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Technology and Management in Woven and Knitted Product Industry

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EDITORIAL

Industry 4.0 is very much in the news and also a hot topic of discussion in magazines and seminars, the world over. We are also following the market trends and discussing the many facets of this topic in the pages of *StitchWorld*. In this issue too, we bring you insights into the latest discussion on agendas covered by experts sharing the multiple benefits that Industry 4.0 offers.

It is another matter if we would be using any of these concepts in apparel manufacturing and in the context of the Third World countries, in the near future. But then, apparel is not the only industry using sewing technologies. It's being used in industries manufacturing products right from water rafts, parachutes, sails, airbags, tents to all other industries which are using technical textiles as a substitute for hard materials. Significantly, products being manufactured by these industries require high precision and speed and for which the price of the product is not so much of a constraint.

Understand that the concept 4.0 is presently at a very early stage of evolution. It will take few years for it to settle down with a definitive direction. *SW* is also transforming and growing with the evolution of this concept. That's what we as editors of *StitchWorld* do, keep a close watch on the evolving trends.

Many years ago, we caught the concept of 'Lean' in the apparel manufacturing industry at a very early stage and covered it intensively from all dimensions in our pages. Today, we are bringing out a book on 'Lean concept and its implementation in the apparel industry' with case studies based on the articles published in *SW* from time to time.

On similar lines, you would be seeing many books and reports in the next couple of months… This is the fruit of our efforts to compile concepts, formulated and discussed over time and at length, in one comprehensive format as an easy reckoner for practitioners and students of the industry.

The current issue of *SW* brings to you some interesting technologies that drew attention at the recently concluded GTE. In addition, you will also get an insight into Utah Fashions Ltd., a Bangladesh based apparel exporter that has been carving a benchmark in lean with the practices it follows. Following the growing importance of fire safety, *Team SW* also brings out the vulnerabilities in factories which lead to fire accidents.

Deepak Mohindra
Editor-in-Chief

Read and comment on my blog at
http://stitchworldmagazine.blogspot.com

TECH BYTES

Do you employ expats in your factory? Which are mostly their countries of origin? What particular expertise you feel they have which is not available in your country? Why do you feel such expertise is not available or is still being developed in your country? Why do you feel these expats are good in their job?

Hiring a person with commendable knowledge is essential in a garment manufacturing unit without which an owner cannot execute the plans properly. To go with this principle, we have hired a Merchandise Director and Production Head in our sourcing office in Vietnam as expats. The reason to hire them was simply more strategic: to have better communication abilities and accountability.

However, we are now planning to replace these positions with a local Vietnamese manager, reason being the knowledge and skill levels of Vietnamese professionals going high and their gaining of the immense practical experience, which is the need of the Vietnam garment industry. Thereby, I feel hiring local people shouldn't be a problem in the near future though expats will always be the first choice of the progressive garment manufacturers.

PREM KUMAR

Director, Creative Resources Intl. Ltd., Vietnam

Yes, we do hire expatriates in our factories here in Bangladesh as far as export industry is concerned. Mostly, we prefer professionals from Turkey, Sri Lanka and India in knitting and washing divisions, especially for the R&D department in both wet and dry process. Marketing and Management are the other areas where we want to avoid the local people because frankly speaking, Bangladesh' people are not experts in these important fields which play a key role in ascertaining business prospects. They are still learning and developing.

We only hire knowledgeable and experienced expats who can coach and teach us as this is how the apparel export industry should work. We have to communicate with the global professionals and it is necessary to hire people who have a thorough understanding of what is happening in the other part of the world related to the apparel industry.

However, I too believe they are pretty good when it comes to domestic expertise as they only need to communicate with the local buyers.

RUPAK CHAKRABORTY

Director (Operations & Marketing) The Delta Quality Denims Ltd., Bangladesh

In Utah Fashions Ltd. we have a team of seven Sri Lankan expats including me. The reason behind this is the high educational understanding of Sri Lankans. Also, in Sri Lanka, the cost of living is very high, so for survival, we have to have some options to improve ourselves to get the necessary technical knowledge, innovation and automation' expertise. Sri Lanka's trend has helped us to prepare ourselves as per the industry requirements.

But in countries like Bangladesh and India, this trend has just started. Bangladesh is lacking in education and this is why people here do not have the required technical skills. They just work to get salaries and exploitation is also very high. After passing out from the universities, they look for just profession and salaries without doing anything to gain industrial knowledge. And, in case someone joins an apparel factory, they learn for one year and switch companies. This is the major impediment for the middle-management here in Bangladesh. Profession-wise, they are on high mode, education-wise, they are little less. But now the new generation is on the path of awareness and in near future, Bangladesh can think of hiring them even for the top designations.

WANIGABADUGE SUJEEWA INDIKA

Chief Operating Officer, Utah Fashions Ltd., Bangladesh

Eventually, garment is a very technical industry where every kind of fabric behaves in a different manner. Elastics, as an example, have different elasticity as some elastics get stretched by 5% and some can even be stretched up to 20%. Sri Lanka is one country whose name comes into the mind when someone talks about elastic because of the country's upper hand in lingerie products. So, this is the reason you can see Sri Lankans in factories across the world which manufacture lingerie items.

Similarly, Ludhiana and Tirupur are more technical into knitted garments whereas, Kolkata and Chennai have strength in leather segment. The people in this area have worked years in the same industries learning new innovations, so you can believe they are more technical and this is why they get hired by the countries or cities within India. Their expertise provides them with an edge

over the people who just analyse the technical data and are not actually the technical persons.

I have even seen the strength of Turkish people and this is why the factories are hiring them as technical consultants in the factories across the world. They do not say anything before seeing the fabric and this is where their strength lies. I believe expats are important for the global garment industry as different countries have different strengths.

BHAVYA ANAND

Business Developer HCA, India

Actually, I don't have my own factory and the firm I am associated with (Thaison SP in Vietnam) belongs to my father-in-law. It is a 100% Vietnamese owned factory. We have just one expat who is a fashion designer from Russia.

The expat is trained in Russian university and has expertise in fashion designing and the understanding of international standards. For us, the only alternative is to hire local Vietnamese people who have done fashion designing courses locally.

Both facilities and teachers in the universities in Vietnam are at lower level compared to the universities in Moscow, New York, Paris, London. So, fashion designers trained in Vietnam don't have the background, perspective and knowledge base as designers from these cities. Their fundamental skills of colours and designs, matching, pattern, fit, are not up to the expected level. They don't have the experience that we need from a fashion designer compared to those trained outside Vietnam. That's why we have hired an expat to design collections for the factory that are sold locally.

This expat manages a team of Vietnamese fashion designers, pattern makers, merchandisers and a business team to run the brand which Thaison owns. He manages the whole brand but specifically he oversees the design and styling. Also, this fashion designer has the ability to study the trends going on around the world like what's new in Tokyo, London and New York. The person knows how to read the trends and interpret it to see which ones would be a hit among the local Vietnamese market. The exposure that he has helps the whole brand.

A young fashion designer or even a middle-aged one, working only in Vietnam, wouldn't have the ability to execute the market fashion, study trends and analyze which trends would be a hit with the local people as the expats can do.

We, therefore, need to hire expats. Vietnam is still in the initial stage, getting knowledge and experience of international standards.

CHRIS WALKER

Garment Production Advisor, Vietnam

Yes, we do employ expatriates, specially in Design & Product Development departments as well as also in core manufacturing functions. The expats that we have employed in our company are from India, Sri Lanka and Spain. As we are the manufacturer of readymade garments and export them to many countries, they have to be aligned with international standards, that's where the role of expats come into play. Their expertise includes latest knowledge on fast fashion and the current manufacturing developments which are very much needed for us since we export to the developed countries and consumers. With the fast-changing fashion globally, sometimes it is not easy to keep pace with such rapidly altering trends, being part of a South Asian country like Bangladesh. Expats are very well-versed with their job because of their exposure and different work cultures, and hence they bring in good financial benefits.

BISHWAJIT ROY

Project Director (Retail Operations & Marketing), NZ TEX Group, Bangladesh

TechByte
StitchWorld APRIL 2018 Question

Disposing of solid material waste is becoming a big issue in garment factories. What are the solid wastes that are generally emitted by garment manufacturing factories? How do you handle the solid waste of your factory currently? Are you aware about the recycling concept of solid waste? What all wastes do you think can be recycled in a typical garment factory? Do you feel any centralized facility for handling solid waste will help?

Write your comments to us by 20th March 2018 at: *editor@stitchworld.net* or post your views online through our website: www.apparelresources.com

Bangladesh: Apparel exports reach US $ 2.88 billion in January 2018

Bangladesh, the world's second-largest apparel exporter, witnessed a marginal rise in its exports to US $ 2.88 billion in the month of January 2018. During the first month of the year, apparel exports contributed to an overwhelming 84 per cent of the total export earnings of Bangladesh, which on an average remains just over 82 per cent.

The latest data from Bangladesh Export Promotion Bureau shows that in total knitwear and woven garments, earnings reached US $ 2.88 billion in January while it stood at US $ 2.81 billion in December 2017. The cumulative sum exceeded the strategic export target for July 2017 to January 2018, set at US $ 17.18 billion, by 2.71 per cent to reach US $ 17.65 billion. On a year-to-year basis, apparel exports during the said period marked an increase of 7.57 per cent as against the corresponding months of the previous fiscal.

Woven garments occupied over 54 per cent of the total apparel export share at US $ 1.57 billion. On the other hand, knitwear, the sector seeing the bulk of automation, witnessed earnings of US $ 1.31 billion. In September last year, exports from Bangladesh slumped significantly during the stretch of holidays. Then, the apparel export amounted to US $ 1.62 billion.

Woven garments occupied over 54 per cent of the total apparel export share at US $ 1.57 billion. On the other hand, knitwear, the sector seeing the bulk of automation, witnessed earnings of US $ 1.31 billion.

According to the data, the total exports from Bangladesh stood at US $ 3.4 billion – which was 2.55 per cent lower compared to the strategic export performance set at US $ 3.49 billion.

Bangladesh: UK will finally lift air cargo ban

Britain has finally agreed to lift the ban on direct air cargo from Bangladesh that has been in place for two years, yielding benefits for Bangladesh's apparel manufacturers and exporters.

Visiting British Secretary of State for Foreign and Commonwealth Affairs, Boris Johnson, after meeting Bangladesh Foreign Minister AH Mahmood Ali, made it clear that the UK will lift the ban 'very soon'.

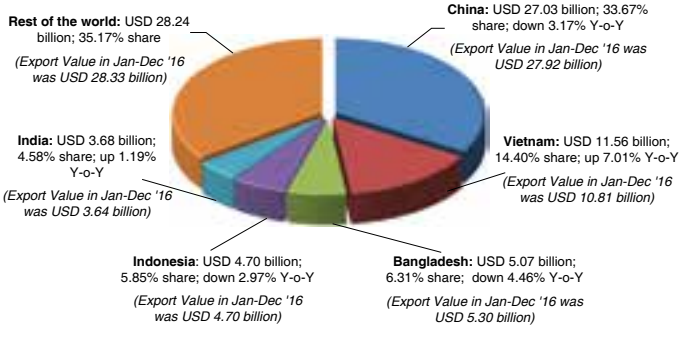
"Bangladesh Government has made huge efforts in this regard. We are very pleased," he told journalists at a joint press briefing at the end of his meeting with Minister Ali.

The British envoy met Mahmood Ali at Bangladesh's state guest house 'Padma' in Dhaka on February 9, 2018, hours after he landed for a two-day visit. British High Commissioner to Dhaka Alison Blake was also present in the meeting. The ban was placed on Bangladesh following some major security concerns at Hazrat Shahjalal International Airport, Dhaka two years ago. Since then, Bangladesh's air cargo is screened at a third country before entering the UK, incurring additional costs. Johnson did not specify further, but the meeting only, sources said. "It is only a matter of time and only some bureaucratic formalities are waiting to be completed," he said.

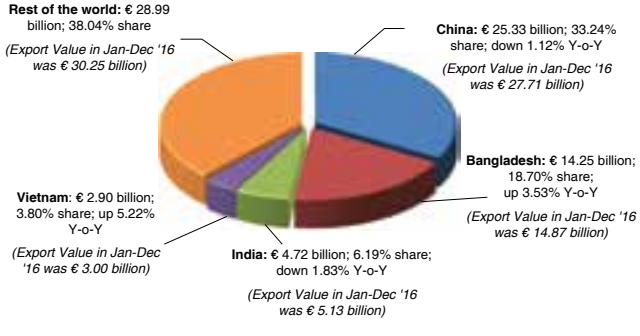
After the US and Germany, the UK is the third major destination for Bangladesh's exports, over 82 per cent of which is occupied by apparel products – knitwear and woven garments. Notably, the tally of apparel export to the UK stood at US $ 1.85 billion from July-December last year, according to Bangladesh's Export Promotion Bureau data.

TRADE INFORMATION

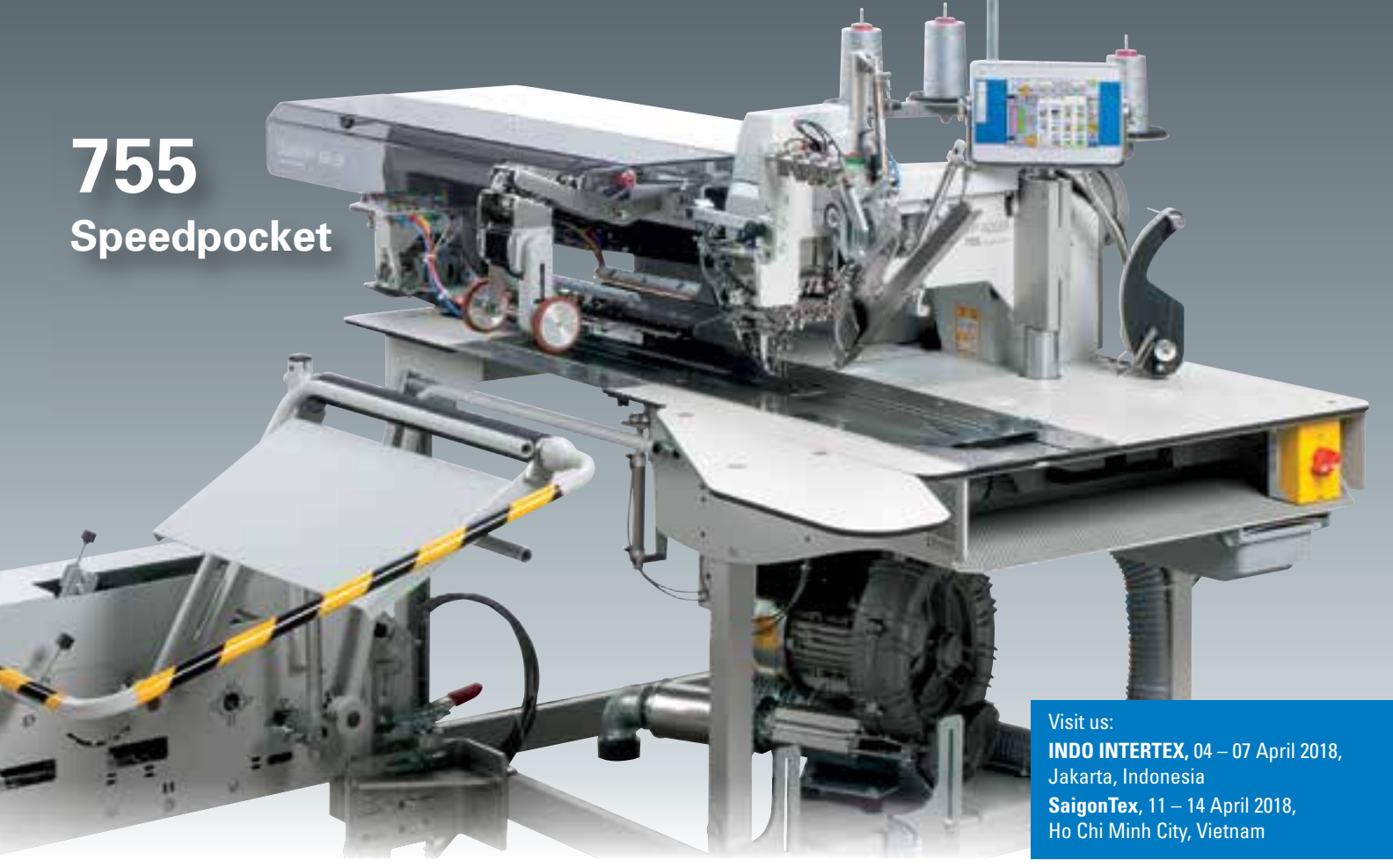
Apparel Exports Contribution to US (January to December 2017)



Apparel Exports Contribution to EU (January to November 2017)



755
Speedpocket



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Application video

Germany: Indian delegation visits German knitting machinery manufacturer Karl Mayer

An India delegation visited Development Centre of Karl Mayer, the leading German warp knitting machinery manufacturer, to know more about the products and the manufacturing processes of one of the most prominent textile machinery suppliers in the knitwear industry.

The delegates comprised of Ajay Tamta, Minister of State for Textiles; Anant Kumar Singh, Secretary, Government of India; and other Government and Ministry of Textiles' officials. A presentation on different machines and their end-uses was made at Karl Mayer's headquarters in Obertshausen last week to update the visiting delegation about the innovative manufacturing methods of the company.

The high output of the machines and top quality of the fabric produced by the company on its machines impressed the visitors, who realised that the will to learn and cooperate with each other is needed for the growth of Indian textiles and clothing industry. Karl Mayer, who sees India as an important market for this, discussed the several sustainability issues such as energy consumption by the machines during the production process.

Karl Mayer has been successfully running its own manufacturing plant in Ahmedabad (Gujarat) since 2014

> *The delegates comprised of Ajay Tamta, Minister of State for Textiles; Anant Kumar Singh, Secretary, Government of India; and other Government and Ministry of Textiles' officials.*

The company has been successfully operating its business activities in India for past many years. It established its own manufacturing plant in Ahmedabad in Gujarat in 2014. Karl Mayer machines are efficient in producing wide-ranging designs and innovative textiles; for example, elastic and rigid lingerie articles or fabrics for activewear and clothing.

India: Future Group mulls RMG facility in Telangana

India's retail giant Future Group is planning to establish a garment manufacturing unit in Telangana and talks in this regard have been initiated by the Group, informed its CEO Kishore Biyani.

"We are considering getting into garment business in the city as we want to have a textile mill in each of our centres," Biyani was quoted as saying in media reports.

Future Group is eyeing to increase its business to Rs. 4,500 crore from Hyderabad market alone by the end of FY'18-19

The Group is eyeing to increase its business from the current Rs. 2,500 crore to Rs. 4,500 crore from the Hyderabad market alone by the end of fiscal 2018-19. It also aims to note a threefold surge in its revenues from Rs. 30,000 crore in this fiscal to Rs. 1 lakh crore by the year 2021.

However, the company did not disclose any details of any development in the proposals taking place. Also, there's no information if the proposed unit would be housed at the upcoming 2,000-acre mega textile park in Warangal. The textile park will be set up at a cost of Rs. 11,000 crore under a public-private partnership. It is touted to be the biggest 'fibre to fabric' (end-to-end) facility in the country.

Recently, the Future Group announced that it would set up a garment manufacturing facility in West Bengal apart from increasing its retail store network in the state this year. The unit is expected to create 10,000 new jobs in the region. Further details on the project are yet to be unveiled.

World: Womenswear to dominate global fashion market in 2018

Hong Kong Trade Development Council (HKTDC), the international marketing arm for Hong Kong-based manufacturers, traders and service providers, released the results of its annual CENTRESTAGE survey recently. In the report, the body has mentioned that the womenswear segment will continue to be the most popular in 2018.

Notably, HKTDC covered over 200 buyers and 70+ exhibitors from Hong Kong, the Chinese mainland and other regions in its survey. The purpose of the survey was to figure out an overview of the current market prospects, new product trends and the latest e-tailing developments.

As per the CENTRESTAGE survey, womenswear attracted the highest level of endorsement from both buyers and exhibitors (66% and 82%), with casualwear at the second place (23% and 3%).

In terms of markets, Hong Kong has the greatest 2018 growth potential as seen by nearly 90 per cent of the respondents in their traditional markets followed by South Korea and Taiwan, the report stated.

The fashion brand-promotion survey also hints at a positive sales performance in 2018. 75 per cent of respondents believe that Mainland China would emerge as the most promising market in 2018 before Eastern Europe (43%), followed by the ASEAN countries (43%).

Furthermore, 58% of the buyers expect no change in the retail price of their products in 2018, whereas 39% hope for an increase in retail price. In terms of FOB selling price, 70% of respondents (exhibitors) said there will be no change in 2018, whereas another 17 per cent of them predicted a likely increase. Some of them (13%) even expect a decrease in the overall FOB selling price.

While talking about sourcing prices and production costs, those covered (buyers, exhibitors) under the survey had different opinions. 55% of the buyers expect an increase, 44% anticipate no change while just 1% hopes to note a price decline.

On exhibitor's front, 21% of them are hopeful of production cost increase, whereas 79% predicted either a decline or no change.

In terms of optimal product development strategies, 47% buyers and exhibitors backed 'limited edition collections' as the most significant route for product development in 2018. This was followed by 'brand-licensing products' (44%) and 'crossover/joint promotions' (37%).

'Going Smart' will also be the most important strategy for buyers this year. Additionally, those who are yet to kick-off their e-commerce operations are likely to begin their online business in 2018, like H&M in India.

Of those companies currently engaged in e-tailing, 58% source from Mainland China, followed by Hong Kong (43%), South Korea (31%), Japan (15%) and the ASEAN countries (14%).

While womenswear occupied the topmost place in the survey, it was followed by casualwear

> *75 per cent of respondents believe that Mainland China would emerge as the most promising market in 2018 before Eastern Europe (43%), followed by the ASEAN countries (43%).*

India: Apparel Export Promotion Council elects new Vice Chairman

Apparel Export Promotion Council (AEPC), the official body of Indian apparel exporters, has announced the election of Padma Shri recipient A. Sakthivel as its new Vice Chairman for the next one year.

Sakthivel, known for his vital role in making Tirupur a global hub for sourcing knitwear supplies, was unanimously elected to the post, announced the trade association in the statement issued. He steered the growth of exports from Tirupur from a mere Rs. 15 crore in 1984-85 to more than Rs. 27,000 crore in the year 2016-17. The newly elected Vice Chairman, who has been associated with AEPC from the past 35 years, served as its Chairman in the years 1998, 2004 and 2012.

During his previous stint at the Council, Sakthivel took initiatives like The Knitwear Technology Mission, Sector Skill Council for Apparel, National Social Compliance Project for Apparel Sector and many others for the growth of the Indian garment industry. Sakthivel also holds key posts at various other Indian trade bodies. He is the President of Federation of Indian Exports' Organizations (FIEO) and Chairman of Sector Skill Council for Apparel, Made-ups & Handlooms (SSCAMH). He is also the Founder President of Tirupur Exporters' Association (TEA) where he served for 25 years.

USA: Apparel import jumps 0.79% in 2017, meets *SW* Projection

As predicted by *StitchWorld* last month, the United States has noted a surge of 0.79 per cent in its apparel imports during January to December 2017 period.

The latest data released by Office of Textiles and Apparel (OTEXA) on February 6, 2018, puts a 'stamp' on *SW* projection which earlier predicted that the country would see an approximate 0.88 per cent surge in its apparel imports during 2017.

The US imported 27,118.90 million SME of apparels in the review period as against 26,907.03 million SME of apparel imports in the corresponding period of 2016.

Further, the import destination reported a fall of 0.50 per cent in value terms during the reporting period. It imported apparels worth US $ 80.28 billion in 2017, whereas the value of the imported apparels in 2016 was US $ 80.68 billion. As per *SW* trade data report, the value of apparel imports was US $ 80.16 billion, marking a drop of 0.68 per cent on Y-o-Y basis.

Of all the major exporting countries, China continued to be the most dominant force in supplying apparels to the US. The country noted a surge in volume of exports by 1.80 per cent; however, it failed to impress in value-terms that did not see any positive turnaround in 2017.

China's apparel exports to the US during 2017 stood at US $ 27.04 billion, down by 3.17 per cent. It met our forecast with almost ZERO deviation in the actual annual data.

US imported 27,118.90 million SME of apparels in FY'17

During the same period, Vietnam touched US $ 11.56 billion mark (up by 7.01 per cent) in terms of apparel exports to the US. India too witnessed an escalation of 1.20 per cent in its apparel exports (value-wise) to the US. In our prophecy, we earlier said that 'only these two countries would gain in apparel value terms amongst top 5 exporting destinations to the US' and that remained true.

However, as expected, Bangladesh could not come out of its struggles and noted a significant drop in its value-wise apparel exports to the US by 4.46 per cent. The country also fell by 0.38 per cent in the volume of apparel exports.

EU: Turkey aims to increase its apparel exports

According to the latest available data, 71.4 per cent of Turkey's total clothing exports valued at US $ 12.2 billion were shipped to the European Union (EU) in 2017. The figure shows the importance of the EU market to Turkish apparel industry. Germany and UK, in particular, are major markets in the EU for the exporter. However, over the years, Pakistan and Bangladesh have increased their apparel exports to the EU and this has become a serious matter among the industry stakeholders. On similar lines, Hadi Karasu, the newly elected President of Turkey Clothing Manufacturers' Association (TGSD), voiced for Government's support in terms of incentives, subsidy and schemes. "The Government needs to initiate measures to support the industry," he said.

Cheap labour availability in Pakistan and Bangladesh is one of the significant disadvantages for Turkey

The present concern is the availability of cheap labour in Bangladesh and Pakistan. Additionally, these countries also enjoy support from the EU and the US in terms of taxes. In 2017, Turkey reported a 1.9 per cent and 19.8 per cent increase in exports to Germany and Spain, respectively. However, it noted a 3.4 per cent decline in exports to the UK to US $ 2 billion. Knitted clothing and accessories, despite being the most exported product groups, noted a 0.1 per cent decline to US $ 8.9 billion in 2017.

Further, woven apparel goods and accessories also reported a meagre 0.4 per cent increase to US $ 6 billion in 2017. Home textile products and exports of other ready-made goods, however, declined by 3 per cent to US $ 2 billion to the region.

The trade association expects a push from the Government to increase the country's apparel trade and thereby improve the export percentage.

OPPORTUNITIES AND CHALLENGES OF INDUSTRY 4.0 IN INDIAN APPAREL INDUSTRY

The apparel manufacturing industry, all over the world, has been witnessing change in the demand and the method of manufacturing. This 'change' is surely said to disrupt the conventional ways of apparel manufacturing. While some seem to proactively work towards the change, others fear this change owing to lack of knowledge. In such times, steady preparedness along with right knowledge and right resources will help the ship to sail smoothly despite the rough tides.

As soon as China started to lose its momentum, India took this as the right opportunity to capture some of its orders. But, for how long will this happen is the question of the hour. While the future remains a mystery, only those who keep up with the trend of 'Industry 4.0' will be able to sustain. "How many of us are fascinated with driverless cars delivering our orders at our homes? In fact it is not too far away before the apparel industry sees such revolutions. Low-cost labour has brought us this far, but robotic automation will be an integral part in future," avers **Dr. Mike Fralix, President and CEO, Textile Clothing Technology Corporation [TC]².**

Mike points out at the millennials and their ever-changing demands and hunger for 'new' to be the reason behind the fashion industry and the manufacturing industry requiring to be 'disrupted'. According to him, the growing trend of customization and expectation of faster delivery times has made us arrive at the point where manufacturing doesn't even start till the customer places an order. Producing near to the consumer will shorten the gap between the manufacturer and the customer, all of which is possible through technology.

Dr. Mike Fralix, President and CEO, Textile Clothing Technology Corporation [TC]²

Recently appointed as the Technology Evangelist in SoftWear Automation to support the company's expanding autonomous Sewbots' worklines for the sewn product industry, Mike feels that single operation is dead, the path forward is automation from roll to finished goods. Mike sums up Industry 4.0 as the 'integration of technologies for customer satisfaction through advanced manufacturing system'.

▲ Millennials and their ever-changing demands and hunger for 'new' are the reasons behind the fashion industry and the manufacturing industry requiring to be 'disrupted'. The growing trend of customization and expectation of faster delivery times has made us arrive at the point where manufacturing doesn't even start till the customer places an order.

The debate on the proper meaning of Industry 4.0 has not yet arrived at any concrete answer, but the different views of industry stalwarts give a different aspect to the term and the ways it can be used to amend manufacturing. "30 per cent of garments produced worldwide do not go on human body," says **Dietrich Eickhoff, Chairman and CEO, Duerkopp Adler** in a shocking statement.

Sustainability, that is, creating with the minimum possible waste, has not been given proper focus in apparel manufacturing, and that's something that needs to be changed. The next 25 years in the industry will turn things upside down. As per Eickhoff, Industry 4.0 is not a tool to enhance

30 per cent of garments produced worldwide do not go on human body. Industry 4.0 is not a tool to enhance mankind, but a tool to help us keep up with the challenges of the future.

mankind, but a tool to help us keep up with the challenges of the future.

Currently, a lot of waste is generated on the shopfloor in terms of rejection, repairs and reworks, which does not let manufacturers win the price wars. "Industry 4.0 will help manufacturers to avoid these wastes in production and price wars," affirms Eickhoff. A number of Industry 4.0 enabled solutions such as fully automated sewing lines with robotic arms and intelligent handling systems, production data in central server, etc. have made sustainable manufacturing possible.

As a machine manufacturer, Duerkopp Adler considers itself as a part of Industry 4.0 and recommends its use for sustainable production with Qondac system. QONDAC NETWORKS is the most sophisticated intelligent machine network solution which manages data collected from sewing machines in real time and digitizes service and maintenance processes.

Another major concern of the industry is the declining interest of younger generation on the production floor, to which 'smart factories' can be the solution. The lack of attractiveness on the shopfloor and the use of old methods in manufacturing, have turned the youth out of production. "Introduce new technologies and methods on shopfloor to bring back the young people and their new thinking," says Eickhoff.

Dietrich Eickhoff, Chairman and CEO, Duerkopp Adler

Samath Fernando, Chief Information Officer, Hirdaramani Group

While the next industrial revolution will certainly help to face challenges, it is not something that can be brought from the shelf.

Hirdaramani Group, Sri Lanka's top apparel exporter, carries a different approach on Industry 4.0 (which is synonymously used with robotics). **Samath Fernando, Chief Information Officer, Hirdaramani Group**, informs that the company has been heavily investing on the data.

Business Intelligence (BI) and Artificial Intelligence (AI) are the main components of Hirdaramani's Industry 4.0 strategy. With the sole aim of improving the supply chain, the company is focusing on getting data insights for which it has taken certain mandatory steps. Every software used in the company is cloud ready and mobile ready, which are accessible from anywhere.

To connect through the geographical distances, ERP central database server is connected to the cloud.

A recent survey indicates that since 2010, manufacturing has collected 2,000 petabytes of potentially valuable data, but discarded 99% of it. "Every data we capture goes to data mining software where we can use the data for further analytical purposes," informs Samath.

An example of the same can be seen in the way Hirdaramani maintains a complete profile of its buyers, the orders that it receives from them, the line on which the order is being executed. The company then examines, with the help of the software, those product types which are giving them actual profits. Manufacturers tend to go for buyers with larger FOB, but the number of samples developed or the marketing may cost more than the profit generated from that particular buyer.

Industry 4.0 initiatives at Hirdaramani

- Hirdaramani uses Browzwear 3D solution to develop digital samples which help to cut down on sampling time by 2/3rd.
- It has moved towards visual dashboards and KPIs which are mobile-friendly, thus eliminating manual reports.
- The company keeps a track of all machines with NFC technology. Most of its sewing machines do not have IoT sensors, for which it has developed a device that gives needle downtime, machine service time, utilization rate of machine. "Data will tell you more about what you are doing on the shopfloor," stated Samath.
- The company is building simple HR manuals in Chatbots which will take over the HR tasks. The initiative is in progress.
- Alexa is the new boardroom at Hirdaramani.

Business Intelligence (BI) and Artificial Intelligence (AI) are the main components of Hirdaramani's Industry 4.0 strategy. With the sole aim of improving the supply chain, every software used in the company is cloud ready and mobile ready, which are accessible from anywhere.

(L-R) R.C. Kesar, Director General, OGTC; J.D. Giri, Vice President, Shahi Exports; Dr. Rajesh Bheda, Principal and CEO, RBC; Dr. Darlie O. Koshy, Director General, ATDC; Raja Shanmugham, President, TEA; Vinod Aiyer of Fortuna Colours; and Gunish Jain, MD, Royal Datamatics

"Start looking inwards rather than outwards", states Samath. A similar and a holistic approach is taken by Hirdaramani in its factories to predict the efficiency, downtime and defect ratio. By capturing the data and using AI to analyse it, the company has been able to improve its 'cut to ship ratio' which stands at 98%. RES.Q, an in-house built quality management system, helps in capturing the data, which later on helps in doing the profiling of line, which means deciding which line is best for next order.

The company follows a sophisticated skill matrix which records the data of each operator by each machine and each operation. The system is capable of telling which operator is suitable for which operation or which lines are most suitable.

From the perspective of India, what Indian manufacturers think and plan to do is of foremost importance. **J.D. Giri, Vice President, Shahi Exports** is apprehensive about the workers' future with India steadily increasing its focus on employment generation and technology. "At Shahi, we are conscious about technological developments and also about the golden hand of workers. There has to be a balance between both," says Giri.

Thus, the upskilling and reskilling of workers' skills are very essential to fight against this growing threat upon the Indian industry. "It is an opportunity for us to improve and grow, together with Government's support, it is possible," says **Raja Shanmugham, President, TEA**. Stressing on the importance of data, **Gunish Jain, MD, Royal Datamatics** believes, that the first step is organizing data which is critical. In future, integration between customers, retailers and manufacturers will take place.

"We seem to be caught in a situation where we don't realize our strength. Only with fashion and value addition, we can prevent onslaught of technology. India need not follow other countries blindly over Industry 4.0, but what it needs is a strategy that focuses on technology and creativity."
–Dr. Darlie O. Koshy

Placing technology at the second position, **Vinod Aiyer** of **Fortuna Colours** underlines mindset as the first thing that needs to be changed and getting prepared for the right thing. Supporting the same, **R.C. Kesar, Director General, OGTC,** points out, "The Indian manufacturers appreciate technology but wait for the right time to implement the technology. If we keep on waiting for the 'right time', the time will never come when we are (actually) ready for Industry 4.0."

Dr. Darlie O. Koshy, Director General, ATDC, opines that one spectrum is technology and the other is creativity. India has creativity but is scared of technology, but all studies say that technology cannot suppress creativity. "We seem to be caught in a situation where we don't realize our strength. Only with fashion and value addition, we can prevent onslaught of technology. India need not follow other countries blindly over Industry 4.0, but what it needs is a strategy that focuses on technology and creativity," concludes Koshy.

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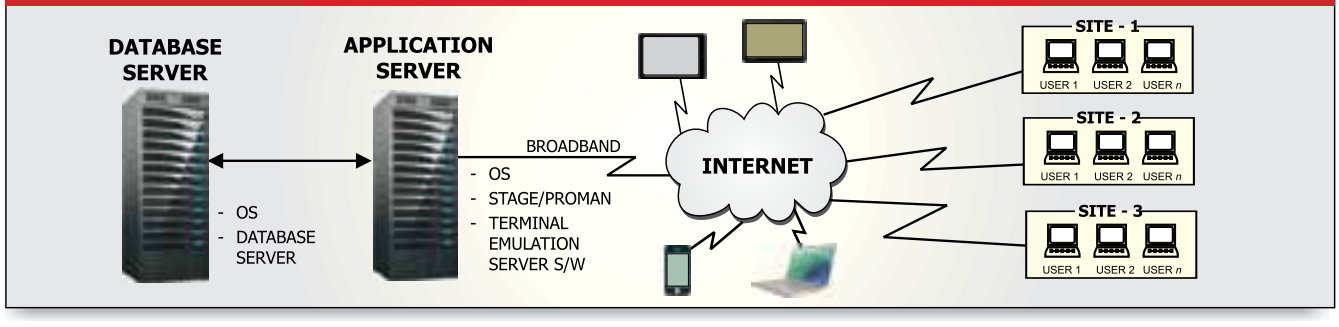

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INDUSTRY 4.0: POSSIBILITIES IN APPAREL MANUFACTURING

Industry 4.0 is already enjoying its popularity as the most happening topic in seminars and conferences, and the consultancy companies are busy taking out white papers explaining its possibilities across industries. While there are propagators and naysayers of Industry 4.0 in textile & apparel industry, the debate that is getting attention is whether it is for all; currently we are in Industry 2.0/3.0 stage. While big data and analytics, autonomous robots, simulation, the industrial internet of things, cloud, additive manufacturing, augmented reality, and artificial intelligence are touted as the important parameters of Industry 4.0, **Dr. Prabir Jana, Professor, NIFT, Delhi** analyses the possibilities of the apparel industry.

There is a common notion that Industry 4.0 is for the engineering and automotive industry and not for labour-oriented apparel manufacturing. Its potential for future implementation have been evaluated by Roland Berger, a global strategy consulting firm, across five key indicators which determine the relevance and level of impact of Industry 4.0 in a specific industry. The five indicators are:

- **Virtualization of work processes:** Extent of usage of technologies such as augmented reality, virtual plants, etc. for automated information exchange and monitoring, controlling and simulation purpose.
- **Level of value added and value-chain complexity:** Additional value created and quantum of processes simplified as a result of using Intelligent digitization technologies.
- **Disruption technologies (Game changer):** Extent of change in business models and processes with adoption of new technologies like internet of things, 3D printing, smart grids, etc.
- **Resource efficiency of core processes:** Improvement in efficiency of the resources and optimization of operations of the machines employed in the processes by adopting Industry 4.0 technologies.
- **Foreseeing of new framework or regulation:** Development of policies or launch of initiatives to promote adoption of new technologies.

Dr. Prabir Jana, Professor, NIFT, Delhi addressing the Apparel 4.0 conference

▲ The retail industry is already using big data for analyzing and forecasting sales. The reason retail is the early adopter of big data is easy availability of data due to computerized point of sale and e-retail.

Interestingly, the analysis (in Figure 1) shows that the apparel industry will be impacted more than the textile industry (spinning and weaving) against the common notion that textile industry holds more possibilities than the apparel industry in terms of automation of the processes.

If we look at some of the important Industry 4.0 parameters, probably we can see how its possibilities are greater for the apparel industry:

Big Data and Analytics

Big data is an extremely large data set that may be analysed computationally to reveal patterns, trends and associations, especially relating to human behaviour and interactions. The retail industry is already using big data for analyzing and forecasting sales. The reason retail is the early adopter of big data is easy availability of data due to computerized point of sale and e-retail. The data in manufacturing is simply not available or poorly maintained. Production data from different departments over the years can be mined to get valuable insight on workforce behaviour and therefore better planning.

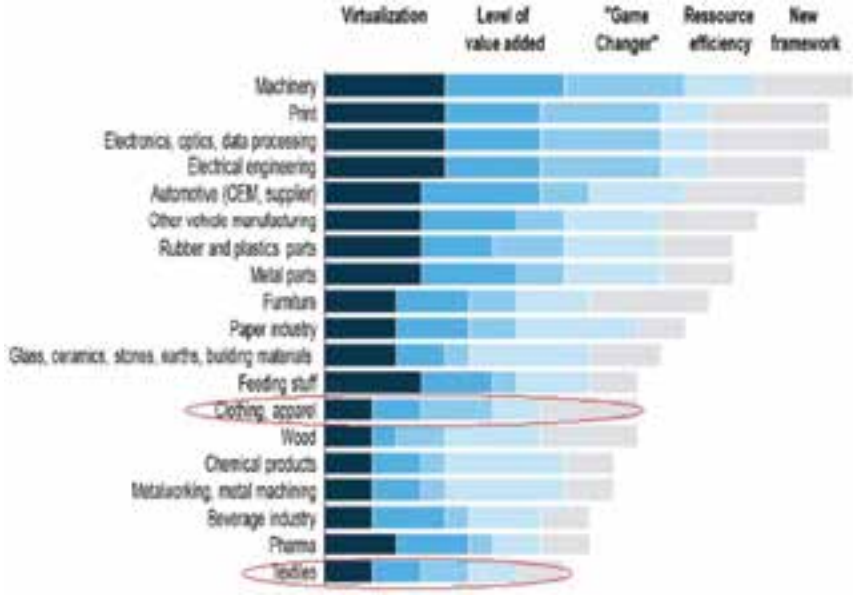
Autonomous Robots

Robotic handling of fabric rolls in pre-sewing was always there, it is a matter of scale of production that has made the adoption viable. Robotic sewing has been handicapped by two technology constraints: inability of automated pickers for single ply pick-up from stack of porous fabrics and inability of imitating hand eye co-ordination of human operator during sewing. The single ply pick up of fabrics is possible now by electroadhesion technique and vision sewing technology can imitate human hand-eye coordination, thanks to multiplicity of camera and computing power. With added advantages of advancement of prosthetics, it is a matter of time when a pair of hands without brain will dominate the sewing floor.

Simulation

Application of simulation software in simulating the production floor is common practice in engineering industry and machine-driven workplaces. Although researchers have tried simulating the sewing floor, the effort was unsuccessful, primarily due to uncertainty in predicting human actions. Only the past data was not enough to predict the future. However with AI and real-time physiological parameter mapping, simulation will have high promise of success in the future.

Figure 1: Impact of Industry 4.0 on various industries (Source: Roland Berger)



The Industrial Internet of Things

Sewing machine motor transmitting real-time data through SMS to machine mechanic about machine malfunction was achieved way back in 2003. Today almost half a dozen brands of sewing machine manufacturers are showing commercial applications of networked sewing machine, where production data as well as downtime data from sewing machine are transferred to the central server or cloud. JaNets from JUKI, Brother IoT, QONDAC from Duerkopp Adler are leading the pack. Although the current application is able to communicate only one-way, commercial two-way communication is just a matter of time. The M2M communication is already available with some of the brands of CNC cutting machine, which enable the machine manufacturer to monitor one's machine live through internet and conduct several predictive maintenance applications.

The Cloud

The CAD and ERP solution providers are offering their solutions through cloud as SaaS model as an option for sometime now. The newer players offer cloud-based solution as default. Data is power; and when data is available over cloud, it is valuable information. Ideal Needle Handling (INH) quality management system from Groz-Beckert is now cloud-powered data rich, ensuring uniform handling of sewing machine needles during the production process. Numerous custom developed solutions at apparel manufacturing level are also trying to address the age-old quality inspection process through cloud-data-rich personal mobile devices. Res-Q solution from H One Pvt Ltd (a Hirdaramani Group venture from Sri Lanka) is one such application and more and more such innovative applications are in the offing.

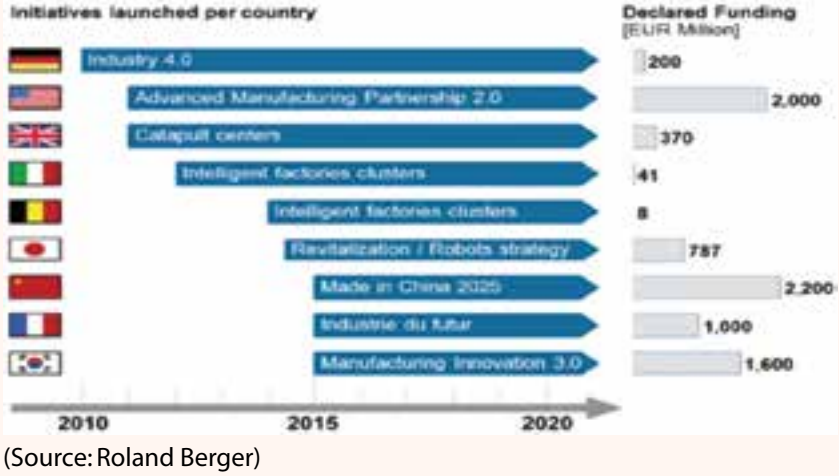
Additive Manufacturing

Additive manufacturing or 3D printing application in apparel industry was restricted to designer community and few start-ups and commercial mass manufacturing is yet to take stride. While the challenge is concentrated on how to print wearables that are as supple and comfortable like fabrics, an innovative application of 3D printed machine parts and attachments by a team of researchers at National Institute of Fashion Technology, Delhi, has opened up a plethora of applications. The required machine parts

Additive manufacturing or 3D printing application in apparel industry was restricted to designer community and few start-ups and commercial mass manufacturing is yet to take stride.

Indian Readiness towards Industry 4.0

Following Germany's Industry 4.0 initiative, many other countries have also pledged Government funding for making them Industry 4.0 ready, led by China with € 2,200 million. Although Ministry of Textiles, India is yet to come up with any such plan for textile and apparel industry, Department of Heavy Industries, under Ministry of Heavy Industries and Public Enterprises, rolled out SAMARTH (Smart & Advanced Manufacturing and Rapid Transformation Hubs) Udyog programme last year. Under this programme, four smart factories have been funded to be set up by 2019. They are: IISC, Bangalore, CMTI, also in Bangalore, IIT, Delhi, and Kirloskar in Pune. The overall budget is Rs. 100 crore distributed among these four Common Engineering Facility Centres (CEFC) as these are called. DST has been working on Industry 4.0 funding for research as part of its new programme 'Interdisciplinary Cyber Physical Systems (ICPS)' to foster and promote R&D in this emerging field of research. DSIR is planning to fund a number of smart factory demo platforms around the country. What is immediately needed is Government support; and to secure Government Funding, different sector-specific manufacturing associations should ready their plans towards Industry 4.0 initiative.



(Source: Roland Berger)

and attachments now can be printed at user's premise (by just downloading the file) faster, with zero procurement cost, apart from being sustainable. Such applications will enable small enterprises to work in the remote locations comfortably.

Augmented reality

Different industry sectors are already exploiting augmented reality (AR), VR and mixed reality (MR) in training, inspection, remote repairing, etc. This is a promising parameter to exploit specifically by the apparel manufacturing sectors in the functions involving visual manual inspection.

Artificial Intelligence

Developments in Computer Science, Mathematics and statistics are often industry-neutral, and the apparel retailers like Urban Outfitters and Indian designers like Gaurav Gupta are beginning to realize this power. Apparel manufacturers are standing at the doorstep of this exciting possibility of graduating from business intelligence to artificial intelligence. Even more recently, the machine learning community has been excited about Generative Adversarial Networks. These models combine the idea of neural networks with game theory, resulting in powerful problem-solving models. The robot laundry, Laundroid, by Japanese company Seven Dreamers has already shown use of AI for identifying garment shapes and the future application is limited only by imagination.

UTAH FASHIONS LTD: A CONGLOMERATE OF 'LEAN' AND 'AUTOMATION'

'Educate workers to minimize the waste on the shopfloor'; 'Improve efficiency and cut the cost'; 'Invest in automation'… These are the statements one can hear often from the top management of any garment manufacturing unit. However, these SHOULDs and HAVE TOs are just talks and not taken as a serious threat to competitiveness by the factory owners. Two of the best proven ways to achieve what has been stated above are the implementation of lean tools and investment in automation. Utah Fashions Ltd. (UFL), a unit of Utah Group (Bangladesh), has delivered meaningful changes in the working atmosphere through its expertise in both 'Lean' as well as 'Automation'. Team *StitchWorld* digs out the methods Utah follows in order to grow in this highly challenging era.

Incepted in 1984, Utah Group is one of the leading vertically-integrated apparel manufacturing companies of Bangladesh with spinning, knitting, dyeing, and washing, printing and embroidery facilities and having 13,000 workforce within the group. Utah's Group concern produces 37 million garments a year including 24 million knit garments and 13 million woven garments per annum. Catering mainly to kidswear category, around 40% out of the total capacity, UFL has a stronghold in providing complete set-packs for the buyers. "Complete set of kidswear is our strength as we are capable of producing both knit and woven garments. This keeps us ahead in the race of competitiveness besides our thrust to improve and innovate," shares **WANIGABADUGE SUJEEWA INDIKA, Chief Operating Officer, Utah Fashions Ltd**.

WANIGABADUGE SUJEEWA INDIKA, Chief Operating Officer, Utah Fashions Ltd., Bangladesh

LEAN is way forward

However, keeping the head above tide is a challenge until one knows how to swim in an unevenly soaring water level. Connecting the rising cost-competitiveness with the same principle, Indika discloses that every year Utah has to have its cost-reduction plans such as reducing energy wastage, reduction of NPT, 5S & red tag zone implementation, weekly 'Ohno' circle circulation, autonomous maintenance, reduction in DHU & rejection percentage by using red tag tools and identification of top 3 defects on an hourly basis and on-time problem solving, preventive maintenance, enhancement in multi-skill level, etc…. "In the challenging retail scenario where buyers constantly put pressure on reducing the unit prices, we are reducing our operational cost as well as improving efficiency with the aggressive use of lean tools throughout the unit," says Indika.

▲ Pocket attachment and pocket setting process in jeans are entirely automated with Euromac machines in UFL. The machines can be handled by the basic operators eliminating the need for skilled operators.

According to UFL, the process of establishment and implementation of LEAN METHODOLOGY and TPS Mechanisms is ongoing and it's identifying areas which need to be improved by SWOT and PESTEL analysis. UTAH achieves significant improvements in operational efficiency using key performance indicators effectively known as SQDCM.

The shopfloor at UFL has five rotating display pillars for SQDCM and a thread spool stand in front of every line

Baskets laced at each workstation help to keep the shopfloor clean

Key practices that UFL follows:

- Apart from tag systems, UFL strongly follows 5S, Kaizen, traffic light system and 7 QC tools as part of lean management.
- UFL has started CSR activities lately. It organizes blood donation and runs reward system. It is soon launching production incentive method.
- It is maintaining 700 lux for sewing area and 1000 lux for checking area.
- It follows barcode system bundle-wise. Scanning is done in the cutting section, the bundle comes to the floor and at the end of the line, the bundle is again scanned.
- A thread spool stand is kept at the start of each line. Workers can take the thread spools themselves at the start of the day so that they do not get distracted due to lack of trims-in-between the sewing process throughout the working hours.

Each of these performance indicators are being implemented and monitored through the documents which are maintained by Utah operational team on the five rotating display pillars owned by each indicator at the start of each production line. "Safety Cross, Daily DHU, Hourly Production Data, Efficiency, Absenteeism & Migration and related data are always updated and maintained on the display pillars to further strengthen the SQDCM indicators," asserts Indika.

Of all the tools, the first and foremost concept which UFL follows is the 10 red tag systems for quality. This red tag system is implemented to eliminate quality defects and align discipline in the garment processes. Both production lines and checking teams have 10 red colour tags. After manufacturing, the garments are checked where the small defects are identified as a part of the standard practice. Going one step ahead of this standard practice, the quality inspection team sends back the defected garments with the red colour tag on it to the lines these garments belong to. The red colour tag indicates that the line has to rectify the defects in the garment. If they don't return the garments up to 7 tags, then the checking person alarms the lines by switching on the amber/orange colour light at the checking table which indicates that the piece has not yet been returned. Even after this alert, if the rectified piece does not come back, 3 more tags are sent to the respective line and the line supervisor has to stop the line immediately.

"Operators in the respective line cannot do production even for a single garment until unless those defected garments come back to the checking team after getting rectified," informs Indika. To ensure the system works effectively, UFL has put in place a rating system for its sewing operators to encourage them to achieve zero defects in the garments and the scheme is incentivized. "We are reducing the number of defects in the garments through this system," apprises Indika.

To further fortify the production and quality check, the data is gathered every hour and fed into the company's indigenously developed ERP system which calculates all the KPIs, which are indicative of the organization's strengths. The KPIs are measured by the head of the factory, which are then analysed by a team of PIRM (Policy Implementation and Risk Management), who ensure all KPIs are 100% genuine and random checks are also conducted to confirm their accuracy. "This ERP covers data from spinning to manufacturing. So it's an advantage for us to track the

Utah Group's Operational Performance Measurement for 2017

Sl. No.	Key Performance Indicators	Target	Achieved
1	Defects Per Hundred Units	2	3
2	First Time Through	98%	99%
3	Cut to Ship	99.5%	99%
4	On-Time Delivery	100%	95%
5	Material In-house Date	100%	80%
6	Planned Cut Date	100%	85%
7	Production Start Date	100%	85%
8	Work In Process	2 hours	3 hours
9	Operator Efficiency	65%	60%
10	Target Achievement	100%+	100%
11	Man-Machine Ratio	1.75	1.98
12	Absenteeism	3%	3%
13	Migration Rate	2%	<0.5%

data of every process at one place," boasts Indika.

Moving on, Utah is equally strong in enacting workplace cleaning. It follows the cleaning method in an entirely different way than most of the other factories. Explaining the same, Indika says, "We play music two times a day and when it plays, workers have to clean their workplace. We have put baskets near each workstation. This way they follow their duty while getting entertained at the same time."

Easy-looking system is not so easy to implement

However, implementing such strong systems is not an output of just one day. Indika believes it is 'cultural change' that requires a lot of hard work and intense training of the operators. "The rigid mindset of the workforce and the 'attitude' of subordinates were the major challenges we faced before the system came into force," unveils Indika stating, "Whenever we started something, defects in the garments occurred and that is obvious. People used to say that due to the new system, defects come in place."

To overcome these challenges, Utah started a practice of doing trials for every system that are supposed to be implemented on the shopfloor. "We implement a system or practice only after ensuring positive results in the trials. Lean is the best example of this 'try and follow' method. This way people see the positive changes and start accepting new executions," claims Indika.

Technology: An essential contrivance for growth

Shipping majority of its output to the European retailers such as H&M, Tesco, Target, s.Oliver, Mango and NEXT, Carters, Oshkosh, JCPenney, Utah believes that the next growth driver for the company is automation which greatly boosts the profit margins and helps grapple with the rising labour wages. The four production floors of UFL are equipped with 1,620 UBT machines, majority of which are Juki, Pegasus, Kansai and Brother.

Endorsing the need for automation strongly, Indika shares that pocket attachment and pocket setting process in jeans are entirely automated with Euromac machines in UFL. The machines can be handled by the basic operators eliminating the need for skilled operators, thereby, saving cost to a great extent. Apart from the mentioned operations, UFL uses automated solution for shirts' placket preparation and button attachment. As far as button attachment is concerned, Utah uses fully automated Juki machines to save time and minimize manual intervention. "With these machines, we eliminate the human efforts such as pulling buttons, feeding them, aligning them and then attaching them," avers Indika.

2018 is bright as capacity will double

Scope of improvement is always there. UFL is no exception. For 2018, the company has strings of improvement plans. Utah is doubling its sewing capacity this year in a completely new building which is under construction adjacent to the current one. In this new set-up, UFL will execute systems and activities such as in-house designing, which are not in practice right now.

Training session in process at Utah

The well maintained and spacious aisle at the shopfloor is an effective measure against accidents

> *"Training is 'Life Line' for our unit. Imparting education to the workforce can deliver things in the way we want and this is why we keep conducting practical trainings for workplace safety and cleaning."*
>
> – WANIGABADUGE SUJEEWA INDIKA

"We are in process of hiring some designers as we want to provide our own designs to the buyers from next year onwards," tells Indika.

Another major improvement that is in the pipeline is bringing production, washing and finishing on the same floor. As of now, the company is experiencing time-loss due to transportation of garments as washing and finishing floors are different. This increased movement in material causes fall in overall floor efficiency as well as loop holes which exist in monitoring of the processes. "Bringing all three processes on the same floor will help reduce hastiness of the line in-charge as he does not need to move on separate floors. The same concerned person can now monitor both finishing and washing processes. It's a new layout with new concept," concludes Indika.

IS YOUR FACTORY VULNERABLE TO FIRE HAZARDS?

Millions of workers in the developing nations spend their days churning out garments in the sewing factories for the consumers across the globe. Few of them are aware that they have put their lives at risk due to poor working conditions. For these workers in the factories, the most important thing should be their assured safety from hazards. However, despite all talks, the safety standards have not improved in the sewing factories. Below are excerpts from an interview with **Sukesh Ray, CEO, Lightbreeze Technologies and Systems**, **Bangladesh,** who is not only providing consultancy against fire but is also supplying the requisite tools and safeguards for the same in the apparel industry.

Global apparel industry nowadays is all about cost-competitiveness and Bangladesh is no exception. The garment industry in the country is characterized by fast production, relying on cheap labour and low production costs to compete with its competitors. In the highly competitive garment manufacturing industry, where the international buyers on one hand are raising the bar in terms of expectation and on the other hand, are putting pressure on the manufacturers to reduce the cost of garments, it has become critical for the apparel manufacturers in Bangladesh to upscale their safety standards to stay relevant. This is one of the main challenges due to which the fire and safety practices have not blossomed in the country.

However, where high death toll from fire incidents reflects not only substandard buildings but also poor emergency procedures, inadequate and blocked fire exits and overcrowded workplaces, garment manufacturers cannot simply get away by blaming anyone but themselves for the disastrous fire safety standards.

Sukesh Ray, CEO, Lightbreeze Technologies and Systems

There is a famous saying – *Fire destruction is one man's job, fire prevention is everybody's job*. But is everybody contributing their part in laying a strong foundation for fire safety standards in the Bangladesh' garment industry?

▲ The inadequate number of fire extinguishers is one of the major unsafe practices. A fire extinguisher should be provided for each 3,000 sq. feet of the protected building area.

Factories are running operations in more floors than allocated

"Many factories, which I have visited, continue their operations during both day and night in order to meet the production targets. The establishment of factories or the conversions of residential or commercial buildings into garment factories has often been done as quickly and as cheaply as possible, which results in widespread safety problems including faulty electrical circuits, unsafe buildings, inadequate emergency exits and inefficient firefighting equipment."

Many RMG factories fail to follow even the most basic standards of safety issues because of the fact that the factories have led to the conversion of many buildings, built for other purposes, to be ultimately used as garment factories. These are often built without the required permits and standards from the concerned authorities. A

Fire Occurrence & Impact Scenario (Bangladesh)*

Name of Company	Date of Occurrence	Causes of Occurrence	Total Workers	Deaths	Injured	Jobless	Total Loss of the Company (Approximate)
Tazreen Fashion	24-Nov-12	The fire, presumably caused by a short circuit	1400	111	300	700	US $ 68 million
Smart Fashion Export Factory	26-Jan-13	There was a tire repair and welding workshop downstairs, so officials say that the fire could have started from this point	450	10	35	400	US $ 15 million
Tung Hai Sweaters Ltd.	8-May-13	The fire, presumably caused by a short circuit	2700	08	03	0	US $ 24 million
Aswad Composite Mills Limited	8-Oct-13	The cause of the blaze was not known	2550	10	50	2000	US $ 26.9 million
Standard Group	29-Nov-13	Sabotage	25000	0	0	20000	US $ 23 million
Mega Yarn Dyeing Mills Limited	28-Sep-14	The fire, presumably caused by a short circuit	500	01	04	0	US $ 7.56 million
Total			32,600	140	392	23,100	US $ 164 million

**Data is extracted from Loss and Damage Assessment in the Context of Fire Hazards: A Study on Selected Garment Factories in Bangladesh by Md. Mizanuzzaman, University of Dhaka, Bangladesh*

number of factories have constructed unauthorized floors or have increased the workforce and machinery beyond the safe capacity of the building ignoring all the safety aspects.

Fire extinguishers are inadequate and are not found during fire

"*There are such factories also which apply approved stickers on the empty fire extinguishers just to pass the audits and cut the cost.*"

The infamous fire accident at Tazreen Fashions (Dhaka) in November 2012, has brought out the hidden issue of the unsafe practices being followed by the garment manufacturers. The inadequate number of fire extinguishers is one of the major unsafe practices. A fire extinguisher should be provided for each 3,000 sq. feet of the protected building

▲ *Already running production in unauthorized buildings, the factories are packed with countless people and 80% of them are women. Also, there is lack of fire exit which toughens the situation in case of emergencies. So when fire breaks out, there are high chances of stampede and, naturally, being slow in reflexes than men, the women workers suffer more.*

area. Upon investigation, it was found that the factory was not following the standard and when the fire broke out, lack of fire extinguishers contributed heavily leading to more than 112 deaths.

Raw material is kept in close proximity to the fire accident-prone area

"It is another life-threatening practice being followed by the companies, shockingly, the top management does not step up to improve the situation even after getting reminded multiple times by us during factory audits."

In most of the factories, it is observed that the raw material in a garment unit is kept in close proximity to the place which is already an accident prone area due to nearby electric panels. In case of short circuit, the

Lightbreeze Technologies and Systems

Dedicated towards providing one-stop electrical and fire-safety consultancy to the factories in Bangladesh, Lightbreeze Technologies & Systems was formed in 2014. The technical division of the firm contains a total of 36 members who have an enormous experience in Architectural, MEP & FF & Green Building Consultancy and allied services. Lightbreeze is headed by **Sukesh Ray, CEO** of the company and provides fire detection and alarm, hydrant, sprinkler and safety systems to the garment manufacturing giants including Alim Knit (BD) Ltd, Mondol Intimates Ltd., Banga Garments Ltd. and Mark Sweater Ltd. since its inception in 2015.

"We have recently provided complete consultancy in more than 5 factories of Mondol Group and 15 factories at others. We implemented complete electrical fire safety there by introducing equipment such as fire alarm system, fire hydrant and sprinklers," comments Sukesh.

Sukesh further explains that the big-level manufacturers have completely been inclined towards implementing the safety and compliance issues after the Rana Plaza incident and they are now interested to become fully compliant factories. "Firstly, we provide consultancy, then we make planning, design, drawing and submit to Accord and Alliance for approval. After the approval, we go for supply and installation, then finally we make commissioning," elaborates Sukesh stating that the project duration is 3 to 6 months.

Bangladesh, being a labour-intensive garment industry, has its own reasons for fire-drills not taking place effectively. In most of the factories, the fire and safety officer already informs the employees before the fire-drills happen. This is of no use.

fabric tends to catch fire quickly and dodging all efforts, fire takes place and becomes dangerous in no time.

Workers' density is more than what is prescribed in standards

"I visited a factory named National Apparel few months ago. I asked them how many workers will work in the factory before I start designing and commissioning the fire safety plan for that factory. They did not tell us. Without knowing the number of workers, nobody can provide a proper fire safety plan."

One of the key parameters of building construction is the number of workers that would work there. However, that's not the case in Bangladesh. Already running production in unauthorized buildings, the factories are packed with countless people and 80% of them are women. Also, there is lack of fire exit which toughens the situation in case of emergencies. So when fire breaks out, there are high chances of stampede and, naturally, being slow in reflexes than men, the women workers suffer more.

No dedicated staff is appointed to ensure proper implementation of fire and safety standards

"This practice is unsafe and is mostly being followed by comparatively low-level garment groups in Bangladesh. I have audited more than 100 such factories and found out that they do not have concern about the health and the environment. Whoever is involved in fire safety, they only know how to operate the hose, how to operate pumps and how to look into the detection system. They are not aware about the proper auditing system to detect what kind of incident can take place in the factory."

A team of 'aware', 'observant' and 'educated' employees is the best bet for preventing fire accidents in the workplace and the primary responsibility of the team is to train all employees within the factory to inculcate a sense of responsibility and awareness among them. However, Bangladesh seems to be ignorant about this fact. A large number of factories don't have proper HES (Health, Environment and Safety) training programme which is mandatory to be conducted. Due to the lack of a dedicated person, daily reporting system and internal audit are not being monitored and that's one major reason for dearth in near-missing preventive plans or actions.

Fire-drills are just formality

"Drills should be conducted confidentially without bringing it to anyone's notice. The safety officer is afraid if, without information, drills are conducted, stampede will occur and it might create a panic situation. But then this is the reason why training programmes are always there using which one can educate and aware the workforce."

One of the most important aspects of a professional fire safety training programme is to conduct fire-drills in regular sessions. It helps employees to be aware of the exit procedures, and what to do in case of an accident. Bangladesh, being a labour-intensive garment industry, has its own reasons for fire-drills not taking place effectively. In most of the factories, the fire and safety officer already informs the employees before the fire-drills happen. This is of no use.

If problems are there, solutions also exist

Following the unfortunate incidents such as fire in Tazreen Fashion and Rana Plaza collapse, various organizations including the Bangladesh Accord on Fire and Building Safety, the Alliance for Bangladesh Worker Safety and National Plan of Action (NPA) have been formed to improve building and fire safety of Bangladesh's garment industry. These organizations are working extensively to improve safety standards in Bangladesh. The autonomous bodies like BGMEA and BKMEA are also planning not to give membership until and unless the factory is fully compliant on Civil, Electrical and Fire safety standards.

However, Bangladesh needs to come up with a robust roadmap in order to improve the health and safety standards in the country. Change in the mindset of the mid to low-level factories is a must. There is an urgent need for appointing a fire marshal department whose role would only be to monitor and examine if the evacuation procedures are being followed correctly in the garment factories across Bangladesh. "Formation of zonal-wise teams in Dhaka and Chittagong would contribute significantly in the efforts towards improving the fire-safety plans," suggests Sukesh.

Technology carnival GTE'18 brings Automation and Industry 4.0 to the fore...

The 2018 edition of GTE witnessed a mood of vibrancy among the industry, despite the challenges that made last year difficult. The four-day long event brought together all the important technology and service providers addressing the industry's multifarious needs, be it sustainability, automation, machine-to-machine communication, real-time data monitoring, or Industry 4.0. The event was graced by players like IIGM, HCA, Magnum Resources, E.H. Turel Group, ShangGong Group, Tukatech, Gerber Technology, and many more.

Team StitchWorld was present on all four days of the event to bring to the industry's notice all the new and latest innovations, small to big improvements in the machines or services which ensure quality and productivity improvements on the shopfloor. These included Juki automatic collar topstitch machine, Maica automatic sleeve placket machine, button gapping clamp and fusible threads for blind stitch by Ascolite, hookset lubricating system by DukeJia, touchscreen terminal by Eton Systems and linear motor in digital printers by Colorjet. These technologies have been explained in detail in the successive pages of this issue.

Data collection and putting it to optimum use has become an area of concern for garment manufacturers. Considering it as a matter of utmost importance and a pivotal direction for future success, technology manufacturers have brought up solutions for real-time data collection which can then be analyzed for further action. Some such solutions are Juki JaNets, Brother Digiflex system, Hikari Intelligent cloud systems, and advanced version of INH system by Groz-Beckert.

The digitization of data and IoT (Internet of Things) enabled sewing machines, both intending to create a digital smart factory, are said to be the future of the industry. Industry also shared that there is business despite the ample challenges and they are managing the business by reducing prices with the help of automation.

The event also became the launch pad for companies like ShangGong Group and MAICA. Turel Group and ShangGong Group went into a collaboration to bring Chinese technology Mauser Spezial to the Indian market. MAICA, on the other hand, which was recently acquired by Chinese sewing machine manufacturer Jack, also made its Indian debut in this fair and is hopeful of good response.

Sustainability was another agenda at GTE'18. Krishna Lamicoat showcased recycled plastic films that have been made majorly by the under privileged people of our society.

The event was also graced by a proactive discussion on the importance of 'Industry 4.0' concept and challenges of its implementation in the Indian apparel industry. Considered as the first-ever conference held in GTE, this forum saw the presence of **Dr. Mike Fralix**, **President and CEO [TC]²; Dr. Prabir Jana**,**Professor**, **NIFT Delhi; Dietrich Eickhoff, CEO & Chairman, Duerkopp Adler; Samath Fernando**, **CIO**, **Hirdaramani Group of Companies**, **Sri Lanka**.

Another significant highlight at the technology fair was the book launch by *Apparel Resources Publishing* (ARP), the publishing wing of Apparel Resources. The launch ceremony of the book *Industrial Engineering in Apparel Manufacturing* took place in the presence of international and national glitterati like Dr. Mike Fralix; **HKL Magu, Chairman, AEPC**; Dietrich Eickhoff and **Bernd Bauer, Sales Manager**, **Duerkopp Adler**; Samath Fernando; **Dr. Rajesh Bheda, RBC Consulting**; and Dr. Prabir Jana who is also the co-author of the book.

Apparel Resources also surfaced its *Apparel Resources Jobs* division to connect employers of apparel and textile sector with the right candidate. The niche job portal provides job and internship opportunities to the students and working professionals and received immense response from the industry as well as the students.

The trade show also witnessed bigwigs like **Sudhir Dhingra**, **CMD** of **Orient Craft**; **Manoj Singh**, **Head of Business Development Asia**, **Impactt Global Solutions; Rajiv Kapoor**, **MD**, **Affordable Exports; Pranab Mahajan**, **Mahajan Overseas; Abdul Mabood**, **Mabood International; Arun Girotra**, **Director**, **Prits Leather Art;** and **Vikram Jit Singh**, **Director**, **Fiori Creations**, **Faridabad**. The technical teams of **Shahi Exports**, **Arvind Ltd.**, **Decathlon**, **Paramount Products**, **TCNS**, **Mangla Apparels India**, **Global Mode and Accessories** were also seen exploring different types of technologies at the exhibition. Participation of exporters and buyers from manufacturing hubs like Gujarat, MP and Jharkhand also graced the grounds of NSIC Okhla.

GARMENT TECHNOLOGY EXPO 2018

HKL Magu (C), Chairman, AEPC inaugurating GTE'18

Dietrich Eickhoff (second from left), Chairman and CEO, Duerkopp Adler, in discussion with his colleagues

Sudheer V. Nair, CEO, Cheran Machines India Pvt. Ltd.

Karin Kilian (L), Sales Garment Consultant with Henry Bindhak, Area Sales Manager, Duerkopp Adler

Apparel Resources Jobs*, the fashion industry job portal, garnered the attention of students*

Sajith (third from right), VP, IIGM and Clifford Galstaun (second from right), Regional Sales Manager (SWA), Gerber Technology with their team

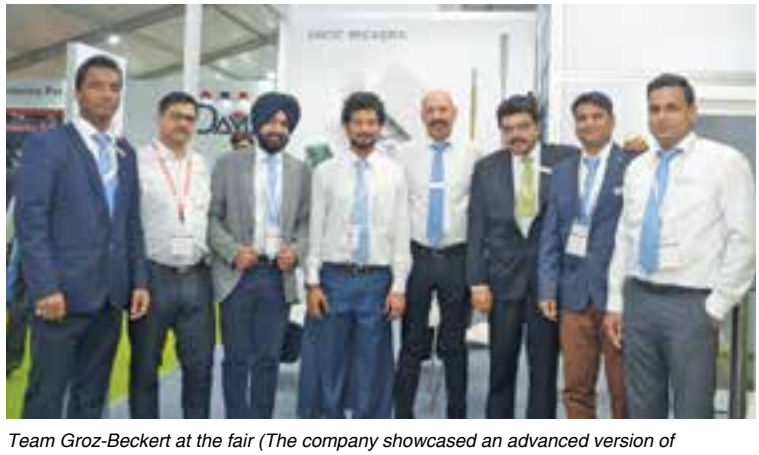
Magnum Resources attracted visitors with a beautifully cafeteria set-up in its booth

Team Four Square were happy with quality visitation at GTE'18

Signing of partnership between Turel Group and ShangGong Group

Book launch ceremony of 'Industrial Engineering in Apparel Manufacturing' *written by Dr. Prabir Jana and Dr. Manoj Tiwari, Professors, NIFT by* Apparel Resources Publishing (ARP)

Visitors having a look at the demonstration of a machine



Team Groz-Beckert at the fair (The company showcased an advanced version of its INH quality management system)

EASTMAN sets 20% growth target for 2018

Eastman Machine Company needs no introduction as it's one of the few American companies which is extensively providing cutting room solutions for the apparel, technical textile, automated car industries and other sewn products industry for more than 135 years now. Eastman has a very stronghold in the Indian textile and apparel market and to further reinforce its roots in the country, the company showed up in GTE '18 in collaboration with Magnum Resources.

The key highlight of Eastman during the event was its trademark product ES-660 spreading machine which is suitable for all types of fabrics such as woven, knit, denim, cotton and twill. **Syed Hafeez, Country Manager, Eastman CRA (Hong Kong)**, shared with *Team StitchWorld*, "We don't want our customers to worry about fabric type as due to season change product changes the fabric also changes. We have inbuilt attachment in the machine, i.e., extension mesh and extension roller to spread knit fabric and other special fabrics."

The spreading machine can handle weight capacity up to 150 kg both in flat fold and roll fabrics. In roll fabrics, it can handle diameter up to 50 cm. To consume less power, Eastman has designed inbuilt control PLC and drive control system in the spreader. With a spreading height of 20 cm to 23 cm, ES-660 can achieve the maximum spreading speed of approximately 97 metre/minute.

Further, electrical configuration is not set-up inside the machine, but separately outside the machine with the LCD touchscreen control panel. Such a set-up will avoid heating in the machine that damages the circuit board, thus giving longer life to the machine.

All the mentioned developments are a result of the sturdy R&D division of Eastman as, according to the company, it's important to get more flatness of fabric during spreading. The company takes feedback from its customers on what can be done to improvise the quality of spreading, to improve the efficiency of fabric spreading etc. "When customer sends us fabrics, we do its testing and record video. We then send these videos back to them showing them what we achieved. After looking at it, they can take the final call and in most of the cases, we emerge victorious," claimed Hafeez.

In order to let the customers use ES-660 in an optimum way, Eastman is aggressively focusing on training customers' operator and technicians. "They should know about the weekly/monthly preventive maintenance. Our motto is to fully train customer technicians," underlined Hafeez.

However, Eastman reveals that owing to dwindling customer's understanding all through 2017 due to the imposition of GST in India, the company fell short of its target in the country and tapped just 15% growth in the year. Bouncing back strongly in the start of 2018 due to the interest of reputed apparel manufacturers, Eastman has projected 20% growth in the Indian textile and apparel market. "All big names including Arvind, Shahi and Orient Craft have visited us so far. Now everybody is thinking positive and looking towards putting hands in automation instead of becoming labour-oriented firms," stated Hafeez optimistically.

To achieve the set target of 20% growth in 2018, Hafeez feels that they should focus majorly on sales and marketing. He elucidates on this stating, "We have appointed a person also to take care of North India side whose primary responsibility will be to convince the big apparel exporters so that they put hands in our technology."

Syed Hafeez (R), Country Manager, Eastman CRA (Hong Kong)

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KRISHNA LAMICOAT riding high on its 'green' journey

Manufacturer of specialty papers and films, Krishna Lamicoat was in spotlight at GTE, not only for its cutting room solutions for the garment industry, but also for its 'green' products. The company has realized that with all the environmental damages done by industries, the only way to survive their business is to go green. The highlight of its 'green' journey was recycled paper bags made by the men and women living in the slum areas and NGOs.

There are some cultural restrictions where people don't step out of house to go to work. Krishna Lamicoat is targeting such people. "A team of people from our side reaches out to these people and trains them on how to make these bags," informed **Ashok Chhajer, Director, Krishna Lamicoat**. It also provides the necessary requisites such as paper, handle, gum, etc. to those people and once made, they return the finished products back to the company.

This social uplifting move by the company is also economical in its own way because the paper used is a waste generated from the textiles' industry.

Ashok Chhajer (third from right), Director, Krishna Lamicoat with his team

Another product is the A4 size paper which is used in many industries and has not been used judiciously. The price of the recycled paper manufactured by Krishna Lamicoat is at least 12-15 per cent less than the price of a regular A4 paper. Ashok explained, "Technology has changed over years. Earlier, there were Xerox machines which needed high quality papers to print, but now there are digital printers which can print on average quality paper as well."

These papers can be used for office purposes as well. With this product, Krishna Lamicoat is saving many trees that would have been otherwise cut to manufacture paper.

MORGAN TECNICA finds it challenging to change manufacturers' rigid mindset

"Last year was slow due to GST and demonetization which affected our business too as garment industry is unorganized. Our customers from Ludhiana and Kolkata also took a downturn on new investments," informed **Prakhar Singh, Country Manager, GA Morgan Dynamics**. But he is still hopeful that the industry has now geared up and will do business this year.

Prakhar Singh, Country Manager, GA Morgan Dynamics

At the recent edition of GTE, Morgan Tecnica witnessed the visiting crowd from states like Gujarat, Madhya Pradesh, Jharkhand, Odisha and Andhra Pradesh. However, there were fewer customers from the Capital and NCR region.

The cutting room machinery and software premier, Morgan Tecnica S.p.A., offers solutions which are an amalgamation of technology and design of superior DNA, strictly 'Made in Italy'. But the biggest challenge that the company is facing is to educate their potential customers and make them aware of the technologies on offer.

"Manufacturers are reluctant to change because of the mental block that the way they have been working is appropriate. They still wish to follow the traditional methods and do not want to move out of their comfort zone," explained Prakhar. Such mindset actually stops them from going for a change and invest in technology which can actually reap lots of benefits for them. "The mindset needs to be changed," added Prakhar.

The highlight of the solutions provided by Morgan Tecnica are Next 2 and virtual prototyping software 3Dress. Available in versions of 5, 7, 9 cm compressed height, Morgan's newest automatic high-ply cutting machine, Next 2 is integrated with sensors and sophisticated algorithms. With these intelligent algorithms in place, Next 2 can self-handle processes such as automatic detection of symmetric patterns and cutting direction management, pattern proximity detection and real time speed controls. It is able to self-detect and self-diagnose all the operating anomalies by drastically reducing breaks and machine stops.

Running at a speed of 6000 RPM, Next 2 is appropriate for apparel industry, furnishing, automotive and accessories industry as well. The speed is 30% higher compared to normal machines and the widths are 180 cm and 220 cm.

On the other hand is 3Dress which will eliminate the prototypes developed. The virtual samples developed with the help of software can be edited in terms of weight, stretch, fitting, colours and movement. "Such a solution is aimed at reducing the sampling cost which is very high," concluded Prakhar.

Manufacturers are reluctant to change because of the mental block that the way they have been working is appropriate. They still wish to follow the traditional methods and do not want to move out of their comfort zone.

3Dress will eliminate the prototypes developed. The virtual samples developed with the help of software can be edited in terms of weight, stretch, fitting, colours and movement.

IMA ASIA bullish about TYPHOON 70

'Technology' and 'Easy Technology' are, in every sense two different terms. It is often seen in the textile and garment industry that lack of expertise in using technology in the most optimum way causes adverse results for an apparel manufacturer. It is, therefore, expected from the technology suppliers to come up with solutions that are easy to handle. With the same thought, IMA ASIA – the Indian subsidiary of the Italian cutting solution juggernaut IMA SpA, which is known for its easy-to-use technology, marked its presence in GTE '18 to offer its newly launched TYPHOON 70 cutter in the Indian market.

"GTE has always been a platform for us to make industry people feel our presence," shared **Guna Sekaran, Managing Director, IMA ASIA**.

Ever since the launch of TYPHOON 70 cutter that took place in IMA SpA, Italy, few months back, the Indian garment industry has been appreciating technology and embracing it with open arms. The first 5 cutters made in IMA's plant in Italy are owned by reputed names in the Indian textile and apparel sector including Best International, Tirupur; Lux Garments, Kolkata; and AKR Textile, Bengaluru.

Proudly speaking about the overwhelming response received by TYPHOON, Guna Sekaran commented, "Though we have not exhibited the cutter this time, we have got serious enquiries for TYPHOON. Both the Southern and Eastern part of India have come forward to close deals with us."

TYPHOON 70 is an automatic cutting machine for layers up to 70 mm. The machine's blade can operate at 6000 RPM. Structurally designed to achieve the highest level of performance, the cutter reduces downtime during processing with the use of kinematics on racks that allow increasing the acceleration of each movement.

Furthermore, the cutter is equipped with HMI (Human Machine Interface) software for machine management which is designed by IMA. The software is developed for dedicated functions such as symmetries and smoothing. HMI also optimizes the cutting path.

TYPHOON 70's cutter operations, performance, efficiency and criticalities can be monitored from anywhere in the world as it's part of real-time cutting room monitoring system and, thereby, preventive measures can be taken in much lesser time than the normal cutters.

Year 2017 witnessed growth for the company but at a slower pace as IMA ASIA got a bit affected due to the recent economic decisions such as demonetization and GST all through the year. However, coming out of the woes, IMA started off 2018 in a positive manner through GTE. "Earlier people were not having clarity on GST but now they are used to it and, are thereby remoulding themselves to capitalize on the rising trend of Industry 4.0. Our TYPHOON 70 is a perfect example of this," claimed Guna.

Guna also agreed that the textile industry, especially apparel (mass production), and technical textiles, have always been the stronghold of IMA and the company has got notable response from Delhi region. "We have added some mid- and high-level apparel exporters as well as surgical clients in GTE and we are looking forward to consolidate our strength in this segment too," concluded Guna on a high note.

Guna Sekaran (L), Managing Director and Krutika Garg (R), Marketing Director, IMA Asia with Gian Pietro Rossi, Sales Director, IMA SPA - Italy

The first 5 cutters made in IMA's plant in Italy are owned by reputed names in the Indian textile and apparel sector including Best International, Tirupur; Lux Garments, Kolkata; and AKR Textile, Bengaluru.

HCA bats for stronger Government support to the Industry

The apparel export industry is amidst a crisis that has not only eroded its competitiveness, but also slowed down its growth substantially. Sadly, this critical condition has been brought upon by the uncertainties created by continuous changes in policy and major blockage of funds that have rendered the industry short on liquidity to invest in the business. As an integral part of this industry, **Anil Anand, MD, HCA**, one among the leading technology providers to this industry is really worried about the situation and is all praise for the entrepreneurial spirits of the industry players that have kept them going despite all the challenges.

Anil Anand, MD, with his son Bhavya Anand, Business Developer, HCA

Anil Anand, MD, HCA, one among the leading technology providers to this industry is really worried about the situation and is all praise for the entrepreneurial spirits of the industry players that have kept them going despite all the challenges.

It has been a difficult past year for exporters and yet they came in large numbers to the recently concluded GTE to see the latest technology. This fighting attitude of the players has been the biggest saviour in a time when no one really knows where the direction is. "There has to be stability in policy, every day we see some change or the other… The Government is reactionary to how people are responding to announcements... There is no firm stand, so no one knows what to expect next," argued Anand. He firmly believes that the industry is willing to invest, but is holding back for clarity.

A clear direction that he does see today, is the migration of companies to newer destinations. "For many years I have been propagating that industry needs to move closer to the catchment areas and now I see it happening. Companies are seriously exploring options, whether it is Odisha, Jharkhand, Telangana or any other destination and this movement could spearhead a fresh lease of life to the garment export industry," said Anand. He adds that given the current facilities and infrastructure that these new destinations are offering, the industry need not look at foreign locations like Ethiopia or Bangladesh for new factories to be competitive. In the meanwhile, the technology providers are also gearing up to support the industry in its new direction and many are searching options to set up offices in the new areas.

Anand is also very happy with the increased acceptance of automation by the industry and is positive that this interest will continue to increase. "Everyone is talking about affordable automation, but if you see our logo, we have a line that says 'Making automation affordable is our goal'. Today a button feeder which was considered automation some years ago is a common technology. The price has come down by 50% and this is because both the demand and production of the machine has increased," avered Anand. He feels that the industry is not only ready for automation, but it is also the need of the hour.

Despite the positive change in mindset that Anand observes in the industry, he rues the fact that the Government is not as supportive as it should be. Giving the classic example of China, Anand reasons that for any country to progress smoothly, the support of the Government is a must, but unfortunately in India, the industry is left to fend for itself many times. "I am a bigger supporter of the Make in India slogan, and have even tried to manufacture machines in the country, but it is not viable. Even after imports, the Chinese machines are 5-7% cheaper than my machines," shared Anand. The reason of course is that the manufacturing cost in China is heavily subsidised and other tax benefits make the machines so much more competitive on a global platform.

Anand also strongly feels that the age-old labour laws need to be relooked at. "Everyone wants to retain performers, but why should the industry be forced to carry the deadwood also. It is important that the workers respect the work they do and add value to the organisation, and this is possible only if their job is assessed by performance and not protected by law," argued Anand. HCA considers itself a partner to the industry; and serving them better while standing at their side in difficult times, is a commitment.

Indian leather industry is the focus point for **Highlead**

The next generation successors are always expected to take forward the legacy of their predecessors, aligning with their vision and values. Highlead, one of the prominent Chinese sewing machines providers, has been seeing this change recently after **David Xu**, **Manager**, **Foreign Trade Department** took over the reins of Highlead's global market.

After attaining the manager's position, it was the first time in India that David represented Highlead at GTE '18 in association with its Indian agent HCA. "I am very optimistic about the Indian market. Highlead has a great market in China and I am expecting the same result from the Indian market as well where we have an existence for more than 10 years now," shared David.

GC20618, a heavy duty compound feed lockstitch sewing machine comes equipped with a safety clutch to prevent the hooks from damage due to over-duty operation.

The strength of Highlead is undoubtedly in heavy duty and special machines. Over the years, the brand name has become synonymous with leather and car seat cover industries. To capitalize on the increasing leather use in India, Highlead offered GC20618 heavy duty compound feed lockstitch sewing machine at the exhibition.

The machine comes equipped with a safety clutch to prevent the hooks from damage due to over-duty operation. "This machine runs smoothly at 2000 RPM, works quietly and ensures long-life," claimed David.

Just displaying quality machines can't lead to sales conversion and, knowing this fact, Highlead is well prepared to sell the machines in the competitive Indian market. "Apart from offline efforts, we have our Instagram and YouTube channels too where we upload images and videos of our machines to keep our customers updated," informed David. According to him, in the era of digitalization, the strategy should be made keeping those kinds of serious customers in mind who spend most of their time in searching new technologies online.

David Xu (L), Manager, Foreign Trade Department, Highlead

Robotech aims for larger chunk in the Indian market

Technological breakthrough in the apparel industry has propelled the growth of the apparel manufacturers in innumerable ways over the years. Major operations such as joining the processes together, which earlier required highly skilled operators, can now be done using automated machines with little human intervention. The trend can be seen in India too where apparel manufacturers are investing in automated solutions. "Good thing about automation is that it makes the product cheaper with high quality and India has started understanding the fact now," said **Recai Kaya**, **Sales Consultant (Advanced Sewing Automation Division)**, **ROBOTECH**.

The key highlight of ROBOTECH during GTE '18 was its Pocket Welt automat, FF 6100-TR. The sewing unit for piped pockets allows an efficient and flexible production of straight and optionally slanted welt pockets, flap pockets and inside pockets for the production of men's and women's jackets, coats, blazers and trousers.

In order to achieve fast production, the machine runs at 3000 RPM producing stitch length ranging from 0.5-3 mm.

"We have 62 different kinds of automation, especially for menswear and womenswear. Except underwear, we are providing automation for every product," shared Recai.

Recai is bullish about the Indian market as he feels the young generation and business owners in the country are sensing the rising need of automation in the garment industry bypassing the reluctance of their predecessors who always stuck to the old methods and refrained from the use of technology. "India has large number of young minds which is helping us to generate good business in this vibrant country. So, selling our machines here is not a challenge for us anymore," pointed out Recai.

Moreover, ROBOTECH's collaboration with HCA in India further

Recai Kaya (C), Sales Consultant (Advanced Sewing Automation Division), ROBOTECH

To further reinforce the technical support, ROBOTECH is planning to take HCA engineers for training to Turkey in March. Training is, by far, the best method to educate the technical team in order to prepare them for maintenance of the machines, said Recai.

Young generation and business owners in the country are sensing the rising need of automation in the garment industry.

strengthens the Turkish company's footprints in the country. Endorsing this sturdy partnership, Recai commented, "Though our production capacity is not as big as HCA demands us to supply, we give 15 to 20 machines each month and they sell all. I am sure if I give them 100 machines, they will sell them all too."

To further reinforce the technical support, ROBOTECH is planning to take HCA engineers for training to Turkey in March. "Training is, by far, the best method to educate the technical team in order to prepare them for maintenance of the machines. This is why we want to train engineers as we have a lot of machines to come in 2018 as far as the Indian market is concerned," concluded Recai.

Hikari brings to Indian market the combination of speed and real time data collection

Technology providers now a days are constantly introducing latest technologies and developments in the market to support their customers. With automation and real time data monitoring, it has now been possible for apparel manufacturers to improve productivity and quality.

Hikari, a leading Chinese sewing machine manufacturer, which constantly dwells on its strong R&D to bring out the best, was no longer a stranger to innovation at this GTE. On display was world's first computerized super high speed overlock machine – HX6814. Equipped with patented intelligent design technology and a super high speed mechanical structure, the machine helps to increase efficiency by 30%.

The machine runs on a fully automatic mode where the operator doesn't even require to press the pedal to run the machine. The mechanism works on a sensor which after detecting the fabric, runs the machine. "Hikari overlock machine has the world's highest speed, that is, it runs on 8000 RPM," informed **Bhavya Anand**, **Business Developer**, **HCA**. The fully automatic mode does not even require a high skilled operator for its operation.

On the other hand, there is the semi-automatic mode in which the sensor detects the fabric and lifts the presser foot. It then waits for the operator to press the pedal and start the operation.

Drifting away from the clutch motors, the machine uses direct drive servo motor that helps significant percentage of energy to be saved. Servo motor only consumes electricity while sewing, but does not consume electricity when in idle position. 66.6% electricity can be saved with the help of Hikari computerized overlock machine.

The company has also addressed the problem of leftover wastage after trimming with a self-developed waste collecting system. This system automatically collects the waste generated keeping the floor area clean and operators safe.

Another highlight of Hikari was the 'Intelligent Cloud Technology' for its machines. The system can be integrated with the Hikari machines which will help in the real time data collection and monitoring for better decision making. It can monitor various parameters such as usage of thread, number of stitches, needle running time etc., and can compile and remotely transfer the data to the cloud.

"A manager or a supervisor can see the report on his screen sitting anywhere in the world and can take an action to further address the problems hampering the productivity," explained Bhavya. The 'Intelligent Cloud Technology' can connect not only the SNLS machines but also the overlock machines in a production line.

Bhavya Anand (L), Business Developer, HCA, explaining the working of Hikari sewing machines to visitors

'Intelligent Cloud Technology' system can be integrated with the Hikari machines which will help in the real time data collection and monitoring for better decision making. It can monitor various parameters such as usage of thread, number of stitches, needle running time, etc.

Your digital samples, **wherever** you are.

DukeJia gets appreciation for its patented lubricating system

DukeJia, an embroidery machine manufacturer, made its debut on the grounds of GTE Delhi 2018 in association with its Indian dealer HCA. At the very first launch, DukeJia attracted a number of visitors because of its patented hookset lubricating system.

The system performs a three-step process to lubricate the hookset so that excessive oil use can be prevented and it does not leak down to the fabric. At first, the air will be blown through the compressor to each shuttle one by one, which will help in removing all the dust particles in them. Afterwards, an oil capsule will release the oil to each shuttle in the form of oil mist (a combination of oil and air). Because of being used in mist form, the oil usage is less and fabric is prevented from oil stains.

In the last step, after the spray of oil mist, again a blow of air is passed through the shuttles to remove the excessive oil or any dust particles leftover, if any.

"With this patented technology, the DukeJia embroidery machine runs on 1500 RPM on an average and I am sure India is ready to embrace this technology," concluded **Bhavya Anand**, **Business Developer**, **HCA** on a confident note.

Patented hookset lubricating system performs a three-step process to lubricate the hookset so that excessive oil use can be prevented and it does not leak down to the fabric. With this patented technology, the DukeJia embroidery machine runs on 1500 RPM on an average.

Patented hookset lubricating system in DukeJia embroidery machines

Megasew brings its flat seaming technology to India

Machine operators in the garment industry have to focus on increasing needle time in order to enhance efficiency. Hence, it is mandatory for them to maintain ergonomic posture throughout the day. Megasew, a Taiwan-based sewing machine provider, has beckoned India with its fourth gen flat seaming machine MJ101TX which fulfils all the ergonomic standards.

Suitable for knitwear stitching, the main feature of MJ101TX is its unique design which has not seen any changes in the last 50 years since the inception of its first generation. Machine operators do not need to force their bodies forward and bend their head towards left to view stitching area. This design saves operators from heating and vibration which the machine produces while performing operation.

"Sewing view of operator is wide enough in our machine whereas, other Japanese brands which are providing same machines have very narrow sewing view which troubles the operators," claimed **James Huang, Director, International Sales & Marketing division, Megasew**.

Furthermore, the adjustment of coarse stitch or fine stitch has become easier as MJ101TX, the

James Huang, Director, International Sales & Marketing, Megasew

Suitable for knitwear stitching, the main feature of MJ101TX is its unique design which has not seen any changes in the last 50 years since the inception.

mechanism of opening screw on the left side and moving Feed Rocker Link in the normal flat seaming machines, has now been re-engineered by Megasew. The mechanism is now incorporated on the right side of MJ101TX and, with this change, the stitch adjustment has become more visible and viable.

Adding to this, James emphasized that a revolutionary 'Triple Differential Ratio Feeding' mechanism in the machine can overcome the challenges occurred during multiple stretching of different kinds of fabrics. "Other Japanese brands just have single differential. So with our machine, the denser seam with more flexibility can be achieved as its easier now to adjust SPI," commentes James.

The 100% Made-in-Taiwan machine has debuted strongly in the Indian market as apparel manufacturing giants such as Brandix (Vizag) and Gokaldas have invested in Megasew.

The stay for a longer period of time in a vibrant country like India is actually what a technology provider always plans. Strong after-sales support is something that can help in reinforcing the roots of an overseas company like Megasew. Advocating the need for strong customer service, James adds, "We are proving after-sales services with the help of HCA. We are training HCA's engineers on how to support end-customers on technical grounds."

TUKATECH aims to reduce lead time with its solutions

The problem-solving approach to let its consumers make profits is what makes Tukatech different from others. Whether it is a designer making few sample pieces or a manufacturer producing mass quantities, Tukatech has been recognized for its innovations and developments across the fashion industry.

Recently, the driving force behind Tukatech, **Ram Sareen, Head Coach and Founder**, received Los Angeles Business Journal 2017 Award for 'Technology Innovation' for its support to California fashion industry.

In the opinion of **Umesh Gaur, President, Tukatech Asia**, it's fast fashion vs. mass production. In USA, a lot of fashion start-ups have been emerging which are specializing in small quantities and fast fashion items while Asian manufacturing hubs bank upon the bulk quantities they can produce."USA manufacturing is not going to affect Asian manufacturing," said Umesh.

What's going to affect Asian manufacturing industry, especially the Indian apparel manufacturing industry is their attitude. *Chalta Hai* and *Jugaad* attitude have brought manufacturers to this stage but will not take them further.

Umesh Gaur, President, Tukatech Asia

The Indian manufacturers have to change themselves and become proactive towards technology.

"I have always seen that whoever has taken a right step at the right time is on heights now," stated Umesh. At present, manufacturers in India are waiting for the right time to invest in technology and transform from the conventional methods.

Tukatech has many offerings for its customers who wish to take the right step, and one of them is Tuka3D, a virtual product development software. Making physical samples and afterwards getting it approved takes around 15 days. But, with the help of Tuka3D, manufacturers can make virtual samples which can be accessed through cloud by the buyers' team. After implementing all the changes suggested by the buyer, a single physical sample will be required to be developed for final comments.

> Chalta Hai *and* Jugaad *attitude have brought manufacturers to this stage but will not take them further. The Indian manufacturers have to change themselves and become proactive towards technology.*

With this software, lead time can be reduced by 15 days as it eliminates the number of physical samples previously developed. Also, all the comments/improvements from the buyers' team can be stored on the cloud for future references.

TUREL GROUP introduces Mauser Spezial and DAMSH in India

Over the years, E H Turel Group has been working consistently for promoting the importance of automation in the Indian market with brands like Duerkopp Adler, Typical, Naomoto, Kansai Special, Brother, Kingtex, Vibemac. As a step ahead during GTE '18, the company launched its much awaited China-based ShangGong Group in the Indian market for its 'Made in China' machines including Mauser Spezial sewing machines for the Garment, Leather and Shoes segments; and the German DAMSH Automats for shirts & trousers segments.

The official ribbon cutting was done by ShangGong Chairman Zhang Min. During the ceremony, **Viraf Turel**, **Managing Director**, **Turel Group** commented, "We are very upbeat about these machines as we are now targeting every segment of the market."

To further strengthen the support service for Mauser, ShangGong is planning to open a representative office in India.

The ShangGong Group has, over the last few years, taken over the responsibility of brands like KSL, Duerkopp Adler, PFAFF, SG Gemsy, Beisler and Mauser Spezial. While SG Gemsy and Mauser Spezial are Chinese brands, the rest are German brands. In 2005, as an active responder to the 'going out' strategy of the country, ShangGong successfully acquired Duerkopp Adler AG through its wholly-owned subsidiary ShangGong Europe and started internationalized business operation. "These strategies have been proven in the market, thereby, I am confident that India is ready to adopt this partnership," asserted Viraf.

The sales team of Turel Group is supported by the technical and the application engineering teams which work in a unique cohesion bringing out the best. They analyze the customer's specific needs and offer to them a comprehensive package, deepening on the confidence the customers have. The company sends its technical team to get trained on the particular machines and gain knowledge about the working and specifications before even the machines reach the market.

To further strengthen the support service for Mauser, ShangGong is planning to open a representative office in India. "I will give comprehensive support – pre-sales (an application engineer will train the operators about the machine), after-sales, and after after-sales to help them get the maximum out of the machine," concluded Viraf with a futuristic vision.

Zhang Min (C), Chairman, ShangGong Group beckoned India with the launch of Mauser Spezial

VIBEMAC beckons India with 2516V4 DCT pocket setter

Technological advancements have taken a quantum leap in the jeans manufacturing process lately. Having vast scope for value-addition, jeans are likely to be manufactured by complete automation in near future to meet the increasing demand for greater productivity and expected quality. Vibemac, an Italian pioneer providing jeans automation, marked its presence in GTE '18 with its advanced machinery. "We believe that automation has now started getting the right treatment in India as apparel manufacturers are fed up of rising costs of labour," stated **Veeru Maknur**, **Sales Manager**, **Vibemac**.

Vibemac offered a range of machines during the exhibition and the key showcase was model 2516V4 DCT which is an automatic back pocket setting machine. The machine comes equipped with Mitsubishi PLK-G direct-drive double needle lockstitch sewing head, with shuttle hook and thread trimmer. The machine also has double-colour device patented by Vibemac that allows stitching with 2 threads in 2 different colours with a double needle bar in one sewing cycle, a fashion exclusivity of Vibemac.

2516V4 DCT applies any kind of pre-passed patch pockets on jeans with the ability to stitch any shape of pockets

right from round, square to zip and asymmetric pockets. It is possible to sew darts and pleats, apply labels and sew flaps with this machine.

"It can store 512 pocket patterns in the internal memory and USB flash memory stick," claimed Veeru stating that 2516V4 DCT aims to eliminate labour cost, and also contributes in consuming less power as well as in increasing productivity.

GTE'18 witnessed Vibemac garnering a good number of visitation as well as being close to finalizing deals with renowned names in apparel manufacturing including Shahi Exports and Arvind. "Many of these manufacturers have shown great interest in our offering and we would soon ink deal with them taking their query during this year's GTE forward," informed Veeru.

The need of the hour in the Indian jeans manufacturing industry is automation and Vibemac does not have any different opinion. Advocating the same, Veeru opined, "India is known for producing high-end garments and jeans is such a product that pushes manufacturers to rely more on automation." Vibemac believes that there is an opportunity lurking in the crisis (rising labour cost) because of its economical automated machines.

Veeru Maknur (R), Sales Manager, Vibemac in conversation with Gurpreet Ahluwalia (C), General Manager – Garmenting, Raymond UCO

Vibemac offered a range of machines during the exhibition and the key showcase was model 2516V4 DCT which is an automatic back pocket setting machine. The machine also has double-colour device patented by Vibemac that allows stitching with 2 threads in 2 different colours in one sewing cycle.

Further, in order to bolster up its position in the Indian market, Vibemac sells its products in India through its dealer Turel Group. However, it also has its own office in Bengaluru. "There should not remain any doubt in the customers' mind about after-sales support as Vibemac and Turel are two established names," concluded Veeru.

Ascolite introduces clamp for gap between button and fabric

Ascolite, the world leader in button security, came out with a number of improvements that will be of great help to apparel manufacturers.

In button stitching, it is sometimes required to provide a gapping (of 1 mm to10 mm) between the fabric and the button in some styles. In present scenario, a wire is used to lift the button to a certain height to provide the gap. However, wire is not a reliable method to obtain a consistent gapping in all the buttons.

The Swiss company has introduced a clamp that can adjust the button gap from the fabric with the help of a screw. "Once the screw is tightened, the lower plate and the clamp start to increase the gap. The clamp can be fitted to the sewing machine and can be adjusted to get the required and consistent gap," informed **Rajeev Sachdeva, Business Development Manager (India), Ascolite**.

After this process comes the button wrapping process. Ascolite has launched a fusible thread with elasticity feature of 480% to 530%. The thread can be fused while wrapping at 80 degree Celsius. The thread allows the same consistency throughout even after a number of washes.

Regular threads used for blind stitch may unravel the complete stitch if the thread breaks. But, Ascolite's blind stitch thread melts after pressing, making it intact with the fabric and eliminates the possibility of unravelling.

Another new development is the fusible thread for blind stitch. Regular threads used for blind stitch may unravel the complete stitch if the thread breaks. But, Ascolite's blind stitch thread melts after pressing, making it intact with the fabric and eliminates the possibility of unravelling.

Rajeev Sachdeva, Business Development Manager (India), Ascolite

Embracing change is the way forward for IIGM

A great advocate of change, **Pavan Kapoor, MD, IIGM** is not only accepting changes in his own company, but is happy to note that the industry is also moving towards a new phase led by the younger generation which is not only more aggressive, but also very technology-savvy. New strategies have been put in place and greater focus is on supporting the industry in becoming lean and green. Many of the strategies that were implemented in the last few years are showing results, and Kapoor is confident that the only way to grow is through greater adaption of technology, in all areas of operation.

Under the young leadership of GenNext, IIGM is looking at the digital space as a growth strategy. "Online marketing is definitely a direction. Now the market space is much more transparent and buyers of machines are looking at every supplier's performance and analysing before making a decision," said Kapoor. Just living off old relationships that have been created over the years cannot work anymore, argued Kapoor adding that those companies that do not change are going to be left out.

IIGM is now laying great stress on 'infrastructure' and 'green buildings' which use skylights, LED lights and energy-efficient cooling systems…; the effort is to, be a partner in the industries journey to being LEED certified. "The old ways of doing business have changed; a company has to look at ways to be sustainable, save on energy, save on manpower and invest in automation that can increase productivity. We are making the changes in-house and also supporting the industry in the same," averred Kapoor. The focus on automation and value adding machines will of course continue as before.

Pavan Kapoor, MD, IIGM

Though, like most in the industry, Kapoor is happy with the long-term implications of GST and admits that the cost of machines has dropped 10-12%, but he is very critical of the implementation part, which he feels takes away from the benefits that have accrued. "There should have been more industry-specific discussions to understand how GST could impact the industry and what tweaking needs to be done for smooth transfer into the new tax regime," reasons Kapoor.

Giving the example of bonded warehouses, Kapoor bemoaned that the whole logic behind having bonded warehouses is defeated, as now any goods being sold through the warehouse have to include GST, even those being sold to the exporters, who have to claim refund thereafter. "The process of refund is tedious and ever since the implementation of GST, liquidity has dried up and the industry is really struggling. The idea behind having bonded warehouses was to facilitate the exporters so they did not have to wait for the imported products and raw material and since they had license for imports, against their exports, the transactions were smooth, but now it is tiresome," said Kapoor.

With the exporters withholding investment decisions due to fund crises, the domestic market has proved to be a life-saver. "Every technology provider will agree with me that the domestic manufacturers are really going big on investments. Factories are being upgraded and soon we will find no real difference in the infrastructure of factories manufacturing for local market and export market," stressed Kapoor.

IIGM is already a well-established name with some of the best brands under its wing like Juki, Yamato, Gerber, Eton, Hashima, Strobel, Ngai Shing, Wilcom, Barudan, Tonello, Jack, etc. Yet, this proactive company has embarked on the journey of learning and collaborations in preparation for the future and is happy with the new associations it has forged in the last two years including Xcel Stiro and GBOS. "The lead time we generally give to make any new venture a success is about three years, but the feedback and results that we are seeing just in a year, clearly indicates we are on the right path," concluded Kapoor.

Jack notes remarkable transformation in the Indian market

Innovations, performance, quality, acquisitions and strong sales support are synonymous to the leading Chinese sewing machines provider Jack. The company has been touching heights over the past few years and its unbeatable technology is one of the major contributors in its success. "India has been one of our largest markets where we are dominating domestic as well as export sector. I am hopeful that GTE will help continue this momentum for us even in 2018," stated **Bill Chen**, **Regional Manager**, **Jack**.

The technology, appreciated by the world, was a key highlight of Jack in the recently concluded exhibition as the sewing giant commercially launched A5 SNLS machine in India for the first time after its debut in the Jack's overseas conference held last year in China.

The 'First thread cleanness' computerized machine in the world, A5 has patented features such as digital alert system for oil leakage, bird nest prevention system, auto thread trimming, machine head oil free system, 3 mm end sewing thread trail and coaxial driving unit. The machine is also a conglomerate of auto bobbin winder, multi presser foot, suction device and electronic thread tension release system. A5 has working space of 300 mm which makes the operation easier for the operator.

The machine also features the coaxial driving mechanism that reduces the vibration generated from driving force. The coaxial shaft replaces the conventional two-axle joint mechanism which keeps the sewing stable throughout the operation.

"We are sure A5 will make its own space in the Indian market with the help of our partner IIGM which is already a top name among all Indian sewing machine dealers," opined Bill.

A5 has patented features such as digital alert system for oil leakage, bird nest prevention system, auto thread trimming, machine head oil free system, 3 mm end sewing thread trail and coaxial driving unit.

Jack witnessed a remarkable installation of two lakh machines in India last year with a notable shift from low-mid level customers to mid-high customers. In 2018, Jack is planning to surpass the number it achieved in 2017.

Every month, the technical teams of Jack organize trainings to educate dealers and sub-dealers to let them understand the basic technicalities of their machines as well as to guide them on how to do preventive maintenance in case of any sort of errors in the machines after these are installed in the factories.

Lucian, **South India Manager**, **Jack**, is very confident about its strong technical team and he endorses the same stating, "First, all our machines have predefined manufacturing and design standards and we follow those standards rigorously; and secondly, we spend a lot of time in our R&D division to research on new products. Globally, we have a strength of 600 people in R&D division and this is why our technical team is so strong even in India."

Jack witnessed a remarkable installation of two lakh machines in India last year with a notable shift from low-mid level customers to mid-high customers. In 2018, Jack is planning to surpass the number it achieved in 2017. Jack guarantees quick and reliable sales service in India with the help of its own offices in Delhi and Bengaluru. It has also recently opened an office in Tirupur while Ludhiana and Ahmedabad are in pipeline for 2018. "In Delhi-NCR itself, we have more than 300 mid-high level customers and the number will grow this year," concluded Bill on an optimistic note.

Bill Chen (L), Regional Manager – India with Lucian, South India Manager, Jack

ETON introduces touchscreen terminal to monitor real-time data

In a scenario where higher productivity and higher quality have become mandatory for every apparel manufacturing unit, technology providers have come up with new enhancements to support it. Sweden-based Eton Systems, the pioneer of Unit Production Hanger Systems, has introduced a touchscreen terminal application – ETONnote. The new touchscreen terminal will replace the old existing terminal on every UPS workstation. User-friendly in nature, the touchscreen is easy to learn and operate. The operator will quickly understand how to navigate through the menus. It can be used in both android smart phones and tablets, from which the operator can log in, record the working time, take a break and pause and conduct many more activities. "All the information fed can be observed in real time," said **Federik Andersson**, **Key Account Manager**, **Eton Systems**. Another advantage of ETONnote is its mobility which allows operators or supervisors to monitor and control the production in real time.

The solution will be equipped with local languages to make it more relevant and user-friendly. With this application, manual reports can be eliminated. "We will also provide training to operators on its usage so that they become accustomed to it," said **Anupam Naha**, **Regional Manager – India**, **Bangladesh and Sri Lanka**, **Eton Systems**.

With new touchscreen application, each UPS workstation can be decluttered as it replaces the old boxy terminals. Thus, the new system by Eton Systems supports the principles of 5S. Also, not only the UPS workstations but also the bundle system workstations can be monitored with ETONnote.

The company is expecting to increase its sales by 50% in the current year.

Maica displays automatic sleeve attachment machine – UAM 04

Having served the global apparel industry with automatic equipment and machinery for more than 40 years, Maica, an Italian manufacturer of shirt automats, showcased its machines for the first time at GTE'18. The Italian pioneer marked its presence in the exhibition in association with the Chinese sewing machine manufacturer Jack Sewing Machine Co., Ltd. which acquired Maica in 2017.

On display was UAM 04, a fully automatic sleeve placket setter, which does not require any skilled operator to handle it and provides an output of 2,000 pieces in 8 hours. It depicts that a process which takes around 80 seconds, can be automated to reduce the time to just 15 seconds. The machine is equipped with a sewing head separating the hook and the needle. Driven by two different motors controlled electronically, one motor controls the needle while the other controls the hook. The company has patented the design to allow fast and efficient output. A single Maica UAM 04 can save the cost and efforts of four operators.

This machine comes with a suction system and an auto-folding device, which automates the folding and sewing operations of the sleeve. Thus, ironing and pressing operations can be saved. Also, the double folding stations ensure that the sewing head works continuously and do not wait for the sleeve panel to be fed. Panels can be alternatively fed at the right and left folding stations.

Therefore, UAM 04 promises high productivity. The maximum speed achievable is 3,500 RPM.

Maica offers 23 sewing automats to the global market for the complete automation of shirt manufacturing.

Federik Andersson (L), Key Account Manager with Anupam Naha (third from left), Regional Manager – India, Bangladesh and Sri Lanka, Eton Systems

Carter, Sales Manager (Smart Sewing Center), MAICA & Jack with UAM 04

Hashima upbeat about its 'X-Ray Inspection' machine

The escalation in the use of X-Ray inspection in the apparel industry indicates that apparel and footwear manufacturers are becoming serious to provide the desired quality to the buyers. Sensing this seriousness, Japan-based Hashima, which is famous for its needle detectors and fusing machines, participated at GTE '18 and offered its one-of-a-kind X-Ray Inspection machine HNX-665DS.

Explaining the significance of this machine, **Khaja Nasiruddin, Country Manager – India, Hashima** said that the machine helps in detecting any unwanted particle which could have remained in the garment and footwear during the manufacturing process. "This helps in achieving error-free end-product inspection before the product is packed," commented Khaja.

HNX-665DS is equipped with Double Directions Shooting with 25 degree. This helps in finding out small foreign objects with different angle images. The images can be seen in the two monitors attached on top of the machine having 23 inch display with 1920x1080 pixel screen.

Furthermore, to process large volume of images at high speed, the machine is equipped with the 64 BIT ultra-fast CPU (Corei7) and a large capacity memory of 8 GB which doubles the processing capabilities.

Khaja Nasiruddin, Country Manager – India, Hashima

HNX-665DS is equipped with Double Directions Shooting with 25 degree. This helps in finding out small foreign objects with different angle images.

X-Ray inspection is mandatory if you want to export garments, footwear and bags to a country like Japan.

Additionally, traceability is the USP of the machine claimed by Hashima, which is useful in saving all the image data. Further, the matching label for each product can be printed out with the help of the label printer. Images can be transferred via computer network too.

"X-Ray inspection is mandatory if you want to export garments, footwear and bags to a country like Japan as the global textile industry is undergoing major stringency as far as compliance-related issues are concerned. Since Delhi-NCR is a big manufacturing hub, Hashima is eyeing to tap a major chunk of this hub with our X-Ray machine," shared Khaja.

Khaja also pointed out that X-Ray machine is more of a futuristic technology, which will start trending in another 2 to 3 years. "We are sure these machines will find great scope in the apparel industry in the near future," concluded Khaja optimistically.

USA: Gerber Technology appoints Scott Schinlever as its new President & COO

US-based technology solutions provider Gerber Technology has roped in Scott Schinlever as its new President and Chief Operating Officer. His appointment to the post was announced by Mohit Uberoi, President and CEO of the company.

Schinlever holds a great track record in driving significant growth across multiple industries and end markets. Gerber Technology aims to utilize his skills in leadership and strategic planning clubbed with deep knowledge of production workflows and digital printing to advance its integrated digital solutions and intensify its customer focus in the global market.

Prior to his association with Gerber Technology, Schinlever served EFI for more than a decade. He started his stint with EFI after the acquisition of VUTEk where he worked as Vice President of Marketing.

At EFI, while serving as the Senior Vice President and General Manager, Schinlever was responsible for the company's 'inkjet business'. EFI's inkjet business grew from US $ 207 to US $ 570 million in terms of revenue under his supervision.

Many of Gerber Technology's 78,000 customers in 130 countries are looking for technology options to deal with the trending concepts like Industry 4.0 and on-demand manufacturing to improve their efficiencies and productivity. According to a press release issued, the appointment of Schinlever will help the company to focus more on product innovation and meet the current needs of the customers.

USA: SoftWear Automation to speed up shoe upper manufacturing by 11X

The Digital Footwear Upper Workline is able to manufacture a 3-overlay upper in 26 seconds

US-based SoftWear Automation, the pioneer in advanced computer-assisted software and equipment, has launched the first-ever automated workline to speed up the manufacturing of shoe uppers, the most critical part of the footwear production cycle.

Dubbed as 'The Digital Footwear Upper Workline' by SoftWear Automation, it will not only assist in automating the entire shoe uppers' manufacturing process but would also make it even faster, say by 11 times. The shoe overlay process forms about 70% of the complete shoe manufacturing. Thus, the advancement in this section will further increase the overall footwear (production) output.

The automated workline has been engineered to construct a shoe with up to 12 overlays, the company claims. It adds that by eliminating the use of overlay templates, it is able to manufacture a 3-overlay upper with two logos and a lace overlay every 26 seconds, which is 11 times faster than the conventional construction.

Further, this latest development in the field of automation for the sewn industry will cut down the huge manpower requirement to just a 'single' operator for four or more worklines. The company states that the operator just has to load the vamps and overlays to the Sewbot and within no time, the sewn shoe uppers will appear at the other end.

Talking of the recent times, 'Athleisure' is the newest trend and the 'trend' will not be complete if it is not paired with the right set of 'sneakers'. The sneakerheads have taken the demand for the product to an all new level, with variations in fabric, style and colour. All this calls for a newer genre of sneakers that are produced at a much faster pace to meet the market demand. No other automation can relieve the companies of the immense everyday production pressure than SoftWear Automation's workline in today's world.

The entire production cycle of sneakers, which currently takes about 12-18 months from designer sketch to retail stores, can be shortened to 12-18 weeks with this latest innovation. The cost and other details of 'The Digital Footwear Upper Workline' by SoftWear Automation are yet to be unveiled.

France: Lectra acquires Italian company Kubix Lab

France-based Lectra, known for serving major world markets like fashion and apparel, automotive, furniture and a broad array of other industries with its solutions, has inked an agreement to acquire Italy-based Kubix Lab. The final completion of the acquisition process is likely to happen soon.

Kubix Lab feels that the worldwide presence, expertise in the fashion sector and the richness of Lectra's product range will enable them to create a cohesive solution for the customers in the time to come. On the other hand, Lectra will work on taking advantage of the company's expertise in offering a perfect solution as per the expectations of the fashion companies world over. One such example is 'Link' by Kubix Lab that allows different departments like product development, manufacturing and sales to work together in real time in a simple yet efficient manner and that too around exactly the same data. Such innovations will strengthen Lectra's portfolio as well.

"We were particularly impressed by the relevance of the solution created by Kubix Lab," avers Daniel Harari, Chairman and CEO of Lectra. The acquisition deal has been finalised at € 7 million which will be paid in three phases. Lectra paid the first instalment at the time of signing the agreement and the rest two will be paid in 18 and 36 months' time, the company's press release mentioned.

The acquisition deal has been finalized at Euro 7 million

Israel: Kornit Digital launches new DTG printer 'Avalanche HD6'

Kornit Digital, a leading digital textile printer manufacturer, has unveiled a new direct-to-garment (DTG) screen printer 'Avalanche HD6'. The new HD printing technology is the successor of the company's Avalanche Hexa printer.

The newly launched printer is suitable for the mass production of garments with a print run of up to 500 pieces. Avalanche HD6 is studded with the NeoPigment Rapid ink (with 41 ink containers) which is said to reduce ink consumption by 30% as compared to the current technology (R-Series), therefore, the cost of printing can be reduced significantly.

According to Kornit, the sustainable ink meets Oeko-Tex Standard 100 and GOTS V5. It is developed especially for HD technology which offers a range of brand and spot colour matching; enhanced white ink saturation and increased opacity.

The HD6 model also comes equipped with six colour channels: CMYK, Green and Red.

As far as print quality is concerned, the printer has RIP solution, powered by ColorGATE, which advances the colour management and improves screening capabilities. The enhanced colour system enables the users to simplify reproduction of the true colours of licensed sports teams as well as to match logos having a range of colours.

Furthermore, Kornit's Avalanche HD6 has a patented dual pallet and dual bridge which are the robust platforms for heavy-duty industrial use.

Omer Kulka, Vice President, Marketing and Product Strategy, Kornit Digital, commented, "The demand for customized garments, emergence of online and direct-to-customer models of business and inclination of consumers towards shorter delivery times has encouraged Kornit Digital to come up with an excellent and profitable alternative for print runs of up to 500 pieces with quick turnaround times."

The newly launched printer is suitable for the mass production of garments with print runs of up to 500 pieces. Avalanche HD6 is studded with the NeoPigment Rapid ink which is said to reduce ink consumption by 30%.

USA: HanesBrands to deploy Baldwin Technology's Precision Application Systems

HanesBrands, a leading marketer of everyday basic innerwear and activewear apparel under world-class brands in the Americas, Europe and Asia-Pacific, has inked a partnership with Baldwin Technology for its exclusive and innovative Precision Application System.

The contract includes an option to supply 19 additional Precision Application Systems. HanesBrands, known for significant environmental stewardship goals to reduce energy consumption and water use, has decided to invest in the systems in order to save water, chemistry and energy and at the same time enhance its productivity. According to Baldwin Technology Company Inc., a leading manufacturer and supplier of innovative process-automation equipment, parts, services and consumables for various industries including textiles, such technology (Precision Application System) has been designed to support apparel companies in reaching their sustainability goals with greater flexibility, fewer production steps and increased uptime that help in improving the final output.

Further, the Precision Application System comes with an advanced textile finishing technology that reduces the use of end-of-line chemicals and water. "The company zeroed in on technology after evaluating it for eight months in live production conditions with positive results," said Mike Abbott, HanesBrands Global Director of Research and Innovation. According to Abbott, the company found it appropriate to fulfil its requirements to provide a solution that optimizes productivity while reducing the environmental impact.

Notably, the retailer won the US Environmental Protection Agency Energy Star Partner of the Year Award for the eighth consecutive year for excellence in energy conservation, carbon emissions' reduction and ecological sustainability.

Precision Application System has been designed to support apparel companies to reach their sustainability goals

India: Fashion tech start-up 'Perfit Fashion' seeks expansion

Perfit Fashion will also set up five experience centres across India

Kerala (India)-based tech start-up Perfit Fashion specializes in highly advanced 3D body scanning solutions for fashion and healthcare industry. *SW* caught up with Perfit Fashion Co-Founder Eobin Alex George to know more about their offerings and funds' utilization plans. He informed that the company will use the funds primarily for product research and development (R&D), team building, establishing development centres and opening experience centres.

"Since we use frontline technologies in our systems, a major section of the funds will go towards R&D. We are also initiating R&D collaborations with around four companies internationally and two in India. That apart, we plan to set up two development centres in India and a small remote centre in the US for our operation," George told us.

Additionally, the company will also be setting up around five experience centres across India to capture customer feedback and pilot-run performance of its systems.

Notably, unlike traditional garment manufacturing, Perfit Fashion's system can help spawn accurate body measurements for pattern cutting from fabric sheets and thereby speed up the production process significantly, George informed.

The company caters to the end-customers in stores also. Their solution allows them to 'try on' clothes in an augmented reality experience besides taking their measurements automatically.

The users can create (mix and match) various apparels to visualise how they look in them in real time. The measurement unit captures the user's body measurements in less than a minute and provides it to the user. The user can share the measurements with fashion stores via their mobile apps, George explicated.

Incepted in 2016, the company has secured an undisclosed amount of seed funding from Mumbai-based VC fund Unicorn India Ventures (UIV).

Europe: Lectra appoints new MD for Central & Eastern European regions

Holger Max-Lang has been appointed as the Managing Director of Lectra Central & Eastern Europe Region(s) and Russia. These regions are important to the company in terms of business and future growth as well.

Max-Lang is known for his strong entrepreneurial and commercial skills. He has a fair knowledge of integrated technology (CAD and CAM systems), Industry 4.0, Digitalisation, the role of IoT (Internet of Things) in manufacturing and product development. Lectra is known for serving the major world markets, be it fashion and apparel, automotive, furniture as well as a broad array of other industries with its solutions. In his new role, Max-Lang will focus on Lectra's customer-specific strategies for the success of fashion and apparel, automotive and furniture businesses in the aforementioned regions.

The newly appointed Managing Director began his association with Lectra as a salesperson for Automotive Accounts in September 2002. Later, he was given the responsibility to manage sales of Lectra products in Central & Eastern Europe regions and Russia.

The company aims to capitalise on Max-Lang's experience in these markets and further strengthen its position there.

Holger Max-Lang, MD, Lectra Central & Eastern Europe Region(s) and Russia

Headquartered in France, Lectra is a leader in providing integrated technology solutions that are dedicated to industries using fabrics, leather, technical textiles and composite materials.

> *Max-Lang has a fair knowledge of integrated technology (CAD and CAM systems), Industry 4.0, Digitalisation, the role of IoT (Internet of Things) in manufacturing and product development. The company aims to capitalise on Max-Lang's experience in these markets and further strengthen its position there.*

Germany: HYDRO_BOT jacket makes its commercial debut

After a year of extensive testing on the innovative HYDRO_BOT technology, Swiss-Norwegian company OSMOTEX has showcased skijacket at ISPO Munich 2018. Embedded with electronic moisture management, HYDRO_BOT will be commercially available in sportswear in the course of 2018, as announced by the company.

"I have tested prototype jackets under demanding conditions in the Norwegian mountains, and the effect was much greater than I dared to dream of. I did sweat without feeling wet," said Joacim Holter, Managing Director and Executive Chairman, OSMOTEX.

All the tests performed on the jacket were validated by Empa, the Swiss Federal Laboratories for Materials Science and Technology. The test results are proof of its excellent performance compared to other existing state-of-the-art jackets. While this is a first-generation product, our physiological analysis already shows that electro-osmosis will make it possible to manage moisture in an entirely new way," stated Prof. Dr. Gian-Luca Bona, CEO, Empa.

Claiming to revolutionize high performance clothing, OSMOTEX joined hands with Applycon, a Czech-based developer and producer of electronics for clothing. The new partner will be the company's preferred supplier for all integrated electronics. Applycon has delivered the first electronic units that work with the specially developed HYDRO_BOT application. Applycon, with more than 13 years of experience, will stand as a strong pillar for the HYDRO_BOT technology, believes OSMOTEX.

> *Applycon, a Czech-based developer and producer of electronics for clothing, will be the company's preferred supplier for all integrated electronics.*

APPAREL NO LONGER WORTHY OF CONSUMERS' US DOLLARS

Once considered to be defining the statement of individualism, apparel no longer holds this status. An individual's statement is now being defined by dining, gymming and travel. This article analyses the report by Bloomberg and the reasons US consumers' have been putting their dollars in other promising experiences.

We all have been noticing the blame game happening in the retail industry in recent years. While some 'old school' still prefer the brick and mortar stores or prefer going to malls for shopping, for some the comfort lies within a tap of their mobile phones. Amazon, the online mammoth, is majorly held responsible for the 'demise' of departmental stores and their falling revenues.

But is this the complete truth? It is time we stop blaming Amazon or other emerging e-commerce companies like Alibaba, if statistics are to be believed. Bloomberg report reveals that an average annual spending of a US consumer on apparel was just US $ 1,803 in fiscal 2016 which is only 3.1% of its spending. The above statistics underlines that the spending dollars are making shift from apparel to 'other' things. What do these 'other things' denote?

It is a well-known fact that the millennials as a generation have taken over the social media by storm, whether it's clubbing, shopping, travel, gym, or personal care, all of them are up on Instagram or Snapchat. The US dollar accordingly has been drifting towards experiences which include travelling, eating out and activities, and account for 18 per cent of the purchases done by the US consumer in a year. Even spending on technology, including data charges and media content, have surpassed the spending on apparel comprising 3.4 per cent of spending (Figure 1).

The situation does not seem to improve in future as it has been brewing for decades. "In 1977, clothing accounted for 6.2 per cent of U S household spending, according to Government statistics. Four decades later, it has plummeted to half of that," reads Bloomberg report.

However, if Amazon hasn't been the reason behind it… what is it then that has led apparel to become unappealing for US consumers? Bloomberg report has revealed several reasons for this sudden reduction in interest, out of which few are beyond the control of companies such as change in shopping behaviour, while others are missteps being taken by the retail companies.

▲ With time passing by, casual Fridays took over the whole week and business-casual look grabbed thumbs up from both the genders at the workplace. This indicates no more buying of a separate wardrobe look for office. Over the past five years, there has been a 10 percentage point spike in employers who permit casual dress any day of the week.

Share of personal consumer expenditures

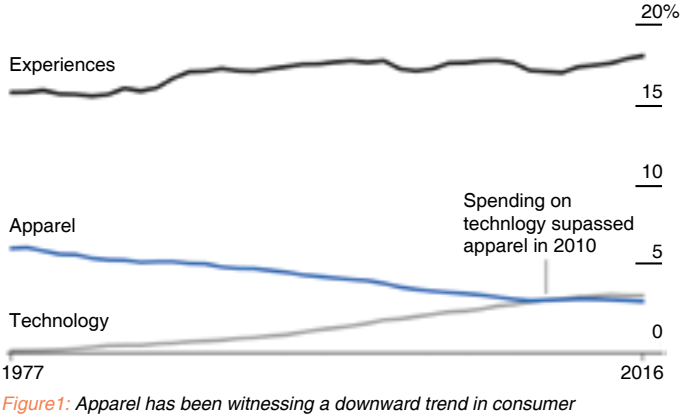
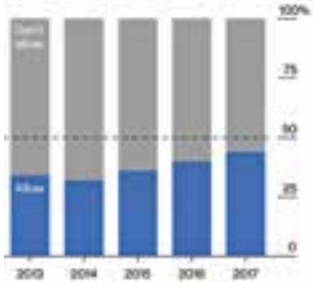


Figure1: Apparel has been witnessing a downward trend in consumer expenditure (Source: Bloomberg)

Share of US employers that allow casual dress everyday



Decline In dry-cleaning shops since 2010

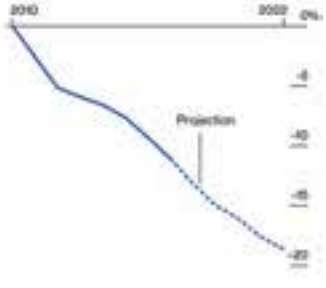


Figure 2: Business-casual look is gaining more popularity in organizations today (Source: Bloomberg)

Number of H&M stores in the US

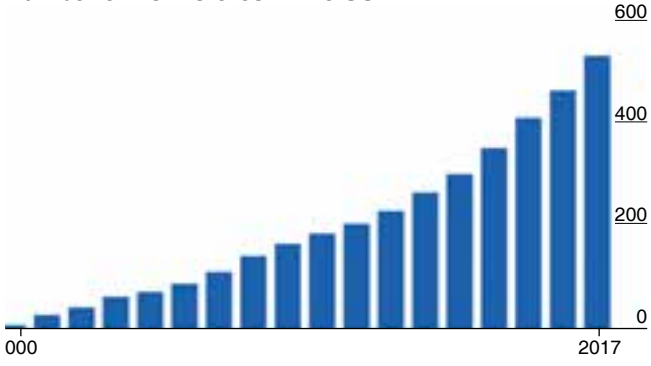


Figure 3: New H&M stores are opening worldwide and their number is growing (Source: Bloomberg)

Line of separation between workwear and casualwear dissipates

Back in the decades of '80s and '90s, officewear reflected the dedicated and career-oriented vibes of the employees in the organization. Masculine suit with broad shoulder pads, neck ties, pleated pants, long skirts, pointed toes and spiked heels defined office fashion in previous decades.

With time passing by, casual Fridays took over the whole week and business-casual look grabbed thumbs up from both the genders at the workplace. This indicates no more buying of a separate wardrobe look for office. Over the past five years, there has been a 10 percentage point spike in employers who permit casual dress any day of the week (Figure 2).

This new trend turned bad for the apparel companies. Although the sales of sneakers and jeans increased, the entire elimination of office wardrobe led to less buying of new clothes. About half of Americans say they can wear jeans to their professional offices, according to a survey by NPD Group.

Low pricing strategy falls back on retailers

The pressure on prices started right from the point where more and more retailers shifted to production hubs with cheap labour availability. This pressure gave way to low-cost, off-price and retailers that were able to offer fashion at a much less price. Target, Walmart, are among the low priced fashion retailers, even fast-fashion retailers like Zara, H&M, Forever 21 have jumped into the bandwagon marketing trendy designs and runway styles at less price.

But the strategy of low pricing and off pricing did more harm than being a profit to the retailers. "While the H&M locations are still growing, the pace of new store openings is at a two-decade low. The retailer has struggled to clear out products that shoppers didn't want, in part because customers are skipping messy stores in favour of a streamlined online experience," explains Bloomberg in its report (Figure 3).

Bloggers and Instagrammers become the new trendsetters

Clocks are turned, taking the power from retailers, fashion magazines and couturiers who used to dictate the fashion trends for the masses and consumers abided by. Now is the time of spontaneous social media influencers who experiment with the fashion trends, styles, brands to create their own unique style. A selfie look might combine a number of brands or accessories, which might be available for a cheaper price at the nearby store or in a new online start-up.

In earlier times, designers used to spend on designing an entire collection which was sure to become a hit. But the new age Instagrammers are less loyal to designers' collection and flaunt their own micro-trends.

To cope up with this, retailers are spending money on developing their social media image and using celebrities to endorse their collection. Another way is to buy fabric in bulk which can later be transformed to trends surfacing in the market.

Failing to predict future have led to their demise

The apparel industry felt the heat of all these pressures when the retail stores started closing, not even leaving big retailers like NastyGal which went bankrupt in 2017. Others have also either cut down on their stores or are getting acquired by another group. The disruption in retail has been well accepted by the online retailers than retail stores. With the help of technology, they are able to well capture the needs of the customers such as customization.

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FABRIC USAGE

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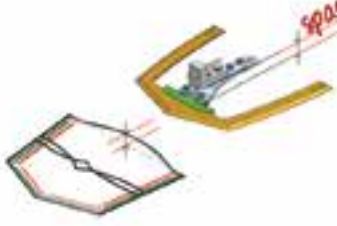
creaser one station

fully automatic two sewing head with folding group

ALLOWANCE ADJUSTMENT

space for allowance



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