Textile Trends

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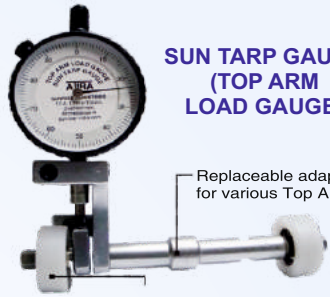

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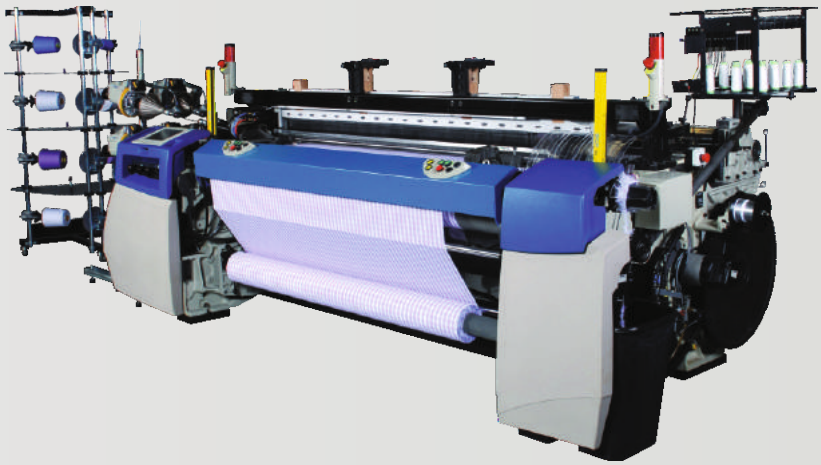

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EDITORIAL

Plight of workers making the jersey worn by world cup players

Few months have been passed since the Qatar Football World cup 2022 ended. But real story behind this mega event held in every four years encompasses the facts which do not match with immense joy derived from this world most popular event is pertinent to be addressed. The players of participant countries in this event put on shiny cleats, brightly coloured uniforms, new shoes that can retail for $200. Fans in the stands put on jerseys made by Nike and Adidas that can cost between $90 - $150.

What we know about the workers who make the players' wearing items used in such mega event. In October 2022 when about 2000 garment workers in Pouchen Group Factory, in Myanmar, supplier for Adidas went on strike demanding a daily wages of $3.78, factory manager called soldiers into production complex and later fired 26 workers including 16 members who are believed to have led the strike. The workers have said the factory was using the opportunity to punish workers engaged in organised labour. Low wages underscore the struggle faced by many of south Asian workers, who have long grappled with poor working conditions and wages and whose trouble were exacerbated by the pandemic.

Most western apparel brands do not have own production units, instead contracting with independent factories or suppliers to manufacture their garments. This means they are not technically the employers of this workers and therefore are not legally responsible for enforcing labour standards or human rights. Some multinational western brands have recently made parts of their supply chain more visibly by publishing factory supplier information for their garments. A apparel factory in Cambodia where 2800 workers made adidas kit, laid off 8 workers in 2020 after they formed a union to seek better working condition.

Rising inflation and weakened currency are putting pressure on the people in south Asian countries and cost of essential items have skyrocketed. Garment workers are reeling under hard ship, they are asking for more money. They cannot afford price-rocketing food items. Overworked and underpaid, the garment workers of south Asia toil in anonymity to produce the pricey kit worn by players and fans at global events.

China's current account surplus touches 14-year high on exports

China's current account surplus rose sharply in 2022, thanks to the nation's resilient strength in exports and a dropoff in demand for imports as the domestic economy slowed. The current-account balance at the end of last year was ₹417.5 billion, the State Administration of Foreign Exchange said recently. That was 32% higher than 2021 and the most since 2008. Last year's surplus accounted for 2.3% of gross domestic product, SAFE said in a statement, adding that the amount was within a reasonable and balanced range. The country's balance of payments is expected to stay "generally balanced" the year despite many external uncertainties, Wang Chunying, the regulator's spokesperson, said in the statement. Wang cited the expectation that economic recovery will continue. ❐

US retail sales soar by most in nearly 2 years

US retail sales rose by the most in nearly two years in January after two straight monthly declines, as Americans boosted purchases of motor vehicles and other goods, pointing to the economy's continued resilience despite higher borrowing costs. Coming on the heels of news of late that monthly inflation picked up in January, signs of strength in consumer spending could fuel financial market speculation that the Federal Reserve could continue rising interest rates through summer to cool domestic demand. "Although resilient consumer spending is a positive sign for the health of the economy, renewed demand for supply constrained categories could add to inflation pressures, potentially eliciting more aggressive action from the Fed," said Kayla Bruun, economic analyst at decision intelligence company Morning Consult. The commerce department said recently that retail sales surged 3% in January, the largest increase since March 2021, after declining by an unrevised 1.1% in December. Economists polled by Reuters had forecast sales would increase 1.8%, with estimates ranging from 0.5% to 3%. Retail sales vaulted 6.4% year-on-year in January. Some cautioned against reading too much into the monthly jump in retail sales. The drop in sales in the prior two months was blamed on the front loading of holiday shopping, which economists said had not been fully adjusted for by the model that the government uses to strip out seasonal fluctuations from the data. ❐

German business confidence shines for 4th straight month

German business confidence has strengthened for a fourth consecutive month as managers look past current problems to take a more optimistic view of the months ahead, a closely watched survey showed recently. The Ifo institute said its monthly confidence index rose to 91.1 points in February from 90.1 January. That was due entirely to a clear improvement in companies' outlook for the next few months, because their assessment of the situation now worsened slightly. The survey has shown confidence rising since November but it is well below its level of 98.6 last February, before Russia launched its full-scale invasion of Ukraine. Ifo said "the German economy is gradually working its way out of a period of weakness." Europe's biggest economy shrank by 0.2% in last year's fourth quarter compared with the previous three-month period, because of a fall in consumer spending. ❐

UK turns away from recession but not out of woods' over inflation

Britain's economy avoided recession after flatlining in the last four months of 2022, but finance minister Jeremy Hunt warned recently. It was "not out of the woods yet" over surging inflation. Gross domestic product registered zero growth in the fourth quarter, in line with expectations after shrinking 0.3% in the previous three months, the Office for National statistics (ONS) said in a statement. German GDP in contrast unexpectedly shrank 0.2% in the same period as Europe's top economy also battled fallout from the Russian invasion of Ukraine, recent data showed. The ONS added recently that the UK economy expanded 4.1% last year, shrugging off decades-high inflation, after growth of 7.4% in 2021. Nevertheless, sky-high consumer prices have sparked a cost-of living crisis in Britain – and widespread industrial action that weighed on December's performance. "We are not out of the woods yet, particularly when it comes to inflation," Hunt said, but also noted that" our economy is more resilient that many

feared". The technical definition of a recession is two straight quarters of negative growth. "In December public services were hit by fewer (hospital) operations and ...visits (to see doctors), partly due to the impact of strikes, as well as notably lower school attendance," said ONS economic statistics director Darren Morgan. "Meanwhile, the break in Premier League football for the World Cup and postal strikes also caused a slowdown." Bank of England governor Andrew Bailey expressed concern of late over persistently high inflation even if the rate of price increases shows signs of cooling. The remarks to a cross-party committee of MPs boosted the pound on raised expectations of more hikes to British interest rates, analysts said. "We are concerned about persistence (of high inflation). This is why we (again) raised interest rates," Bailey told the Treasury Committee. At its most recent regular monetary policy meeting few week ago, the BoE hiked its interest rate for a 10th time in a row as global authorities race to combat runaway inflation. The bank lifted UK borrowing costs by a half-point to four percent, the highest level since late 2008 during the global financial crisis. That ramped up mortgage and other loan repayments, weighing heavily on economic activity and worsening the cost-of-living crisis. UK inflation slowed to 10.5% in December–still around 40-year highs and more than five times the BoE's official target-level of two percent. ❐

China's economy to bounce back in 2023, says central bank

China's Economy is expected to generally rebound in 2023 and monetary policy will be precise and forceful, the central bank said in its quarterly policy implementation report released recently. The People's Bank of China (PBOC) said it will focus on supporting domestic demand expansion and stabilising economic growth and prices while avoiding "flood-like" stimulus, according to the report. However, it said that the external environment remain "severe and complex", adding that the basics of domestic economic recovery are "not solid". The report also said the property sector requires time to transition while the pressure of balancing local government fiscal revenue and expenditure persists. China will closely watch the trend and changes in inflation and keep the prices of energy and food stable, said the report. ❐

India & China to share 50% world growth in 2023 : IMF

India and China will contribute more than half to global growth this year, the International Monetary Fund has said. IMF has projected the emerging and developing economies to expand 5.3% in 2023, highlighting that the economic headwinds faced by Asia and the pacific region had begun to fade. "These economies are hitting their stride as pandemic supply-chain disruptions fade and the service sector booms," it said in a blog post. According to IMF data, india is expected to register 6.1% growth in 2023. India and China will contribute nearly 60% to global growth for the July. September quarter, with India alone contributing about 20%, it said. "The most significant revision since we last published forecasts in October has been to China where a sudden re-opening has paved the way for a faster-than-expected rebound in activity," IMF said. The uptick in Chinese activity is expected to provide a growth impetus to rest of the Asian economies. According to IMF analysis, for every percentage point increase in growth in China, output in the rest of Asia rises by 0.3%. While inflation in Asia is expected to moderate, the global institution expressed concern about rising inflation owing to China's re-opening, higher interest rates and rising debt levels. Even though the IMF projects inflation to be within central banks' targets next year, it cautioned them to stay alert. "Central banks should tread carefully by reaffirming their commitment to price stability. Indeed, they may need to hike rates further if core inflation does not show clear signs of returning to target," it said. India's rate of inflation increased to 6.5% in January, above the RBI's upper tolerance limit. The Reserve Bank of India's Monetary Policy Committee maintained its aggressive policy stance in February, raising key rates to a five-year high of 6.5%. Given the elevated debt levels, governments have little wiggle room on the fiscal side, according to the IMF. "With several Asian countries facing debt distress, authorities must continue with their plans for gradual fiscal consolidation. Doing so will also ensure that monetary and fiscal policies are not acting at cross purposes," IMF said. .■

Core sector growth slowed to 20-month low in Oct.

India's core sector output growth slowed to a 20-month low of 0.1% in October, from 7.8% a month earlier, official data released recently showed. In October last year, these sectors had grown 8.7%. Crude oil output shrank 2.2% while natural gas production contracted 4.2%. The contraction in refinery products and cement was 3.1% and 4.3 %, respectively. "Contraction of output in four sectors viz. crude oil, natural gas, refinery products and cement pulled the yoy growth of eight core sectors to a 20-month low in October 2022. Even the output of electricity sector grew at a paltry 0.4%, a nine-month low," said Sunil Kumar Sinha, principal economist at India Ratings and Research. Coal, fertilisers, steel and electricity output rose albeit at a slower pace than September. "The marginal rise in the core industries in October 2022 partly reflects a higher number of holidays on account of an earlier start to the festive season in 2022," said ICRA chief economist Aditi Nayar. Sinha said that the spell of unseasonal rains in October may have impacted cement and electricity sectors. The core sector output in October came in 2.2% lower than September. "This points toward the fragility of the ongoing recovery," he said. In April-October, the infrastructure sectors grew 8.2% on-year. The eight core industries-coal, crude oil, natural gas, refinery products, fertilisers, steel, cement and electricity-comprise 40.27% of the weight of items included in the Index of Industrial Production (IIP). Economists expect IIP to be under 3% in October. ❐

IMF projects India growth outlook at 6.8% and 6.1% for FY22, FY23

The International Monetary Fund (IMF) on January 31 said it is expecting some slowdown in the Indian economy next fiscal year and projected the growth at 6.1%, compared with 6.8% during the current fiscal ending March 31. The IMF on recently released the January update of its World Economic Outlook, as per which global growth is projected to fall from an estimated 3.4% in 2022 to 2.9% in 2023, and rise to 3.1% in 2024. "Our growth projections actually for India are unchanged from our October Outlook," Pierre-Olivier Gourinchas, chief eonomist and director, Research Department of the IMF, told reporters. "We have 6.8% growth for this current fiscal year, which runs until March, and then we're expecting some slowdown to 6.1% in fiscal year 2023. And that is largely driven by external factors," he added. "We had a positive view on India in Our October forcast. That positive view is largely unchanged," Mr. Gourinchas said in response to a question. In a blog post he wrote that India remains a bright spot. Together with China, it will account for half of global growth this year, versus just a 10th for the U.S. and euro area combined, he added. ❐

Industrial output increase moderates to 4.3%

Yet, overall manufacturing levels were 4.7% higher on a sequential basis and the Manufacturing index component of the Index of Industrial Production (IIP) hitting the highest level since March 2022. On the basis of end-use, four of six sub-sectors-primary goods, capital goods, infrastructure and construction goods, and consumer non-durables - recorded a rise in the range of 7% to 8% in December 2022, partly aided by weaker growth numbers a year ago. However, consumer durables output slipped into contraction again, slipping a sharp 10.4% in December 2022, from a 1.9% contraction a year ago. After three months of contraction, consumer durables had rebounded in November to grow 5.2% year-on-year. December's output was 2.2% lower than November 2022 and marked the second worst production level in 13 months. "The negative growth in consumer durables means that the pent-up demand seen during festival season has weaned off," said Bank of Baroda chief economist Madan Sabnavis, nothing that the consumer non-durable grew 7.2% over a low base of 0.3% in December 2021. Intermediate goods production shrank 0.3% in December 2022 compared to a 1% growth in December 2021, but was 3.6% over November's levels, with total output at its highest level since May 2022. "On the whole, the infra-related industries are showing good traction while it is volatile for consumer goods. Firms have also been raising prices of their products which will come in the way of demand as will the series of interest rate hikes invoked by the Reserve

Bank of India," he said, projecting growth to remain "narrowly focussed rather than broad based" in last quarter of 2022-23. ❐

India's bid to curb inflation will continue

The government and the RBI are taking steps to control inflation, Finance Minister Nirmala Sitharaman said recently. Among other moves, the government has increased the import of edible oil as required to rein in inflation and provided free grains to the poor since the COVID-19 pandemic, and would "continuously monitor prices," Ms. Sitharaman said at a post-budget interaction in Jaipur. Retail inflation rate rose above the Reserve Bank of India's upper tolerance band for the first time in three months to 6.52% in January, as prices rose for food products such as cereals and wheat. RBI targets to keep inflation between 2%-6%. The RBI will take necessary steps to manage inflation within "expected limits," she said. Economists have said soaring prices to cereals were a concern even though the January inflation data may have overstated the extent of the increase. Unlike some countries that calculate CPI-based inflation using a weighted average of a segment of the population that pays market price and those who don't, India does not do that, said Chief Economic Adviser V, Anantha Nageswaran. ❐

FDI equity inflow declines 15% in Apr-Dec period

Foreign direct investment (FDI) in equity during the first three quarters of this fiscal year declined 15 per cent year-on-year to $36.75 billion, according to the data released by the Department for Promotion of Industry and Internal Trade (DPIIT) recently. In all, FDI, which includes the equity capital of unincorporated bodies, reinvest earnings, and other capital, stood at $55 billion during April-December from $60.4 billion a year ago, an 8 per cent fall. FDI inflows have been declining since the beginning of the year due to challenges in the external sector such as recessionary trends in major developed eonomies. During the first half of the year (April-September), the contraction was 14 per cent. Last fiscal year, FDI equity inflows dropped by 1 per cent after robust growth of 19 per cent and 13 per cent during FY 21 and FY 20, respectively. According to the data shared by the DPIIT, Singapore was the top investing country with equity inflows of $ 13.07 billion during April-December. This was followed by the US ($4.95 billion), Mauritius ($4.73 billion), the United Arab Emirates ($3.1 billion), and the Netherlands ($2.16 billion). ❐

India to share 15% of global growth : IMF

"And in that way, India is providing about 15% of global growth in 2023," Ms. Georgieva said in an interview. That is the fastest growth rate among major economies. India remains a bright spot at a time when the IMF is projecting 2023 to be difficult with global growth slowing down from 3.4% last year to 2.9% in 2023, she observed. "Why is India a bright spot? Because one, the country has done really well to turn the digitalisation that has been already moving quite well into a major driver of overcoming the impact of the pandemic and creating opportunities for growth and jobs," the Managing Director noted. "Second, because India's fiscal policy has been responsive to economic conditions. We have seen the new Budget presented, and it signals the commitment to fiscal consolidation, while at the same time provides significant financing for capital investments. And three, because India didn't shy away to learn the lessons from the pandemic and to implement very strong policies to overcome what has been really a difficult time for a number of months," she said. "I particularly noticed how much attention India is paying on investing in the green economy, including renewables with potential to shift the country towards clean energy and keep growth going. What we see as potential for the future is to translate the fiscal responsibility into a mediumterm framework that gives even stronger anchor to India's public finances," Ms. Georgieva said. "What is unique about India is the fact that this public digital infrastructure is built in a very agile and welcoming nabber. So private initiatives can tap into this public infrastructure and benefit themselves as well as support growth and employment in India." ■

An exhibition unleashes historical decorative weave spanning from 19th century to the present

The 17th century English explorer Edward Terry wrote of his visit to India : "The natives there show very much ingenuity in their curious manufactures, as in their silk stuffs, which they most artificially weave, some very neatly mingled either with silver or gold or both..."

It is these glowing, glistening, lustrous "silk stuffs" that are the subject of a dazzling exhibition at the National Crafts Museum & Hastakala Academy in New Delhi, in February. Vayan - The Art of Indian Brocades is the second in a series of small but significant textile exhibitions, curated by Mayank Mansingh Kaul for the Devi Foundation, in collaboration with the National Crafts Museum. Representing a period broadly from the 19th century to the present, the exhibits are drawn from both their collections.

Entering the exhibition, your eyes adjust to a dark black void from which gradually emerge luminous patches of radiant colour. Each of the six sections highlights different weaving styles from all over the country linked by common visual, aesthetic and technical attributes – Banaras, of course, and Kanjeevaram, but also textiles from Gujarat, Maharashtra, and Central India.

Many of the pieces are saris or odhnis with ornate decorative pallavs and strong, deep colours – red, magenta, orange - and broad, patterned gold-edged borders. Stylised paisleys, both as endpieces and as ornamental konia corners, are a recurring feature, as are trailing floral arabesques and stylised roses and poppies. Included are brocades using complex hand-weaving techniques, such as luxurious samites, lampas and velvets, as well as lighter chanderis and tissues, and the now extinct gethwa technique of Varanasi. Ingeniously designed by Reha Sodhi, one of the delights of this exhibition is that, despite the relatively small space, each exhibit can be seen in isolation, and therefore has its own dramatic impact.

I was delighted to see a celebration of my favourite, but less known, Paithani and Asavalli saris : Their dull golds, tawny pinks, mulberrys and olive greens so subtle both in colour and patterning. The exhibition features a few striking contemporary pieces with more abstract, Bolder designs, such as a pop art-inspired gyaser, showing the range and versatility of the medium.

The name 'Vayan' is from Hindi, referring to theart of weaving. Known in India from ancient times, brocade was called hiranya or cloth of gold in Vedic literature, while in Gupta times, it was known as puspapata, or cloth with woven flowers. Kimkhab is another word, derived from the Persian, still often used for Indian brocade. It has a poetic dual meaning - "a little dream" and "woven flower"– both evocative of its intricate, dreamlike, often floral, patterns.

These extraordinary Indian broacades, woven with silk and gold or silver thread, are characterised by their raised floral or figured motifs and designs, introduced during weaving through the extra warp process. This was traditionally done by a nimble fingered young boy, till Joseph Marie Jacquard's loom and punchcards replaced him in the early 19th century. In India though, the older methods continued alongside much longer.

Textile techniques came to us from all over the world, to be transformed by India's eclectic magic into our own distinctive indigenous traditions. Silk originally came to India from China ; Chinese rules forbade the export of silk worms, but they were smuggled in (so the story goes) by chinese Buddhist monks in the hollow shafts of their canes. India is now the world's second biggest silk producer, though China still leads the way.

There are 21st century echoes of this ancient rivalry. Currently, guardians of India's craft traditions are up in arms at the Chinese usurping many of our traditional skill. There was an outcry at South Indian silk weavers being taken to China to teach Chinese weavers how to weave Kanjeevaram saris, and India is flooded with shiny, inferior but cheaper Chinese silk yarn while we neglect our own mulberry silk cltivation.

Each piece in Vayan demonstrates the different facets of brocade. It can be crisp and metallically shiny, or soft and flowing with a soft luminous sheen, extraordinarily sensuous. The encyclopaedic explanation for the attributes of silk — "The shimmering appearance for which it is prized prism-like structure, which allows silk cloth to refract incoming light at different angles" — doesn't at all convey its allure.

At the exhibition, a glass case with a bolt of brocade tissue scrunched into soft, iridescent folds, beautifully illustrates that magic, just as a three-dimensional installation (by artist Astha Butail in collaboration with Raw Mango) illustrates its drama.

The skills that wove these textiles are very much alive ; nor are the exhibits rare archival items. As I walked around, murmured voices mentioned a similar piece in a wedding trousseau, or inherited from a grandmother. So, just as brocaded silks delicately flow and shimmer and yet have a tensile strength, Vayan, too, is not just a decorative window to a lost cultural and aesthetic past; it is a doorway that could open to exciting new design futures in both fashion and craft. ■

PM wears recycled jacket made out of pet bottles produced in Tamil Nadu

In a subtle message on sustainability, the Prime Minister Narendra Modi while addressing the Parliament on recently was in a blue jacket produced out of fibre made with recycled pet bottles by the Karur-based Shree Renga Polymers.

While there are a few global brands that have started to use sustainable fibres, Shree Renga Polymers is a pioneer in sustainable textiles in the country.

The 14-year-old company has been producing fibres out of recycled pet bottles. It also makes and sells yarn as well as its brand of garments, under the brand name Ecoline Clothing.

The company collects used pet bottles, recycles them to produce fibre, which will be made into yarn and garments, This process saves at least 90 per cent water and 50 per cent energy when compared with the traditional process.

Shree Renga Polymers collects about 15 lakh used pet bottles a day through its collection centres across the State.

A normal T-shirt could be produced from eight bottles, while a trouser or a jacket may require about 2 bottles.

The company was founded by K Sankar, who completed his MTech in Polymer Technology at the IIT-New Delhi. He has close to four decades of work experience across industries including plastic, rubber and fibre.

The 'sustainability' message comes at the right time. As there is a global focus on climate change, it has increasingly become an imperative for textile and garment manufacturers to realign their operations to improve their ecological footprint and embrace alternative fibres that are recyclable and environment-friendly.

It is estimated that globally, one-fifth of industrial water pollution is contributed by the textile industry and 35 kg of textile waste is generated per person every year in the US alone. So, countries across the globe are implementing measures to shift toward sustainability.

European Union (EU) has already taken the lead to achieve sustainability in the textile sector by 2030.

The shift in the EU's journey towards sustainability will impact the Indian suppliers significantly and they need to prepare for the change as Europe is their biggest market. ■

Cotton body further cuts output estimate

The Cotton Association of India (CAI), a trade body, has lowered its estimates of cotton crop production further to 321.50 lakh bales (170 kgs) for the current season (October 2022-September 2023) from 330.50 lakh bales projected in January.

The lower estimate comes along with the Ministry of Agriculture lowering its cotton crop estimated to 337.23 lakh bales recently.

Of late, Union Minister of State for Textiles Darshana Jardosh told the Rajya Sabha that cotton production this year has been estimated this year has been estimated at 341.91 lakh bales (170 kg each) this season against 312.03 lakh bales last season.

In a statement, CAI president Atul S Ganatra said the estimates include loose cotton to the tune of 7.27 lakh bales and will be higher than 307.05 produced last season.

CAI said until January 31 during the current season, cotton arrivals are pegged at 115.70 lakh bales, down 76.5 lakh bales compared with the year-ago period.

Cotton imports till January 31 are estimated at 5.8 lakh bales and CAI projects total imports this season at 12 lakh bales (14 lakh bales last season). The association has projected consumption by textile mills lower at 280 lakh bales (293 lakh bales) and exports at 30 lakh bales (43 lakh bales). Cotton off take by small scale industries has been cut to 15 lakh bales (19 lakh bales).

Closing stocks are estimated at 35.39 lakh bales (31.89 lakh bales). According to CAI estimates, production will be lower in Punjab, Haryana, Madhya Pradesh, Andhra Pradesh and Tamil Nadu. ■

Suzanis of Tashkent

The Silk Route Approximately 6,437 km from China to Europe. 1,500 years of trade. Caravanserais carrying silk and spices, precious stones and porcelain, even horses, the palgue, and gunpowder. Bukhara, Khiva and Fergana Valley. Here came Zoroastrianism, Buddhism, Islam, and Communism. Here swept in nomadic and pastoral Turkic and Mongol tribes. Gengis Khan laid siege here, and out of this land came the brutal but brilliant Timur, the scholar at Biruni, and the scientist Ibn Cena.

It is no wonder that the world has now woken up to the riches of Uzbekistan. Bukhara : A Journey on the Silk-Route, an exhibition that just concluded at the National Crafts Museum in Delhi, focused on the area's nomadic legacy. The exhibits were taken from the personal archives of David and Mandeep Housego, the couple at the helm of Shades of India, a clothing and home accessories brand.

The story began in Afghanistan. In the early 1970s, David, then a journalist with the Financial Times, was sent there on assisgnment. While wandering around the bazaars, his attention was drawn to a beautiful red hand-embroidered texile panel or suzani. It had large red circles and black rings on top. "I fell in love with it," he says. "What first struck me was how contemporary they were. They had a sense of colour that I could relate to as abstract paintings."

That suzani (Persian for needle), he later discovered. was a 19th century piece from Tashkent. It was part of the 40 pieces - 16 suzanis, 14 rugs, six chapans of coats, and some jewellery and accessories — that comprised Bukhara. David had already been collecting tribal rugs during his time in Iran, prior to his purchase of the suzani from Afghanistan. But that piece started a lifelong interest in Central Asian work.

The display was planned by Mandeep and Amita Goel. Divided into three parts, it was designed to weave together the common threads that run through the ikats, suzanis, and rugs. The pieces are layered with influences of the different empires that ruled Uzbekistan, from Kushan to Achaemenid to Islamic. There is also the influence of the Silk Route itself.

"You can seen that some of the pieces were influenced by Chinese motifs," says Mandeep. At the same time, the boteh or paisely design comes from India, carnations and roses transport you to Persian and Mughal gardens. "These are things you won't see a generation later," she adds. "It's already rare now." ■

India to come up with tougher norms on protective textile items

India has notified the WTO of its intention to come up with a quality control order (QCO) for 12 items made of protective textile including protective clothing and gloves, bullet resistance jackets, high-visibility warning clothes and water-proof multi-purpose rain ponchos.

The QCO, which makes Bureau of Indian Standards (BIS) certification mandatory for sale of the identified items in the domestic market, is aimed at ensuring health and safety of consumers and also plays an important role in curbing cheap imports.

"The final date for comments (from WTO members) is 60 days from the date of notification," per the notification made to the Committee on Technical Barriers to Trade of the WTO.

Protective textile is one that has protective attributes like extending protection from extreme heat and cold, hazardous chemicals, germs and ballistic including projectiles of various shapes, sizes, and impact velocities.

The draft Protective Textiles (Quality Control) 2022, to be published in the Gazette of India, does not have a proposed date of adoption yet, but is to be implemeted six months after it is adopted. The QCO for the 12 protective textile Ministry's larger plan of bringing a total 107 technical textiles while BIS is working on developing 40 more such standards as per requirement of industry.

The Centre is also trying to push domestic manufacture of technical textiles through the Production Linked Incentive scheme. ■

Centre orders QCO mandatory to ensure supply of quality cotton to Industry

The Centre has approved the Quality Control Order (QCO) for mandatory certification of cotton bales, which is expected to augment supply of quality cotton to the textile industry, according to the Ministry of Textiles.

According to officials, the compulsory requirement of Bureau of Indian Standards (BIS) certification for cotton bales sold in India is expected to check imports of substandard cotton and ensure domestic cotton meets certain minimum quality parameters.

Industry sources said the move will ensure that the quality of domestic cotton improves, while there is no problem with imports, which can meet any quality specification.

The QCO for cotton bales, drafted in consultation with the BIS, was approved by Union Minister of Textiles and Commerce & Industry Piyush Goyal.

Goyal presided over the fifth meeting with the Textile Advisory Group (TAG) in New Delhi to review the progress of initiatives for the cotton value chain. He said that the quality of Indian cotton fibre was beneficial for both farmers and industry.

A holistic plan to enhance cotton productivity by targeting the technology of HDPS (High Density Planting System), closer spacing, and ELS (extra-long staple) has been approved, the release stated.

"It is based on a public-private partnership with a cluster-based and value-chain approach. The Central Institute for Cotton Research (CICR) under the aegis of the Ministry of Agriculture and Farmers Welfare has prepared this pilot plan to be implemented from 2023-2024," it said.

Branding of Indian cotton will add great value to the entire cotton vaue chain, from farmers and ginners to cotton users and consumers, Goyal said.

An MoU was signed in December 2022 between the Cotton Corporation of India and export promotion body, Texprocil, to encourage the industry to work on the principle of self-regulation by taking complete responsibility for the oftraceability, certification, and branding of 'KASTURI Cotton India'. "A steering committee and an apex committee have been constituted, and the work of TEXPROCIL will begin in the current cotton season," the statement pointed out. Goyal stressed that there was a need for strengthening the testing facility to conform to KASTURI standards, DNA testing and traceability. He assured that adequate modern testing facilities would be created through BIS and Textile Research Associations. ■

Inflation adversely impacted Surat Textiles Offtake

Inflationary pressure and less cash in hand among the rural people have impacted the rural offtake of textiles from Surat, the hub of man-made fabrics. Traders said the marriage season demand from rural areas down 50% year-on-year.

The marriage season. which began in mid-November last year, will continue till mid-March.

The Surat textile industry weaves about 45 million meters of fabric per say. "Of the total daily production, we are able to sell 2-2.5 crore (20-25 million) metres during the marriage season. The weaving units are facing problems and have been forced to bring down working days from six to four so that inventory does not pile up," said Ashok Jirawala, president, Federation of Gujarat Weavers Welfare Association.

Retailers from rural areas are not stocking up as the demand is very less from villages, said traders. The decline in demand has forced the weaving units in Surat to reduce working days so that inventory does not pile up. There are 55,000 weaving units in Surat and 850,000 weaving machines employing about 750,000 people.

"Domestic market has slowed as it reels from over consumption and higher sales in the previous year," said Vivek Merchant, head of the textile division at Swan Energy. "The usual pre and post-Diwali increase in demand was missing in 2022. Unprecedented increases in cotton prices had impacted the segment adversely. Now that the prices are reverting to normal, things should get better. Demand from rural India has slowed too, due to inflation."

Textile manufacturers said there has been a decline in demand from the retail end, mostly from rural India, with the result that wholesalers are not picking up dyed fabric and other textile items such as sarees and garments from them.

"The price of fabric has also come down due to lesser demand. The wholesalers are waiting for prices to further fall and, therefore, the offtake is less," said Champalal Bothra, general secretary, Federation of Surat Textile Traders Association. ■

ENTERPRISE RESOURCE PLANNING IN TEXTILE INDUSTRY : AN OVERVIEW

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Abstract

Enterprise Resource Planning (ERP) system consists of different sets of software that aims to integrate the business functions in a company or organization. It provides a package comprising different modules, such as human resources, finance, accounting, supply chain and customer information. ERP for textile industry helps in obtain absolute control over its operations by tracking it at every step. This paper discuss the approach to uses of ERP system for textile industry and focuses the benefits of different sectors in textile organization.

Keywords : Enterprise Resource Planning (ERP), Machine Learning (ML), Product Lifecycle Management (PLM).

I. INTRODUCTION

The Enterprise Resource Planning software aims to consolidate all the different departments and functions of an organization into a single computer system to provide the various needs of these departments.ERP solution is to leads all facets of an operation into a single point, centralized database to be used for manage all the operations and to streamline processes through a user-friendly application.

Numerous processes implemented in an ERP software are core processes such as orderprocessing, general ledger, invoicing, production planning, order fulfillment, billing etc., which is common to all industry segments. Use of ERP makes easy flow of information between all business functions within the boundaries of the organization and manage the organization's connections with its outside stakeholders.

To meet an organization's goals while incorporating all the functions of an organization the ERP is a software solution that address the needs of an organization taking into account the process view [1][2].

Fig. 1. Functions of ERP [1]

Need for Enterprise Resource Planning

Today organizations has different challenges that includes globalization and shortened product life cycle. Globalization has led to unprecedented levels of competition to compete such challenges successful corporations should require in the industry. To implementing continuous design improvements, manufacturing flexibility, super-efficient logistics control and better management of the entire supply chain need faster access to accurate information, both inside the organization and the entire supply chain outside.

In the organizational units such as HRA, account, advertising, production planning, need to operate with a very high intention without losing flexibility of ERP system to meet these demands perfectly of an organization related to wide view of business processes, business need of information [2].

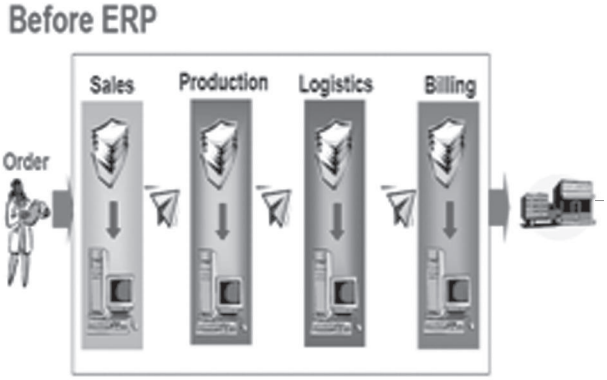

Fig. 2. Order fulfillment before ERP

Fig. 3. Order fulfillment after ERP [4]

Rest of the paper need and benefits of ERP in textile industry explained in Section II, in Section III Hurdle in implementing an ERP system are discussed and Section IV concludes this paper.

II. NEED AND BENEFITS of ERP IN TEXTILE INDUSTRY

» ERP for Spinning and Textile Industry

ERP for textile industry helps in obtain absolute control over its operations by tracking it at every step. Most of the delays and errors are removed after implementation of ERP software for spinning and textile organization. Automation comes lots of changes in how industry functions, making its workflow smooth. Business Intelligence gives complete insights of the business and statistics.

Benefits

1. Spinning industry reduces the operational cost of business and industry, as delays are absolutely removed.
2. All the data are stored in centralized server, so whenever needed the information can be fetched at any instance.
3. Inventory management module in ERP for textile and spinning industry keeps track of procured raw material, and products by allotting them with lot/serial number.
4. Finance and accounts module helps in maintaining proper account records of transactions and keeps report [5].

» ERP in the Fashion Industry.

In the fashion industry success factor depends upon the Speed to market and it's flexibility that fashion market trends to be required to sharing the information across a global supply chain that affects to quick response and greater systems integration are to be observed as lean supply chains within the industry[6].

Benefits

1. ERP systems can play vital role in fashion industry related to dynamic market with more frequently changing merchandising and purchasing decisions.
2. Stock Tracking on Process like Cutting, Stitiching, Embroidery.
3. Finishing Process
4. Pre - cutting Process
5. Drafting Requirement Sheet
6. Implementation of ERP into the fashion businesses that involves to significant customization or the use of a vertical solution [7].
7. ERP in the fashion Industry focus on the integration of product lifecycle management (PLM) systems with ERP. Product lifecycle management is the process of managing the entire lifecycle of a product fromits conception, through design and manufacture, to service and disposal. PLM software can be integrated into ERP to help manage the aspects of the business like and provide supply chain visibility [6].

» ERP in the Weaving

For the weaving textile ERP it manage the details of Yarns like count, fabric count, construction, size, color, alias name in the module like Fabric costing data. In yarn inventory module keep the record of yarn purchase, receipt, inspection and bill receipt, in the fabric inventory module of fabric purchase, receipt, inspection and bill receipt. And in the store module keep to allow generates and maintain the stores material.

Benefits

1. Better Supply Chain Management
2. Track Fabric process
3. Enhanced Collaboration also Workflows
4. Helps in Production cycle as well as in purchase

III. HURDLEIN IMPLEMENTING AN ERP SYSTEM

- Consumer training and education
- Implementation at a higher cost
- Lack of a right project team, and apparent view of the ERP function.
- Significant technical difficulties
- Continuous improvement
- Data quality
- Project planning

IV. CONCLUSION

Enterprise Resource Planning (ERP) is a system that integrates business functions by managing and organizing organizational data and information. ERP software for textiles that helps to manage entire business process, end-to-end it has use a single database which is allows different departments to communicate with each other, data transmission, without having to maintain data at multiple locations. ERP helps in better management of critical areas of textile production such as raw materials, finance, inventory, quality, plant management etc.

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Permit organic textile products certified by CU India till March 3, urges TASMA

The Tamilnadu Spinning Mills Association (TASMA) has urged IOAS (International Organic Accreditation Service), GOTS (Global Organic Textile Standard) and Textile Exchange to permit organic cotton or textile products of its members certified by Control Union (CU) India before its suspension from certification operations on March 3.

TASMA's plea comes on the heels of IOAS suspending the accreditation of CU India from testing and sampling of Indian organic textile products on charges of irregularities committed in its certification process. On March 5, it is reported that CU India's accreditation was suspended on charges of irregularities in the certification process.

TASMA, an association of mills spinning yarn from cotton, said some its member mills had sourced organic cotton, based on certificates issued by CU India.

"While the transaction certificates (TCs) are issued, they contain details of the certificates granted by CU India, which functions as a certifying body, under the Authority provided to it, by GOTS," it said.

While the conversion of organic cotton sourced thus to yarn and further into other value-added products was being done at various levels without any hindrance, the member mills got information on the suspension of CU India accreditation.

The members were concerned over textile products that were sourced and produced before CU India's suspension would now be affected since the development covers certification before March 3 too.

Due to its suspension, CU India has now begun to seek documents from its member mills on transactions that have taken place, based on the TCs issued by it. ■

DESIGNING AND DEVELOPMENT OF SUSTAINABLE FASHION LOGO-PATCH-WORK TOTE BAGS

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ABSTRACT

Plastic pollution has become a serious environmental issue. Consistently accumulating mountains of disposable plastic waste poses a challenge to the world. Pre-consumer waste is the reintroduction of manufacturing scrap back into the manufacturing process. In the present study the respondents belonged to various age groups. All the respondents were from Jalandhar city and its adjoining villages. 10 original designs were developed by using CAD software i.e., coral draw. The pre-consumer textile waste was collected from boutiques of Jalandhar and adjoining villages. Then from this waste, bags were developed under two categories i.e., vegetable bags and grocery bags. The size of both bags was 16"×17". Different techniques were used to embellish them i.e., fabric painting, patchwork and couching. The estimation of cost of these tote bags was done. Then to check the consumer acceptability of these bags a questionnaire was developed and administered to 50 respondents selected from Jalandhar district by purposive random sampling. Data obtained from the survey was coded, tabulated and expressed in frequency and percentage. The percentage was calculated to find out the acceptability of the bags. 100% of the respondents found the vegetable bag to be a good substitute for plastic bags. 100% of the respondents found the vegetable bag pockets being appropriate for intended use and some respondents offered suggestions like the size of the vegetable bag should be increased and avoiding the use of white fabric. Possibility of using these bags in multiple end uses was explored. This suggestion was fruitful with a meaningful outcome.

Keywords : Eco-fashion, Patch-work, Plastic pollution, Pre-consumer waste, Sustainability.

Introduction

1.1a : What is Plastic Pollution?

Plastic pollution has become one of the most pressing environmental issues, as rapidly increasing production of disposable plastic products overwhelms the world's ability to deal with them. Plastic pollution is most visible in developing Asian and African nations, where garbage collection systems are often inefficient or nonexistent. (Parker, 2019).

1.1 b : Damaging Impact on Environment due to use of Plastic Bags

People are using plastic bags, which are environmentally dangerous products, for their daily needs mainly for shopping purposes as a result of which, the environment and agricultural lands are thereby being polluted. (Jalil, Mianand and Rahman, 2013)

1.2 : What is Sustainable Fashion ?

Sustainable fashion is the movement and process of creating clothes, shoes, accessories and other textiles through sustainable practices that take into account environmental, social and economic implications. Therefore, sustainable fashion looks beyond product and fabric waste, taking instead a holistic approach to fashion and its interactions with all other systems - social, cultural, ecological and financial. As such, sustainable fashion considers not only users and producers but all living species, present and future generations.(Gongini, 2017)

1.3 : What is Eco - Fashion ?

Eco is short for ecology, or the study of interactions between organisms and their environment. Eco-fashion is any brand or line that attempts to minimize the impact on the environment, and often the health of the consumers and the working conditions for the people that are making the clothes. (Sunday, 2016) Many responsible citizens pride themselves in wearing their values on their sleeves by purchasing environmentally friendly clothes. (Brookbanks, 2011)

1.4 : What is Slow Fashion ?

Slow fashion is the deliberate choice to buy better-quality items less often. When purchases are made, they're environmentally and ethically conscious rather than trend-driven. The garments are durable and lend themselves to repairs, not disposal. Slow fashion is also transparent : Buyers know where their clothes are coming from, and items are often handmade by artisans. (Milnes, 2015)

1.5 : What is Fast Fashion?

Fast fashion can be defined as a cheap, trendy clothing, that samples ideas from the catwalk or celebrity culture and turns them into garments in high street stores at breakneck speed. (Rauturier, 2018) Fast fashion is the term used to describe clothing designs that move quickly from the catwalk

to stores to meet new trends. The collections are often based on designs presented at fashion week events.(Kenton, 2019)

1.6a : What is a Carbon Footprint?

Carbon footprint is the overall amount of greenhouse gas emissions, consisting primarily of carbon dioxide, associated with an organization, event or production. It is one of the most

common measures of the effect of an individual, community, industry, or country on the environment. (Spelch, 2016)

1.6b : Carbon Footprint Reduction

Carbon footprints can be reduced through improving energy efficiency and changing lifestyles and purchasing habits. Switching one's energy and transportation use can have an impact on primary carbon footprints. For example, using public transportation, such as buses and trains, reduces an individual's carbon footprint when compared with driving. (Selin, 2020)

1.8a : Fabric Painting

Fabric paints are a permanent way to colour fabrics. They can be mixed to create new shades or we used straight from the pot, but it's best not to dilute them as you would water-based paints, and this reduces the pigmentation. (Ling, 2014)

1.8b : Colour

We live in a world of colour According to the various researches, the colour that surrounds us in our daily lives has a profound effect on our mood and on our behaviour. A colour can change our mood from sad to happy, from confusion to intelligence, from fear to confidence. (Kurt and Osueke, 2014)

1.8c : Eco - Friendly Colours

Research has confirmed that green makes the consumer lean towards the assumption of a brand eco-friendliness. Going green is the most common slogan for the environment friendly branding after all. Blue is greener than green terms of conveying an impression of eco - friendliness, despite the frequent use of the word green to convey that idea. (Rabida, 2015)

1.9 : Patchwork

Patchwork, also called piecing, the process of joining strips, squares, triangles, hexagons, or other shaped pieces of fabric (also called patches), by either hand or machine stitching, into square blocks or other units. (Brick, n.d.)

1.10 : What is a Tote Bag ?

Tote bags are made from a variety of materials ranging from cloth to leather to plastics to even papers. Packaging is an important aspect of the products and tote bags are the kind of secondary packaging. They are the unfastened bags having parallel handles for convenient carrying.

Aims and Objectives of study

1. To rescue textile waste fabric from going to the landfills.
2. Create an awareness towards prevention of pollution caused by plastic bags and providing substitute sustainable cloth bags made from textile waste.
3. To create eco-friendly sustainable logos by using coral draw.
4. Developing designs of tote bags with pre-consumer textile waste using the technique of patch-work.
5. To test the market acceptability of these bags.

Limitations of Study

For construction of bags only pre-consumer textile waste was used.

For testing of market acceptability only Jalandhar District was selected as locale.

Review of Literature

A review of related research serves an important purpose and helps the researcher at every step of his venture as a researcher to build appropriate methodology and design keeping in view the strength and failure of previous researchers. A review of literature provides useful hints for further research.

2.1 Patchwork

Debbabi , Sahnoun and Kordoghli , (2014) clearly depicted that clothing manufacture generates many kinds of wastes. The main purpose of this work was recycling fabric wastes. For this aim, they created new patchworks fabrics. Created patchworks were made using different sizes and shapes of patch templates. They also investigated three techniques for patchwork seaming. They have reported advantage of using large patches. However, small patches are appreciated to recover most quantity of wastes. In this study they have also anticipated the use of patchwork fabric in clothing design.

According to Badoe and Frimpongn, (2015) their work explored innovative techniques in printed textile design as means of introducing

creativity and providing new and varied ways of decorating textile materials. Art studio-based research design was used under which exploration and experimental methods were adopted in the execution of these works. Some innovative techniques applied were spray printing, sponge and broomsticks printing, twigs block printing, marble printing, bottle printing, brush printing, lace transfer and fabric painting.

METHODOLOGY

The methodology is the scientific way of conducting research so that the study is reliable and conducted with accuracy.

Section: 3.1 : Locale of The Study

Section: 3.2 : Designing Process

(a) Development of Sustainable Fashion Logos(SFL)

Section: 3.3 : Preparation of Products(BAGS)

3.3.1: Collection of raw material and sorting

3.3.2: Development of tote bags under two categories i.e., vegetable bags and grocery bags

3.3.3: Estimation and cutting/placement of fabric scraps

3.3.4: Attachment of pasting

3.3.5: Tracing of Logos and hand painting

3.3.6: Construction of tote bags and decoration with couching

3.3.7: Attachment of slings and tassels

3.3.8: Costing

Section: 3.4 : Techniques Used

3.4.1: Fabric painting

3.4.2: Patchwork

3.4.3: Couching

Section: 3.5 : Market Acceptability

3.5.1: Development of Questionnaire

3.5.2: Execution of Questionnaire

Section 3.6 : Results and analysis

3.1 : Locale of Study

The questionnaire-cum- interview schedule was administered to a mixed group of consumers of groceries and vegetables selected by purposive random sampling. The respondents belonged to various age groups i.e., elderly men and women, teenagers, middle-aged men and women. All the respondents were from Jalandhar city and its adjoining villages.

3.2 : Designing Process

(a) Development of sustainable Fashion Logos:

Available designs were searched on the internet, magazines, books to consider the availability of existing designs. 10 original designs were developed by using CAD Software i.e., Coral Draw 7 and Photoshop version 7.0.

3.3 : Preparing Products

3.3.1 : Collection of Raw Material and sorting

As per the principles of art and design, colour coding and sorting of textile waste was done. Various techniques were experimented with to create patchwork bags. Textile waste scraps (pre-consumer textile waste) were collected from boutiques of Jalandhar and adjoining villages.

3.3.2 : Development of tote bags under two categories i.e., vegetable bags and grocery bags

1. Vegetable bags: The size of vegetable bag was 16" x 17". Inside the vegetable bags, different pockets were attached with the inner lining as per the need of sorting various vegetables. Different sizes and shapes of pockets were made for the different vegetables so that polythene or other smaller bags were not needed and the vegetables do not mix into each other.

2. Grocery bag: The length and width of a grocery bag is also 16" x 17". In these bags plain lining from waste fabric was attached to finish the inner side and lining was attached such that seam allowances were not visible inside these bags.

3.3.3 : Estimation and cutting of fabric

To estimate the fabric required for each article the size of the bag was taken into account. Pieces were cut according to the bag measurement including seam allowances and bags were accordingly cut.

3.3.4 : Attachment of Pasting

After the estimation and cutting of the fabric according to the design, pasting was attached to all the pieces of the fabric by ironing.

3.3.5 : Tracing of logo and hand painting

After the pasting was attached to all the pieces of fabric then tracing of SFL was done with the help of yellow carbon paper. The portion selected for tracing the design was light so that the colour of the logo was clearly visible. The size of the said piece was also appropriate as per the logo. After the tracing painting was done with the help of acrylic colours and brushes.

3.3.6 : Construction of tote bags

The painted pieces were ready to be joined keeping the front and backside of the bag correctly. The lining was attached inside the bags and finishing was done.

3.3.7 : Attachment of slings and tassels

Slings were cut lengthwise and for some bags a braided sling was made, slings were then attached to the bag and some slings were made in a simple way and attached to the bags. Tassels were also made to beautify the bags. Some tassels were attached at the top of the bag near the slings, some were attached at the side of the bag and some were attached at the lower portion of the bag for extra decoration.

3.3.8 : Costing

After the construction of bags was done then the next step was the estimation of the cost of the tote bags. Stitching, designing, and labour were calculated as per cost in rupees. Adding the cost of painting, stitching, extra decoration and attaching pockets in vegetable bags was also calculated. Profit was then estimated to be 25% of the cost price of each bag. Thus, the estimated sale price of each bag was different depending upon inputs on each design.

3.4 : Techniques Used

3.4.1 Fabric painting

Freehand painting was used for logos. For fabric painting, acrylic colours were used in which blue and green colours were mostly used in all the logos because these colours depict eco-friendly sensibility.

3.4.2 Patchwork

Patchwork was used for the construction of the tote bags. Crazy quilting was used to decorate a few bags. Random sizes of big and small pieces were attached. Symmetric and asymmetric arrangements were made to create patchwork pieces.

3.4.3 Couching

Couching was also used for the purpose of highlighting some portions of the bags. Machine couching and hand couching were both done on the bags.

3.5 : Market Acceptability

3.5.1 Questionnaire

To check the consumer acceptability of the bags a questionnaire was made and was administered to 50 respondents selected randomly from Jalandhar district by purposive random sampling. Before executing the questionnaire, 10% respondents i.e., 5 persons were administered the questionnaire for pre-testing or pilot run. Any ambiguity or mistakes were thus removed. Questionnaires were filled by asking questions from the respondents. It was ensured that the respondents understood the language. Wherever required, vernacular translation was provided by the researcher.

3.5.2 Execution of Questionnaire

While executing the questionnaire great care was taken. Those respondents who didn't understand English language, for them the vernacular translation was provided by the researcher. If any respondent had any doubt the researcher clarified it. The researcher herself filled the questionnaire and ensured that there was no ambiguity or misunderstanding faced by the respondent.

3.6 : Result and analysis

Data obtained from the survey were coded, tabulated and expressed in frequency and percentage. The percentage was calculated to find out the acceptability of the bags.

RESULTS AND DISCUSSION

This chapter furnishes the results emerging out from the analysis of the data of the present investigation. The data have been organized and analyzed by taking into account the objectives of the study. All the pertinent information has been categorised and reported under the following major sections:

4.1 : Preparation of Sustainable Bags i.e. Vegetable bags and Grocery bags

To make the sustainable vegetable and grocery bags more attractive tassels were attached. After stitching the bags tassels were added. For making tassels the leftover textile scraps were used which remained after making the bags. Various types of shapes were cut out of the fabric scraps. Many were folded in a square pattern and from them circular shapes were generated. Then thread was passed from the centre to join them all. The tassels as per availability and aesthetics were long or short. Some were placed at the top or along the handles of the bags while some were attached at the lower corners of the bag or along the lower edge of the bags as per the aesthetic requirement.

4.1a Cutting and Preparation of Circular Tassels for Decoration of Bags

4.1b Attachment of Tassels by Hand/ Machine on to Sustainable Bags

4.2a. Grocery Bags

In each of the grocery bags inner lining was attached neatly and it was made reversible also.

FRONT BACK

SF-G Bag Design No.1

In this grocery bag with Sustainable Design Logo 1, a triangular piece patchwork was done. In the centre portion, plain white fabric was attached and on it sustainable fashion logo No.1 was painted. Then these sections were stitched together. Similarly, on the back side of the bag same pattern was used. In the end, braided handles made with textile strips were attached. Finally, tassels were added at the end of the handle such that it hung a little over the logo and created a harmonious unit. Tassels were also attached at the lower corners of the bag. Care was taken that the colours of the fabrics matched well with the logo and the painted flowers pattern at the bottom portion of the bag.

FRONT BACK

SF-G Bag Design No.2

In this Grocery Bag with Sustainable Design Logo No.2, a symmetrical piece patchwork was done. In the lower portion of the bag light (beige) coloured fabric was attached and on it Sustainable Fashion Logo No. 2 was painted. Then these sections were stitched together and similarly on the back side of the bag same pattern was used. In the end, handles made with beige coloured textile strips were attached. Finally, tassels were added at the end of the handle such that it hung a little over the logo and create a harmonious unit. Care was taken that the colours of the fabrics matched well with the logo.

FRONT BACK

SF- G Bag Design No.3

In this grocery bag with Sustainable Design Logo No. 3, a symmetrical patchwork was done. On the top right portion of the bag plain white rectangular fabric was attached and on it Sustainable Fashion Logo No. 3 was painted.

Machine couching was used to make the lower right corner patch stand out with it's diagonal multi-hued lines. To make the bag more attractive and beautiful pin-tucks were made on the top left side patch of the bag. Then these sections were stitched together. Similarly on the back side of the bag same pattern was used. In the end, braided handles made with textile strips were attached. Finally, tassels were added at the lower portion of the bag. Care was taken that the colours of the fabrics matched well with the logo.

FRONT BACK

SF- G Bag Design No.4

In this Grocery Bag with Sustainable Design Logo No.4, an asymmetrical patchwork was done. At lower side right portion of the bag plain white fabric was attached and on it Sustainable Fashion Logo No.4 was painted. Vertical lines using machine couching were made on the left lower corner patch to make it more attractive. Then, these section were stitched together and similarly on the back side of the bag same pattern was used. Handles made with straight textile strips of the printed fabric leftovers were attached to the bag. Finally tassels were added at the lower portion of the bag. The researcher ensured that the colours of the fabrics matched well with the logo.

4.2b. Vegetable Bags

In each of the Vegatable Bags inner lining was attached neatly. It was made reversible and the inner lining contained pockets which compartmentalised the section so that the vegetables didn't mix into each other.

4.2b Vegetable bags showing compartments/pockets created to avoid mixing of vegetables

FRONT BACK

SF-V Bag Design No.5

In this Vegetable Bag with Sustainable Design Logo No.5, symmetrical patchwork was done. On the lower right side portion of the bag plain white fabric was attached and on it Sustainable Fashion Logo No.5 was hand-painted. Horizontal lines using machine couching were made on the left upper corner patch to make it more attractive. Then these sections were stitched together and similarly on the back side of the bag same pattern was used. Handles made with straight textile strips of the fabric leftovers were attached to the bag. Finally a long tassel was added at the right side which fell along the side seam of the bag. The researcher ensured that the colours of the fabrics matched well with the logo.

FRONT BACK

SF-V Bag Design No.6

In this Vegetable Bag with Sustainable Design Logo No.6 a symmetrical patchwork was done. On the left upper portion of the bag plain white fabric was attached and on it Sustainable Fashion Logo No.6 was painted. Cross stitches were made on the stitching line to make it more attractive. Then these sections were stitched together and similarly on the back side of the bag same pattern was used. In the end braided handles made with textile strips were attached. Then the left-over scraps of matching fabrics were used to make beautiful tassels. Textile scraps were cut in a circular shape and from the centre thread was passed. At the top rhombus

shaped cushion was made and then all the shapes were attached together with a thread. Finally, at the end the long tassels were attached to create a harmonious unit. Care was taken that the colours of the fabrics matched well with the logo.

FRONT BACK

SF-V Bag Design No.7

In this Vegetable Bag with Sustainable Design Logo No.7, asymmetrical piece patchwork was done. At the left side top portion of the Bag fawn coloured fabric was attached and on it Sustainable Fashion Logo No.7 was painted. Machine couching was done to make the stitching line more attractive. Then all these sections were stitched together and similarly on the back side of the bag same pattern was used. Handles made with yellow coloured textile strips were attached. Then, finally tassels were made of leftover scraps . The fabric scraps were cut in circular shape and from their center thread was passed. Then tassels were added at the right side along with handle and at the lower corner portion of the bag. Care was taken that the colours of the fabrics matched well with the logo.

FRONT BACK

SF-V Bag Design No.8

In this Vegetable Bag with Sustainable Design Logo No.8, a symmetrical piece patchwork was done. On the lower left portion of the bag plain white fabric was attached and onit Sustainable Fashion Logo No.8 was painted. Then the various sections of the patchwork bag were stitched together and similarly on the back side of the bag same pattern was used. In the end handles made with sky blue colour and printed textile strips were attached. To make the bag more attractive tassels were added. For making the tassel circular shapes were cut and a rhombus shaped textile cushion was used at the top and rest of the tassels were attached to its three vertices. The tassel was attached in the centre of the top right patch portion of the bag. Care was taken that the colours of the fabrics matched well with the logo.

4.2: Result and Analysis

Table 4.1 : Distribution of Respondents on the basis of appropriateness of selling price for vegetable bags

(n = 50)

S. No.	Selling Price	Respondents	Percentage (%)
1.	220	6	12%
2.	260	38	76%
3.	300	6	12%
	Total	50	100

(n = 50)

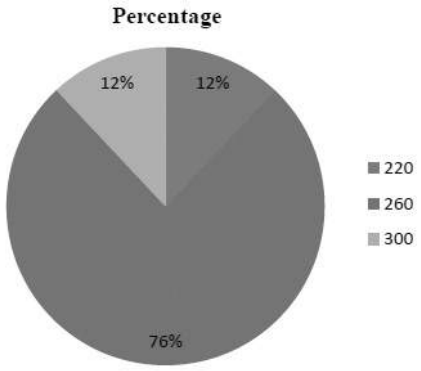

Fig 4.1 : Distribution of Respondents on the basis of appropriateness of selling price for vegetable bags

As per Table 4.1 and Figure 4.1, 76% of the respondents found Rs. 260/- to be the appropriate price of the vegetable bags while 12% each of the respondents found Rs. 220/- and Rs. 300/- to be the appropriate selling price for the vegetable bags.

Table 4.2 : Distribution of Respondents on the basis of appropriateness of selling price for Grocery bags

(n = 50)

S. No.	Selling price	Respondents	Percentage (%)
1.	240	43	86%
2.	260	5	10%
3.	300	2	4%
	Total	50	100

(n = 50)

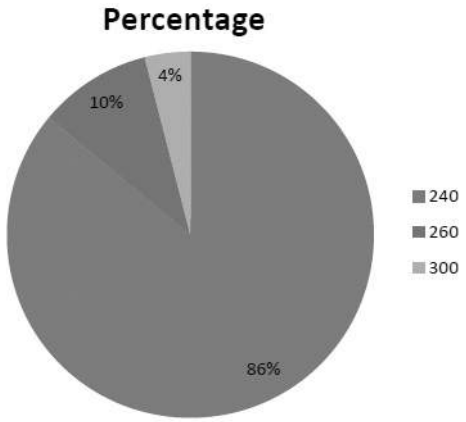

Fig. 4.2 : Distribution of Respondents on the basis of appropriateness of selling price for Grocery bags

As per Table 4.2 and Figure 4.2, 86% of respondents found Rs- 240/- to be the appropriate price of the Grocery bags while 10% each of the respondents found Rs- 260/- and Rs- 300/- to be the appropriate selling price for the Grocery bags.

Table 4.3 : Distribution of Respondents on the basis of suitability of vegetable bag being a good substitute as compared to plastic bag

(n =50)

S. No.	Variables	Respondents	Percentage (%)
1.	Yes	50	100%
2.	No	0	0%
	Total	50	100

(n = 50)

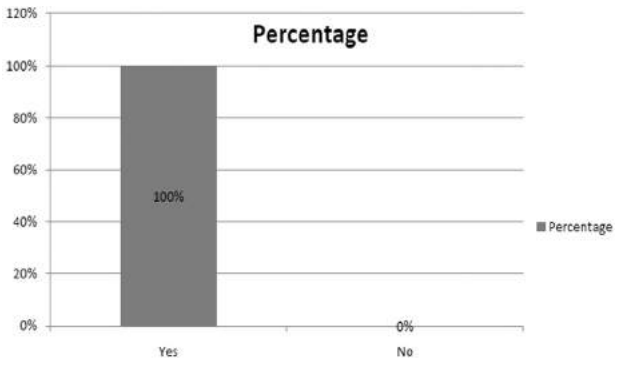

Fig 4.3 : Distribution of Respondents on the basis of suitability of vegetable bag being a good substitute as compared to plastic bag

According to the Table 4.3 and Figure 4.3, 100% of the respondents found the Vegetable bag to be a good substitute for plastic bags.

Table 4.4 : Distribution of Respondents on the basis of appropriateness of the vegetable bag pockets being appropriate for intended use.

(n = 50)

S. No.	Variables	Respondents	Percentage (%)
1.	Yes	50	100%
2.	No	0	0%
	Total	50	100

(n = 50)

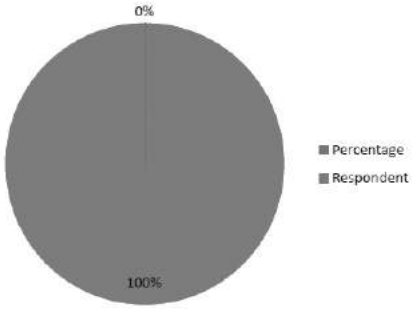

Fig 4.4. Distribution of Respondent on the basis of appropriateness of the vegetable bag pockets being appropriate for intended use.

As per Table 4.4 and Figure 4.4, 100% of the respondents found the vegetable bag pockets being appropriate for intended use which was that the vegetables remained segregated and did not mix into each-other. These pockets also helped to discourage the use of small polythene bags inside the main bag.

Table 4.5 : Distribution of Respondents on the basis of appropriateness of size of Grocery bag for intended use

(n = 50)

S. No.	Variables	Respondents	Percentage (%)
1.	Yes	46	92%
2.	No	4	8%
	Total	50	100

(n = 50)

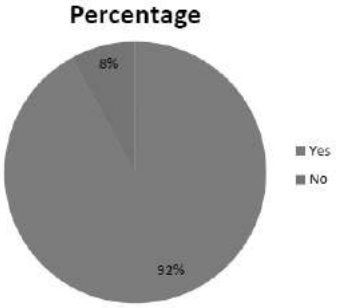

Fig 4.5 : Distribution of Respondents on the basis of appropriateness of size of Grocery bag for intended use

As per Table 4.5 and Figure 4.5, 92% of the respondents found the size of grocery bag to be appropriate for intended use while 8% respondents did not think so and desired the bag to be slightly bigger and wider.

Table 4.6 : Distribution of Respondents on the basis of appropriateness of size of vegetable bag for intended use

(n = 50)

S. No.	Variables	Respondents	Percentage (%)
1.	Yes	38	76%
2.	No	12	24%
	Total	50	100

(n = 50)

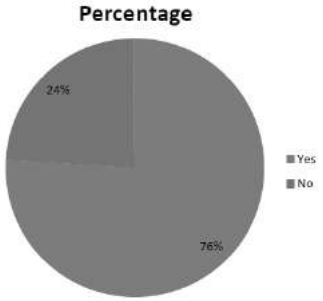

Fig. 4.6 : Distribution of respondents on the basis of appropriateness of size of vegetable bag for intended use.

As per Table 4.6 and Figure 4.6, 76% of the respondents found the size of the vegetable bag to be appropriate for intended use while 24% of the respondents desired the bag to be bigger and wider.

Table 4.7 : Distribution of Respondents on the basis of acceptance of the vegetable bag's innovative design

(n = 50)

S. No.	Variables	Respondents	Percentage (%)
1.	Yes	49	98%
2.	No	1	2%
	Total	50	100

(n = 50)

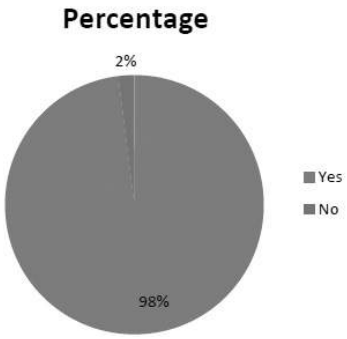

Fig 4.7 : Distribution of Respondents on the basis of acceptance of the vegetable bag's innovative design.

As per Table 4.7 and Figure 4.7, 98% of the respondents appreciated the bag's innovative design but 2% of the respondents wanted bigger pockets inside the vegetable bag.

Table 4.8 : Distribution of Respondents on the basis of suggestions offered

(n = 50)

S. No.	Variables	Respondents	Percentage (%)
1.	Yes	16	32%
2.	No	34	68%
	Total	50	100

(n = 50)

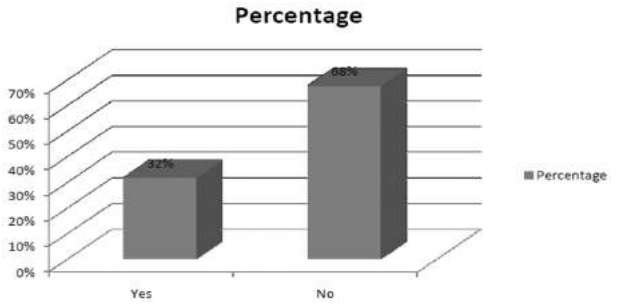

Fig 4.8 : Distribution of Respondents on the basis of suggestions offered.

As per table 4.8 and Figure 4.8, 68% respondents did not give any suggestions while 32% respondents offered suggestions like: the size of the vegetable bags should be increased to 18"×20" so that inner pockets are also suitably used. Finishing can be neater in fabric painting of bags, avoid the use of white fabric, thicker and sturdier fabrics must be used in the bags.

Table 4.9 : Distribution of Respondents on the basis of bags being suitable as per current needs of the society

(n = 50)

S. No.	Variables	Respondents	Percentage (%)
1.	Yes	50	100%
2.	No	0	0%
	Total	50	100

(n = 50)

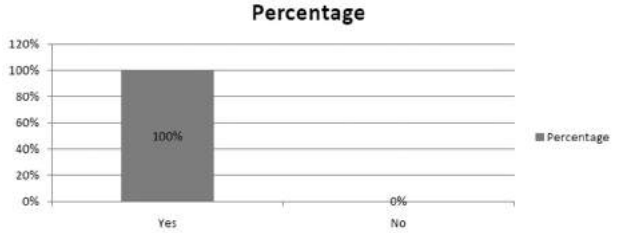

Fig 4.9 : Distribution of Respondents on the basis of bags being suitable as per current needs of the society.

As per Table 4.9 and Figure 4.9, 100% respondents found the bags to be suitable as per current needs of the society.

Table 4.10 : Distribution of Respondents on the basis of inclination to order similarly designed bags

(n = 50)

S. No.	Variables	Respondents	Percentage (%)
1.	Yes	29	58%
2.	No	21	42%
	Total	50	100

(n = 50)

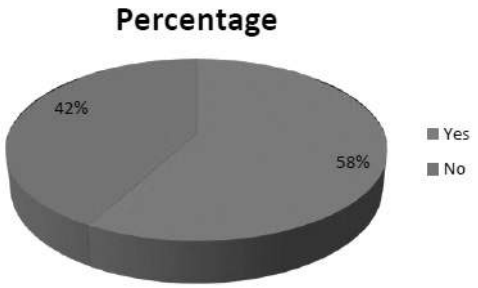

Fig 4.10 : Distribution of Respondents on the basis of inclination to order similarly designed bags.

As per Table 4.10 and Figure 4.10, 58% respondents showed an inclination to order similarly designed bags while 42% Respondents did not demonstrate such an inclination.

Table 4.11 : Distribution of Respondents on the basis of willingness to refer these bags to their friends / relatives

(n = 50)

S. No.	Variables	Respondents	Percentage (%)
1.	Yes	46	92%
2.	No	4	8%
	Total	50	100

(n = 50)

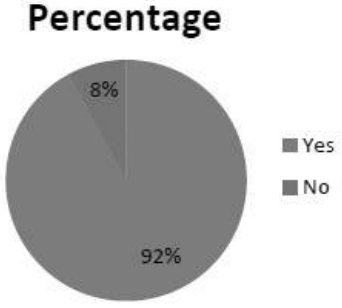

Fig. 4.11 : Distribution of Respondents on the basis of willingness to refer these bags to their friends / relatives

As per Table 4.11 and Figure 4.11, 92% of the respondents showed willingness to refer these bags to their friends/relatives while 8% respondents negatively to this query.

4.3a College Bag

4.3b Ladies Hand Bag

4.3c Men's office-cum-tiffin Bag

Due to the feedback from consumers during the survey the possibility of using the bags in multiple ways was explored. It was found to be a constructive suggestion and the researcher explored this option by incorporating these bags for usage as college bags, ladie's bag, men's office-tiffin bag etc. As the bags were found to be very pretty and trendy with a meaningful logo on them so their multi use was suggested. This suggestion was fruitful with a meaningful outcome.

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ARTIFICIAL INTELLIGENCE RESTYLING THE FASHION INDUSTRY

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Abstract

The world is consistently dynamic and evolving at a speedy rate. This dynamic nature has placed pressure on firms to initiate, collaborate and design business processes that best work for their business. Digital technologies bring each opportunity and challenges for the development of firms. With the deep integration of intelligent technologies, there has been a digital transformation that has modified the standard production and operations management methods that offers the potential for the development, production and client service. Digital technologies such as artificial intelligence, robotics and automation are transforming the world of work. Big data analytics, cloud computing and cyber physical systems enable operation of industries in a flexible, efficient, and sustainable. Amongst these Artificial intelligence (AI) is an integral part in restyling the fashion industry.

Introduction

AI refers to the ability of robot-based technology to carry out operations and produce outcomes that are comparable to those of intelligent beings. This is mostly employed to produce conclusions based on an intricate comprehension of numerous processes that have concluded, such as discovery, generalization, and the capacity to interpret them as an intellectual human characteristic.

AI is a combination of numerous computer-based and robot-based algorithms for problem-solving, decision-making, and reasoning, just as human intelligence cannot be defined in terms of a single attribute. Manufacturers and retailers regularly collect information of clients on attitudes and behavior across channels, touchpoints, devices, and platforms. This information is integrated from multiple sources and stored or warehouse, usually during a cloud-based environment. Then computer algorithms and programs are created for these models. These machine learning models are the backbone for the generation and development of AI-assisted decisions. In several cases, such choices are automated using systems like chatbots and robots. For instance, chatbots assist in client service and robots facilitate warehouse and sales outlet automation.

In other words, AI is a dynamic, from style design to manufacturing, logistic supply chain and marketing. These days AI in the fashion industry is playing a big role in transforming this industry and giving a new look to it.

Applications of AI

Fashion is one of the most important sectors globally. It has created a thoughtful revolution in the fashion industry. The most widely used applications are discussed below:

Fashion Design & Forecasting trends

AI plays a critical role and can detect the new trends. AI algorithms perceive designs through different images to copy popular styles. It is widely used in Fashion Design process. In 2018, a leading Italian e-commerce company, presented 8 by Yoox, the first fashion collection designed using AI. The software used images and texts from social networking sites and articles from online publications; then an AI predictive engine and consumer estimations create mood boards for production of fashion apparel and accessories (Mazza 2018; Marchetti 2019).

Customer Experience Enhancement In-store

Digital technologies are enhancing customer experience in stores and malls through smart mirrors. Now-a-days, fashion luxury brands are using smart mirror technologies along with their physical stores. Smart mirror is an electronic display hidden behind a mirror. It is a type of two-way mirror. They are computers enabled by a whole stack of technological components, starting from depth-sensing hardware to software with cutting-edge computer vision algorithms. The mirrors give users the ability to compare different outfits and accessories side by side as well as examine how they appear in a specific piece of clothing in numerous colors and clothing types. In this way, the customer's shopping experience is greatly improved and simplified.

Kering, for example, has created an algorithm that uses AI to identify customers who are most likely to respond to personalized marketing efforts. They have integrated smart mirrors that take measurements and suggest items that are in stock. It also creates avatar and show, how an individual look while wearing a particular garment. Alibaba and Taobao have adopted this technology.The tool, is named Fashion++. It uses visual recognition systems to analyze the colour, pattern, texture, and shape of the garments within an image. It offers several alternative outfits to the user.

Chatbots

The increasing scale of personalization in online fashion is apparently unmanageable without AI applications. Chatbots or AI smart assistants are the virtual machines that relate to shoppers via chat, respond to customer service inquiries, help users navigate apparel for both online and in-store. Additionally, fashion apparel and accessories best suit a particular consumer as if they were human shopping assistants working 24 hours a day. It is able to interpret human language and is capable of coming up with answers to queries that have not been predefined. Now-a-days, there are specialized chatbots available for retail applications. These chatbots use Natural Language Processing (NLP) that makes it possible to tailor marketing activities like linguistic context like email, social media posts, customer service contacts and product reviews. Dior also uses a chatbot to interact with customers via Messenger on Facebook through the platform which is called Dior Insider. This service offers the chance of using slideshows and link to the website, making the shopping experience much easier. ASOS, an online fashion company, has increased purchases by 300% using a chatbot, while Levi's, which is a pioneer in the use of chatbots and has partnered with AI firms such as mode.ai, assists customers to find the perfect pair of jeans.

Virtual search

It is a subset of reverse image search; it provides the chance of finding new items using an image. This, for example would analyze an image look for similar pair of shoes, accessories, costumes, etc. While computer vision makes seeing objects possible, machine learning and neural networks makes them recognizable. The combination of both computer vision and neural networks leads to different applications of AI in fashion. The online fashion retailer ASOS has created a visual search tool that turns the customer's smartphone camera into a sort of discovery tool. It enables the customer to take a picture of a product, and the ASOS tool can match the product's shape, color, and pattern with its own inventory to find similar merchandise. Google lens is another example of virtual search.

Fashion Design- Predicting Fashion Trends

The design and patterns with a proper colour combination are the key factor to design a costume and make it attractive among the customers. AI plays a critical role in this and it can help detect new trends. Trends in the fashion industry change very rapidly with new designs or patterns which come every day in the market and designers need to keep pacing with new styles every time. AI algorithms perceive designs through different images to copy popular styles. Retailer giants like Amazon and Walmart currently now have their own clothing brands and are using the machine learning systems and AI technology to identify the spot.

Fashion Styling

The application of AI in fashion also allows to find perfect outfits that suit the body type and fashion preferences. AI enabled clothes and outfits are not only tailored for different occasions and weather, but also for user's taste and demand such as style, body type, colors, and the latest fashion trends. ILUK is an AI-based personal stylist, that uses computer vision and 3D reconstruction technology which makes personal styling based on technology possible. For example, they can process large amount of data faster when learning about the users' style and memorizing the users' feedback. AI programs can also store descriptions of users' items and help them become more organized and efficient.

For instance, Fineryis awardrobe management application. It claims to be able to verify what apparel are already within the user's wardrobe. Using this data, the company claims that its algorithms can suggest looks using the user's existing pieces, and clothing recommendations that could match the user's current style. The Wishlist feature of the application identifies aspects of the wardrobe recommends items that could complete the user's wardrobe.

Applicationsof AI in Supply chain of apparel industry

Besides the above mentioned applications, AI can perform the task with a better accuracy and at a faster speed, reducing the extra cost on workers. AI for example, can stitch the fabrics with perfection while at the same time it can also detect various faults in fabric and give the assurance of best quality. AI has a lot of potential for tedious jobs which are commonly seen in apparel manufacturing. Applications of AI in supply chain are as follows:

Inventory

Using AI technology in supply chain management canspeed-up by improving routes, cutting the logistic supply and shipping cost. Also, visual perception based AI models are available which help store owners to take care of records of the inventory and also sort items in their store. This helps store owners to manage their inventory

with AI-backed automated solution. Using AI, companies automate the logistics and supply chain processes for faster delivery. For instance, finding alternative or completely different routes for traffic affected by unforeseen circumstances such as bad weather or road construction.

Fashion Retail

AI and machine learning in retail provides an automated solution to trace the customer's activities while shopping and visualize their sentiments and needs to know what kind of products they like to buy and what they ignore. AI can also find and trace footprints in retail shops or record the shopping experience of the customers with the option to get feedback on how their experience was while shopping at the retail shop with the aim to enhance the services of the stores.

Warehouse Management

Additionally, AI is used for warehouse management and the operational procurement process. Indeed, there are improvements in AI and navigation technologies which are letting automated guided vehicles (AGVs) move materials between buildings and different departments. Till recently, they needed a significant physical path guiding mechanism such as wires or tracks. Furthermore, chatbots are used in operational procurement as they help to reduce transaction costs and sales cycle time. Overall, the use of AI in supply chain management helps in reducing the 'click to ship' cycle time and also the dropout rate.

Quality assurance

Manufacturers and designers involve AI in their production methods. For example, quality assurance is enabled by a computerized method for detecting faults in the fabric and color of the textile. This helps in saving time. For example, CognexViDi is a vision-based platform designed for fabric pattern recognition in textiles such as weaving, knitting, printing, beading, and finishing. The company suggests that its platform requires no development period for integrating it into a manufacturing system, and it can be trained using predefined images of what a good fabric sample looks with this machine vision.

Manufacturing

AI is used by designers not only for quality control but also for garment production. Various technologies, including computer-controlled lasers, knives, water jets, plasma, and ultrasound, can be used to produce large quantities of material. It has also lead to automation of service. In 2019, ITMA Juki Advanced Network System (JaNet), combined software and supporting hardware to collect data on production processes involving interconnected sewing machines. As a result, digital sewing machines have become indispensable for detecting sewing errors in mass production.

For example, Datacolorclaims to develop an artificial intelligence pass/fail feature to assist and improve the accuracy and efficiency of instrumental tolerance. In their AI process, textile experts first visually inspect every individual batch produced. The operators enter the color measurements and tolerances for all the batches in the Datacolor software to help train the system. The AI P/F system can then be tested for new batches to automatically set AI tolerances, training the system to determine which samples pass and fail the color accuracy.

Operations automation

As per Luce (2019), the word robot is usually applied in the Fashion industry to define a robot as a programmable machine responsible for carrying out composite actions. In industry, a robot is typically defined as a programmed machine in charge of performing a variety of tasks. It is considered to be the physical representation of AI that functions in the real world.. Manufacturing robots are frequently employed in the fashion industry for both supply chain management and sewing. Sewing is done by robots in factories. Utilizing sewing robots may significantly reduce costs, re-shore manufacturing, cut waste and protect the environment while also boosting sustainability and manufacturing flexibility.

For example, Uniqlo is coming close to full automation at its flagship warehouse in Tokyo. According to reports, Uniqlo's parent company Fast Retailing has partnered with a Japanese start up that develops industrial robots to create two armed robots that pick-up t-shirts and box these up- a task that could previously be done only by humans. This is an important innovation as it could enable a factory which can replace 90% of its workers with robots to roll out a fully automated process.

Besides supply chain AI can also be used for recommending the prices of the manufactured products. AI can keep an eye on the prices of the competitor brands as well as serve with automated calculations algorithms that can get inputs in form of raw material product cost and even expected profit amount. It can be used as both small scale and large scale production units.

Conclusion

AI in fashion is transforming the way the industry works. It will keep the industry at the top of its game. It will allow designers and brands to create and deliver better products and services by analyzing and understanding the sentiments of their customers. It will also help fashion companies cut down on errors and improve the quality of their products. It will help in analyzing and predicting what will be in style.

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Some growers begin hoading cotton on terraces

For the first time, some Indian cotton farmers, particularly in Karnataka and Telangana, have begun storing raw cotton (kapas) on their terraces and backyards, waiting to get better prices for their produce.

"I personally saw farmers in 2-3 villages near Raichur in Karnataka storing cotton on their terraces. Similarly, farmers are storing cotton in Yadgir district. A lot of kapas are being held back in many cotton-growing villages," said Ramanuj Das Bood, a sourcing agent for multinationals in Raichur, Karnataka.

Since the beginning of the current cotton season which began on October 1, 2022, farmers have been holding back their produce as cotton prices have declined by over 40 per cent from the peak of over ₹ 1 lakh per candy (356 kg) witnessed in May-June 2022. According to data from Agmarknet, a unit of the Agriculture Ministry, cotton arrivals between October 1, 2022, and February 6 were at least 30 per cent lower at 125 lakh bales (170 kg) from 190.5 lakh bales during the same period a year ago. "These farmers had got ₹12,000-13,000 a quintal for kapas last season. This season they are getting ₹8,000 only," said Das Boob.

Currently, cotton is quoted at ₹61,500 a candy in Gujarat compared with ₹ 62,500 few weeks ago. The modal price (the rate at which most trades take place) for raw cotton in Rajakot's Gondal agricultural produce marketing committee (APMC) yard had dropped to ₹ 8,205 a quintal from ₹ 8,405 few weeks ago.

"Farmers all over the country are holding back cotton. That's way arrivals have been lower this year. This may be new in Telangana and Karnataka, but it is nothing new in Gujarat," said Anand Popar, a trader in cotton, yarn and cottton waste in Rajkot.

In Gujarat, cotton farmers are holding back at least 75 per cent of their harvested crop. "For years, farmers in places such as Jamnagar have been storing cotton on their terraces. In Saurashtra, too, farmers tend to hold back on their terrace or godowns set up in their houses when they are not happy with the prices," he said.

Prabhu Dhamodharan, Convenor, Indian Texpreneurs Federation (ITF), said with demand challenges continuing in all markets, the lower level of industry utilisation will keep a check on cotton prices. "Alternate low-cost fibres are at an advantage, having taken away the market share of cotton permanently in multiple areas of fashion," he said. ■

MARKETING OF VARIOUS DREF (FRICTION) SPINNING MACHINES TO PRODUCE YARNS

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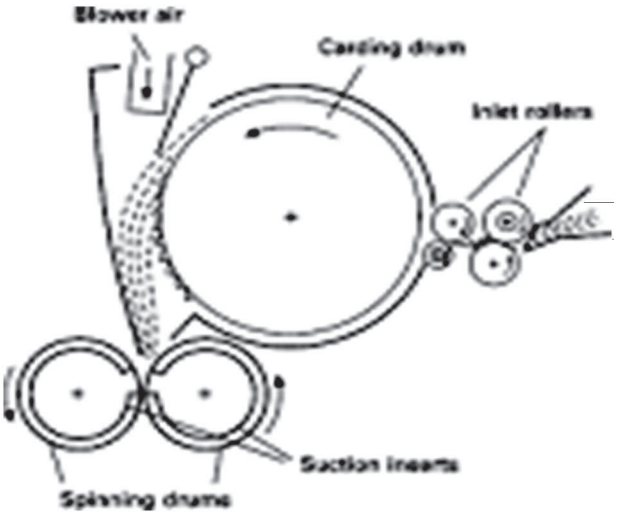
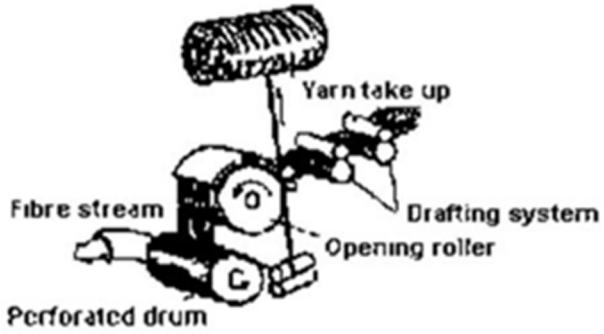
Abstract

In this paper initially the photograph of general friction (DREF) spinning machine is shown. Then the photograph of DREF-1 friction spinning machine is shown. Then the photograph of DREF-2 spinning machine is shown followed by the applications of fabrics produced from the yarns spun on this system. Then the photograph of DREF-3 machine is shown followed by applications of fabrics produced from the yarns spun on this system. Then the photograph of DREF-5 machine is shown followed by applications of fabrics produced from the yarns spun on this system. Then the photograph of DREF-2000 machine is shown followed by applications of fabrics produced from the yarns spun on this system. Then the applications of fabrics made from the yarns spun on DREF-3000 are stated. Finally the usefulness of the paper is stated.

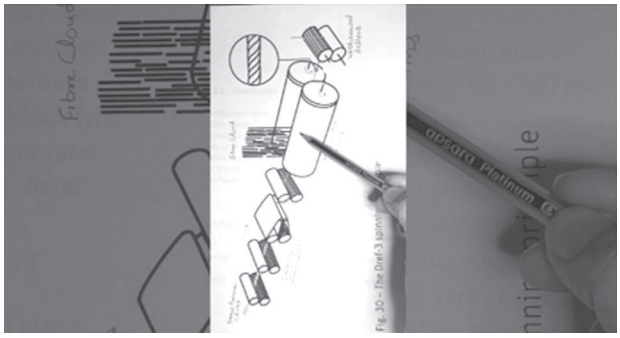
Introduction



Photograph of General Friction (DFEF) Spinning Machine



Photograph of Friction (DREF-1) Spinning Machine

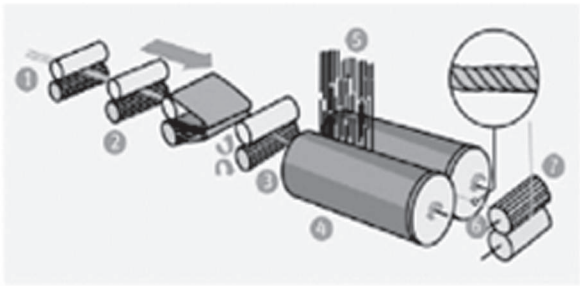


Photograph of Friction (DREF-2) Spinning Machine

APPLICATIONS OF FABRICS MADE FROM YARNS SPUN ON DREF-2 FRICTION SPINNING MACHINE

- Blankets for the home application range, hotels and military uses etc.
- Interior decoration, wall coverings, draperies and filler yarn.
- Shoes, ropes and industrial cable manufacturing.
- Filler cartridge for liquid filtration
- For upholstery, table cloths, wall coverings, curtains, hand-made carpets, bed coverings and other decorative fabrics.
- Heavy flame-retardant fabrics, conveyor belts, clutches and brake linings, friction linings for automobile industry, packets and gaskets.

DREF – 3



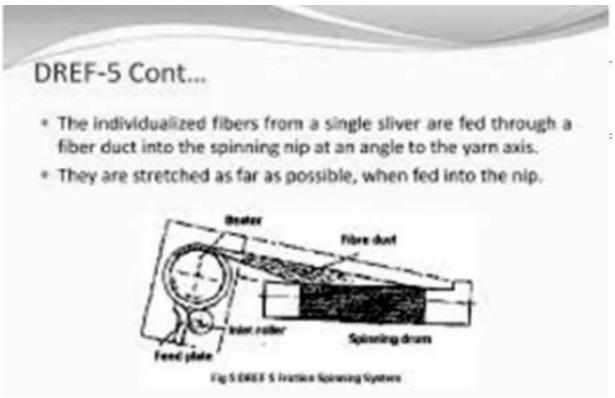
1. Draw frame Sliver 2. Drafting arrangement
3. Fibre Strand 4. Spinning Drums
5. Open Fibres 6. DREF – 3 Yarn
7. Take off Rollers

Photograph of Friction (DREF-3) Spinning Machine

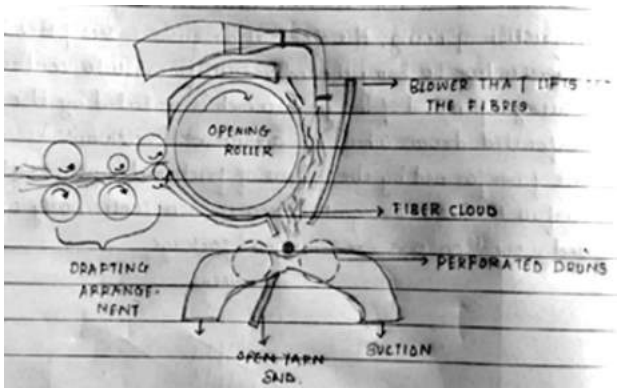
APPLICATIONS OF FABRICS MADE FROM YARNS SPUN ON DREF-3 FRICTION SPINNING MACHINE

- Backing fabrics for printing, belt inserts, electrical insulation, hoses, filter fabrics

- Hot air filtration and wet filtration in food and sugar industries.
- Clutch lining and brake lining for automotive industries.



Photograph of Friction (DREF-5) Spinning Machine



Photograph of Friction (DREF-2000) Spinning Machine

Applications of fabrics made from yarns spun on DREF-2000 spinning machine

- Cleaning rags and mops from cotton waster and various waste-blends
- Deco- and upholstery fabrics
- Outerwear and leisure-wear
- Filter cartridges for liquid filtration
- Secondary carpet backing for tufting carpets
- Canvas and tarpaulins for the military and civil sectors
- High-tenacity core yarn for ropes, transport and conveyor belts
- Asbestos substitutes for heavy protective clothing (protective gloves, aprons etc.) packing, gaskets, clutch and brake-linings, flame retardant fabrics etc.
- Filter Yarns for the cable, shoe and carpet industries
- Carpet Yarns (Berber carpets, hand-woven and hand-knotted carpets) and filler weft yarns for carpets
- Blankets for the homes, hotels, hospitals, camping, military uses, plaids etc.

Applications of fabrics made from yarns spun on DREF-3000 spinning machine

- High tenacity and FR protective clothing for civil & military sector
- Fire blocker for the aviation and contract business range, cut protection textiles (protective gloves, mail-bags, seat coverings)
- Fiber composite materials for the aviation, automotive, machinery, and construction industry
- Tarpaulins, transport and conveyor belts as well as all kinds of technical textiles.

CONCLUSIONS

This paper will make reader aware of the various friction(DREF) Spinning machines which are capable of producing yarns suitable to make fabrics for various end uses.

REFERENCE

1. WEBSITE. ■

Exports of goods, services in FY23 may exceed $750 bn

India's goods and services exports are expected to cross $750 billion this fiscal despite the global economic uncertainties, Commerce and Industry Minister Piyush Goyal said.

In 2021-22, goods and services exports touched an all-time high of $422 billion and $254 billion respectively, taking the total shipments to $676 billion.

"We have crossed last year's figure already... We will hopefully cross $750 billion (this year)," he said.

Following global demand slowdown, India's exports contracted for the second consecutive month in January, dipping by 6.6% to $32.91 billion.

During April-January, goods shipments rose 8.5% to $369.25 billion, while services exports were estimated at $272 billion. He hoped by 2030, goods and services exports would touch $2 trillion.

To a question about widening trade deficit with China, he said the Centre is taking steps to boost local manufacturing of quality goods which will help in cotaining imports. ■

After long dry gap global chains finally return to Tiruppur

Following a gap of several months, global brands like Walmart have started lifting orders from Tiruppur's garment makers, leading to growth in knitwear exports in January after five months, Knitwear exports from Tiruppur increased 1.5 per cent in dollar terms and 11.6 per cent in rupee terms in January.

According to the Tiruppur Exporters' Association (TEA), global majors have started placing more orders from the region.

At one point, suffering from the aftershocks of demonetisation and the implementation of the goods and services tax, the garment units in Tiruppur had fallen silent during the pandemic as high yarn prices spun trouble for them. But it's a different picture now. They have woven a revival story-are spinning dreams and have sewn the Covid wounds.

"Walmart has started lifting orders from January. We have seen orders of about ₹80-100 crore," said Sivaswamy Sakthivel, executive secretary, TEA.

"We are now getting orders from all the big brands like Primark and Walmart," said K. M. Subramanian, president, TEA.

In January, exports from Tiruppur increased 1.5 per cent-from $407 million in 2021-22 to $413 million in 2022-23.

The rise in exports comes after a drop of 14.7 per cent in August, 30.7 per cent in September, 37.8 per cent in October, 6.9 per cent in November, and 12.9 per cent in December.

The dip in exports was mainly due to waning demand from Europe and the US because of recession, inflation, and the Russia-Ukraine stand-off.

According to industry experts, the pandemic created a tale of two economies : those who were able to save, and those who struggled to make ends meet. Personal health remained a priority, while fears over finances grew. Purchases were largely centred on the most basic needs, shopping more consciously, buying local and embracing digital commerce in the period under review.

In addition, volatility in cotton and yarn prices and competing countries, such as Bangladesh, Vietnam, and Thailand, quoting lesser prices for their garments affected demand before January.

While exports saw a 0.9 per cent increase to $6.7 billion during the first 10 months of the financial year, notwithstanding the plunge in the last five months, exports from Tirupur went up 3.4 per cent. The region's exports increased to $3.713 billion between April and January of 2022-23, against $3.69 billion during the same period in 2021-22. Subramanian indicated that factories in Türkiye shutting down and a reduction in the inventory level of buyers, too, helped the region receive more orders.

Of the total knitwear exports from India, 63 per cent goes to the US (34 per cent) and Europe (29 per cent), followed by 9 per cent to the UK.

"When demand hit a lean patch, the spinning mills were caught in a tight knot, running only four/five days a week. Now, they run seven days a week. This means there is a pressing need and international entities are evincing keen interest," added Sakthivel.

According to TEA, the Christmas season and New Year sales have pushed up exports that were seen careening downhill. "Prices have also started to taper off with yarn prices down," he said.

For the entire country," readymade garment exports during the month declined 3.45 per cent to $1.493 billion compared with $1.546 billion last year. ❐

Jan Exports Shrink 6.6% ; trade gap at 12-month Low

New Delhi India's merchandise exports dipped 6.58% to $32.91 billion in January on the back of slowing global demand, contracting for the second month in a row, official data released recently showed.

Trade deficit touched a 12 month low of $17.75 billion in January as imports shrunk 3.63% for the second consecutive month. Imports in January stood at $60.66 billion, according to the data.

Merchandise exports had declined 12.2% to $34.48 billion in December 2022.

Federation of Indian Export Organisation president A Sakthivel said monthly exports continue to remain in the negative territory mainly on account of global slowdown.

"The decline in exports during the month is also a reflection of the continued geo-political tensions between Russia and Ukraine, tightening global financial conditions and contraction in demand," he said, adding that the high inventories and volatility incurrencies had further added to such a challenging situation.

During April-January 2022-23, the country's merchandise exports rose 8.51% to $369.25 billion, while imports increased 21.89% to $ 602.20 billion, the data showed. The merchandise trade deficit for the April-January this fiscal stood at about $233 billion.

An estimated 49.1% rise in services exports in January further helped improve India's trade deficit. Overall trade deficit narrowed to $1.27 billion in January—the lowest in 19 months.

"The main engine behind this export growth is the Services sector, which has been growing at historically high growth rate of about 30%," commerce secretary Sunil Barthwal said.

"We are optimistic that this growth momentum would continue despite strong global headwinds," he added.

Seventeen of the 30 key sectors recorded a growth in merchandise exports in the April-January period with petroleum and electronic goods recording the fastest growth. Electronic goods exports rose over 50% in the April-January period.

On the other hand, gold imports, a key drain on the current account deficit, were down 27% for the April-January period, compared to the previous year : Three other categories out of the 30 key sectors witnessed a contraction in imports.

Industry believes that despite challenges, exports are expected to cross last year's target.

"Though the coming months are going to be little challenging unless both global economic growth and geopolitical situation improves drastically, however we will be on course to cross the previous year's export target quite easily, touching almost $440-445 billion with a growth of over 4-5%," Sakthivel added. ❐

Tiruppur knitwear exports surge after long lull

The first month of this calendar year has brought some cheer to textile manufacturers in Tiruppur, as knitwear exports have reported a 'marginal positive growth after a fall for five consecutive months.

In dollar terms, knitwear exports from Tiruppur grew 1.5 per cent at $413 million when compared with $407 million in January 2022. Overall, knitwear exports from India grew 0.9 percent at $751 million ($744 million).

For the 10-month period of FY 23, total knitwear exports from Tiruppur stood at $3.71 billion as against $3.59 billion in the year-ago period, an increase of 3.4 per cent. All India knitwear exports grew 0.9 per cent at $6.71 billion ($6.56 billion), according to data provided by Tiruppur Exporters' Association (TEA).

"Knitwear segment has seen some improvements now when compared with December 2022 quarter. The cotton sluggish over six months has now revived. With increasing enquiries/orders from garment units, spinning mills have now started running for seven days as against four days earlier," KM Subramanian, President, TEA told recently.

Knitwear exports from Tiruppur started to decline in August 2022 following the Russia-Ukraine conflict. High inflation and recessionary trends led to subdued demand for textiles and apparel in the US and European markets. During August-December 2022, total knitwear exports from Tiruppur fell 21 per cent to $1.60 billion when compared with $2.03 billion in the same period previously.

TEA had, recently, requested the RBI to extend the "Export Refinance Scheme" to banks, to augment export credit. Under such a mechanism, banks may be encouraged to provide export credit in rupee, to exporters and the same amount can be refinanced by the RBI at the repo rate. This will bring down the interest cost for export credit providing much-needed competitiveness to exports. ❐

Garment exports contract 3.45% in January to $1.493 billion : Data

Garment exports shrank 3.4% in January to $1.493 billion compared with the year-earlier period's $1.546 billion, according to provisional export data.

With this, the exports had seen contraction in July, August, September and October of 2022 and January of 2023 in dollar terms.

However, in rupee terms, exports grew 6.22% in January this year from the year-earlier period.

Narendra Goenka, chairman of Apparel Export Promotional Council, said total exports for the last 10 months had still seen growth. Though there was a slowdown now, the exports were expected to revive in four months.

The data show garment exports from April 2022 to January 2023 were worth $13.33 billion. Total garment exports in 2021-2022 stood at $16.01 billion.

Tiruppur Exporters Association president K.M. Subramanian said brand enquiries had improved and knitwear exports from Tiruppur were likely to bounce back to pre-COVID levels after April.

"The demand is slightly better compared with the last three months in the European market," he said. "Local yarn prices had reverted to 2021 level and this made Indian knitwear competitive," After Christmas, the inventory in Europe had reduced and there was demand now. ❐

EXPORT PROSPECTS AND MARKETS

Garment exports to Japan to increase by 20-25% : AEPC

Apparel exports to Japan are expected to grow 20-25% year-on-year, according to Chairman of the Apparel Export Promotion Council (AEPC) Naren Goenka. He said that Indian ready-made garments had duty-free access to Japan following the Indo-Japan CEPA, while garment exports from China and Turkey to Japan attracted about 9% duty. Mr. Goenka said the Union Government is coming up with a PLI scheme which would predominantly include ready-made garments. ❐

Unstable global political scenarios may be favourable for Indian textile industry

Analysts foresee a silver lining emerging for the textile sector with prices of cotton softening 41 per cent from last year's high of ₹50,530 per bale to ₹29,910 per bale. That apart, they say that improved capacity utilisation, lowering of domestic cotton premium over international prices, and demand rebound would act as tailwinds for the sector.

"Cotton prices have corrected 38-40 per cent from their all-time high levels. This, along with fall in freight rates, augurs well for textile companies over the medium term to long term. We expect margins of textile companies to improve gradually in the quarters ahead. Moreover, the decline in cotton prices will help Indian players become price-competitive in global markets," said Kaustubh Pawaskar, deputy vice president, Research, Sharekhan by BNP Paribas.

In February, knitwear exports from Tiruppur, which comprises 50 per cent of India's export hub, rose 1.5 per cent in dollar terms and 11.6 per cent in rupee terms. The rise came after an average 20 per cent drop in the past five months as the sector stormed through twin challenges of Covid-19 pandemic and the Russia-Ukraine war.

According to Vinit Bolinjkar, head of research at Ventura Securities, global importers have started to move away their sourcing from China to India, on the back of China+1 policy, and hence, this move will provide impetus to the Indian textile industry. Analysts also assert that unstable political scenarios in Sri Lanka and Pakistan — and wage issues in Bangladesh — will shift export demand from these economies to garment players in India. The three countries command over 7 per cent of the global export pie.

Besides, they also believe that free trade agreements (FTAs) with Australia, UAE, and UK — which allows up to 90 per cent of India's exports to enter duty free in these countries — will improve India's position in the global market. With such FTAs, Indian textile companies will get a price advantage due to no import duties in these countries. "The textile companies are likely to report improved profitability going ahead, as cost structure gets aligned with global peers. Inventory clearance at major retailers' end, consumer resilience, and demand pick-up are likely to bolster export demand. Additionally, reopening of China, and correction in Indian cotton prices, will help push demand for yarn. We remain positive on KPR Mills, Arvind, and Vardhman Textiles for the long-term," worte analysts at Elara Securities.

During the October-December quarter of the 2022-23 financial year Q3FY23, the textile sector's earnings were below Street estimates. Though domestic demand was resilent, export markets exhibited subdued trends. While unfavorable cost structure weighed on Q3 margins of spinning companies, a learner cost structure helped home textile companies witness sequential improvement in profitability. Analysts, however, believe bullish commentary by several textile players on upbeat capacity utilisations in Q3FY23 (around 80 per cent) versus Q2FY23 (50-60 per cent) shows signs of improvement.

At the bourses, shares of textile firms have exhibited mixed trends over the past one month. While shares of Gokaldas Exports, KPR Mills, SP Apparels, and Vardhman Textiles have risen up to 12 per cent ; Arvind, Welspun India, Dollar Industries, and Bombay Dyeing have lost up to 19 per cent. ❐

Tiruppur garment exporters seek new TUF scheme implemented retrospectively from April 2022

The Tiruppur Exporters' Association has sought a new Technology Upgradation Fund (TUF) Scheme with a retrospective effect from April 1, 2022, to extend the interest benefit to the exporting units.

The TUF scheme has benefited the Tiruppur knitwear cluster, over 90 per cent of which is MSMEs and standalone units carrying out job work

for garment-exporting units. The existence of the TUF scheme is one of the major growth factors for the knitwear export sector since overseas buyers are placing orders only with the units having the best technology machinery.

The exporting units were expecting the new TUF scheme to come into effect from April 1, 2022, immediately after the expiry of the Amended Technology Upgradation Fund Scheme on March 31, 2022. Based on this, the units, including MSMEs, invested in new machinery, the association president KM Subramanian said in a memorandum presented to Darshana Vikram Jardosh, Union Minister of State for Textiles and Railways.

However, no announcement has been made till now on the new TUF Scheme. The association requested the Minister to announce the new TUF Scheme.

The association has 1,213 exporting units located in Tiruppur Cluster and employs over six lakh workers directly and two lakh indirectly.

In the last financial year (2021-22), the knitwear export turnover was ₹33,525 crore. Apart from exports, the domestic business of Tiruppur is around ₹27,000 crore.

The RBI has increased the Repo rate, which is also reflected in the Banks Packing Credit. As of now, a 3 per cent interest subsidy is given on pre- and post-shipment rupee export credit for manufacturer MSMEs and a 2 per cent interest subsidy for non-MSMEs manufacturers and merchant exporter up to March 31, 2024, the association said in the memorandum submitted to the minister during her visit to Tiruppur recently.

The association sought an increase of interest benefit under the Interest Equalisation Scheme to 5 per cent across the board. It also requested commencing the threshold limit of investment at ₹10 crore with three times turnover in the proposed PLI-2.0 Scheme.

It also urged the Centre to announce the extension of the Emergency Credit Line Guarantee Scheme for one more year and also to avail credit under up to 20 per cent of the borrower's total fund-based outstanding credit as on December 31, 2022 at the earliest to meet their operational liabilities and also to protect the workers employed with these units. ❐

To enahnce productivity of ELS cotton import need to be lowered

The Budget proposal of enhancing the productivity of extra-long staple (ELS) cotton through public-private partnership is meant to lower the import dependence of a growing cotton variety that is in demand and can produce high-quality yarn, industry said.

Union Finance Minister Nirmala Sitharaman said in her Budget speech. "To enhance the productivity of extra-long staple cotton, we will adopt a cluster-based and value chain approach through Public Private Partnerships.

This will mean collaboration between farmers, state and industry for input supplies, extension services, and market linkages."

ELS cotton usually comprises those that are 32-36 mm.

But in India, of the nearly 33 million bales (1 bale = 170 kg) produced in the 2022-23 season, which started in October, the majority is 26-30 mm. Of this almost 80 per cent is 29 mm, which is considered medium-grade.

In India, of the domestic consumption of around 31 mill-on bales, ELS cotton accounts for just around 1 million. But here too the domestic production of ELS cotton, according to industry players, is 350,000-400,000 bales.

This means 600,000 bales need to be imported annually.

It is this import that the Budget announcement seeks to cut through boosting domestic production.

Egypt, the US, and Australia are the largest producers of ELS cotton. In India ELS cotton is priced 35-40 per cent more than normal cotton because of its high quality.

"ELS cotton gets a good price because it is used to produce good-quality 60-120 count yarn, which is used to make high-value sarees, bed-sheets, etc.," Atul Ganatra, president of the Cotton Association of India (CAI), told reporters.

The price of ELS cotton in India is around ₹70,000 a candy (one candy is 356 kg) while it is sold globally at around ₹1.5 lakh a candy. "If ELS cotton production rises, our textile industry will save a lot of foreign exchange and it will benefit farmers too," Ganatra said.

He said as part of the Budget announcement of involving the private sector in boosting the productivity of ELS cotton, the Central government could fund states, which, in turn, would provide financial assistance to clusters, farmer producer organisations, and even individual farmers adopting its production.

Another industry player said : "The plan also seems is to encourage farmers to adopt contract farming of ELS cotton." ■

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Budget-Lecture under the auspices of TAI, Mumbai Unit "Budget Highlights 2023"

held on 8th February 2023 at the Office of TAI, Mumbai Unit

The Textile Association (India), Mumbai Unit organized the Lecture on "Budget Highlights 2023" on Wednesday, 8th February 2023 at the Office of TAI, Mumbai Unit.

The lecture was conducted by Mr. Darshan M. Pathak, Leader, HD Valstand Advisors. He has experience of working in Deloitte and NHBS. He has led many assignments of various Corporates, Banks and NBFC's.

Mr. Pathak gave the highlights of the 2023 financial budget in a very simplified manner and highlighted the points related to the textile industry. He covered the following points.

- Important highlights on the Textile Sectors focusing on the budget allocation to the various industries, boards, and development programs along with guidance on "How to read the Budget".

- Analysis of the allocation of funds to ATUFS, Central Silk Board, National Textiles Mission, PM Mitra and such other schemes.
- Benefits of RODTEP, ROSCL, and Revamping the Credit Guarantee Scheme under the Credit Guarantee Fund for MSME(CGTSME).
- Analysis of the Exports of Textiles, Garments, Man-made Textiles, Carpets, Woven Fabrics, Jute, and other similar products to various countries.
- Understanding of the Slabs rates Old Tax Regime, New Tax Regime (Existing) and New Tax Regime (Proposed).

- Analysis of the latest amendments in The Income Tax Act, in the Finance Budget 2023-2024.

Mr. Haresh B. Parekh was the Convenor of this lecture. Mr. Rajiv Ranjan, President, TAI, Mumbai Unit welcomed the speaker and participants. Mr. A. V. Mantri, Hon. Secretary, TAI, Mumbai Unit proposed the Vote of Thanks.

The lecture was very successful and was attended by around 35 participants. The response to the session was very enthusiastic. There was excellent interaction between speaker and the participants.

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Oerlikon Textile Inc. with new headquarters in Charlotte, North Carolina, USA

Oerlikon moving into modern premises aiming at business expansion in the USA

The American subsidiary of the Swiss Oerlikon Group, Oerlikon Textile Inc., is expanding and moving into new, modern premises tailored to future needs just a few kilometers away from its previous location in Charlotte, North Carolina. A new service center for the polymer processing industry will be created latest by the middle of this year.

At the new address 10350-A Nations Ford Road, Charlotte, NC 28273, synergy effects and resources can be used to a noticeably greater extent for the benefit of all Oerlikon customers in approximately 4500 m² of office and commercial space.

Still in full swing: the relocation of the commercial departments of Oerlikon Textile Inc. has already been completed, so that the customer support can already be provided at the new location in Charlotte, North Carolina. The mechanical repair workshop and the electronic repair workshop will follow in the coming months.

"We are the preferred technology partner in the field of man-made fiber production in the USA and not only want to remain so, but also to further expand our services for our customers. However, the previous premises no longer offered any opportunities for expansion," explains Chip Hartzog, President of Oerlikon Textile Inc., the logical step.

All processes were analyzed in advance and will now be optimized in the new buildings. Incoming goods, warehouse and dispatch will be merged, inventory control will be strengthened. On top, the range of services in the repair area will be expanded. "In addition to our services in the area of filament and carpet yarn systems, we will also be able to offer our customers repair services for staple fiber components such as crimpers or nonwoven systems in the future," says Chip Hartzog. This will further strengthen the market position for the Oerlikon Barmag, Oerlikon Neumag and Oerlikon Nonwoven brands.

Oerlikon Textile Inc. has been active in the manmade fibers business in the USA for over 55 years. In addition to the sale of Staple Fiber, BCF, IDY, POY, FDY and texturing plants, the product portfolio also includes upgrades and modernization of old plants, service and training offers as well as repair services and spare parts supplies.

About Oerlikon Polymer Processing Solutions Division

Oerlikon is a leading provider of comprehensive polymer processing plant solutions and high-precision flow control component equipment. The division provides polycondensation and extrusion lines, manmade fiber filament spinning solutions, texturing machines, BCF and staple fiber lines and nonwoven production systems. Its engineering competence leads to sustainable and energy-efficient solutions for the entire textile value added chain with a circular economy approach. Moreover, Oerlikon develops and produces advanced and innovative hot runner systems for the injection molding industry as well as customized gear metering pumps for the textile, automotive, chemical, dyes and lacquers industries.

The division serves customers through its technology brands – Oerlikon Barmag, Oerlikon Neumag, Oerlikon Nonwoven and Oerlikon HRSflow - in around 120 countries with production, sales, distribution and service organizations.

The division is part of the publicly listed Oerlikon Group, headquartered in Switzerland, which has 12 000 employees and generated CHF 2.65 billion in revenue in 2021.

For further information: www.oerlikon.com/polymer-processing.

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Colorjet launched Pro-green Printing Solution at DTG, Dhaka 2023

Riding on the tremendous response received at ITME 2022, now ColorJet Group introduced its sustainable Pigment printing solution –EARTH SERIES at DTG Dhaka for Bangladesh Market. EARTH Series is an advance sustainable pigment-printing solution in Digital textile printing and minimise the consumption of water and energy hence offering a positive environmental impact for the world.

COLORJET EARTH PIGMENT INKS deliver excellent fastness properties and high printability sharpness by heat fixation only compare to the more complex process for reactive, acid or direct disperse digital printing. These high-performance digital pigment inks work on an innovative binder technology for fast, sustainable, and cost-competitive industrial textile printing on almost any type of fabric.

The Earth series comes with 3 models - 32, 16 and 8 inkjet powered by Konica Minolta print heads, with the combination of ColorJet' s 3 new technology – Kiloton, Purge Plus, and Osci Plus.

Mr. Arun Varshney, the Business Head, ColorJet Textile Business says: " Many Garmenting houses are getting in to backward integration and setting up AOP/Digital textile printing in Bangladesh to bring more value to the business. In addition, with its immense potential for export to the EU, the need for being able to offer a more sustainable and environment friendly printing solution is what could work for many a Bangladesh producer of quality garments. We are encouraging textile industry to establish the sustainable eco system and be the change for the world through product and services offered by ColorJet, he further added".

It is worth witnessing the many fabric samples for apparel like Denim, Jackets, Kaftan and many more displayed at ColorJet Stall.

About ColorJet India Ltd

ColorJet group – the wide format digital printing technology leader, Founded in 1995 and since then known for its industry- leading performance. It is one of the top global exporters of wide-format printers and provides excellent fabric printing solutions. Colorjet's digital textile machines are revolutionizing the world of textile printing with their robust performance, sustainable manufacturing, lowest downtime, high value, and ROI.

ColorJet offers an exclusive range of Digital textile printers with unprecedented benefits backed by our extensive knowledge. The company maintains its operations via two manufacturing facilities and sales offices spread across seven countries, which include India, China, Bangladesh, UAE, and Sri Lanka. Till date, ColorJet has installed and implemented over 5,000 of its printing solutions and products across 450 cities around the world backed by a strong 350-member team, of which almost 100 are in technical related functions.

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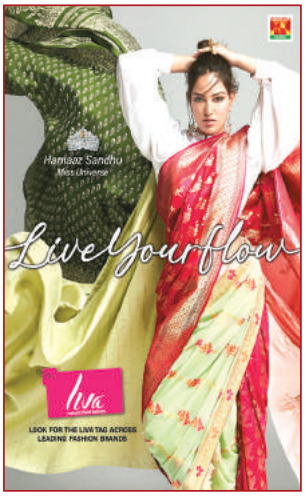
Birla Cellulose organised 1500 seminars in order to revive textile industry

To create awareness and to preserve a precious art like handloom weaving; the Aditya Birla Group - Birla Cellulose, in association with regional partners, has started a drive to create awareness about a natural, sustainable & durable alternative by introducing the weaver community to fibers like Viscose, Modal, and Excel, which are relatively price stable.

With its versatile R&D center continuously engaged in developing new yarns & fabrics with their regional partners, Birla Cellulose has helped commercial bulk fabric manufacturers develop new bases for printing with the latest, in-demand yarns or changing the weaving patterns. As a way to promote Vocal for Local, the Liva team has assisted printers in connecting with grey base manufacturers to avail quality fabric at the right price. Taking a step beyond pre-production, they also extend their

support during the post-production requirements like tagging, online & offline market connect, roadshows and door-to-door promotions. Thus, helping businesses increase inquiry leads. Till date Birla Cellulose has trained 1500 artists, across 7 states and supplied 5.5 lakh of yarn annually.

Given that the cost of silk yarn is often exorbitant and out of reach for the public market, Birla Cellulose has blended silk fabric manages to preserve the luxurious feel of pure silk while being competitively priced. Modalmade products have a lustrous shine, brilliant color, and luxuriously soft feel reminiscent of silk. Birla Cellulose's brand, Liva, nurtures the Indian textile value chain contributing to a more sustainably produced fiber that also resolves the breakage issue these weavers face with traditional threads.



Furthermore, with their robust supply chain supported by regional partners, Birla Cellulose ensures timely and consistent delivery of quality yarn that meets all of their customer's needs, helping boost the weaver's production capacity. As a part of this initiative, the Liva team also helps prepare the handloom weaving community for the future by holding seminars and hub meetings that guide these weavers. This initiative would not only help revive this industry but also assist with its expansion leading to the realization of the Make in India vision for the handloom sector.

The Indian handloom textile industry has a very rich heritage dating back to many centuries. Today, the handloom textile industry plays an important role in many communities, providing employment and preserving cultural heritage. However, with the introduction of mechanized textile manufacturing during the British eta, this once revered industry has been facing significant challenges. Some prominent ones being, competition from synthetic fibers, limitations of traditional fibers, lack of investment, large unorganized markets with dependency on middlemen, limited access to domestic and international markets for selling, and labor issues.

Priyanka Priyadarshini- Assistant Vice President, Business Development, Birla Cellulose, said, "This largely unorganized industry is seeing a decrease in the weaver community as the younger generation of weavers are migrating to other occupations due to lower income and instable work. The handloom industry also relies vastly on material that goes through a lot of price fluctuations. The Indian government has actively issued schemes and incentives with this initiative we plan on reviving the handloom industry to preserve India's cultural heritage and bring it to the 21st Century."

About LIVA:

LIVA is a new age fabric from the Aditya Birla Group. Unlike other fabrics, that are boxy or synthetic, LIVA is a soft, fluid fabric which falls and drapes well. A promise that is delivered through accredited value chain. The new-age naturally sourced fiber made into fabric in pure or blended form, transforms not just the garment but also the person wearing it. It is comfortable, soft, natural, and eco-friendly. The brand recently launched their eco-enhanced version of the fabric, called Livaeco, which made of wood pulp sourced from FSC certified forests.

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Mr. Sanjay Vakharia, CEO of Spykar Lifestyle views on "The Union Budget 2023-24"

"The proposal in increase spends on capex will keep the wheels of growth in motion. The government's efforts on bettering yield of cotton productivity will help in keeping volatility in cotton prices at bay. The reduction in personal income tax slab and eliminating deductions will help in bringing in more spends and marginally higher dispensable incomes.

Currently we are facing tepid demand due to recessionary pressures; both overseas and in our country. We therefore welcome the budget this year as it is focused on growth, economic progress, modernization and sustainability".

About Spykar

Spykar is synonymous with the 'Young & Restless' generation of today. Keeping up with the ever-changing dynamics of the global fashion industry, our collection exudes an individualistic and contemporary style. Spykar is a part of the Lord Bagri promoted Metdist Group, a diversified portfolio of companies. Spykar is known for its superlative product quality and great fits. Young & Restless at heart, we always aim to deliver emerging hi- street denim trends and fashion staples that resonate with the growing Indian consuming class. Our range of denims consist of styles which include Purist for the classic lovers to YnR for the contemporary souls. The top-wear collections are season highlights and compliment the vast range of denims for the season.

About Sanjay Vakharia, CEO of Spykar

Mr Sanjay Vakharia is the CEO of Spykar Lifestyle Private Ltd. & has been part of the original team who founded Spykar in 1992. His sharp business acumen saw him rise from overseeing product development and Marketing to being the CEO. He has played a key role in the overall Marketing & Brand Communication strategies at Spykar. Under the astute direction of Mr. Vakharia, Spykar has set up a robust distribution platform across the length and breadth of the country spanning EBO's, LFR's, MBO's, and online sales.

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LIVA rolls out nature-inspired campaign "Naturally Fluid. Naturally You" with LIVA Miss Diva beauties

LIVA, from the house of Aditya Birla Group, has launched their latest nature-inspired campaign, "Naturally Fluid. Naturally You". Emphasizing their core proposition of 100% natural origin fabrics, the campaigns showcases how fashion & beauty can be truly elevated if its steeped in nature.

The campaign features the beautiful, Divita Rai- Miss India Universe 2022, Pragnya Ayyagari- Miss India Supranational 2022& Ojasvi Sharma- Miss Diva Popular Choice 2022. The collection featuring six different themes, allow them to showcase and be their natural self.

LIVA fabrics are naturally sourced i.e. from wood pulp and has properties that not only make it eco-friendly but high on fashion as well. The campaignfocuses on the natural aspect of the fabric as its primary messaging followed by fluid fashion for every woman who is not only fashion conscious but also makes her choices wisely.

Speaking about the campaign, Mr. Sreecharan, Vice President, Branding and Marketing Head in Grasim Industries Limited | Pulp & Fibre | LIVAexpressed, "With this campaign we wanted to address the myth that high fashion & sustainability are two different ends of the buying spectrum. In fact, the most aspirational fashion comes when its inspired & integrated with nature. LIVA fabrics are 100% plant based, making them safe for you and

the plant. Today LIVA based fabrics are adopted by 150+ brands globally addressing both consumer needs & environmental concern. With natural fluidity and unmatched comfort, LIVAfabrics are a perfect choice for all wearers. We have focused on bringing alive the core essence of LIVA, i.e. being one with nature- through this campaign."

The 3600 integrated marketing campaign aims to raise and build consideration for nature inspired fashion and is targeted across multiple platforms. The campaign is calling out to all the women to make a balanced choice with LIVA, that is eco-conscious and fashionable at the same time. The brand has also released a look book based on the theme on their website (link), showcasing trendy designs made with natural LIVA fabric.

LIVA based outfits can be explored across major brands, shopping malls & ecommerce channels. Look out for the LIVA tag to make choice that's one with nature.

About LIVA

LIVA is a new age fabric from the Aditya Birla Group. Unlike other fabrics, that are boxy or synthetic, LIVA is a soft, fluid fabric which falls and drapes well. A promise that is delivered through accredited value chain. The new-age naturally sourced fiber made into fabric in pure or blended form, transforms not just the garment but also the person wearing it. It is comfortable, soft, natural, and eco-friendly. The brand recently launched their eco-enhanced version of the fabric, called Livaeco, which made of wood pulp sourced from FSC certified forests.

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Mimaki Launched Brand New Product During Insightful, Information-Packed Global Innovation Days

Fourth online education and networking event, Mimaki Innovation Days, held for customers and industry peers on 21-23 February

Mimaki Europe, the leading manufacturer of inkjet printers and cutting systems, has announced on 7th February, that a new solution will be officially launched at the company's next highly anticipated Global Innovation Days online event. Designed to ensure its customers can run cutting-edge, productive businesses and meet the latest demands of the sectors they serve, this new solution is sure to generate huge interest and excitement within the industry.

From 21st to 23rd February, Mimaki hosted customers, influencers, and prospects during its fourth Innovation Days event. With the inevitable buzz of the new product announcement, combined with another packed program of fascinating webinars focused on hot topics for the industry, this next Innovation Days promises to be extremely popular with its many worldwide delegates, once again.

"The technology focused sessions were highlight ways in which Mimaki printers enabled more efficient, automated and sustainable production – all of which are process improvements that were at the forefront of everyone's agendas this year and beyond. We'll also be collaborating with some remarkable Mimaki partners and friends, such as Neenah Coldenhove, FESPA, and Dutch artist, MartieDekkers. With these speakers and others, we aimed to offer attendees a number of highly engaging panel discussions. It continued three days in February.

For more information about Mimaki's products and services, please visit:www.mimakieurope.com

About Mimaki

Mimaki is a leading manufacturer of wide-format inkjet printers and cutting machines for the sign/graphics, industrial, textile/apparel and 3D markets. Mimaki develops the complete product

range for each group; hardware, software and the associated consumable items, such as inks and cutting blades. Mimaki excels in offering

innovative, high quality and high reliability products, based upon its aqueous, latex, solvent and UV-curable inkjet technology. In order to meet a wide range of applications in the market, Mimaki pursues the development of advanced on-demand digital printing solutions. Mimaki Engineering Co. Ltd., (President: Kazuaki Ikeda) Nagano (Japan), is publicly listed on the Tokyo Stock Exchange, Inc.

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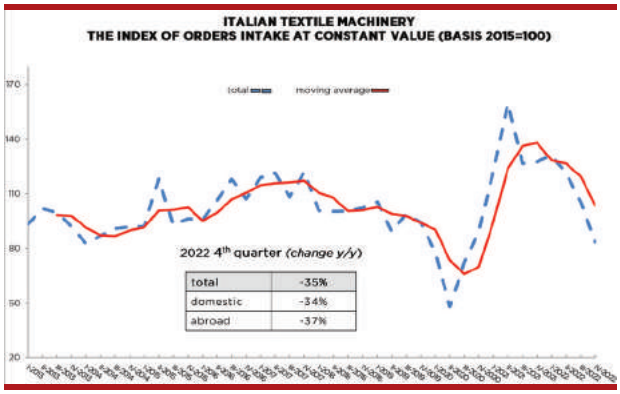
Italian Textile Machinery : Shrinking Orders for Fourth Quarter 2022

The fourth quarter 2022 textile machinery orders index, processed by ACIMIT, the Association of Italian Textile Machinery Manufacturers, showed a sharp 35% decline compared to the period from OCtober to December 2021. In absolute value, the index stood at 83.6 points (basis : 2015=100).

Orders took a 34% drop on the domestic market, while the foreign index was down fully 37%. In Italy, the index's absolute value came in at 155.4 points, whereas on foreign markets the value stood at 75.8 points.

On annual basis, the orders index marked an 18% decrease and an absolute value of 110.4 points. The drop in orders abroad was 17%, while orders collected in Italy were 28% lower than the figures drawn up in 2021.

ACIMIT president Alessandro Zucchi stated that, "The orders index data for the fourth quarter confirms what had already been observed in the previous quarters in 2022. After a sharp increase in 2021, this decrease in orders for the past year is physiological. Furthermore, the ongoin war between Russia and Ukraine, with its related consequences on daily business and trade, and a macroeconomic framework in which uncertainty prevails, have further negatively affected the orders intake."



Data for the last quarter does not suggest a reverse in the negative trend for the first months of 2023. Declining energy prices and inflation, although still high, also declining slightly are, however, signs of a light improvement in the business of companies in the sector as well. "We need to llok to the current year with optimism," continued ACIMIT president. "Out member companies are already focusing on ITMA, the upcoming global textile machinery industry trade fair, that will be held from June 8-14 in Milan."

"I am confident that ITMA Milan can represent an opportunity for further development of the Italian textile machinery sector," concluded Zucchi. "The technological innovations that our manufacturers will bring to the trade show will meet the textile industry's need to be increasingly sustainable, both environmentally and economically."

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CORPORATE NEWS

'5th Edition of TENCEL™ Intimasia show - India's biggest Intimate wear trade show' (The absolute meet together of Retailers, Distributors and Intimate Wear brands spread across India) held from February 20 to 22, 2023, Bombay Exhibition Centre, Goregoan, Mumbai

To know about Intimasia

Intimasia is a comprehensive tradeshow on garment & textile machinery. The show is targeted to address the interests of those who wish to reach out to the textile and garment machinery & accessories market in India. Acting as the definitive gateway to provide excellent quality and one-stop selling and sourcing platform, the event will showcase products, services and technologies related to the complete production chain.

Intimasia 2023 is celebrated as the leading B2B trade fair in India. Hailed to flaunt the future of Intimate wear apparel across the nation. It is a platform commencing global trade, hosted by none other than the business capital, Mumbai. The anticipated exhibited 200+ coveted brands, 15000+ visitors and 500+ Delegates, sprawling across an area of 70,000 sq. ft. Crowning it as India's biggest B2B fashion expo in the Intimate wear category, Intimasia spins the wheel of innovation and opened a dialogue about the future of the Intimate Wear Apparel Industry.

Vehement retailers, distributors, and prospective business owners gathered from Pan-India to be a part of this epitome of innovative Intimate-Wear Apparel expo. Strategically stationed and tactfully timed, this event taped India's highest spending community, Mumbai. Held at the Bombay Exhibition Centre, Intimasia 2023 was enthralled to embrace a massive footfall of 15,000 people from important cities dotting the financial capital.

About Tencel™

TENCEL™ is the textile specialty brand under The Lenzing Group that covers textile specialty product fibre offerings for apparel and home. The TENCEL™ product brand portfolio defines a new evolutionary step in terms of sustainability, functional benefits, natural comfort and caters for distinctive everyday usage or application. Product brands under TENCEL™ include TENCEL™ Active, TENCEL™ Denim, TENCEL™ Home, TENCEL™ Intimate, TENCEL™ Luxe and TENCEL™ for Footwear.

Featuring botanic origin and biodegradable quality, TENCEL™ branded modal and lyocell fibers can enhance the breathability of fabrics and have a minimal static charge when used in fabrics. Fabrics made of TENCEL™ Modal and Lyocell fibers are also gentle on skin with smooth, long-lasting softness, colour vibrancy and colour retention features. TENCEL™ Lyocell fibers are versatile and can be combined with a wide range of textile fibers to enhance the aesthetics and functionality of fabrics. Through moisture management, TENCEL™ Lyocell fibers can also absorb moisture efficiently. A variant of the Lyocell production process also produces the TENCEL™ Luxe branded lyocell filament yarn, which is an extremely fine filament yarn for luxury fabrics and supremely smooth to the touch. Exhibiting high flexibility, TENCEL™ Modal fibers enhance textiles with a naturally soft quality. Offering endless design possibilities, TENCEL™ Modal fibers can be blended with other fibers and processed using conventional machinery, significantly improving the softness and comfort of fabrics.

Fibers and filaments used under the TENCEL™ brand are derived from certified and controlled sources following the stringent guidelines of the Lenzing Wood and Pulp Policy. Namely, TENCEL™ branded modal and lyocell fibers are produced via environmentally responsible production processes and are compostable and biodegradable, thus can fully revert back to nature. They are designated by the USDA (U.S. Department of Agriculture) BioPreferred® Program. TENCEL™ Luxe is registered by The Vegan Society.

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■

Jointly organised event held from 22nd-24th February 2023 in Bombay exhibition Centre, Mumbai

Technical textiles are high performance textiles which find application not only in clothing but in areas such as agriculture, medical, infrastructure development, automotive, aerospace, sports, protective clothing, packaging etc. Technical Textiles have seen an upward trend globally in the recent years due to improving economic conditions.

The Ministry of Textiles, Govt. India jointly with Federation of Indian Chambers of Commerce and Industry (FICCI) is organised the 10th Edition of the series i.e., "Technotex 2023" during February 22nd - 24th, 2023 in Bombay Exhibition Centre, Mumbai. Technotex is one of the largest composite events of Technical Textile industry of the Asia-Pacific region. TECHNOTEX is India's premier event on Technical Textiles. TECHNOTEX exemplifies the immense potential for bilateral trade, investment between India and foreign countries in Technical Textile sector in a mutually beneficial way.

The event witnessed overwhelming participation from 34+ Countries namely Azerbaijan, Bahrain, Bangladesh, Belarus, Cambodia, Columbia, Czech Republic, Ethiopia, France, Germany, Ghana, Indonesia, Iran, Israel, Japan, Kazakhstan, Kenya, Kyrgyzstan, Nigeria, Poland, Russia, Senegal, South Africa, Sri Lanka, Switzerland, Taiwan, Uganda, United Kingdom, USA, Uzbekistan, Vietnam, and Zambia and hosted focused country pavilions from China and South Korea respectively. Odisha was the partner states and other leading states like Gujarat, Jharkhand, Chhattisgarh, Telangana, Andhra Pradesh, Rajasthan, Madhya Pradesh, Punjab, Uttar Pradesh, and NER States participated at the various business forums.

Building on the success, it had been decided to organize this mega event in Technotex 2023 held from February 22nd-24th, 2023 at Bombay Exhibition Centre, Mumbai. This mega event in its 10th Edition attracted participation of all major stakeholders from Global Technical Textiles fraternity as well as institutional buyers from Army, Navy, Air Force, CISF, CRPF, Paramilitary Forces, Police, Hospitals, BRO, Agriculture Institutions, CPWD, PWD, Municipality's, Sports Institution, and Others. The event got also supported by all related Industry Associations.

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ITMA 2023 Exhibition Space of 220,000 suare metres fully booked

Innovator Xchange to offer innovation insights from industry experts

The stage is set for ITMA 2023 to host a highly anticipated showcase of trendsetting textile and garment technologies when it opens in Milan on 8 June. Exhibition space grossing 220,000 square metres of the Fiera Milano Rho exhibition centre is fully booked.

Mr Charles Beauduin, Chairman of ITMA Services, said: "Since the last ITMA exhibition in Barcelona in 2019, the world has changed drastically due to the coronavirus pandemic and geopolitical situation. Despite various disruptions, we are glad that space in ITMA 2023 is fully booked. Companies are buoyant about the outlook of the market with most borders now fully open."

The upcoming exhibition will feature over 1,600 exhibitors from 44 countries and a list of 100 companies are still waiting to be allocated space in their preferred sectors. There is a total of 20 product sectors covering the entire textile and garment manufacturing value chain, including textile composites.

Mr Ernesto Maurer, President of CEMATEX, said: "Sustainability is no longer just a buzzword; the industry has to move faster to adopt the sustainability agenda to secure the future of their business. During the pandemic, many of our

members channelled their resources into R & D activities. ITMA 2023 is perfectly timed to offer our exhibitors an opportunity to showcase these new products and cutting-edge technology. If and when R & D is paired with sustainability efforts, this will be the formula for success.

"Our visitors can look forward to ITMA 2023 to preview the latest innovation. We hope that textile and garment manufacturers, brands and retailers will take this opportunity to meet at ITMA to source and collaborate with leading members of the textile industry. In addition, they can also gain insights into industry trends and developments at various complementary events."

Innovator Xchange

ITMA 2023 will be accompanied by several activities spotlighting industry innovation. Among the highlights is the Innovator Xchange which offers participants unique opportunities to gain insights from the winners and finalists of the ITMA Award, as well as exhibitors and industry experts.

An industry expert has been invited for each of the four featured topics: automation and digital future, advanced materials, sustainability and circularity, and innovative technologies. The invited speakers are :

- Mr German Garcia Ibañez, Head of Sustainable Raw Materials Circularity, Inditex (Sustainability & Circularity)
- Dr Jesse S. Jur, Director of Ecosystem Technology, Advanced Functional Fabrics of America (Innovative Technologies)
- Mr Kevin McCoy, Vice President made, New Balance Athletics (Automation & Digital Future)
- Professor Parikshit Goswami, Professor of Technical Textiles, The University of Huddersfield (Advanced Materials)

The Innovator Xchange will be held from 9 to 13 June. Other highlights held alongside ITMA 2023, are the ITMA Sustainable Innovation Award, Innovation Video Showcase, ITMA forums and partner events. For more information on the above events, please visit https://itma.com/events.

Online ITMA 2023 visitor registration is open. Visitors can enjoy early bird badge rates until 7 May 2023 when they register online. With the badge, they will be able to access the ITMAconnect platform from 8 March 2023 to plan their exhibition visit. Visitors can explore exhibitors' digital spaces, chat and make appointments for stand visits. For enquiries, please email visitor@itma.com.

About CEMATEX & ITMA

The European Committee of Textile Machinery Manufacturers (CEMATEX) comprises national textile machinery associations from Belgium, France, Germany, Italy, Netherlands, Spain, Sweden, Switzerland and the United Kingdom. It is the owner of ITMA and ITMA ASIA. Considered the 'Olympics' of textile machinery exhibitions, ITMA has a 71-year history of displaying the latest technology for every single work process of textile and garment making. It is held every four years in Europe.

About ITMA Services

Headquartered in Brussels with a subsidiary in Singapore, ITMA Services is the appointed organiser of ITMA 2023 and future ITMA branded exhibitions. It is managed by professionals with extensive experience in organising ITMA and other major trade exhibitions around the world. It aims to maintain and expand ITMA's unique selling proposition and relevance to a global audience.

Issued by CEMATEX and ITMA Services.

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ITMA 2023

08-14 June 2023
Milan, Italy

Transforming the World of Textiles

Get Ready to Visit the World's Largest Textile & Garment Technology Showcase

Innovation Spotlight

Source and evaluate a wide range of innovative solutions that will transform the world of textiles. Collaborate with participants of the following to put your business ahead of the competition:

- Start-Up Valley
- ITMA Sustainable Innovation Award
- Innovation Video Showcase

Start Your Engagement Early Through ITMAconnect

From 8 March, registered visitors will have access to ITMAconnect - the new one-stop sourcing platform and knowledge hub that connects the global textile community before, during and after ITMA. Connect with the world's largest digital listing of global textile and garment technology manufacturers directly.

Participate in an Exciting Line-up of Events

Look forward to several curated events and thought-leadership events. Gain insights on a wide range of trending topics, and explore collaborative partnerships to advance your business objectives.

Save up to 53% with the Early Bird Rate!

Visitor registration is now open. Check out the visitor badge rates. Register online now to save and to avoid onsite queues!

Enjoy Preferential Rate for Supporting Organisations

Members can enjoy a special badge rate when they register by 7 May. Get your promotion code from your association.

View ITMAlive Season 3

In its third season, ITMAlive explores the topic of sustainability from the perspectives of various industry experts. Join in the conversations in this 4-part series and let the panellists inspire you to transit towards a sustainable and circular economy.

Energy costs are driving developments

Escalating energy costs are driving the development of new technologies, especially resource-saving solutions, by Spanish textile machinery manufacturers. Read the latest ITMA blog from Alejandro Gallego, Director of AMEC-AMTEX, to find out more about these innovations.

Expert insights

Brought to you by CEMATEX

Finishing with environmental friendliness in mind

The finishing sector is a significant stage in the textile and garment making value chain. Continuous technological developments have resulted in machinery that can contribute to a smaller environmental footprint without compromising fabric quality. Get insights from Giorgio Cafaggi, General Manager and Head of Sales, Sperotto Rimar, on energy-saving machine development strategies.

Book Your Accommodation

Make planning your trip hassle-free with the help of official travel agent MiCodmc Group. For enquiries, email itma2023@micodmc.it.

Plan Your Visit Early

After registering for your badge, you may request for a Letter of Invitation to support your visa application. Click here for information on visa requirements.

For further information, please contact :
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Dear Valued Customer,

Thank You.

We just wanted to take a moment to express our gratitude for your trust and support. Your belief in our innovations and commitment to leadership has meant the world to us. Your greatest virtue is your ability to identify originality. It's a true honour to have you as a part of the RIMTEX family.

Your trust in us has not only fueled our growth but has also encouraged us to continue pushing the boundaries of quality and delivering industry-leading solutions. Your investment in a leadership mindset and our shared commitment to quality has created a bright future for the entire spinning industry.

Our innovations drive the evolution of spun fiber; the future we created yesterday is today's norm. Thank you for believing in us and choosing originality over trend-followers.

We invite you to join us in shaping tomorrow with innovative solutions and a forward-thinking mindset. See you at our exhibit at ITMA 2023.

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SOME DISTINGUISHED IMAGES AT DTG 2023, DHAKA, BANGLADESH

Mr. Samir Dua, General Manager, Precision Rubber Industries Pvt. Ltd. in its stall at DTG 2023, Dhaka, Bangladesh.

(From left) Mr. Ajay Joshirao, General Manager – Sales & Marketing, Inspiron Engineering Pvt. Ltd & his associate in its stall at DTG 2023, Dhaka, Bangladesh.

Mr. Devarsh Shah, Director, Sabar Machine Tools Pvt. Ltd. in its stall at DTG 2023, Dhaka, Bangladesh

(Middle) Mr. J. M. Balaji, Head Marketing, Lakshmi Ring Travellers (Coimbatore) Pvt. Ltd. discussing with their customers in its stall at DTG 2023, Dhaka, Bangladesh.

View of the stall of Simta Jacobi at DTG 2023, Dhaka, Bangladesh.

(From left) Mr. Sunil Bhalla, Managing Director, Sutran Polymers Pvt. Ltd. Mr. Jagmohan Narang, Sr. Manager Marketing Service, Basant Fibertek Pvt. Ltd., Mr. Baharuddin Titu, General Manager, of Jamuna Group, Mr. Swapan Kumar Saha, CEO, Sujan Traders, Mr. P. Kaushik, Managing Director of Bea Electronic & Mr. Basab Mukherjee, Director of Sutran Polymers Pvt. Ltd. in the stall of Sujan Traders at DTG 2023, Dhaka, Bangladesh

SOME DISTINGUISHED IMAGES AT DTG 2023, DHAKA, BANGLADESH

(From left) Mr. K. Balasubramanian, Design Manager, Mr. N. Hariharan, Senior Manager- Sales & Service, VXL Ring Travellers (Pvt) Ltd. & Mr. Swapan Mondal, Director of SDTEX Promoters Ltd. in the stall of VXL Ring Travellers (Pvt) Ltd at DTG 2023, Dhaka, Bangladesh

(From Right) Md. Naium Khan, Manager, Sales, Bangladesh of Yogesh Dyestuff Products Pvt. Ltd., Mr. Suhas Sawant, DGM- Export, Supertex Industries & Yogesh Dyestuff Products Pvt. Ltd., Md. Jashim Uddin, Sales Manager, (Bangladesh) of Supertex Industries & Mr. Shanjoy Das, Managing Partner of NTEX Corporation in the stall of Supertex Industries at DTG 2023, Dhaka, Bangladesh

(From left) Mr. N. Kannan, Manager Export Sales, Mr. Sandip Kr. Dey, Asst. General Manager of LCC & Mr. Debabrata Saha, Managing Director of SDTEX Promoters Ltd. in the stall of Lakshmi Card Clothing Pvt. Ltd at DTG 2023, Dhaka, Bangladesh

(From left) Mr. Baskaran, Vice President – Sales , Mr. Dhandayuthapani (CD), Director, Mag Solvics Pvt. Ltd. & others in the stall of Mag Solvics Pvt. Ltd. at DTG 2023, Dhaka, Bangladesh

Mr. Subrata Aditya, CEO of Tradeway International in its stall at DTG 2023, Dhaka, Bangladesh

Mr. Debasis Dutta, Prashant Gamatex Pvt. Ltd. in its stall at DTG 2023, Dhaka, Bangladesh

SOME DISTINGUISHED IMAGES AT DTG 2023, DHAKA, BANGLADESH

Mr. V. Srinivasan, CEO, Premier Evolvics Pvt. Ltd.
in its stall at DTG 2023, Dhaka, Bangladesh

(From left) Mr. PN. Santhanakkhrishnen, Director of Aspire Grand Excel Automation, Md. Ashik Chowdhury, CEO of A R Tex Solution & Md. Fahim Bin Azad, Executive, Unitex Corporation, in the stall of Aspire Grand Excel Automation at DTG 2023, Dhaka, Bangladesh

(Left) Mr. Kuldeep Pareek, General Manager of Schoch Reeds India Pvt. Ltd.
at DTG 2023, Dhaka, Bangladesh

(From left second) Md. Ashik Chowdhury, CEO of A R Tex Solution
Mr. V.S. Balasubramanian, Vice President – Operations & extreme right
Mr. R. Sundar, Head – Export Sales & Marketing of Elgi Electric & Industries
Limited in their stall at DTG 2023, Dhaka, Bangladesh

(Right) Mr. Manoj Shirsat CEO of Manoj Engineering,
in their stall at DTG 2023, Dhaka, Bangladesh

Mr. J. M. Akhter, Managing Director of Sail International Ltd.
in their stall at DTG 2023, Dhaka, Bangladesh

SOME DISTINGUISHED IMAGES AT DTG 2023, DHAKA, BANGLADESH

Mr. Radhakrishnan R. K., Business Development Manager of Vibrant Reeds & Healds. in their stall at DTG 2023, Dhaka, Bangladesh.

View of the stall of Colorjet India Limited at DTG 2023, Dhaka, Bangladesh.

(From left) Mr. Rajeev Shah, Managing Director of Moksha Thermoplastics Pvt. Ltd. & Mr. Bhairav Parikh of Parikh Patel & Co. in their stall at DTG 2023, Dhaka, Bangladesh.

(From left) Mr. Sandeep B. Pawar, Director of SB Dye Springs Pvt. Ltd. & Md. Solyman & Mr. D. J. Dutta, Director- Publisher of Textile Trends in their stall at DTG 2023, Dhaka, Bangladesh.

View of the stall of Inarco at DTG 2023, Dhaka, Bangladesh.

View of the stall of Indo Texnology at DTG 2023, Dhaka, Bangladesh.

SOME DISTINGUISHED IMAGES AT DTG 2023, DHAKA, BANGLADESH

View of the stall of Trutzschler at DTG 2023, Dhaka, Bangladesh.

Mr. Debabrata Saha, Managing Director of SDTEX Promoters Ltd. in their stall at DTG 2023, Dhaka, Bangladesh

(Right) Md. Attquallah Mondal, Managing Director of Jemat Speedtex Pvt. Ltd. in the stall of Lakshmi Card Clothing Pvt. Ltd at DTG 2023, Dhaka, Bangladesh

View of the stall of ITEMA at DTG 2023, Dhaka, Bangladesh.

View of the stall of NIR Enterprise at DTG 2023, Dhaka, Bangladesh.

View of the stall of Pacific Associaties Ltd. at DTG 2023, Dhaka, Bangladesh.

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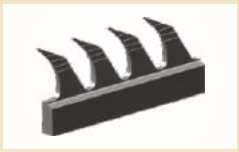
DOFFER WIRES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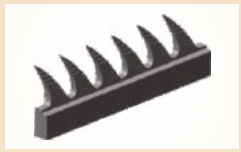
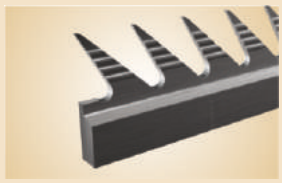
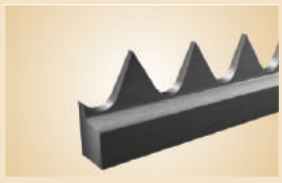

UNISTAR SERRATED (R)

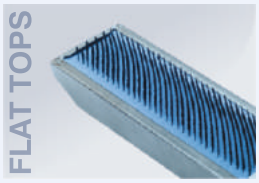

UNISTAR PLAIN (C)

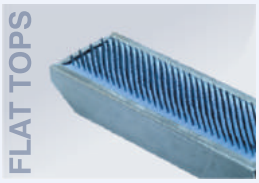

CYLINDER Wires

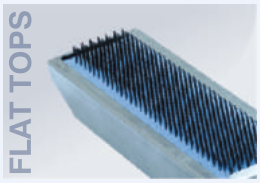

DOFFER Wires


LICKER-IN Wires


STRIPPER Wires

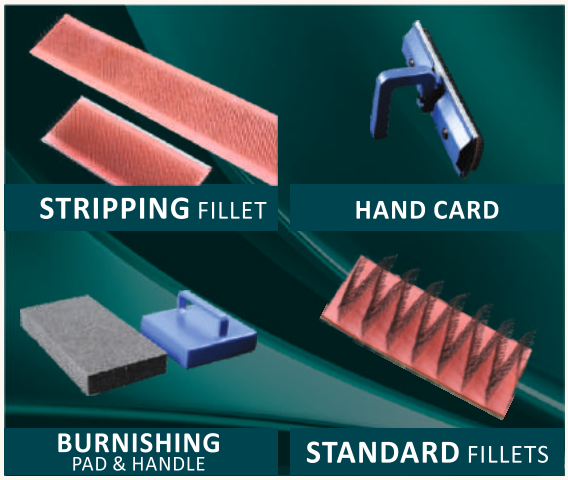

PG Series

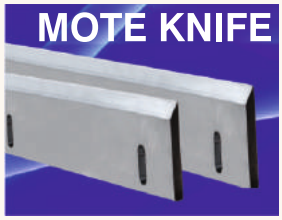

RECTO Series


UNO Series

STATIONARY FLAT TOPS

FILLETS & ACCESSORIES





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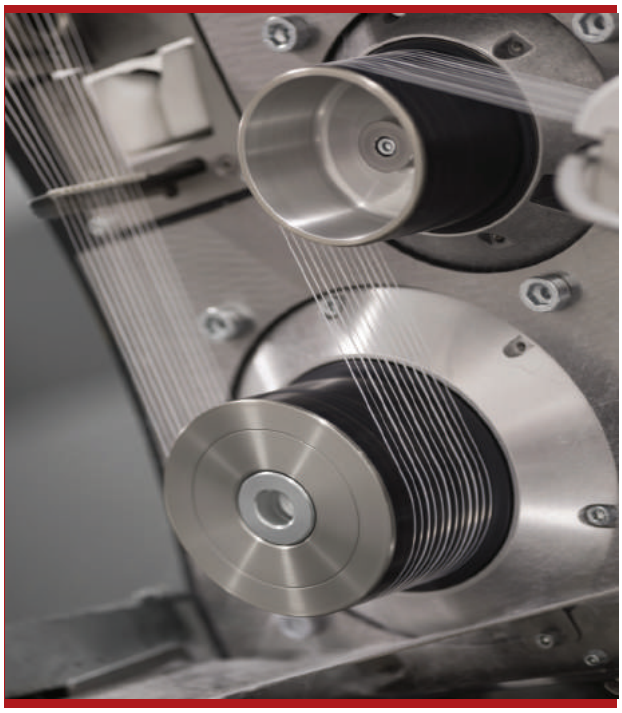
Coimbatore - 641 033. Tamilnadu, India.

+91 99524 20282 | sales@unispincardclothing.com | www.unispincardclothing.com

Oerlikon

Longer parking times for greater efficiency with WINGS HD models

Since 2018, Oerlikon Barmag has been offering the market's only currently available concept for high-end home textile applications using the POY and DTY process. The spinning concept with the WINGS HD winding unit in conjunction with an automatic eAFK Big V Multispindle texturing machine manufactures excellent-quality high-titer yarns with maximum machine efficiency.



Superbly suited to the efficient production of high-titer yarns: the Oerlikon Barmag WINGS HD with extended parking time.

"We have correspondingly modified WINGS HD in order to once again better align the increased requirements of these special yarns to the spinning process and make everyday production even simpler for our customers", comments Stephan Faulstich, POY Process Technology Manager. The parking times are extremely short when winding high titers. We have increased the parking times by up to three times in the case of the new WINGS HD models. To this end, the parking time for a 300d/384f yarn, for example, has been increased from a standard 6.5 min. to 15.7 min. – and, in the case of a 400d/192f yarn, from 4.3 min. to 10.3 min. This makes the doffing process more even, hence increasing doffing reliability.

At the same time, the draw unit now has a more flexible design, meaning that two-godet operation is also possible in the case of products with low overall titers. This has a positive impact on the winding unit's energy consumption.

WINGS HD – superb efficiency and functionality

12 POY packages of up to 600d/576f (final) are produced in the spinning process using WINGS HD 1800. This is made possible as a result of an additional godet, which ensures that the high yarn tensions developing in the process are reduced to the yarn tensions common in the case of the winding process to date. At the same time, the newly-developed suction unit with the accompanying yarn cutting device (yarn collecting system) ensures – both during string-up and in the event of a yarn break – reliable handling of the yarn with an overall titer of 7,200 den (final).

The concept's decisive benefit: whereas DTY yarns up to 1,200 den and with up to 784 filaments have in the past, as standard, been plied from four POY 300d/192f bobbins using DTY machines, high titers can also be manufactured directly using the WINGS HD take-up machine. And combining the WINGS HD and the eAFK Big V is ideal, as this allows all available winding positions to be utilized during texturing.

About Oerlikon Polymer Processing Solutions Division

Oerlikon is a leading provider of comprehensive polymer processing plant solutions and high-precision flow control component equipment. The division provides polycondensation and extrusion lines, manmade fiber filament spinning solutions, texturing machines, BCF and staple fiber lines and nonwoven production systems. Its engineering competence leads to sustainable and energy-efficient solutions for the entire textile value added chain with a circular economy approach. Moreover, Oerlikon develops and produces advanced and innovative hot runner systems for the injection molding industry as well as customized gear metering pumps for the textile, automotive, chemical, dyes and lacquers industries.

The division serves customers through its technology brands – Oerlikon Barmag, Oerlikon Neumag, Oerlikon Nonwoven and Oerlikon HRSflow - in around 120 countries with production, sales, distribution and service organizations.

The division is part of the publicly listed Oerlikon Group, headquartered in Switzerland,

which has 12 000 employees and generated CHF 2.65 billion in revenue in 2021.

For further information: www.oerlikon.com/polymer-processing.

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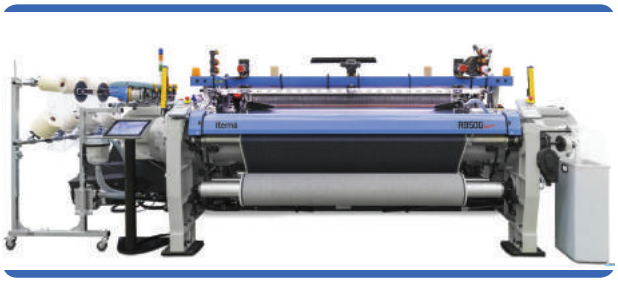
Itema S.p.A

Itema participated at DTG 2023: on exhibit an Itema rapier weaving machine from customer Universal Denims Limited (Bangladesh)

Itema, the global leading provider of advanced weaving solutions, including weaving machines, OEM spare parts and integrated services, got exhibited at DTG 2023 (Hall 7/296) from February 15th – 18th at International Convention City Bashundhara in Dhaka.

On show, Itema brought its denim-dedicated rapier weaving machine, the R9500-2denim. The weaving machine is courtesy of Universal Denims Limited, Bangladesh, which selected Itema as its trusted technological partner for the production of premium denim fabrics. The machine displayed at the event comes from the bulk order of 99 Itema rapier R9500-2denim that Universal Denim recently installed in its mill. Universal Denim is one of the first largest vertical state-of-the-art multi-storey integrated textile operations in Bangladesh, a LEED Platinum standard built company with modern facilities on 160 Bigha land at Bhaluka, Mymensingh. Universal Denims Limited supplies over 36 million yards of world-class denim to leading fashion brands and retailers worldwide.

The R9500-2denim on show is equipped with iSAVER®, the one-of-a-kind mechatronic device capable to completely eliminate the waste selvedge on the left-hand side of the fabric thus leading to significant costs savings and to reduced waste, contributing to a sustainable denim weaving. iSAVER® is already successfully installed in many leading denim mills worldwide and represents a real interesting added value for Bangladeshi weavers that deal everyday with Western brands which are more and more looking at a green and sustainable production chain for the fabrics they purchase.



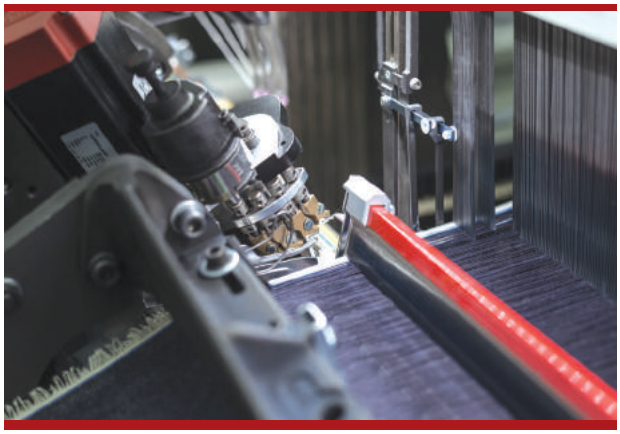
DTG is for Itema the perfect stage to allow the Bangladeshi weavers to experience first-hand the weaving solutions provided by the company, which are worldwide renowned for their superior textile mastery, ecoefficiency, and ease of use.

Itema positions itself as a reliable partner - and not only a simple supplier - for textile companies, providing advanced weaving machines along with a real-time after-sales service, highly professional training for the weavers, and integrated textile consultancy.

Itema is uniquely positioned in the market to offer textile manufacturers the top three weft insertion technologies – rapier, airjet and projectile -, OEM spare parts, upgrade kits, and a dedicated online shop for the historic brands now part of Itema – Somet, Sulzer, and Vamatex – in addition to highly professional training in 6 worldwide locations.

Atiqul Alam Chowdhury, Managing Director of Universal Denims Limited commented: "Universal Denims Limited works on sustainable manufacturing processes, innovation, carbon-footprint reduction, and utility efficiency. The yarns and chemicals used in our plants come from organic sustainable sources, we adopt an ozone finishing process that reduces environmental impact, and fabric stretching is realized with an aero finish to increase durability. Moreover, our state-of-the-art effluent treatment plant saves 172 million liters of natural water annually, equipped with e-labs that make our factory extremely eco-friendly. Itema's technology further helps us in reducing the footprint of our activities, while not having to compromise in terms of weaving efficiency and fabric quality - we are therefore delighted to further enhance our partnership by having one of our Itema R9500-2denim rapier weaving machines on display at DTG".

SCIENCE IN INDUSTRY



About Itema

Itema is a leading global provider of advanced weaving solutions, including best-in-class weaving machines, spare parts and integrated services. Sixty per cent of Itema is held by Gianni Radici's family heirs (the siblings Angelo, Maurizio, Paolo, Maria Grazia and Bruna) and 40% by the Arizzi and Torri families. Itema Group business areas include also industrial and innovation. In fact, in recent years the Group diversified into complementary, high-growth markets through stakes in innovation driven companies, such as Lamiflex®, Schoch® and Itemalab®, the Itema advanced innovation hub created in 2014 that in 2021 evolved into a fully-fledged company dedicated to develop breakthrough textile and industrial solutions. With more than 1.000 employees worldwide, world-class production sites in Italy, Switzerland, China and India (the latter for Schoch products, ndr), Itema features a global presence with commercial and after-sales services in Italy, Switzerland, China, India, Japan, USA, Hong Kong, Dubai, and Türkiye. More information about Itema can be found on the website www.itemagroup.com.

For further information, please contact :
ITEMA S.p.A.
via Cav. Gianni Radici 4
Colzate, BG 24020, Italy ❐

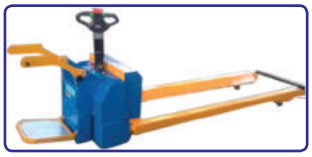
Rabatex Industries

Rabatex has wide range of Material Handling Equipments to ease out operation

Textile millsconsume significant manpower and time for transport activity. With new era of high-speed advanced productivity machinery, need of transport and shortage of labor have generated opportunity for Automation as well as Equipment to ease out operation.

Textile production is a very complex process, the range of textile manufacturing is so long, it starts from fiber to fabric. Therefore, to perform all the related processes, such as Warping, Sizing, Weaving, finishing etc.; textile mill needs large number of Beams and supporting material, which consumes significant manpower and time for transporting, lifting, positioning handling that material in manufacturing process.

Rabatex has an immense range of material handling equipment for weaving shed for ease of operation with highest safety parameters. Being a largest player of this equipment manufacture we cater more than 68% requirement of Indian Industry as well as exports in more than 36 countries.



Our material handling equipment could useful textile mill to eliminate the manpower cost, to save time, to increase manufacturing efficiency with highest safety standard. We design and customize the equipment as per the weaving shed layout for hassle free utilization and ease of operation. We are having 60% market share of Indian industry with 90% repeat order ratio.

With changing of time, we evolved technology, and in results, we are successfully winning market by selling our Battery-operated equipment and gradually users are turning toward automatize electric from hydraulic equipment. It saves huge cost of manpower and provides tremendous benefits to mill by double an operation.

Advantage of Material Handling Equipment in Textile Process

- Reducing manpower
- Ease of operation
- Improve productivity
- Increase the speed of material movement
- Eliminating Idle time of machines, equipment, and workers
- Locate and stock material better and in less space
- Reduce damage of material
- Flowless Functions

We have large variety of material handling equipment available, inmanual and battery-operated execution.

Battery Operated Equipment for Material Handling

The Textile mills should choose most appropriate material handling equipment which is safe, efficient, and versatile. The selection of material handling mainly depends upon: Type of material to be handled, size of material, it's shape, weight, delicacy, working space available, chances of getting damaged during handling and types of production.

We have been in industry from last 60 years and have supplied more than 5600+ material handling equipment across the globe, More details available on www.rabatex.com

For further information, please contact :
Rabatex Industries
Plot No. 559 GIDC,
Opp. Road No. 9, G.I.C.D Kathwada
Ahmedabad-382430 (Gujarat), India
Ph. : +91 7922901367/68/69/70
Fax : +91 792290 1374

❐

NASA

Why NASA has been using aerogel for many years!

High-performance insulation for clothing and work safety

First of its kind: Highly concentrated aerosol fabric available by the meter is soft, easy to process and only 1 to 3 mm thick

Unique processing of NASA insulation on a textile medium

Comprised of up to 99.8 percent air, aerogel is the lightest solid in the world. But that is not all. The material, which is also called "frozen smoke" due to its appearance and physical properties, exhibits extremely low heat conductivity which

Thanks to the textile medium, thin Aersulate products are especially suitable for clothing and work safety.

The thermo-insulation properties of other materials would be reduced little by little due to moisture on the one hand, and by the continual influence of body weight on the other, for example in shoes or where a backpack makes contact.

exceeds other insulations many times over. This is why NASA has already been using aerogel for aerospace projects for many years. Despite this, it has not been possible to bind the material to textiles in a high concentration and enable straightforward further processing over the roughly 90-year history of the material...until now. Outlast Technologies GmbH has developed an innovative process for permanently adhering large amounts of aerogel to different media, like nonwoven fabric, felt and composites materials. Their original properties are retained throughout, so they can easily be further processed using conventional production methods. What is special here, is that the fabrics sold under the Aersulate name are only 1 to 3 mm thick and achieve very high insulation values which are largely retained even under pressure and in moist conditions. Despite their high performance,

Aersulate textiles exceed all previously known insulation materials in terms of performance, and they do it despite being considerably thinner at only 1 to 3 mm.

One layer of Aersulate just 1 mm thick easily protects the skin from being scalded by boiling water

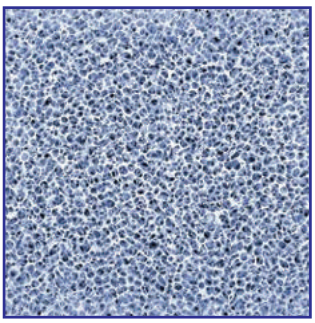
they are still soft and can be used for shoes, clothing and work safety products, as well as for sleeping bags and technical applications. A patent for the process developed by Outlast has already been filed.

"Thanks to its extraordinary physical properties, NASA has already been using aerogel for many years," remarked Volker Schuster,

Aersulate textiles just 1 to 3 mm thick achieve very high insulation values which are largely retained even under pressure and in moist conditions

Head of Research and Development at Outlast Technologies. "For example, for the insulation of its Mars rovers and for capturing dust from the tail of a comet during the Stardust mission," he

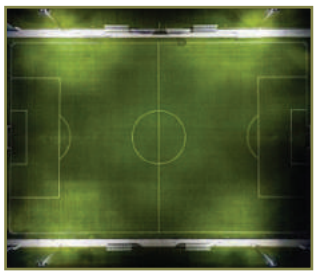
continued. Since the development of aerogel by American scientist and chemical engineer Samuel Stephens Kistler in 1931, no-one had been able to apply the versatile material to textiles in large amounts without changing their original properties, despite intensive research. This means that the products were often not only very rigid, but made processing with conventional production methods impossible due to their high degree of dust abrasion. With its newly developed Aersulate technology first presented in June 2022, though, the specialist in textile thermoregulation located in Heidenheim, Germany is now writing insulation history.



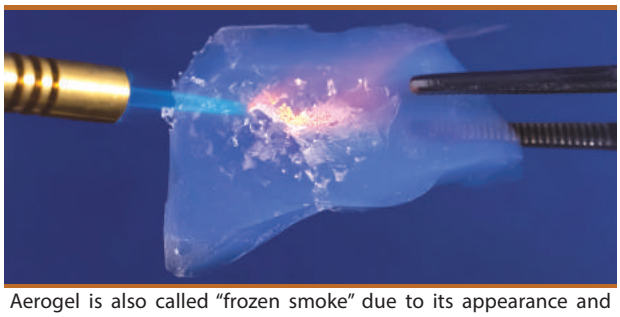
Comprised of up to 99.8 percent air, aerogel is the lightest solid in the world.

High-performance insulation just 1 to 3 mm thick

"The consistency of aerogel can be best described as liquid dust particles which spread uncontrollably throughout a room within seconds thanks to their minimal thickness," explained Schuster. "This is why processing is a big challenge." Despite these difficulties, Outlast Technologies has managed, after a development period of around five years, to bring an innovative process involving the adhering of aerogel between multiple layers of material to market maturity. Depending on the area of application, nonwoven fabric, felt and different composite materials can be used as the media.

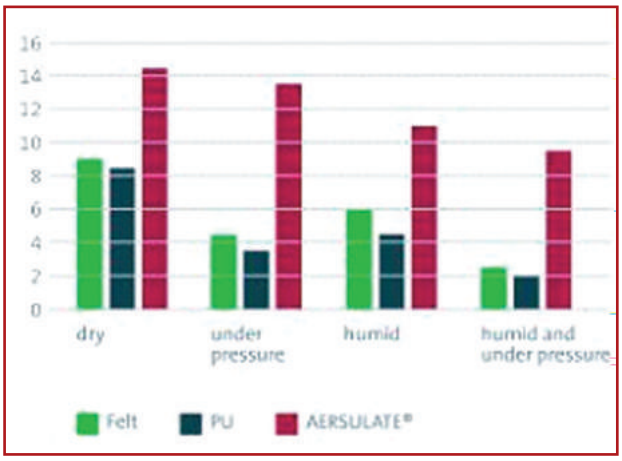


Just 10 g of aerogel have the same surface area as a soccer field



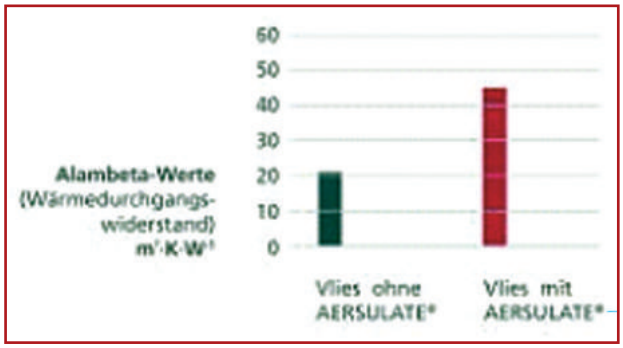
Aerogel is also called "frozen smoke" due to its appearance and physical properties

What is special here is that the properties of the respective textiles are not adversely affected by the Aersulate technology, meaning that they can easily be further processed with conventional means and under industrial conditions despite their acquired thermal properties.



Studies show that Aersulate products can keep away the cold better than identical materials without Aersulate technology when exposed to the thermal effects of a block of ice. This effect is increased under the influence of pressure and moisture. Similar results can be seen with the effects of heat.

As a silicate-based solid, aerogel is obtained from natural quartz sand, yet exhibits a density over 1,000 times lower than glass manufactured from the same raw material. The extraordinary thermo-insulating properties of the material are thanks to its extremely porous structure, which enables it to be composed of up to 99.8 percent air. "One liter of aerogel weighs just 50 g," explained Schuster. "Just 10 g of the material has the same surface area as a soccer field, though." Thanks to these properties, Aersulate textiles exceed all other previously known insulation materials in



Tests carried out by the German Institute for Textile and Fiber Research in Denkendorf (DITF) using the Alambeta method showed that the thermal resistance of an Aersulate fleece is more than double that of a conventional fleece.

terms of performance, despite the fact that they are only 1 to 3 mm thick. Tests carried out by the German Institute for Textile and Fiber Research in Denkendorf (DITF) using the Alambeta method showed that the thermal resistance of an Aersulate fleece is more than double that of a conventional fleece of the same thickness. Add to this the fact that the thermo-insulating properties of Aersulate products remain high despite pressure and wetness, while they decrease enormously with other conventional materials like felt and polyurethane foam (PU) under these conditions.

Work safety and functional clothing with Aersulate

Thanks to the textile medium, thin Aersulate products are especially suitable for the shoe and clothing industry, as well as all areas of work safety. The user benefits from different properties, depending on the intended use. "With a glove made of Aersulate just 1 mm thick, you can put your hand into boiling water without being scalded, for example," explained Schuster. "The material's extremely hydrophobic properties play quite literally into our hands here." In the case of knee patches on work and functional pants, as well as shoes and soles, on the other hand, the material properties also become relevant when compression occurs. This is because the thermo-insulation properties of other materials would be reduced little by little due to moisture from the outside and sweat from the inside on the one hand, and by the continual influence of body weight on the other.

"With the broad range of possible textile medium materials, Aersulate is suitable for all applications requiring high thermal resistance on the one hand, where only a little space is available and both compression and moisture can be expected on the other." – Volker Schuster, Head of Research and Development at Outlast Technologies

In addition to the human body, luggage and technical devices can also be protected from extreme temperatures and the effects of weather with Aersulate. For this purpose, corresponding cell phone or equipment pockets could be sewn into garments, for example, to maintain their battery life even at very cold outside temperatures and to safeguard the devices from overheating in case of high heat exposure. "With the broad range of possible textile medium materials, Aersulate is suitable for all applications requiring high thermal resistance on the one hand, where only a little space is available and both compression and moisture can be expected on the other," said Schuster in summary.

For more information, visit https://www.outlast.com/

Outlast Technologies GmbH is a specialist in textile heat & moisture regulation and insulation known globally for its innovative solutions. In addition to tried-and-tested technologies in high-performance materials, the Germany-based company has also established the Outlast brand internationally, which represents quality, function and reliability. Many market partners see Outlast as a motor for their sales. Outlast Technologies also stands for licensed supply chains and commitment to the environment.

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Uster Technologies AG

Uster Tester – The foundation of global textile quality

Celebrating 75 years of the world's most famous instrument

Assessing textile quality was once a matter of opinion. Today it's a matter of fact – objective, repeatable and universally understood. Quality now has numerical values, as the basis for trading, pricing and ultimately consumer satisfaction. And this year marks the 75th anniversary of the pioneering innovation which fostered that change – and created theglobal quality environment of textile production in the 21st century.

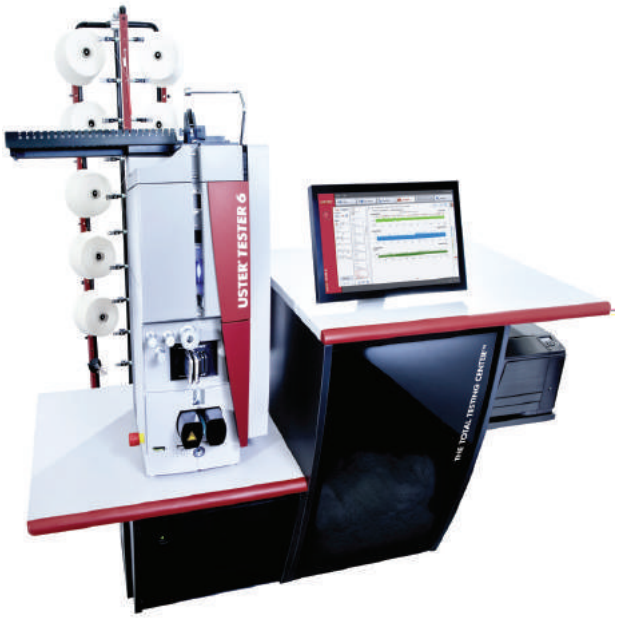
It all started in the early 1940s, with a request from a group of spinners in Switzerland. They wanted a reliable way of measuring textile slivers, rovings and yarns for 'evenness'. This property was – and still is – seen as critical to the uniformity, consistency and processability of materials, and the ultimate determinant of value and quality. The first instrumental method for evenness testing was developed for these spinners by Zellweger Uster, at that time a company active in the emerging field of electronics.

That company is known today at Uster Technologies, and it's fair to say that every textile producer in the world knows the name of its most famous product, the Uster Tester. In fact, the word 'Uster' alone is used by textile mills to signify both the process of evenness testing, and the instrument itself. In the past 75 years, the Uster Tester has been developed and extended apace with fast-moving technological innovations. Measurement capabilities have extended with specially-developed sensors, and ingenious software. Connectivity with other Uster systems at every stage of processing has created a unique Quality Management Platform for the entire mill.

Setting global standards

The original tester is displayed in a museum on the top floor of Uster headquarters. It is, or course, manually operated, and outputs test results as a line on graph paper. This first venture into testing was based on a capacitive sensor and simple electronics. It was the precursor for gradual development stages over the next two decades, leading to the emergence in the 1970s of the name 'Uster Tester' and its rapid popularity across the textile world.

A key aspect for those early Swiss spinners was to learn more about their yarn quality, to improve it for their customers but also to benchmark their own standards against other producers. Giving quality a numerical value was a massive breakthrough, reflected today in the 'language of quality' used for marketing, trading and competitive progress today.



The concept of global benchmarking took a giant leap forward in 1957 with a short article in the German textile magazine Melliand, giving basic data on yarn quality from a number of spinners. The data was, of course, based on the Uster Tester, and the idea of a comprehensive service of quality information grew into the now-legendary Uster Statistics publications.

This detailed collation of accurate data from all around the textile world has become essential to the entire industry. It is the framework for meaningful fiber purchasing, yarn development and trading, now of course, available as an app

for mobile devices. In an environment where speed and user-friendliness are vital, the latest Uster Tester interacts with Uster Statistics to provide a one-click check of yarn quality and specifications.

Managing the whole mill

It's clear that the evenness tester will also continue to be the must-have laboratory testing instrument in its own right, whatever the benefits of its connectivity. Test conditions in the lab are more consistent than in the production halls, so results can be compared over time to establish a basis for best settings and procedures in mill equipment.

So, the Uster Tester has its place in every serious textile laboratory. But its modern role is much wider, thanks to seamless connectivity with other Uster testing and measuring instruments. Critically, it unites lab testing with in-process monitoring, by intelligent cooperation with Uster yarn clearers in the winding department.

Through the Uster Quality Expert, and the unique 'Assistant Q' guidance facility, mills now have the benefit of 'Total Testing'. This delivers effective and preventive process optimization, with smart alerts pointing instantly to potential trouble spots in the entire process. Integration between 100% in-process monitoring and precise lab measurement ensures quality is secured at the right level every time.

Spinners today have the power to analyze every element of their processes and select the best options for their own profitability and their customers' complete satisfaction. In one system, fiber, yarn and fabric quality are optimized and secured. Thanks to the Uster Tester and Uster Quality Expert, mills can rely on a world-class Quality Management Platform that takes their business planning from imperfect approximation to guaranteed certainty…ready for the next 75 years.

About Uster Technologies

Uster Technologies is the world's leading provider of quality management solutions from fiber to fabric.

High-technology instruments, systems and services cover quality control, prediction, certification and optimization. The portfolio comprises quality management, laboratory testing and in-line process control instruments for fibers, staple fiber, and filament yarns, fabrics and nonwovens.

Uster Statistics, the unique global benchmarks for textile trading, complement a portfolio of value-added services that includes training, consultancy and worldwide after-sales.

The Uster philosophy aims to drive innovation forward by meeting market needs – always with 'quality in mind'.

Uster Technologies is headquartered in Uster, Switzerland and operates worldwide. It has sales and service subsidiaries in major markets and Technology Centers in Uster (Switzerland), Knoxville (USA), Suzhou (China) and Caesarea (Israel).

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A.T.E. Enterprises Pvt. Ltd.

Emerging trends: Open width knit processing

Goller open width knit mercerising range what will improve fabric quality considerably

Mercerising is a treatment that adds value to cellulosic fabrics. It is aprocess of treatment of cotton fabric with highly concentrated caustic soda, under tension. Mercerisation is possible for both woven as well as knitted cellulosic fabrics and improves the dyeability of such fabrics and imparts dimensional stability and tensile strength to these fabrics. The lustre which is obtained through mercerisation stays permanently with the fabric. Additionally, this treatment gives a 'cooling' feel to the fabric, thus providing greater comfort to the end users. With the emphasis on comfortable clothing growing every year, mercerised knitted fabrics are in great demand for making garments for international high-end fashion brands.

Indian knit processors have realised the immense benefits of switching over from tubular to open width processing for knit fabrics. Several processors in the country have already converted their knit process houses to openwidth bleaching, cold pad batch dyeing, and washing.

The knit mercerisation uptrend has been prevalent since over 15 years. However, the growth in knit mercerisation was constrained as so far it was applicable only for tubular fabrics. Tubular mercerisation has its own limitations – it creates visible marks on the edges of the fabric, and it also causes a lot of effluent treatment issues due to the high chemical oxygen demand load per unit of fabric treated. This is where the development of the open width knit mercerisation process has helped considerably, as this process not only mitigates the issues faced with tubular mercerisation, but also improves the quality of fabric in terms of feel and comfort. It also has higher savings in dyeing related processing costs as compared to unmercerised cotton knits. Open width knit mercerisation is expected to be an integral part of the sequence of knitted fabric processing soon.

About Goller

Goller is a pioneer and a global market leader in the manufacturing of open width textile processing ranges, including those for knit mercerisation. Goller was founded in Germany in 1948 and became a member of the CHTC Fong's Group in 2006. The integration of Goller into the CHTC Fong's Group helped it develop and spread its highly engineered textile wet finishing ranges at a tremendous pace..

Benefits of Goller openwidth knit merceriser:

1. Saves up to 15-20% of dyes when compared to unmercerised varieties
2. Excellent dimensional stability
3. Improvement in tensile strength of the fabric
4. Achieving excellent colour depth, especially in medium dark or dark-shaded printed fabric
5. Excellent permanent lustre
6. Less pilling
7. Less shrinkage of finished fabric in domestic washing
8. Higher quality compared to tubular knit mercerisation
9. Lower utility consumption per unit of fabric as compared to tubular knit mercerisation

Technical and utility data of Goller knit mercerisation:

- **Process :** Dry on wet/wet on wet, room mercerising (hot/cold optional)
- **Fabric quality :** 100% cotton, cotton/viscose blends at lower caustic strengths
- **Production speed :** 20-30 or 30-40metres per minute configuration available
- **Chemicals :** Caustic soda, acetic acid

SCIENCE IN INDUSTRY

- **Caustic consumption :** Approx. 140g/kg of fabric @25Be
- **Water consumption :** Approx. 5 – 6 L/kg of fabric
- **Steam consumption :** Approx. 0.5 – 0.6 kg/kgof fabric

	Cold mercerising	Room mercerising	Hot mercerising
Temperature	25°C	40-45°C	60°C
Time	50 – 60 s	40 s	25 s
Lye (NaOH)	25 – 30 Be		
Lye penetration	Slow	Medium	Fast
Application	Yarn dye/Dye fabric	Grey fabric	Grey fabric

Success story of Goller open width knit mercerisers worldwide

Goller has successfully installed more than 10 open width knit mercerisers worldwide, including the one that was commissioned recently at P C Colours (a knit process house) in Kolkata. Considering the benefits and current trends, open width mercerisation is no doubt the way forward for open width knit processing factories in India.

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