

Asian Textile Business

# atb

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- Middle East Textile Business
- Apparel Machinery
- Nonwovens in Japan

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**2021-I** Issue No. 732



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## Exports to Middle East Also Affected by Coronavirus Preparations Being Made for 2022 Ramadan Sales

Japanese-made fabrics for application in thobe, a traditional ethnic garment worn in the Middle East, have established themselves a strong position in the market. Japanese thobe fabrics are highly appreciated centering on the top zone of traditional ethnic wear in the Middle East. Nevertheless, Japanese thobe fabrics were affected by the coronavirus during FY2020 (April 2020 to March 2021). The decrease was kept to a minimum for the whole fiscal year thanks to contracts made before the full-scale spread of COVID-19, but in FY2021 (April 2021 to March 2022), several companies hold a severe outlook, and amid such a situation, they are taking the next steps in anticipation of a recovery of demand.

- Sales Lacked the Usual Momentum at the Peak of Business
- FY2020 Exports to Middle East Below the Previous Fiscal Year's Level

Exports of thobe fabrics usually reach their peak from December, but the momentum this fiscal year is less than usual. Even among Middle East countries, consumption has drastically declined as a result of lockdowns due to the spread of the coronavirus, and this had an impact on business. Particularly, Kuwait implemented measures against the coronavirus from an early stage, and this is said to have resulted in a fall in exports of Japanese-made thobe fabrics in FY2020. Exports to Dubai (U.A.E) were affected by the fall in domestic demand, while re-exports to North Africa and other markets increased.

The only market for which Japanese fabrics were relatively strong was Saudi Arabia. Some Japanese textile companies were able to increase their exports to Saudi Arabia. But even in exports to Saudi Arabia, the situation differed between Riyadh and Jeddah; sales to Riyadh increased, while those to Jeddah had a hard time.

The April-June quarter is an off-season period for fabrics for thobe and other traditional ethnic garments worn in the Middle East. Although shipments contracted at an earlier period were made in 2020, there are no such contracted shipments this year, so it has become more difficult for Japanese companies to manage their thobe fabric exports.

As vaccination is progressing in the Middle East as well, there are expectations that consumption might recover from October when the sales season begins. Meanwhile, there are also views that severity will be higher than last year if the coronavirus situation does not improve in the absence of new contracts. For that reason, the FY2021 outlook for exports of fabrics for application in Middle Eastern ethnic wear is highly uncertain.

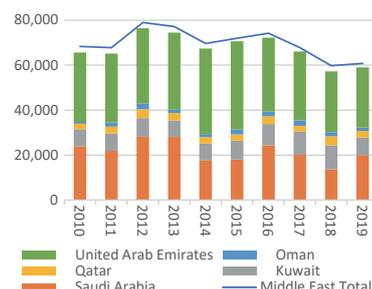
- Preparation for a Demand Recovery with Various New Proposals
- A Greater Variation of Products and Functional Processing Also Offered

Under such circumstances, Japanese companies exporting thobe fabrics are taking various measures. Some companies are moving to secure the quantity by launching new products ranking one class above the volume zone, while others are moving to enrich products in the middle zone. In addition, there are moves to expand the variation of functional processing, such as antiviral processing, water repellency and antibacterial/deodorization performances. Once the market starts to move, the recovery of Japanese products will probably be quick, so Japanese companies are making preparation for post-Ramadan sales in 2022 in anticipation of a recovery of consumption.

### Export of polyester staple fiber fabrics from Japan

Destination	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Middle East	68,347	67,767	78,934	77,137	69,626	71,943	74,240	67,774	59,714	60,756
Saudi Arabia	23,985	21,925	28,143	28,115	17,529	18,009	24,391	20,143	13,735	19,963
Kuwait	7,549	7,613	8,319	7,339	7,530	8,346	9,473	10,313	10,616	7,826
Qatar	2,378	3,119	3,944	3,210	2,947	2,851	3,297	2,529	4,010	3,005
Oman	838	1,814	2,570	1,490	1,357	2,258	2,309	2,451	1,855	1,456
UAE	30,911	30,683	33,419	34,355	38,075	39,234	32,786	30,636	27,012	26,734

Unit : 1,000 m<sup>2</sup>



## Toyobo

- **Strategic Expansion of Thobe Fabric Exports in Anticipation of Post-Coronavirus Business**
- **Stronger Development of New Products Utilizing Shogawa Mill**

Toyobo STC Co., Ltd. positions exports of fabrics for traditional ethnic garments worn in the Middle East as a priority business along with uniforms and school uniforms, and will increase the number of personnel as well as undertaking strategic expansion of this business in anticipation of the aftermath of the coronavirus.

Toyobo has been a leader in exports of Japanese-made fabrics for Middle Eastern traditional ethnic wear. Since the 1960s, the company has been engaged in the export of these fabrics, and has been differentiating itself from other companies with the use of cellulose fibers such as Tufcel polynosic fibers in place of cotton. Such endeavors have increased its appreciation in the thobe fabric market. Furthermore, it has established a basic lineup with the development of mix-weaves of polyester staple fibers and filaments and Super Rosanna mix-weaves made of polyester/ rayon blended yarns and polyester filaments.

In the latter half of the 1980s, pure polyester fabrics suffered setbacks with the change of times when Japanese-made fabrics competed with one another due to the rapid appreciation of the Japanese currency and the appearance of overseas products. Under such circumstances, the company focused on craftsmanship by making the most of its strengths, and pursued a texture possessing softness, suppleness, drape and body in response to customers' demands. The fruit of this pursuit is Royal Mix



Toyobo has secured the highest status for its brand

made with yarns consisting of filaments and staple fibers. Although it is in the highest price range, Royal Mix is well received and has further heightened evaluation of the Toyobo brand.

With Saudi Arabia and the U.A.E. (Dubai) as its main markets, Toyobo offers a fabric lineup ranging from hard to slightly soft textures in response to changing trends.

According to Takayuki Tabo, President of Toyobo STC, which manufactures and sells thobe fabrics, since the business season started from October 2020, processing instructions have been coming in, and operations of the Shogawa Mill of the Toyama Production Center (Imizu, Toyama Prefecture, Japan), the main mill for processing thobe fabrics, have recovered to almost full capacity.

The exports of fabrics for Middle Eastern traditional ethnic garments recovered in 2019, but were affected by the spread of the coronavirus in 2020. Currently, the worst appears to be over, and exports are returning to cruising speed. Considering that business in the latter half of FY2020 was likely to have been close to the level of FY2019, Toyobo intends to continue developments and sales promotion with the aim of maintaining its market share in the top zone.

Even for FY2021, developments for increasing the variety of items will continue to be promoted for stimulating consumption. Toyobo is tiding over the harsh environment with an abundant variety of fabrics, as it constantly develops new items every season with changes made in the yarn count, density and texture.



Royal Mix has the highest status in Middle East

## Shikibo

- **SSBO to Be Developed as a Second Brand**
- **Antiviral Finishing Also to Be Offered on a Trial Basis**

Shikibo Ltd. exports thobe fabrics mainly consisting of materials processed at the Konan Mill (Shikibo Konan). With the mainstream of fabrics changing from 100% cotton and cotton blends to 100% polyester from the late 1990s, the main lineup shifted to polyester products with plus  $\alpha$  value addition. In 2005, the company launched Celgreen, a blend of HWM rayon modal that remains the top brand even today, and with this fabric, it has been expanding exports to the Middle East. A new brand, SSBO will be launched from shipments in the second half of fiscal 2020.

Shikibo strives to maintain its brand with original textures achieved by utilizing the group's processing techniques to the greatest advantage, as well as establishing qualitative aspects. Since 2014, new trials have begun, such as the introduction of the Super Anier deodorizing process. Even for markets, in addition to exports to the main market of Dubai, the company has stepped up efforts to raise brand awareness in the Qatar market, and the results have been remarkable since late 2018.

Exports of thobe fabrics were strong during fiscal 2019 (April 2019 to March 2020), resulting in higher sales and profits. In addition to the forte market of Dubai and the recovery of Qatar, sales toward Kuwait have been solid centering on Celgreen. As far as products are concerned, Celgreen continues to perform well, and Dual Action, which has penetrated the Japanese fashion market with its beautiful surface and clean feeling, has gained recognition with its sales heading upward. Furthermore, the



Full-scale introduction of spun polyester SSBO

soft processing, Quantum Leap was launched mainly in the U.A.E., and the results have been outstanding with orders growing favorably.

In regard to thobe fabric sales in fiscal 2020, Osamu Hirata, General Manager of Sales Dept. II, says, "In addition to the major product of Celgreen, Quantum Leap will be launched mainly in the U.A.E., and we also want to further raise the recognition of Dual Action. SSBO, which is positioned as a flanker brand to Celgreen, will be launched in the latter half of 2020."

The material of SSBO is mainly spun polyester, and it is processed at the Konan Mill. SSBO was named after the company's previous corporate name, Shikishima Boseki. Its price is considered to be slightly below mainstay Celgreen, with an aim at the market one zone higher than the volume zone. With an extensive range of differentiated products including Celgreen, SSBO, Quantum Leap and Dual Action, Shikibo is further raising the recognition of "Shikibo" and "Konan Finish" in the Middle East.

## Ichimura Sangyo

- **Development of Intermediate-Zone Fabrics Being Strengthened**
- **Functional Products and Eco-Friendly Items Also Enriched**

In exports of fabrics for traditional ethnic wear worn in the Middle East during FY2021 (ending in March 2022), Ichimura Sangyo Co., Ltd. is aiming at the same sales quantity or a slight increase as compared with the previous fiscal year. The company is the largest exporter of Made-in-Japan thobe fabrics. Boasting a variation of various items, its IMA brand has extremely high recognition in the



Shikibo products on sale at a wholesale store



Ichimura Sangyo is expanding sales with IMA brand

Middle East market.

Although the coronavirus had an impact on business in FY2020, the company's exports of those fabrics decreased only by 7% compared to the previous fiscal year. Contracting still remained in the first half, and with the arrival of the sales season from October, this contributed to obtaining about the same sales volume as the previous year. Manabu Kitazumi, Assistant General Manager, Textile Dept.1, says, "Exports especially grew for Saudi Arabia."

In exports to Saudi Arabia, Ichimura Sangyo has been expanding its product variety during the last few years for achieving a greater market share. Five years ago, the company commenced the development of fabrics for the intermediate zone, which is one rank higher than the volume zone. With such developments, those fabrics for the intermediate zone, for which spun polyester yarns of extreme yarn counts are also used, have been steadily increasing in number during the last three years. The company's share in the Saudi Arabian market increased in FY2020 regardless of the unfavorable market conditions.

Exports to the U.A.E. decreased by no more than 6%. Although local demand suffered setbacks, growths were achieved in exports to neighboring markets via Dubai, which are said to account for 70%. Particularly, the new customers obtained in exports to North and Central Africa contributed to sales.

Nevertheless, exports to the major market of Kuwait suffered considerable setbacks. It is said that exports to this market consisting mainly of volume-zone products, fell to less than half due to the influence from Kuwait's early implementation of measures against the coronavirus.

It is expected that demand will probably be better in FY2021 than in FY2020, although it will largely depend on

the situation of the coronavirus. The off-season period between April and September was severe because new business negotiations could not be made, but if the restrictions on going out are eased with measures against the coronavirus, it is expected that when the business season arrives, the movement of goods is likely to become active in reaction to restrictions such as staying inside.

Ichimura Sangyo will continue to promote the development of fabrics for the intermediate zone in collaboration with Komatsu Matere Co., Ltd., its main processing mill. The company is also enriching its variety of functional products, such as fabrics that have been processed to possess anti-viral, antibacterial or water-repellent property. In FY2020, these functional products have achieved results in exports to Saudi Arabia, Yemen and other markets.

Furthermore, Ichimura Sangyo has plans to offer a line-up of ecology-friendly products such as PET bottle recycled fibers, which have become a global trend. In addition to products made with spun yarns of 100% polyester, trial production using polyester filaments for weft will also be made. Major companies are said to have interest in ecological products, as the Middle East is sensitive to global movements. In addition, the company will enhance the variety of tricot fabrics, which remained flat in FY2020, and fabrics made with filament yarns, which account for less than 10% of the total. Although business was down in FY2020, business in apparel and sewn products, in which Chinese products account for the mainstay, will also be pursued.



Ichimura Sangyo is expanding sales with IMA brand

### Teijin Frontier

- **Groundwork Being Laid for FY2022 Sales**
- **New Original Products Made of Filaments Also Offered**

Teijin Frontier Co., Ltd. hopes to keep the decrease in the sales volume of fabrics to the Middle East market during FY2021 (ending in March 2022) at a slight rate, as compared with the previous fiscal year. As a result of the impact of the coronavirus, it is assumed that FY2021 will be more severe than FY2020. Meanwhile, should coronavirus vaccinations progress, the company expects that business negotiations for FY2022 are likely to become more active, so it would be able to aim for a sales volume close to the previous fiscal year's results.

Teijin Frontier exports to the Middle East market mainly thobe fabrics, including fabrics produced by other companies, as well as fabrics for abaya. Fabric exports to the Middle East market in FY2020 (ending in March 2021) were affected by the coronavirus. Lockdowns occurred one after another.

Under such circumstances, Teijin Frontier expects to secure about the same sales volume as the previous fiscal year. The Middle East market as a whole is not in a favorable condition, but it is said that futures contracts progressed in February and March 2020 when the coronavirus became prominent, and this contributed to business.

Exports of thobe fabrics to the major Saudi Arabian market were vigorous, particularly growing for Riyadh. Meanwhile, abaya fabrics had a hard time. As a result, thobe fabrics increased further in share, and have come to account for the majority of fabric exports to the Middle East market.

As for FY2021, the April-June period is seen as an unprecedentedly difficult quarter, because futures contracts

have not been progressing. It is expected that inquiries are likely to become more active as soon as vaccination relieves the coronavirus, but until then it is a time of patience. Teijin Frontier will make its utmost efforts in business negotiations from the end of Ramadan (May 13th).

In the meantime, the company intends to maintain the sales volume, while making proposals of new original products that it has developed. The original products are thobe fabrics made mainly of filaments, with ingenious techniques elaborately used in the yarns and processing. The lineup will also include thobe fabrics featuring various functionalities, and the groundwork for FY2022 is being laid with the proposal of these fabrics starting from the end of Ramadan.

In regard to women's materials such as abaya fabrics, Teijin Frontier considers that when changes appear amid movements toward women's reforms and opening up, there is a possibility that trends fusing with usual fashion wear might be created. In that case, the company plans to consider making proposals that will also include apparel and sewn products. From FY2021, staffers in charge of exports of fabrics for European fashion wear might also handle fabric exports to the Middle East, to make the best use of their knowledge.

### Gisen

- **Edobas Increases 30% Despite Overall Sluggish Business**
- **New Processing Treatments Offer Both Drape and High Resilience**

The dyeing and processing company, Gisen Co., Ltd. specializes in the dyeing and processing of woven and knitted fabrics made of manmade fibers and their blends with natural fibers, as well as fabrics for thobe, which is a traditional ethnic garment worn in the Middle East. Japanese thobe fabrics are highly appreciated in the Middle East market. Supporting the high appreciation are Japanese dyeing and processing companies, and one of them is Gisen.

Gisen started dyeing and processing thobe fabrics in the late 1970s. A typical processing is LAN, which continues to be popular even today. The company focuses on such originally developed high-value-added processings, and has recently been focusing on Edobas.

Edobas is a further development of existing processing technologies. Using a special non-urethane resin, it has high resilience in addition to softness and drape. Depending on the processing, wet resilience or resilience with a



Teijin Frontier is focusing on making Zen an established brand

# Antivirus Treated

# FLUTECT

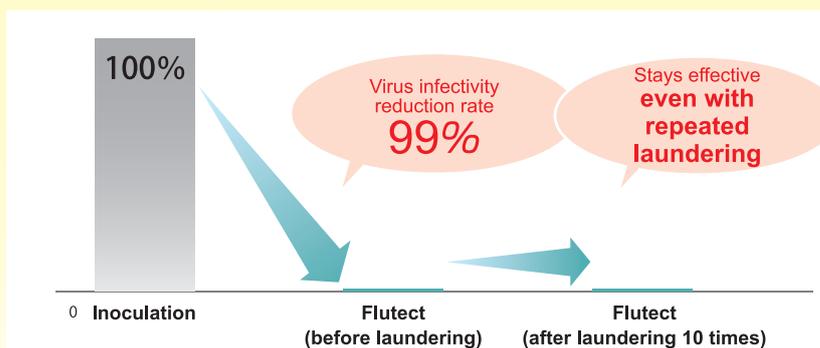
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#### Anti-viral effects of Flutect

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Do not mean sterilize all virus on the fiber

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"Edobas" is expanding processing quantity

crisp touch can be obtained. Another characteristic is that it is hard to wrinkle, with small wrinkles disappearing quickly. This processing technique can be applied not only to spun fabrics but also to filament materials. Developed in 2016, test sales of Edobas started in 2017, and the processing volume was 40,000 yards during the first year of production. The processing volume has been increasing year by year, reaching 100,000 yards in 2018 and 150,000 yards in 2019. Katsunori Goto, President & Chief Executive Officer of Gisen, says, "Edobas is appraised for its high drape and resilience, as well as for wrinkle resistance, and is gradually gaining recognition in the Middle East market."

Founded in 1943, Gisen is known as the first company in Japan to industrialize wrinkle-resistant treatment for woven fabrics by resin processing. In addition to the processing of thobe fabrics, the company offers processings for providing refined taste and functionality to fabrics for fashion wear and uniforms, antibacterial processing for medical gowns and an extensive range of fabric dyeing and processing techniques for the uniforms of the Japan Self-Defense Force, police and firefighters. In addition, its dyeing and processing techniques for artificial leather and microfiber fabrics are highly evaluated both in Japan and overseas.

Of the total processing volume, the major sectors of fashion wear and uniform/workwear account for 30% each, and are followed by thobe fabrics at 15%. President Goto says, "Gisen specializes in the dyeing and processing of high value-added products utilizing various elemental technologies. We will continue to develop processing technologies following Edobas."

In addition to texture processing, functionality processing is also expected to increase even for thobe fabrics. Gisen is already performing antistatic processing, and also expects to receive inquiries for soil-resistant treatment and antiviral processing.

## Debs

- **Abaya Market to Be Newly Developed with Abundant Colors & Designs of Bemberg Fabrics**
- **Seizure of Better Price Zone with Personalized Polyester Fabrics**

Debs Corporation is focusing on expanding sales of fabrics for abaya, a traditional ethnic garment worn by women in the Middle East. It is the third year since the company began exporting fabrics to the Middle East, and this market has rapidly grown to account for a 7% share of its total sales. Hani Debs, Vice President & COO, expressed his enthusiasm toward the future, saying, "We hope to raise this share to the 10% level as soon as possible and grow it into a new line of business."

Debs was able to achieve such a rapid growth in exports to the Middle East thanks to successful branding of fabrics made 100% of the cupro fiber, Bemberg. The abaya market has traditionally been polarized between expensive silk fabrics and inexpensive general-purpose polyester fabrics. Although the company offers silk-like fabrics, it has succeeded in developing a new zone in the middle-price range by promoting an abundant lineup of colors and designs of Bemberg fabrics, which boast high quality, easy-care property, and are more affordable than silk fabrics.

Traditionally, abaya fabrics have been mostly black, but with religious norms being relaxed mainly in Saudi Arabia in recent years, there are tendencies to accept colors other than black for traditional ethnic garments. In addition to vivid colors aimed at highly fashionable zones that incorporate Western elements, the company has also been expanding the range of colors other than black, such as dark green, brown and burgundy.

As for a material for these traditional ethnic garments, sandwashed fabrics called Washed Silk (harir maghsul in Arabic) has gained considerable popularity in the market. Limited to customers such as fabric wholesalers and tailors, the company is attentive to their rarity and maintaining the brand image.

In addition to plain-dyeds, the lineup includes jacquard fabrics with fine patterns, which are another factor for their high popularity. The Middle East market, especially fabrics for traditional ethnic wear, has traditionally been poorly linked to trends originating in Western Europe, but there is ground where new proposals that are not bound by trends or seasons are easily accepted.

The movement of goods is currently slow due to the



Bemberg fabrics (center) come in various jacquard patterns and color variations. Fabrics on left and right are 100% polyester double satin. (Fabrics on left are made with recycled polyester.)

influence of COVID-19, but it is also considered a good opportunity for strengthening the power of products and brands with a long-term strategy, as well as increasing proposal capabilities, such as the introduction of new jacquard and print patterns and increasing the timing and number of new product releases.

Besides Bemberg fabrics, Debs has been developing 100% polyester satin with silk-like expressions. As far as polyester fabrics are concerned, Debs is increasing proposals of recycled polyester materials, along with those for highly fashionable polyester prints that utilize Airdye, its original ecological waterless printing and dyeing technology. By expanding sales of these polyester fabrics, the company intends to expand the base of final consumers to the better price zone.

## Kaji Tech

- **Development of Middle East Market with High-Quality Japanese-Made Apparel Accessories**
- **Proposing the Use of Apparel Accessories Also for Abaya and Hijab**

Kaji Tech Co., Ltd., a trading company specializing in apparel accessories, holds the largest market share in plastic snaps for babies' wear in Japan. Securing a foothold in sales to ready-made brands of traditional ethnic wear in the Middle East during the last few years, the company is now focusing on expanding accessories for women's traditional garments.

Kaji Tech has gained the high trust and reliance of Jap-

anese brands and mass-merchandisers of babies' wear, and is also supplying plastic snaps to the world's largest specialty retailer stores of private label apparel (SPA). Its support system is highly appreciated, as it also undertakes the maintenance of equipment at consignment garment factories where its equipment is installed.

Sales to the Middle East started several years ago with the proposal of plastic snaps for thobe, a traditional ethnic garment worn by men. In this market, natural shell buttons for which fineness and delicacy are required in the selection of raw materials and quality control, have also become the center of attention, and in recent years, the company has found unexpected needs such as continuous use of its products among local ready-made brands. The company has realized the great potential needs for high-quality, high-class Japanese-made auxiliary materials for the differentiation of traditional ethnic garments, of which designs are limited.

In addition to continuing the promotion of plastic snaps, Kaji Tech will offer a whole line of Japanese-made accessories for traditional men's garments in the Middle East. The company will also expand its range of business to include women's wear with the proposal of plastic snaps for the traditional women's garments of abaya and hijab. Traditionally, safety pins have been used for abaya and hijab. The company considers that the scope is great not only for plastic snaps, but also for the use of fasteners that are considerably safe and convenient including thread buttons.

In fact, Kaji Tech has achieved results in working with an apparel manufacturer that sells abaya-style garments to tourists in Japan. Although COVID-19 has postponed exhibitions and events, the company plans to hold exhibitions for these products in Islamic countries. With these breakthroughs, it intends to expand sales of apparel accessories to the Middle East, even for women's traditional garments.



The luxury natural shell button made in Japan

## Japanese Apparel Machinery

### Due to the worldwide spread of COVID-19, Production & Exports of Industry Sewing Machines Decrease in 2020

2020 was a more difficult year for Japanese sewing machine makers with production and exports decreasing compared to the previous year. Due to the worldwide spread of COVID-19.

According to statistics released from the Japan Sewing Machinery Manufacturers Association (JASMA), based on statistics from the Ministry of Economy, Trade and Industry (METI), the nation's production of household and industrial sewing machines in 2020 decreased by 25.0% in volume and 41.9% in value compared to the previous year to 99,257 machines worth 14,174 million yen.

2020 production of household sewing machines dropped 1.3% and 7.9%, respectively to 48,809 machines valued at 2,140 million yen.

The production of industrial sewing machines also fell 38.1% and 45.4%, respectively to 50,448 million machines worth 12,034 million yen. Production decreased for single-needle straight line sewing machines, top stitching machines and other types in

#### Industrial Sewing Machine Exports

	January-December 2020			
	No. of Machines	Y-o-Y Change (%)	1,000 Yen	Y-o-Y Change (%)
<b>Automatic type (A)</b>	13,829	-41.9		-73.4
Single-needle straight line stitching (for fabrics)	4,267	-13.2	87,007	-87.5
Single-needle straight line stitching (others)	0	-	0	-
Overlock	5,970	3.5	223,662	10.1
Others	3,592	-72.7		-74.1
<b>Other types (B)</b>	66,142	-34.1		-41.2
Single-needle straight line stitching (for fabrics)	6,972	-27.6	429,572	-49.4
Single-needle straight line stitching (others)	5,026	-44.8	729,332	-48.1
Overlock	11,674	-23.8		-33.5
Others	42,470	-35.9		-41.0
<b>Total of automatic and other types (A+B)</b>	79,971	-35.6		-54.3
<b>Parts (C)</b>	-	-		-40.0
Bobbin cases	79,971	-20.8		-22.7
Shuttle races & hooks		-35.6		-54.3
Others	0	-		-44.7
<b>Total incl. parts (A+B+C)</b>	<b>79,971</b>	<b>-35.6</b>		<b>-49.9</b>

Source: JASMA, based on MOF statistics

#### Production, Sales & Inventory of Sewing Machines

	January-December 2020			
	No. of Machines	Y-o-Y Change (%)	Million Yen	Y-o-Y Change (%)
<b>Household sewing machines</b>				
Production	49,467	-6.7	2,324	-10.8
Sales	49,493	-6.9	2,326	-11.3
Inventory	207	-10.0		
<b>Industrial sewing machines</b>				
Production	82,887	-18.8	22,058	-23.5
Single-needle straight line stitching	8,116	22.4	694	8.3
Top stitching	9,680	5.2	1,699	17.8
Others	65,091	-24.6	19,665	-26.5
Sales	124,505	-26.2	27,186	-23.0
Single-needle straight line stitching	7,989	15.2	669	-0.7
Top stitching	37,395	-35.2	3,648	-16.4
Others	79,121	-24.0	22,869	-24.4
Inventory	11,037	-7.6		
Single-needle straight line stitching	405	45.7		
Top stitching	6,229	-9.0		
Others	4,403	-8.7		
<b>Total of household &amp; industrial sewing machines</b>				
Production	132,354	-14.7	24,382	-22.5
Sales	173,998	-21.6	29,512	-22.2
Inventory	11,244	-7.7		

Source: JASMA, based on METI statistics

terms of volume and value.

Sales of household and industrial sewing machines were down 24.3% and 40.2%, respectively to 131,723

machines worth 17,648 million yen. Sales of household sewing machines decreased by 1.2% and 7.2%, respectively. Sales of industrial sewing machines fell 33.5% and 43.0%, respectively.

Based on Ministry of Finance (MOF) trade statistics, 2020 exports of industrial sewing machines fell 35.6% in volume and 54.3% in value to 79,971 machines worth 12,703,982 million yen. Exports of automatic types drastically decreased by 41.9% and 73.4%, respectively, and those of other types were down 34.1% and 41.2%, respectively.

By region, exports of industrial sewing machines decreased to almost all regions both in quantity and value. Exports to the Middle East increased by 4.7%, and those to South America rose by 32.5%. Oceania rose by 74.5% in terms of value.

By country, exports of industrial sewing machines were the largest for Singapore with 12,400 machines (down 56.5%) valued at 2429.23 million yen (down 67.3%). Coming in second was Hong Kong with 10,185 machines (down 30.3%) worth 2876.77 million yen (down 53.8%), followed by China with 9,308 machines (down 27.0%) valued at

1837.85 million yen (down 37.6%).

Meanwhile, Japanese imports of industrial sewing machines in 2020 sharply decreased by 68.5% in quantity to 15,821 machines, and by 49.4% in value to 1,450.81 million yen.

Imports of automatic types decreased by 61.2% and 51.6% respectively to 6,785 machines worth 817.76 million yen.

Imports from China were the largest with 11,651 machines (down 74.1%) valued at 874.66 million yen (down 54.3%).

Taiwan came in second with 2,354 machines (down 14.2%) worth 305.19 million yen (down 27.1%).

Vietnam was third with 1,278 machines (down 31.4%) valued at 148.37 million yen.

### Japan's Exports of Industrial Sewing Machines by Region & Country

	January-December 2020					January-December 2020			
	No. of Machines	Y-o-Y Change (%)	1,000 Yen	Y-o-Y Change (%)		No. of Machines	Y-o-Y Change (%)	1,000 Yen	Y-o-Y Change (%)
<b>East Asia</b>	<b>21,844</b>	<b>-27.9</b>	<b>5,078,282</b>	<b>-47.4</b>	<b>Europe (continued)</b>				
Korea	1,155	-51.9	170,791	-53.4	Romania	14	7.7	1,330	-99.6
China	9,308	-27.0	1,837,853	-37.6	Sweden	1	-	246	-
Taiwan	352	-32.8	76,491	-31.7	Denmark	1	-	461	-
Hong Kong	11,029	-24.5	2,993,147	-51.9	Turkey	2,170	-49.5	383,302	-52.1
Mongolia	0	-	0	-	Lithuania	31	-35.4	9,779	3.4
<b>SE. &amp; S. Asia</b>	<b>20,854</b>	<b>-50.9</b>	<b>3,264,715</b>	<b>-67.3</b>	Belarus	16	433.3	3,704	-46.5
Vietnam	1,985	-52.5	222,545	-83.3	Moldova	0	-	0	-
Thailand	789	132.7	69,988	-45.1	Czech R.	32	255.6	3,068	251.4
Singapore	12,400	-56.5	2,429,231	-67.3	Kazakhstan	0	-	0	-
Malaysia	8	-93.3	2,810	-89.3	Kyrgyzstan	0	-	0	-
Philippines	221	294.6	14,123	-59.5	Uzbekistan	287	1204.5	66,019	1101.9
Indonesia	246	-53.4	68,189	-67.0	<b>N. America</b>	<b>8,621</b>	<b>-37.7</b>		<b>-52.3</b>
Cambodia	43	-86.9	17,927	-87.5	Canada	0	-	0	-
Laos	0	-	0	-	U.S.A.	8,621	-37.7		-52.1
Myanmar	2,048	1405.9	26,515	62.0	<b>C. America</b>	<b>428</b>	<b>-64.5</b>	<b>79,951</b>	<b>-62.4</b>
India	2,307	-43.5	199,889	-47.4	Mexico	380	-62.6	62,102	-62.6
Pakistan	506	10.7	116,203	0.5	Honduras	45	-74.1	12,026	-72.7
Sri Lanka	54	-22.9	64,822	-8.2	Nicaragua	3	-80.0	5,823	128.9
Bangladesh	106	-79.2	30,943	-69.2	<b>S. America</b>	<b>2,417</b>	<b>64.1</b>	<b>236,168</b>	<b>32.5</b>
Afghanistan	141	-95.6	1,530	-91.7	Colombia	190	-12.0	27,939	-42.6
<b>Middle East</b>	<b>13,198</b>	<b>-17.0</b>	<b>157,922</b>	<b>4.7</b>	Ecuador	274	83.9	24,468	56.5
Iran	147	226.7	34,679	169.1	Peru	1,471	62.5	102,099	40.0
Oman	1	-	332	-	Chile	88	340.0	10,365	44.0
Jordan	1	-	391	-	Brazil	359	124.4	62,595	126.2
U.A.E.	13,049	-17.5	122,520	-6.9	Paraguay	0	-	0	-
<b>Europe</b>	<b>10,627</b>	<b>-33.9</b>	<b>2,076,168</b>	<b>-46.9</b>	Argentina	35	288.9	8,702	244.4
Norway	25	25.0	2,425	25.0	<b>Africa</b>	<b>1,740</b>	<b>-37.2</b>	<b>84,913</b>	<b>-36.3</b>
U.K.	134	-15.2	26,066	-9.3	Morocco	0	-	0	-
Netherlands	2,254	-50.7	757,350	-45.6	Egypt	1,669	-30.2	76,100	0.8
Belgium	110	-28.1	5,750	-68.8	Nigeria	0	-	0	-
France	127	-60.9	157,907	-52.1	Ethiopia	1	-98.5	1,936	-89.5
Germany	4,819	-11.6	563,417	-29.9	Uganda	46	-80.3	920	-73.7
Portugal	0	-	0	-	Mauritius	1	0.0	340	-0.9
Spain	10	25.0	1,889	16.0	Rwanda	2	-	600	-
Italy	140	-68.2	23,110	-79.5	South Africa	21	-4.5	5,017	-63.5
Finland	0	-	0	-	<b>Oceania</b>	<b>242</b>	<b>126.2</b>	<b>22,898</b>	<b>74.5</b>
Poland	87	-77.6	8,980	-79.6	Australia	219	128.1	18,885	93.5
Bulgaria	1	-	254	-	Papua New Guinea	0	-	0	-
Latvia	100	-	2,894	-	New Zealand	23	666.7	4,013	225.7
Russia	245	94.4	49,187	86.2	Fiji	0	-100.0	0	-100.0
Austria	23	187.5	9,030	247.3	<b>World total</b>	<b>79,971</b>	<b>-35.6</b>		<b>-54.3</b>

Source: JASMA, based on MOF trade statistics

Note: Excludes parts.

### JUKI

- **Development of Non-Apparel Markets**
- **Household Sewing Machines Strengthened for Business Expansion**

JUKI Corporation is promoting the expansion of applications for its mainstay industrial sewing machines as a priority business policy during the current fiscal year ending in December 2021. Markets other than those for apparel are being developed. The company is also strengthening the manufacture and sales of household sewing machines, which surged in 2020 thanks to stay-home demands.

While the shares of both apparel and non-apparel applications of industrial sewing machines are maintained, the sales composition ratio of non-apparel applications, which have high profit margins, is being raised. Particularly, JUKI is developing automotive applications in China, and is also focusing on business in the knit sector.

In regard to household sewing machines, the company aims to expand business centering on its forte high-end models, small-sized over lock machines, tailor-use models and quilt-making machines. New markets are being developed with the new model, Kirei HZL-UX8 boasting improved operability.

Released in Japan this January, Kirei HZL-UX8 features a touch panel that allows the operator to select all sewing functions. When it is connected to a wireless LAN, information on the JUKI website can be viewed on the touch panel. Operability of the sewing machine and the ease of sewing articles are substantially improved, as the operator can view videos uploaded on the JUKI's YouTube channel, such as operation support, the use of sewing machine accessories and ways of making a variety of articles.

JUKI's consolidated financial results for the fiscal year



Kirei HZL-UX8

ending in December 2020 showed that sales dropped 29.0% compared to the previous fiscal year to 70,401 million yen, as customers held down their capital investments. However, sales of industrial sewing machines recovered in China and the Americas from the second half of the fiscal year. The decreases in sales and factory operation rates had an impact on profits. Despite cost reduction efforts, including large-scale production adjustments inside and outside Japan and temporary leave of indirect administration departments, the company suffered operation losses of 4,469 million yen, ordinary losses of 3,957 million yen and net losses of 4,688 million yen.

JUKI expects its sales to recover in FY2021. With cost structure reforms producing results, the company estimates sales of 100 billion yen, operating profits of 3.1 billion yen, ordinary profits of 2.8 billion yen and net profits of 2.0 billion yen.

### Pegasus

- **Investments in Industrial Sewing Machines Expected to Recover**
- **Spread of COVID-19 Affects Business**

Pegasus Sewing Machine Mfg. Co., Ltd. reported that its sales during the first three quarters of FY2020 (April-December 2020) fell 27.9% year-on-year to 8,299 million yen. Operating profits plunged 21.8% to 180 million yen, while ordinary profits climbed 44.3% to 323 million yen. As a result of losses from sales of fixed assets (303 million yen), net losses amounted to 106 million yen, as compared with losses of 228 million yen in the year before.

As far as industrial sewing machines are concerned, business activities resumed in China, as the spread of the coronavirus appeared to have calmed down. As countries in Southeast Asia, Europe and the U.S. subsequently took measures for a recovery of economic activities, demand for capital investments showed a recovery although it was weak. As a full-fledged recovery of capital investments could not be achieved, Pegasus suffered with sales of industrial sewing machines falling 32.0% to 6,475 million yen and segment profits dropping 20.4% to 898 million yen.

For the full fiscal year, sales are expected to amount to 12,390 million yen (down 17.2%), with operating profits of 400 million yen (down 19.8%), ordinary profits of 460 million yen (down 5.0%) and net profits of 435 million yen. Net profits are to be achieved as compared with a deficit of 206 million yen in the previous fiscal year, thanks to gains from



Pegasus M900/AT6F/DD3A series

the transfer of fixed assets.

In its industrial sewing machine business, Pegasus is thoroughly promoting a policy of differentiation with importance attached to the three points of products, quality and service. For products, the company aims to clarify the theme of developments, and new products are to be developed in a timely manner. In terms of quality, it is endeavoring for quality improvement with the promotion of activities for the visualization of quality by making full use of IT and the introduction of state-of-the-art measuring equipment. In regard to service, the company intends to provide timely solutions that utilize the technologies cultivated over many years to solve the problems of apparel manufacturers.

## Brother

- **Strong Sales of Household Sewing Machines**
- **Industrial Sewing Machines Continue to Suffer Setbacks**

Brother Industries, Ltd. has released lock stitcher with side cutter, electronic feeding system and thread trimmer NEXIO S-7780A. NEXIO S-7780A is sewing and cutting of fabric can be performed Simultaneously, and the thread trimming function at the end of sewing contributes to improved productivity.

Equipped With Digiflex Feed, an electronic digital feed mechanism that has a reputation for high quality in the market. Digiflex Feed, which is world's first equipped on S-7300A and widely recognized in the market, digitalizes feeding system and simplifies the feeding adjustments that resolves

sewing issues.

NEXIO S-7780A has compared to conventional under-table servo motor control, the pulse motor control makes starting and stopping of sewing quicker.

the direct drive mechanism provides reliability with the unique built-in direct drive motor developed by Brother.

the closed oil tank provides clean sewing capability. the minimum lubrication system prevents problems such as oil leakage and oil scattering while sewing.

The side cutter can be raised and lowered at a single touch using an easy-to-operate lever. this lets you change easily between normal sewing and cutting while sewing.

Equipped with an automatic rotary thread trimming mechanism with a proven design of robust performance and reliability. This Is enables stable thread trimming.

Scraps cut from the material are conveyed smoothly through the wide opening of the waste chute. This keeps the top of the work table clean at all times and lets the next operation proceed without concern. In addition, when not using the Side Cutter Feature, The sewing machine can be used as a common, straight, lock stitcher by attaching a needle plate cover.

NEXIO series are lot applicable models. the visualization by connecting sewing machine and computer technology enables the customer to analyze, manage processes and speed up productivity improvement and maintenance work.



NEXIO RH-982A

## Nonwovens Boast an Extensive Range of Applicability Coronavirus Rapidly Increases Medical Applications

The Japanese nonwovens industry was hit by the coronavirus; although it was a single-digit decrease, the production volume decreased in 2020, as compared with the previous year. The decrease was slighter than for apparel textiles. Nonwovens were supported by the sharp rise in demand for medical applications, such as masks, medical gowns and medical drapes. This also indicates that nonwovens are used in a wide range of industrial sectors, as nonwovens have various characteristics depending on the raw material and manufacturing method. It can be said that this applicability is the strength of nonwovens.

- **2020 Nonwovens Production Maintained Barely at 300,000 Tons**
- **production decreased from the previous year for all items except for the thermal-bonded type**

According to production statistics released by the Ministry of Economy, Trade and Industry, Japanese production of nonwoven fabrics in 2020 remained barely on the 300,000-ton level, with a 6.2% decrease compared to the previous year to 300,615 tons.

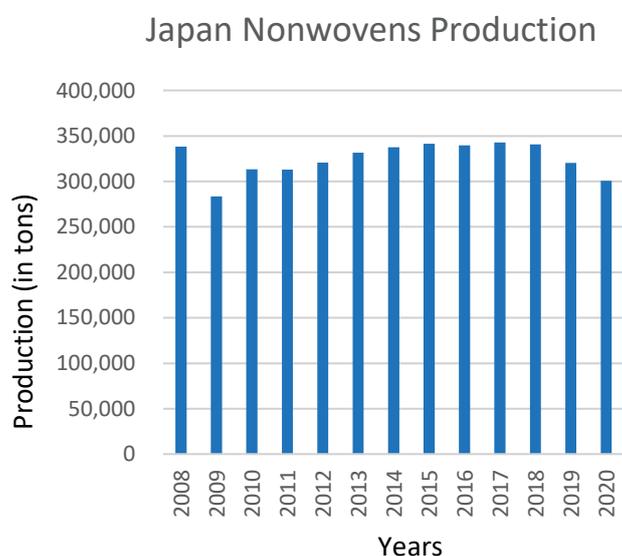
By manufacturing method, production decreased from the previous year for all items except for the thermal-bonded type (up 1.8%). Particularly, the needle-punched type was the only item falling at a double-digit rate of 16.6%, due to a drop in automobile production and because the application in carpets suffered from the decrease in exhibitions and special events. Production of the chemical-bond-

ed type decreased by 9.3%, while that of spunlaced fabrics remained about the same with a decrease of 0.3%. Production of spunbonded and meltblown types decreased by 5.6%; the application in masks increased, while sanitary applications headed downward. Other drylaid nonwoven fabrics and wetlaid nonwovens decreased by 6.7% and 6.5%, respectively.

- **Strategic Growth with an Eye on Post-Coronavirus Business**
- **Sustainable Nonwovens Business Also Strengthened**

Under these circumstances, nonwovens-related companies are endeavoring to shift toward achieving growth with strategies eyeing post-coronavirus business.

The growth of the nonwovens market has been supported by never-ending product developments and efforts to gain new customers. As the coronavirus gradually weakens, a number of companies are laying the groundwork for



(SOURCE: METI)



Demand for non-woven fabrics for masks is rapidly increasing with the Covid-19



Nonwoven fabrics are used for various parts that make up automobiles

a reversal of business.

In the case of polypropylene spunbonded fabrics, new plants are being set up and production capacities expanded in anticipation of growing demand in Asia. Last year, Toray Industries, Inc. launched the new plants of Toray Polytech (Foshan) Co., Ltd. in China and Toray Industries (India) Private Limited in India. Asahi Kasei Corp. will also launch a third plant at Asahi Kasei Spunbond (Thailand) Co., Ltd. in Thailand this autumn.

In addition to new installations and expansions, the development of new products is also progressing. In the sector of polyester spunbonded fabrics, Unitika Ltd. introduced Marix AX for mobility exteriors. Toyobo Co., Ltd. has released products such as the sound-absorbing material, Sound Block NEO.

In regard to staple fiber nonwovens, Kanai Juyo Kogyo Co., Ltd. plans to start full-scale production and sales of formed abrasives for printed wiring boards. Kurashiki Textile Manufacturing Co., Ltd. has developed a heavy metal adsorption sheet, which prevents pollution at construction sites by adsorbing heavy metal ions flowing out from residual soil.

Efforts pursuing sustainability have become remarkable in the nonwovens industry as well. Toray and Asahi Kasei are focusing on spunbonded fabrics made from polylactic acid. Freudenberg Spunweb Japan Company, Ltd. is expanding spunbonded by recycling PET bottles. Daiwabo Co., Ltd. is launching nonwovens using e:Corona, which is a marine-degradable rayon from Daiwabo Rayon Co., Ltd.

## Semiconductor Shortages Reduce Auto Production; the Impact on Nonwovens Makers Is by No Means Small

As a result of difficulties in procuring parts due to a global shortage of semiconductors, the automobile industry is compelled to reduce their production from 2021. Although automobile production had been recovering rapidly since last fall, the impact of the shortage hit unexpectedly. Since the decline in automobile production is directly linked to the production of automotive nonwovens manufacturers, related companies are concerned about the future.

Many electronic components are used in automobiles. These include various parts and components, such as for engine control, power steering, power windows, airbag control, car navigation, keyless systems and driving support systems including those for lane departure prevention. Semiconductors are indispensable for all of these parts and components.

Automobile makers drastically reduced their production as they suffered from the coronavirus last spring, and so semiconductor manufacturers increased their inclination further toward more favorable business in smartphones and games. However, automobile production has been rapidly increasing since last fall, making the shortage in semiconductors even more outstanding.

Moreover, the number of semiconductors used in automobiles is great, and the quality is also strict despite their low price. It has been difficult for semiconductor manufacturers to go as far as reducing their production of higher-priced semiconductors for smartphones and games for the sake of increasing production for automobile applications.

The shortage of semiconductors has forced many American and Japanese car makers to cut their production. This has also had an impact on the business of nonwovens manufacturers. "The production quantity has dropped to one-third for one automobile maker," a nonwovens manufacturer says. Naturally, it differs depending on the car model its nonwovens are used for, but the impact of automobile production cuts is by no means small.

No one can forecast when the shortage of semiconductors will end. The outlook is uncertain, as some say it would be from the April-June quarter, while others indicate that it would probably continue even after July.

## TORAY

### Global Business Expansion and Also Synergistic Effects

Toray Industries, Inc. started a medium-term management program, **Project AP-G 2022 (AP-G 2022)** which will continue for three years from FY2020 (fiscal year ending in March 2021). In its **Fiber and Textile Business**, the strengthening of businesses in nonwovens and artificial leather is positioned as priority tasks in addition to the integrated business of apparel yarns, fibers, fabrics, apparel and sewn products as well as airbag business.



#### Tatsu Matsushita

**General Manager  
Performance Non-woven Products  
Dept.**

#### What are the challenges for the Performance Nonwoven Products Department in AP-G 2022?

**Matsushita:** We are aiming at establishing the world's only comprehensive business in staple fiber and filament nonwovens globally, and are endeavoring to develop differentiated products for priority applications as well as expanding business bases in areas where demand is growing. With such endeavors, our aim is to increase the sales revenue by 20% in FY2022, as compared with FY2019. In the previous medium-term management program, investments were made in expanding polypropylene spunbonded fabrics (SB) for disposable diapers, which were expected to grow in Asia, and the annual production capacity was increased to 200,000 tons. The first challenge was to reap the fruits of these investments.

The global nonwovens market, which is expected to grow at an annual rate of 4 to 5%, is currently half occupied by SB and other filament nonwovens, and this market is expected to continue growing, mainly for disposables. The largest market is still sanitary products such as disposable diapers. It is said that disposable

diapers come into widespread use when the per-capita GDP exceeds US\$3,000. In that respect, demand for polypropylene SB in Asia is expected to grow continuously, and we will be actively involved in this business. Wipes such as for cleaning are also a large market for nonwovens. In this sector, we mainly supply staple fibers, but we will undertake development and sales in collaboration with customers.

#### In 2017, SB development equipment was introduced at the Shiga Plant (Otsu, Shiga Prefecture). Is its utilization progressing?

**Matsushita:** Since it is also medium-scale mass-production equipment, it is also used to produce nonwoven fabrics for masks in correspondence to the spread of the coronavirus. In regard to original protection materials, the development of unique and differentiated products such as products with a new soft touch and environment-friendly products is being undertaken in collaboration with our Korean affiliate, Toray Advanced Materials Korea Inc. (TAK).



Non-woven and Woven Fabric Boasting Flame Retardance and Fire-shielding Properties Gulfen is under development for aircraft seats

**AP-G 2022 is set to raise and establish comprehensive business in staple fiber and filament nonwovens, while positioning filters and automotives as priority sectors in addition to sanitary materials.**

**Matsushita:** Our goal is to become the world's only comprehensive business entity in staple fiber and filament nonwovens. For that purpose, we are promoting the combined use of various high-performance fibers. For instance, it includes the utilization of polyphenylene sulfide (PPS) fibers, Torcon and polytetrafluoroethylene (PTFE) fibers, Toyoflon, both of which feature heat resistance. Torcon and Toyoflon are used in staple fiber nonwovens for filter cloths utilized at incinerators and factories, and we are working to further expand them in response to movements toward tightening environmental regulations worldwide. In regard to staple fiber nonwovens, we are also focusing on sound-absorbing materials for automobiles. Full-scale expansion of the flame-retardant and fire-shielding material, Gulfeng made by combining Torcon with flame-resistant fibers, is also a challenge.



PPS fibers, Torcon exhibited at Tectextile 2019

**As far as comprehensive business in staple fiber and filament nonwovens is concerned, Toray acquired stakes in Japan Vilene Company, Ltd. in 2015. Is collaboration with Japan Vilene also considered a task?**

**Matsushita:** We are developing high value-added nonwovens with Japan Vilene. It is not an undertaking in conventional products, but involves the utilization of high-performance fibers. For instance, both of us are undertaking Gulfeng and the development of automotive sound-absorbing materials.



Plant of TAK

### What about the polyester SB, Axtar?

**Matsushita:** Axtar is mainly intended for application in industrial pleated filters as well as civil engineering and construction materials. While developments are being made using various materials such as polylactic acid as environment-friendly products, the development of applications is being promoted, and we hope to expand the capacity during our current medium-term management program. Even for meltblown nonwovens, for which demand has been rapidly growing due to the spread of the coronavirus, developments and sales are being strengthened, including those for protective wear. Synergistic effects with the Ultrasuede Department are also a task. Although it is a completely different product, there are many things in common, such as global expansion, production and development at the Shiga Plant and integrated manufacturing and sales operations. New applications are to be developed with the development of new products that make the most of their respective features.



One of filter materials in industrial applications using Axtar

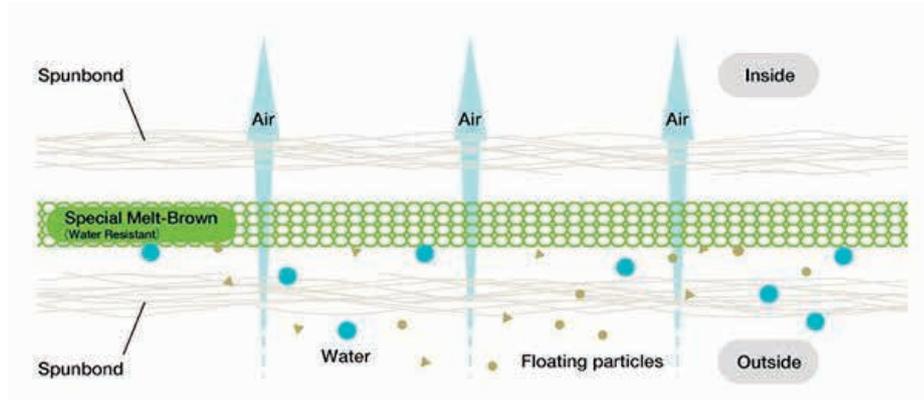
### Toray Expands LIVMOA Protective Clothing Lineup by Launching Versions for High-Pressure Water Applications and Cleanrooms

Toray Industries, Inc., announced that it will soon augment its LIVMOA range of single-use protective clothing, which is both user friendly and exceptionally comfortable. In January, it will bring out the LIVMOA 4000 for high-pressure water applications. February will see the company release an upgraded version of LIVMOA CL sterilized clothing for cleanrooms. The introductions will be in Japan, with the two new offerings becoming available overseas later.

LIVMOA 4000 is breathable and complies with the JIS Type 5 and 6 standards for chemical protective clothing. It employs a proprietary SMS (spunbond + meltblown + spunbond) nonwoven fabric. The clothing thus protects wearers from dust and can also withstand a water pressure of 1,000mm H<sub>2</sub>O (see note 1), which is hard to achieve with regular SMS fabric. The meltblown layer



LIVMOA 4000



The nonwoven fabric comprises a dense, water-resistant polypropylene meltblown layer sandwiched by durable spunbond polypropylene layers

keeps dust and water out while delivering an air permeability of around 10 cc/cm<sup>2</sup>/sec. Toray is building a stable product supply system by manufacturing the fabric at its plant in Japan.

LIVMOA 4000 can be worn where water resistance is necessary, a good example being waste disposal sites (see note 2). Such locations are essentially off-limits to LIVMOA 2000 and LIVMOA 3000 clothing, which are also breathable. Participants in a testing program rated LIVMOA 4000 very highly for its exceptional comfort and soft fabric.

Toray upgraded LIVMOA CL based on feedback from users at public research and academic institutions. This offering originally launched in 2019 under the supervision of the Research and Development Center for Cell Therapy of the Foundation for Biomedical Research and Innovation at Kobe. The company enhanced usability in several respects. It integrated the mask cover to improve wearability, optimized the hood opening for a better fit with goggles, and slimmed the sleeves and legs to improve mobility.

The company has expanded the LIVMOA series since bringing out the high-breathability LIVMOA 3000 in 2017 to cater to different work environments. The LIVMOA 5000, for

example, has helped prevent recurrences of Ebola infections in the Republic of Guinea. Toray released the LIVMOA CL for cleanrooms. The new LIVMOA 4000 and upgraded LIVMOA CL make it possible for even more workplaces to take advantage of the safety and comfort of the LIVMOA series.

### Teijin Introduces Internal Carbon Pricing System

Teijin Limited announced that it has introduced an internal carbon pricing (ICP) system for capital investment plans throughout the group. The ICP mechanism creates economic incentives to reduce CO<sub>2</sub> emissions by quantifying CO<sub>2</sub> emissions as costs that the company can consider when making investment decisions, ultimately to help address the problem of climate change. Teijin will apply its ICP system to all future capital investment plans that are expected to impact the group's CO<sub>2</sub> emissions.

Teijin's goals for lowering the groupwide environmental impact include reducing CO<sub>2</sub> emissions in fiscal 2030 by 20% compared to the fiscal 2018 level, and then achieving net zero emissions by fiscal 2050. In addition, Teijin is striving to lower CO<sub>2</sub> emissions in its supply chain,

specifically to make the amount of avoided emissions by use of its products larger than actual emissions groupwide, including from the group's upstream supply chain.

Through the launch of this new ICP system, Teijin expects to implement capital investment plans that contribute to its long-term goals for CO2 emissions reduction and

to prepare the company for expected future rises in global carbon prices.

### Teijin Aramid proves ability to produce high-performance fibers from green raw materials

Teijin Aramid, a leading manufacturer of premium aramids and part of the Teijin Group, has announced the results of a sustainability-focused pilot program. Since 2018, the company has been working with its partners to develop high-performance aramid fibers from renewable, bio-based materials. The pilot proves that this innovative approach can improve the environmental impact of Teijin Aramid's production processes, without altering the material properties of the resulting Twaron aramid yarn. The results were revealed at the Chemport Connect – Biobased & Circular Polymers event, which took place on November 17.

Teijin Aramid produces ultra-high-strength para-aramid fibers under the brand name Twaron from its Dutch facilities, including those in Delfzijl and Emmen. The fibers are used in diverse applications around the world – from car tires to airfreight containers and protective clothing – to make them stronger, lighter, and more durable. The traditional building blocks for Twaron are finite, fossil-based raw materials, but Teijin Aramid aims to transition to greener, renewable

materials as part of its long-term sustainability ambitions. Doing so will reduce the CO2 footprint of the company's front-end manufacturing processes, while also helping customers and end users along the value chain to become more sustainable.

Based in Groningen province, BioBTX has developed technology that transforms renewable resources, such as biomass and residual products, into chemical resources. The company uses bio-based raw materials to create benzene, toluene, and xylene (BTX) – three aromatic compounds that form the initial building blocks of multiple products, including Twaron.

In 2018, Teijin Aramid joined BioBTX and Syncom, a research organization specialized in organic chemistry, in a pilot program to explore production of Twaron yarn from bio-based BTX materials. The aim was two-fold: first, to determine the potential reduction in CO2 emissions, and second, to assess whether the transition alters the unique material properties of Twaron yarn. The pilot took place on a laboratory scale, with assistance from Chemport Europe, and financial support from the provinces of Drenthe and Groningen. The three companies worked in close alignment for more than two years, finding creative solutions for the technical challenges that arose during the project.

On November 17, Teijin Aramid and BioBTX presented the results of the pilot at the Chemport Connect – Biobased & Circular Polymers event. The results prove that it is possible to produce Twaron yarn from green raw materials while maintaining the product's unique qualities, including its high strength and low weight. They also show how bio-based materials can enable a significant reduction in CO2 emissions during the manufac-

turing process. The pilot moves Teijin Aramid closer to its goal to utilize low-carbon solutions and increase the use of renewable carbon in its raw materials. The company's ultimate ambition is a fully circular aramid chain; this will require innovative approaches, such as the development of recycled raw materials from plastic waste, as well as increased collaboration between different partners across the value chain.

Peter ter Horst, CEO at Teijin Aramid: "We are extremely pleased with the outcome of the pilot, which has delivered useful insights to each of the parties involved. Our work with BioBTX and Syncom represents an important step forward on our sustainability journey and underlines the importance of collaboration as we work toward our goals. Our Twaron yarn is inherently green due to its sustainable value; this important cooperation with our partners is the next step as we work to create a better world for future generations. I am proud to see us moving together in the right direction, and I also thank the provinces of Drenthe and Groningen, as well as Chemport Europe, for their invaluable support."

Cor Kamminga, BioBTX: "The use of sustainable raw materials makes a significant contribution to the cir-



Progress that contributes to the realization of a circular economy

cular economy, in terms of reducing the use of fossil raw materials and generating fewer CO2 emissions. Our technology produces substances that are identical to oil-based products, but to be commercially successful, we must successfully demonstrate their use in existing high-grade products, such as aramid fibers. Cooperation with a renowned partner like Teijin Aramid further validates this concept: they have the experience needed to rigorously test our products and use them in high-quality applications. This project has not only led to this positive result, but we have also gained valuable knowledge that will help drive our ongoing innovation."

### **Toyobo signs partnership contract with Plug and Play Japan in SmartCities domain**

Toyobo Co., Ltd. has signed a partnership contract on November 1 with Plug and Play Japan KK (PnPJ, hereafter), a major startup accelerator based in Tokyo, in the domain of SmartCities. Under the partnership, Toyobo will exchange information about market demands for SmartCities and explore opportunities to collaborate with startups discovered and accelerated by PnPJ.

PnPJ was established in 2017 as a Japanese arm of Plug and Play, a top global venture capital/accelerator firm based in California, U.S. It has provided support to more than 400 startups in Japan and abroad. Plug and Play Osaka, a newly opened office in Osaka, in July this year, is tackling urban social issues, such as declining birthrate and rejuvenating urban infrastructure through accelerator programs themed on SmartCities.

Under the vision of "continuously create the solutions needed by peo-

ple and the earth with materials and science," Toyobo is pursuing business development based on backcasting. In 2019, Toyobo signed contract with U.S.-based Plug and Play to promote open innovation. In this context, Toyobo believes SmartCities will be one of the solutions in the post COVID-19 era and decided to sign the partnership contract with PnPJ. Going forward, Toyobo will try to create new businesses that help materialize next-generation urban cities through collaboration with startups, which have synergistic effects with the company's business domains, such as films/functional materials, mobility, lifestyle/environment and life science.

### **Asahi Kasei first ever Japanese company to participate in Lakmé Fashion week, the biggest fashion event in India.**

Asahi Kasei Corporation are pleased to announce Bemberg has participated in as a first Japanese company in Lakmé Fashion Week, the biggest fashion event in India.

This event is held in every February and August in Mumbai, India. This year, because of pandemic, Lakmé Fashion Week winter festive 2020 which was planned to be held in this August, will take place in October and in the digital format for the very first time. Bemberg will participate in Sustainable Fashion Day on 22th October, in collaboration with a Designer, Hemang Agrawal working in Varanasi (traditionally known as Benares), the city of his birth which is widely renowned as the handloom-weaving capital of India, because of its centuries old weaving communities that specialize in typical brocades.

We hope that this fruitful collaboration of Japanese sustainable



Collaboration with Hemang Agrawal

fiber Bemberg and Indian traditional craftsman via Designer Hemang Agrawal will certainly be helpful to increase the demand of the weavers at national and international levels.

### **Teijin to Build GF-SMC Molding in Czech Republic**

Teijin Limited announced today that it will install a composite compression molding line at Benet Automotive s.r.o, the company's automotive composites business in Milovice, Czech Republic. Teijin will invest some EUR 10 million in the new glass fiber sheet molding compound (GF-SMC) line, which will begin operating in autumn 2022 to help meet strong demand for Teijin's industry-leading composite formulations in Europe.

Headquartered in Mlada Boleslav, Benet Automotive is a Tier 1 supplier of automotive composite components. The company is noted for its advanced technologies related to carbon fiber reinforced plastic molding as well as its capabilities in vehicle painting and assembly.



Headquarter of Benet Automotive at Mlada Boleslav in Czech Republic

The new GF-SMC molding line will strengthen Teijin's response to market demands for greater design freedom, productivity and cost efficiency as well as weight reduction and strength. Benet Automotive has already received new orders from European and American automobile manufacturers for automotive components to be produced by the new line.

Amid the ongoing shift toward Connected, Autonomous, Shared, and Electric (CASE) automobiles, the automotive industry is urgently modifying its business models for lightweight, multifunctional next-generation vehicles. Teijin acquired Continental Structural Plastics Holdings Corporation (CSP) in 2017 to become a Tier 1 supplier of multi-material automotive composites. Teijin later acquired leading automotive-composite suppliers Inapal Plásticos SA in Portugal and Benet Automotive in the Czech Republic, and now plans to build a new GF-SMC compound plant geographically in between these two suppliers at CSP's facility in Pouancé, France. In addition, Teijin established Teijin Automotive Center Europe GmbH in Wuppertal, Germany, in 2020 as a new base for

research and development within the company's multi-material automotive composite business.

Going forward, Teijin will meet the demands of the global automotive market, targeting automotive composite business sales of approximately EUR 1.7 billion (USD 2 billion) by 2030.

### **Kuraray Determines Fiscal 2021 Group Risk Management Policy and Announces Results of Fiscal 2020 Safety Inspections at Overseas Plants**

In line with its Group Risk Management Rules, Kuraray has been pushing ahead with the implementation of risk aversion and mitigation measures. Specifically, each business unit at home and abroad carries out a risk self-assessment, while the Risk and Compliance Committee deliberates on the results of such self-assessments and formulates proposals regarding risks requiring particular managerial attention.

The Company's President, in turn, examines these proposals and determines management risks to be reported to the Board of Directors. Moreover, Kuraray appoints officers responsible for the supervision of

countermeasures put in place for each management risk identified.

Kuraray hereby announces its Fiscal 2021 Group Risk Management Policy, which informs the aforementioned risk management activities to be undertaken in fiscal 2021. In addition, the new policy specifies mitigating the risk of safety-related accidents at overseas plants as an ongoing priority issue. Accordingly, Kuraray intends to continue implementing safety inspections at its main chemical plants run by overseas affiliates.

### **KURARAY Price Revisions for KURALON and KURALON K-II**

Kuraray announces its decision to increase the prices of KURALON, a polyvinyl alcohol (PVA) fiber, and KURALON K-II for shipments commencing January 1, 2021. Range of Price is Increase Up 10% to 20% from the current prices. Costs arising from the manufacture of these offerings have been increasing due primarily to a surge in logistics costs that reflects the current shortage of human resources and containers as well as growing expenses for facility maintenance and upgrading. This increase in costs is in excess of the effects of the Company's cost-reduction endeavors to date. Moreover, this trend is expected to continue going forward.

Under these circumstances, Kuraray has decided to implement the price revisions set out below to improve profitability and to maintain a steady supply.

### Huvis and Indorama joint venture in the US begins full-scale operation in North America

Huvis Indorama Advanced Materials (HIAM), founded in the US as a joint venture of Huvis and Indorama Ventures, began full-scale operation after two and a half years of preparations.

In 2018, Huvis signed an agreement to establish a 50:50 joint venture in the US with global chemical company Indorama Ventures for the production of low melting fiber (LMF) and has built production facilities. However, due to the severe spread of COVID-19 in the US, the facility construction was delayed and has been only recently completed and stabilized with full-scale commercial production finally beginning this March.

HIAM manufactured LMF are high-value products used mostly in interior/exterior materials for vehicles, sound absorbing materials, heat insulating materials, and filters. It is used as an adhesive in place of chemical bonds with properties that melt at low temperatures. The use of LMF in vehicles is expanding its application scope to meet consumer needs for driving comfort. In particular, demand is growing significantly in the electric vehicles market, where external noise blocking and weight reduction is important.

Huvis established a joint venture in the US to strengthen its market leadership in the LMF market, which is showing steady growth, and to effectively respond to US protectionism. With the Biden administration's recent policy to boost the manufacturing business in the US and the United States–Mexico–Canada Agreement (USMCA), which took effect in July 2020 and strengthened the automaking supply chain in North America, the need for local production of LMF further increased, adding strategic



Workers check the process at the LMF production line in HIAM, South Carolina, USA

significance to securing a production and sales base in the US.

HIAM was created based on the glocalization strategy of building production facilities where a market exists, and has an annual LMF production capacity of 60 thousand tons. It also has a great connection to downstream industries as it is in South Carolina where global automakers such as BMW and Honda are located.

The global LMF market continues to grow at 7% annually, with Huvis taking the top spot. Last year, the global market size was about 1 million tons. It is in high demand from advanced markets such as the US and Europe as an eco-friendly material that replaces chemical bonds and reduces carbon dioxide use and energy consumption. The North American LMF market is estimated to be 170 thousand tons.

### SINOPEC Yizheng selects INVISTA P8++ PTA Technology

INVISTA's technology and licensing group, INVISTA Performance Technologies (IPT), and China Petrochemical International Co., Ltd. (Sinopec Yizheng) have reached an agreement for licensing of INVISTA's industry leading PTA P8++ technology for Sinopec Yizheng's third PTA line. This plant will be installed in Jiangsu province, China, with an annual nameplate capacity of 3 million tonnes.

Sinopec Yizheng previously utilized IPT's P6 PTA technology for its 450,000 te/annum second PTA line. Sinopec Yizheng and INVISTA are pleased to once more leverage this technology to create long-term value for both parties.

This is a further confirmation of INVISTA's strategy of relentlessly improving its PTA technology offering, through a combination of increased scale, reduced capital and variable cost per tonne of PTA, and greater sustainability.

### Hyosung Advanced Materials Supplies Airbags to Amazon's Self-driving Cars

Hyosung Advanced Materials is set to supply its OPW (One-Piece Woven) airbags to Amazon's fully autonomous vehicle robotaxi. GST Global GmbH (GST), Hyosung Advanced Materials' subsidiary specializing in the production of airbags, announced recently that it would supply new-generation OPW airbags to robotaxis made by Zoox Inc.(Zoox) via the global automotive systems provider ZF Friedrichshafen AG from 2022.

Robotaxi, which was unveiled in December last year by Amazon's self-driving car startup Zoox, is the first fully autonomous vehicle with a shape of a box. Such a design is frequently used in purpose-built vehicles (PBVs), which offer various interior spaces according to the diverse usage purposes. Airbags to be installed in PBVs thus require unique design that ensures extensibility accommodating flexible use of spaces. Hyosung Advanced Materials is the first supplier of airbags to fully autonomous PBVs.

In particular, "safety" is a key factor in the new sector of fully autonomous driving. Airbags of self-driving

cars should be designed in three dimensions so that it may protect that passengers with a more diverse and freer postures than in traditional vehicles. In a robotaxi, new generation OPW airbags manufactured by GST are mounted on all four-seats, face-to-face symmetrical seating configuration. An entirely different concept from conventional airbags was applied to the robotaxi airbags as they are deployed from the ceiling and at 90 degrees to protect passengers who may opt for diverse space layouts inside the vehicle.

### **Indorama Ventures Hands Over 1,500 PPE Coveralls Made from Recycled PET to Hospitals in Nakhon Pathom**

Indorama Ventures Public Company Limited (IVL), a global chemical producer, handed over 1,500 PPE coveralls made from the company's recycled PET yarns to the Nakhon Pathom Provincial Health Office in support of eight hospitals and other medical personnel in the province to protect against COVID-19. The project was conducted with the collaboration of HSBC Thailand, Michelin Thailand, The Street Ratchada and P-far Thailand, who helped collect over 600 kilograms of post-consumer PET bottles, equivalent to 27,000 standard 600-milliliter PET bottles, for recycling and conversion to high-quality yarns at IVL's recycling plant in Nakhon Pathom Province.

Dr. Wiroj Ratanaamornsakul, Chief of Nakhon Pathom Provincial Health Office said, "Due to the new wave of the pandemic, PPE coveralls are in high demand by the Public Health Office and numerous hospitals in Nakhon Pathom Province, as medical health professionals are in close contact with infected patients. In-

dorama Ventures' donation of Level 2 PPE coveralls shows how collaboration between the public and private sectors can be a success. Eight major hospitals received the PPE coveralls.

The Level 2 PPE coveralls are made from IVL's 100% recycled polyester yarns and have double layers for better protection. They are also water-repellent, with hydrostatic pressure properties that offer resistance to infiltration by blood and viruses, suitable for use during the treatment of low- and medium-risk patients. The Level 2 PPE coveralls have been tailored by a producer certified by Thailand's Food and Drug Administration and the Thailand Textile Institute, making them reusable and washable up to 20 times. One coverall is made from around 18 standard 600-milliliter PET bottles.

### **ITM Exhibition Postponed, New Dates:14-18 June 2022**

ITM International Textile Machinery Exhibition, which is planned to be held on June 22-26, 2021 postponed to June 14-18, 2022, considering the effects of the ongoing Covid-19 pandemic in the world. This postponement decision was taken as a result of intense discussions and evaluations with participants and sector representatives.

The ITM Organization Team made the following statements: "Our pri-



View of ITM2018

ority is to protect valuable exhibitors and visitors' investments and all rights, not our commercial earnings. In this regard, we believe that all of our participants will find this compulsory postponement decision taken for the ITM Exhibition justified and will understand."

ITM 2022, which will be held with partnership of Tüyap Tüm Fuarçılık INC. and Teknik Fuarçılık INC. in cooperation with TEMSAD, will organize at Istanbul Tüyap Fair and Congress Center on June 14-18, 2022.

### **World's Leading Textile Enterprises Gather in ZhejiangTex 2021**

The 21st ZheJiang International Trade Fair for Textile and Garment Industry (ZhejiangTex 2021) will be grandly held on 8-10 June 2021 at Yiwu International Expo Centre in Zhejiang. Four thematic zones will be featured in ZhejiangTex this year, they are "Knitting & Hosiery Machinery", "Sewing & Automatic Garment Machinery", "Digital Printing Technology & Application" and "Knitting Products & Accessories". The show is expected to gather more than 300 exhibitors to showcase a range of digital textile machinery, helping the enterprises to grow their businesses.

This year, ZhejiangTex 2021 will join hand with CKIW YIWU at the Yiwu International Expo Centre for the first time. Under the same roof, the two exhibitions will showcase ranging from research & development to design, equipment to technology, raw materials to knitting products & accessories, building a more competitive platform for the development of knitting industry.

# Show & Conference Schedule (As of March 25, 2021)

Date	Event (Location)	Website
<b>Textiles &amp; Apparel</b>		
<b>2021</b>		
May 17-21	Performance Days (Munich)	<a href="http://www.performancedays.com">www.performancedays.com</a>
May 25 & 26	Denim Première Vision (Milan)	<a href="http://www.denimpremierevision.com">www.denimpremierevision.com</a>
May 27-29	Intertext Tunisia (Sousse)	<a href="http://www.intertexttunisia.com">www.intertexttunisia.com</a>
Jul. 2 & 3	Interfilère (Paris)	<a href="http://january.interfilere-paris.com">january.interfilere-paris.com</a>
Jul. 13 & 14	VIEW Premium Selection (Munich)	<a href="http://www.viewmunich.com">www.viewmunich.com</a>
Aug. 10-12	Outdoor Retailer (Denver)	<a href="http://www.outdoorretailer.com">www.outdoorretailer.com</a>
Aug. 31 & Sep. 1	Blue Zone (Munich)	<a href="http://www.munichfabricstart.com/bluezone-en.html">www.munichfabricstart.com/bluezone-en.html</a>
Aug. 31 - Sep. 2	Munich Fabric Start (Munich)	<a href="http://www.munichfabricstart.com">www.munichfabricstart.com</a>
Sep. 9-13	Maison & Objet Paris (Paris)	<a href="http://www.maison-objet.com/en/paris">www.maison-objet.com/en/paris</a>
Sep. 7-9	Milano Unica (Milan)	<a href="http://www.milanounica.it/en">www.milanounica.it/en</a>
Sep. 15-17	Dornbirn GFC (Dornbirn)	<a href="http://www.dornbirn-gfc.com/en/">www.dornbirn-gfc.com/en/</a>
Sep. 21-23	Première Vision Paris (Paris)	<a href="http://www.premierevision.com">www.premierevision.com</a>
Oct. 5-7	OutDoor by ISPO (Munich)	<a href="http://www.ispo.com/en/outdoor">www.ispo.com/en/outdoor</a>
Nov. 28-31	Int'l Apparel & Textile Fair (Dubai)	<a href="http://internationalapparelandtextilefair.com">internationalapparelandtextilefair.com</a>
Dec. 1 & 2	Performance Days (Munich)	<a href="http://www.performancedays.com">www.performancedays.com</a>
<b>2022</b>		
Jan. 21-25	Maison & Objet Paris (Paris)	<a href="http://www.maison-objet.com/en/paris">www.maison-objet.com/en/paris</a>
Jan. 26-28	Outdoor Retailer (Denver)	<a href="http://www.outdoorretailer.com">www.outdoorretailer.com</a>
Jan. 23-26	ISPO Munich (Munich)	<a href="http://munich.ispo.com">munich.ispo.com</a>
<b>Interior, Home Textiles &amp; Furnishings</b>		
<b>2021</b>		
Aug. 25-27	Intertextile Shanghai Home Textiles, Autumn Edition (Shanghai)	<a href="http://www.intertextilehome.com">www.intertextilehome.com</a>
Sep. 5-10	Salone del Mobile.Milano (Milan)	<a href="http://www.salonemilano.it">www.salonemilano.it</a>
Sep. 14-16	Heimtextil Russia (Moscow)	<a href="http://www.heimtextil.ru">www.heimtextil.ru</a>
<b>2022</b>		
Jan. 11-14	Heimtextil (Frankfurt)	<a href="http://www.heimtextil.messefrankfurt.com">www.heimtextil.messefrankfurt.com</a>
<b>Technical Textiles &amp; Nonwovens</b>		
<b>2021</b>		
Jun. 22-24	Cinte Techtexil China (Shanghai)	<a href="http://www.techtexilchina.com">www.techtexilchina.com</a>
Aug. 23-25	Techtextil North America (Atlanta)	<a href="http://www.techtexilna.com">www.techtexilna.com</a>
Oct. 19-22	Index (Geneva)	<a href="http://www.indexnonwovens.com/en/">www.indexnonwovens.com/en/</a>
<b>2022</b>		
Jun. 21-24	Techtextil (Frankfurt)	<a href="http://techtexil.messefrankfurt.com/frankfurt/">techtexil.messefrankfurt.com/frankfurt/</a>
Mar. 8-10	Filtech (Cologne)	<a href="http://filtech.de/">filtech.de/</a>
<b>Textile &amp; Apparel Machinery</b>		
<b>2021</b>		
May. 4-6	Gartex Texprocess India (Mumbai)	<a href="http://www.gartexindia.com/">www.gartexindia.com/</a>
Jun. 12-16	ITMA ASIA+CITME 2020 (Shanghai)	<a href="http://www.itmaasia.com">www.itmaasia.com</a>
Jul. 23-26	GFT New Gen (Bangkok)	<a href="http://www.gftexpo.com">www.gftexpo.com</a>
Aug. 6-8	Gartex Texprocess India (Delhi)	<a href="http://www.gartexindia.com/">www.gartexindia.com/</a>
Sep. 1-4	Textech Bangladesh (Dhaka)	<a href="http://cems-textech.com/">cems-textech.com/</a>
Sep. 15-18	IGATEX Pakistan (Lahore)	<a href="http://igatex.pk/">igatex.pk/</a>
Sep. 22-25	SaigonTex (Hochiminh)	<a href="http://sgntex.com/en/">sgntex.com/en/</a>
Sep. 23-25	Textech Sri Lanka (Colombo)	<a href="http://cems-textech.com/">cems-textech.com/</a>
Oct. 20-22	HanoiTex (Hanoi)	<a href="http://vhanoitex.com/en/">vhanoitex.com/en/</a>
Dec. 8-13	INDIA ITME (Delhi NCR)	<a href="http://itme2020.india-itme.com/">itme2020.india-itme.com/</a>
<b>2022</b>		
May 17-19	Texprocess Americas (Atlanta)	<a href="http://texprocess-americas.us.messefrankfurt.com">texprocess-americas.us.messefrankfurt.com</a>
Jun. 14-18	ITM (Istanbul)	<a href="http://www.itmexhibition.com/itm2022">www.itmexhibition.com/itm2022</a>
Jun. 21-24	Texprocess (Frankfurt)	<a href="http://texprocess.messefrankfurt.com">texprocess.messefrankfurt.com</a>

## Japan's Fiber, Textile & Processing Production (Jan.-Dec. 2020)

### Japan's Woven fabrics Production

Commodity	Unit	Jan.-Dec. 2020	Y-o-Y Change
<b>Woven fabrics</b>	m <sup>2</sup>	861,055,945	-19.1%
Cotton fabrics	m <sup>2</sup>	88,825,908	-18.7%
Wool fabrics	m <sup>2</sup>	18,948,172	-22.4%
Worsted fabrics	m <sup>2</sup>	16,164,875	-21.1%
Woolen fabrics	m <sup>2</sup>	2,783,297	-29.3%
Silk and spun silk fabrics	m <sup>2</sup>	1,377,851	-28.9%
Viscose staple fabrics	m <sup>2</sup>	44,718,279	-0.8%
Rayon filament and acetate fabrics	m <sup>2</sup>	28,082,737	-35.3%
Synthetic fiber fabrics	m <sup>2</sup>	679,102,998	-19.2%
Synthetic filament fabrics	m <sup>2</sup>	582,925,679	-19.9%
Nylon	m <sup>2</sup>	98,838,374	-22.4%
Polyester	m <sup>2</sup>	324,680,553	-18.0%
Other synthetic filament fabrics	m <sup>2</sup>	159,406,752	-22.1%
Synthetic staple fabrics	m <sup>2</sup>	96,177,319	-14.3%
Polyester	m <sup>2</sup>	71,654,244	-7.6%
Other synthetic staple fabrics	m <sup>2</sup>	24,523,075	-29.1%
<b>Other fabrics</b>			
Tire cord	kg	15,308,853	-28.8%
Nylon	kg	9,882,423	-30.2%
Polyester	kg	5,013,650	-25.3%
Towel	kg	9,146,624	-18.1%

Notes) Other fabrics (tire cord and towel ) are not included in total of fabrics.  
source:METI

### Japan's Chemical fibers Production

Commodity	Jan.-Dec. 2020 (t)	Y-o-Y Change
<b>Chemical fibers</b>	705,363	-13.8%
Filament fibers	314,515	-18.8%
Staple fibers	390,848	-9.2%
<b>Regenerated and semi-synthetic</b>	160,162	-2.8%
Filament fibers	14,896	-33.6%
Staple fibers	145,266	2.0%
<b>Synthetic fibers</b>	545,201	-16.5%
Filament fibers	299,619	-17.9%
Staple fibers	245,582	-14.8%
Nylon filament fibers	54,052	-29.2%
Acrylic staple fibers	83,647	-27.1%
Polyester	168,959	-15.1%
Filament fibers	92,799	-20.1%
Staple fibers	76,160	-8.0%
Polyethylene filament	6,124	-22.7%
Polypropylene	105,285	0.9%
Filament fibers	44,103	-4.8%
Staple fibers	61,182	5.5%
Other synthetic fibers	127,134	-15.8%
Filament fibers	102,541	-13.4%
Staple fibers	24,593	-24.6%

source:METI

### Japan's Spun yarn Production

Commodity	Jan.-Dec. 2020 (t)	Y-o-Y Change
<b>Spun yarn</b>	45,312	-29.2%
Cotton yarn (including condenser yarn)	21,318	-31.6%
Worsted and woolen yarn	5,796	-22.6%
Worsted yarn	3,896	-21.0%
Woolen yarn	1,900	-25.8%
Flax yarn	130	-36.0%
<b>Regenerated and semi-synthetic fiber yarn</b>	1,987	-33.9%
<b>Synthetic fiber yarn</b>	16,081	-27.3%
Acrylic yarn	2,981	-39.9%
Polyester yarn	8,880	-23.0%
Other synthetic fiber yarn	4,220	-24.9%

source:METI

### Japan's Tufted carpet, felt and non-woven fabrics Production

Commodity	Unit	Jan.-Dec. 2020	Y-o-Y Change
<b>Tufted carpet (except non-woven fabric)</b>	m <sup>2</sup>	46,432,937	-8.3%
<b>Press felt (except needle felt)</b>	kg	5,432,058	-16.9%
<b>Non-woven fabrics</b>	kg	300,615,362	-6.2%
Dry laid type	kg	266,809,057	-6.1%
Wet laid type	kg	33,806,305	-6.5%

source:METI

### Japan's Dyeing and finishing processes Production

Commodity	Unit	Jan.-Dec. 2020	Y-o-Y Change
<b>Woven fabrics</b>	1000m <sup>2</sup>	1,167,373	-14.2%
Cotton fabrics	1000m <sup>2</sup>	354,256	3.9%
Wool fabrics	1000m <sup>2</sup>	28,859	-30.0%
Worsted fabrics	1000m <sup>2</sup>	23,419	-27.5%
Woolen fabrics	1000m <sup>2</sup>	5,440	-39.1%
Silk-spun silk fabrics	1000m <sup>2</sup>	2,321	-33.2%
Rayon filament, cuprammonium rayon and acetate fabrics	1000m <sup>2</sup>	37,540	-25.6%
Rayon staple fabrics	1000m <sup>2</sup>	6,121	-24.2%
Synthetic fiber fabrics	1000m <sup>2</sup>	738,276	-19.5%
Filament	1000m <sup>2</sup>	561,187	-20.0%
Nylon	1000m <sup>2</sup>	94,806	-22.3%
Polyester	1000m <sup>2</sup>	466,381	-19.5%
Staple polyester	1000m <sup>2</sup>	177,089	-17.7%
Processing fees	1000 yen	97,661,288	-19.8%
<b>Knitted fabrics</b>	1000m <sup>2</sup>	347,161	-13.5%
Synthetic fibers of warp knitted fabrics	1000m <sup>2</sup>	146,860	-13.9%
Circular knitted fabrics	1000m <sup>2</sup>	200,301	-13.2%
Processing fees	1000 yen	37,016,445	-16.2%

source:METI

## Thailand's Export of apparel & textile (Jan.-Dec. 2020)

### Thailand's Export of apparel products Year-to-Date: Jan.- Dec. 2020

Category	Milion US\$				Growth		Share	
	2017	2018	2019	2020	19/18	20/19	2019	2020
Total Clothing	2,351	2,469	2,566	2,124	4%	-17	100%	100%
Garments of cotton	556	605	620	543	3%	-12	24%	26%
Garments of man-made fibers	757	796	830	641	4%	-23	32%	30%
Garments of other textile materials	494	542	583	484	7%	-17%	23%	23%
Brassieres, Corsets and parts thereof	213	197	201	187	2%	-7%	8%	9%
Babies garments	146	141	128	108	-10%	-15	5%	5%
Panty hose, tights, stockings,socks	119	120	130	122	9%	-6%	5%	6%
Others	65	67	74	38	10%	-49%	3%	2%

Source: TGMA

### Thailand's Export of Textile Products

ITEM	Jan. - Dec. 2020						
	Milion US\$			Growth		Share	
	2020	2019	2018	20/19	19/18	2020	2019
Textiles	3,625	4,343	4,668	-17%	-7%	100%	100%
Woven Fabrics	1,101	1,388	1,426	-21%	-3%	30%	32%
Yarn and Man-Made Filaments	510	665	778	-23%	-14%	14%	15%
Household Textiles	196	252	258	-22%	-2%	5%	6%
Synthetic Filament and Staple Fibers	712	844	992	-16%	-15%	20%	19%
Embroidery and Lace	98	156	148	-37%	6%	3%	4%
Fishing Nets	124	120	115	4%	4%	3%	3%
Shawls, Scarves, Mufflers, Mantillas, Viels	5	14	11	-66%	25%	0%	0%
Other Made up Atricles, Dress Patterns	189	127	115	48%	11%	5%	3%
Other Fabrics	690	777	825	-11%	-6%	19%	18%

Source: TGMA

### TOP15 Major Markets of Thailand Clothing Export by Country

Countries	JAN - DEC							
	Milion US\$			Growth		Share		
	2020	2019	2018	20/19	19/18	2020	2019	
1 USA	784	949	892	-17%	6%	37%	37%	
2 Japan	310	383	386	-19%	-1%	15%	15%	
3 Belgium	174	187	184	-7%	2%	8%	7%	
4 China	107	122	98	-12%	24%	5%	5%	
5 Hong Kong	68	58	53	18%	9%	3%	2%	
6 United Kingdom	67	85	76	-21%	13%	3%	3%	
7 Germany	66	78	67	-15%	16%	3%	3%	
8 Italy	52	71	67	-26%	5%	2%	3%	
9 France	46	58	67	-21%	-14%	2%	2%	
10 Australia	42	45	52	-6%	-13%	2%	2%	
11 South Korea	34	37	33	-6%	11%	2%	1%	
12 Netherlands	29	30	29	-7%	5%	1%	1%	
13 Canada	27	33	33	-18%	0%	1%	1%	
14 Singapore	25	36	34	-30%	4%	1%	1%	
15 UAE	18	27	26	-34%	1%	1%	1%	
<b>Total 15 Countries</b>	<b>1,851</b>	<b>2,200</b>	<b>2,099</b>	<b>-16%</b>	<b>5%</b>	<b>87%</b>	<b>86%</b>	
Others	273	367	369	-25%	-1%	13%	14%	
<b>Total</b>	<b>2,124</b>	<b>2,566</b>	<b>2,469</b>	<b>-17%</b>	<b>4%</b>	<b>100%</b>	<b>100%</b>	

Source: TGMA

### TOP 5 Major Markets of Thailand Clothing Export by Area

Group/ Countries	JAN - DEC							
	Milion US\$			Growth		Share		
	2020	2019	2018	20/19	19/18	2020	2019	
USA	784	949	892	-17%	6%	37%	37%	
EU(27)	485	583	563	-17%	4%	23%	23%	
Japan	310	383	386	-19%	-1%	15%	15%	
ASEAN (9)	85	135	139	-37%	-3%	4%	5%	
China	107	122	98	-12%	24%	5%	5%	
Hong Kong	68	58	53	18%	9%	3%	2%	
Total 1-5	1,841	2,231	2,131	-17%	5%	87%	87%	
Others	283	335	337	-16%	-1%	13%	13%	
<b>Total</b>	<b>2,124</b>	<b>2,566</b>	<b>2,469</b>	<b>-17%</b>	<b>4%</b>	<b>100%</b>	<b>100%</b>	

Source: TGMA

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