

Asian Textile Business

atb

In This Issue:

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- Anti-Viral Processing & Materials
- Apparel Machinery
- Chemicals

Website: www.asiantex.net



2020-VI Issue No. 731



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2020-VI (No. 731)

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Special Features
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Publication:
 End of November 2020

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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Toray

Response to Change by Establishing a Strong Supply Chain



Kenichiro Miki
Senior Vice President
Fiber&Textiles Division

Toray Industries, Inc. started a medium-term management program of which the final fiscal year ends in March 2023. Kenichiro Miki, Senior Vice President of the Fiber & Textiles Division, says, “We will do what should be done to prepare for and respond to change.” In accordance with the policy set forth in the medium-term program, a strong supply chain leading to growth is to be created with “local production for local consumption” as an important point for growing markets and sectors.

What impact has the coronavirus epidemic had, and does it continue to have, on events within the textile machinery industry?

Miki: The impact of the coronavirus is not small not only for textiles but also for the Japanese industry, and what

is important is the response to sectors where demand is growing. As far as textiles are concerned, it is essential to be actively involved in masks and gowns. In addition, working from home has reduced opportunities for wearing a suit, and casual wear is in the limelight. More people are beginning to play sports in response to the lack of exercise, and with this the sportswear market has become more active. It is also necessary to pay close attention to relaxing wear worn indoors, interior goods and computer peripherals. Meanwhile, business and formal wear are in a severe condition, so the same usual methods cannot be used. Ingenuity for growth is needed in a shrinking market. It is essential to analyze needs, propose what is required, and improve customer satisfaction.

How will you respond to the changing world?

Miki: In addition to the coronavirus, preconditions such as U.S.-China conflict and the assumed economic situation are changing. There is no need to change our major policy, but detailed strategies will need to be altered. The response to change is extremely important. The industrial textile sector centering on automobiles will recover at a relatively fast rate, but the apparel sector may remain in a severe situation. However, there are private label apparel specialty retailers (SPAs) and apparel companies that are performing well even in head-



winds. This is the same not only for Japan, but also for Europe and the U.S. It is necessary to analyze why they are performing well and establish a system that allows us to collaborate with strong companies.

The fiscal year ending in March 2021 is the first year of the medium-term management program.

Miki: If you do what should be done, prepare for change and respond to growing markets, you can achieve the sales revenue and business profits for the first half announced this August. One of the preparations is to strengthen the supply chain. We will run equipment that has been stopped, and thoroughly strengthen it, such as producing value-added products on development equipment.



For instance, our polypropylene spunbonded fabric plant in India was originally scheduled to commence operation this spring, but the plant could not be started because of the coronavirus. However, customer needs are growing, and we will respond to their

voice. Of course, all possible safety measures will be taken. Since the coronavirus has made it difficult to travel from one country or region to another, a manufacturing and sales system based on "local production for local consumption" is required. Toray has spunbonded fabric bases in India, China, Korea and Indonesia, and local production for local consumption can be promoted at each of these bases.

What is your policy for businesses integrating fibers, yarns, fabrics, apparel and other sewn products?

Miki: This is our strength, and we will take measures to expand it. While discussions with customers are



prerequisite, our operations in Southeast Asia will be strengthened and upgraded. We have our own plants and factories as well as the bases of subsidiary Toray International, Inc. in this region, and effective utilization of these plants, factories and subsidiaries will create a strong supply chain. Headwinds have been strong in the apparel sector, and we have taken measures for many of them to improve their technological capabilities. A new form of "local production for local consumption" is also being completed. There is room for growth if we make positive endeavors for our customers in Japan and around the world.

What kind of initiatives will you take with the Hokuriku Production Areas in Japan?

Miki: We are very aware that collaboration with the Hokuriku Production Area is indispensable for manufacturing unique to Japan. Therefore we will continue to deepen our efforts while having robust discussion. The production scale of that area is getting smaller, but it will be necessary to take measures so that each companies in that area can secure their profits even in such situation.



Asahi Kasei

The Deciding Factor Is Preparation for Change



Koshiro Kudo

Senior Executive Officer
President, Performance Products SBU

At Asahi Kasei Corp., preparation for change is a deciding factor determining business. The company emphasizes that the coronavirus will have the world test different measures and ways of thinking. According to Koshiro Kudo, Senior Executive Officer and President of Performance Products SBU at Asahi Kasei, a strong supply chain is to be created with the mutual use of equipment of other companies, and even for its fiber and textile business, alliances will be examined should opportunities arise.

How will the Japanese industry change with coexistence with the coronavirus?

Kudo: Our society has changed with the coronavirus, and the response to change is being tested amid geopolitical risks and difficulties in grasping global move-

ments. The industrial structure will also change. One of them is the move from face-to-face to non-face-to-face online negotiations. This is a huge change, and if you think business can continue as an extension of the past, it may even make your business unsuccessful. The ability to sense change is required, and the outcome of the company is determined there. In addition, the textile industry has a long supply chain from yarn to the final products, and should something occur, it will suffer irreparable damage. Human resources are important to prevent breaks in the supply chain. It is important for individual companies to secure and develop human resources, and we have entered an age of creating a strong supply chain with the mutual utilization of human resources between our company and companies in production districts. Making full use of owned assets (equipment) is also an issue. This includes the utilization of equipment of other companies in the same industry, competitors as well as partner companies. It is possible to grow together through M&A and joint ventures.

How do you anticipate the future economic situation?

Kudo: It is said that it will take some time for automobile production to return to the level of 2019, but it can't be helped. It is important to pay close attention to what kind of movements will occur and what is re-



quired during the coronavirus. The automotive industry is undergoing a once-in-a-century transformation, but approaches to autonomous driving and 'connected' are relatively fast. Preparation becomes a deciding factor. The general economy will probably head toward a recovery from the middle of fiscal 2021. If consumption is not stimulated, the economy will not hold. Measures will have to be taken for revitalizing the market. However, growing U.S.-China friction is a matter of concern.

How was the performance of fiber and textile business in the first quarter of fiscal 2020 (April-June 2020)?

Kudo: The automotive sector was hit considerably between April and June. Although business was anticipated to be difficult even after June, the recovery of the U.S. has been faster than expected, and Lamorous artificial suede is also performing well, mainly for SUVs. The sales volume to automotive-related sectors in the second half of the current fiscal year is likely to be at least the same level as the year before, and we are aiming to achieve an increase. In spunbonded fabrics, special demand for masks and gowns has worked positively for our business. Demand in both sectors is still strong, but when it settles down, our true ability will be tested. The apparel sector has suffered the most. Both Bemberg cupro fiber and Roica polyurethane stretch fiber bottomed out during April-June. Since August, Roica has been picking up, especially in the sportswear field. While Bemberg is favorable for application in outerwear, applications as lining and in traditional Indian



garments are down. We expect that the Bemberg production facility is likely to be fully operational in the second half of 2021.

What are the challenges in the second half of the current fiscal year and the next fiscal year?

Kudo: The automotive sector is positioned as a priority area, as changes are expected to create opportunities. An important point is seizing these opportunities. Lamorous will prompt a response to ecology. Competition is to intensify in non-automotive sectors. While strengthening development, Asahi Kasei will examine alliances whenever there is an opportunity.

AsahiKASEI

What is Bemberg™?

Bemberg™ is regenerated cellulose fiber, as known as material name cupro. The raw material is cotton linter, by-products through production of cottonseed oil.

It feels so precious.

Bemberg™ the Cupro fiber from Asahi Kasei

ASAHI KASEI CORPORATION Performance Products SBU Bemberg Division

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Kuraray Trading

Strengthening Business in Recycled Polyester and Other Environment-Friendly Textiles



Kenzo Murai
President

Kuraray Trading Co., Ltd. performed well in the fiscal year ending in December 2019 with a 5.7% decrease in sales and 0.2% increase in operating profits compared to the previous fiscal year. However, in the current fiscal year ending in December 2020, which is the final year of its medium-term business program, the company is encountering difficulties. Kenzo Murai, President of Kuraray Trading, expressed his intention of having a single-year business program in 2021 due to the coronavirus and starting a new five-year program from 2022.

Has the coronavirus had any positive impact?

Murai: Sales of masks have increased sharply, and we have received orders for fabrics for use in masks from several companies. One million masks were delivered to an apparel company on an OEM basis. We also received a flood of inquiries for acrylic sheets for use as partitions, and our acrylic sheet plant is operating at full capacity. However, because our plant also has its limit, all inquiries cannot be met.

Only three months are left in the current medium-term program.

Murai: Overall, the medium-term program went well up to fiscal 2019, but fiscal 2020 has been affected by the coronavirus. We have been strengthening the sportswear sector centering on OEM business with the use of production bases in Vietnam, but unfortunately orders for spring/summer 2021 are certain to decrease.

Has Kuraray Trading also been focusing on expanding sales of eco-friendly textiles?

Murai: We have been promoting sales of environment-friendly textiles including recycled PET bottle fibers and polyester fibers made from partially bio-based materials collectively under the Ecotalk brand. The development of polylactic acid fiber is also being undertaken. There are plans to soon increase the ratio of Ecotalk in the entire polyester filament business from the current 30% to 50%.



How are exports of fabrics for traditional garments to the Middle East, and domestic supply of fabrics for women's wear and black formal wear?

Murai: Exports of fabrics for traditional garments to the Middle East are mainly for application in women's abaya, but the weight of Japanese products, including our company, had been gradually declining even before the coronavirus. The trend is unlikely to change in and after 2021, and it would be difficult to aggressively expand business. The same can be said for women's wear fabrics. The market for black formal wear fabrics also continues to shrink. Since black formal wear fabrics are one of our specialties, we will continue to focus on the development of these fabrics. We want to make merchandising proposals with environment-friendly textiles.

Kuraray Trading has announced its entry into wearable technology.

Murai: Development is already completed, and production has started. We have plans to start sales from the fall/winter 2020 season, and our partners will announce the details soon. Our plans are to procure devices, etc. from the outside, and for our company to supply the wearables made with conductive fabrics as a product.

Teijin Frontier

Efficiency Improvement by Coexistence of Virtual and Real Business Is Important



Shinji Nikko
President & Chief Executive Officer

Shinji Nikko, President and Chief Executive Officer of Teijin Frontier Co., Ltd., expressed his intention of focusing on businesses related to sanitary materials, filters, infrastructure and mobility as well as sustainability in fiscal 2020. Digital technology is also advancing with the coronavirus pandemic, but the President says, "The final deciding factor is real (face-to-face) business," and points out the importance of improving efficiency with the coexistence of virtual and real business.

How will the textile industry change with the coronavirus?

Nikko: The decrease in opportunities to dress up and go out is an extremely negative factor for the textile industry. Under such circumstances, e-commerce is expanding, while the businesses of department stores and mass merchandisers are becoming even more difficult. The keywords are 'low cost', 'near' and 'short' trips or events. The tendency to buy cheaply, nearby and in a short time is prominent. This is particularly remarkable for companies enjoying strong sales despite the coronavirus. Textile manufacturers are also having a rough time. The coronavirus has lost business for the spring/summer 2020 season, and fall/winter 2020-21 business has also cooled down. Apparel applications will probably remain difficult for at least a year and a half. Digital technology is coming into greater use amid the new coronavirus, but it eventually comes to real business. Teijin Frontier has also held a virtual comprehensive exhibition due to the coronavirus, and achieved some results, but the negotiations did not go well in some cases because the products could not be

touched and felt. In the end, real business will probably remain as the final deciding factor and will coexist with online business. In other words, it is becoming more and more important to distinguish between what can be done online and what cannot for improving work efficiency.

How was business during the first half of fiscal 2020 amid the coronavirus?

Nikko: The apparel market was devastated during the April-June period, but our business deteriorated from the July-September quarter. The October-December period is expected to be even tougher. However, applications other than apparel are slightly different. The sales of sanitary materials such as staple fibers, intermediates and products are strong, and the Chinese market for automotive materials has recovered from around July. Japan is also heading toward a recovery. This will probably continue in the second half. Infrastructure- and filter-related businesses have also performed well.

What are the challenges during the second half of the fiscal year?

Nikko: We will continue to focus on the sanitary material sector. Because the coronavirus has changed the market, sectors where high functionality can be utilized to advantage are increasing. Teijin Frontier will focus on these sectors. For instance, masks will be made an all-year-round item with the launch of new products. As far as automotive-related products are concerned, we will focus further on these products, and there are some development projects that are to gain approval and enter mass production. As far as sustainability is concerned, the focus is on the recycled polyester fiber ECOPET, which celebrated its 25th anniversary. As a leader in recycled polyester fibers, Teijin Frontier wants to increase variations and contribute to society



Fukuhara Industrial & Trading

Higher Customer Satisfaction with Technological Capabilities at the Forefront



Masanori Fukuhara
President

Masanori Fukuhara became president of circular knitting machine manufacturer Fukuhara Industrial & Trading Co., Ltd. on July 29th this year. President Fukuhara gives an improvement of customer satisfaction as an important issue, and emphasizes further development of the technological capabilities of 'Made in Japan', including aftersales services. In China, the President intends to further strengthen ties with partners.

How was the fiscal year ended May 2020?

Fukuhara: Although sales in China were strong, India and Bangladesh were sluggish, resulting in a decrease of several percentages. Normally, the regions of China/Taiwan, other Asian countries and Latin America/Europe each account for one-third of sales, but in the previous fiscal year, the shares were about 45% for China/Taiwan including Vietnam, around 20% for other Asian coun-

tries and approximately 35% for Europe/U.S. including Central and South America.

What is the outlook for the current fiscal year?

Fukuhara: Orders decreased in the first quarter of the current fiscal year due to the impact of the coronavirus, but have been recovering since then. The ratio of China is also high to some extent. In addition, inquiries have been increasing from India and Bangladesh. There have been a lot of movements in Turkey during the last few months, so we will also focus on this market. The mattress industry is also showing movements.

Mr. Fukuhara, you became president on July 29th. What is your aspiration as president?

Fukuhara: As an important issue, we will work to improve customer satisfaction. Without this, business cannot continue for a long time. It is important that customers make a profit with our machines, and that they are satisfied with our machines including after-sales service, which will lead to business continuity.

Another issue is further development of the technological capabilities of 'Made in Japan'. In recent years, Chinese-made machines have emerged on the market, and price competition has become fierce. German companies are also carrying out assembly and parts production in China, so we will offer greater technological



OD7-M2XC-A3.2RE at ITMA2019

capabilities so as to avoid becoming involved in price competition.

What about aftersales service?

Fukuhara: Since connections between people are important, we will increase communication with customers in both technology and sales. We will listen to requests one by one and respond individually, and will also utilize the voices of customers in development.

What areas will you focus on in development?

Fukuhara: We will use electronic jacquard knitting machines and ultra-high-gauge machines to further improve performance on the premise of stability. There are electronic jacquard knitting machines for apparel and home textiles, and we will promote development according to respective needs. As for ultra-high-gauge machines, the market has expanded considerably also for 40-gauge models. Needles are also important for producing delicate fabrics. The higher the gauge, the more important the needle becomes, so we will strengthen development, while taking advantage of our forte of having a needle maker within the group.

As far as general-purpose machines are concerned, Fukuhara has developed the M2XC-A3-2RE high-speed single jersey machine. This model achieves high productivity and energy saving by improving the slider and devising a low friction cylinder, etc., and operation is stable at 1,350 SF (diameter × rotation).

What areas do you focus on in terms of sales?

Fukuhara: There are several major knitters in China that firmly carry out business, and we will continue to focus on them. Bangladesh, India and Pakistan are also markets to focus on, although their current market conditions are sluggish.



M-LEC8BSH

Bangladesh has traditionally been a market where price has been prioritized, but newly developed high value-added machines have been introduced by a major knitter. I hope to expand business with this company as a model factory. In Japan, it is required to respond to customer requests in detail, so I would like to listen to the voices of customers and deepen information exchange to meet their respective requests.



Fukuhara prides itself in being a worldwide leader in the manufacturing of circular knitting machines as well as knitting needles/sinkers.

In fact, we are the only machine manufacturer in the world producing both circular knitting machines and needles/sinkers. We are fully committed to not only developing new products to meet ever-changing market demands, but also to providing the best full technical support possible to our global network of customers.

We are certain you too will appreciate and come to rely upon Fukuhara's unbeatable combination of top quality machines and needles.

[MC Info.]

OD7-M2XC-A3.2RE

Single Knit High Speed Raceway Machine

Diameter:	26" - 42"
Feed:	84F - 136F
Gauge:	14G - 40G



Fukuhara Industrial & Trading Co., Ltd.

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Japanese Apparel Machinery

2020 a Difficult Year for Apparel Machinery Business

2020 appears to have been a difficult year for Japanese apparel machinery.

According to statistics released from the Japan Sewing Machinery Manufacturers Association (JASMA), the nation's production of household and industrial sewing machines during January-July 2020 decreased compared to the year before.

Based on Ministry of Economy, Trade and Industry (METI) statistics, production and sales of household sewing machinery during the first seven months of this year were at lower levels than the same period of last year.

The production of household sewing machines decreased by 19.4% in quantity and 22.8% in value, and sales declined by 19.3% and 22.1% respectively.

The decreases in production and

Production, Sales & Inventory of Sewing Machines

	January-July 2020			
	No. of Machines	Y-o-Y Change (%)	Million Yen	Y-o-Y Change (%)
Household sewing machines				
Production	23,881	-19.4	1,073	-22.8
Sales	23,840	-19.3	1,067	-22.1
Inventory	248	-40.8		
Industrial sewing machines				
Production	27,822	-47.2	7,108	-50.3
Single-needle straight line stitching	2,574	-47.6	251	-43.3
Top stitching	3,656	-37.6	630	-37.6
Others	21,592	-48.5	6,227	-51.6
Sales	48,380	-38.6	8,957	-48.4
Single-needle straight line stitching	2,534	-45.2	1,351	-42.4
Top stitching	18,329	-26.4	7,363	-42.7
Others	27,517	-44.1	8,957	-49.5
Inventory	8,924	-32.7		
Single-needle straight line stitching	445	-21.1		
Top stitching	4,118	-43.8		
Others	4,361	-18.7		
Total of household & industrial sewing machines				
Production	51,703	-37.2	8,181	-46.4
Sales	72,220	-33.3	10,024	-39.4
Inventory	9,172	-32.4		

Source: JASMA, based on METI statistics

Exports of Sewing Machine by Machine Type

	January-July 2020			
	No. of Machines	Y-o-Y Change (%)	1,000 Yen	Y-o-Y Change (%)
Household sewing machines (A=B+C)				
Household sewing machines (B)	149,405	-8.4	1,408,589	-18.4
Zigzag stitching (electronic speed adjustment type)	65,265	44.1	303,790	62.9
Zigzag stitching (others)	31,115	-3.7	210,481	15.8
Others	53,025	-38.0	759,150	-34.1
Parts (C)	-	-	135,168	-34.3
Industrial sewing machines (D=E+F+G)				
Automatic type (E)	7,494	-51.1	1,753,980	-78.2
Single-needle straight line stitching (for woven fabrics)	2,717	-2.0	41,773	-87.7
Single-needle straight line stitching (others)	0	-	0	-
Overlock	2,751	-11.0	106,243	5.2
Others	2,026	-78.6	1,605,964	-78.9
Other types (F)	35,149	-42.2	5,128,730	-49.2
Single-needle straight line stitching (for woven fabrics)	3,859	-27.5	261,003	-50.2
Single-needle straight line stitching (others)	2,438	-61.4	363,685	-63.1
Overlock	6,255	-24.2	638,308	-43.8
Others	22,597	-44.7	3,865,734	-48.1
Total of automatic and other types (E+F)	42,643	-43.9	6,882,710	-62.1
Parts (G)	-	-	4,007,246	-47.2
Sewing needles (1,000 needles) (H)	51,719	-43.9	513,848	-57.7
Tables & covers (I)	-	-	10,403	-62.2
Total of household and industrial sewing machines (J=A+D)	192,048	-19.7	8,156,131	-58.5
Grand total (H+I+J)	192,048	-19.7	12,822,796	-54.8

Source: JASMA, based on MOF statistics

sales of industrial sewing machines were sharper. January-July 2020 production of industrial sewing machines fell 47.2% in quantity and 50.3% in sales, with sales dropping 38.6% and 48.4% respectively.

According to Ministry of Finance (MOF) trade statistics, Japan's exports of industrial sewing machines during January-July 2020 fell 43.9% year-on-year to 42,643, with the value dropping 57.7% to 10,889.95million yen.

Exports of automatic types drastically decreased by 51.1% and 78.2% respectively, and those of other types were down 42.2% and 49.2% respectively.

By region, exports of industrial sewing machines decreased to all regions both in quantity and value, with the exception of a 6.3% and 98.1% increase in exports to Oceania.

Meanwhile, Japanese imports of industrial sewing machines during January-July 2020 sharply decreased by 70.3% in quantity year-on-year to 9,863, and by 53.1% in value to 859.02 million yen.

Imports of automatic types of industrial sewing machines fell 44.6% in quantity and 48.8% in value to 4,791 worth 537.07 million yen. Imports of other types fell by 78.4% and 59.5% respectively to 5,072 valued at 321.94 million yen. The total import value including parts decreased by 16.6% to 10,024.93 million yen.



Exports of Sewing Machines by Region

	January-July 2020			
	No. of Machines	Y-o-Y Change (%)	1,000 Yen	Y-o-Y Change (%)
East Asia	10,021	-37.3	2,470,277	-76.6
Household sewing machines	32	-37.3	839	-15.9
Industrial sewing machines	9,989	-46.5	2,469,438	-60.8
Southeast & South Asia	39,753	-26.4	2,084,642	-69.1
Household sewing machines	7,355	-4.8	26,716	-13.5
Industrial sewing machines	12,212	-51.3	2,011,963	-69.8
West Asia	20,734	-8.3	98,271	-2.2
Household sewing machines	19,604	-6.8	85,092	-4.1
Industrial sewing machines	1,130	-27.6	13,179	12.4
Europe	12,899	-20.5	1,638,748	-40.9
Household sewing machines	6,245	-7.8	318,423	-2.9
Industrial sewing machines	6,654	-29.6	1,320,325	-46.0
North America	9,703	-49.1	1,164,555	-59.4
Household sewing machines	5,923	-38.8	346,875	-42.3
Industrial sewing machines	3,780	-59.8	817,680	-63.9
Central America	161	-79.0	16,088	-89.7
Household sewing machines	0	-	0	-
Industrial sewing machines	161	-79.0	16,088	-89.7
South America		-1.0	102,089	-8.2
Household sewing machines	0	-	0	-
Industrial sewing machines	953	-1.0	102,089	-8.2
Africa	1,988	-20.4	32,993	-71.8
Household sewing machines	840	133.3	6,181	-38.8
Industrial sewing machines	1,148	-46.3	26,812	-74.9
Oceania	736	139.0	50,645	98.1
Household sewing machines	591	141.2	36,474	105.1
Industrial sewing machines	145	130.2	14,171	81.1
World total	192,048	-19.7	8,156,131	-58.5
Household sewing machines	149,405	-8.4	1,273,421	-16.3
Industrial sewing machines	42,643	-43.9	6,882,710	-57.7

Source: JASMA, based on MOF statistics

Note: Parts excluded.

Imports of Sewing Machines by Machine Type

	January-July 2020			
	No. of Machines	Y-o-Y Change (%)	1,000 Yen	Y-o-Y Change (%)
Household sewing machines (A)	354,296	-2.8	3,399,877	-4.8
Household sewing machines (incl. head portion)	354,296	-2.8	3,125,992	-2.8
Parts	—	—	273,885	-22.8
Industrial sewing machines (B=C+D+E)	7,629	-66.9	2,625,762	-46.0
Automatic type (C)	3,924	-44.6	377,218	-48.8
Single-needle straight line stitching	2,726	-46.7	133,884	-57.3
Overlock	216	-36.1	14,143	-75.8
Others	982	-39.8	229,191	-37.1
Other types (D)	3,705	-76.8	220,278	-63.5
Single-needle straight line stitching	825	-92.0	67,155	-35.8
Overlock	890	-60.1	52,426	-59.0
Others	1,990	-42.5	100,697	-72.9
Total of automatic and other types (C+D)	7,629	-66.9	597,496	-55.4
Parts (E)	—	—	2,028,266	-42.4
Sewing needles (1,000 needles) (F)	118,607	-27.3	325,584	-33.6
Tables and covers (G)	—	—	38,050	-47.0
Total of household and industrial sewing machines (H=A+B)	361,925	-6.6	3,723,488	-18.3
Grand total (H+F+G)	361,925	-6.6	6,389,273	-29.0

Source: JASMA, based on MOF statistics

Pegasus

Automatic Sewing Machines Contribute to Labor Saving and Higher Product Quality

According to Pegasus Sewing Machine Mfg. Co., Ltd., its consolidated net sales during the first quarter of the current fiscal year (April to June 2020) dropped 25.8% compared to the first quarter of the previous fiscal year to 3,294 million yen. Operating losses during the quarter amounted to 230 million yen, as compared with operating profits of 216 million yen in the year before. Net losses totaled 213 million yen.

Sales of industrial sewing machines decreased by 28.4% to 2,683 million yen with profits in this segment falling 94.0% to 32 million yen.

According to the company, the trade conflict between China and the U.S. and the coronavirus pandemic worsened its sales and business. Apparel manufacturers were reluctant to make capital investments, with the order quantity being narrowed down with the review of production volume and inventory plans because consumers are more conscious about environmental issues and sustainability.

Pegasus offers automatic machines and optional devices that contribute to labor saving and higher product quality.

The M900/AT/DD3A and MX/AT/DD3A series of overedgers comes equipped with an automatic tape/thread chain cutter (AT), automatic presser foot lift (PL) and pneumatic waste collector (LC, equipped only on AT8F model). The operation panel type controller enables frequently used functions, such as setting the machine speed, num-

ber of stitches for the AT device and similar functions, to be called up and set immediately. The machine also stops automatically. Two types of AT devices are available: electric type (AT6F) and pneumatic type (AT8F). The original built-in direct-drive motor ensures quality and safety.

Pegasus offers a number of machines that have an original built-in direct-drive motor that assures safety and quality, such as the D222/D232 series of overedgers and D322/D332 series of interlock stitch machines. The unified motor and machine design make setting up of each machine easy. The increased airtightness inside the motor provides additional safety. As there is no coupling, power is conveyed directly to the machine. Energy saving and high power contribute to higher productivity.

Brother

New Released NEXIO S-7780A Greater Quality with DigiFlex Feed

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



Pegasus M900/AT6F/DD3A series



NEXIO S-7780A

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.

JUKI

Newly Added The S Type Series for Medium Weight Materials

JUKI CORPORATION has launched new LH 4500C Series, 2 needle lockstitch sewing system including the new S type model (for medium weight materials). This new LH 4500C Series comes with digitalized sewing adjustment functions to improve the seam quality and to reduce the setup time. In addition, it also enables production management by linking the sewing machine to the JUKI special app.

The S type model (for medium weight materials) newly added to the LH 4500C Series product line, is used for sewing front plackets of men's shirts, sewing pockets to casual wear and workwear, etc.

In the case of 2 needle sewing machines, customers require improved seam quality since the machines are used for sewing decorative stitches and top stitches that are visible on the right side of garments.

The newly added S type model comes with a "large hook" that has conventionally been difficult to use for sewing

medium-weight materials. When using a large hook, the amount of thread wound on a bobbin can be approximately doubled. This means the large hook has an effect of decreasing the high frequency of replacement of bobbin thread by half every working day. Conventionally, the large hook has mainly been adopted by the sewing machines that are used for sewing heavy-weight material.

In the case of sewing machines for medium-weight materials, the adoption of a large hook has been deferred since sewing medium-weight materials with a large hook is likely to cause stitching failures such as "irregular stitches" and "thread breakage".

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JUKI semi-dry head, 2-needle, needle-feed, lockstitch sewing system

Anti-Viral Materials & Processings in Japan

Antiviral Processing and Textiles Meeting Social Demand

With the coronavirus pandemic, social demand for antiviral processing and textiles is growing more than ever. In response to the increasing awareness of keeping the entire living space clean for reducing the risk of infection, the proposals and applications of antiviral processing and textiles are accelerating rapidly for various items.

Strict Confirmation of Functionality

Japanese textile manufacturers, dyehouses and makers of processing agents put antiviral processing and textiles into practical use from an early stage. Since the outbreak of the coronavirus, inquiries have sharply increased for products such as Flutect from Shikibo Ltd.; Cleanse from Kurabo Industries Ltd.; Clear Fresh V from Daiwabo Co., Ltd.; Viablock from Toyobo STC Co., Ltd.; Variex from Nisshinbo Textile Inc.; and Paramos Plus from Daiwabo Rayon Co., Ltd. Toray Industries, Inc. has also developed Makspec V.

The antiviral test methods of International Standards (ISO) and Japanese Industrial Standards (JIS) basically test influenza virus and feline calicivirus as a substitute for norovirus. The former has an envelope (a film-like structure that covers the virus), and many of the antiviral processing and textiles have a mechanism that works on this envelope to inactivate the viruses and reduce their number. Since the coronavirus also

has an envelope, it was assumed that antiviral processing and textiles would be effective if the antiviral property against the influenza virus could be confirmed in principle.

More rigorous checks of functionality are in process. Shikibo's Flutect; Aerotecno from Komatsu Matere Co., Ltd.; and Deofactor from the dyeing and finishing company, Takahashi Rensen Corporation have been confirmed to have an antiviral property against the coronavirus (human). Since the new coronavirus is also a subspecies of coronavirus (human), it is presumed that it can exert the same function. Kurabo has confirmed that its Cleanse antibacterial and antiviral functional textile processing technology has antiviral property against the coronavirus (SARS-CoV-2). In a stricter sense, the possibilities of launching the antiviral property against the coronavirus will increase.

Kurabo

Expanding the Application of Cleanse to Protective Gowns and Kits

Kurabo offers its Cleanse antibacterial and antiviral functional textile processing technology, for which inquiries have been rapidly increasing in many sectors with the coronavirus pandemic, for all applications such as white gowns, workwear, casual wear and non-apparel materials. A high-performance type has also been developed, which the company will offer for protective gowns.

Kurabo is accelerating movements for the application of Cleanse in all apparel items. In non-apparel materials, its application in masks has also expanded. Cleanse V, which has a higher antiviral property, has also obtained the SEK Mark for antiviral processed products from the Japan Textile Evaluation Technology Council. Protective gowns are compliant with the level 1 standard of the international organization, the Association for the Advancement of Medical Instrumenta-



Antiviral testing continues to operate at full capacity
(KAKEN TEST CENTER)



"Cleanse Kit" also includes an infection prevention awareness tool

tion (AAMI). Since these gowns can be used at general clinics and caregiving/rehabilitation facilities and also can be washed, they offer the advantage of re-use over the problem of disposal.

For schools, Cleanse kits containing a Cleanse spray and a tool for enlightening infection prevention are being sold. The effect of the spray lasts by spraying once a week, and the Cleanse Kit SS for companies is also available. Kurabo has also expanded its online shopping site to sell masks and towels centering on Cleanse.

Daiwa Chemical

Extensively Expanding Applications with Latent Heat Storage Materials

Daiwa Chemical Industries Co., Ltd. has developed the V-SYN fixing agent for use in combination with the antiviral processing agent Amolden V-100JM to improve washing resistance. Its performance has been confirmed to meet the SEK Mark certification standard even after 10 washings.

Amolden V-100JM has high antiviral performance, and is used for textile-related applications such as filters, masks and mask inners. With the spreading of the coronavirus, needs have increased for versatile use such as wallpaper, paints and miscellaneous goods.

As demand for applications in apparel such as outerwear has increased, Daiwa Chemical has been undertaking developments for improving washing durability,

and high washing durability is achieved by using it together with the newly developed V-SYN fixing agent. Full-scale proposals started in September.

When a pure cotton fabric is processed, an antiviral activity value of 3.5 was confirmed after 10 washings (JIS L1922 antiviral test method, tested with influenza virus). It is a value that inactivates 99.9% or more of the virus on the fabric, and meets the SEK Mark standard (3.0). Since Amolden V-100JM has already been confirmed to have antiviral performance against the coronavirus (human), Daiwa Chemical hopes that it will also exhibit its effectiveness here.

Shikibo

Application on Works Shown at Paris Collection

Shikibo's Flutect antiviral processing has begun to be used for a wide range of applications in the wake of the coronavirus pandemic. As Flutect was also used for the works shown at Paris Fashion Week (Paris Collection), its recognition is rising in the high fashion sector.

Flutect has achieved results as a pioneer in antiviral processing, and has also acquired the SEK Mark for antiviral processed products from the Japan Textile Evaluation Technology Council. Against the background of these achievements, its application has expanded to bedding, school uniforms, casual knitwear, etc. amid the coronavirus. Proposals for workwear will be accelerated with the development of a type that maintains



Flutect is used for the Paris Collection works of Anrealage

its effect even after 50 industrial washings.

Flutect was used for the works of Designer Kunihiro Morinaga's Anrealage brand shown at the September Paris Collection. As it is rare to use sanitary processing in the high fashion sector, hopes are increasing for its widespread use in this sector.

Another advantage is the antiviral testing laboratory at its dyeing and finishing subsidiary, Shikibo Konan Ltd. In addition to developmental aspects such as tests for introduction in new materials, it also leads to quality reliability such as the implementation of lot checks. Shikibo has also developed Flutect Spray, a virus removal/sterilization spray that applies the processing agent of Flutect. Its effect lasts for 14 days with just a single spray.



The "SEK antiviral processing mark" certified by the JETEC (Japan Textile Evaluation Technology Council) plays a major role in ensuring reliability

Daiwabo Rayon

Application Development by Planning Proposal; Nonwovens Application by the Processing of Staple Fibers

Daiwabo Rayon Co., Ltd. will strengthen planning and proposal-type sales for the antiviral rayon staple fiber Paramos Plus, and promote its widespread use with proposals

including application development. Taking advantage of the characteristics of staple fiber processing, the company will promote practical applications for spun yarns as well as for nonwovens.

Paramos Plus is produced by applying an antiviral processing to Paramos, which gains pH control by kneading carboxyl-based functional agents, and possesses antibacterial and deodorant performance in addition to antiviral property. The staple fiber itself has antiviral property, and can be spun into an antiviral yarn without the application of aftertreatments, and can be used for woven or knitted fabrics, socks, etc.

Daiwabo Rayon is also focusing on the proposal of fibers for nonwovens, and sample work has already started.

Because there are few cases in which functional rayon is used in the sector of nonwovens, it is important to develop applications by making proposals that extend to product planning. Various applications are considered, such as wiping materials and antiviral door-knob covers.

Many of the nonwoven applications are intended for disposables. In response to disposal issues, the superiority of biodegradable rayon is to be promoted.



High antiviral function is offered for various items (from Paramos Plus pamphlet)

Japanese Dyeing & Processing Chemicals

Their Strengths Are Stable Quality, High Functionality and Environmental Friendliness

The sluggish consumption of textile products around the world has also hit companies in Indonesia. The future is extremely uncertain with factory utilization rates being significantly lower than the previous year. Indonesian companies are doing everything possible, such as material developments and fixed cost reduction, in preparation for business opportunities after the coronavirus recedes.

Meisei Chemical

Its Forte Is Response to Needs in Various Sectors, Not Just Textiles

Meisei Chemical Works, Ltd. manufactures and sells dyeing auxiliaries and functionality processing agents for the textile sector, as well as various processing agents for the paper and pulp sector. Beside the stable quality of Japanese-made products, the company boasts strength in the fact that it can meet needs not only in the textile industry but in a wide range of industries.

Although the coronavirus has had an impact on a worldwide scale, Meisei Chemical's sales to China have not declined because of this strength. Among these strengths are specialty water- and oil-repellent

finishing agents. Sales to China temporarily declined due to the coronavirus, but have returned to a normal level from this April. The driving force behind this are various water- and oil-repellent treatments, such as AsahiGuard E-Series, an environment-friendly fluorine-based water- and oil-repellent processing agent (C6 type) manufactured by AGC Inc., for which Meisei Chemical is the sole distributor. Sales to China are stable, as it offers products not only for textiles, but also for paper and pulp molding (paper molded products).

Meisei Chemical processing agents, including water-repellent agents, are also environmentally friendly. More than 70 of its dyeing auxiliaries and functional agents are Bluesign registered. The company is one of the first Japanese dyeing and processing agent manufacturers to work on environmental measures, and it became a Bluesign System Partner in December 2014.

Founded in 1940, Meisei Chemical boasts strength in technological development capabilities cultivated over many years. The company offers a wide range of functional agents such as softeners, deodorants and flame retardants, not to mention water- and oil-repellent agents, as well as dyeing auxiliaries including agents for scouring, leveling and soaping.

Mikiriken

Extensively Expanding Applications with Latent Heat Storage Materials

Mikiriken Industrial Co., Ltd. is extensively undertaking the development of applications for latent heat storage materials, which regulate ambient temperature by absorbing or releasing heat. The core of these materials, Phase Change Material (PCM), has come into widespread use even for textiles, and the interest of users is increasing. With this as a tailwind, the compa-





ny is exploring new applications for textile processing. Following the microcapsules containing PCM, it has also started sales of heat- and cold-keeping materials with gelled heat storage materials. Furthermore, the development of a wide range of applications will continue, as the formulation of JIS standards for building materials is under consideration.

Mikiriken will continue to improve the functionality of non-fluorine-based water repellents, another core product together with heat storage microcapsules. As a result of recent promotional endeavors, its non-fluorine-based water repellents are increasingly being used by Japanese-affiliated processing plants in China that process products for the Japanese market, and for some high-value-added products for domestic sale in China. The company plans to offer a greater variation of products, such as the silicone-based water repellent Riken-Palan SG-54, which is increasingly being utilized for apparel for the Japanese domestic market.

In addition to the antibacterial and deodorant processing agents and heat storage applications which Mikiriken has been promoting for the purpose of raising its recognition as a comprehensive finishing agent manufacturer, the company will enhance its lineup of microcapsules, formalin catchers and Bincho charcoal powder. Particularly, inquiries are increasing for antibacterial processing, and in the sector of microcapsules containing aromatic components, sales of mint oil for imparting a refreshing feeling are strong.

Even for Bluesign certification, in which it is a system partner, Mikiriken is gradually increasing the registration and certification of products. Recently, the company completed the registration of formalin catching agents and catalysts for melamine, and will continue to increase the number of registered items.

Daiwa Chemical

Extensively Expanding Applications with Latent Heat Storage Materials

Daiwa Chemical Industries Co., Ltd. will strengthen its proposal of the newly developed antibacterial agent Amolden D4C. The agent can be added to the same bath during high-pressure dyeing of polyester for imparting high antibacterial property. The same bath process is also possible for continuous dyeing



and cheese dyeing. The company aims to expand sales inside and outside Japan in response to growing needs for sanitary processing due to coronavirus.

Since the chemicals enter the non-crystalline portion together with the disperse dye, the durability to washing is high, and even after 50 industrial washings, the antimicrobial effect against *Staphylococcus aureus* and *Klebsiella pneumoniae* is maintained.

Amolden D4C also exhibits superiority in aspects of safety and energy saving. Cost reduction and quick delivery are possible by simplifying heat treatment in the aftertreatment stage and drainage process. As zinc pyrithione is not used, the acute oral toxicity (LD50) is 5,000 milligrams per kilogram of the SEK Mark antimicrobial level. Even for environmental burden during drainage, it easily passes Japan's strict environmental regulations. The handling of hazardous materials is unnecessary, and long-distance transportation costs such as overseas can be reduced.

Another feature is that dyeability is not impaired. There are extremely slight fading of the processed fabric and discoloration of the chemical itself due to light. In light fastness tests, good results have been obtained both for single dark colors and three primary colors.

Amolden D4C was launched in Japan at the end of last year. It is offered for a wide range of applications including white gowns, and the response is already favorable among hospitals. Even for trials at dyehouses, its easy handling is well received. Daiwa Chemical hopes to receive large orders for the processing of spring/summer 2021 articles. In China as well, the

company is working to improve the sales system before the start of sales.

Rakuto Kasei

Development of GOTS-Certified Desizing & Scouring Agents

Rakuto Kasei Industrial Co., Ltd. manufactures and sells enzymes and functionality processing agents. Recently, the company obtained the organic cotton certification, Global Organic Textile Standard (GOTS). GOTS was obtained for the enzyme-based desizing agent Ractase SD and scouring agent Desco FTR-40. It is the first Japanese company to obtain GOTS certification for enzyme agents.

In addition to pretreatment agents, Rakuto Kasei will continue to focus on developing environment-friendly types of aftertreatment functionality processing agents. As an environment-friendly type, it offers the vegetable dye RK Colors, which is available in about 20 colors.

As for functionality processing agents, Rakuto Kasei has developed a processing agent that can impart moisture absorption and heat generation to polyester. Up to now, the mainstay was processing agents for natural fibers, and this is the first time that a processing agent for polyester has been developed. A testing organization confirmed that the moisture absorption and heat generation temperature is 1°C or higher. In addition to apparel, the company is aiming at applications in nonwovens. This processing agent was selected for the Strategic Fundamental Technology Enhancement Support Project 2017 by the Ministry of Economy, Trade and Industry (METI)

for its high durability, such as maintaining its performance at 80% or higher after 20 washings.

Sales of standard pretreatment agents moved during the first half of the fiscal year ending in January 2021, but have been declining from May. Sales to Bangladesh and Sri Lanka moved from the latter half of July, but at a considerably lower level than usual. The company is taking a cautious view for the fiscal second half, with the uncertain outlook of sales toward the Japanese domestic market.



Regarding of the development of “Palpa Made With Sorona polymer”, optimizing “Sorona” by DuPont de Numours Inc.

Unitika Trading Co., Ltd has succeeded in developing a new spun yarn, Palpa Made With Sorona polymer. It applies the partially bio-based Poly Trimethylene Terephthalate (PTT) resin, “Sorona” made by DuPont Specialty Products and Unitika Trading’s unique multi-layer yarn technology, Palpa Formula.

According to UNFCCC, 10% of the greenhouse gas emissions are caused by the fashion industry which comes in second only after the oil industry. Unitika Trading has been incorporating SDGs (Sustainable Development Goals) from an early stage and has come up with concrete measures for the topics that concern all textile manufacturers namely energy, water, and harmful chemical substances.

Furthermore, climate change countermeasures and the promotion of circular economy are indispensable as the spread of new coronavirus causes major changes in people’s lifestyles and corporate activities around the world.

DuPont Sorona polymer is a PTT resin which contains 37% plant origin ingredients developed by the bio-

Performance of “Palpa Made With Sorona polymer”

Stretchability (JIS L 1096)		
Weft	After 1 min.	After 1 hour
Palpa Made With "Sonora" polymer 30/2	18.4%	19.5%
Blank E/C 40/60	12.3%	13.1%

technology of DuPont and minimizes the impact on the environment without sacrificing quality and performance. Sorona polymer offers unique performance benefits for the apparel industry, including excellent softness, stretch and recovery.

Unitika Palpa is a multi-layer yarn that uses polyester for the core and cotton for the sheath. It has the softness of cotton as well as the high-strength properties of a polyester blend, and is more resistant to wrinkling than cotton and has excellent wash recovery. It is also superior in water absorption, quick drying and static electricity control even compared to polyester.

Palpa Made With Sorona polymer is a new material developed by both companies to complement each other’s technology and achieve the goal of a sustainable society and a comfortable life for people in partnership.

The material combines the best features of PTT fibers. It has a certain

Anti-pilling comparison (JIS L 1076 ICI 5hr)	
Palpa Made With "Sonora" polymer 40/1 (E/C 40/60)	3.5 grade
Blank E/C 40/60	2 grade

amount of elasticity and firmness, yet it has a softer feel to it and its good stretchability ensures a comfortable wearability of the final product. This environmentally friendly and functional material reduces our impact on the global environment and enhances people’s lives with its improved easy-care properties, quick-drying water absorption and pilling performance.

Additionally, Unitika Trading joins the Sorona Common Thread Fabric Certification Program and expands its sales of Palpa Made With Sorona polymer in the global market with the certified brand of Sorona Luxe.

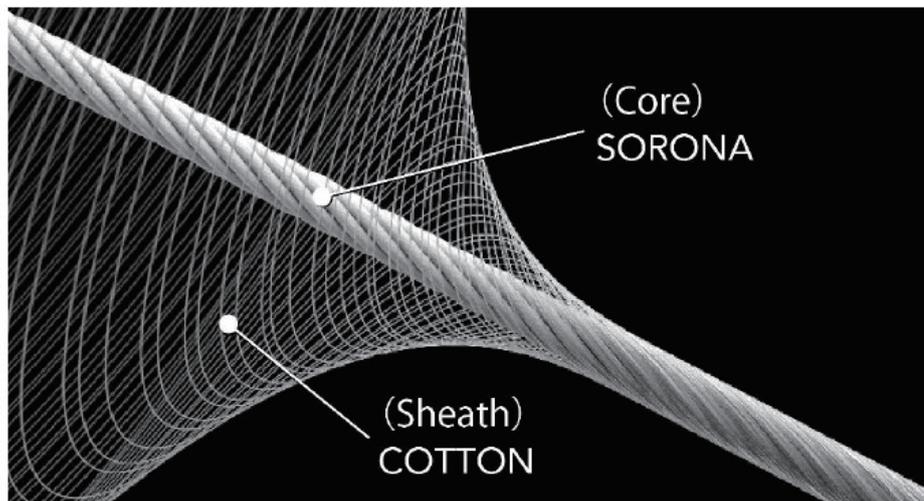
As noted above, Unitika Trading is going to introduce “Palpa Made With Sorona polymer” into a wide range of fields, from fibers for garment uses to household goods as a stress-free comfortable material with reliable environmental performance.

Toray Develops Antiviral Textile Offering Exceptional Washability and Comfort

Toray Industries, Inc., announced that it has developed MAKSPEC V, an antiviral textile that delivers exceptional washability and comfort.

This polyester material is the fruit of proprietary textiles processing technology that ensures the durability of antiviral processing while providing a soft and comfortable texture. The antiviral properties of MAKSPEC V reduce the lipid bilayer envelopes of viruses on the material.

Toray aims to propose an array



Summary of multi-layer yarn “Palpa Made With Sorona polymer” Image

of applications that take advantage of these features. These extend from service, medical, work, school wear, and other uniforms to sportswear, casual apparel, and fashionwear.

The company will commercialize MAKSPEC V textiles in January 2021. It targets 300,000 square meters in sales in 2022, rising to 1 million square meters in 2025.

Washability has been a key challenge with agent fixation to eliminate viral envelopes. The common practice has thus been to employ cotton blend materials that make fixation easier, but such a solution cannot offer the easy care, stretch, or sweat wicking of synthetic materials.

Another approach has been to use polyester incorporating adhesives to ensure washability. This has constrained the development of clothing applications, however, as adhesives harden textile textures.

Toray resolved these issues by using optimal antiviral agents and leveraging a proprietary fixation tech-



Product sample of "MAKSPEC V"

nique for polyester fibers. Because of its ability to reduce envelope strains, MAKSPEC V accordingly received certification under the SEK Mark program of the Japan Textile Evaluation Technology Council as an Antiviral Finished Textile Product. MAKSPEC V also offers excellent commercial laundry washability. MAKSPEC V maintains textile softness for wearer comfort. Another key advantage is that it offers the colorfastness needed for fabric in regular apparel. Toray will accordingly cultivate broad apparel applications by combining these features.

The company will draw on the textile processing technology it amassed in developing materials for uniforms, which demand exceptional functionality, to create textiles that provide outstanding performance and added value by combining comfort and safety, thus contributing to social progress.

Toray to Supply Carbon Fiber Composite Materials for Lilium's all-electric air vehicle

Toray Industries, Inc., announced that it has concluded an agreement with Lilium GmbH to supply carbon fiber composite materials for the Lilium Jet. The Munich-based company is developing this all-electric, vertical take-off and landing aircraft to deliver clean, regional air mobility as early as 2025. Lilium CEO Daniel Wiegand is one of the co-founders of that company, which was established in 2015.

Regional air mobility could help reduce traffic congestion, noise, and air pollution in crowded cities. Entities around the world are developing airframes and operational systems for air taxi services. Governments are working on regulatory frameworks. Lilium is spearheading the quest to

manufacture air vehicle and develop and commercialize services.

Carbon fiber composite materials are vital to lighten such vehicles as the Lilium Jet. Toray is deepening ties with Lilium and other manufacturers while continuing to innovate materials that contribute to progress with these transportation platforms by enhancing performance, conserving energy, and lowering costs. The Lilium Jet will take up to four passengers and its pilot up to 300 kilometers in less than 60 minutes. Its fuselage, wings, rotor vanes, and other structural components will employ carbon fiber composite materials.

Under the Medium-Term Management Program, Project AP-G 2022 announced in May this year, Toray's Carbon Fiber Composite Materials Business seeks to strategically expand its operational infrastructure for urban air mobility applications. Toray aims to help resolve urban environmental issues by developing materials that cater to the unique challenges of air vehicles.

Mitsubishi Chemical Launches "Soalon" Sustainable Program

Mitsubishi Chemical Corporation (MCC) has launched a new initiative called the Soalon Sustainable Program, which harnesses the environmental benefits of Soalon acetate fiber. Soalon, a semisynthetic fiber made from wood pulp, has been attracting attention in Japan and abroad as a sustainable material.

The Program has been developed to quantify and categorize the environmental burden of different textile products in the Soalon range, in the aim of visualizing the challenges of making improvements.

Specifically, product details, processes, and techniques are verified at each phase of textile production:

design, weaving/knitting, and dyeing. Each product is then scored based on evaluation criteria established exclusively for Soalon and categorized into one of three classes (the Soalon Sustainable Program levels). Showing the environmental burden of each product enables customers to consider products from a new sustainability perspective in addition to conventional viewpoints such as feel and quality when they are evaluating products.

MCC has obtained third-party certifications to ensure sustainability at every stage of Soalon operations from raw material procurement to textile manufacture, but has not previously been able to objectively show the environmental burden of each product because of their diversified yarn compositions and production processes. The Program is expected to clarify key points for improving individual products, and aims to further enhance the sustainability of the entire Soalon product range.

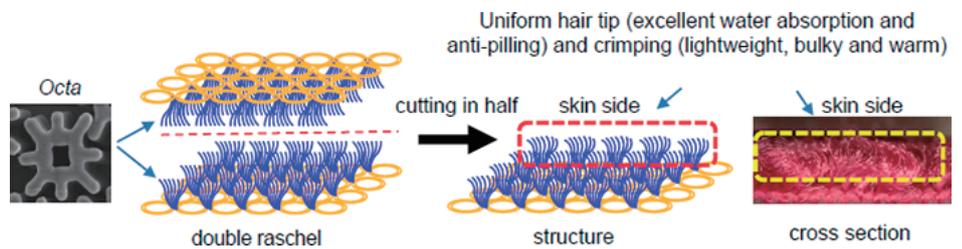
By collaborating with partner companies in the aim of realizing KAITEKI, the vision set out by the Mitsubishi Chemical Holdings Group, MCC will promote further enhancement of Soalon's sustainable value and contribute to the circular economy.

Teijin Frontier Develops Next-generation Heat Insulating Structure

Teijin Frontier Co., Ltd., the Teijin Group's fibers and products converting company, announced its new heat insulating structure which combines sweat absorption and quick drying for innerwear and heat insulation for brushed-finish intermediate wear, or middler, worn between the inner and outer layers to retain heat. Teijin Frontier is positioning this new structure as a key material for

Key Features of the new structure

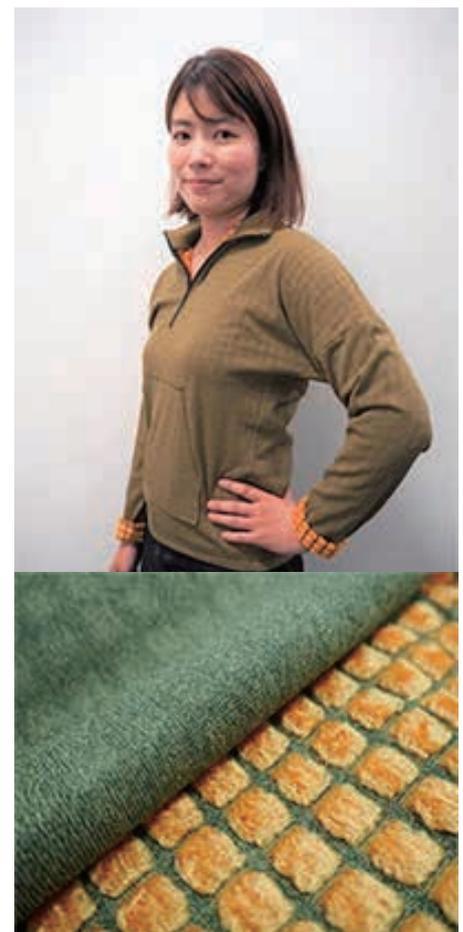
Function/Feature		Content
Wear comfort	Lightweight and heat insulating	New bulky plush structure that does not brush. High-insulation dead air achieved with unique, highly modified cross section and crimping structure.
	Warmth	Comfortable warmth enabled by Octa's crimping yarn tips.
	Absorbent and quick drying	Prevents stickiness and cold sweat with excellent water absorption and quick drying enabled by Octa's eight projections.
Eco friendly	Wash and wear durability	No pilling even after long-term wear and washing.
	Eco friendly	100% recycled polyester material can be used. Using filament and preventing yarn brushing to suppress microplastic discharge.



outdoor wear in fall and winter 2021 collections. Eventually, applications of the new structure will include outdoor, sports, casual and uniform applications, targeting annual sales of one million meters in fiscal 2025.

The new structure offers a new type of bulky plush structure that does not brush. It is a double raschel knitted fabric cut in half with high precision. Its middle nodes are made with Octa, Teijin Frontier's highly modified hollow-core fiber with eight projecting fins aligned in a radial pattern. It also uses a distinct dyeing technology to maximize Octa's crimping function and stabilize its high-quality plush structure. Unprecedented comfort is enhanced with heat insulation (lightweight bulkiness and warmth) and yarn tips on the skin side that evenly absorb sweat and dry quickly.

Outdoor wear warmth is determined by outer, middler and inner garments which are added or excluded by the wearer in accordance with expectations regarding level of activity and usage environment. However, the expanding everyday use of out-



"Thermo Fly"

door wear has raised the demand for single layers offering two-layer functionality, in particular, a compact

layer with both middler and inner functions. Whereas brushing yarn is mainly used to achieve heat insulation in middler, the inner layer typically requires sweat-absorption and quick-drying functions. Until now, however, it has not been possible to combine middler and inner functions because uneven surface caused by brushing yarn decreases sweat-absorption and quick-drying function.

Sage Automotive Interiors Completes Acquisition of Adient's Automotive Fabrics Business

Sage Automotive Interiors (Sage), an Asahi Kasei subsidiary based in South Carolina, the US, has completed its acquisition of the automotive fabrics business of Adient plc as announced on March 5, 2020 (US Eastern time), for approximately \$175 million (approximately ¥18.8 billion at exchange rate of ¥107.36 per US\$ on March 5 Japan time). The transaction closed on September 30, 2020 (US Eastern Time), after receipt of all necessary regulatory approvals.

By combining the automotive fabrics business acquired from Adient, having marketing, manufacturing, and development centered in Europe, together with its own established business, Sage will be able to further expand in Europe, the largest market for automotive interior fabric and the source of innovative automotive trends. Sage plans to achieve the following synergies through this acquisition.

- 1)Optimum global manufacturing
- 2)Mutually complementary relationships with NA/EU OEMs
- 3)Full product lineup (fabric, artificial suede, synthetic leather)

By advancing its regional strategy and product strategy around the world to reinforce its position as

one of the leading suppliers of vehicle seat fabric and strengthen its relationships with automotive OEMs in each region, Sage is expected to make a growing contribution to the Asahi Kasei Group's overall expansion of business in the automotive field.

Sage also expects that expansion in Europe will enable it to maintain its leading position in the global market for automotive interior materials.

Teijin Aramid relocates Head Office to further enable an inspiring and sustainable workplace

Arnhem, the Netherlands, 21 September 2020 – Teijin Aramid B. V., a world leader in aramid, announces that it will move its Head Office within Arnhem on September 21, 2020. This relocation underlines Teijin Aramid's commitment to creating an engaging and collaborative workspace for its employees, as well as to reducing the environmental impact of its operations.

The new office, known as T ONE, will be based in the skeleton of one of Teijin Aramid's old laboratories, with a 5,000m² floor space, and incorporates several examples of sustain-

able design. For example, granulates from the demolition of the laboratory is used to pave the new car parks and access roads. Additionally, features such as solar panels, heat pumps, water-saving taps, external sun blinds, and heat recovery contribute to the building's low energy footprint and A+ energy label. Furthermore, charging points for electric cars and bicycles, a restaurant serving locally sourced food, and a wall of 1,500 plants will further minimize Teijin Aramid's environmental impact.

The new Teijin Aramid Head Office has also been specially designed to foster an inspiring and collaborative workspace for employees, while also enabling independent and noise-free work. Specifically, vibrant areas like meeting rooms and kitchenettes are clustered around the building's elevator in the middle. Workspaces are located close to the façade, creating quiet and daylight. The location next to Teijin Aramid's Research and Innovation Center (RIC) will also drive effective collaboration, while its proximity to production sites and the EMEA sales office will facilitate further innovation and development.



New office in arnhem

Sateri Boosts Closed-Loop Manufacturing Capabilities with New R&D Innovation Centre

Sateri has taken another bold step in its endeavour to diversify its portfolio of fibre products and maintain best-in-class manufacturing standards with a new R&D Innovation Centre.

The US\$48 million centre is housed in a brand new multi-storey building located in Rizhao, Shandong, China, where Sateri's 20,000 ton per annum Lyocell production facility is also sited. It features a 5,000 ton per annum Lyocell production line dedicated for pilot trials, and other state-of-the-art equipment imported from the USA and Austria.

The Centre's activities will focus initially on laboratory tests for pulp selection, new and differentiated fibre product development, and quality and productivity improvements in Lyocell production. The Centre is also poised to explore frontier next-generation textile fibre solutions and other related downstream innovation in the near future.

About 150 staff members will be involved in the Centre's work. These include R&D scientists, professionals with material science and chemical engineering expertise, and specialists in fibre technical, production and operations.

Tu Jian Zhong, Head of the Centre, said, "My team and I are proud to be part of Sateri's first major R&D Innovation Centre that consolidates our various competencies in one location. This facility will be the lynchpin of our innovation efforts. We are eager to achieve breakthroughs that will not only enhance Sateri's existing products but also advance solutions in alternative cellulosic feedstock and closed-loop manufacturing. The company's investment in this Centre



is founded on a strong culture of continuous improvement and part of its longterm commitment to create value."

The Centre recently hosted a visit by the Vice Governor of Shandong Province, Sun Ji Ye. Vice Governor Sun lauded the benefits of Lyocell fibre as a sustainable material for use in high-end fabrics, medical and other consumer products, and urged companies to leverage on technology to create value-added products to bolster China's economic development.

Sateri is part of the RGE group of companies which has committed to investing USD200 million to advance next-generation textile fibre innovation and technology. In addition to Lyocell, Sateri's other environmentally sustainable products introduced this year include FINEX, made from recycled textile waste, and StretchCosy in partnership with DuPont Sorona.

DyStar Releases Integrated Sustainability Report for 2019–2020

DyStar, a leading announced the release of DyStar's Integrated Sustainability Report for 2019 – 20. In this report, DyStar has adopted an Integrated Reporting <IR> framework which enables the organization to better communicate essential values across multiple stakeholders through meaningful assessments based on the six major capitals, namely financial capital, manufactured capital, intellectual capital, human capital,

social and relationship capital, and natural capital.

Mr. Eric Hopmann, CEO of DyStar Group said, "Amid the worrying COVID-19 situation, as DyStar shared its Tenth Sustainability Report, DyStar has continued to demonstrate the unwavering commitment to sustainability by gathering and presenting improved quality information to support integrated thinking, decision-making and actions that focus on value creation over time. This information clearly illustrates the organization's ability in creating value across multiple stakeholders."

Whilst the DyStar Integrated Sustainability Report for 2019 – 20 adopts a new reporting approach, it is still based on the fundamentals of GRI Standards: Core option. The integration of the <IR> framework refers to the company's sustainability performance adopting the IR's value creation model, alignment of short, mid to long term strategy, and evaluated based on the concept of multiple capitals, which have been adopted by the International Integrated Reporting Council (IIRC) since 2013.

In order to drive DyStar towards an integrated value creation model, DyStar's management agreed on established commitments and goals for each capital and assigned a responsible department to lead these specific initiatives on a global basis. The report also presents DyStar's 2025 Sustainability Master Plan, which was earlier presented to the

management, outlining clear objectives, goals, roadmap, and specific outcomes for each capital stock. The overall plan is aligned with and supported by DyStar's Global Sustainability vision to be the environmental and innovative global leader in its chosen industries.

2020 Taiwan Fashion Design Award Contest Winner Revealed: Hsieh, Yi-Ting prevails over 12 International contestants

Taiwan Fashion Design Award (TFDA), the major annual event in Asia's fashion industry, has been successfully initiated on October 5th at Warehouse No.4 of Songshan Cultural and Creative Park. Hsieh, Yi-Ting from Taiwan, the designer of the work "White Hope" was granted the First Prize and a reward of US\$10,000, proving to be the best among the 12 competitors selected from nearly 400 participants from 12 countries worldwide. The two winners of Second Prizes were awarded to

Chong, Hoiho with the Work "CONCRETE JUNGLE" and Wang, Yi Hung with "Future of Miksars", each with a reward of US\$5,000. The third prizes were divided into three categories, the Best Use of Fabrics, the Best Pattern Making, and the Best Market Potential awards were rewarded to Chen, Ching-Lin, Kuo, Hang Sheng, and Tsai Hui-Hsuan respectively, each with a reward of US\$3,000.

CITI hails launch of Indian Cotton Brand "KASTURI" on 2nd World Cotton Day

The Hon'ble Union Minister of Textiles and Woman and Child Development, Smt. Smriti Zubin Irani launched the first-ever Indian Cotton Brand and Logo "Kasturi" on the 2nd World Cotton Day. The Hon'ble Minister said, "India's premium Cotton would now be termed as 'Kasturi Cotton' in the world cotton trade and will be famous for its Whiteness, Brightness, Softness, Purity, Luster,

Uniqueness and Indianness". She was speaking at the Webinar jointly organised by Confederation of Indian Textile Industry (CITI), The Cotton Textile Export Promotion Council (TEXPROCIL) and The Cotton Corporation of India Ltd (CCI), along with Ministry of Textiles on the theme of "NEW-LOOK COTTON".

The Hon'ble Minister said, "Cotton is one of the principal commercial crops of India and it provides livelihood to about 6.00 million cotton farmers. India is the 2nd largest cotton producer and the largest consumer of cotton in the world. India produces about 6.00 Million tons of cotton every year which is about 23% of the world cotton. India produces about 51% of the total organic cotton production of the world, which demonstrates India's effort towards sustainability". Hence, she pointed out that enhanced production and better utilisation of this cotton especially, Extra Long Staple (ELS) can enhance our share in the world cotton trade.

Shri T. Rajkumar, CITI Chairman welcomed the launch of National Brand for Cotton "Kasturi" – the first Indian cotton brand, which he said, "will help Indian textile manufacturers and exporters to draw better price realisation on their cotton products in the international markets". He also said, "Indian exporters at present do not get better prices on the cotton products due to poor quality of cotton fibre and contaminated cotton". Hence, he stated that launching of the Indian cotton brand by Hon'ble Minister will enable the Indian cotton value chain to improve the cotton quality and emerge as one of the best in the world and facilitate in producing high value-added products out of the same to sustain the growth.

Winners of 2020 Taiwan Fashion Design Award

Award	Name	Work
First Prize	Hsieh, Yi-Ting	White Hope
Second Prize	Chong, Hoiho	CONCRETE JUNGLE
	Wang, Yi Hung	Future of Miksars
Third prize Best Use of Fabrics	Chen, Ching-Lin	to be, or not
Third prize Best Pattern Making	Kuo, Hang Sheng	New Zen Look
Third prize Best Market Potential	Hsuan	goodnight...Z...z...z



Award contest winners of this year

Show & Conference Schedule (As of November 15, 2020)

Date	Event (Location)	Website
Textiles & Apparel		
2021		
Jan. 19 & 20	Première Vision New York (New York)	https://www.premierevision-newyork.com
Jan. 26-28	Munich Fabric Start (Munich)	www.munichfabricstart.com
Feb. 2-4	Première Vision Paris (Paris)	www.premierevision.com
Feb. 2-4	Milano Unica (Milan)	https://www.milanounica.it/en
Mar. 2 & 3	Dornbirn GFC Asia (Taegu, Korea)	http://eng.dornbirngfc-asia.com/
Mar. 10-12	Intertextile Shanghai Apparel Fabrics (Shanghai)	intertextile-shanghai-apparel-fabrics-spring.hk.messefrankfurt.com/shanghai/
Mar. 10-14	Maison & Objet Paris (Paris)	https://www.maison-objet.com/en/paris
May 25 & 26	Denim Première Vision (Milan)	https://www.denimpremierevision.com
Jun. 15-17	Outdoor Retailer Summer (Denver)	www.outdoorretailer.com
Jun. 20-23	OutDoor by ISPO (Munich)	www.ispo.com
Jul. 6-8	Première Vision Paris (Paris)	www.premierevision.com
Jul. 6-8	Milano Unica (Milan)	https://www.milanounica.it/en
Aug. 17-19	Intertextile Shanghai Apparel Fabrics (Shanghai)	intertextile-shanghai-apparel-fabrics-autumn.hk.messefrankfurt.com/
Sep. 10-14	Maison & Objet Paris (Paris)	https://www.maison-objet.com/en/paris
Sep. 15-17	Dornbirn GFC (Dornbirn)	http://www.dornbirn-gfc.com/en/
Oct. 26-29	A+A (Düsseldorf)	https://www.aplusa-online.com/
Interior, Home Textiles & Furnishings		
2021		
Mar. 10-12	Intertextile Shanghai Home Textiles (Shanghai)	intertextile-shanghai-hometextiles-spring.hk.messefrankfurt.com/shanghai/
Apr. 13-18	Salone del Mobile.Milano (Milan)	www.salonemilano.it
May 4-7	Heimtextil (Frankfurt)	www.heimtextil.messefrankfurt.com
May 18-20	Domotex (Hannover)	https://www.domotex.de
Aug. 17-19	Intertextile Shanghai Home Textiles (Shanghai)	intertextile-shanghai-hometextiles-autumn.hk.messefrankfurt.com/shanghai/en.html
Sep. 14-16	Heimtextil Russia (Moscow)	www.heimtextil.ru
Technical Textiles & Nonwovens		
2021		
Feb. 23-25	Filtech (Cologne)	https://filtech.de/
May 4-7	Techtextil (Frankfurt)	www.techtextil.messefrankfurt.com
Jul. 22-24	ANEX, SINCE (Shanghai)	https://asianonwovens.org/ , https://en.since-expo.com/
Aug. 23-25	Techtextil North America (Raleigh)	www.techtextilna.com
Sep. 1-3	Techtextil India (Mumbai)	https://techtextil-india.in.messefrankfurt.com
Sep. 7-10	Index (Geneva)	https://www.indexnonwovens.com/en/
Textile & Apparel Machinery		
2021		
Mar. 18-20	Gartex Texprocess India (Mumbai)	https://www.gartexindia.com/
Mar. 30-Apr. 1	Indo Intertex (Jakarta)	https://indointertex.com/
Apr. 7-10	SaigonTex (Hochiminh)	http://sgntex.com/en/
May 4-7	Texprocess (Frankfurt)	www.texprocess.messefrankfurt.com
Jun. 12-16	ITMA ASIA+CITME 2020 (Shanghai)	www.itmaasia.com
Jun. 22-26	ITM (Istanbul)	www.itm2021.com
Jul. 7-10	GFT (Bangkok)	https://www.gftexpo.com
Oct.20-22	HanoiTex (Hanoi)	http://vhanoitex.com/en/
Nov. 23-26	ShanghaiTex (Shanghai)	www.shanghaitex.cn
Dec. 8-13	INDIA ITME (Delhi NCR)	https://itme2021.india-itme.com

China's Textile & Apparel Exports

Item	Jan.-Jul. 2020 (Quantity)	Y-o-Y Change (%)	Jan.-Jul. 2020 (US\$1,000)	Y-o-Y Change (%)
Total			15,909,946	4.8
Textiles			9,067,486	30.7
Yarns (kg)	2,652,931,927	-18.3	559,904	-31.3
Cotton (kg)	147,488,571	-38.4	60,476	-41.4
Silk (kg)	1,322,394	-34.5	6,514	-19.1
Wool (kg)	13,509,762	-27.2	45,985	-39.7
MMF (kg)	2,050,865,178	-16.3	401,582	-28.9
Others (kg)	439,746,022	-17.9	45,346	-27.5
Woven fabrics			2,517,020	-27.4
Cotton (meter)	3,527,727,214	-24.8	511,596	-30.2
Silk (meter)	22,464,295	-46.8	15,402	-44.1
Wool (meter)	16,585,828	-48.4	13,793	-50.5
MMF (meter)	10,677,210,927	-22.6	978,705	-26.5
Others (meter)	7,596,606,181	-16.5	997,525	-25.9
Made-ups			5,990,562	125.2
Household goods			778,279	-18.0
Carpet (m ²)	416,285,071	-13.3	140,398	-12.7
Industrial textiles		-100.0	357,656	-23.0
Nonwovens (kg)	1,069,321,541	4.6	407,769	17.9
Others			4,306,460	482.1
Apparel			6,842,461	-16.9
Knitwear (unit)	8,189,100,824	-26.2	2,438,469	-25.3
Cotton (unit)	3,788,975,938	-24.0	1,070,807	-23.7
Silk (unit)	3,028,673	-46.4	2,630	-42.9
Wool (unit)	33,047,807	-36.0	59,242	-34.8
MMF (unit)	3,660,809,338	-27.3	1,090,904	-25.9
Others (unit)	703,239,068	-31.3	214,886	-27.4
Woven garments (unit)	7,094,247,758	-7.8	3,160,903	-11.6
Cotton (unit)	1,592,020,986	-29.2	882,271	-31.4
Silk (unit)	5,652,678	-51.8	18,019	-40.1
Wool (unit)	11,049,586	-40.1	42,897	-45.1
MMF (unit)	5,013,614,270	4.7	1,938,321	9.9
Others (unit)	471,910,238	-25.0	279,396	-32.8
Fur & leather wear (unit)	2,705,940	-49.5	84,322	-51.7
Apparel accessories			593,566	-25.2
Headwear			201,652	-23.1
Other garments	600,530,414	33.7	363,549	118.5

Exports by Market

Textiles & Apparel			Of Which Textiles			Of Which Apparel		
	Jan.-Jul. 2020 (US\$1,000)	Y-o-Y Change (%)		Jan.-Jul. 2020 (US\$1,000)	Y-o-Y Change (%)		Jan.-Jul. 2020 (US\$1,000)	Y-o-Y Change (%)
World total	159,099,461	4.8	World total	90,674,857	30.7	World total	68,424,605	-16.9
EU	39,206,559	43.4	EU	21,653,653	170.7	EU	20,372,731	-12.2
ASEAN	20,533,912	-5.5	ASEAN	15,405,089	-8.1	ASEAN	5,128,822	3.2
Middle East	10,227,960	-7.0	Middle East	5,668,660	2.0	Middle East	4,559,300	-16.2
Africa	9,897,022	-12.3	Africa	6,473,209	-11.8	Africa	3,423,813	-13.0
1 U.S.A.	29,091,657	9.9	1 U.S.A.	15,097,930	107.3	1 U.S.A.	13,993,727	-27.0
2 Japan	12,138,905	13.4	2 Vietnam	6,124,924	-11.0	2 Japan	7,146,879	-12.5
3 Germany	7,659,260	65.6	3 Japan	4,992,026	97.0	3 U.K.	3,009,331	10.9
4 U.K.	7,573,590	-8.7	4 Germany	4,746,616	266.4	4 Germany	2,912,644	-12.5
5 France	6,318,614	65.4	5 France	3,431,309	560.5	5 Korea	2,631,004	-1.7
6 France	5,256,135	95.8	6 U.K.	3,309,283	199.5	6 Russia	2,178,379	-34.5
7 Korea	4,778,354	10.9	7 Bangladesh	2,847,773	-21.9	7 Australia	2,006,070	-7.5
8 Italy	3,957,574	45.3	8 Italy	2,563,965	129.2	8 Netherlands	1,871,081	-5.7
9 Russia	3,672,697	-17.0	9 Korea	2,147,350	31.5	9 France	1,824,825	-15.7
10 Canada	3,468,748	47.2	10 Canada	1,737,451	148.5	10 Canada	1,731,297	4.5

Source: China Chamber of Commerce for Import & Export of Textile & Apparel (CCCT)

EU Apparel Imports (EU External Trade)

Knitwear (HS Code 61)

	January-June 2020			
	Euro	Y-o-Y Change (%)	Kilogram	Y-o-Y Change (%)
World total	14,247,716,309	-19.89	850,887,447	-24.80
Bangladesh	3,422,199,575	-20.94	271,278,424	-21.71
China	3,366,919,915	-19.63	207,397,711	-23.90
Turkey	1,822,754,128	-20.97	85,787,261	-23.88
U.K.	903,500,875	-16.25	40,779,163	-53.13
India	791,233,534	-27.33	47,397,448	-27.43
Cambodia	710,006,136	-22.11	36,185,786	-28.53
Vietnam	465,576,189	-9.66	19,401,882	-12.60
Pakistan	412,031,317	-12.65	37,994,037	-11.16
Sri Lanka	292,634,452	-19.57	13,915,674	-13.83
Myanmar	284,450,065	7.54	18,998,160	6.37
Morocco	234,718,527	-33.97	13,120,814	-36.67
Tunisia	183,957,402	-31.30	6,110,511	-33.11
Switzerland	168,083,362	-12.24	907,459	-4.62
Indonesia	165,203,306	-21.08	8,895,357	-22.36
Serbia	118,915,164	-13.31	4,655,813	-11.92
Thailand	106,981,358	-13.72	3,544,125	-22.54
Egypt	79,109,711	-21.04	5,570,262	-19.41
Albania	70,455,783	-28.66	4,757,133	-33.34
U.S.A.	59,611,451	8.10	880,844	-3.72
B&H	51,375,449	5.40	2,031,275	9.96
Macedonia	40,672,044	-13.58	2,073,515	-17.68
Hong Kong	37,104,071	-22.53	796,521	-64.52
Ukraine	36,147,965	-14.71	1,427,632	-12.37
Malaysia	31,985,507	-32.22	1,951,283	-31.49
Madagascar	39,996,098	-29.53	714,627	-33.47
Korea	27,131,159	-9.68	1,301,137	-5.30
Ethiopia	24,895,154	14.57	1,281,740	0.30
Philippines	23,810,765	-25.99	857,773	-36.56
Mauritius	23,389,019	-45.41	750,535	-46.3
Peru	22,335,161	-30.90	447,372	-31.17
Canada	19,992,767	-29.20	179,745	-38.67
Mexico	17,983,697	-18.22	755,398	-10.51
Laos	16,801,288	-9.63	826,302	-7.37
Japan	16,714,306	-14.66	101,156	-11.61
Jordan	16,713,547	-22.51	637,717	-12.04
Honduras	14,973,687	-38.58	1,441,535	-44.43
Moldova	12,203,312	-28.96	320,989	-41.52
Georgia	11,620,494	49.28	451,761	27.96
Norway	11,505,999	-2.81	247,418	-12.37
U.A.E.	9,600,779	-25.95	567,868	-26.53
Nicaragua	9,016,384	-12.36	818,718	-4.76
Taiwan	8,821,733	-17.08	263,125	-28.10
Belarus	5,882,213	-6.89	168,394	-16.62
Costa Rica	5,373,812	124.70	365,903	99.09
Guatemala	5,138,479	-18.35	184,624	-38.68
Lesotho	4,776,324	168.11	125,731	117.12
El Salvador	4,387,556	-23.55	217,936	-27.27
Australia	4,214,454	11.36	60,576	16.45
Not Determined	3,903,447	-58.46	97,869	-26.79
Columbia	3,821,271	-30.85	61,691	-32.94

Woven Garments (HS Code 62)

	January-June 2020			
	Euro	Y-o-Y Change (%)	Kilogram	Y-o-Y Change (%)
World total	16,584,154,877	-14.88	921,440,740	-21.87
China	5,169,647,141	0.63	209,975,868	-20.89
Bangladesh	2,714,138,516	-19.13	170,021,978	-19.79
Turkey	1,656,386,825	-15.10	61,669,609	-13.54
U.K.	908,016,574	-23.82	33,168,399	-46.01
India	817,297,940	-30.33	31,798,178	-30.16
Vietnam	730,547,811	-16.34	27,325,697	-16.21
Pakistan	613,947,502	-16.56	46,339,900	-14.82
Tunisia	580,782,920	-23.21	18,040,234	-24.42
Morocco	578,965,982	-40.12	19,559,835	-39.45
Myanmar	561,334,105	2.91	27,907,910	4.68
Cambodia	442,227,497	-20.38	23,831,505	-24.59
Indonesia	295,099,494	-15.44	9,814,417	-22.92
Switzerland	186,158,562	-26.59	802,878	-8.65
Sri Lanka	164,216,712	-24.44	5,351,682	-21.48
Macedonia	129,542,003	-17.11	3,745,566	-21.74
Ukraine	99,962,678	-19.05	3,565,942	-17.59
Albania	93,132,898	-19.41	3,742,648	-27.97
U.S.A.	83,788,884	-28.08	863,098	-4.77
Madagascar	81,233,121	-20.22	2,174,722	-11.85
Egypt	65,699,446	-19.83	3,016,819	-19.09
Laos	60,185,400	-3.58	2,456,771	-6.22
Serbia	58,203,079	-11.30	1,784,626	-13.87
Moldova	53,007,355	-21.07	1,768,557	-27.28
B&H	52,512,328	-23.22	1,569,141	-19.20
Hong Kong	45,593,811	-16.98	7,764,770	-64.08
Thailand	44,681,131	-33.12	1,336,557	-32.90
Korea	31,740,668	200.43	530,442	119.43
Philippines	29,257,941	-39.27	868,330	-44.40
Japan	26,541,423	-7.84	163,387	-9.27
Armenia	24,139,067	-28.05	557,086	-36.64
Mauritius	23,346,304	-20.07	929,740	-14.95
Canada	16,221,779	-38.67	127,734	-42.45
Taiwan	14,460,121	70.05	316,373	21.19
Mexico	11,774,446	-23.80	346,815	-17.13
U.A.E.	10,743,059	-20.17	290,404	-18.54
Ethiopia	9,394,899	113.49	386,226	84.79
Norway	8,831,832	24.64	123,389	-4.03
Belarus	7,372,714	-34.90	178,935	-42.01
Malaysia	6,926,988	-26.55	152,453	-37.52
Tajikistan	6,232,492	12.97	408,987	0.48
Columbia	5,488,336	-23.73	143,340	-26.08
Russia	5,169,080	-32.42	54,202	-39.64
Not Determined	4,994,454	-29.13	70,309	-39.99
Georgia	4,340,779	-31.31	114,449	6.02
Australia	3,936,965	1.04	34,191	-26.42
Honduras	3,689,796	-7.99	504,462	-9.31
Nepal	3,674,773	-38.83	107,301	-56.19
Bolivia	3,619,134		45,252	
Israel	3,431,267	-19.99	37,462	-26.44
Lebanon	3,094,124	13.92	22,436	-36.66

Source: Eurostat

1. B&H: Bosnia & Herzegovina

2. Not Determined: Not Determined Extra-EU Trade



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