

- ITMA ASIA + CITME 2020 Preview
- Southeast Asian Textile & Apparel Industries

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2021-II Issue No. 733

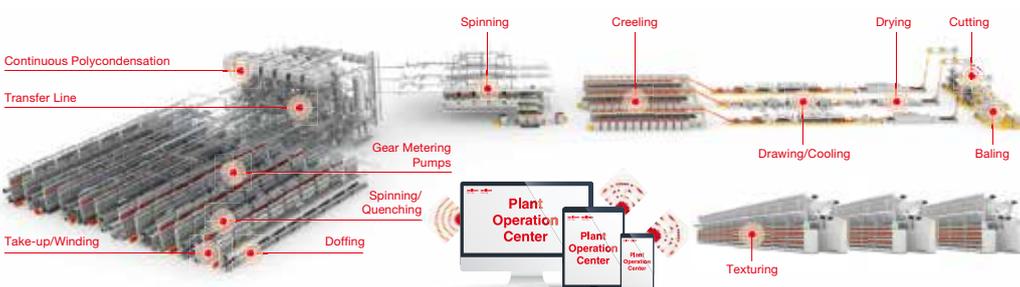


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2021-II (No. 733)

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Publication:

Middle of July 2021

Publisher

DAISEN Ltd.
Kaname Takahashi, President

Publishing Office

3-4-9, Bingomachi, Chuo-ku, Osaka
541-0051, Japan

Phone: +81-6-6201-5012

Fax: +81-6-6226-0106

Email: jtn@sen-i-news.co.jp

Website: www.asiantex.net

Subscription Rates for Asian Textile Business (atb)

(Ab. 6 issues per year)

	By Airmail	Inside Japan
1 Year	US\$70.00	6,600 yen
2 Years	US\$130.00	12,320 yen
3 Years	US\$180.00	17,160 yen

* Rates include mailing charges.

* Yen rates include consumption taxes.

* For receiving atb, please contact us or your local subscription agency.

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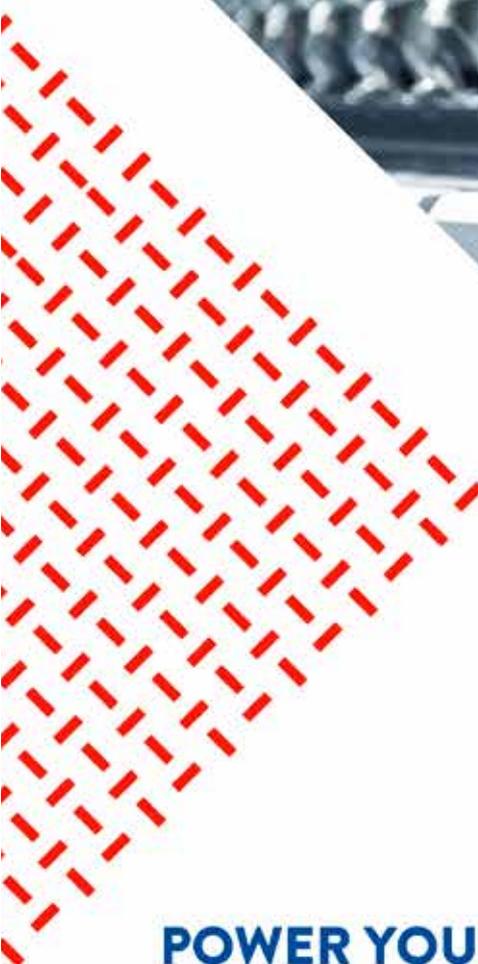
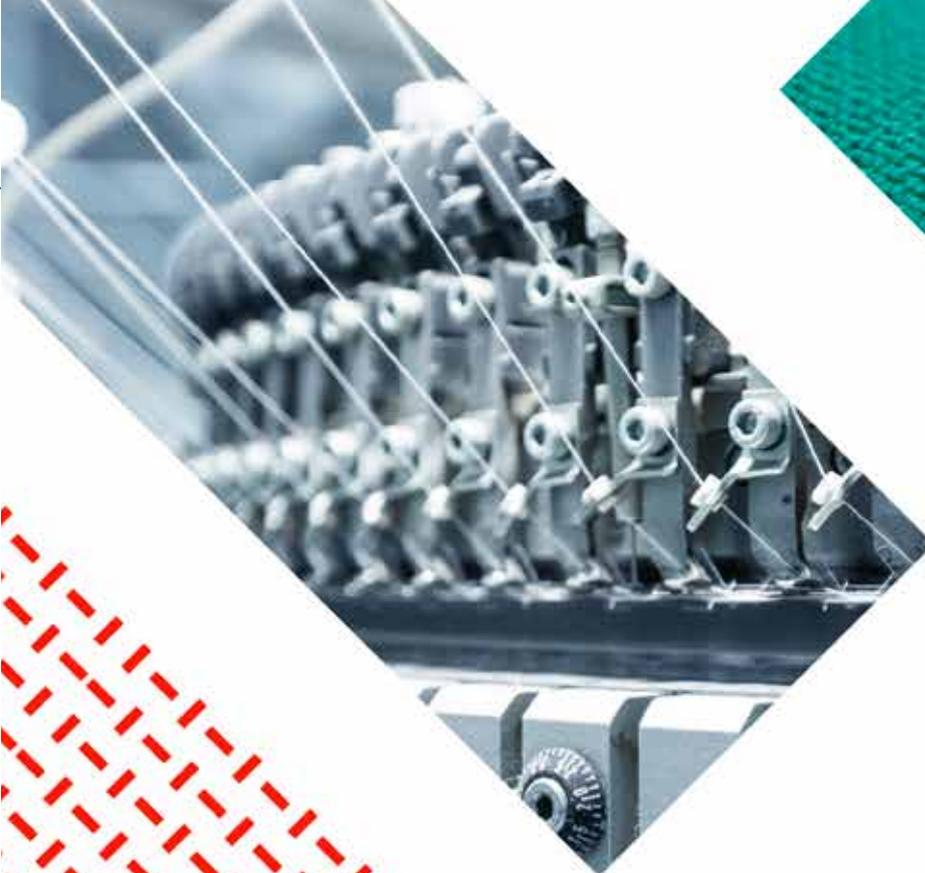
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Oerlikon Manmade Fibers Solutions

Safe and sound – data security in smart factories

Digitalization has a very good chance of becoming one of the words of the year. Digital solutions are enjoying a boom – particularly in the age of mobile working, travel restrictions and limited personal contact. Here, we all transmit a considerable amount of data through the web that we need to know is absolutely secure. When it comes to digitalization, Oerlikon Manmade Fibers Solutions pays particular attention to one thing – data security in smart factories.



Jochen Adler,
CTO
Oerlikon Manmade Fibers Solutions

The IT experts within the Oerlikon Manmade Fibers Solutions business unit are also busy ensuring the data of its customers are secure. Digital solutions such as Remote Service, AIM4DTY, Smart Maintenance Workshops, Plant Operation Center and the fully networked 'smart' factory necessitate a secure infrastructure.

How this can be achieved is explained by Sebastian Helmer, responsible for Information Security at Oerlikon Manmade Fibers Solutions: "'Secure by Design' is currently standard practice for establishing the necessary IT security in the product from the outset. With our textile market expertise, intensive interaction with customers and our company-internal international experience, we have developed a picture of our customers' requirements, which we are constantly expanding. We also deploy common standards in the development of solutions – including ISO27001 and IEC62443, among others. Building on this, we develop our own smart factory security solutions, all the way through to customized solutions. We test new solutions by means of so-called pen tests – here, tests are carried out to hack the system in order to close potential security gaps in a targeted manner – in order to further improve them and check our environments with security architecture reviews."

To the smart factory

Ceasing to be a mere vision long ago: the smart factory. Of critical importance here is the close relationship between IT and innovation. "With the smart factory concept, we have developed from an operator into a consultant. On the one hand, IT enables innovation. At the same time, innovation is, however, also taking place in IT – culminating in new-generation digital products. Hence, both cross-fertilize each other", explains Chief Technology Officer at Oerlikon Manmade Fibers Solutions Jochen Adler, talking about the interaction between the two disciplines.

Operating a yarn manufacturing system requires various components and solutions: everything is present – from the control level, the Human Machine Interface (HMI), the automation systems, the Plant Operation Center all the way through to cloud solutions. All this requires smart infrastructure, which – in addition to a reliable network – includes a high-performance edge computing solution that, coupled with a modern software platform (CSP) and a correspondingly high security level, safe-guards the security and the quality of the end product. By nature, data security is also decisive for all downstream processes within the textile value chain that build on the collated data or for merchandise management systems that are directly connected to the smart factory.

Secure data exchange

Services such as Remote Support and tools including the AIM4DTY training center necessitate data exchange. "Here, we draw on high standards for the purpose of encryption, customer separation and also minimizing data", states Sebastian Helmer. "We basically distinguish between three categories of threat scenario: firstly, we have the unconscious actions of employees who

unintentionally load malware onto a system without realizing this themselves. Then there are the attacks that



Sebastian Helmer,
Teamlead Infrastructure Services and Information
Security Officer Business Processes & IT
at Oerlikon Manmade Fibers Solutions

have no concrete objective; here, perpetrators attempt to attack a company by means of SPAM or phishing. And, finally, there are attacks that focus concretely on a specific company. Here, perpetrators try to plant malware using targeted methods. This can extend all the way through to social engineering in order to exert influence over the relevant persons."

The Oerlikon Manmade Fibers Solutions business unit is superbly equipped for the task with its smart factory solutions: "We have been supplying our customers with secure, certified hardware for decades now. And we also apply these standards to our software solutions: our digital products work with a safety net and a false bottom – hence ensuring secure and reliable operation at the customer site", promises Jochen Adler.

About Oerlikon

Oerlikon (SIX: OERL) is a global innovation powerhouse for surface engineering, polymer processing and additive manufacturing. The Group's solutions and comprehensive services, together with its advanced materials, improve and maximize performance, function, design and sustainability of its customer's products and manufacturing processes in key industries. Pioneering technology for decades, everything Oerlikon invents and does is guided by its passion to support customer's goals and foster a sustainable world. Headquartered in Pfäffikon, Switzerland, the Group operates its business in two Divisions – Surface Solutions and Manmade Fibers. It has a global footprint of more than 10 600 employees at 179 locations in 37 countries and generated sales of CHF 2.3 billion in 2020.

About Oerlikon Polymer Processing Solutions Division

With its Oerlikon Barmag, Oerlikon Neumag and Oerlikon Nonwoven brands, the Oerlikon Polymer Processing Solutions Division is focusing on manmade fibers plant engineering and flow control equipment solutions. Oerlikon is one of the leading providers of manmade fiber filament spinning systems, texturing machines, BCF systems, staple fiber systems and solutions

for the production of nonwovens and – as a service provider – offers engineering solutions for the entire textile value added chain. Furthermore, Oerlikon has a high precision flow control components business that currently offers a large selection of gear metering pumps for the textile and other industries, including the automotive, chemical and paint markets.

As a future-oriented company, the research and development at this division of the Oerlikon Group is driven by energy-efficiency and sustainable technologies (e-save). With its range of polycondensation and extrusion systems and their key components, the company caters to the entire manufacturing process – from the monomer all the way through to the textured yarn and other innovative polymer processed materials and applications. The product portfolio is rounded off with automation and Industrie 4.0 solutions.

The primary markets for the product portfolio of Oerlikon Barmag are in Asia, especially in China, India and Turkey, and – for those of Oerlikon Neumag and Oerlikon Nonwoven – in the USA, Asia, Turkey and Europe. Worldwide, the division – with more than 3,500 employees – has a presence in 120 countries with production, sales and distribution and service organizations. At the R&D centers in Remscheid, Neumünster (Germany) and Suzhou (China), highly qualified engineers, technologists and technicians develop innovative and technologically leading products for tomorrow's world.

ITMA ASIA+CITME 2020 Preview

Targeting the Chinese market with quick recovery trend amid the pandemic

ITMA ASIA+CITME 2020, the largest textile machinery exhibition in Asia, will be held from June 12th to 16th at the National Convention & Exhibition Center (NECC) in Shanghai, China. More than 1,600 companies from 25 countries and regions around the world will exhibit, targeting the Chinese market, which has quickly entered a recovery trend amid the global coronavirus pandemic. Approximately twenty Japanese companies including local affiliates will participate in this exhibition, and will present textile machinery and related parts unique to Japanese companies.

Recent circumstance of Japan's textile machinery production - an overview

- **2020 Production Falls 19.0% to About 140.7 Billion Yen**
- **Production Increases Only for Man-made Fiber Equipment, a Sharp Increase of 23%**

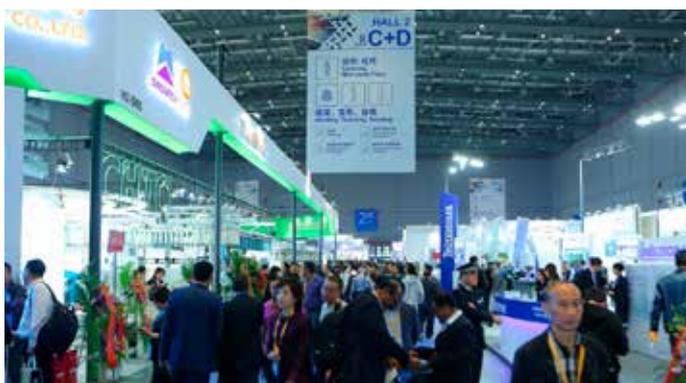
Japan's textile machinery production was affected by the stagnation of economic activities caused by the spread of the coronavirus. According to statistics as compiled by the Japan Textile Machinery Association (JTMA), the nation's production of textile machinery in 2020 dropped 19.0% from the previous year to 140,686 million yen. The production of manmade fiber equipment exceeded the previous year's level, while those of spinning machinery, weaving preparation machines, looms, knitting machines and dyeing and finishing machines fell below the previous year's levels.

Manmade fiber equipment was the only category posting an increase over the previous year, up 23.1% to 50,441 million yen. It was the fourth consecutive year that manmade fiber equipment production achieved double-digit growth. This is probably because major Chinese synthetic fiber producers continue to expand their capaci-

ties. Meanwhile, the production of spinning machinery fell 23.2% to 15,132 million yen, along with weaving preparation machinery by 36.8% to 17,849 million yen. Loom production marked the largest decline of 42.2% to 25,939 million yen. Knitting machine production decreased by 19.2% to 24,252 million yen, and the total of dyeing and finishing machines and other textile machines declined by 27.9% to 7,073 million yen.

- **Textile Machinery Exports Fall 19.1%**
- **Exports Increase Only to Turkey, a Sharp Growth of 39.2%**

2020 textile machinery exports fell 19.1% to 179,462 million yen. Exports decreased to all markets except for Turkey,



ITMA ASIA + CITME 2018

Japanese Exhibitors for ITMA ASIA + CITME 2021

Company Name	Booth No.
HOKUETSU DENKEN CORPORATION	H3-A07
TOYOTA INDUSTRIES CORPORATION	H3-B02
TAKAYAMA REED CO.,LTD.	H3-B05
TSUDAKOMA CORP.	H3-C32
SHIMA SEIKI MFG., LTD.	H4-D05
SUGIURA KNITTING NEEDLE MFG. CO., LTD	H4-D17
FUKUHARA INDUSTRIAL & TRADING CO., LTD.	H4-D26
ORGAN NEEDLE CO., LTD.	H4-D34
KYOTO MACHINERY CO., LTD.	H5-C27
MIMAKI ENGINEERING CO.,LTD.	H5-D29
YAMAUCHI CORP.	H5-D42
SEIREN ELECTRONICS CO.,LTD.	H5-D47
ATB/DAISEN LTD.	H6-A06
NIPPON NOZZLE.,LTD.	H7-A53
NINGBO YUASA-YARNGUIDE TEXTILE CHEMICAL FIBER TECHNOLOGY CO.,LTD.	H7-B03
KASEN NOZZLE MFG.CO.LTD	H7-C41
MURATA MACHINERY, LTD.	H7-E01
TMT MACHINERY, INC.	H7-E02
YAMAUCHI CORP.	H8-A34

the fourth largest market for Japanese textile machinery. Exports to Turkey climbed 39.2% to 7,742 million yen. The increases in spinning machinery (up 23.6%), weaving preparation machinery (up 77.3%) and knitting machines (up 67.2%) contributed to exports to Turkey.

Exports to China, the largest market accounting for more than half of total exports, decreased by 15.7% to 97,452 million yen. Exports decreased for all categories, except for spinning machinery, which rose by 3.9% to 11,141 million yen, and other textile machines, which doubled to 2,551 million yen.

Exports to India, the second largest market, dropped 37.0% to 11,032 million yen. Exports increased for spinning machinery (up 5.4% to 1,591 million yen) and dyeing and



ITMA ASIA + CITME is the largest textile machinery exhibition in Asia

finishing machines (up 12.8% to 150 million yen), but drastically declined for weaving preparation machines, looms and knitting machines.

Exports to Vietnam, the third largest market, fell 25.0% to 10,347 million yen. Exports of spinning machinery climbed 2.7 times to 881 million yen, along with looms by 23.0% to 1,246 million yen, but dropped to almost half in other categories.

Meanwhile, Japanese imports of textile machinery plunged 17.8% to 29,476 million yen.



More than 1600 companies will exhibit

Listed Japanese Textile Machinery Manufacturers

● Sluggish Business in FY2020 with Many Posting Operating Losses

The business performances of Japanese textile machinery manufacturers are sluggish. Several listed manufacturers reported operating losses due to the globally spreading coronavirus. Two leading Japanese loom makers, Toyota Industries Corp. and Tsudakoma Corp., also reported sluggish business performances.

According to the consolidated financial results of Toyota Industries' textile machinery business for the fiscal year ending this March, sales dropped 33.8% from the previous fiscal year to 40,850 million yen. Operating losses amounted to 1,125 million yen, as compared with operating profits of 2,942 million yen in the previous fiscal year.

Tsudakoma's consolidated financial results for the fiscal year ending in November 2020 showed that its textile machinery business had sales of 15,554 million yen, down 47.5%. Operating losses totaled 2,856 million yen, as com-

pared with operating profits of 358 million yen in the previous fiscal year.

In addition to loom makers, flat knitting machine manufacturer Shima Seiki Mfg., Ltd. reported consolidated sales of 24,489 million yen for the fiscal year ending in March 2021, down 26.3% from the previous fiscal year. Operating losses increased to 9,143 million yen from 5,602 million yen in the previous fiscal year. Sales of the mainstay computerized flat knitting machines fell 32.0%, and design system-related sales also dropped 30.5%.

Mimaki Engineering Co., Ltd., a manufacturer of inkjet printing machines, reported consolidated sales of 48,722 million yen for the fiscal year ending this March, a decrease of 12.3%, and operating losses of 509 million yen, as compared with operating profits of 1,353 million yen in the previous fiscal year. Sales toward the textile and apparel markets dropped 24.9% to 4,427 million yen. Demand in these two markets shrank with the effects from the refrainment of global economic activities and restrictions to stay home. The low operation rates of its customers decreased sales of both printers and inks, resulting in the drastic decrease in sales.

On-line Exhibition by Murata Machinery Ltd.

The ITMA Asia will be held from this June 12, 2021. At the same period, Murata Machinery Ltd. (MURATEC) will prepare the on-line booth at the same time. Please visit our site to see the couples of presentation by Automatic winder, VORTEX, "MSS", Muratec Support System and Parts sales.

Since the last quarter of 2020, the business circumstances have been changed drastically for us. We believe you can find its reason in the presentations.

Especially VORTEX spinning machine business keep creating its records. We suppose, VORTEX matches new demand in the current situation. One is process saving. More E-commerce leads to more variation, and the demand for anything sustainable brings the differentiation in materials. By these factors, the production lot in spinning mills shall be smaller. In such case, how quick, is the key. VORTEX offers, easy setting and change in spinning condition, widest range of yarn count range in one machine and highest speed in spinning machines. For small and many lots production, VORTEX shall be most suitable. Secondly, less operator is required. In the current circumstance, it is not easy to collect many operators in the mill as before. As third point, VORTEX has unique advantages to promote sustainability, by characteristic of VORTEX yarn brought by

its unique spinning system. Not only as spinning machine, but in the process of the textile industry or product itself, VORTEX has many chances to be promoted as sustainable.

MSS, Muratec Smart Support, became important in the current situation. Already more than 500 factories using Auto winders or VORTEX are connected to our host computer, and we can check the operation without visit. Now it is difficult to send the engineers to the customer as before, but by sharing the data with the customer, we can make couple of advices based on the data.

Automatic winder, in this field, we are proud of keeping top in the market. Now, under the current situation, the most important factor shall be how stable to be operated and how easy to be maintained. Our QPRO EX model has been recognized and evaluated in these points, keeping the high productivity.

We are looking forward to your visit to our on-line exhibition to confirm the above.

The composite image includes the following elements:

- Banner:** Features the Muratec logo, the slogan "Link to the Future", and event details: "National Exhibition & Convention Center (Shanghai) Hall : H7 Booth : E01". It also includes navigation links like "TOP", "BOOTH", "CONTACT", "REGQUIRE", "LOGIN", "REGISTER" and social media icons.
- 3D Rendering:** Shows a virtual view of the booth layout with "VIEW" and "CONTACT" callouts. A specific area is labeled "PROCESS CONER FPRO EX".
- Photographs:** Three images of industrial machinery:
 - Top right: "Automatic Winder PROCESS CONER QPRO EX".
 - Middle right: "VORTEX 870 EX".
 - Bottom right: "Automatic Winder PROCESS CONER FPRO EX".
- QR Code:** Located at the bottom center, with the text "Muratec ONLINE BOOTH" and the URL "https://muratec.online/itmaasia/".

TMT Machinery

● A High-Speed False Twisting Machine for High-Denier Yarns on Exhibit for the First Time

TMT Machinery, Inc., a manufacturer of synthetic fiber machinery, will exhibit and demonstrate the newly developed high-speed false twisting machine, ATF-1500N/V-SZ for producing high-denier yarns at ITMA ASIA+CITME.

The ATF-1500N/V-SZ is designed for producing high-denier yarns of 1,333 dtex by twisting 667 dtex in SZ directions. The company's high-speed false twisting machines are principally a friction type mainly for processing fine-denier yarns, but the ATF-1500N/V-SZ was developed as a new high-speed nip-type single-spindle-drive false twisting machine model intended for industrial textile applications where needs are growing.

In addition to producing pile carpet yarns from polyester filaments, the ATF-1500N/V-SZ targets the industrial textile sector, which continues to be strengthened in China. The single spindle drive system saves energy, and the winding amount is a large 10 kg, as compared with the mainstay 5-5.5 kg for false twisting machines for apparel applications.



VORTEX870EX



Muratec Smart Support



For Heavy Denier DTY
ATF-1500N/V-SZ



ATF-1500N/V-SZ

various automation systems. This is because labor shortages that have become apparent among major Chinese synthetic fiber producers have increased the need for automation. At the exhibition, various automation systems such as automatic supply of POY (Partially Oriented Yarn) from the warehouse to false twisting machines and robotization of creel threading will be introduced using show panels and videos.

TMT Machinery is a leading manufacturer and seller of synthetic fiber spinning and winding systems, high-speed take-up winders, false twisting machines, etc., and the Mainland Chinese market is extremely important, with exports to China accounting for 80-90%. For this reason, the company plans to set up a system with several Japanese sales staffers being dispatched to Shanghai for attending visitors to its booth at ITMA ASIA+CITME (planned), as well as establishing a remote connection with the headquarters in Japan.

Major Chinese synthetic fiber producers continue to undertake large-scale capacity expansions without being affected by the worldwide spread of COVID-19. As a result, the company's sales of synthetic fiber machinery, including the next-generation Eco-ORCA POY take-up winder, have been strong, and its production space is filled until 2023.

In addition to expanding the scales of polyester filaments and spandex for apparel applications, major Chinese synthetic fiber producers are increasing their equipment for high-denier polyester filaments for industrial textile fields one after another. Although they are no match to the capacity expansions for polyester filaments for apparel applications, the capacity expansions for industrial polyester filaments are expected to be about 400,000 ton/year over the next five years.

In this respect, the ATF-1500N/V-SZ will also be proposed as a model that matches the current trends in China and contributes to the development of new fields for major Chinese synthetic fiber producers.

Kasen Nozzle

● Presenting Spinnerets and Die Components for Continuously Favorable Meltblown Fabrics

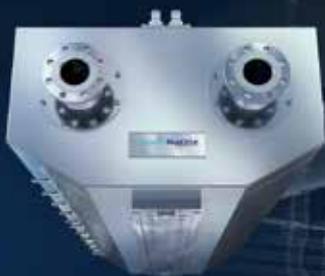
Kasen Nozzle Mfg. Co. Ltd., a major manufacturer of spinnerets, will introduce spinnerets along with spinnerets and die components for producing meltblown fabrics with show panels, etc. at ITMA ASIA+CITME.

The company increased its sales and profits in FY2020

KASEN MELTBLOWN SYSTEM

NOZZLE & DIE COMPONENTS

Kasen Nozzle
DESIGN OF MICRON



Kasen has been supplying high precision meltblown dies that is a key component for nonwoven production to all over the world.

Kasen Nozzle Mfg.Co.Ltd.

6-3-17 Nishitenma, Kita-ku,
Osaka Japan 5300047

www.kasen.co.jp



Spinnerets for synthetic fibers, spinnerets and die components for meltblown fabrics

(ending in March 2021) by about 10% over the previous fiscal year. The impact of the coronavirus caused a fall in spinnerets used for producing synthetic fibers, while spinnerets and die components for making meltblown fabrics grew.

The spinnerets and die components used for meltblown fabrics greatly affect the quality of the fabric. The company's spinnerets and die components for meltblowns are recognized worldwide for their high quality.

As a result of growing demand for nonwoven masks, orders for meltblown fabric spinnerets and die components rapidly increased after the 2020 Chinese New Year, and the

orders were reflected in its sales figures from the second half of the year. The spinnerets and die components for spunbonded fabrics were also strong, so the decrease in synthetic fiber spinnerets was able to be covered by spinnerets and die components for nonwovens.

In the fiscal year ending in March 2022, Kasen Nozzle expects its sales and profits to increase, continuously driven by spinnerets and die components for producing meltblown and spunbonded fabrics. Orders for spinnerets and die components for meltblown fabrics have returned to normal, but the delivery time is 10 months to 1 year ahead. In response to growing demand, the Higashiebara Factory, which manufactures spinnerets and die components for meltblown fabrics, increased processing equipment such as drilling and grinding machines in the spring of 2020, but it is still unable to catch up with the order situation.

As for meltblown fabrics, demand for nonwoven masks has settled down, while that for filters has been increasing. Along with this, demand is growing for wider-width spinnerets and dies for meltblown fabrics, such as 2.4- or 3.2-meter width instead of the 1.6-meter width that is often used for nonwoven masks.

JTETC

Japan Textile Evaluation Technology Council

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Antimicrobial Finished Product (General Applications)



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Furthermore, as countries around the world are preparing for a pandemic, inquiries are being received from countries with which the company has had no transactions, such as countries in Eastern Europe and North Africa.

Spinnerets for synthetic fibers are also showing signs of a recovery; for instance, inquiries have been received from Vietnam and India. The company has hardly exported to India, but it is considered that Indian synthetic fiber producers that have been using Chinese-made spinnerets are moving to replace them with Japanese spinnerets.

In regard to the expansion of new businesses, which was mentioned as a medium-term challenge, Kasen Nozzle decided to install a metal 3D printer in the spinneret building at the Higashiebara Factory. The installation of the printer is scheduled to be completed around the end of June, and it is planned to create new businesses by combining the precision processing technology cultivated in spinnerets with the 3D printer.

Fukuhara

● M2XC-A3-2RE Achieves a High Productivity of 1350SF

Fukuhara Industrial & Trading Co., Ltd. will exhibit a double-side needle-selection electronic jacquard circular knitting machine for producing mattress fabrics and the M2XC-A3-2RE high-speed single-knit raceway machine that achieves stable high-speed production at ITMA ASIA+CITME.

The circular knitting machine for mattress fabrics can produce high-gauge fabrics that have an appearance similar to woven fabrics. A tendency in recent years has been to have a jacquard pattern not only on the front side but also on the back side to provide a sense of luxury. Amid such a tendency, sales of electronic jacquard machines with double-side needle selection have been increasing. Electronic jacquard machines for mattress fabrics tend to have more feeds for increasing productivity. Mattress fabrics are largely knitted on 38-inch machines, but in recent years, orders have been rising for circular knitting machines of which the feeds have been increased to 108 from the usual 84. Circular knitting machines for mattresses are exported mainly to Europe, and exports to China have also been growing in recent years.

In regard to the production of commodity circular knitted fabrics, Fukuhara will introduce the M2XC-A3-2RE single jersey machine that achieves high productivity with high rotation speeds. This model was developed with an emphasis placed on the stability of high-speed production, and it achieves a stable output of 1350SF (diameter × rotation



M2XC-A3-2RE that realized high-speed production

speed). Energy saving is also achieved by ingeniously reducing frictional heat. The M2XC-A3-2RE has already been sold to China, and is also attracting attention in countries such as Pakistan, Bangladesh and India.

Fukuhara sells the greatest number of its circular knitting machines to China, which accounts for about 40% of the total. Orders are currently vigorous. The coronavirus had an impact on business for a while, but sales recovered from July-September 2020. From the beginning of 2021, the company's production volume came to exceed the level before the pandemic, and the factory currently continues to operate at full capacity.

Following the quick recovery of exports to China, large orders came in from Turkey and other countries. Especially in the case of Turkey, circular knitting machines for bed mattresses increased, and then machines for knitting apparel fabrics also started to move.

Nippon Nozzle

● Appealing Equipment That Can Produce Meltblown Fabrics from a Variety of Raw Materials

At ITMA ASIA+CITME, Nippon Nozzle Co., Ltd., a major manufacturer of spinnerets, will present mainly wet spinnerets, spinnerets for spunlaced fabrics and related parts, spinnerets and die components for meltblown fabrics and meltblown fabric manufacturing equipment. Meltblown fabric samples will also be on exhibit, and the company will appeal that its meltblown fabric manufacturing equipment can produce not only from polypropylene but also from biodegradable polymers. Through its exhibition at ITMA ASIA+CITME, it intends to gain initiatives other than in the

sector of textiles.

Nippon Nozzle was founded in 1928 as Japan's first spinneret manufacturer. In spinnerets for producing manmade fibers, the company specializes in wet spinnerets for rayon, cupra, acrylic, vinylon, etc.

Nippon Nozzle currently manufactures and sells spinnerets and die components for producing nonwoven fabrics, as well as meltblown fabric manufacturing equipment. In addition to proposals from designs for solving the problems of users, the company provides detailed support to customers who have purchased various parts such as spinnerets and manufacturing equipment.

With the globally spreading coronavirus, the installation of equipment for producing meltblown fabrics, which are indispensable for nonwoven masks, has been increasing one after another. In response to growing demand, the company increased its capacity for producing spinnerets and die components for meltblown fabrics, including outsourcing.

Its meltblown fabric manufacturing equipment is not just only for producing nonwoven fabrics, but can be equipped with electret processing, fabric inspection and slitting units, etc. Furthermore, the equipment can be specially designed according to customer needs. In addition to mainstay polypropylene, various raw materials such as biodegradable polymers can be used for producing masks. At ITMA ASIA+CITME, Nippon Nozzle will exhibit samples of meltblown fabrics made from various raw materials.



The company's products are globally evaluated as "YUASA STANDARD"



Spinnerets for meltblown fabric in operation

Ningbo Yuasa-Yarn Guide

● Many New Products Developed in the Last Two Years Will Be Presented

Yuasa Yarn Guide Engineering Co., Ltd., a major manufacturer of yarn guides, will participate in ITMA ASIA+CITME represented by group company Ningbo Yuasa-Yarn Guide Textile Chemical Fiber Technology Co., Ltd. Staffers of the

general agency in China will attend the booth, and many new products (items not listed in the current catalogs) which were released in the last two years will be presented.

Yuasa yarn guides are highly appreciated around the world for their high quality, which is known as "Yuasa Standard". In China, textile machines from a number of countries including Japan, European nations and China are used. The company aims to increase its share in the market for high value-added yarn guides and equipment used in these textile machines. In particular, major synthetic fiber producers, which are its main customers in China, continue to expand their capacities. Since the value of orders will be great when officially made, how to secure orders is a challenge for expanding sales in China.

At ITMA ASIA+CITME, the company will present air-jet and oiling nozzles for spinning systems and various DTY machine parts. When POY or FDY equipment is purchased, it may come with air-jet nozzles made by other companies, such as interlacers or migration nozzles. By replacing them with Yuasa products, it will lead to an improvement of yarn quality and a reduction of energy costs.

Oiling nozzles for spinning systems have the role of adding oil to synthetic fibers. By using the company's products, it is possible to apply the oil efficiently and evenly, and it will present these nozzles in various shapes and materials according to the fineness and material of the yarn.

As for DTY machine parts, a new twist stop wheel, which is a main product, will be on exhibit, along with numerous DTY machine parts that have been put on sale during the last two years. The company can also manufacture new

products upon request.

Ningbo Yuasa intends to increase the number of products with the aim at expanding its market share in DTY machine parts, which are highly cost-competitive. Furthermore, Chinese customers are also increasing their demands for quality year by year. Seeing that high-quality yarn guides and equipment are indispensable for customers who aim to produce high-quality yarns, it will endeavor to connect them with new product developments while obtaining various information.

Matsubara Reed

● Uniform and Precision Reeds

The reeds produced by Matsubara Reed Ltd. are highly appreciated for their high uniformity and precision, thanks to its success based on many years of experience and original efforts in research and development. The company develops products in close collaboration with loom manufacturers. The materials used for its reeds are developed jointly with a special steel manufacturer. The use of these materials further improves the reed's performance and wear resistance. The cross section of the reed dents is polished with unique technology to achieve high uniformity.

Takayama Reed

● Excellent Quality with 100 Years of Tradition

Takayama Textile Machine Parts (Shandong) Co., Ltd. is a Chinese subsidiary of Takayama Reed Co., Ltd., which boasts a history of 100 years.



The booth of Takayama Reed in ITMA 2019.

The main products the company sells are various types of reeds, such as reeds for air-jet looms and e-Reed (energy-saving reeds), maintenance tools for looms, etc. In particular, Takayama Reed holds an overwhelming market share in the field of industrial textiles, such as glass fiber woven fabrics, automobile airbag cloths and automobile tire-cord fabrics. Placing an emphasis on manufacturing high-quality reed products and providing customer-satisfying services, the company has established an excellent brand image in the textile industry, earning the reputation of numerous local and foreign users.

Tsudakoma

● Appealing Equipment That Can Produce Meltblown Fabrics from a Variety of Raw Materials

Tsudakoma Corp. will reveal new loom models at ITMA ASIA+CITME using videos and show panels. A new next-generation air-jet loom achieving extremely high productivity and quality will be launched, along with a new water-jet loom that further increases the productivity and environmental performance of the ZW8100. Furthermore, the company will introduce the ZW508 water-jet loom, which is manufactured by Chinese subsidiary Tsudakoma (Changshu) Co., Ltd. and features both stable operation at high speeds and versatility.

According to Tsudakoma, Mainland China is both a consumption as well as a production area where diverse and high-level demands are created, and it analyzes that growth can be expected by responding to these demands. China is positioned as a market it should most focus on. Amid various changes including the U.S.-China trade conflict, stricter environmental regulations and the coronavirus, changes will occur in the variety of fabrics weavers produce, the destination the fabrics will head for, quality requirements, etc. The company intends to quickly grasp and respond to these changes and connect these to an expansion of sales.

Tsudakoma has been pursuing "Smart Ecology – Ecology and Economy in Harmony". The company will continue the development of new loom models with priority themes being productivity, energy and labor saving, high quality and a reduction of environmental burden.

Shima Seiki

● Three New Online Services Will Be Showcased

Shima Seiki Mfg., Ltd. has released three new online services over the past year which will be showcased at This Exhibition.

APEXFiz is the latest addition to Shima Seiki's proven SDS-ONE APEX series design system lineup. APEXFiz are now enhanced with the added versatility to adapt to different work styles and business environments including teleworking and telecommuting. APEXFiz is furthermore available in 5 different product variations that can be selected

according to the customer's needs, from APEXFiz Design Jr. to APEXFiz Design Pro.

APEXFiz is supported by two other web services to enhance its user experience. yarnbank is the world's first online web service for searching and viewing the latest yarns, developed in cooperation with yarn companies from around the world. Registered users can download yarn data for free, for use in fabric simulation and virtual sampling on APEXFiz, avoiding the need to scan yarn on their own. SHIMANAVI e-learning service allows APEXFiz users to experience online training when and where it is convenient, and at their own pace, supporting new work styles.

JTETC

● SEK Mark Becomes an Appealing Tool with COVID-19

The Japan Textile Evaluation Technology Council (JTETC) says that the SEK Mark that certifies the performance of functionality finishings and materials is gaining considerable attention. While functional fibers and fabrics, such as sanitary finishings, are in growing demand with the coronavirus, it is a great advantage for both textile manufacturers and consumers in that objective functional evaluations can be displayed.

JTETC's SEK Mark certification has significantly increased for antibacterial/deodorant and antimicrobial properties, etc., with the mark for antiviral finishing ranked at the top in 2020. The factor for the sharp increase is that demand for sanitary finishings has been growing significantly against the backdrop of the coronavirus. This has increased the number of applications for certifying items that have not obtained the SEK Mark up to now.

Another factor increasing the attention of the SEK Mark is the existence of legal risks when appealing the functionality of sanitary finishings to consumers. In Japan, it is not possible to describe the effects and efficacy of antiviral finishing and other sanitary finishings, with specific diseases and pathogens on the product's label, etc. due to regulations of the Pharmaceutical and Medical Device Act and the Act against Unjustifiable Premiums and Misleading Representations. As a means of overcoming this matter, an increasing number of companies are moving to use the SEK Mark as an appealing point to consumers.

JTETC is also working on using a higher degree of test

methods and evaluation standards. The test method for antiviral finishing is currently based on the International Standards (ISO) and Japanese Industrial Standards (JIS), and the tested virus types are influenza virus and feline calicivirus (as an alternative to norovirus). The Council will start research on test methods for COVID-19 from FY2021, and will also focus on spreading the SEK Mark outside Japan. Currently, the SEK Mark is registered as a trademark in China, Taiwan, Hong Kong, Indonesia, Singapore, Malaysia, Thailand, Vietnam, Turkey, India and Korea, making it possible to sell SEK Mark products with antibacterial/deodorant, antimicrobial (both general and specific applications), photocatalytic antibacterial, antifungal, antiviral, soil-resistant and deodorant finishings.

JTETC is also working on the creation of new marks. Recently, the UV Shielding SEK Mark was newly established. UV shielding finishing is in great need worldwide, but a problem was that there were no unified test methods and evaluation standards. Under these circumstances, JIS L 1925 issued in 2019 a unified evaluation method and standards of ultraviolet shielding rate along with the UPF (ultraviolet protection factor) conversion method in Japan. In response to this, a mark for UV shielding was newly established in 2020, and Nisshinbo Textile Inc. recently acquired the first certification.



The "UV Shielding SEK Mark" that was newly established

Southeast Asian Textile & Apparel Industries

What is the Next Strategy with Difficulties Caused by a Decrease in Orders and Soaring Expenses?

The real GDP growths of six major ASEAN countries (namely, Singapore, Malaysia, Thailand, the Philippines, Vietnam and Indonesia) in 2020 were affected by the spread of the coronavirus. Five of the countries (excluding Vietnam) posted negative growth. All six countries posted the smallest growth rates in the last 20 years. For Japanese-affiliated textile and apparel companies, ASEAN is basically a place for manufacturing. So, how will supply chains and logistics change and how will the course of change take place? Asian Textile Business (atb) reports on the strategies of Japanese-affiliated textile and apparel companies based in Thailand, Indonesia and Vietnam.

Vietnam

- Preparation Being Made for Post-Coronavirus Era
- Hopes Grow for RCEP to Come into Effect

Among the five ASEAN countries of Indonesia, Malaysia, Philippines, Thailand and Vietnam, Vietnam was the only country achieving real GDP growth of 2.9% in 2020. This might give the impression that the Vietnamese economy remained firm on both domestic and external demand even with the coronavirus. However, many Japanese-affiliated textile and apparel companies in Vietnam voiced that they suffered from a decrease in orders with the deterioration of the Japanese market.

Vietnam is expected to achieve high economic growth in 2021 as well. The driving force is exports. As U.S.-China trade conflict continues, the country's function as a production base replacing China is highly evaluated, and the conclusion of free trade agreements (FTAs) with not only Asia but also with the U.S., EU and many other regions is a tailwind for expanding trade. In January this year, coronavirus infections were seen in some areas, and a stay-at-home order was laid down in these areas. However, their impact on the economy has been limited, as the scale of infections and that of restrictions on activities and movements are currently small.

But when you take a look at the textile and apparel industries, most Japanese-affiliated companies focus mainly on OEM sewn products for the Japanese market, so the majority of people consider that severity will probably remain. Vietnam's apparel export value in 2020 registered the first year-on-year decrease (down 10.5%) in 25 years. According to trade sources, exports to the U.S. were strong with an increase in value, while exports to Japan were in a severe situation with the exception of exports to major apparel firms, so the outlook for spring/summer 2022 is uncertain.

In FY2020, many Japanese-affiliated textile and apparel companies posted sharp decreases in both sales and transaction volume. Mitsui Bussan I-Fashion Ltd. estimates a decrease in the fiscal year ending in March 2021 compared to the previous fiscal year, due to the large impact from the decrease in orders for heavy garments. According to Chori Vietnam Co., Ltd., the combined transaction volume of two bases is estimated to have decreased by 13% from the previous fiscal year. Sumitex Vietnam Limited Liability Company reports a decrease in sales due to a decline in orders for exports to Japan. Yagi Vietnam Company Limited suffered from the slumping Japanese market, and Teijin Frontier (Vietnam) Co., Ltd. struggled in terms of profits due to a



Vietnam is the only major ASEAN country to achieve real GDP growth in 2020

decrease in orders for exports to Japan in the fiscal second half. Toray International Vietnam Co., Ltd. reports gaining new overseas customers and new product developments were slow due to the spreading coronavirus, but its business results in the fiscal year ending in March 2021 were almost the same as the previous fiscal year.

In 2021, many companies are making preparations for the with-coronavirus and post-coronavirus era. Yagi Vietnam will start retail business in Vietnam. It will construct its own website in coordination with group companies, as well as embarking on B2C business. Sumitex Vietnam will promote localization with the appointment of national staffers to managerial positions, and the expansion of direct business transactions with Japanese companies and gaining new customers are set as future themes. Chori Vietnam is strong in synthetic fabrics for sportswear, and will explore possibilities in supplying to the domestic Vietnamese market and third countries. On top of that, it will focus on further strengthening the supply chain through collaboration with the head office and neighboring overseas bases, as well as expanding its yarn sales business including recycled polyester yarns.

Mitsui Bussan I-Fashion continues to position Vietnam as an important production base, and will increase undertakings with current customers, as well as considering the



A mutant of covid-19 has also been found in Vietnam, and some have said that the spread of infection in the future is "unpredictable."

development of exports to third countries. In casual wear applications, the QR system will be strengthened, along with the procurement of environment-friendly and high value-added products. Toray International Vietnam positions consistent proposals from fabrics to apparel manufacturing as a challenge and priority policy. To achieve this, it will increase moves to increase the variety of fabrics and small-lot products. In the field of industrial textiles, Teijin Frontier (Vietnam) will develop sales in the domestic Vietnamese market.

Thailand

- Making the Most of Geopolitical Advantages
- Industrial Textiles Recover Rapidly Mainly for Automotives

Among Southeast Asian countries, the impact of the coronavirus on their economies was particularly great for Thailand. Japanese-affiliated textile and apparel companies in Thailand also suffered great damage in 2020, mainly for apparel applications. Amid drastic changes in the business environment, there is an increasing need for each company to change its product mix and reform the flow of business. Nevertheless, Thailand has geopolitical advantages such as its superior location among Southeast Asian countries. Making the most of these advantages is likely to be the key to the post-coronavirus era.

According to the National Economic and Social Development Commission of Thailand (NESDC), the country's real GDP growth in 2020 was a minus 6.1%. This is the worst figure since the 1998 Asian currency crisis. While Thailand succeeded in curbing coronavirus-infected persons with strict restrictions on action and movements along with immigration restrictions on foreigners, this had a considerably adverse effect on the economy, and among six major ASE-

AN countries (namely, Thailand, Vietnam, Philippines, Singapore, Malaysia and Indonesia), the fall in real GDP growth was the greatest for Thailand.

Particularly, the impact was great on the tourism industry, which is the main sector of the economy, and this cooled down the domestic economy. The damages caused by the coronavirus have also been serious in other sectors with automobile production dropping 29% in 2020 from



Technology that achieves high value addition is important

the previous year to 1.43 million. The NESDC forecast for real GDP growth in 2021 is no more than between 2.5% and 3.5%. It will probably take some time for the economy to recover to the level before the coronavirus.

This economic situation has hit textile and apparel companies, including Japanese affiliates. In addition to the drop in domestic demand, orders for exports to Europe, the U.S. and Japan fell drastically with the great impact from the decline in apparel demand around the world caused by lockdowns, refraining from going out and working from home. Toray Textiles (Thailand) Public Company Limited (TTT) of the Toray Group reported a significant drop in orders for shirt fabrics and linings for export to Europe and the U.S. As changes in business

Thai Yamaki

- **Response to Harsh Market Conditions with More Than 30 Years of Accumulated Business Know-How**
- **Production of Items Other Than Shirts Also Being Started**



Yuetsu Kagaya
Managing Director, Thai Yamaki Co., Ltd.

This year, Thai Yamaki Co., Ltd., the Thai subsidiary of Yamaki Co., Ltd. manufacturing shirts and other garments, is responding to the harsh market environment caused by the worldwide spread of COVID-19, with the know-how it's accumulated in production, sales and management for over 30 years. Yuetsu Kagaya, Managing Director of Thai Yamaki, says with emphasis, "2021 will be a year in which the overall strength of our company will be questioned."

Founded on October 25, 1989, Thai Yamaki has been manufacturing and selling men's business shirts for over 30 years. In addition to production at the Thai factory, production in Bangladesh started in 2000, and the Laos factory was launched in 2006. During the first 10 years of business, exports were mainly to Japan, but after that, Europe and the U.S. became its main markets, and

currently exports to Australia and other ASEAN countries and sales to the local Thai market are the mainstays. The company supplies business shirts of the highest level in accordance with the market. Furthermore, worldwide needs are met with a production system and capacity that can supply all levels of products ranging from top of the line to standard products.

Nevertheless, Thai Yamaki is also encountering difficulties due to the globally spreading COVID-19. Managing Director Kagaya says, "The Japanese dress shirt market is in a difficult situation, so there are almost no orders from Japan. In particular, the items produced at the Thai factory are top of the line and highly priced. Therefore, it is important to develop domestic and overseas markets other than Japan."

At the same time, the shirt factories are shifting to a system that can produce items other than shirts. They are switching to producing various items in small lots, such as medical gowns, men's slacks and wear for nurses. These orders will be in small lots, and Thai Yamaki will prepare for a recovery of market conditions in 2022 with the accumulation of these orders. Kagaya positions 2021 as a year of patience, saying, "We are currently in a difficult situation, as if COVID-19 is sifting or screening us for survival." It should be noted that men's shirt manufacturers in Myanmar and Cambodia have already decreased in number.

wear are a structural factor, a complete recovery of demand will probably be difficult. Orders also decreased for both Thai Kurabo Co., Ltd. and Thai Textile Development and Finishing Co., Ltd. of the Kurabo Group.

Meanwhile, new demand is emerging. According to Thai Namsiri Intertex Co., Ltd. of the Teijin Group, sales of commodity products have declined, while orders for medical gowns and antiviral processed products have been increasing. Tokai Dyeing Co., (Thailand) Ltd. of the Tokai Senko Group also expanded sales for handicraft applications to Europe and the U.S., although domestic Thai demand has been devastated.

Industrial textile applications also show strength. Particularly, automotive-related products rapidly recovered from the latter half of 2020, and TTT's production of airbag base fabrics made a full recovery. Teijin FRA Tire Cord (Thailand) Co., Ltd. reports a recovery of orders. Teijin Corporation (Thailand) Limited also reports that aramid fibers have recovered for automotive applications. Polyester staple fibers have also made a steady recovery for automotive applications, and Teijin Polyester (Thailand) Limited reports that orders have returned to a level close to that before the coronavirus. Furthermore, nonwovens are also stable, and Asahi Kasei Spunbond (Thailand) Co., Ltd. enjoyed strong production and sales of polypropylene spunbonded fabrics.

Thailand has a geopolitical advantage. There are many apparel manufacturing bases in neighboring countries such as Vietnam, Cambodia and Laos. It is also possible to collaborate with Indonesia, which offers everything from raw materials to apparel making operations. It also serves as a window to South Asia including India.

Taking advantage of its location, becoming the core of production and sales of textile products in the Southeast Asian region is likely to be an important point of future business in Thailand.



Industrial textiles have been recovering since the latter half of 2020

Indonesia

● Japanese-Affiliated Textile & Apparel Firms Are Shifting to Non-General-Purpose and High Value-Added Products

In Indonesia, the spread of the coronavirus has had a serious impact on her economy. It is not uncommon for Japanese-affiliated textile and apparel companies to suffer sales decreases of 30-50% year-on-year due to worsening apparel sales in the Japanese market. Japanese-affiliated textile and apparel manufacturers have been in a difficult situation with price offensives by Chinese and local Indonesian companies, and the coronavirus has just made matters worse.

Indonesia's real economic growth rate in 2020 was a minus 2.1%, the worst since the Asian currency crisis in 1998. As of March 2021, the number of people infected with the coronavirus was between 5,000 and 7,000 per day, and restrictions on economic activities continue according to the infection situation in each respective state, city and prefecture. Japanese-affiliated textile and apparel manufacturers say that sales have declined at slighter rates for application in medical, sanitary and industrial materials, but those for

application in fashion wear have been extremely stagnant regardless of destination, as the coronavirus has worsened the conditions of global apparel markets. "There are many local Indonesian manufacturers that have reduced their business scale or withdrawn from business," says a Japanese-affiliated textile trading firm.

Japanese-affiliated textile and apparel manufacturers had been struggling even before the spread of the coronavirus. This is because cheap Chinese goods have been

flowing into the Asian market in the aftermath of U.S.-China trade conflict. Japanese-affiliated manufacturers who got involved in price competition in general-purpose yarns and fabrics, responded by reducing fixed costs, automation of production processes and greater value addition to their products. But the coronavirus came to diminish the consumption of apparel around the world.

Under such an environment, it was not uncommon for Japanese-affiliated manufacturers to suffer 30-50% decreases in production in 2020 compared to the previous year. For the many companies that export to the Japanese market, the decrease in apparel consumption as well as the changes in the lifestyles of Japanese consumers are reflected in their production. For instance, the production of woven business shirts has declined drastically, while the production of knitted business shirts has increased. Fabrics for casual wear have also decreased at small rates.

P.T. Toyobo Indonesia increased its sales volume of knitted business shirts compared to spring/summer 2019. P.T. Chori Indonesia says that the domestic home wear market has been booming since around July 2020. This is considered the result of widespread telework, staying more at home and more casual business wear.

The greater pressure on management from the coronavirus is accelerating moves toward non-general-purpose products. Last year, P.T. Unitex of the Unitika Group withdrew from the processing of yarn-dyed fabrics, and



The production of knitted shirts have increased with changes in consumer lifestyles

undertook structural reforms specializing in spinning. In the future, the company will focus on Palpa and other differentiated spun yarns.

Indonesia's strength is that more than 75% of its 260-million population are of working age (between 15 and 64 years old). The wages are also higher than Bangladesh, Myanmar, Laos, etc., but Indonesia still has competitiveness as the next base after Vietnam, given its political stability and gradually developing infrastructure. What is attracting attention as a new business opportunity is the operations in which Japanese- and foreign-affiliated specialty store retailers of private label apparel (SPAs) are undertaking consistent production from raw materials to spinning, weaving, and garment manufacturing in Indonesia. Some European and American apparel companies disliking the Xinjiang cotton problem in China are shifting their yarn and fabric production to Indonesia. In response to this move, Japanese-affiliated textile manufacturers are drawing up strategies to propose original and high value-added materials.



Sales of new cars in Indonesia decreased to half in 2020

Kaken Test Center

● Steady Implementation of Moves for Strengthening Operations in ASEAN and South Asia

Kaken Test Center General Incorporated Foundation (Kaken) will strengthen business operations in the ASEAN region and South Asia where its presence is growing as part of its Asian strategy. While maintaining and expanding its operations on Mainland China, the foundation will vigorously capture demand in the vigorous ASEAN region and South Asia to accelerate growth. Although the impact of the spreading coronavirus still remains, test requests are recovering, and moves for strengthening its operations will be implemented steadily hereafter.

The spread of the coronavirus had casted a shadow over Kaken's Asian strategy. Although some countries have succeeded in containing the coronavirus, it has spread throughout Asia, and countries such as Bangladesh and India have taken long-term urban blockades (lockdowns).

China showed a recovery as a production area from a relatively early stage, but the coronavirus continued to have negative impacts on other countries and regions, such as delays in logistics and the procurement of materials. Particularly great was that the staffers in charge of operations at apparel companies and trading firms could not travel to these production sites. For this reason, production was returned from ASEAN and South Asia to China for some of the products destined for the Japanese market.

In its three-year management plan that started in FY2020, Kaken set out to strengthen its operations in South Asia centering on Bangladesh and India. In South Asia, a base was set up in Dhaka, Bangladesh in 2014. Because test requests have been increasing, the number of expatriates was increased from one to two persons in 2020.

In India, an office was opened in Bangalore in January 2019. Two expatriates are assigned to receive tests and provide test consultations and technical advice. Plans to launch labs have been delayed with the coronavirus, but because Bangladesh and India are increasing their importance as production bases, Kaken is not wavering in proceeding with its strengthening moves.

● Kaken Increasing Presence in China by Strengthening Functions

In Greater China, Kaken has a number of bases, such as Kaken Hong Kong; Shanghai Kakon Inspection & Testing Service Co., Ltd.; Kaken Nantong Laboratory;



New Qingdao Laboratory

Kaken Qingdao Laboratory; Kaken Dalian Laboratory; Kaken Ningbo Laboratory; and Kaken Wuxi Laboratory. In 2020, operations were severely affected by the coronavirus during the first half, but activities have been gradually recovering since then. Many of the bases are actually showing a rapid recovery, gaining greater momentum than last year.

In the first half of 2020, the Kaken Qingdao Laboratory experienced a decrease in the number of test requests due to the coronavirus, but since last November, more



Wuxi laboratory

test requests have been coming than the previous year. Under such circumstances, the laboratory says that it has been busy as the requests require the results to be quick.

The Kaken Qingdao Laboratory recently moved to a new location, and started operations in the new laboratory from March 15th. Much of the work can now be carried out on one floor, and this also contributes to meeting customers' demands for quicker results. Shandong Province is a production center for innerwear and underwear, so the laboratory is working to increase machines for testing moisture absorption and quick drying property.

According to the Kaken Wuxi Laboratory, operations were sluggish between February and August 2020. However, its operations have been steadily recovering thereafter, and like the Kaken Qingdao Laboratory, test requests rose to a higher level than the previous year. The laboratory continues to perform well in 2021, but it is difficult to read ahead with the coronavirus.

In such a business environment, quick response is required. A forte of the Kaken Qingdao Laboratory is said to be its ability to make fine moves, and the laboratory will endeavor to further refine it. With a policy to strengthen tests other than for apparel, it intends to increase tests in 2021, such as tests for shoes.

● Strengthening Collaboration with ASEAN Business Partners

Kaken has several bases in the ASEAN region, such as P.T. Kaken Indonesia, Thailand Laboratory and Vietnam Laboratory. Kaken Indonesia is engaged in testing and inspection operations in Indonesia. In Thailand and Vietnam, collaboration with business partners is to be increased for capturing the demands of local companies and enhancing its functions.

The Thailand Laboratory is a base set up in partnership with Bureau Veritas. In 2020, the number of test requests dropped during the first half due to the coronavirus. As China recovered quickly, it is considered that production temporarily shifted to China, thus resulting in the drop in Thai test requests. However, a gradual recovery has been seen since around last November.

The Thai laboratory will continue endeavors to gain new customers, and will also focus on stimulating local companies. Local Thai companies are principally in circular knitting, and garment manufacturing operations are also



Colorfastness Laboratory in Thailand Laboratory

sound and solid. An increasing number of companies are strengthening exports to the Japanese market, and the laboratory can look forward to making contributions to these exports. Many test requests are also being received from Myanmar and Pakistan.

A laboratory was also established in Vietnam in collaboration with Bureau Veritas. In 2020, Vietnam showed moves slightly different from those seen in Thailand and China. During the first half of the year, the Vietnamese laboratory performed well as usual, but it lost momentum in August with the closure of land routes connecting Cambodia. However, its operations have been gradually recovering since December.

The Vietnam laboratory is characterized for supporting not only tests for textiles but also tests based on laws for food hygiene. The laboratory started testing plastic lunch boxes and toys about two years ago, and as these operations are beginning to progress smoothly, it plans to further increase these tests. Furthermore, tests on textile goods and apparel for sale to the domestic market will be strengthened.



Analysis room of Vietnam laboratory

A photograph of a traditional Japanese street scene at sunset. A person wearing a purple and pink kimono with a green obi is walking away from the camera down a narrow, cobblestone street. In the background, a large, multi-tiered pagoda is silhouetted against the bright orange and yellow sky. The street is lined with traditional buildings, and the overall atmosphere is peaceful and historical.

For safety and security of all people

We are professional testing company for textile.

Location of Laboratory:

Hong Kong, Shanghai, Qingdao, Dalian, Ningbo, Wuxi, Nantong,

Taipei, Jakarta, Ho Chi Minh, Bangkok, Dhaka, Seoul,

Japan (Kawaguchi, Horidome, Harajuku, Meguro, Nagoya, Ichinomiya,

Fukui, Kyoto, Osaka, Fukuyama)

KAKEN TEST CENTER General Incorporated Foundation

Corporate Marketing Office : TEL +81-3-3241-2545

email : any@kaken.or.jp <https://www.kaken.or.jp/>

Teijin, JGC and Itochu Conclude Joint Agreement on the License Business of Polyester Chemical Recycling Technology

Teijin Limited, JGC Holdings Corporation and ITOCHU Corporation have signed a joint agreement on the license business of polyester chemical recycling technology from discarded polyester textile products. Going forward, they aim to expand the range of effective solutions for the mass disposal of used textile products.

In recent years, environmental damage such as marine pollution caused by waste plastic and abandoned fishing gear as well as global warming has become more serious, and global countermeasures are urgently needed. In the fiber and textile industry, also, it is urgent to address sustainability issues such as the mass disposal of clothing as well as environmental challenges such as high levels of CO2 emitted during manufacturing.

Teijin has extensive and global experience in this area as a result of its operation of the world's first large-scale plant utilizing chemical recycling technology to produce polyester from discarded polyester textile products.

ITOCHU has already launched its RENU project, aiming to address the problem of excessive waste in the textile industry in 2019. It is also developing a global market for recycled polyester materials derived from used clothing and spare fabric generated during textile manufacture.

JGC has developed world-class engineering technology and has acquired a wide range of expertise in the oil & gas sectors, among others. It is now focusing on the construction of environmentally friendly plants and on other technologies and businesses related to the protection of the environment.

This agreement will bring together Teijin's proprietary chemical recycling technology deployed in the manufacture of polyester, the expertise of the JGC derived from its global engineering business, and ITOCHU's extensive network of textile industry players. The three companies intend to establish a system for collecting discarded polyester fiber products and cost-effective chemical recycling technology for using such products as raw materials.

Teijin to Mass Produce Nanofiber Filament Made from Recycled Polyester

Teijin Frontier Co., Ltd., the Teijin Group fibers and products converting company, has developed technology to mass produce a new version of its Nanofront ultra-fine polyester, which the company believes is the world's first nanofiber to be made from recycled polyester raw materials.

Moreover, the new technology will enable Teijin Frontier to produce all of its polyester

fiber products with recycled raw materials. Teijin Frontier expects filament and textiles made with this new version of Nanofront made from recycled polyester materials to replace conventional Nanofront made from petroleum-derived raw materials in a wide range of fields, including sportswear, functional clothing, industrial

uniforms and more. The company is forecasting sales of recycled-polyester Nanofront to reach JPY 300 million in fiscal 2021 and JPY 800 million in fiscal 2025.

Nanofront made from recycled polyester offers the same functions as conventional Nanofront made from petroleum-derived raw materials.

In recent years, the demand for Nanofront has expanded in a wide range of fields due to growing needs for materials offering high functionality, such as absorbency and grip, and excellent comfort including soft texture and low skin irritation. Meanwhile, the demand for recycling raw materials is rapidly increasing, but it has been difficult to mass produce ultra-fine fibers made from recycled polyester due to needs for high-level polymer control and spinning.



Sample sock made with Nanofront recycled-polyester nanofiber

Functions & New Feature		Details
Functions	Highly absorbent	Capillarity enhances water absorption and diffusion
	Good grip	Nano-sized irregularities on fiber surface create friction
	Soft texture	Pliable fibers produce soft texture
	High filterability and collectability	Fine pores promote filterability and high void structure improves collectability
	Impermeable & heat insulating	Precision structure enhances impermeability and heat shielding
New Feature	Uses recycled raw polyester	Made from recycled polyester raw materials but maintains conventional quality and functionality

Teijin Frontier has now developed new polymer-control and spinning techniques for Nanofront made from recycled polyester materials. The

key was the company's proprietary "sea-island" composite-fiber processing technology, which distributes two types of polymers into the fiber's "sea" and "island" parts, then dissolves and removes the "sea" part using an alkaline, etc. treatment, and finally extracts only the "island" part as raw yarn.

Teijin Supports JCI's Call for More Ambitious Greenhouse Gas Reduction Target in Japan

Teijin Limited announced its support for a statement issued recently by the Japan Climate Initiative (JCI) calling for Japan's official greenhouse gas emissions-reduction target in 2030, currently set at 26% below the 2013 emissions level, to be revised to a more ambitious 45% and also to increase the country's ratio of renewable-energy usage to 40-50%.

The JCI is a network committed to strengthening communication and the exchange of best strategies and solutions among entities in Japan that are working to combat climate change. The statement encourages Japanese companies, local governments and organizations to help achieve the country's emissions-reduction targets and collectively demonstrate Japan's willingness to strengthen global efforts to combat climate change.

Teijin's internal goals for lowering its groupwide environmental impact include achieving net-zero emissions by fiscal 2050, such as by gradually replacing its current sources of electricity with renewable energy. As one such practical initiative, earlier this year, Teijin introduced internal carbon pricing

(ICP) to quantify CO2 emissions as costs and thereby create economic incentives to reduce emissions.

Teijin also committed this year to setting science-based targets (SBT) within two years to support the Paris Agreement's goal of limiting the average global temperature rise to well less than two degrees Celsius from pre-Industrial Revolution levels.

Kuraray announces Price Revisions for Man-Made Leather CLARINO

Kuraray announces the decision to increase the prices of its man-made leather CLARINO for shipments commencing April 1, 2021. they explained about reason for revision that the profitability has been deteriorating due to increasing the production costs including equipment maintenance and updates in CLARINO production, considering these circumstances, Kuraray has implemented the following price revisions for CLARINO products. The price revisions were implemented in global basis.

Scope of revision are follows: 1) All products for man-made leather CLARINO; 2) All applications used in school bags, shoes, sports balls, gloves, interiors, industrial materials; 3) Domestic and export shipments. the Price increase is 10-25%. The revision is applied to shipments after April 1, 2021

Toray's MAKSPEC V Antiviral Textile Proves Effective in Combating COVID-19

Toray Industries, Inc., announced that their tests on samples of MAKSPEC V have confirmed the effectiveness of that antiviral textile in reducing concentrations of severe acute respiratory syndrome coronavirus 2

(SARS-CoV-2). The company developed this 100% polyester offering in March 2020. It delivers exceptional washability and comfort.

Toray used the JISL 1922 antiviral test for MAKSPEC V textile products. It exposed samples to COVID-19 and measured concentrations two hours later. As with earlier experimentation using the ATCC VR-1679 envelope strain, the company confirmed that the fabric reduced more than 99.9% of COVID-19 viruses on textiles. It obtained this same result even after 50 industrial washing cycles, underscoring the fabric's solid antiviral performance.

To date, Toray has positioned MAKSPEC V to reduce envelope-type virus. In view of the latest findings, the company will market this textile for customer service, nursing, and school uniforms for which demand to safeguard from COVID-19 is high. It also envisages expanding applications for this textile to also include sportswear, casual apparel, fashion-wear, and children's clothing.



MAKSPEC V textile

2021 Ultrasuede x Labelhood Innovation Award Winner Chosen

Toray Industries, Inc., and Labelhood announced the selection of Jacques Wei as the winner of the 2021 Ultrasuede x Labelhood Innovation Award. He is the founder of his namesake women's fashion brand. The award was in recognition of the highly accomplished and for-



Jacques Wei

ward-thinking approach in Mr. Wei's design, which combines classic elements with simple, contemporary silhouettes. His ethos is in keeping with Toray's commitment to the ongoing evolution of the Ultrasuede brand.

JACQUES WEI will unveil its Fall/Winter 2021 collection incorporating Ultrasuede on April 10 at a Labelhood event during Shanghai Fashion Week.

In its third year, this award is in collaboration with Labelhood, a fashion incubator for young independent designers in China. The two created this award program in keeping with their complementary visions. Toray's is to foster social prosperity and a better future for generations to come. Labelhood's is to invigorate the Chinese fashion scene.

Toray and Jolly Good Jointly Develop Virtual Reality Platform to Aid Training in Ablation Therapy

Toray Industries, Inc., and Jolly Good Inc. have jointly developed HotBalloon Ablation: A VR Tour. This virtual reality (VR) content is a platform for ablation training with Satake HotBalloon, Toray's catheter ablation system for treating paroxysmal atrial fibrillation.

The content enables trainees to

practice HotBalloon ablation procedures virtually, wherever and whenever they want. This platform will complement traditional on-site training with actual proctor's procedure.

Remote controls will offer more flexible learning opportunities, enabling trainees to enhance their understanding of procedures and acquire skills more rapidly. Toray will make HotBalloon Ablation: A VR Tour services and content available to physicians and medical staffs this month.

As Development backdrop, there are around 720,000 people with atrial fibrillation in Japan. Treatment generally necessitates advanced operative procedures. A physician inserts a catheter into the body and uses x-ray fluoroscopy to guide it into the heart.

The COVID-19 pandemic has made it difficult for physicians and medical staffs to provide on-site training. This situation created an urgent need for a tool that does not involve physicians so they can limit their travel around medical facilities and also reduces crowding in clinical environment.

In response to such voices from the medical field, Toray and Jolly Good filmed actual procedure performed by Dr. Shiro Nakahara, an assistant professor of Cardiology at Dokkyo Medical University, performing ablation at its Saitama Medical

Center in Koshigaya, Saitama Prefecture, and created 360° clinical practice VR. Dr. Nakahara is highly proficient in HotBalloon procedures.

Debs release an inovative sustainable denim-like fabric "EINT:DENIM"

Japanese textile manufacturing wholesaler, Debs corporation releases recently an inovative sustainable denim-like fabric, EINT:DENIM.

According to the company, "EINT:DENIM is hyperreal fabric designed to replicate the best things about denim while eliminating the bad." This fabric was developed by using ITOCHU's special fiber, RENU made by recycling used and unwanted clothing, and was combined also with a Debs's patented waterless coloration process, AIRDYE.

The result is "a very sustainable denim-like fabric that provides comfortness, performance, and functionality with textures that can be customized according to various needs."

The name EINT is an acronym for the four words that suggest its benefits: ECO-CONSCIOUS, INDIGO-FREE, NO POST PROCESS, and TECHNOLOGY-DRIVEN. It is also a play on words for its homonym "AIN'T", to communicate that it is not real denim although it really looks like denim.

ECO-CONSCIOUS means that the fabric is using Recycled Polyester Fiber, RENU combined with a waterless coloration process using AIRDYE technology; INDIGO-FREE means that it is produced without using any harmful chemical indigo because yarn dyed cotton is used for the backside of the fabric, as well as faceside which is colored using disperse dyes certified under OEKOTEX STANDARD 100. NO POST-PROCESS means that it is produced in a "single-pass", there-



This setup enables participants to feel as if they are right next to the physician during an operational procedure.



EINT:DENIM

fore the coloration and effects are achieved in a single process, without any after-washes or damage finishes, furthermore effects and colors are also fully customizable. finally,

TECHNOLOGY-DRIVEN means that its production process is based on proprietary hyper-real print software IMBU Color Management and colored using the AIRDYE Production System.

The entire EINT:DENIM collection can be seen at its membership virtual showroom "DebsDirect" (<https://www.debs-direct.com/>).

JEPLAN and Sojitz Form Partnership for PET Bottle Chemical Recycling Business

JEPLAN, Inc. and Sojitz Corporation have agreed to jointly promote a PET (polyethylene terephthalate) chemical recycling business in Japan and overseas utilizing JEPLAN's chemical recycling technology, and JEPLAN has issued a third-party allotment of new shares underwritten by Sojitz. Additionally, Sojitz has agreed to acquire a 25% stake in PET Refine Technology, Co., Ltd. (PRT), a subsidiary of JEPLAN, and to jointly operate the company.

Using its proprietary chemical recycling technology BRING, JEPLAN is able to selectively extract the intermediate BHET (Bis(2-Hydroxyethyl) terephthalate) from PET, the material used to make PET bottles and polyester fabric. The company is then able to

recover high-purity monomers in order to manufacture recycled PET resin that meets strict bottle-grade quality standards at an industrial scale.

The major benefit of this technology is that impurities can be removed via a chemical process so the material quality does not deteriorate even after repeated recycling, and recycled PET resin can be produced with a quality that is equivalent to virgin PET resin derived from petrochemicals. In addition, the process allows for the complete recirculation of resource materials.

PRT is the only company in the world to have a proven track record of commercial operation of recycled PET resin production for bottle-to-bottle recycling using this chemical recycling technology. The company is undergoing equipment upgrade work in preparation for the restart of its factory in summer of this year. After the factory restart, the company will be able to produce about 22,000 tons of recycled PET resin per year.

NIPPON STEEL TRADING CORPORATION Commence Consideration of an Alliance in the Textiles Business with Mitsui & Co., Ltd

NIPPON STEEL TRADING CORPORATION (NST) and announces that, NST entered into a basic agreement with Mitsui & Co., Ltd. to commence consideration of an alliance between the textiles businesses of both NST and Mitsui & Co., mainly by integrating the textiles business of NST and Mitsui Bussan IFashion Ltd. (MIF), the core subsidiary of Mitsui & Co. in the textiles business.

In the textiles business field, changes in the business environment are accelerating both in Japan and abroad. In particular, the OEM market for the domestic apparel business is shrinking, and is expected to become

more difficult in the future, coupled with the impact of the expansion of the novel coronavirus infection.

Under these circumstances, the intentions of NST and Mitsui & Co., which had been considering strengthening the business foundation of the textiles business and sustainable growth and development, matched, and the Companies agreed to commence the Considerations. The Companies will work on the Considerations, aiming to establish a stronger business foundation by utilizing their management resources in a mutually complementary manner, and to achieve sustainable growth and improve corporate value by creating new business opportunities through the Alliance.

The Alliance aims to realize the following by promoting collaboration between the Companies, mainly by integrating the textiles businesses of NST and MIF: 1) Strengthening the Foundation of OEM Business, the Core Business; 2) Creating Business Opportunities in New Growing Fields; 3) Deepening Values Offered to Customers.

MIF and the textiles business of NST will be integrated and operated in a unified way as a new integrated company; the terms and conditions of the Integration, including the scope of the specific businesses to be integrated and the integration method, will be discussed between the Companies moving forward.

Since the Integration is based on the principle of equality, the capital contribution ratio of the Companies in the new integrated company will be 50:50.

NST will promptly commence the Considerations with Mitsui & Co; upon reaching an agreement, the Companies will enter into definitive agreements around June this year.

After obtaining approval from competition authorities in Japan and abroad, and taking other necessary procedures, the Companies will implement the Integration around January 2022.

SHIMA SEIKI Releases New APEXFiz Design Software Leading flat

knitting solutions provider SHIMA SEIKI MFG., LTD. releases new APEXFiz, subscription-based design software. APEXFiz is intended to aid in the digital transformation of the fashion industry. APEXFiz 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, SHIMA SEIKI has released its new APEXFiz as subscription-based design software that can be installed on customers' individual computers. Maintaining proven functions that have made the APEX series so popular with fashion designers, with APEXFiz those strengths are now enhanced with the added versatility to adapt to different work styles and business environments of the "new normal," including teleworking and telecommuting. APEXFiz is furthermore available in 5 different product variations that can be selected according to the customer's needs, from APEXFiz Design Jr. to APEXFiz Design Pro.

APEXFiz is supported by two other web services to enhance its user experience. yarnbank is 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 can download yarn data for free, for use in fabric simula-

tion and virtual sampling on APEXFiz, avoiding the need to scan yarn on their own. By using yarn that is used in actual production, designers and apparel companies can furthermore rest assured that the simulations created using yarn from yarnbank are not merely realistic images but accurate representations using yarn that can actually be purchased and used in production. SHIMANAVI, e-learning system, allows APEXFiz users to experience online training when and where it is convenient, and at their own pace, supporting "new normal: work styles". SHIMANAVI features several courses available in different languages to suit the needs of individual customers as well.

Nittobo to Restructure Textile Business

Nittobo announced that the management reached an agreement with the labor union and resolved to implement restructuring of the textile business at the Board of Directors' meeting. Nittobo announced "Restructure of Textile Business" dated on December 2020 and have been discussing with its labor union on restructuring of the Textile Business.

As Reasons for restructuring, they explained that, the performance of their textile business has been discouraging. In an effort to improve the profitability, they divested its production subsidiary in China to concentrate resources into the production site in Japan and have executed cost reduction. However, they have made the conclusion that simple extension of our current efforts will not be sufficient to cope with the problem and that a breakthrough restructuring is necessary.

Content of the restructuring are follows: (1)Withdrawal from raw yarn business (dissolution of the wholly owned subsidiary Nittobo Niigata

Co., Ltd.). Nittobo Niigata Co.,Ltd., their raw yarn production and sales subsidiary, will be dissolved as at the end of March 2022 (planned) and will undergo liquidation procedures. Nevertheless, the production and sale of the long-selling product "Nittobo Dish cloth" will be continued after its transfer to the new subsidiary to be formed for the purpose of succeeding the interlining business ;

(2)Restructuring of interlining business. Sales of the interlining business has continued to decline due to shrinking women's high-end clothing market. they sold Nittobo (China) Co.,Ltd., the subsidiary in China, in May 2019 and have consolidated interlining production into the Nittobo Itami Production Center for for improving profitability and pursuing higher efficiency. Due to downfall of the market as a result of the COVID-19, they have determined a more fundamental realignment.

In order to have our proprietary adhesion technology better capitalized to realize quicker response to customer needs for interlinings not only for clothing but also for industrial-and living-use materials,

they will divest Nittobo and establish a new subsidiary in April 1, 2021, which will be vertically integrated from development and production to marketing and sales of interlinings to achieve improved management agility. they are scheduled to transfer Nittobo's employees in the interlining business to the new subsidiary and to start business operation from July 1, 2021.

In regard of Impact on business performance, they recorded extraordinary losses of approximately ¥800 million as expenses related to the implementation of the structural reform in the third quarter of the fiscal year ending March 31, 2021.

Groundbreaking Ceremony at Hengli (Luzhou) Industrial Park

Hengli (Luzhou) Industrial Park held a groundbreaking ceremony at Luzhou, Sichuan province on Apr. 16, 2020, which remarks the 6th manufacturing base of Hengli Group formally laying out in the southwest of China. Following national belt and road initiative, Hengli Group makes solid steps in developing twin cities (Chengdu-Chongqing) economics, building Changjiang economic belt, and developing inner land areas.

Hengli (Luzhou) Industrial Park landing 50000 acres, investing twenty billion yuan (\$2.8b USD) in total, using advanced technologies and top equipment to build the industrial park. Integrating high-end polyester raw material, yarn, new material, and textile with the biggest capacity in the manufacturing center of PET new material and textile in southwest China.

The first phase will put into production by the end of this October along the plan. Estimated annual turnover of 20-30 billion yuan, tax revenue of 2 billion yuan, resolving employment of 15 thousand people.



groundbreaking ceremony at Luzhou

Indorama Ventures Wins Best Regional Loan for the First-ever US\$300 million Blue Loan

Indorama Ventures Public Company Limited (IVL) has been awarded 'Best Regional Loan' in the manufacturing sector for its US\$300 million Blue Loan – the first of its kind grant-

ed to a plastic resin manufacturer. The award was announced at 'Triple A Sustainable Capital Markets Regional Awards 2020' virtual ceremony organized by The Asset, Asia's leading financial magazine.

The Blue Loan, which exclusively focus on addressing marine plastic pollution, comprises US\$150 million senior loan from the International Finance Corporation (IFC) and parallel loans of \$150 million from the Asian Development Bank (ADB) and Deutsche Investitions-und Entwicklungsgesellschaft (DEG). IVL will utilize the fund to promote a circular economy by enhancing capacity of IVL's PET recycling plants in Brazil, India, Indonesia, the Philippines and Thailand following its sustainability goal of achieving 750,000 metric tons of PET recycling globally by 2025. The fund will also help the company invest in other climate-related initiatives.

The board of editors at The Asset, said, "The blue loan represents the latest environmental initiative by corporates such as Indorama Ventures, which will divert plastic waste from landfills and oceans, thus contributing to a better environment."

Regen, Hyosung's eco-friendly fiber, saves the sea

Hyosung TNC is launching a project to save the sea with regen, the leading eco-friendly fiber in the country. Hyosung, Yeosu Gwangyang Port Authority and the eco-friendly fashion brand Pleatsmama signed an MOU on April 8 to undertake the "Regen Ocean" project to recycle transparent PET bottles coming from ships that enter and leave the port.

This project was designed to prevent pollution of the sea by PET bottles used in ships while they are at

sea. Under the MOU, Yeosu Gwangyang Port Authority provides bags to departing ships so they can separate the PET bottles they use at sea and collect them upon their return to the port. Hyosung recycles the collected PET bottles into a polyester fiber called 'Regen Ocean.' Pleatsmama makes fashion products like clothes and bags with the recycled fiber.

Hyosung will seek to obtain Ocean Bound Plastic (OBP) certification from the Dutch eco-friendly certification agency Control Union, which certifies plastics collected from the sea. Global brands are now getting an increasingly greater interest in OBP, and Hyosung is going to get the certification for the first time in South Korea.

Hyosung has been producing eco-friendly bags and clothes with the recycled fiber regen in cooperation with Jeju-do Self-Governing Special Province and the Seoul Metropolitan Government since last year. The products were highly popular among consumers. The company plans to continue to expand eco-friendly markets in cooperation with local governments across the country.

Chairman Cho Hyun-joon said, "Hyosung has been pushing for various projects to protect the environment. We will continue to practice sustainable management by trying various projects to establish a system for a virtuous circle of resources."

Show & Conference Schedule (As of May 20, 2021)

Date	Event (Location)	Website
Textiles & Apparel		
2021		
Jul. 6 & 7	Milano Unica (Milan)	www.milanounica.it/en
Jul. 13 & 14	VIEW Premium Selection (Munich)	www.viewmunich.com
Aug. 10-12	Outdoor Retailer (Denver)	www.outdoorretailer.com
Aug. 25-27	Intertextile Shanghai Apparel Fabrics (Shanghai)	intertextile-shanghai-apparel-fabrics-autumn.hk.messefrankfurt.com
Aug. 31 & Sep. 1	Blue Zone (Munich)	www.munichfabricstart.com/bluezone-en.html
Aug. 31 - Sep. 2	Munich Fabric Start (Munich)	www.munichfabricstart.com
Sep. 3-5	Interfilière (Paris)	interfiliere-paris.com
Sep. 3-5	Riviera Paris	saloninternationaldelalingerie.com/
Sep. 9-13	Maison & Objet Paris (Paris)	www.maison-objet.com/en/paris
Sep. 15-17	Dornbirn GFC (Dornbirn)	www.dornbirn-gfc.com/en/
Sep. 21-23	Première Vision Paris (Paris)	www.premierevision.com
Oct. 5-7	OutDoor by ISPO (Munich)	www.ispo.com/en/outdoor
Oct. 13 & 14	Denim Première Vision (Milan)	https://www.denimpremierevision.com
Nov. 28-31	Int'l Apparel & Textile Fair (Dubai)	internationalappareltextilefair.com
Dec. 1 & 2	Performance Days (Munich)	www.performancedays.com
2022		
Jan. 21-25	Maison & Objet Paris (Paris)	www.maison-objet.com/en/paris
Jan. 26-28	Outdoor Retailer (Denver)	www.outdoorretailer.com
Jan. 23-26	ISPO Munich (Munich)	munich.ispo.com
May 17 & 18	Denim Première Vision (Berlin)	www.denimpremierevision.com
Interior, Home Textiles & Furnishings		
2021		
Aug. 25-27	Intertextile Shanghai Home Textiles (Shanghai)	www.intertextilehome.com
Sep. 5-10	Salone del Mobile.Milano (Milan)	www.salonemilano.it
Sep. 14-16	Heimtextil Russia (Moscow)	www.heimtextil.ru
2022		
Jan. 11-14	Heimtextil (Frankfurt)	www.heimtextil.messefrankfurt.com
Technical Textiles & Nonwovens		
2021		
Jun. 22-24	Cinte Techtexil China (Shanghai)	www.techtexilchina.com
Jul. 22-24	ANEX / SINCE	en.since-expo.com
Aug. 23-25	Techtextil North America (Atlanta)	www.techtextilna.com
Oct. 19-22	Index (Geneva)	www.indexnonwovens.com/en/
2022		
Mar. 8-10	Filtech (Cologne)	filtech.de
Jun. 21-24	Techtextil (Frankfurt)	techtextil.messefrankfurt.com
Textile & Apparel Machinery		
2021		
Jun. 12-16	ITMA ASIA+CITME 2020 (Shanghai)	www.itmaasia.com
Jul. 23-26	GFT New Gen (Bangkok)	www.gftexpo.com
Aug. 6-8	Gartex Texprocess India (Delhi)	www.gartexindia.com
Sep. 1-4	Textech Bangladesh (Dhaka)	cems-textech.com
Sep. 15-18	IGATEX Pakistan (Lahore)	igatex.pk
Sep. 22-25	SaigonTex (Hochiminh)	sgntex.com/en/
Sep. 23-25	Textech Sri Lanka (Colombo)	cems-textech.com
Oct. 20-22	HanoiTex (Hanoi)	vhanoitex.com/en/
Dec. 8-13	INDIA ITME (Delhi NCR)	itme2020.india-itme.com
2022		
May 17-19	Texprocess Americas (Atlanta)	texprocess-americas.us.messefrankfurt.com
Jun. 14-18	ITM (Istanbul)	www.itmexhibition.com/itm2022
Jun. 21-24	Texprocess (Frankfurt)	texprocess.messefrankfurt.com

Taiwan's Textile & Apparel Exports

Item	Jan.-Mar. 2021 (Quantity)	Y-o-Y Change (%)	Jan.-Mar. 2021 (US\$1,000)	Y-o-Y Change (%)
Total	413,937	-0.7	2,105,665	2.4
Fibers	116,448	12.0	143,748	10.2
Raw cotton	1,559	109.1	2,102	160.5
Manmade staple fibers	114,521	11.5	138,450	10.5
Synthetic fibers	106,925	11.3	125,549	8.2
Polyester	82,387	8.8	87,691	5.4
Nylon	1,228	-23.1	3,300	-16.8
Acrylic	961	80.2	882	-17.8
Rayon	7,474	12.6	12,742	38.7
Yarns	110,589	-5.7	310,539	2.0
Cotton	17,690	-14.1	35,407	-9.9
Wool	144	144.4	3,158	167.3
Manmade fibers	90,472	-4.0	252,627	3.3
Flax, jute, other vegetable fibers	74	-12.1	876	19.3
silk	*	169.1	34	143.6
Others	2,208	-3.1	18,437	-0.6
Fabrics	299,885	-25.1	2,448,615	-22.6
Woven fabrics	91,659	-29.4	743,927	-23.4
Finished	77,178	-27.7	690,124	-21.7
Manmade fibers	71,266	-27.8	644,212	-20.9
Cotton	5,874	-26.9	44,970	-32.0
Unbleached	7,674	-3.4	30,933	3.9
Manmade fibers	7,462	-3.2	29,026	3.5
Cotton	212	-7.1	1,905	10.7
Knitted fabrics	51,181	-0.5	535,174	9.9
Finished	51,181	-0.5	535,174	9.9
Manmade fibers	46,357	-0.7	509,979	10.5
Others excl. cotton, wool, silk	18,592	17.1	254,299	33.9
Unbleached	4,824	1.8	25,195	-0.1
Manmade fibers	4,730	3.1	24,509	0.7
Cotton	94	-39.0	669	-22.9
Special purpose fabrics	68,336	1.6	470,924	-0.2
Nonwoven fabrics	27,761	11.3	111,752	14.2
Apparel	5,122	-6.2	103,725	-1.1
Woven garments	1,134	-12.4	16,385	-12.6
Knitwear	1,156	-1.1	29,359	11.7
Accessories	2,832	-5.6	57,981	-3.0
Made--ups	15,841	-1.5	142,516	26.2

Exports by Market

Textiles & Apparel			Of Which Yarns			Of Which Fabrics		
	Jan.-Mar. 2021 (US\$1,000)	Y-o-Y Change (%)		Jan.-Mar. 2021 (US\$1,000)	Y-o-Y Change (%)		Jan.-Mar. 2021 (US\$1,000)	Y-o-Y Change (%)
World total	2,105,665	2.4	World total	310,539	2.0	World total	1,405,137	0.1
EU	97,023	-3.0	EU	12,190	-22.0	EU	36,252	-2.3
ASEAN	904,202	0.5	ASEAN	97,293	10.3	ASEAN	716,479	-1.4
Middle East	82,683	-15.3	Middle East	5,143	-55.4	Middle East	63,475	-11.2
Africa	44,540	-7.7	Africa	5,117	-8.5	Africa	31,036	-11.6
1 Vietnam	551,529	3.9	1 China	94,097	21.8	1 Vietnam	430,418	1.2
2 China	330,311	15.7	2 Vietnam	67,467	16.4	2 China	191,329	12.1
3 U.S.A.	173,455	19.8	3 Japan	25,058	-17.0	3 Indonesia	89,544	-12.8
4 Cambodia	109,395	20.9	4 Thailand	18,096	33.4	4 Cambodia	102,824	20.7
5 Indonesia	103,688	-14.1	5 U.S.A.	14,725	13.4	5 U.S.A.	73,148	14.5
6 Hong Kong	85,844	-7.5	6 Brazil	8,842	-12.8	6 Hong Kong	65,587	-4.3
7 Japan	82,368	4.1	7 Korea	7,770	-24.7	7 Bangladesh	54,171	-4.3
8 Thailand	72,121	0.3	8 Indonesia	5,010	-23.9	8 Jordan	49,916	-4.7
9 Bangladesh	61,453	-5.7	9 Turkey	3,923	-61.1	9 Thailand	42,881	-9.9
10 Jordan	51,720	-4.8	10 Philippines	2,834	-57.1	10 Japan	32,107	4.0

Note: Re-exports included. Source: Taiwan Textile Federation (TTF)



Head Office



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MUANG, NAKHONPATHOM 73000 THAILAND
TEL: 034-290-500-1, 285-224-5
FAX: 034-259-693

BANGKOK OFFICE

S & B TOWER, 5TH FLOOR, ROOM 503,
68-68/6 PAN ROAD, SILOM, BANGRUK,
BANGKOK 10500, THAILAND
TEL: 02-637-7342-43
FAX: 02-637-7344

