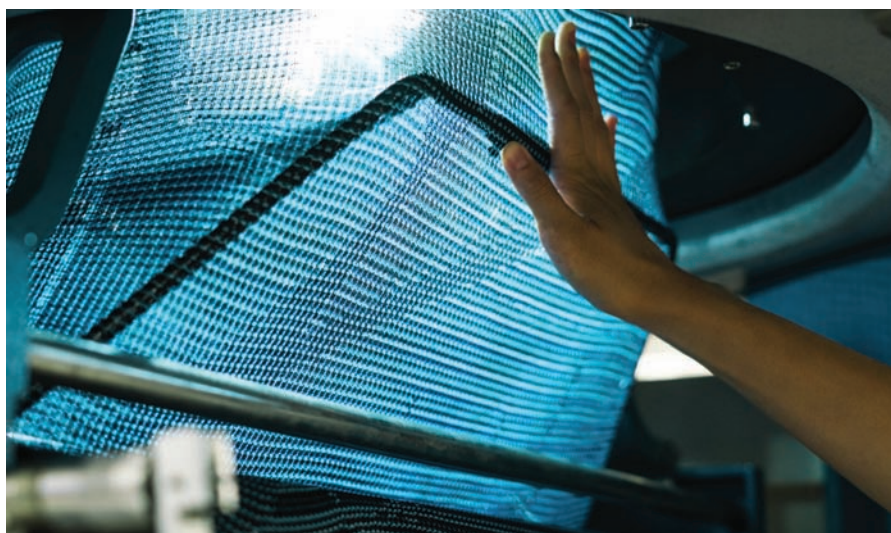
on," Akkersdijk adds, explaining how BYBORRE has created its Textile Development Kit as a tool where several types of knit families are offered, ranging from single jerseys to triple layered knits, and several types in between. "This allows us to offer a systemized broad range of knits. This system is designed to enable all types of creators to build their own textile, and create functional and aesthetic use through texture. A client will first decide what functional qualities their textile needs to meet, then pick their texture, pick their own colors, and lastly infuse their own graphics."

High quality yarns are also key. "On a daily basis, together with our partners such as Woolmark and Meryl, we are researching and developing yarn settings from synthetics to natural fibres," Akkersdijk says. "Having to adapt machines to this, is practically inherent to those processes."

### Benefits

The collaboration between Mayer & Cie and BYBORRE is a clear example of how different elements of the supply chain can both benefit from a close-knit partnership. Mueller agrees. "BYBORRE is a link between us, a manufacturer of machines and big fashion and sports brands using the produce of our machines; having an "interpreter" that speaks both the tech and the fashion language makes business more effective and life easier, for all of us!" he says. "The BYBORRE team has a profound knowledge of knitting technology, so they benefit all the more from our expertise and experience in this field."

This is further demonstrated when the two partners come together for in depth training on machines such as the above named OVJA 1.6 EE 3/2 WT and a new version of the OVJA 1.6 E. "Working in this coordinated fashion, we spur each other. And we can directly cater for their requirements, without any detours. We as a machine builder benefit from our partner's versatility in storytelling and marketing. Plus, BYBORRE targets an audience very different from our own. While we focus on B2B, BYBORRE always has the consumer in mind. So for us, there's a strong multiplying effect in this cooperation."



### Opportunities

Going forward it will be interesting to see how this kind of supply chain collaboration can open up further opportunities for Mayer & Cie when it comes to niche manufacturing and a prospective return of manufacturing to Europe from Asia. "For us, this is the first partnership of this kind," Mueller says. "We are convinced it will open up further opportunities as we can provide an advanced knowledge on designs. This might be useful for other customers in the same or a similar niche."

"When it comes to sustainable production within Europe, it becomes profitable if the fabric or the product is valuable enough not to be subject to the price pressure that leads to manufacturing in low-wage countries. By combining high-quality yarns, unique design and premium production technology, we certainly get such a product that can be profitably manufactured in Europe."

This ethos and a commitment to improving sustainable production in the textile industry is also key for BYBORRE with Akkersdijk fully aware that the sector is the second most polluting industry in the world, generating large landfills, responsible for 10 per cent of the global CO<sub>2</sub> emission and for 20 per cent of the water waste.

The industry, he insists, is known for inefficient production processes, high-energy demand and many unnecessary transports (goods and people). "BYBORRE challenges this status quo and made it its mission to create conscious creators and allow them to be 'part of something bigger'," he says, adding that this is why BYBORRE champions the importance of sharing knowledge and expertise, inviting other brands to work with the platform and finding out about new ways to create quality custom and sustainable textiles. **KTJ**

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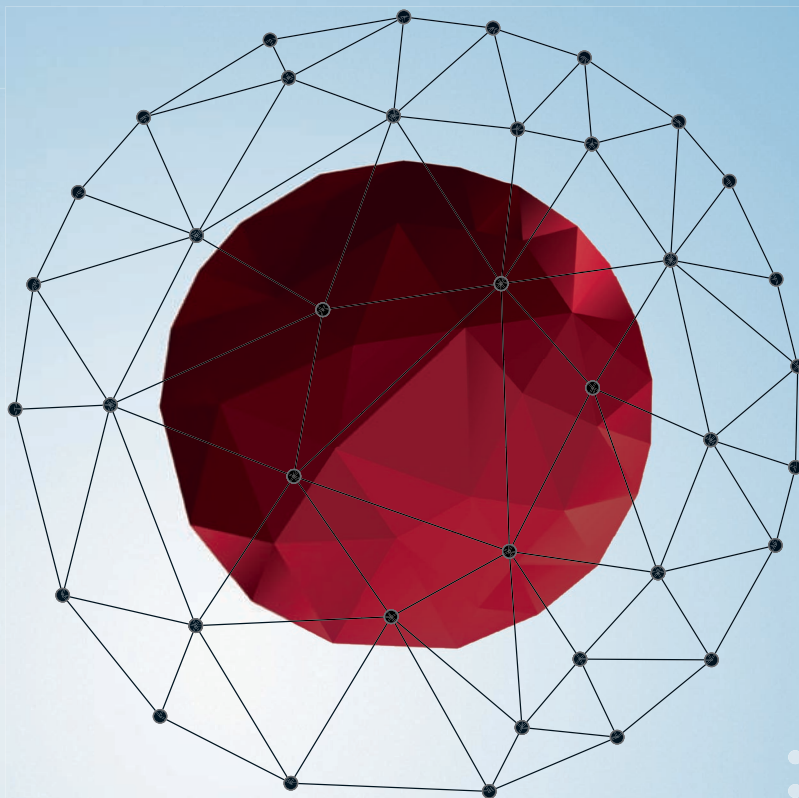
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# Crisis management

The global knit supply chain continues to respond to the coronavirus pandemic with a range of developments for facemasks and the wider PPE industry.

The key topic under discussion in the knitting sector requires little introduction at the moment. The issues around facemasks and the complexity of the personal and protective equipment (PPE) supply chain in the wake of the coronavirus pandemic are amongst the most talked topics across the whole of the textile industry, local and national governments as well as the global media.

A consequence of this is that the industry is grabbing the headlines in the perfect storm of a healthcare, political and economic crises.

In this feature we explore some of the latest developments from the knit supply chain ranging from fibre and yarn suppliers to machinery manufacturers and knitting mills.

## Shima Seiki

With continuing worldwide demand of surgical masks due to the spread of the Covid-19 coronavirus infection, flat knitting solutions provider Shima Seiki has released knitting data for 14 more versions of knitted masks to be produced on a variety of its computerized knitting machines.

These latest details are addition to the various mask data the company has been releasing by the company since March, bringing the total number of versions of the masks to 33.

The latest data consists of cotton masks to be produced on both WHOLEGARMENT knitting machines as well as conventional shaping machines. WHOLEGARMENT mask data is meant for production on SWG041N2, SWG061N2 and SWG091N2, as well as on the rest of Shima Seiki's compact WHOLEGARMENT knitting machines also known as "WHOLEGARMENT Mini"



Shima Seiki has released knitting data for 14 more versions of knitted masks to be produced on a variety of its computerized knitting machines.

machines that are suited to production of small accessory items, in 15 gauge and 18 gauge.

Shaped knit mask data is meant for production on SVR093SP, SVR123SP and SVR183SP computerized knitting machines equipped with a dedicated loop presser bed mounted above the rear needle bed that permits full use of inlay technique, in 14 gauge.

Users of the above machines can download the mask data from the Shima Seiki Users' Site, an archive featuring over 10,000 knit samples for use by Shima Seiki customers.

By releasing mask data for a range of different machines, the company says it aims to alleviate the shortage of masks as much as it can by allowing production of masks by as many of its customers as possible.

Each is a 3D form-fitted mask providing superior fit and comfort. WHOLEGARMENT masks feature integral ear straps that are knitted along with the mask portion that reduce stress on the ears, and require no further sewing for quick response production. Shaped masks are knit with elastic bands ▶

pre-attached through inlay technique and only require tying afterward, for even more efficient production. Some mask data are intended for use in the upcoming summer months, with thinner and lighter fabrics and finer gauges. Some mask data are also available in kids' sizes.

Knitted cotton masks can be washed and reused repeatedly. It should be noted however that unlike common nonwoven surgical masks, knit masks do not have virus- and pollen-filtration functionality. Their main use is for prevention of spray from coughing and sneezing, and for reducing exposure to allergens.

Shima Seiki has also been producing 3D knitted masks for use at elementary schools and junior-high schools (primary and intermediate schools) in Wakayama Prefecture, Japan where the company is based.

The masks are produced at Shima Seiki headquarters by request of the prefectural government of Wakayama in its effort to help alleviate the worldwide shortage of masks due to the spread of the Covid-19 coronavirus infection.

The data was originally intended for Shima Seiki users to knit masks on their own knitting machines, and is available for download from the Shima Seiki Users' Site, a knit sample archive featuring over 10,000 items.

The mask data drew interest from the prefecture, which promptly made its request for mask production. It is rare, the company says, for it to accept requests for knit production in mass quantities, but Shima Seiki said it viewed it as an opportunity to contribute to its community, which it has continuously cherished.

The arrangement also benefits children of Shima Seiki employees who attend school in those school districts.

So far, 8,000 children's masks have been produced on the SVR093SP computerized flat knitting machine in 14G. Although a conventional shaping machine, SVR093SP is capable of producing masks in one-piece without the need for sewing afterward, identical to the WHOLEGARMENT masks whose data is also available for production on the company's SWG-N2 series of WHOLEGARMENT knitting machines.

The children's masks are available in three sizes to cover the wide age-range of schoolchildren.

According to Shima Seiki, the 3D form-fitted masks provide superior fit and comfort with no further sewing required ensuring a quick response production while a filter-pouch is knitted-in for inserting commercially available virus filters and other filtration fabrics. Holes are also knitted-in for insertion of wires that provide further adjustment for improved fit.

## Steiger

Swiss flat knitting machine builder Steiger has modified one of its best-selling machine types to produce facemasks which are almost ready to use, straight off the machine.

The three dimensional masks are knitted on Steiger's Libra technology.

"Due to the Covid-19-crisis, we decided to modify our machines and knit finished products for the first time in our history, namely protective masks," the company said. "The masks are produced on a new machine type able to knit fabrics in 3 dimensions. This high-tech, zero waste mask exits the machine almost wearable."

Making use of the Libra's design capabilities, Steiger says that it was able to insert the required elastic seamlessly during the knitting process.

This enables manufacturers to skip one



Steiger has modified one of its best-selling machine types to produce facemasks.



production step while also increasing the comfort levels of the final mask.

"These ecological masks knit with an antibacterial yarn are an effective way to protect yourself," Steiger said, adding that the masks were designed according to the AFNOR standards for 'Barrier masks', adopted by the French Government as an immediate measure.

Steiger also notes that the masks are not intended for doctors or patients of Covid-19. "When you leave home, the distance requirements cannot always be guaranteed. These masks provide efficient protection for yourself and others to limit the risk of spread. As a general rule, they are intended for people travelling in public or shopping. They can also be used for professional activities where contacts cannot totally be avoided. We recommend wearing the same mask not longer than four hours. The masks can be washed at 60 degrees for 30 minutes."

## Stoll

Stoll has provided a further selection of patterns for flat knitted, oronasal facemasks as part of the company's contribution to the global fight against Covid-19.

As the company notes, the protection of health is the current, top priority worldwide and Stoll is striving to offer its assistance in the supply of suitable equipment, which is more in demand than ever before.

"Thanks to the possibilities of flat knitting technology, Stoll has succeeded in developing a generation of knitting masks that fit, are washable, reusable and comfortable," the company says. "The oronasal masks can even be used as a fashionable accessory."

Stoll notes that a knitted oronasal mask cannot replace a medical mask, but can definitely offer passive support.

"Therefore, we already offer several different models for download under: [www.patternshop.stoll.com](http://www.patternshop.stoll.com). However, the challenge for the future will be to develop the best possible solution. Due to the short development time, the current knitting masks have the function of reducing the habit of face touching and the risk of droplet distribution through talking, sneezing and coughing.





Stoll has succeeded in developing a generation of knitting masks that fit, are washable, reusable and comfortable.

"A supportive solution is provided by inserting certified filters, which are placed securely over integrated pockets and can be easily replaced or removed."

Knitting technology, says Stoll, allows the manufacturer to modify both the size and design of the mask while they can also be seamlessly provided with knitted rubber loops or retractable knot band solutions. Variable structures and hot-melt adhesive options are designed to ensure an increased material density, depending on the intended use of the manufacturer."

The design options are also flexible thanks to the use of different materials, for example, the use of antimicrobial yarns.

With certain adaptations, the relevant programs can be used for all Stoll technologies and can be produced on the following machines, ideally from gauge E14: CMS 202 ki B, CMS 303 ki B, CMS 330 ki BW, CMS 530 ki BcW and ADF 530-16 ki BcW.

Stoll notes that the oronasal masks are neither medically nor otherwise tested and certified.

## Cifra

Warp Knit Seamless (WKS) specialist Cifra SpA has produced an innovative and hi-tech range of protective masks called Warp-Mask, which will be used to help in the country's fight against COVID-19 (coronavirus).

Cifra has developed and introduced this product onto the market in just few days.



Cifra SpA Warp-Mask.

"I thought about how I could make myself with my company available to cope with this terrible pandemic," Cifra CEO Cesare Citterio said. "And we came up with the design of a hi-tech mask that is guaranteed to be OekoTex Standard 100 certified, warp-knitted, double-layered, water-repellent, knitted in one without seams for optimal comfort, sterilized, washable up to ten washes and all designed and made in Italy."

Engineered by Cifra WKS system, Warp-Mask is a high-tech double-layer, run-proof and water repellent mask, described as "Perfect Skin technology, perfectly adheres to the nose and to the mouth".

Each mask is made with polyamide (80%) and Lycra (20%) multifilament yarn - where the high percentage of Lycra and PerfectSkin technology guarantee perfect face adherence, to ensure the covering of both nose and mouth.

The fabric is doubled for a more compact and ultra-run-resistant structure and uses HeiQ Eco-Dry technology, which offers fluorocarbon-free durable water repellence (DWR).

This high-performance sustainable water-repellent treatment offers exceptional efficiency and durability to washing and dry cleaning. The applied HeiQ Eco-Dry treatment makes the masks 40°C machine washable and therefore reusable.

Warp-Mask is also resistant to bacterial agents thanks to Fresh-tech treatment by HeiQ and is described as "100% Made in Italy quality."

## Culp

US circular knitter Culp, Inc has increased production of facemasks, knitted mattress covers, and fabrics for healthcare operations and consumers across several of its locations in North America and Asia.

The latest steps include expanding its work with several companies to produce facemasks for supply to FEMA. These non-medical grade, three-layer cotton masks are made in accordance with FDA standards and are sewn at the company's CLASS facilities in North Carolina and Haiti.

Culp has also been producing and supplying face masks for consumers and

healthcare workers through the company's Culp Hospitality platform in Knoxville, Tennessee, and through its strategic partner relationships in Vietnam, which are now sewing facemasks instead of upholstery fabric kits for the company. These non-medical grade, three-layer cotton masks are also made in accordance with FDA standards.

Further steps include producing and supplying sewn bedding covers and bedding fabrics used for hospital beds at the company's CLASS facility in North Carolina and through the company's Asian platform, as well as working to assist other companies by using certain of Culp's lamination equipment and finishing capabilities at the company's facilities in Stokesdale, North Carolina, and Canada for their production of critical products for the healthcare industry, including woven medical gowns.

Culp says it has also utilized its full-scale research and development team to develop fabrics and other solutions for current and future personal protection equipment needs.

Explaining the new measures, Iv Culp, chief executive officer of Culp highlighted the work of the company's employees and strategic partners across its global platform. "We are utilizing our production and sourcing capabilities in the United States, Haiti, Canada, and Asia to supply much-needed PPE for healthcare workers and the communities we serve, and to support numerous customer requests for bedding covers and mattress fabrics used for hospital beds," Culp said. "Our mattress fabrics and upholstery fabrics divisions are working cross-functionally in these efforts and leveraging their resources to meet critical needs. "Our plans are to produce at least one million facemasks and to supply fabric and covers for tens of thousands of hospital mattresses over the next few months."

## Hyosung

Hyosung, the world's largest producer of elastane, has repurposed its facilities to increase the supply of creora elastane, a key ingredient in the manufacture of facemasks and other personal protective equipment.

Elastane is primarily used for making ▶



Hyosung has repurposed its facilities to increase the supply of creora elastane.

the ear loops and head straps to make facemasks fit properly and comfortably on the face. While the majority of facemask production is in China, a growing number of consumer apparel and accessory manufacturers around the world are switching their production facilities to make facemasks to help with the PPE shortage. This surge in production has made facemask component supplies, such as ear loops, scarce.

Supporting its customers with the manufacture of fabrics and protective garments, Mike Simko, Hyosung global marketing director - Textiles, said the company had converted creora elastane yarn production to increase supply to the global mask market by 20 times. "This production can make ear loops for several billion face masks per month, which will be a significant help to our customers' production needs," he said. "We've been fortunate to keep our elastane production operating in all of our international plants to serve local and global communities."

Facemask production is predicted to increase as many nations around the world are encouraging people to wear facemasks in places where social distancing measures are difficult.

During the course of the Covid-19 crisis, Hyosung has donated over US 420,000 along with medical supplies to medical workers caring for Covid-19 patients in Daegu, hit hardest by the virus in Korea, and its adjacent North Gyeongsang Province.

## Comez

Warp and crochet knitting machine specialist Comez has reconfigured its technology so it can be used for the production of reusable facemasks as well as elastic bands for nonwoven masks.

From the start of the pandemic, Comez says it has made available to its customers its own technical expertise in the development of machinery designed especially for the production of reusable masks. Today, we are in a position to guarantee numerous solutions that effectively respond to different requirements, from the manufacturing of elastic bands (round or flat) to the production of complete face masks, the company said.

Specifically, Comez has developed a special configuration for its electronic machines that guarantees the production of facemasks complete with an elastic band.

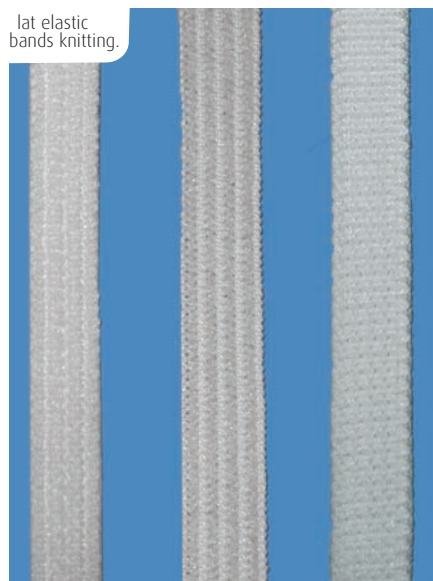
Equipped with a long weft device, the machines produce resistant and elastic reusable masks, suitable to be worn for extended periods of time. The finished product manufactured on requires only cutting and sewing for its completion.

Comez also offers solutions to add the elastic bands directly on to nonwoven fabrics on its electronic machines. This configuration includes a special embroidery device, allows high production speed and it offers a great economic advantage, the company says.

The elastic bands – both flat, round or



Ear loops for face masks.



flat elastic bands knitting.

tubular and in different widths – can be produced on the company's mechanical machines. This includes roundish elastic bands produced on crochet machines, the flat elastic bands on crochet machines and a tubular elastic band made on the Comez 500 6, a machine for the production of chainette cords.

"Thanks to Comez's long standing experience, electronic knitting machines for producing protective face masks are now available," the company said. The new containment phase related to the Covid-19 pandemic is a very delicate one, requiring that each of us suitably comply with strict safety standards. As such, companies worldwide have been requested to provide significant quantities of personal protective equipment for their clients, particularly face masks.

The company is also seeing an increase in orders for its chainette cord production machines as its customers look to meet the growing demand for elastic ear loops.

This technology can be used to produce a wide range of chainette cords widely used in passementerie, in the production of knitwear, for accessories and in many other sectors including, in this case, the medical sector.

According to Comez, the needle types on these machines enable the use of many different kind of yarns including the necessary synthetic fibres. It is therefore possible to produce elastic and high strength chainette cords which are also soft on contact with the skin. These elastic cords can also be easily welded to the fabric making them ideal as ear loops for surgical face masks.

## Kern Liebers

Kern Liebers Textile is now producing facemasks for its employees, part of the company's safe working practice as it looks to respond

*Schwarzwälder Bote* reports that Schramberg-based firm is using the two 3D high-performance flat knitting machines, which are located in the entrance area of Kern-Liebers Knitting Parts and are normally used for testing needles and other products in the range as well as demonstrations for visitors, to produce around 16,000 masks for its employees.

Each employee will be given two masks



with around 3,500 already produced in the last three weeks - a rate of around seven to eight minutes per mask.

Heading up the project is Huub Waulthers, Head of Application Technology, Kern-Liebers Knitting Parts GmbH. The Dutchman has been working for Kern-Liebers since 2013.

Following the outbreak of the coronavirus pandemic and the growing need for hard-wearing facemasks, Waulthers determined that if you already have the right machines with the necessary capacity, why not produce them yourself?

Waulther got the green light from the management for the project with company CEO Udo Schnell convinced by the low, 12 gram weight of the masks and their suitability for Kern Liebers's employees.

For the special three-dimensional structure of the mask, Waulthers first took measurements on his own face before using the computer software to program the machine. "I used this to create an average that fits as many people as possible," he explains. "That's where I put my special know-how in."

The masks are a blend of cotton and elastane with the elastic bands also covered with cotton and washed before use. "Then it is so dense that you cannot blow out a match," said Waulthers.

## Nilit

Nylon yarn specialist Nilit is highlighting its range of speciality Nylon 6.6 yarns as suitable for use in a range of premium facemasks.

Nilit says that its BodyFresh (bacterial static), Breeze (Cooling), Heat (Warming) and EcoCare (recycled) yarns are ideal for facemask production although the company notes that Nilit yarns do not provide protection from coronavirus or other viruses.

Fabric facemasks are growing in popularity with consumers during the Covid-19 crisis with many worn on day-to-day basis and by workers with many designed with a special pocket to hold protective filters.

According to Nilit, its fibres offer a number of benefits making them ideal for next to face applications. Fabrics made with the yarns are said to be soft, lightweight and odour resistant. The use of microfibres can also offer increased

comfort and moisture management properties as well as cooling and re-energizing benefit.

When using Nilit premium fabrics, knitting technologists recommend production on fine gauge knitting machines as well as minimizing loop size in order to reduce grin through. Blending with bare or covered elastane will also offer better comfort and fit, the company says, while using at least two layers of fabric will help ensure that the fabric reaches from the bridge of the nose to below the chin.

Nilit says it is maintaining a normal schedule at all its manufacturing plants, distribution centers and sales offices, during the current pandemic, and is working closely with its suppliers and logistics partners to ensure that products and services reach global customers in as timely a manner as possible.

"Nothing is more important than the health and safety of our people and of the communities we serve," said Ilan Melamed, NILIT General Manager. "At the same time, we are fully committed to do whatever is necessary to support the needs of our customers and partners wherever they are. As a global operation, we have manufacturing facilities on four continents, and are ready and able to supply from them to any location in the world."

## Hanesbrands

Activewear giant HanesBrands is adding to its facemask production pledge with a promise to manufacture 20 million medical gowns to be distributed by the U.S. Federal Emergency Management Agency to hospitals and healthcare facilities in need during the Covid-19 pandemic.

The company has already produced



HanesBrands has already produced and delivered more than 60 million cloth face coverings for the US government.

and delivered more than 60 million cloth face coverings for the US government and is ahead of schedule to deliver more than 320 million of the washable, 3-ply all-cotton face coverings.

The new, long-sleeve medical gowns are made from fabric designed to be splash resistant and can be washed and reused. They will be distributed by FEMA to hospitals nationwide and temporary treatment facilities.

Hanes is producing these reusable face coverings and gowns in accordance with efforts by the U.S. Food and Drug Administration and the Department of Health and Human Services Office of the Assistant Secretary for Preparedness and Response to supplement supplies of nonsurgical personal protection for use during the COVID-19 pandemic.

Hanes is also rapidly securing additional manufacturing capacity to meet surging demand for face masks and other garments from consumers, retailers and business-to-business customers, including employers preparing to reopen business operations.

"Our employees have gone to extraordinary lengths to meet the challenge of very quickly pivoting our production to large quantities of face coverings and medical gowns," said Michael E. Faircloth, group president, global operations, American casualwear and e-commerce. "Making basic protective supplies is consistent with our capabilities to make everyday apparel, but these are new product lines and required a significant amount of work and planning. We are proud that these efforts are benefiting our company, our communities and our government."

The FDA issued an emergency use authorization for face masks, including cloth face coverings, in response to concerns about insufficient supply and availability for use by members of the general public and healthcare personnel for source control. It should be noted that facemasks are not authorized to be personal protective equipment. They are not a substitute for filtering face piece respirators or for surgical face masks.

## Rosset

Brazil's largest warp and weft knitter is temporarily repurposing some of its



Rosset is temporarily repurposing some of its production lines to make fabric masks.

production lines to make fabric masks for donation to underprivileged communities.

The Rosset Group is mobilizing to help communities in need across Brazil during the Covid-19 crisis, pivoting its manufacturing operations to produce protective face masks made with Lycra fibre.

When stores reopen, more masks will be donated to retailers to keep shoppers and staff members safe.

“Since the beginning of the pandemic, we have taken the decision to change the functioning of our factories, replacing programmed demands by making thousands of masks to serve and help communities in need,” said Benny Rosset, director, Rosset Group.

Rosset also is producing white t-shirts for Brazil’s Federal Council of Nursing (COFEN) to distribute to healthcare workers in SQB Paulo, the state with the country’s highest number of Covid-19 cases.

“With the scarcity of protection items in the fight against COVID-19, we, in partnership with COFEN, will produce white t-shirts for nurses who are on the front lines at this moment,” said Gustavo Rosset, director, Rosset Group. “We believe that if each one does his part, the impacts will be minimized.”

Founded in 1939 in SQB Paulo, Rosset Group produces fabrics and laces for beachwear, lingerie and activewear.

Rosset Group also includes the following apparel brands: Valisere, Triumph, Sloggi, Body For Sure, Cia. MarRima, Pgua Doce, and Acqua by Classic.

## Roi a

A growing list of warp and weft knitting companies are turning to Roica from Asahi Kasei as a key ingredient in their facemask production.

Companies taking advantage of the

properties offered by the premium stretch fibre include Cifra, Iluna Group, Rosti and Sitip, including enhanced elasticity for perfect adherence to the skin.

Italian warp knitter Cifra has developed a sustainable face mask which combines the high performance of Cifra knitting technology with the sustainability of the materials used. The 100% regenerated yarns create a 100% sustainable mask, known as the Eco-Mask, which includes 83 per cent Econyl and 17 per cent Roica V550 elastomer, the stretch fibre certified to Cradle to Cradle Gold Health Level which allows excellent and lasting printability, as well as advantages regarding the circular economy as it does not release harmful substances into the test environment according to the Hohenstein Environmental Compatibility certification.

Iluna Group, a European leader in the production of lace, has recently donated 400 protective ‘smart’ masks made with Roica EF, the world’s first GRS - Global Recycled Standard – certified elastomer which uses 58 per cent of pre-consumer recycled content, mixed with Q-Nova by Fulgar.

These multi-use, washable, bacteriostatic, breathable and water-repellent prevention masks were given to the San Gerardo Hospital in Monza.

Iluna Group has also launched a website dedicated to the direct sale of the different kind of masks, all made with three layers, antibacterial and anti-drip treatment and washable up to 10 times.

In addition to the “smart” masks, available for women, men and children, Iluna Group has created two special versions of Lace Masks, covered with refined lace – one embroidered on a

Iluna mask.



cotton base and one with soft microfibre.

Rosti, a historic knitwear factory based in Brembate, specializes in the design and production of cycling clothing using highly technical fabrics.

The company has also turned to making knitted, washable facemasks made with warp knitted fabric from Sitip produced with anti-drop treatment Ecoacquazero.

Rosti masks also contain Roica Resistance, a family of premium stretch yarns with resistance and durability.

## ee ay

With regular orders being pushed back, Teejay Lanka, one of Sri Lanka’s largest circular knitters, has begun manufacturing personal and protective equipment for both domestic and international markets.

Teejay told Daily Mirror Lanka that it was adapting to the changing environments with many of its key retailers and new customers placing orders for masks and overalls.

“With the existing situation, the company commenced a strategy to capture the growing demand for PPE and embarked into the export of commercial orders of PPE such as masks during this period,” the company told the Daily Mirror, adding that it expects further shrinkage in orders with so many retail closures from its major retail customers in the EU and the US.

## ailored

Tailored Industry, the New York based flat knitting operation, has announced the availability of 3D knitted facemasks for children produced on the latest WHOLEGARMENT technology from Shima Seiki.

Shima Seiki released Knitting Data in March for all its machine customers as part of an effort to provide solutions for its global network during the outbreak.

Following the release, Tailored Industry, based in Brooklyn, NY, used the knitting data to create masks for the general public.

Renowned for its on demand production model, backed up by Shima Seiki technology, the company saw the move to produce protective wear as a necessary shift to offer safety solutions for consumers. “The idea was to make



the best mask in the market," Alex Tschopp, of Tailored Industry explained, adding that the company believed face masks are going to become commonplace soon as they are in other areas of the world, such as Asia.

The "Face Mask 2.0" uses WHOLEGARMENT 3D knitting technology and is engineered to provide the perfect balance between form and function. Each piece is 3D knitted (no hand-stitching) and is manufactured on demand. The knitting technology eliminates waste during production as the masks are knit from yarn to the final product.

Face Mask 2.0 features a 5-layer filter for particle filtration, an adjustable aluminum noseband and an internal knit channel for the insertable noseband.

Constructed of 72% viscose and 28% polyester, the masks also include a replaceable 5-layer PM2.5 filter and are also washable and reusable.

Part of the proceeds of the mask sales are donated to the Covid-19 Solidarity Response Fund in New York.

## Polygiene

ViralOff is an anti-viral technology that is being made available in most markets immediately by Swedish company Polygiene, for applications ranging from medical equipment and apparel to consumer products such as face masks, where such protection makes sense.

Polygiene is a spin-off from the Swedish chemical company Perstorp founded in 2004, initially to cater for the demand for anti-viral and anti-bacterial treatments developed by Perstorp scientists and technicians in response to the SARS epidemic.

When SARS died down, Polygiene turned its focus to consumer products

Polygiene has returned to its roots in the healthcare sector and launched ViralOff.



and the environmental benefit of washing less and making garments more sustainable. In subsequent years, it has partnered with many of the leading outdoor and performance apparel brands – from Adidas, Arc'Terex and Converse to Polartec, Reebok and Jack Wolfskin.

With the emergence of the Corona Virus, Polygiene has returned to its roots in the healthcare sector and launched ViralOff.

On a garment treated with it, over 99% of viruses will be killed in two hours as per the ISO18184:2019 test. All viruses so far tested by the Beijing Institute of Microbiology and Epidemiology – from Influenza A, BirdFlu, Norovirus and to Corona (SARS) viruses – are reduced in the 99% range. As this testing procedure is central, the ViralOff brand will serve as a stamp of assurance that the product lives up to a standard.

"Think of it as a sanitizer for garments," said Ulrika Björk, Polygiene CEO. "There is an enormous demand for things that help combat viruses now and with the ViralOff treatment, we can help set a standard for performance and help everyone get through these difficult times – from the heroes working in the medical services to the average person who would just like to get a pair of gloves or a face mask with tested antiviral capability. We also anticipate and welcome other novel product ideas from scientists and inventors that use this functionality."

Separately, Polygiene's biostatic stays fresh technology, that is active against both bacteria and virus, is being used to treat the initial 55,000 sets of medical scrubs that are currently being manufactured by O'Neills of Northern Ireland.

Having ceased its usual production of sportswear as work dried up, laying off its workers on March 18th, O'Neill's arranged an entire manufacturing and supply chain over just a few days and was back in operation manufacturing the scrub sets on March 25th.

"The anti-bacterial Polygiene finish used by O'Neills for its sportswear had proved ideal for surgical scrubs" says managing director of O'Neills, Kieran Kennedy. "I think there will be a huge demand going forward. At the end of the day, we'll do whatever we can to meet the demand.

## 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 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.

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. [KTJ](#)

# Dental developments

Textile computing specialist Myant is using its flat knitting expertise for dental PPE.

**T**extile computing specialist Myant Inc., which offers a high-tech partnership with German flat knitting machine builder Stoll, is working with a Canadian dental expert to develop a new line of personal protective equipment designed to address the tremendous risks that dental professionals face as they reopen their practices.

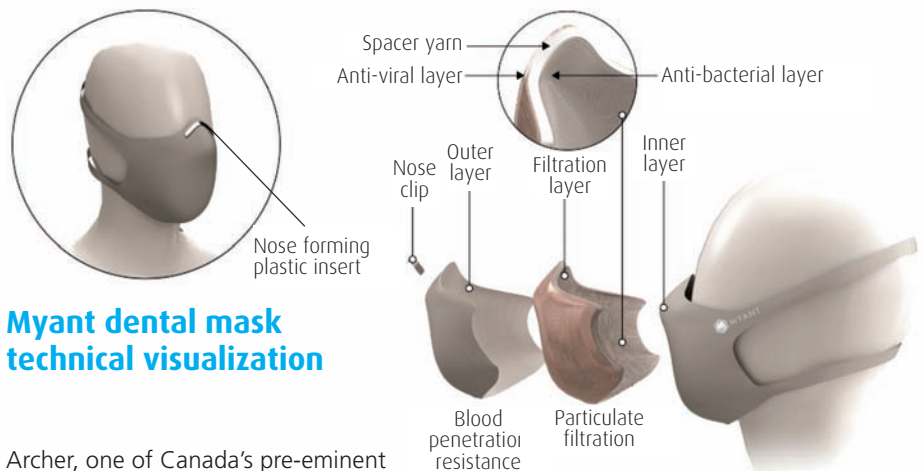
The types of PPE in development will include both flat knitted washable textile masks intended for support staff in dental practices as well as washable textile-based respirators that meet NIOSH N95 standards for dental professionals who work in critical proximity to patients.

Social distancing is one of the basic ways to mitigate the spread of the coronavirus, with health officials advising people to maintain a buffer of two metres with others. Governments are progressively reopening the economy and allowing businesses to begin serving their communities again, the challenge of maintaining a two metre distance from others will become a potential source of danger for both front-line workers and those whom they serve.

This is especially true for people working in the dental industry whose work environment is literally at the potential source of infection; the mouths and noses of their patients. An analysis conducted by Visual Capitalist, leveraging data from the Occupational Information Network, suggests that dentists, dental hygienists, dental assistants, and dental administrative staff are among the professions and support staff at the highest risk of exposure to coronavirus. Their work requires close proximity / physical contact with others and they are routinely exposed to potential sources of infectious diseases.

## Partnership

Recognizing this challenge Myant Inc., the textile innovators who pivoted to innovation in PPE as a response to Covid-19, has partnered with Dr. Natalie



## Myant dental mask technical visualization

Archer, one of Canada's pre-eminent dental experts, to design a line of PPE geared specifically to meet the challenges that dentists, other dental professionals, and their staff will face in the post-Covid normal.

Dr. Archer will be working closely with the Myant team, advising on the design and the certification process for a new line of PPE for dental professionals currently under development.

Reflecting on her motivations, Dr. Archer said: "Dental professionals feel a tremendous responsibility to get back to serving their communities, but as both members and servants of the community, we must be safe and responsible for both patients and the people that treat them.

"Like other dental professionals, I am concerned about maintaining levels of PPE. With disposable PPE I feel there will always be a concern of running out, the expense, uncertain quality, not to mention environmental concerns because of all of the waste. Also, there is a real problem with the discomfort that currently available PPE poses for dental professionals who typically work long shifts and whose work is physical. I am excited to be innovating with the team at Myant to address the real world clinical problems that we are facing now in dentistry by producing PPE that is protective, comfortable, and reusable, which will help all of us stay safe and allow us to do our jobs."

The PPE for dental professionals will be designed and manufactured at Myant's Toronto-based, 80,000 square foot facility which has the current capacity to produce 340,000 units of PPE a month. Plans are underway to expand that capacity to produce over 1,000,000 units per month as communities across Canada and the United States start looking for ways to re-open in a safe and responsible manner.

"This new development highlights the agility with which Myant is able to operate, rapidly integrating the domain expertise of our partners to unlock the potential behind our core textile design and commercialization capabilities," said Myant Executive vice president Ilaria Varoli. "Textiles are everywhere in our daily lives and we look forward to working with partners like Dr. Archer to make life better, easier, and safer for all people."

While Myant's current line of PPE features only passive attributes (such as the antiviral and antibacterial properties of copper and silver), the company's core competency is in textiles that actively sense and react to the human body. The ability to integrate biometric sensing into clothing opens up the possibility of implementing remote patient monitoring in a low barrier of adoption, non-habit changing manner. **KTJ**

# Warp knitted biking uniform offers sustainable credentials

Milan - Italian warp knitter Sitip, sportswear manufacturer Rosti and fibre specialist Asahi Kasei have developed a new kit for the Scott Sports Racing Team which is said to be the first sustainable biking uniform on the market.

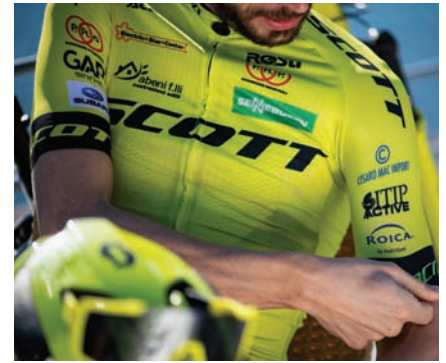
ISPO 2020 saw the official launch of the partnership between Scott Racing Team, Rosti, Sitip and Asahi Kasei for the supply of the team riders' uniforms. Rosti worked on style and packaging, Sitip on the technical 'BE-HOT - Heat Generating fabrics', while Roica provided its premium stretch yarns.

Sitip created the fabric entirely from recycled yarns including the premium, high performing Roica EF elastomer. The yarn is certified GRS - Global

Recycled Standard certification and also provides special dyeability properties along with Rosti's design and high care garment manufacturing.

"We have always created partnerships that lead us to obtain the best possible solutions. And when it comes to high performance, our ally for premium stretch fibre is Roica by Asahi Kasei," said Silvana Pezzoli, owner of Sitip.

Uwe Schmidt, managing director of AKSE (Asahi Kasei) added: "The role of stretch yarn must go further and offer the consumer smart solutions but also functionality. We were the first to create a family of premium and sustainable yarns, the Roica Eco-Smart family which includes Roica EF."



The GRS certified range is developed with 58 per cent pre-consumer transformed content and it can also offer improved dyeability. Roica V550 also biodegrades without releasing dangerous substances offering a circular economy approach as confirmed by the Gold Level Material Health Certificate of the Cradle to Cradle Product Innovation Institute.

Ivano Camozzi, president of Scott Racing Team and Brand Image Manager & PR of Scott Italia and Nicola Gavardi, communication manager & PR of Scott said: "We teamed up with Roica, Rosti and Sitip to design a new generation of cyclingwear which integrates responsible values. We have created a 100 per cent sustainable recycled fabric made of premium stretch yarns."

One of the main riders for the Scott Racing Team Italy, the award-winning champion Juri Ragnoli, highlighted the requirements that garments should possess in order to meet the sporting challenges that await athletes; breathability, comfort on the skin, performance, durability of the shape and maintenance of the characteristics throughout the course of use of the garment. Sitip Spa, founded in 1959, is one of Italy's best known warp knitting companies, engineering textile solutions for multiple markets and end-uses. These include:

- Hook-receptive fabrics for mechanical fastening systems used in the personal care and in the abrasive business;
- Technical carrier textiles for coating and bonding to produce synthetic leather applications used in the industrial, apparel and footwear business;
- Bonded fabrics used for footwear and helmets lining, as well as for automotive interior's textiles;
- High-performance fabrics for activewear.

## MIT develops new smart fabrics

Massachusetts - A research team at the Massachusetts Institute of Technology (MIT) has developed 'smart fabrics' which it says could be harnessed in apparel capable of monitoring vitals such as body temperature and respiration, writes Chris Remington.

Sensor-embedded fabrics, made by positioning flexible strips encased in epoxy within channels of the material, enable such garments to look like ordinary wear, whilst the insides reveal areas in which these strips make contact with the skin.

"In our case, the textile is not electrically functional," said Canan Dagdeviren, the LG Electronics Career Development Assistant Professor of Media Arts and Sciences at MIT.

"It's just a passive element of our garment so that you can wear the devices comfortably and conformably during your daily activities.

"Our main goal was to measure the physical activity of the body in terms of temperature, respiration, acceleration, all from the same body part, without requiring any fixture or any tape," she continued.

For this study, the researchers designed a prototype shirt with 30 temperature sensors and an accelerometer that can measure the wearer's movement, heart rate, and breathing rate. A polyester blend was used to provide moisture wicking properties and a more conformed fit to the body. The latter is an essential trait to enable the flexible strips to make contact with the skin at all time and retrieve data relevant to the wearer's vitals.

"The shirts can be easily manufactured in different sizes to fit an array of ages and body types," Dagdeviren says. She plans to begin developing other types of garments, such as pants, and is working on incorporating additional sensors for monitoring blood oxygen levels and other indicators of health.



## Successful launch for sustainable flat knitted sneaker brand

Brussels - A Belgian firm has launched a new brand of 3D knitted footwear described as the world's most eco-friendly sneaker brand.

Launched following a successful crowd funding campaign in 2019, Norm has completed its first delivery of 550 pre ordered pairs and from September, will be presenting its range



at the Le Bon Marché store in Paris.

The Norm brand knits the upper in a 3D single piece on a flat knitting machine, reducing material waste by 65 per cent, with each item of footwear using yarn produced from six recycled plastic bottles.

Adding to its eco-credentials, the rubber soles are made of 70 per cent recycled

rubber, 30 per cent fair-trade natural rubber and are 100 per cent recyclable.

In total, the Norm sneakers are made of 90 per cent recycled materials while the company also aims to be CO<sub>2</sub> neutral by planting two trees for each pair sold through its partnership with the NGO Seed for Life campaign.

"Minimalist design, advanced technology, local production and recycled materials, this is Norm's manifesto; the world's most eco-friendly sneaker brand," Norm said, adding that the sneakers are PETA-Vegan approved.

To reduce our carbon footprint further, Norm says it also selected components and ethical suppliers exclusively from Europe. The result is that the carbon footprint of a pair of sneakers is 80 per cent lower than a pair of standard shoes, the company says.

## Sustainable activewear from H&M

Stockholm - H&M's has launched its first women's activewear collection which uses a range of sustainably sourced yarns such as recycled nylon, recycled polyester and organic cotton.

The Cos Active brand is the company's response to a customer base increasingly keen on purchasing apparel with a reduced environmental impact, leveraging repurposed material in place of virgin content.

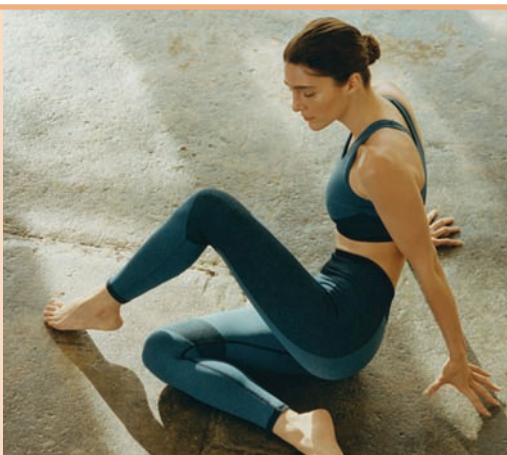
The new collection will comprise 15 pieces from leggings and sports bras to socks and underwear. "The collection offers a range of womenswear pieces that incorporate the brand's key values of functionality and ease, design for an active lifestyle," the company said in a statement.

H&M's Cos brand is based in London but has stores in more than 30 countries. The luxury label's introduction of a new activewear collection marks a departure from the usual fashion items it sells, and makes a statement that the first of its kind should be made with 'sustainable' materials.

The collection uses a mix of recycled nylon and polyester, as well as organic cotton both in apparel items and accessories. It comes as Cos has made a concerted effort to make progress on the sustainability front.

In December, the company partnered with rental subscription company YCloset to launch a new programme in China. Through this, users are able to purchase garments off a unique platform, and have the opportunity to keep these items rather than just renting them.

Notably, Cos' parent company H&M has also doubled down on its sustainability commitments through a number of timebound pledges and engaging with sustainability-minded initiatives.



## Famme selects Fulgar for new eco-collection

Milan - Famme, a cutting-edge Norwegian brand that makes functional, fashionable women's collections for workout wear (yoga, running, etc.) and everyday life, has launched a new leggings capsule collection in collaboration with Fulgar.

As well as requiring a final product that was seamless, soft, comfortable and breathable, Famme says its selected



Fulgar's nylon 6.6 yarns because of the Italian firm's environmental credentials.

Textured and covered yarn producer Fulgar says it has been active in the field of sustainability from both a corporate and product point of view for many years. This constant commitment has enabled the company to obtain environmental impact assessments for the manufacture of products analysed using the LCA scientific method, as well as a number of certifications including Oekotex STD Class I STD 100.

Established in 2016 in Oslo, the Famme brand is enjoying significant growth in the context of sustainability and innovation. Its intention in the coming months is to launch a series of ecological garments with increasing levels of performance.

In particular, Famme is developing a selection of garments using Fulgar's Q-Skin an anti-bacterial microfibre, for a mini-capsule of leggings, and tops made with biodegradable Amni Soul Eco.

Q-Skin by Fulgar is a special Nylon 6.6 yarn which incorporates special silver ions inserted directly during spinning. Their unique chemical and physical characteristics give the yarn bacteriostatic properties. Bacteria carry a negative charge, while the silver ions contained in Q-Skin are positively charged, so the silver ions will reduce excess bacteria.

The bacteriostatic capability also stands up to repeated washing with Q-Skin extensively tested, confirming its effectiveness against the main bacterial groups Gram + (Staphylococcus Aureus) Gram - (Klebsiella Pneumoniae).

As well as having certified bacteriostatic properties, Q-Skin is also said to be ideal for sportswear as it can slow the



## Teijin develops energy-storing fabric

Tokyo - Teijin Frontier has teamed up with Murata Manufacturing Co. Ltd to develop what they say is the world's first piezoelectric fabric, capable of converting motion into electrical energy. The new technology, which also has antibacterial properties, has a number of applications in the knitting sector with possible end-uses in sportswear and innerwear.

The agreement includes the founding of a new, joint venture - Pieclex Co. Ltd, which will commercialize and sell the fabric. Production and sales are expected to start later this year with a target of reaching 10 billion yen in sales by 2025.

Pieclex fabric works by converting motion into electrical energy via Murata's piezoelectric components. These elements, when integrated into Teijin's fabric, will enable a user to create and store energy throughout their day-to-day activities which, in principle, could be exerted to charge technological devices amongst other things.

The fabric itself is made from plant-derived polylactic acid, which is – from an environmental standpoint – better to mass produce than a synthetic alternative, which could alternatively be harnessed for performance reasons.

"To the present, Murata has contributed mainly in the field of electronic equipment, and I am very happy that this combination with Teijin Frontier's fabric technology will let us challenge the creation of new value in the field of fabrics," said company chairman, Tsuneo Murata.

In addition to its capability of harnessing kinetic energy and converting it, the fabric is said to provide antibacterial protection, which could prove particularly useful given the onus on hygiene in fields such as healthcare.

"The piezoelectric fabric developed by Pieclex Co. Ltd, realizes antimicrobial performance without using chemical agents, etc," added Teijin Frontier president and CEO, Shinji Nikko. "It also contributes to environmental load reduction as it applies plant-derived raw materials. Pieclex integrates Murata and Teijin Frontier's cutting-edge technologies, and I believe this innovative fabric will be essential for sustainable future lifestyle."



development of unpleasant odours while giving wearers benefits like breathability, freshness, hygiene and comfort.

Famme also selected the biodegradable Amni Soul Eco yarn. If disposed of properly in a special anaerobic tip, Amni Soul Eco will biodegrade in around five years compared to the fifty-year period required by normal polyamides.

"Fulgar gives us the trust we need as a brand, as many of our consumers are increasingly aware of quality and sustainability," said Peter Taube, CEO of Famme. "Constant improvement means knowing our products and partners, so we follow every step in the production of every product from beginning to end.

We have a genuine interest in creating products with great stories, and Fulgar enables us to create stories that always have a happy ending!"

"We're delighted to accompany Famme in their progress towards collections that are ever more sustainable and high-performance, through the potential offered by our green, functional yarns," added Alan Garosi, marketing manager at Fulgar. "The recent emergency has clearly shown that it's increasingly vital for the success and comeback of fashion brands that they base themselves on a new set of values, especially environmental sustainability and the type of green supply chain that Fulgar offers."



## Online showrooms and AI-powered matchmaking for Texworld USA

New York - The upcoming virtual edition of Texworld USA will include online "showrooms" highlighting vivid fabric innovations and new colour palettes as well as a range of opportunities to source and connect through one-on-one chats and AI-powered matchmaking.

Registration for the show, which also includes Apparel Sourcing USA, has now opened. The easy online system is the first of many steps in preparation for three days of product discovery, trend analysis and education, set to go live on July 21 – 23, 2020.

"We are inviting the textile sourcing community to join us on our new virtual platform. Our belief in face-to-face interaction will not waiver but there's a new normal arising and we will welcome it with a steadfast commitment to supporting the industry," said Jennifer Bacon, Show Director, Fashion and Apparel, Messe Frankfurt North America.

"This summer, global manufacturers will display their collections virtually and as we navigate these unprecedented times, we are pleased to continue to offer opportunities for sourcing, networking and education."

Similar to the traditional trade show floor, exhibitors and visitors will have an interactive experience, coupled with many new exciting features, including online "showrooms" highlighting vivid fabric innovations and new colour palettes. With exhibiting companies from global textile manufacturing hubs from China, India, Turkey, Pakistan, Taiwan and Korea coupled with North American suppliers, the summer edition will offer buyers a host of opportunities to source and connect through one-on-one chats and AI-powered matchmaking.

Live streaming of the educational programming, Textile Talks and the Lenzing Seminar Series, will feature a variety of thought leaders focusing on placing information and insight into the hands of industry professionals to help move their businesses forward. Lively presentations addressing climate change, sustainability post COVID-19, adapting to new business models and other dynamic topics designed to engage and inform will be available during the three-day live event and 45 days following.

"We are excited to host our education seminar series as digital webinars with international presenters to discuss adding value with circularity, lower environmental impacts, and branding," said Tricia Carey, director of Global Business Development – Apparel, Lenzing Group.

Held alongside Texworld USA and Apparel Sourcing USA is the co-located event, Home Textiles Sourcing, for those manufacturers, retailers, converters, contract specifiers and designers seeking new fabrics and products for their latest home collections. A single badge entry for all three shows is available.

As the largest sourcing event on the East Coast for fabric buyers, product R&D specialists, designers and other industry sourcing professionals, the virtual platform enables access to those who historically were unable to travel to the event.

Early registration is recommended as it allows for more time to set up meetings and one-on-one chats.

## India ITME postponed until 2021

New Delhi - India ITME has been postponed by a year until December 2021 as a result of the ongoing coronavirus pandemic.

Originally scheduled for December 2020, the new dates are 8-13 December, 2021 at the India Exposition Mart Ltd, Noida, New Delhi.

"Covid 19 has brought disruption and distress for the general life, industry and economy, especially for the textile and textile engineering industry all over the world," said Seema Srivastava, executive director, India ITME. "Under the circumstances, India ITME Society proposes to postpone India ITME 2020 by one year to December 2021. We assure you that India ITME Society shall stand by industry in all possible ways to see through these difficult times and shall double the efforts to ensure customer reach for exhibitors."

Further details can be found at <https://itme2021.india-itme.com>

## September opening for Munich Fabric Start

Munich - Following months of trade fair and event cancellations and postponements, the organisers of the Munich Fabric Start exhibition have confirmed that the upcoming show for the Autumn Winter 21/22 will take place from 1 - 3 September 2020 in Munich.

"As a long standing partner of the industry, we see it as our personal mission in these challenging times to make Munich Fabric Start and Bluezone the first trade fair for the textile industry after the Covid-19 lockdown," said Sebastian Klinder, the show's managing director, adding that this was possible thanks to the implementation of a specially developed safety and hygiene concept.

In order to ensure compliance with the current state requirements for

holding a trade fair, September's event will move to an interim location on the spacious exhibition grounds of Messe Munchen-Riem.

The new requirements detail numerous structural, organisational and personal measures that are necessary for smooth and safe trade fair operations. "After extensive inspection, we have come to the conclusion that Munich Fabric Start and Bluezone in September 2020 will unfortunately not be able to take place in our proven and beloved location – in the MOC and on the Zenith site," Klinder said. "This insight has presented us with several new challenges. Over the last few weeks, we have been working to secure an alternative solution. Today, we are very pleased to be able to communicate that we will hold the show at the Munich-Riem fairground, thanks to our long-standing partnership with Messe Munchen. We are happy to take on the additional costs and planning associated with the move to this interim location in order to offer the industry a perspective right now."

"These unique times require flexible thinking and actions from all of us, often

resulting in bold decisions," added Frank Junker, creative director, Munich Fabric Start. "We see this exceptional solution as the most viable way to organize a trade fair with an international audience at this scale, at this time in September."

So far, more than 650 exhibitor registrations have been received from international suppliers.

The aim is to occupy four halls with a total area of 45,000 square metres which will accommodate all three strands of the show - Munich Fabric Start, Bluezone and Keyhouse.

## Dornbirn replaces congress with webinar

Vienna - The 2020 edition of the Dornbirn Global Fibre Congress has been cancelled as a result of the coronavirus pandemic with organisers preparing a series of webinars as an alternative.

"Due to the impact of Covid-19 there will be no possibility to conduct the

congress in its usual form this year," organisers said in a statement. "The travel restrictions and the extraordinary economic situation complicate the planning of events. The health aspect and the safety of our visitors are in the foreground of our decision."

Following the decision, organisers will present a series of online lectures and discussions in from 16-18 September with a focus across a number of key topics.

The programme includes:

A keynote presentation on Green Deal – Implications for the textile Industry" and the awarding of the Paul Schlack/Wilhelm Albrecht Prize.

Lectures and discussions on topics including: Leading Polymer Recycling Technologies, Smart, integrated, digital textile production chain, Lessons learned from packaging – EPR schemes for Textiles and Circular Economy.

There will also be a number of lectures and discussions on key issues such as PPE Production – a challenge for the industry.

The webinars will be free of charge with a link released shortly.

For further details go to [www.dornbirn-gfc.com](http://www.dornbirn-gfc.com)

## Performance Days pushed back to December

MUNICH – The team behind functional fabrics trade show Performance Days has made the decision to revise its dates for later in the year, with the event now set to take place from 9-10 December.

It comes as the German authorities have announced that trade fairs can resume as of September. Though Performance Days was scheduled to go ahead from 28-29 October, the new date allows exhibitors more time for recovery, and the country's ministry of health time to fine tune its security concept.

Whilst Performance Days was forced to host a virtual event earlier this year in place of its cancelled May exhibition, it has been given the all-clear to resume operations for what is typically its second Munich trade show of the year.

In research of establishing the most suitable date to host the event, Lena Weimer, senior marketing manager for Performance Days reported that exhibitors and delegates had been knocked off schedule because of lockdown measures around the world and the subsequent periods of adaptation.

"Visitors to the fair report that, as expected, there was an overall drop in sales. Consequently, stationary traders have less in-store and warehouse space for additional products," Weimer says.

Accommodating what will be a recovery period for all companies hit by the pandemic, the December date also affords the event organisers time to establish the best safety measures available, in-line with authorities in Bavaria.

"We are delighted to be able to welcome everyone back again. Behind the scenes, both the planning for the analogue fair in Munich and the planning of further digital solutions for before, after and during the fair are taking place," concluded general manager, Marco Weichert.



## Yarn Expo to return in September

Shanghai - The Shanghai-based Yarn Expo Autumn will return in September 2020 as it looks to help support industry rebound and growth.

After hosting a record breaking 543 exhibitors from 14 countries and regions, along with over 19,000 visitors from 93 countries and regions in 2019, Yarn Expo Autumn take place from 23 to 25 September 2020.

Known within the industry as the leading fair for accessing the promising Chinese and Asian markets, organisers hope that the 2020 autumn edition will provide an ideal platform to help the industry rebound and recover from

the worldwide Covid-19 disruption. The fair is expected to occupy 26,000 sqm of exhibition space at the National Exhibition and Convention Center in Shanghai.

Commenting on the upcoming fair and its benefits for the industry, Ms Wendy Wen, Senior General Manager of Messe Frankfurt (HK) said: "The coronavirus pandemic has forced the industry to face unprecedented challenges and whilst a full recovery will take time, businesses around the world are already looking ahead to actively seek ways to prompt a market rebound.

"This autumn's edition of Yarn Expo is therefore as vital as ever for the industry and its global supply chains. The fair offers a platform to help companies reconnect whilst supplying access to the rebounding market. With its extensive

experience and understanding of the industry, Yarn Expo is in a strong position to support the overall recovery of the yarn and fibre sector."

Yarn Expo Autumn has always provided buyers with a comprehensive outlook on the market themes. Trending eco-friendly and innovative products will be showcased amongst a diverse range of high-quality yarns and fibres, all under one roof.

By exhibiting at the show, companies position themselves in the heart of the ever-growing Chinese and Asian markets. Identifying the potential in the region, Mr Donatas Cerkevicius, Commercial Director of Naturalus Pluostas, Lithuania said: "Yarn Expo is the best place to meet professionals from spinning mills, trade buyers and even designers who come here to see trending textures and colours. That's

## Pitti focuses on digital events as fairs postponed until January

Florence - Pitti Filati has confirmed that the its September edition has been postponed until January 2021 following the impact of the Covid-9 pandemic.

The board of directors of Pitti Immagine said that due to an "insufficient number of confirmations of attendance" as well as "the ongoing state of difficulty of the companies", the organisers decided the events should be postponed and all efforts should be focused instead on the Pitti Connect digital platform which will be open to exhibitors and buyers from July.

In a statement, Pitti Immagine president Claudio Marenzi said: "This was a very painful yet inevitable decision dictated by the conditions of operational and economic difficulty in which the majority of the manufacturing companies and retailers - shops, department stores - find themselves and by the uncertainties that continue to persist regarding the modalities of traveling from one country to another, including quarantine restrictions, which have obviously heavily conditioned the plans of international buyers."

Pitti Immagine CEO Raffaello Napoleone added: "We will now be putting all our resources into the Pitti Connect digital fairs for which we will be receiving decisive help from the Italian Trade Agency ICE). We are very confident in our ability to offer companies the real Pitti service which is capable of meeting their business, promotion and communication requirements, especially in this part of the season."

Pitti Immagine announced Pitti Connect in May, a digital version of the physical fairs allowing fashion professionals to connect and carry out scouting activities, contact exhibitors, plan meetings and view collections through video chats or virtual showrooms. It will launch at the beginning of July and will run until the end of September.



why we decided to participate, here in China, because we know that the Chinese textile industry is huge, and a very big market for hemp fibres. And lots of companies from Asia exhibit or visit here, so it's everybody in one place, in one go."

Exhibitors also frequently note the international opportunities the fair offers to those aiming to broaden their market reach. Ms Emily Chiang from the marketing department of Tung Ho Textiles, Taiwan, spoke about how their innovative, functional products from Taiwan attracted a large, international audience at Yarn Expo Autumn. "We were able to meet buyers from different countries and regions," she said. "For example, from Thailand, India, China of course, Hong Kong and Korea. We would never have previously contacted clients from Thailand, so this has provided a big chance for us and widened our market strategy."

Meanwhile, for buyers, an efficient and easy sourcing process is key. With its diverse range of products, visitors can source for all of their needs in one place – a common selling point observed by buyers. Ms Bonnie Chan, Manager of Raw Materials, Pacific Textiles, Hong Kong explained how the fair is a 'must attend' show for them every year: "We collaborate with a lot of fashion brands like Uniqlo, Anta and Fila. The fair has a significant influence on our company's business strategy. I can find whatever product I want here."

She also noted the benefits of the dedicated product zones: "We are also very happy to see the new Fancy Yarn Vision display area, which is very handy for us to efficiently find good quality fancy yarn exhibitors."

Once again, the extensive fringe programme and dedicated product zones will be on offer, enriching the experience for fairgoers. Market trends and information will be shared in forums such as the China Fibre Fashion Trends and seminar, which will dive deep into the Chinese market. Meanwhile, the Fancy Yarn Vision zone will return amongst others, following its popularity in the previous edition. The area will gather creative fancy yarn and downstream application products to display the latest

innovations from fancy yarn exhibitors.

Yarn Expo Autumn 2020 will be held concurrently with Intertextile Shanghai Apparel Fabrics – Autumn Edition, PH Value and CHIC, providing a concentrated overview of the latest trends and developments in the sector, all in one place. Yarn Expo is organised by Messe Frankfurt (HK) Ltd and the Sub-Council of Textile Industry, CCPIT. For more details visit:

<https://yarn-expo-autumn.hk.messefrankfurt.com>.

## Texworld cancels September shows

PARIS - Messe Frankfurt France has confirmed that the September edition of Texworld has been cancelled following the continuing uncertainty around health requirements for major international events and travel restrictions in the wake of the coronavirus pandemic.

The cancellation always affects Texworld's sister shows - Apparel Sourcing, Avantex, Leatherworld, Shawls&Scarves and Texworld Denim Paris - with the next editions now scheduled for 1-4 February 2021.

"A survey conducted amongst loyal textile and clothing buyers indicates that most of them are not yet ready to travel," said Frédéric Bougeard, President of Messe Frankfurt France. "Serious consideration of all these issues and the lack of guarantees that this major event can be organised under good conditions has forced us to take this decision. A difficult decision, but one that is responsible to our visitors, exhibitors and partners."

The team has already started working on various initiatives in preparation for the February 2021 edition. "Our major international partners have renewed their confidence in us by confirming their presence from February 1 to 4," Bougeard added.

From September onwards, Messe Frankfurt France will be offering several digital solutions to connect suppliers to buyers and to showcase their know-how and production capacities.



## Yiwu delayed until 2021

Yiwu - The 21st anniversary of the Zhejiang International Trade Fair For Textile and Garment Industry (ZhejiangTex 2019), including Yiwutex, has been postponed until 2021.

Having been originally scheduled for 14-16 May 2019, the hosiery machine showcase was initially delayed until 22-24 July as a result of the coronavirus pandemic.

With the international situation still facing serious challenges, organisers have now taken the decision to delay the event until next year.

"On 6th April 2020, the State Council of China issued the circular of 'The Further Control and Preventive Measures of the Novel Coronavirus at Key Venues, Units and Groups', organisers explained.

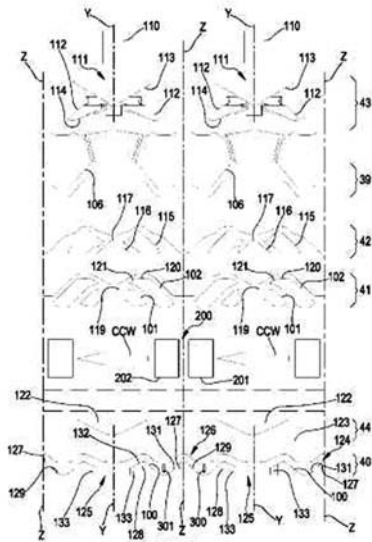
"According to 'Preventive Suggestions' in the circular, it has clearly mentioned that all kinds of exhibitions have to be stopped for the time being.

"In order to fully cooperating with the national epidemic prevention, protecting the health and safety of all show participants, at the same time, the organizer respects the market and industry status, we follow the opinions of the industry associations, exhibitors and professional visitors and have decided that The 21st Zhejiang International Trade Fair For Textile And Garment Industry will be further postponed from 22-24 July 2020 to 12-14 May 2021, and the show venue will remain unchanged at the Yiwu International Expo Centre in Zhejiang.

"We sincerely apologize for any inconvenience caused by the postponement. Taking this opportunity, we would also like to express our gratitude for your continual support and understanding to the show."

## Circular knitting

Applicant: Santoni & C Spa  
 Patent no: US2020199794



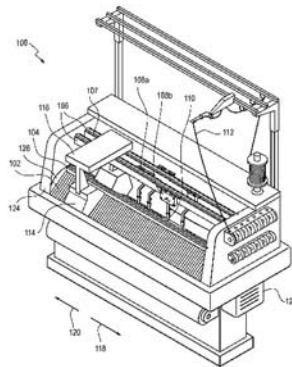
This patent is for a circular knitting machine includes a needle-holding cylinder having plurality of longitudinal grooves housing plurality of needles, at least one yarn feed operatively associated to needles, actuating cams arranged around and movable relative to cylinder, drive chain for each needle operatively placed between needle and actuating cams. Drive chain includes: sub-needle, selector having butt which can be engaged with selector paths, selecting device acting, punch equipped with butt which can be engaged with punch paths. Punch paths include a tuck stitch ascent and drop stitch ascent for each yarn feed. Inlet of drop stitch ascent circumferentially precedes inlet of tuck stitch ascent. Selector paths include a single track defining first and second ascents placed in succession for each yarn feed. First ascent circumferentially precedes second and is operatively associated to drop stitch ascent and second ascent is operatively associated to tuck stitch ascent.

## Knitting machine with extreme racking

Patent: US2020181816  
 Applicant: Nike Inc

This patent is for a method which may include knitting a first portion of a knitted component on a first region of a knitting machine, knitting a second portion of the knitted component on a second region of the

knitting machine, moving the first portion of the knitted component towards the second portion of the knitted component by moving a first needle bed of the knitting machine relative to a second needle bed of the knitting machine, and knitting at least one course with the knitting machine that connects the first portion of the knitted component to the second portion of the knitted component.



The method may further include transferring at least one loop of the first portion of the knitted component from the second needle bed to the first needle bed prior to moving the first needle bed relative to the second needle bed. Without limitation, the method may further include transferring at least one loop of the second portion of the knitted component from the first needle bed to the second needle bed prior to moving the first needle bed relative to the second needle bed.

## Feeding yarn

Patent no: US2020181817  
 Applicant Lonati SPA

This patent is for a device for feeding yarn or yarns for knitting machines for hosiery or the like, comprising a supporting structure which supports at least one yarn finger having an elongated shape and being pivoted, at an intermediate portion thereof, to the supporting structure about a corresponding

rotation axis and having, proximate to a longitudinal end thereof, a passage for the yarn or yarns to be fed to the needles of the knitting forming machine, the device for feeding yarn or yarns comprising an electromagnetically actuated device which comprises at least one magnet which is fixed to the at least one yarn finger and at least one electric coil which is laterally adjacent to the at least one yarn finger and is connected to the supporting structure.

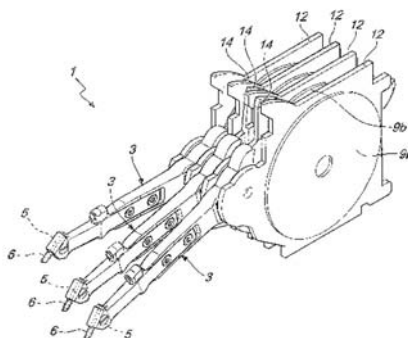
Yarn fingers have been provided which are actuated electromagnetically by winding electric coils on a portion of each yarn finger and by arranging magnets to the side of the yarn fingers so that the individual electric power supply of the coils, immersed in the magnetic field generated by the magnets, causes the individual rotation of the yarn fingers about the corresponding rotation axis with respect to the supporting structure in order to pass from the inactive position to the first active position. In these yarn fingers, the intermediate position or second active position is obtained by means of a mechanical stop element which limits the rotation of the corresponding yarn finger. In these yarn fingers, while offering greater practicality in use and high precision in operation, fatigue failure of the cables that connect the coils arranged on the yarn fingers to the electric power supply is often observed due to the continuous deformations caused by the movement of the yarn fingers.

## Toe closing

Applicant: Da Kong  
 Patent no: TW20190112993

This invention is an improved version of the mechanism described in the patent numbered EP2377979, and in particular, it relates to the elements that ensure transfer of a textile material such as a sock from the knitting machine and the elements in the station where the open end of the textile material is sewn off.

Tubular textile products such as socks are manufactured by being knitted in cylindrical knitting machines. One end of the textile product, which has two open ends, is then moved away from the needles of the knitting machine and brought to the toe-closing station and sewed off therein. The transfer of the tubular textile product from knitting machine to toe-closing station can be carried out, for example, by means of an automatic



mechanism as described in EP2377979 .

An objective of the invention is to provide efficient transfer of the textile material stitches, which are knitted in tubular shape, from the knitting needles. To achieve the objectives, the invention is related to a mechanism that comprises a knitting machine having several knitting needles, of which each has a hook and a tongue that can approach to and move away from this hook by rotation; stripping elements to convey the stitch in each knitting needle to a sewing station, which can approach to and move away from knitting needles and move them along the needle axis by touching the stitch in each knitting needle and a transfer apparatus including transfer elements, which can approach to and move away from the hooks of knitting needles and which comprise an end portion where the stitches are brought on when stripping elements move the stitches in the knitting needles towards the hooks.

Here, each transfer element is configured to grip at least partially an outer surface of the hook of each knitting needle, and each transfer element comprises of an end portion configured to remain between the needle and the hook when the needle tongue for is closed the stitch transfer.

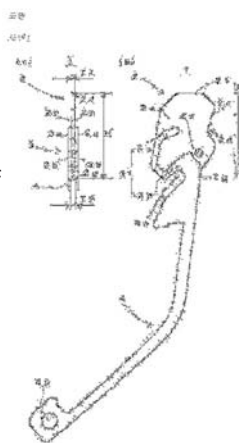
In addition, with respect to the mechanism according to the invention, the cross-section of the first longitudinal threads bearing the stitch pairs of the sewing station, in which stitches conveyed by the transfer apparatus are sewn, is substantially formed in an L shape.

### Fixed sinker

Applicant(s): Shima Seiki  
Patent number: KR20190144732

The object of this invention is to provide a fixed sinker and a flatbed knitting machine capable of making a collision between a fixed sinker and a knitting member less likely to occur.

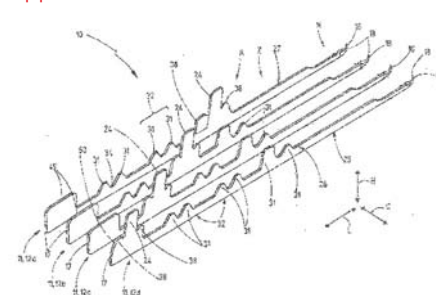
A fixed sinker 1 includes a plate-like sinker body 2 that has a function of forming a sinker loop. At least one side surface 2a of the sinker body



2 has a slope of thickness such that the thickness increases along a transition direction from an upper start end 2f to a lower terminal end 2g. The other side surface 2b of the sinker body 2 has also a similar slope. With the slopes of thickness increase on the both side surfaces 2a, 2b, the sinker body 2 has a tapered shape as shown in a front view of (a). Since the sinker body 2 is thin at the upper start end 2f, even when a knitting member such as a loop presser enters from above opposing needle bed, it is possible to make a collision less likely to occur.

### Machine needle

Applicant(s): Groz Beckert  
Application number: US201816624018



A machine knitting tool and in particular a machine knitting needle has a shank extending in the longitudinal direction. The machine knitting tool has a stitch-forming portion directly adjacently to a front end and a drive portion directly adjacently to a rear end. At least in the drive portion, an underside of the shank does not have any indentations or recesses and extends along a plane. The shank in the drive portion forms at least one rib portion with a rib height, which is at most 1.1 mm. In addition, the shank in the drive portion forms at least one support elevation, which extends in the height direction beyond the rib height of the at least one rib portion and has an elevation height at its point of maximum height.

### Knitted preform

Applicant: Saint Gobain Performance Plastics  
Patent no: US2020189147

This patent relates to a method for producing a dry preform, created by knitting, in particular for the creation of a part made of composite materials. The method also relates to the creation of a product made of composite materials using the dry preform obtained in

this manner. Composite materials are relevant to various fields of technology. Indeed, composite materials relate to materials that comprise a reinforcement and a matrix, said reinforcement being embedded in said matrix.

Thus, reinforced concrete can be considered a composite material. Indeed, the intrinsic qualities of concrete are unimpressive and reinforcements, which are made of steel or synthetic materials and are integrated into the concrete matrix, produce radically different and vastly superior performance when compared to that of the concrete matrix on its own. This invention relates to a method for creating a transformable, dry knitted preform that incorporates threads comprising a material that is intended to form all or part of the final matrix of the composite. According to the invention, a transformable, dry knitted preform is a reinforcement of which at least part of the materials of which it is made are able to transform by change of state, by modification of the initial structure, with the consequence that it is no longer possible to identify in an isolated manner the transformed materials in the composite material product obtained in this manner. The techniques for manufacturing the final product, shaped according to a given plan, are various. Laying up involves arranging at least one layer of at least one mat of non-woven fibers, and/or at least one textile obtained from woven fibers, on the internal surface of a first part of a mold so as to impart the general shape to the reinforcement. In the case of reinforcements created using woven or non-woven fibers, once the shape is complex it is necessary to cut out various pieces and overlap them to ensure that the mechanical strength is maintained, and to add localized reinforcement pieces, which complicates implementation. Furthermore, mechanical strength is imperfect since the fibers are not continuous.

2D or 3D knitting of threads makes it possible to create a complex product that can be directly draped over a 2D or 3D form, ensuring continuity of the threads throughout the obtained knitted product. The aim is to make it possible, directly and with a single knitted product, to create a 3D product made of composite materials. The transformable, dry knitted preform incorporates the reinforcement and what will become, after transformation, a coating and/or impregnation resin, or even the matrix of the composite.

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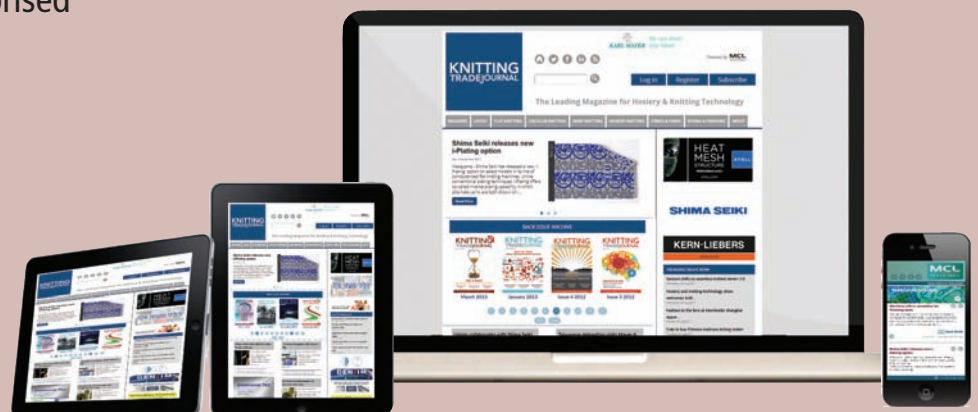
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# Business News

## Frasers buys Hugo Boss stake

**London - Frasers Group has acquired a 4.7 per cent stake in German fashion house Hugo Boss AG for €108 million.**

The Frasers Group purchased 120,000 shares of Hugo Boss common stock, 140,000 shares of common stock via contracts for difference, and 3.29 million shares of common stock via the sale of put options.

"This investment reflects Frasers Group's growing relationship with Hugo Boss and belief in Hugo Boss' long-term future. Frasers Group intends to be a supportive stakeholder and create value in the interests of both Frasers Group's and Hugo Boss' shareholders," the Shirebrook, East Midlands-based firm said.

## Lenzing strengthens speciality fibre growth

**Lenzing – Capital expenditure at Lenzing more than tripled in its first quarter as the company ramped up the implementation of its key speciality fibre projects in Brazil and Thailand.**

Reporting a 16.7 per cent decline in first quarter revenue to €466.3 million as the initial impact of the coronavirus pandemic slowed industry activity, Lenzing said that the implementation of the two most important long-term investment projects to strengthen internal pulp supply and to increase the share of speciality fibres was progressing according to plan.

In a historically difficult market environment with increased pressure on prices and volumes resulting from the Covid-19 crisis, the Lenzing Group says it held ground well in the first quarter of 2020. Thanks to a diversified business model and its global footprint on the one hand, and the disciplined implementation of the sCore TEN corporate strategy on the other, the effect on the revenue and earnings development was partially offset, the company said.

The primary cause of the revenue drop in prices for standard viscose (due to significant overcapacity in the market) and other standard fibres. The impact of the Covid-19 crisis further increased pressure on prices and volumes.

Prices for standard viscose dropped to a new all-time low of ~9,150 RMB/ton by March 31 – up to 33 per cent lower than in the prior-year quarter.

However, the comparatively positive development of the speciality fibre business and slightly higher demand for fibres in the medical and hygiene segments partially offset the decline in revenue. The share of speciality fibres increased from 47.3 per cent in the first quarter of the previous year to 60.9 per cent.

EBITDA decreased by 24.3 per cent to €69.6 million while net profit for the period was down 58.6 per cent to €17.7 million.

"The Covid-19 crisis has a severe impact on the entire textile and apparel industry and has further increased the pressure on prices and volumes in the global fibre market. Lenzing held its ground in this

extremely difficult market environment and continues to drive the implementation of its key projects in Brazil and Thailand," says Stefan Doboczky, chief executive officer of the Lenzing Group.

In the first quarter of 2020, Lenzing also completed the second pilot production plant for its Tencel Luxe branded filament yarn. The new facility at the Lenzing site with a total investment of €30 million provides sufficient capacity for the development of commercial programs and further fiber applications, the company said.

## Gildan extends manufacturing shutdown

**Montreal - Gildan Activewear has extended the shutdown of its manufacturing operations until further notice following the impact of the global coronavirus pandemic.**

Reporting a drop in both sales and earnings for its first quarter, Gildan said it would continue to assess the need and timing to resume manufacturing operations, while following government mandated restrictions, in relation to evolving demand trends and inventory levels.

Some of its distribution centres, where Gildan has implemented enhanced measures to safeguard the health, safety, and well-being of its employees, continue to be operational at reduced capacity levels.

The company said it had also taken steps to reduce its monthly fixed costs and expected to further lower its expenses as it moves forward and adjusts to a weak demand outlook, which, it warned, could extend through the remainder of the year.

Sales for the first quarter of 2020 of US\$459.1 million were down 26.4 per cent compared to the prior year quarter, comprised of activewear sales of \$372.6 million and sales in the hosiery and underwear category of \$86.5 million, down 24.5 per cent and 33.7 per cent, respectively, over the prior year quarter.

The impact on earnings was stark with Gildan posting a net loss of \$99.3 million, or \$0.50 per share on a diluted basis, compared to net earnings of \$22.7 million, or \$0.11 per share on a diluted basis, for the same period last year due to the operating loss incurred in the quarter.

In terms of the company's response to Covid-19, Gildan has been working in collaboration with various partners to produce protective personal equipment (PPE) to help address the shortage caused by the pandemic.

The company is currently sewing face masks for a cooperative consortium of apparel and textile companies supplying non-medical face masks to the health care sector. It is also producing non-medical face masks and isolation gowns for various retailers to be distributed to health care organizations.

The current plan is to produce over 150 million masks and gowns to service the consortium and retailers under this effort.

## L Brands reports wider Q1 loss,

**New York - L Brands, Inc. has posted net sales of US\$1.65 billion for its first quarter, down from \$2.62 billion.**

Operating loss was \$317.7 million compared to operating income of \$153.3 million last year, and net loss was \$296.9 million compared to net income of \$40.3 million last year.

Total Bath & Body Works sales in the United States and Canada were \$712.7 million compared to \$870.7 million last year while Victoria's Secret sales declined to \$821.5 million compared to \$1,511 million last year.

Excluding the certain net charges, L Brands added, adjusted first quarter loss per share was 99 cents compared to earnings per share of 14 cents last year.

Almost all of the company's stores have been closed since March 17 due to the Covid-19 pandemic.

## Hanesbrands names new chief executive officer

**Winston-Salem - HanesBrands has announced that its Board of Directors has appointed Stephen B. Bratspies as chief executive officer and board member, effective August 3, 2020. Bratspies will succeed Gerald W. Evans Jr., who previously announced his plans to retire after a 37-year career at HanesBrands.**

Bratspies, 52, brings more than 25 years of retail, digital and consumer product leadership experience to Hanes. Most recently, he served as chief merchandising officer at Walmart Inc. where he managed US\$330 billion in sales, drove a major merchandising transformation initiative, and accelerated comp-store sales and market share gains.

His prior leadership positions at Walmart included executive vice president of general merchandise, executive vice president of food, and senior vice president of marketing. He is recognized for his strong and consistent results, passion for people, and winning in the marketplace. Earlier in his career, Bratspies served as chief marketing officer for Specialty Brands, held various management positions at PepsiCo, Inc.'s Frito-Lay North America division, and was a management consultant with A.T. Kearney.

"After a comprehensive search, we are excited to appoint Steve as the next CEO of Hanes," said Ronald L. Nelson, the company's chairman of the board. "Steve is an experienced global leader, has a strong vision for the future of consumer products businesses, and has an extensive track record of success in senior management roles across a number of critical business disciplines. We are confident that Steve is the ideal CEO to lead Hanes forward as we focus on our strong portfolio of consumer brands across the globe, rapid online growth, and strong cash flow model. We look forward to an exciting new chapter for Hanes under Steve's leadership and oversight."

Bratspies, who will relocate to Winston-Salem, noted: "I am thrilled to be joining the HanesBrands team, the clear

global leader in everyday apparel basics with great iconic brands like Hanes and Champion. It is an honor to assume the role of CEO and join this highly respected global team of 63,000 strong. I have great respect for all that Hanes has accomplished throughout its rich history, including developing power brands, driving category-leading product innovation, and building deep consumer relationships."

## Policy Hub presents green recovery plan

**Amsterdam - Key apparel organisations have come together to present proposals for a post-pandemic green recovery plan for the industry which they are to submit to the European Union, writes Simon Glover.**

The Policy Hub, a joint project from the Sustainable Apparel Coalition (SAC), the Federation of the European Sporting Goods Industry (FESI) and Global Fashion Agenda (GFA), published their proposals in a report that outlines the seven key principles they say are necessary for the plan to succeed.

Entitled 'Proposal for an EU Green Recovery Plan in the Textile, Apparel and Footwear Industry', the report was developed in collaboration with the Boston Consulting Group (BCG) and argues for recovery investment to be tied to the development of a circular economy.

It is based on inputs and discussions with more than 300 brands, retailers, manufacturers and other stakeholders after the Policy Hub appealed for contributions in a survey via Ecotextile News.

The resulting report is being presented to the EU with the recommendation that officials and member states take it on board as they move toward implementing the recently issued EU Green Economic Recovery Plan.

The seven key principles which the Policy Hub says should serve as a roadmap to ensure economic recovery begin with three short-term measures to be implemented over the next 12 months:

- Leveraging short-term government support to drive green engagement and commitments through conditional loans
- Providing tailored support for companies linked to the circular economy, especially for SMEs, through increased EU funding to support reskilling
- Encouraging a shift in demand towards greener choices and circularity through incentives such as VAT reduction for circular business models

These are followed by another four medium to long term measures to be introduced within the next five years:

- Supporting innovative low-carbon activities to accelerate the renewable energy market in Europe
- Accelerating circularity by helping to scale up technologies and to establish infrastructure for collection, sorting, reuse and high-value recycling
- Fostering circular design and a more sustainable material mix
- Incentivising increased transparency to accelerate the transition towards circularity, empowering the consumer

Baptiste Carriere-Pradal, chair of the Policy Hub, said: "The COVID-19 pandemic has shaken the global economy. The apparel, textile and footwear industry is no exception."



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**All dates listed below were correct at the time of writing. As a result of the coronavirus pandemic, all dates are subject to change at short notice. Please check with individual organisers for confirmation.**

### July 2020

#### Pitti Immagine Filati 87

Online only

Web: <https://www.pittimmagine.com/en/corporate/fairs/filati.html>

### September 2020

1-3

#### Munich Fabric Start

Messe München-Riem  
Germany

Web: <https://www.munichfabricstart.com/welcome.html>

5-7

#### Interfilie Paris

Paris Expo  
Porte de Versailles

Web: [www.interfilie.com](http://www.interfilie.com)

6-8

#### Moda UK

Fashion Trade Exhibition  
Birmingham, UK  
Web: [www.moda-uk.co.uk](http://www.moda-uk.co.uk)

15-17

#### Premiere Vision

Paris Nord Villepinte, France  
Web: <https://www.premierevision.com/en/>

21-23

#### Interfilie New York

Javits Centre  
New York City  
Web: <https://interfilienewyork.com>

23-25

#### Intertextile Shanghai Apparel Fabrics

Shanghai, China

Web: <https://intertextile-shanghai-apparel-fabricsautumn.hk.messefrankfurt.com/shanghai/en.html>

23-25

#### Yarn Expo Autumn

Shanghai, China

Web: <https://yarn-expoautumn.hk.messefrankfurt.com/shanghai/en.html>

### October 2020

1-3

#### Techtextil North America

Raleigh  
North Carolina  
Web: [www.techtextilna.com](http://www.techtextilna.com)

28-29

#### Performance Days

Munich, Germany  
Web: <https://www.performancedays.com>

### January 2021

27-29

#### Pitti Filati

Florence, Italy  
Web: <https://www.pittimmagine.com/en/corporate/fairs/filati.html>

### February 2021

1-4

#### Texworld

Le Bourget, Paris  
Web: <https://texworldparis.fr.messefrankfurt.com/paris/en.html>

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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