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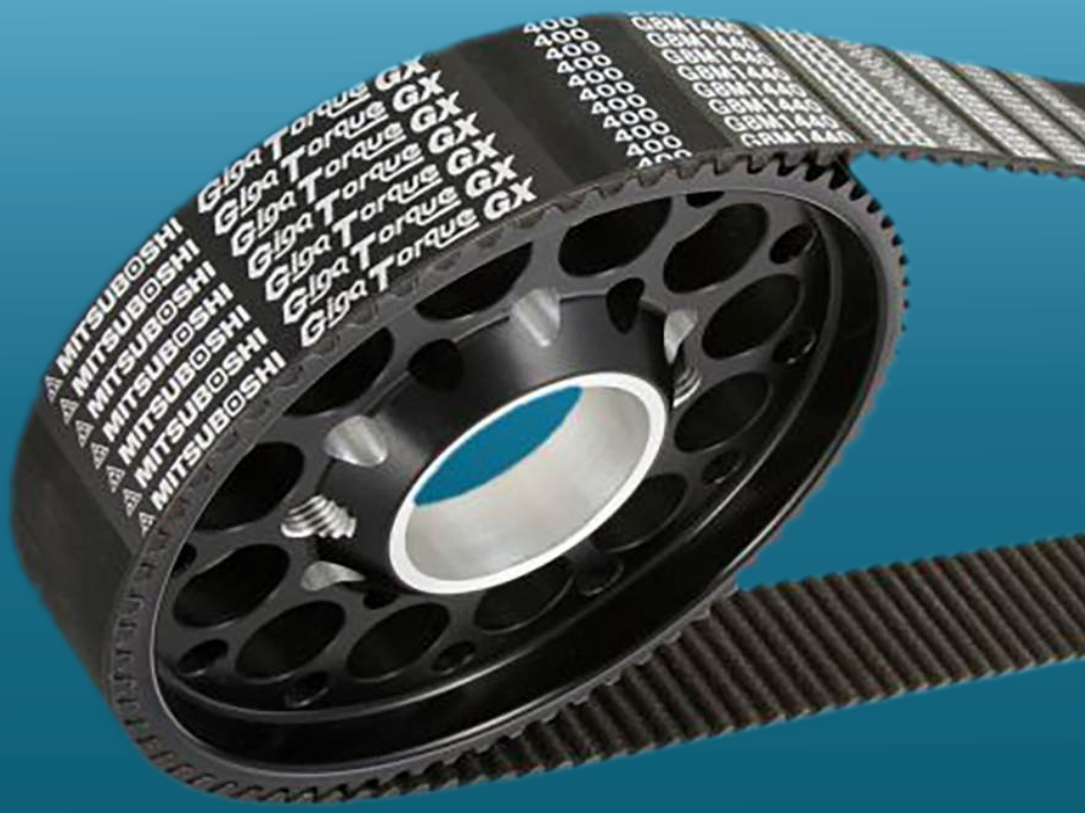

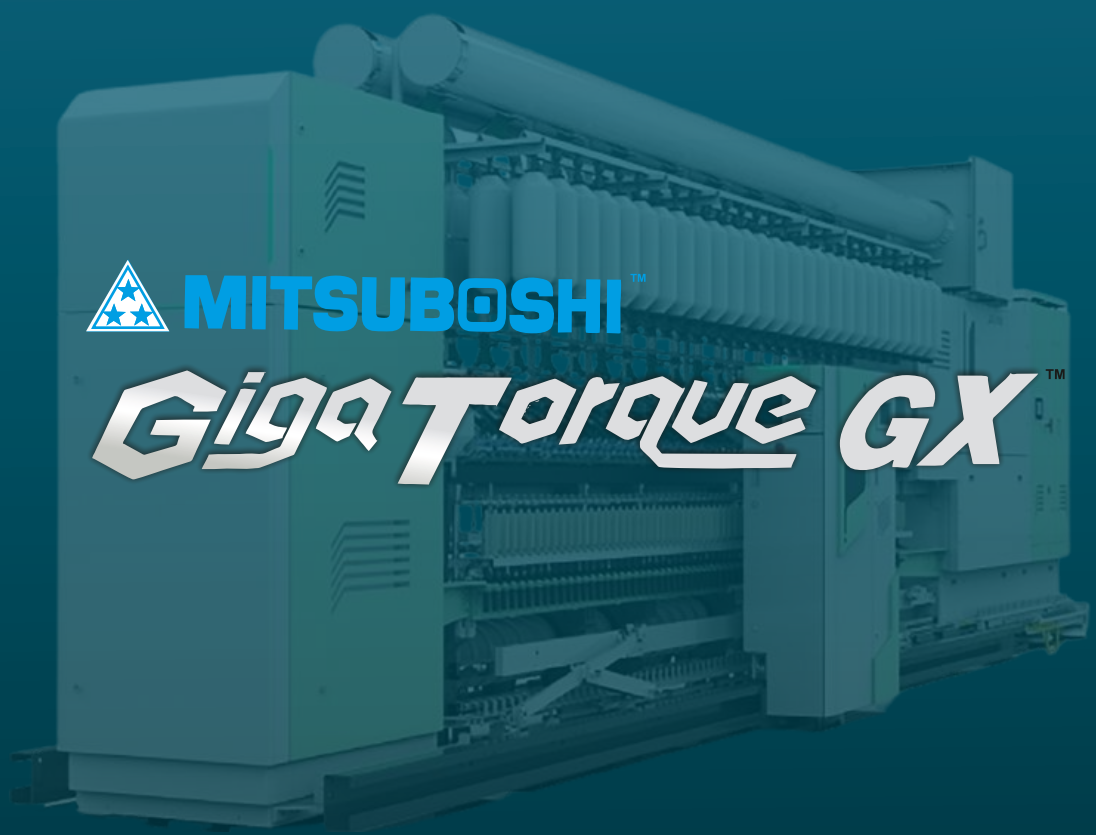

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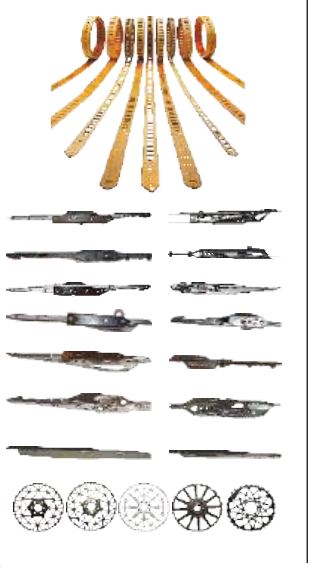

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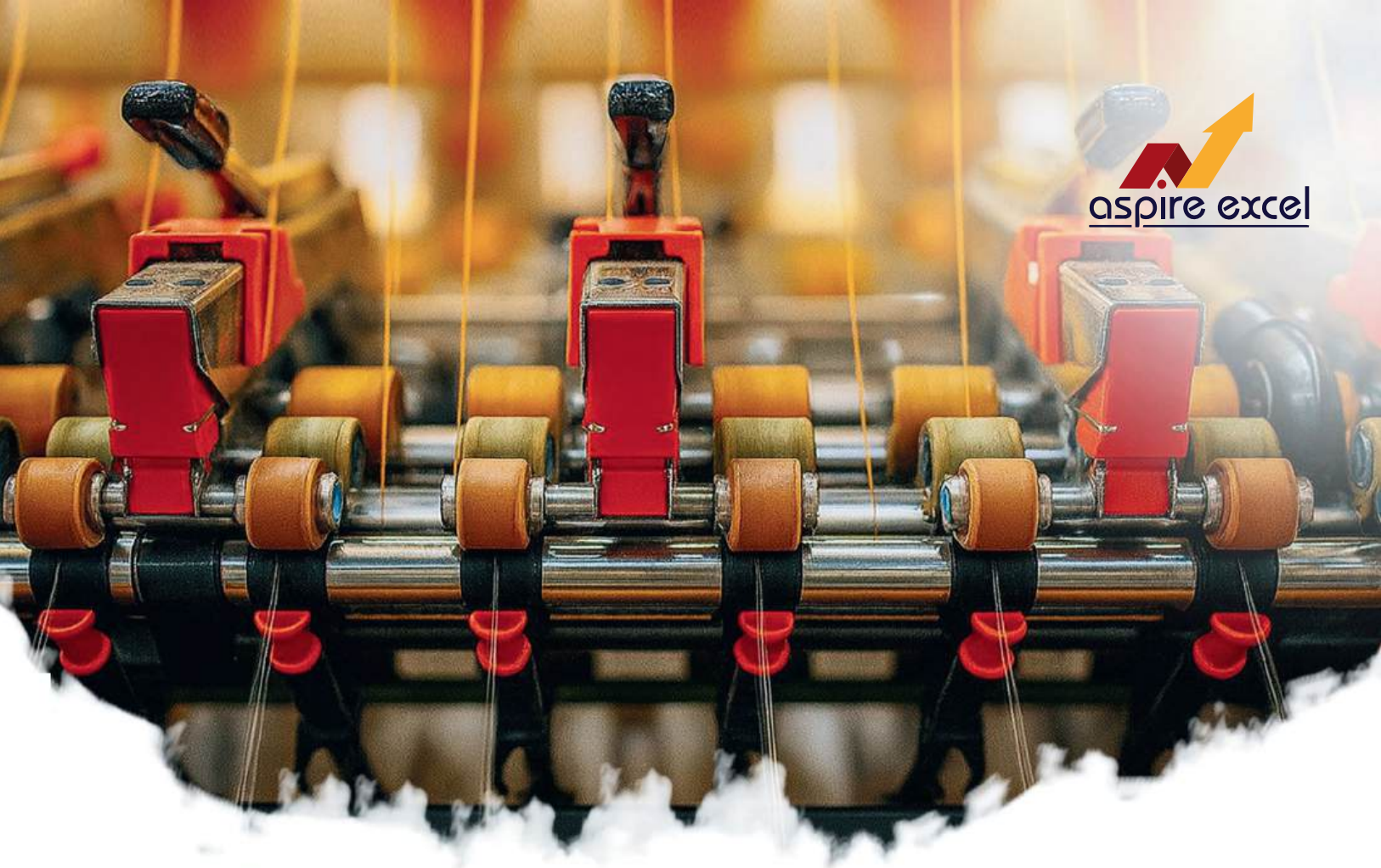

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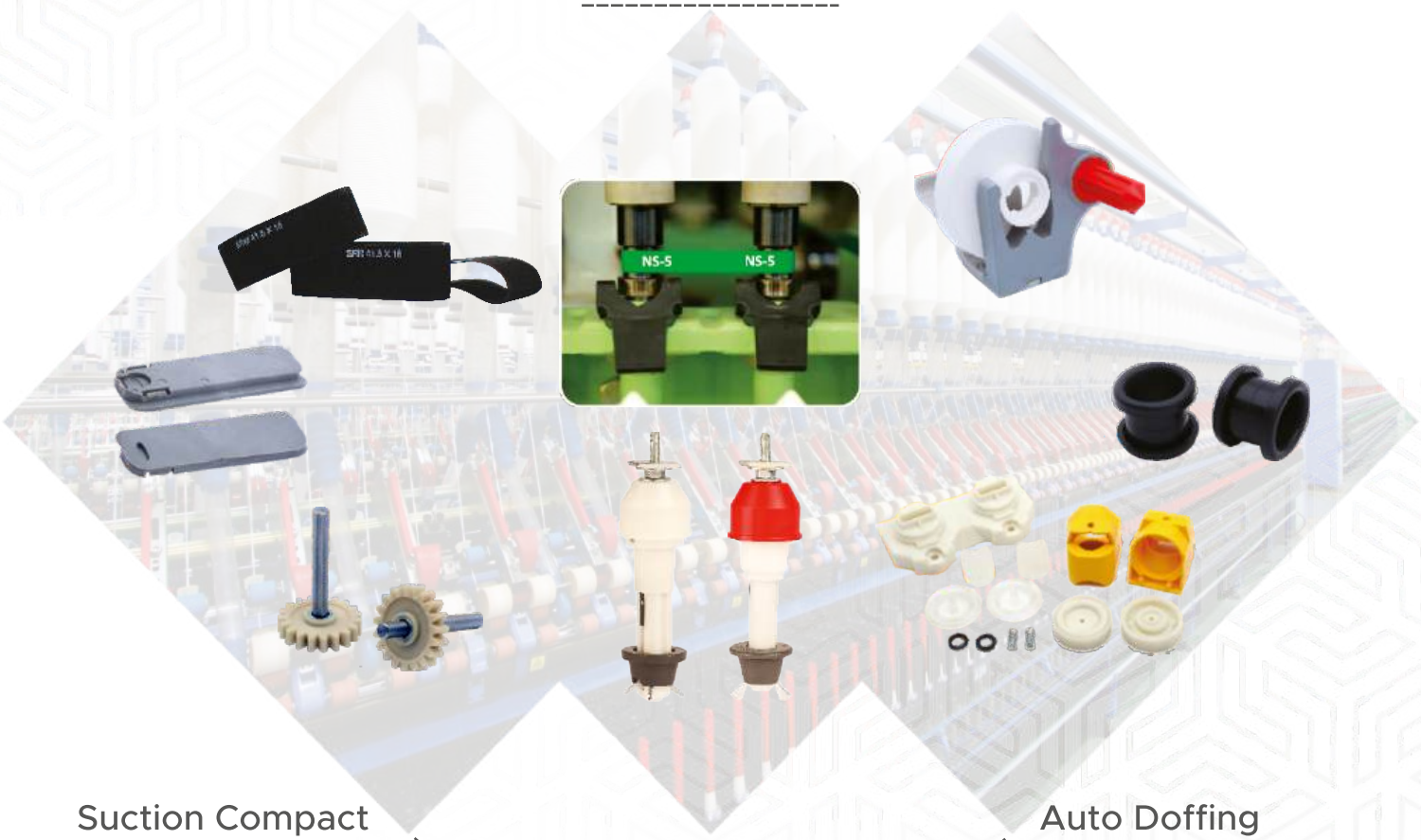

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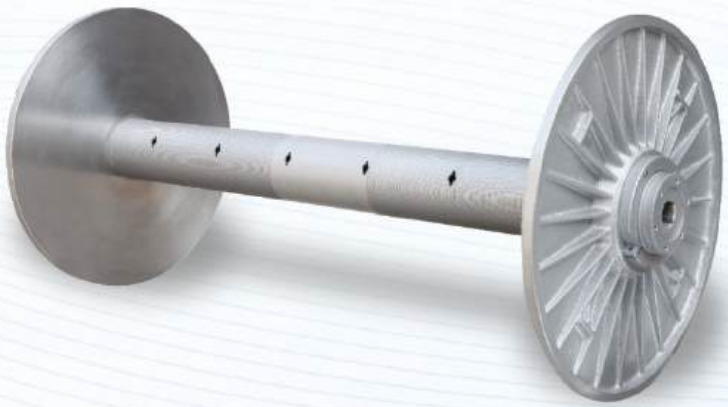

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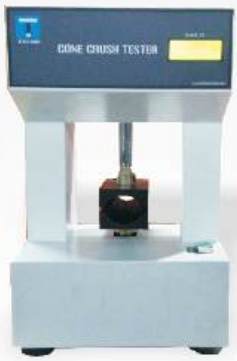

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R NI No. 2815/58
OCTOBER 2025

EDITORIAL

Automation Poses challenge before software coder as happened in the fate of Indian weavers during the industrial revolution

A new form of programming is deeping its root while coder or software developer only needs to describe the overall 'vibe'—the intent, look and feel, and desired behaviour of a software in plain language—and the code is automatically written by a computer. Today it is called 'Vibe Coding' where one fully gives in to the vibes…. forgets that the code even exists. So, a computer programmer barely even touches the keyboard. This new approach brings us to the era of Industrial revolution held in Great Britain.

In the 1760s Indian cotton spinners worked hard using their charkhas to spin raw cotton into cotton thread, which weavers then wove into cotton cloth, England invented Spinning Jenny. This new invention enables a single spinner to manage multiple spindles, dramatically increasing the amount of yarn they could produce compared to their usual spinning wheel. This invention, along with automated weaving led to massive growth in England's cotton cloth production. This revolutionary change is called First Industrial Revolution. Cheaply mass-produced textile products flooded the Indian markets, this happening made difficult for locals to compete, what resulted in wide spread unemployment among Indian spinners, weavers and artisans.

This similarity to the promise of 'Vibe Coding' which could allow a single computer programmer to generate sufficient amounts of code much faster than manually writing it line by line. This could dramatically increase output per person. In this way, just as the Spinning Jenny addressed the critical bottle neck of slow yarn production, Vibe Coding could speed up software development. The Spinning Jenny also demanded lesser skill in cloth spinning than charkha. Similarly, Vibe Coding could demand far fewer skills than traditional coding.

The charkha included all the anterior and posterior industry—ginning, carding, warping, dyeing and weaving. These, in their turn, kept the villagers, carpenters and the black smith busy. With the exit of the charkha went the other village industries such as the oil press. Nothing took place of these industries. Therefore, villagers were drained of their varied occupations, creative talent, and what little wealth they brought them.

Should we worry that a technology trend like Vibe coding could displace a substantial portion of India's 5 million computer programmers? Similar dismay happened in the fate of Indian wavers during the industrial revolution.

China export growth declines to six month low as US orders drop

China's export growth fell short of expectations in August, slowing to the weakest pace in six months as shipments to the US plunged at a sharper rate. Overseas sales rose 4.4% from a year earlier to $322 billion, the General Administration of Customs said recently. That was below the median forecast of 5.5% growth in a Bloomberg survey. China's trade dynamics have been shifting rapidly this year after tariffs imposed by President Donald Trump curbed direct demand from the US. In response, Chinese companies have sought alternative markets or turned to indirect channels to maintain access to the world's largest economy. Exports to the US dropped 33% in August, marking the fifth straight month of double-digit declines. By contrast, shipments to the 10-member Southeast Asian bloc jumped nearly 23%, exports to the European Union rose 10%, and sales to Africa climbed 26%. Yet despite rising revenue from overseas shipments, many firms remain under financial strain as falling prices and intense competition erode margins. Industrial profits declined almost 2% in the year through July. Export prices have contracted in nearly every month since mid-2023, forcing Chinese manufacturers to ship greater volumes to sustain revenue levels. The increase in volumes is evident in shipping data. Shanghai's port handled a record number of containers in August, while terminals nationwide processed more than 6.5 million containers per week for five consecutive weeks. Imports edged up 1.3% in August, leaving China with a trade surplus of $102 billion. The surplus is on track to surpass last year's record of nearly $1 trillion, with resilient overseas sales offsetting weak domestic demand. "The top priority now is to boost consumption to off-set pressure from soft exports, and we expect the government to keep rolling out policies in this regard," said David Qu, economist at Bloomberg Economics. ❐

EU plans new sanctions on Russia

The European Union is exploring new sanctions on about half a dozen Russian banks and energy companies as part of its latest round of measures to pressure President Vladimir Putin to end the war against Ukraine. The package, which would be the bloc's 19th since Moscow's full-scale invasion in 2022, could also see the EU target Russia's payment and credit card systems, crypto exchanges as well as further restrictions on the country's oil trade, according to people familiar with the matter. The bloc is hoping to coordinate some of its latest measures with the US, said the people, who spoke on the condition of anonymity to discuss private deliberations. We are prepared to increase pressure on Russia, but we need our partners in Europe to follow," Treasury Secretary Scott Bessent said. The US and Europe are discussing new sanctions and secondary tariffs on Russia, hoping that a Russian economic "collapse" will bring Putin to peace talks with Ukraine, he added. European Council President Antonio Costa confirmed that the EU is working on the package with the US and "our like-minded partners." The bloc has managed to "stabilize the relationship" the Washington after months of doubts, he said. "We have to increase our pressure to Russia to come to peace negotiations," Costa said. "This is what we are doing now, with the United States. We are coordinating our efforts to align our sanctions to be more effective, to put more pressure on Russia." ❐

Impose high Tariffs on China & India to Squeeze Russia, we'll follow : Trump tells EU

US President Donald Trump has told European Union (EU) officials he's willing to impose sweeping new tariffs on India and China to push President Vladimir Putin to the negotiating table with Ukraine — but only if EU nations do so as well. Trump made the ask when he called into a meeting with senior US and EU officials in Washington, according to sources who asked not to be identified discussing private deliberations. The US is willing to mirror tariffs imposed by Europe on either country, one of the people said. The proposal amounted to a challenge given that several nations, including Hungary, have blocked more stringent EU sanctions targeting Russia's energy sector in the past.

Such measures would require the backing of all member states. Other potential measures discussed by US and EU officials include further sanctions on Russia's shadow fleet of oil tankers as well as restrictions on its banks, financial sector and major oil companies. Trump's suggestion, first reported by the Financial Times, comes after his deadline for Putin to hold a bilateral meeting with Ukraine's Volodymyr Zelenskyy passed without indication that the Russian leader was genuinely interested in engaging in face-to-face peace talks. ❐

US economy grows 3.3% in second quarter

The US economy rebounded this spring from a first-quarter downturn due to fallout from President Donald Trump's trade wars. In an upgrade from its first estimate in July, the Commerce Department said recently that US GDP—the nation's output of goods and services — expanded at a 3.3% annual pace from April through June after shrinking 0.5% in the first three months of 2025. The department had initially estimated Q2 growth at 3%. The first-quarter GDP drop, the first retreat of the US economy in three years, was mainly caused by a surge in imports — which are subtracted from GDP — as businesses scrambled to bring in foreign goods ahead of Trump's tariffs. That trend reversed as expected in the Q2 : Imports fell at a 29.8% pace, boosting April-June growth by more than 5%. The commerce department reported that consumer spending and private investment were a bit stronger in Q2 than it had first estimated. Consumer spending, which accounts for about 70% of GDP, grew at a 1.6% annual pace, lackluster but better than 0.5% in Q1 and the 1.4% the governemnt initially estimated for the second. Even with an upward revision, private investment dropped at a 13.8% annual pace from April through June. That would be biggest drop since the second quarter of 2020 at the height of the coronavirus pandemic. A reduction in private inventories cut almost 3.3 percentage points off Q2 GDP growth. Spending and investment by the federal government fell at a 4.7% annual clip on top of a 4.6% drop in the first quarter. ❐

US goods trade gap rises over 22% in July

The US trade deficit in goods widened sharply in July as imports surged, suggesting trade could be a major drag on economic growth in the third quarter. The goods trade gap soared 22.1 per cent to $103.6 billion in July, the Commerce Department's Census Bureau said recently. Economists polled by reporters had forecast the goods trade deficit would rise to $18.6 billion to $281.5 billion. Goods exports dipped $0.1 billion to $178.0 billion. An ebb in import flows led to a sharp contraction in the trade deficit in the second quarter, which added a record 4.95 percentage points to gross domestic product growth that period. The economy grew at a 3.3 per cent annualised rate last quarter. GDP contracted at a 0.5 per cent rate in the January-March quarter, weighted down by a sharp deterioration in the trade deficit that was driven by businesses front-running imports at a record pace before President Donald Trump's sweeping tariffs kicked in the Atlanta Federal Reserve is currently estimating GDP will increase at a 2.2 per cent rate in the third quarter. US consumer spending increased solidly in July while underlying inflation picked up as tariffs on imports raised prices of some goods, but that data will probably not prevent the Federal Reserve from cutting interest rates soon against the backdrop of softening labor market conditions. Consumer spending, which accounts for more than two-thirds of economic activity, rose 0.5 per cent in July after an upwardly revised 0.4 per cent gain in June, the Commerce Department's Bureau of Economic Analysis said of late. Economists polled by Reuters had forecast spending would rise 0.5 per cent after a previously reported 0.3 per cent advance in June. Consumption is being supported by low layoffs that are underpinning solid wage growth. But President Donald Trump's sweeping tariffs on imports are raising costs for businesses, adding another layer of caution that has resulted in employers being reluctant to increase headcount. Employment gains have averaged 35,000 jobs per month over the last three months through July compared to 123,000 during the same period in 2024, the government reported in August. A survey from the Conference Board recently showed the share of consumers viewing jobs

as "hard to get" jumped to a 4-1/2-year high in August. ❐

US economy facing strains; tariffs pose risks to inflation: IMF

The US economy is showing some strains after years of resilience, with domestic demand moderating and job growth slowing, the International Monetary Fund said recently. IMF spokesperson Julie Kozack said in inflation was on a path to meet the Federal Reserve's 2% target, but there were some risks that could push it higher, largely as a result of tariffs imposed on imports by the Trump administration. "What we've seen over the past few years is that the U.S. economy has proven to be quite resilient. We do see now that some strains are beginning to show," she told a regular briefing. "Domestic demand has been moderating in the U.S., and job growth is slowing." Kozack said the front-loading of imports early in the year in anticipation of tariffs had caused some volatility in economic activity in the first half, and tariffs were now adding to inflation risks. As a result of the combined factors, she said, the IMF saw scope for the Federal Reserve to lower interest rates, although it should proceed cautiously, with an eye on emerging data. She told a regular briefing that a downward revision in US employment data announced recently was a "bit larger" than the historical average. The US government said 911,000 fewer jobs were likely created in the 12 months through March than previously estimated, suggesting that job growth was stalling before President Donald Trump's aggressive tariffs on imports. Such revisions could be driven by a variety of factors, including statistical issues and some related to response and survey errors, she said, adding the issue would be discussed during the scheduled IMF review of the U.S. economy in November. The Labour Department's inspector general recently said it was initiating a review of challenges that the Bureau of Labour Statistics faces in collecting and reporting US economic data after it made large downward revisions to nonfarm payrolls and cut its inflation data collection. Earlier sharp downgrades to May and June payroll figures angered Trump, prompting him to fire BLS Commissioner Erika McEntarfer and accuse her, without evidence, of faking the data. Trump has nominated E J Antoni, chief economist at the conservative Heritage Foundation, to replace her. ❐

US Treasury Secretary urges G7 countries to impose tariffs on Russian crude buyers

US Treasury Secretary Scott Bessent recently (Washington time) called on G7 countries to join the US in imposing tariffs on countries purchaseing Russian oil. According to a read out from the Treasury Department, Bessent welcomed efforts to immobilise Russian assets. "During the call with G7 Finance Minister, Secretary Bessent reiterated President Trump's call to our G7 partners that, if they are truely committed to ending the war in Ukraine, they should join the US in imposing tariffs on countries purchasing oil from Russia. The US has levied an additional 25 per cent tariff on India on the grounds that it was continuing to purchase Russian oil. This is in addition to the 25 per cent tariff previously announced by US President Trump. On September 2, Bessent had expressed confidence that India and the US will resolve the trade friction between them, as he believed that New Delhi's values are much closer to Washington than to China and Russia. "I think at the end of the day, two great countries will get this solved. But the Indians have not been great actors in terms of buying Russian oil and then reselling it, financing the Russian war effort in Ukraine," he told Fox Business. Recently, Trump told Fox News that he was 'losing out fast' on patience with Russian President Vladimir Putin and that the US would have to do something strong very fast. ❐

Trump urges NATO should impose 50-100% tariff on China

US President Donald Trump of late said NATO countries should impose 50% to 100% tariffs on China and stop buying oil from Russia to help end the Ukraine conflict. Trump's post on Truth Social comes a day after the US asked G7 countries to impose tariffs on countries purchasing oil from Russia. In his post, Trump said he is ready to impose "major sanctions" on Russia when all NATO countries agree and start to do the same thing and stop buying oil from Moscow. The US president said that NATO's commitment to win has been "far less than 100%, and the purchase of Russian oil, by some, has been shocking!" ■

India, Mauritius agree to trade in local currencies, says Modi

India and Mauritius will work on facilitating bilateral trade in local currencies after the successful launch of UPI and RuPay cards last year, Prime Minister Narendra Modi has said. A special economic package of over $655 million for Mautitius was finalised at the bilateral meeting between Modi and Mauritian Prime Minister Navinchandra Ramgoolam in Varanasi recently for at least 10 projects in the infrastructure, education and health sectors. The two countries also signed seven MoUs and agreements to strengthen cooperation in sectors such as science & technology, oceanography, power, small development projects and hydrography. "India takes pride in being a trusted primary partner in Mauritius' development. Today, we have announced a Special Economic Package designed to support Mauritius' needs and priorities. This will strengthen infrastructure, create new employment opportunities and further enhance healthcare facilities," Modi said in his media statement. Modi also expressed his satisfaction on the launch of the UPI and RuPay cards last year, which provides framework for acceptance of RuPay cards issued in Mauritius at ATM and Point of Sales (POS) terminals in India and allows Indians to make UPI QR transactions at participating merchants in Mauritius. Modi was positive about starting bilateral trade in local currencies. "Last year, UPI and RuPay cards were launched in Mauritius. Now, we will work towards enabling trade in local currencies," he said. In March this year, the RBI the Bank of Mauritius signed an MoU to establish a framework promoting the use of local currencies for cross-border transactions. It is designed to facilitate the use of the Indian rupee and the Mauritian rupee in bilateral trade, covering all current account transactions and permissible capital account transactions. Energy security is an important pillar of India-Mauritius partnership, Modi said. "India is supporting Mauritius in its energy transaction. We are providing 100 electric buses to Mauritius, of which 10 have already been delivered. The comprehensive partnership agreement concluded in the field of energy will further strengthen this cooperation. We have also decided to extend support in the establishment of a 17.5-MW floating solar power plant at Tamarind Falls," he said. ❐

FDI rises 15% to $18.62 in April-June

FDI in India rose 15 per cent to $18.62 billion during April-June this fiscal year, while the inflow from the US nearly tripled to $5.61 billion during the quarter despite tariff issues, according to government data released recently. Foreign direct investment (FDI) during April-June FY25 stood at $16.17 billion. In March quarter FY25, the inflows fell 24.5 per cent year-on-year to $9.34 billion. Total FDI, which includes equity inflows, reinvested earnings and other capital, increased to $25.2 billion during the quarter under review against $22.5 billion in the same period of FY25. During the period, the US emerged as the largest source of FDI with $5.61 billion against $1.50 billion in April-June FY25 despite tariff issues. It was followed by Singapore ($4.59 billion), Mauritius ($2.08 billion), Cyprus ($1.1 billion), the UAE ($1 billion), Cayman Islands ($676 million), the Netherlands ($667 million), Japan ($551 million), and Germany ($191 million). The US is the third-biggest investor in India with investment of $76.26 billion between April 2000 and June 2025. The top investment sources are Mauritius at $182.2 billion and Singapore at $179.48 billion in the same period. Sectorally, inflows rose in computer software and hardware ($5.4 billion), services ($3.28 billion), trading ($506 million), telecommunication ($24 million), automobile ($1.29 billion), construction development ($75 million), non-conventional energy ($1.14 billion) and chemicals ($140 million) during April-June quarter. The data also showed that Karnataka received the highest inflow of $5.69 billion during the quarter. It was followed by Maharashtra ($5.36 billion), Tamil Nadu ($2.67 billion), Haryana ($1.03 billion), Gujarat ($1.2 billion), Delhi ($1 billion) and Telangana ($395 million). The government has put in place an investor-friendly Foreign Direct Investment (FDI) policy, under which most sectors are open for 100 per cent overseas inflows through the automatic route. The government has undertaken reforms across multiple sectors to liberalise FDI norms. ❐

India's GDP at stake from tariffs : CEA

The doubling of the tariff on Indian goods to 50% by the US could shave up to 60 basis points (bps) off India's economic growth in the current financial year, chief economic adviser V. Anantha Nageswaran said recently. "I hope the additional penal tariff is a short-lived phenomenon," Nageswaran told Bloomberg TV. "Depending upon how long it lasts even in this financial year, it may translate into a GDP impact of somewhere between 0.5% to 0.6%," he said. However, if the tariff uncertainty extends into the next fiscal year, the impact will be "larger," resulting in a major "risk" for India, Nageswaran said. The Donald Trump administration has imposed a total of 50% tariffs on Indian exports to America, barring a few sectors, beginning August 27. The tariff increase could make Indian goods uncompetitive as many other Asia Pacific countries attract a 15-20% tariff. The US is India's biggest export market, and the tariffs are expeced to hurt labour-intensive businesses like textiles and jewellery the most. Nageswaran, however, stuck to his growth forecast of 6.3-6.8% for FY26, citing strong expansion in the April-June quarter. India's Q1FY26 GDP growth came in at 7.8%, almost 100 basis points more than consensus. Manufacturing and Services sectors are the star performers of Q1 and grew by 7.7% and 9.3% respectively. The recent cuts in consumption and direct taxes, along with inflation at an eight-year low, are key tailwinds for the economy, as they will boost disposable incomes and spending, he said. Recently, India lowered the goods and services tax (GST) on as many as 375 items of everyday use in an attempt to spur demand. Nageswaran expects the tax reform to boost the GDP by 0.2%-0.3%. He said the Central government is expected to meet its fiscal deficit target of 4.4% this year, aided by higher Reserve Bank of India surplus transfer and asset sales cushioning any revenue shortfall, he said. The GST rate cut could boost GDP growth by 10-60 bps on an annualised basis, due to higer consumption, widening of compliance and lower inflation, experts have said. Negeswaran recently said policy steps, including the Task Force for Next-Gen Reforms, GST changes, state deregulation and easing interest rates, are expected to reduce borrowing costs, attract capital and boost consumption and investment. However, near-term risks to economic activity, principally exports and capital formation, remain due to tariff-related uncertainties, he had said. ❐

Trump, Modi signal to reset trade negotiations

Trade negotiations between India and the U.S. are set to resume, President Donald Trump has announced, as he and Prime Minister Narendra Modi exchanged cordial message on social media. The leaders will speak directly in the "upcoming weeks", which could indicate a restart to relations that were ruptured over the imposition of 50% tariffs on India, demands for India to stop importing Russian oil, and conflicting versions on the Operation Sindoor ceasefire. While no date has been announced for the formal resumption of talks for a Free Trade Agreement (FTA), government sources said recently they were "still on track to meet the fall deadline for the deal", referring to the commitment made by both leaders at their White House meet in February. Mr. Trump was the first to post overnight on Truth Social, four days after the told presspersons at the White House that India-U.S. tensions were "nothing to worry about". "I am pleased to announce that India and U.S. are continuing negotiations to address Trade Barriers between our two Nations," Mr. Trump said. "I look forward to speaking with my very good friend, Prime Minister Modi, in the upcoming weeks," he added, promising a "successful conclusion" for both countries. Hours later, Mr. Modi quoted the U.S. President's post on X, saying that he was "confident that trade negotiations will pave the way for unlocking the limitless potential of the India-U.S. partnership". "Our teams are working to conclude these discussions at the earliest," Mr. Modi said, adding that he too looked forward to the call with Mr. Trump. "We are in active dialogue with the U.S.," Union Minister Piyush Goyal said. ■

US-tariff hike causes catastrophic losses in carpet industry in UP

Vijay Bind, 48, is binge-drinking tea at a *chai* shop on Durgaganj Road in Bhadohi, Uttar Pradesh. He asks the man behind the counter for three successive cups, which he downs quickly. He looks tense. Two other men, around the same age, join him. "My factory owner has asked me to come after a week," Bind tells them.

Naveen Kumar, one of the two who has joined Bind, says, "This is the third time within a month that this has happened to us also. My cash is running out. If this continues for two more weeks, I will have to ask the *sahukaar* (village moneylender) for money."

At the tea shop, another group of men in their 40s discuss lay-offs from carpet factories located nearby and their uncertain life ahead. The worry in Bhadohi, a town in eastern Uttar Pradesh and the headquarters of the district by the same name, extends to many engaged in the handmade carpet sector.

"My employer says that all his current orders have been cancelled, so he cannot pay wates. This is a sudden shock; no one knows how to cope with it," says Kailash, who works in the sector as a yarn spinner and dyer.

Uttar Pradesh contributed to over 60% of India's handmade carpet exports in 2024-25, as per the Carpet Export Promotion Council (CEPC), which operates under the Union Ministry of Textiles. A CEPC report states that 58.6% of India's handmade carpet exports go to the United States. Bhadohi and its adjoining districts — Mirzapur to the south and Varanasi to the east — are the centres of the handmade carpet craft and its trade. When the U.S. imposed a 50% tariff on India's exports to the country in August, this belt was plunged into uncertainty.

"The sudden and steep tariff hike is leading to cancellations or renegotiations of the current U.S. orders. This has severely disrupted the sector, with production being cut," says Aslam Mahboob, a factory owner in Bhodohi. The disruption has caused economic stress among factory owners, craftspeople, and workers supporting the ecosystem. Those across the Bhadohi belt are fearful that the tariffs may lead to a loss of centuries of craft knowledge.

Livelihood losses

Carpet weaving has been a craft in Bhadohi since the Mughal period. The *Ain-i-Akbari*, a 16th-century chronicle of the administration under Emperor Akbar, written by his court historian, Abu'l Fazl, mentions the manufacturing of carpets in the region. The Mukhals, known for their love of finery, encouraged the development of the carpet industry in the region.

There are now roughly 1,200 carpet exporters in Bhadohi registered with the Textiles Ministry. The Indian handmade carpet export industry stands at over ₹17,000 crore, according to the CEPC. Up to 22 lakh rural artisans are engaged in the value chain across Bhadohi, as per the district website.;

Mehboob says a handmade carpet is a luxury product, with prices starting at ₹5,000 for a footlong piece and going into lakhs, depending on the quality of raw materials, craftsmanship, and design. Hence, developed countries in the West are its largest market. At his factory, filled with rolled-up and packed carpets, a couple of workers finish off a black-and-white woollen piece, snipping the loose ends of threads off. The wool is sourced from New Zealand and comes to Panipat, Haryana, from where it is brought into Uttar Pradesh.

Vineet Rai, another carpet manufacturers, says he was forced to let go of all but two of the 40 employees at his factory in the last week of August. "Many among them had been working for years, but we didn' have any other option, as production stopped with the tariff impact," he says. The two whom he retained are not artisans. They are responsible for the unit's maintenance. He produces silk carpets, the threads for which come from Karnataka.

Rai calls this "a socio-economic emergency", which he says is "no longer a sectoral" issue. "The loss of orders will force thousands from rural areas to migrate permanently in search of jobs. Once they leave, many will not return, leading to the collapse of traditional carpet-weaving clusters. This will wipe out generations-old craft skills, weaken rural economies, and deepen poverty," he says.

However, in Bhadohi, poverty is already everywhere : from the unpainted homes to the filth along the streets. Many of the artisans are daily wage workers paid between ₹400 and ₹600, with some employed on a monthly salary between ₹12,000 and ₹18,000. There are also professionals who serve the industry by providing carding and spinning services on a contracts basis, typically

on a per-square-foot or per-yard basis. "The real sufferers will be the artisans who have no other way of earning," says Rai.

The tea-drinking Bind echoes Rai: "There is no industry in our area other than the one on carpets. If it closes, I will be forced to look for a job in a city. But no one wants to leave their home town." He worries that he will have to leave his family to venture alone into the great unknown.

Prem Chandra, 55, who is employed at a factory in Bhodohi, explains that because there are several processes in carpet making, the sector provides employment to many people with different skills. "First, sorting and scouring are done, when the raw wool is sorted to remove impurities and then washed. The clean wool is carded and spun into yarn and then dyed, often by hand in small batches using traditional methods to achieve specific colours," he says. Then the yarn is dried in the sun and wound into balls, ready for the weaving process to begin.

A design is mapped on a graph from a drawing, followed by warp thread columns being stretched vertically on the loom and knot tying. Weft threads are inserted, along with a rod that creates loops. Once the carpet is made, there are other processes like washing and shearing to even but the pile height. A carpet takes roughly three months to make, with finishing being a 10 to 15-day process.

Market run

In the second half of the 20th century, the carpet industry in Bhadohi grew and evolved, with weavers experimenting with new designs, materials, and techniques. The introduction of power looms made it possible to produce carpets on a large scale. Though not hand-knotted, these are still considered handmade because of the skill involved, with each thread tied on the loom.

Hand-tufted carpets are made by punching yarn through a canvas with a tufting gun, then securing it with glued backing. Hand-knotted rugs are more durable, valuable, and time-consuming to produce, whereas hand-tufted rugs are faster less expensive, and more prone to shedding. In the Bhadohi region, most capets are hand-knotted with wool and silk.

"The impact of globalisation in the 1990s played a key role in reaching newer markets such as the United States and Germany. This also led to design innovations," says Mehboob, who is part of the committee that runs the CEPC office in Bhadohi. The office, frequented by international customers and their local representatives, is situated in the 'Carpet City' spread over 7.5 acres. Bhadohi is just 45 kilometers from Varanasi, which is on the tourism circuit, and hence well connected by road, rail, and air.

Each year in October, an expo is held in the 'Carpet City', where at least 400 international buyers arrive to smaple and order carpets, says officials. This year, they are banking on a bailout package from the Indian government, so they can continue to offer the U.S. competitive prices.

Anticipating the shock, Kuldeep Raj Wattal, the CEPC chairperson, wrote to the Textile Ministry on August 13: "A bailout package equivalent to 25% of the annual U.S. export value is requested to provide a financial cushion for exporters. This will help mitigate immediate losses and prevent lay-offs."

Factory owners and CEPC representatives have also written to Uttar Pradesh Chief Minister Yogi Adityanath for State-level intervention. "We met the Micro, Small and Medium Enterprises (MSME) Minister. A team from the government is coming to Bhadohi on Septembr 12 to assess the impact and possible solutions," says Mehboob.

Alok Ranjan, a former Chief Secretary of Uttar Pradesh, who worked with the industry closely and follows it, hopes the "government will take steps to financially compensate the carpet industry". He also feels exporters will need to look for new markets abroad.

The industry was already finding it difficult to cope because of a clause in the Income Tax Act, which mandates payments to the MSMEs within 45 days for them to qualify for tax benefits. But international buyers typically take three to six months for payment under global trade terms. Mehboob says the Act must be amended to allow export houses to claim benefits.

"We need a helping hand to tide us over this turbulent phase. Within this short spam, U.S.-based companies are shifting orders to countries such as Pakistan and Turkey. It took years for the Indian carpet sector to built the trust of customers. Once they move to another country, it will be difficult to get them back," adds Mehboob. ■

No adverse impact on Tiruppur migrant workers with no unit shut

A Sakthivel, Vice-Chairman, Apparel Export Promotion Council, who is considered the *'Bhisma Pithamaha'* of the Tiruppur textile industry, is one of the top industry officials camping in New Delhi for the last three-four days to find a solution to the crisis the industry is faced with due to US tariffs.

He has been busy clarifying to the government on various issues, including rumours that migrant workers in the textile town were asked to leave for their hometowns due to closure of units.

No Shutdown

No garment unit has been shut at Tiruppur and lakhs of migrant workers are still working in the textile town, Sakthivel told reporters.

"Everything is normal now. One can visit Tiruppur to see for themselves now," he added. It will take at least two weeks to understand the impact of the tariff that took effect from recent past, he added.

Not all the units in Tiruppur are exporting to the US. Some are exporting to other markets like Europe, which is a large buyer, he said.

"I am hopeful that the issues will be sorted out in a month and things will be normal in a month. I was recently in the US and many of the customers there said the additional tariff would ultimately affect the Amricans."

To meet the August 27 deadline, lot of goods were airlifted to the US, and some of the clients paid the additional cost as the garments were required for them, he said.

Value addition

When asked if Bangladesh, with lower tariff, will have an upper hand over India, Sakthivel said the neighbour is a major garment supplier to the US but Indian products are more fashion-oriented and a lot of value addition is being done. Further, Bangaldesh is dependent on China for raw material. This could hurt them indirectly due to higher tariffs on China by the US.

The country of origin does matter, even in raw material supplied to the manufacturing units, he said.

Thirukkumaran Natarajan, Chairman of Tiruppur-based Esstee Exports India Pvt Ltd, said 8-10 lakh people work in the Tiruppur ready-made garment units and supporting units.

On lay-offs, he said, "We would only know the impact of the US tariff in the next two weeks. It is not correct that only migrant workforce will be laid off. If the lay-off happens, it will be across all sections of the workforce depending on the work units that will lose due to tariffs," he said. ■

Aditya Birla Fashion to emphasize on organic growth: Chairman

The demerger of the lifestyle business from Aditya Birla Fashion and Retail (ABFRL) has given flexibility to the latter to pursue aggressive growth, chairman Kumar Mangalam Birla said in the company's latest annual report for FY25.

Addressing shareholders, Birla said ABFRL would focus on organic growth and sustainable profitability, targeting Ebitda margin improvement of 300 basis points in five years for its retail chain, Pantaloons.

"We will prioritise profitability and strengthen overall network health. Our long-term strategy remains clear, which is to be present across all major fashion consumption themes aligned with evolving consumer behaviour," Birla said.

Apart from Pantaloons, ABFRL houses digital-first brands under TMRW, alongwith a host of ethnic brands, which it owns. The demerged Aditya Birla Lifestyle Brands (ABLBL) has brands such as Louis Philippe, Van Heusen, Allen Solly, and Peter England, along with Reebok and American Eagle. This business was listed on the bourses in June this year.

Describing ABFRL and ABLBL as "dual growth engines", Birla said the two companies were startegically positioned to capture emerging opportunities in the Indian fashion industry.

"With India's dynamic economic growth, an expanding middle class and rapid shifts in consumer behaviour, we are confident the opportunities ahead are significant," he said.

The Aditya Birla group was also strengthening ABFRL by raising $490 million through a combination of a qualified institutional placement (QIP) and preferential issue, he said.

Over the next five years, ABLBL had targeted to deliver consistent double-digit growth in revenue and Editda, driven by a combination of like-to-like growth and continued retail expansion.

"Over 250 stores are already in the pipeline for FY25-26, reinforcing the growth momentum. The upcoming store additions are planned to be a balanced mix of franchise-operated and company-owned stores," he said.

On ABFRL, the plan is to add 20-25 new store additions per year. ■

FM Sitharaman confirms all support to textile industry

Union Finance Minister Nirmala Sitharaman assured the textiles industry that the government will take action to help them tide over the US tariff crisis. The industry sought immediate policy support for exporters to overcome the impact of the tariff hike.

Speaking to the representatives from the textile industry in Chennai of late, the Finance Minister assured them that she was aware of the issues the industry faced and, would, in consultation with the Commerce Ministry, help them.

With the GST Council meetings held on 11th September Textile industry got spports announced by FM.

Financial viability

A joint memorandum submitted by the textile industry associations and export promotion councils said the high US tariffs would severely impact not only the growth of exports, but also the financial viability of the thousands of units catering to the US market.

This includes those in powerloom, independent weaving, readymade garment, made-ups and kitchen linen segments.

The major clusters in Tamil Nadu, including Coimbatore, Tiruppur, Erode, Karur, Madurai Theni, and Virudhunagar are the worst affected, said the joint memorandum.

Among the requests, the memorandum wants the government to address the inverted GST duty structure in the man-made fibre (MMF) value chain and to slot the entire MMF value chain under the 5 per cent GST slab, on a par with the cotton value chain. It also requested the refund of accumulated capital goods GST credit to ease liquidity.

"We highly appreciate the bold stand taken by the Prime Minister against the US tariff, and we commit that we would fully support the decisions taken by the government in this regard," said the memorandum.

The industry thanked the Minister for considering the plea and giving exemption from the 11 per cent import duty on cotton up to December 31. "This timely relief is a boon to the predominantly cotton-based textile value chain," the memorandum read.

Relief Package

Given the threat posed by the US tariff hike, "there is an urgent need for a special relief package and support measures to prevent the units from becoming non-performing assets (NPAs), retain the US customers to the maximum extent posible, and sustain the financial viability till we find alternative markets, said the memorandum. The US market accounts for 28 per cent ($10-11 billion) of India's total textile and clothing exports. Of this, readymade garments constitute around 60 per cent, while yarn, fabric and made-ups contribute about 32 per cent.

The stagnation in export growth for more than 10 years has already rendered 25-30 per cent of production capacity idle, leading to significant financial stress across the textile sector.

Other requests

Among other requests, the industry sought extension of the two-year moratorium for the repayment of principal amount, and a 30 per cent collateral-free loan under the Emergency Credit Line Guarantee Scheme with 5 per cent interest subvention (similar to the one extended during Covid for both MSMEs and larger companies). ■

Saree retailers in South to raise ₹20k cr through IPO

Saree retailers from southern India, including RSB Retail India, Marri Retail, Pothys and Nalli Silk Sarees, are readying to raise nearly ₹20,000 crore through initial public offerings (IPOs) in the next 6-8 months, said bankers with knowledge of the matter.

IPOs offer a way to monetise and create value from the brand equity these ethnic women's wear retailers have built over decades, they said.

"Most of these saree retailers have so far been concentrated in metro and tier-1 cities in south India," said Bhavesh Shah, managing director and head of investment banking at Equirus Capital.

With fresh capital, these companies can expand into tier-2 and tier-3 markets, where both population and spending power are increasing. That makes equity funding a good strategy to capitalise on the opportunity said Shah.

Among such companies, RSB Retail has already filed papers for a ₹1,500 crore issue, while Marri Retail and Pothys are planning IPOs of ₹2,000 crore and ₹1,200 crore, respectively. ■

The Complete Man should refresh wardrobe

Raymond has turned 100, a rare millestone for an Indian consumer brand. Its name continues to evoke premium menswear, and its recall remains strong across generations. The legacy began in 1925, when Albert Raymond established a modest woollen mill in Thane. At a time when colonial imports dominated the Indian market, the vision was simple yet ambitious: to create a high-quality Indian alternative in a space monopolised by British goods. And it established itself with aplomb.

Raymond is financially stronger and strategically more diversified than before. Its brand recall is unmatched in menswear, its real estate venture has shown early promise, and its foray into defence and engineering could provide new engines of growth.

Yet, even as it celebrates its centenary, questions persist about whether the group has kept pace with the fast shifts in the apparel and retail landscape. The company operates three listed businesses — Raymond Lifestyle, Raymond Realty and Raymond, which houses engineering and auto components. Lifestyle accounts for about 60% of its ₹11,000-crore turnover. The group is also one of the world's largest integrated suiting fabric manufacturers with a capacity of 43 million metres annually, supported by 1,690 exclusive stores, 152 Ethnix outlets and 20,000 multi-brand touchpoints.

Analysts and consultants believe Ramond did not fully exploit its first-mover advantage in branded apparel. "Despite a 100-year legacy, Raymond missed the bus in catching the shift from textiles to branded apparel retail early on. They may need to get their attention back on the textile and apparel business even as they diversify into new areas," Deven Choksey, MD, DRChoksey FinServ, told reporters.

Aditya Birla's Madura division and Arvind Fashions, for instance, were quicker to expand into casual wear, women's wear and international tie-ups. "In South, mall developers' top choices are Birla group brands or Arvind Brands, though Raymond continues to hold fort in West, East and North," Anupam T, director at Realkey Advisory India, said. He added that the company missed the opportunity in women's wear, a segment that expanded rapidly with millennials moving to western fashion. "They created women's wear but it did not take off well," he said.

Another analyst noted that Raymond's premium positioning limited its mass reach. "Many of their brands were very premium. Even the upper middle class is price-sensitive in India. In that sense, Trent did right with Westside and Zudio," said the research head of a brokerage firm. "The hiving off of real estate and lifestyle could also have been done earlier."

Raymond has indeed restructured in recent years, selling its FMCG business to Godrej Consumer for ₹2,825 crore and demerging lifestyle and real estate into separate listed entities. These moves helped the group retire debt and strengthen its balance sheet. The company is now debt-free, with cash on hand to pursue new opportunities.

Real estate is emerging as a significant growth driver. With 100 acres of land in Thane, 40 of which are already under development, the company has a pipeline of projects that could generate over ₹50,000 crore in gross development potential, according to management. Analysts say execution has been a differentiator. "When other big players struggled to deliver on time, Raymond delivered maiden towers two years ahead of RERA schedule," said Anupam of Realkey.

Still, its identity remains tied most closely to clothing. The problem, analysts argue, is that Raymond today resonates more with an older consumer segment. The "Complete Man" campaign of the 1990s remains iconic, but it has not been matched by equivalent brand-building efforts for younger audiences. Competitors have been more successful in capturing Gen Z and millennial shoppers through category expansion, aggressive retail footprints and affordable offerings.

"Raymond has been a brand for affluent or aspirational shoppers, said Anupam of Realkey. "But going forward, it will need to broden relevance if it wants to compete head on with peers who are expanding across categories and consumer segments."

The Complete Man did well in the nineties when it moved away from showing an 'alpha' image of a man, with the usual glamorous women and shiny cars. But it clearly needs a makeover to compete well in a market now dominated by nimber, youth-focused rivals. ■

Global fashion labels ready for challenge for blow

The GST overhaul stands to make everything from soaps to luxury SUVs cheaper, but global fashion brands such as Zara, Levi Strauss and Locoste have been spooked by higher levies on all apparel priced at more than ₹2,500.

The premium wear segment accounts for about 18% of an apparel industry worth $70 billion, says Datum Intelligence, spurred by a growing number of nouveau riche and brand-conscious youngsters in India.

The biggest tax reform in eight years by the Centre cuts levies to 5% on garments costing less than ₹2,500, but items priced above that figure now face a higher levy of 18%.

That will pile pressure on the likes of PVH Corp, Marks and Spencer, Gap Inc, Under Armour, Nike, H&M and Japan's Uniqlo. Fashion companies worry about the impact of higher taxes on sales, since aspirational young people consider such purchases as a lifestyle upgrade, but remain sensitive to price, said two domestic garment executives dealing in foreign brands.

"Retail works on waferthin margins, and overheads like rents are extremely high," said the chief executive of a foreign garment brand operating in India.

"Growth that we were expecting earlier won't come now." The official added, "This is not a luxury".

"The ₹2,500 price point is basic now."

The higher taxes are also a double whammy for domestic garment makers whose thriving US exports business is also reeling from US President Donald Trump's tariffs of 50%.

The higher rate on apparel could spell the "death knell for the industry", the Clothing Manufacturers Association of India has said, as items costing more than ₹2,500 are "consumed in large numbers by the common man and middle class". In press statements, the associaton has flagged worries about the impact of the higher tax adding to the fallout from Trump's tariff salvo.

In India, foreign premium brands have been luring affluent youngsters by adding retail outlets and e-commerce offerings.

Lululemon Athletica plans to enter the market in 2026.

The tax hikes will also apply to apparel from luxyry goods makers Louis Vuitton, Dior and Versace.

Some customers may opt for cheaper more tax-efficient purchases while travelling abroad, but the hike to 18% from an earlier slab of 12% will have limited impact on India's rich, said one luxury industry executive. Another area of expenditure set for a hit will be clothes bought for weddings. ■

Removal of cotton import tariff will prove devastating for lakhs of farmers : SKM

A State-level panchayat convened by the Samyukt Kisan Morcha (SKM) in Jind, Haryana recently opposed the Union government's decision to scrap the 11% tariff on cotton imports till December 31, warning that the move could push 60 lakh cotton growers into distress. The gathering also rejected the scheme to install smart meters in the State, terming it an attempt to privatise electricity.

SKM Haryana leader Inderjit Singh condemned what he described as the "anti-people" step of extending the cotton import tariff withdrawal. He alleged that the August 19 notification, which was initially effective till September 30, was extended "under the United States' pressure", and said the decision would prove "devastating" to already struggling farmers.

The panchayat resolved to protest the move by burning effigies of U.S. President Donald Trump and Prime Minister Narendra Modi between September 1 and 3.

Despite heavy rain, a large number of farmers attended the panchayat, where a written resolution rejected the smart meter scheme. The resolution stated that electricity, being an essential service, "was never meant to be a profit-earning sector" but had been gradually opened up for privatisation. It alleged that increasing power tariffs and the prepaid smart meters scheme were part of an "ulterior motive" to hand over the sector to private corporations.

Electricity Employees Union president Suresh Rathi and Dharam Pal Badala also addressed the gathering, warning that power tariffs would become unaffordable for farmers, small traders and the poor. ■

EXPLORING THE POISE OF RANGWALI PICHHORA : A COMPARATIVE STUDY OF TRADITIONAL AND CONTEMPORARY SKIRTS DESIGNS INSPIRED BY PICHHORA

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Abstract

The present study was conducted to explore and reinterpret the traditional Pichhora, a culturally rich textile of Uttarakhand, through the development of both traditional and contemporary skirt prototypes. The research began with an in-depth exploration of the traditional manufacturing process of Pichhora, including its motifs, symbolic meanings, and crafting techniques, which served as the foundation for the design development. Primary data was collected using a structured questionnaire from a sample of 30 respondents who were either involved in or familiar with Pichhora practices. Based on their insights, various design sheets were created by blending traditional aesthetics with modern elements. Out of these, the four most preferred design sheets were shortlisted using a rating scale, with responses from an additional 50 participants. These selected designs were further developed into physical skirt prototypes, representing both traditional and contemporary styles. In the final phase, a comparative analysis of consumer preferences was conducted to evaluate the visual appeal, motif placement, color combinations, aesthetic value, and marketability of the prototypes. The findings revealed that while traditional designs were admired and appreciated, the contemporary prototypes were overall more preferred by the respondents. Moreover, the study highlighted that the knowledge of the traditional manufacturing process of Pichhora remains limited among the women of Uttarakhand. These insights suggest the need for awareness and preservation of traditional crafts, while also emphasizing the potential of innovative design approaches that merge heritage with modern fashion sensibilities.

Keywords: Rangwali pichhora, bridal dupatta, Uttrakhandi bride , Pichhoda

Introduction

The Rangwali Pichhoda is more than just a piece of fabric, it is the epitome of Uttarakhand's rich cultural heritage adorned with love and tradition. It carries within its folds the memories of countless women who have worn it with pride during their most sacred life events—weddings, festivals, and religious ceremonies. It is a silent witness to songs sung in celebration, to the blessings of elders, and to the prayers whispered into the wind .However, the rapid pace of modernization in Uttarakhand has put many of these traditions at risk, with the rich folk arts and traditional attire of the region facing potential extinction. In light of this, it has become increasingly crucial to adapt these traditional art forms into contemporary designs to preserve them for future generations.

One such effort to preserve Uttarakhand's cultural heritage focuses on the adaptation of Aipan, a traditional folk art, into contemporary designs for the *Rangwali Pichhora*—a garment deeply embedded in the religious and cultural fabric of the Kumaon region. Using modern screen printing techniques, this study aims to revitalize the Rangwali Pichhora, creating designs that speak to modern consumers while preserving the sacred symbolism inherent in the garment (Arya et al., 2012).

With every forgotten symbol, every dismissed custom, we are not just losing a craft—we are losing a sacred thread that binds the soul of a community across generations. The Pichhoda is not just a garment—it is a bearer of stories, of identity, of devotion. This study is not just a research, it is a call to remember, to honour, and to preserve. We owe it to our ancestors—and to the generations yet to come—to ensure that the Rangwali Pichhoda does not become just another forgotten chapter in history, but remains a living symbol of culture (Arya et al., 2022).

This study seeks to breathe new life into these timeless symbols and designs by modernizing their use in fashion, ensuring that Uttarakhand's cultural traditions thrive in a rapidly evolving world. In an age where fashion constantly redefines itself, the sacred motifs and stories of the Rangwali Pichhora must not be left behind. By carefully adapting these symbols into contemporary textile design—such as skirts that appeal to younger consumers—we ensure their sacred meanings remain intact while also making them relevant to today's aesthetic preferences. This is not about replacing tradition; it is about reimagining it with respect and reverence. The hope is to create garments that not only look beautiful but carry the soul of Uttarakhand in every stitch. These reimagined designs are not just fashion statements—they are wearable stories, designed to spark curiosity, invite dialogue, and inspire pride in one's roots. Through this approach, the

Rangwali Pichhora will continue to live, breathe, and inspire—not only in temples and rituals but also in classrooms, on streets, in exhibitions, and beyond. Thenceforth, the study has been planned with the following objectives.

Objectives

- To explore the traditional manufacturing process of Rangwali Pichhora
- To collect the traditional motifs of Rangwali Pichhora
- To develope design sheet of skirts with traditional motifs
- To develop prototypes of most preferred designs
- To compare acceptability of traditional and contemporary versions of developed prototypes.

Methodology

Locale of Study

The present study was conducted at **Banasthali Vidyapith**, Rajasthan, and among **married women residing in various districts of Uttarakhand**, including **Pithoragarh, Udham Singh Nagar, and Nainital**. These regions were selected due to their cultural association with the traditional use of **Rangwali Pichhora**.

Sampling Technique and Sample Size

A **purposive sampling method** was employed to select **30 married women** originally from Uttarakhand. This group was chosen based on their familiarity with the traditional practices associated with Rangwali Pichhora.

For the **evaluation of design sheets**, a **random sampling method** was used to select a sample size of **50 female students from Banasthali Vidyapith**. These participants were considered suitable for assessing consumer preferences toward the developed skirt designs.

For assessing consumer awareness and preferences, a sample size of 50 was randomly selected by random sampling method , including teachers and students of of Banasthali Vidyapith.

Data Collection

- **Secondary Data**: Traditional **motifs and manufacturing processes** related to Rangwali Pichhora were collected through **trusted secondary sources**, including books, journals, and documented interviews.
- **Expert Consultation**: Experts in the field of design and textiles guided the **selection of fabric and skirt silhouettes**.
- **Design Development**
- **Silhouette Selection**: Four different skirt silhouettes were finalized in consultation with experts.
- **Fabric Selection**:
  - For **traditional skirts**, natural fabrics such as **cotton and khadi** were selected to reflect the authenticity of Rangwali Pichhora.
  - For **contemporary versions**, **cotton blends** were used to introduce variations in texture and drape.
- **Design Sheets**: A total of **15 design sheets** were created by combining the selected silhouettes with traditional motifs and Rangwali Pichhora's iconic color combinations (primarily red and yellow). These were used to visually communicate the design concepts to the evaluators.

Designe sheet Evaluation

A structured **rating scale (1 to 5)** was used by the 50 respondents to evaluate the design sheets:

- **5 – Excellent**
- **4 – Very Good**
- **3 – Good**
- **2 – Fair**
- **1 – Poor**

Prototype Development

Four prototypes were developed to translate selected design sheets into physical garments:

1. **Prototype 1 & 2**: Developed using **Direct dye as base** and **hand-painted** with fabric colors for ornamentation.
2. **Prototype 3 (Traditional Process)**:
   - Prepared using the **authentic traditional method** of dyeing as documented in secondary data and field inputs.
   - Natural substances such as **manjistha (Rubia cordifolia)** were used in place of sindoor for the red color(any available red coloured source like sindoor, peatles of flowers can be used) .
   - **Tamarind seed powder** was used as a **binder**, replacing gulenar (traditionally used but not available).

- A **25-paisa coin wrapped in cotton** was used as a stamping tool, dipped in natural dye extract to create circular motifs.

Here is the detailed recepie of traditional manufacturing process of Pichhora used by researcher

Material	Quantity	Purpose
Manjishtha	20 gram	Colour source
Alum	2 gram	To improve colour fastness
Tamarind seed powder	To make consistency suitable for painting	Used as bindef
Water	1000ml	

Prototype 4:

- A combination of natural and synthetic techniques.
- **50% turmeric** was used as the primary colorant.
- **Pre-mordanting with 20% harda (myrobalan)** was carried out.
- Post-mordanting hand-painting was done with fabric colors.

Consumer preference analysis

Consumer preferences for traditional and contemporary skirts were assessed based on the following parameters:

- Aesthetic appeal
- Marketability
- Color combination
- Silhouette
- Motif placement

Result and analysis

Traditional manufacturing process of Rangwali Pichhora

The exploration of the traditional manufacturing process of Pichhora was conducted using a questionnaire comprising both open-ended and closed-ended questions. The questionnaire was administered through an online platform, allowing respondents to share detailed insights based on their experiences and knowledge.

Distribution of respondents on the basis of district

Districts	Percentage of respondents belongs to that
Almora	40%
Nanital	20%
Pithoraghar	13.3%
Udhamsinghnagar	13.3%
Pauri	6.7%
Uttarkashi	6.7%

Most of the respondents are from Almora (40%) followed by Pithoraghar (13.3) and Udhamsingnagar (13.3) and Pauri (6.7) and Uttarkashi (6.7) .

Distribution of participants have ever worn Pichhora

Responses	Percentage of respondents
Yes	93.3%
No	6.7%

Although all the respondents belonged to Uttarakhand, 6.7% of them had never worn Pichhora. Upon further inquiry, it was revealed that in the Garhwal region, the tradition of wearing a Pichhora is not as prevalent as in other parts of the state. Additionally, modernization appears to be another significant factor influencing this choice. With changing fashion preferences and evolving cultural practices, some women now prefer contemporary attire over traditional garments like the Pichhora for important occasions such as weddings.

Distrubution of respondents on the basis of their participation in traditional manufacturing process of Rangwali Pichhora

Responses	Percentage of respondents
Yes	26.7%
No	73.3%

Only 26.7% of respondents have actually participated in the traditional manufacturing process of Pichhora. The remaining participants obtained information about the process through discussions from their elders. These results

indicates Significant dearth in use of traditional manufacturing process of Rangwali Pichhoda .Possible reasons of this decline could be the growing adoption of modern technology, as the traditional process is time- consuming and does not align with the current demand and faster production.

Age group of artisans primarily participates in the traditional manufacturing process of Rangawali Pichhora

Age group of artisans (in years)	Percentage of respondents
18 -24	8.3%
25 – 40	29.2%
41 – 50	29.2%
51 – 60	20.8%
61 – 70	8.3%
More than 70	4.2%

The **weighted mean age** of the traditionally responsible age group for making the Pichhoda is approximately **44.65 years**. This suggests that the craft is primarily practiced by middle-aged individuals, especially those in the **25–50 year** range, as reflected by the highest bars in the graph. Pichhora is mostly made by **married women** in the **age group of 25 to 50 years**. However, it is not restricted to this age group—**any family member** with good **drawing and painting skills** can create it.

Distribution of respondents in traditional manufacturing process of Rangwali Pichhora based on marital status

Martial status	Percentage of respondents
Married	53.3%
Unmarried	0%
Can be married or unmarried	46.7%

Fabric, traditionally used for Pichhoda making

Most agreed that **white mulmul or fine-quality cotton fabric** is traditionally used as base fabric. 100% agreed on the use of mulmul or cotton fabric.

Source of colours used in traditional manufacturing process of Pichhora

Most of the respondents are unaware of the availability of traditional color sources; however, some believe that these sources might still be accessible.

Traditionally, turmeric serves as the base color in the making of Pichhora. To achieve the characteristic red-orange hue, natural sources such as vermillion or extracts from flowers are commonly used. However, the exact sources of these dyes are not clearly known by the respondents. According to them, any readily available natural material that provides the required color can be utilized.

Availability of traditional colour sources in marker

According to the majority of participants, the traditional color sources used in the manufacturing of Pichora are no longer available in the market. However, a few participants believed that these colors might still be available, but they were unaware of the exact place or pricing. This reflects a lack of awareness and knowledge among the respondents regarding the availability and accessibility of traditional dye sources

Coins used in the traditional manufacturing process of Pichhora

Coins	Percentage of respondents
10 paisa coin	8.3%
25 paisa coin	29.2%
50 paisa coin	29.2%
1 rupee coin	20.8%

25 paisa coin was most frequently used in traditional manufacturing of Rangwali Pichhora while coins of 50 paisa, 1 rupees and even 10 paisa was also used to create different sized dots . 10 paisa coin was used to create distinctive shaped dots specially on borders of Pichhora.

Size of Pichhora

The standard size is generally **36 inches wide and 2 meters long**, though slight variations such as 1.5 meter , 3 meter length , may exist.

Time required to make Pichhora by traditional manufacturing process

Time	Percentage of respondents
1 -2 hours	7%
2 - 4 hours	13.3%
4 - 6 hours	20%
More than 6 hours	53%
More than 1 day	13%

According to the survey, the majority of respondents (53%) indicated that creating a Rangwali Pichhora takes more than 6 hours, reflecting the intricate and detailed nature of the craft. A smaller portion of respondents (20%) reported that the process takes between 4 to 6 hours, while 13.3% stated it requires 2 to 4 hours. Only 7% of respondents mentioned that the Pichhora could be completed within 1 to 2 hours, and 13% shared that it takes more than one day to complete.

EXPLORING THE POISE OF RANGWALI PICHHORA : A COMPARATIVE STUDY OF TRADITIONAL AND CONTEMPORARY SKIRTS DESIGNS INSPIRED BY PICHHORA

These results clearly show that crafting a Pichhora is a time-intensive process for most artisans, emphasizing the value and craftsmanship involved.

Thus, the average time required to create a Pichhora is approximately 8.33 hours, highlighting the dedication and effort that goes into each piece.

Tools used for traditional manufacturing process of Pichhora

Apart from coins , other tools used in traditional manufacturing process of Pichhora are matchsticks with one side wrapped with cotton , brushes , sticks wrapped with cloth , any toy with a flat round surface for easy stamping .

Colour sources used for traditional manufacturing process of Pichhora

According to 73% respondents , turmeric is used to impart yellow/mustered colour. To Pichhora and sindoor /peatles of flowers were used to create orange /red pattern. The quantity of raw material is not known . Moreover , petals of which flower is traditionally used , is also unknown . Respondents replied that whichever flower is available and can impart required colour can be used .

Decorative Elements:

"Kiran", a shiny lace or embellishment, is commonly used to **decorate the borders** of the Pichhora, enhancing its festive appearance. Other decorative details can be sequences of different sizes , large sized sequence are most commonly used in Pichorra .

Traditionally most appropriate colour of Pichhora

1 2 3

Most appropriate colour of Pichhora

Image number	Percentage of respondents
1	33.3%
2	53.3%
3	13.3%

Based on the survey results, Image 2 was identified as the most appropriate color combination for traditional Pichhora, with 53.3% of respondents favoring it. This was followed by Image 1, selected by 33.3% of participants, while only 13.3% chose Image 3. The findings indicate a clear preference for the color scheme depicted in

Image 2, suggesting that it most closely aligns with traditional aesthetics and cultural expectations associated with Pichhora.

Ritual of Pichhora making

According to the respondents, there are varying beliefs and practices surrounding the ritual associated with the making of the *Pichhora*, a traditional garment worn by Kumaoni brides. Some respondents mentioned a specific ritual called "Shawl Pathai," which is observed during the making of the Pichhora, marking it as a sacred and ceremonial process. Others referred to the ritual simply as "Rangwali," highlighting the significance of the bright colors and traditional motifs used during the creation of the garment, which symbolize prosperity and marital bliss. Additionally, there were respondents who believed that the Pichhora can be prepared at any convenient time before the wedding, as long as it is ready for the bridal ceremony. This perspective reflects a more flexible approach to tradition, influenced perhaps by modern lifestyles. On the other hand, some participants emphasized that the Pichhora is traditionally made on the day of Ganesh Pooja, aligning the ritual with auspicious beginnings and invoking blessings from Lord Ganesha for a smooth and prosperous married life. These diverse views underline how cultural practices, though rooted in tradition, continue to evolve with time and individual preferences.

Procedure

The traditional manufacturing involved dyeing of fabric with turmeric where the fabric was dipped in a cold turmeric solution, squeezed, and dried, the time required for making a Pichhora varies; **turmeric dyeing takes a night** for proper absorption, or a shorter **few-minute soaking** before drying. After dyeing the motifs, including **Swastika, Shankh (conch), Bell, Sun, and Goddesses**, were applied using **matchsticks wrapped in cloth**, a **brush,** , or by **hand-painting**. Now dot patterns are carefully stamped by hand, then the fabric was held at four corners while the design was applied and then it was dried in shade.

Central motif used in Pichhora

Motifs	Percentage of respondents
Shankh	7%
Swastik	86.7%
Sun	26.7%
Conch	13.5%
Bells	20 %

The survey revealed varying preferences for central motifs used in the *Pichhora*. The Swastik motif emerged as the most popular, with 86.7% of respondents favoring its inclusion, highlighting its strong cultural and religious significance. The Sun motif was selected by 26.7% of respondents, followed by Bells, which received 20% preference. The Conch motif, was chosen by 13.5% of respondents under and by 7% "Shankh," shankh was choosen as central motif . Interestingly, none of the respondents preferred motifs depicting deities as central motif.

Most visible motifs of Pichhora

Motifs	Percentage of respondents
Shankh	26.7%
Swastik	86.7%
Sun	13%
Conch	13.3%
Bells	20 %
Deties	0%

According to the survey results, the most preferred motif of Rangwali Pichhora among respondents is the Swastik, favored by 86.7% of participants. This is followed by the Shankh motif, which received a preference rate of 26.7%, indicating a moderate level of popularity. Other motifs such as Bells (20%), Conch (13.3%), and Sun (13%) received comparatively lower preferences. Notably, motifs representing deities were not favored by any of the respondents.

Significance of Pichhora for Uttrakhandi women

According to all the respondents, Rangwali Pichhora holds significant cultural importance. Some described it as a powerful expression of love, while others emphasized its essential role in all post-marriage religious ceremonies. Many also stated that a traditional Uttarakhandi bridal outfit is incomplete without the Pichhora.

Pichhora is traditionally created as part of **wedding rituals**. It is contributed from **both the bride's and the groom's side**, reflecting its cultural importance in family ceremonies and blessings.

Places where pichhora is made by traditional manufacturing process

Most of the respondents were unaware of the specific places where the *Pichhora* is still produced using traditional manufacturing processes. This indicates a significant gap in the awareness and preservation of cultural heritage among the general population. However, a small group of four respondents did mention that traditional *Pichhora* making still exists in certain parts of Uttarakhand. According to them, places like Ranikhet and Almora and rural areas of Kumaon are known for continuing this age-old craft using customary techniques and motifs.

Motifs used in traditional manufacturing process of Pichhora

The motifs used in the traditional manufacturing process of Pichhora were collected through secondary sources. These motifs include the Swastik, bell (ghanta), conch shell (shankh), deities, and the sun. Each motif—such as the shankh, sun, and Swastik—has multiple variations. Although they may appear similar at first glance, subtle differences in form and design distinguish them from one another.

Evaluation of design sheets (N- 50)

Sheet number	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5	Weighted mean
1	2	4	10	16	18	3.96
2	0	5	12	20	13	3.78
3	3	6	15	14	12	3.48
4	1	3	11	22	13	3.80
5	4	7	14	25	10	3.34
6	0	2	8	18	22	4.20
7	2	5	13	17	13	3.60.
8	1	4	12	18	15	3.78
9	0	3	9	21	17	4.00
10	2	5	11	16	16	3.78
11	3	6	14	15	12	3.50
12	1	2	7	19	21	4.12

The design sheets were evaluated using weighted mean scores based on respondent ratings. Sheets 6, 12, 9, 1with highest rating of 4.20, 4.12, 4.00, 3.96 respectively.

EXPLORING THE POISE OF RANGWALI PICHHORA : A COMPARATIVE STUDY OF TRADITIONAL AND CONTEMPORARY SKIRTS DESIGNS INSPIRED BY PICHHORA

Prototype Development

Contemporary interpretation

Prototype-1 Prototype-2

Traditional interpretation

Prototype-1 Prototype-2

Consumer preferences based on aesthetic appeal of prototypes

Based on the aesthetic appeal ratings, consumers showed a stronger preference for the contemporary versions (Sheet 1 and Sheet 2) compared to the traditional ones (Sheet 3 and Sheet 4). Sheet 2, a contemporary prototype, received the highest weighted mean of 4.30, closely followed by Sheet 1 with 4.28, indicating that these designs were perceived as highly attractive by the majority of respondents, with most ratings falling in the 4 and 5 categories. On the other hand, the traditional versions—Sheet 3 and Sheet 4—received weighted means of 3.96 and 3.70 respectively, reflecting moderate appeal. This suggests that while traditional aesthetics are still appreciated, consumers are increasingly drawn toward more refined, modern, and visually balanced designs. The data highlights a clear shift in aesthetic preference towards contemporary interpretations that combine creativity with visual harmony.

Consumer preferences based on placement of motifs (N= 50)

Sheet number	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5	Weighted mean
1	1	2	12	17	24	**4.02**
2	0	2	10	17	21	**4.14**
3	3	6	14	15	12	**3.50**
4	2	5	12	17	14	**3.66**

The analysis of consumer preferences based on the placement of motifs reveals a clear inclination toward contemporary designs. Among the four prototypes, Sheet 2—a contemporary version—achieved the highest weighted mean of 4.14, followed closely by Sheet 1 at 4.02, indicating that consumers found the motif placements in these designs to be more visually appealing and thoughtfully arranged. A significant majority rated these sheets with scores of 4 or 5, reflecting strong approval. In contrast, the traditional versions, Sheet 3 and Sheet 4, received comparatively lower weighted means of 3.50 and 3.66, respectively. These findings suggest that while traditional motifs still hold value, their placements may not resonate as effectively with contemporary consumer tastes. Overall, the preference for the contemporary versions implies a consumer trend toward cleaner, more modern aesthetics in motif placement.

Consumer preferences about colour combination (N=50)

Sheet number	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5	Weighted mean
1	1	2	10	16	21	**4.14**
2	1	2	11	18	18	**4.00**
3	1	3	11	16	19	**3.98**
4	0	2	9	17	22	**4.18**

The table on consumer preferences about colour combination reveals a balanced appreciation for both contemporary and traditional versions, with a slight edge in favor of traditional designs. Sheet 4, a traditional version, recorded the highest weighted mean of 4.18, showing strong approval, with 39 out of 50 respondents giving it a rating of 4 or 5. Sheet 1, a contemporary design, closely followed with a mean of 4.14, indicating high consumer satisfaction as well. Sheet 2 and Sheet 3—contemporary and traditional respectively—scored 4.00 and 3.98, reflecting moderate but positive responses. These results suggest that while both styles are appreciated for their color combinations, traditional designs may resonate slightly more with consumer expectations, possibly due to their richness, familiarity, or cultural connection in color choices.

Costing of Prototype

Prototype number	Cost
1	890
2	930
3	1462
4	650

Consumer preferences about marketability (N=50)

Sheet number	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5	Weighted mean
1	0	1	6	20	23	**4.3**
2	1	2	10	16	21	**4.10**
3	4	7	14	25	10	**3.34**
4	2	5	13	17	13	**3.60**

The table 4. on consumer preferences about marketablity highlights a stronger consumer inclination toward contemporary designs. Sheet 1, a contemporary prototype, achieved the highest weighted mean of 4.30, with 43 out of 50 respondents rating it either 4 or 5, suggesting strong confidence in its market potential. Sheet 2, also contemporary, followed closely with a weighted mean of 4.10, reinforcing the appeal of modern design aesthetics in terms of marketability. In contrast, the traditional designs—Sheet 3 and Sheet 4—received lower scores, with means of 3.34 and 3.60 respectively. These ratings indicate that while traditional styles still hold some value, they may not align as strongly with current consumer trends or perceived market success. Overall, the data suggests that consumers view contemporary designs as more market-ready and commercially viable than their traditional counterparts.

Result and discussion

Major findings of study were -

- The result showed that although traditional designs were admired , the contemporary prototypes were more preferred overall.
- The study also revealed that knowledge of traditional manufacturing process of Pichhora is limited among the women of Uttarakhand.
- The findings highlight the need to raise awareness and preserve traditional crafts , while also supporting innovative design strategies that blend cultural heritage and modern fashion sensibilities.
- Participants participated from different district of Uttrakhand but only few of them had ever participated in manufacturing process of Pichhora.
- Traditionally , the fabric used for traditional Rangwali Pichhora was cotton , muslin and traditional basecolous was obtained from turmeric .
- For stamping , multiple sources of red colour were used includingvermillion and extract of differentflowers that can provide required red onamgecolour.
- Gota and big sequence were used for emblishments.
- Mostvisible motif in Pichhora was Swastik , other used motifs include conch , bell , ohm and deties.
- The ritual ofmaking pichhora iscalled Rangwali or shawl pathai or Pichhora making can be done even without any ritual.
- Pichhora has a great significance for women of uttrakhand ,a subject of Pride.
- Even today , there are places in uttrakhand where Pichhora is made by traditional process . The places include Ranikhet and Almora and rural areas of Kumaon.

CONCLUSION

The study concludes that innovative designs can be developed while honoring the traditional essence of Rangwali Pichhora. The findings highlight the significant potential of this heritage craft for integration into the contemporary fashion industry, where it can be made more appealing and marketable through the application of diverse design approaches and modern techniques. This

research exemplifies how traditional art forms can be thoughtfully reinterpreted and adapted to suit current fashion sensibi.

References

1. Arya, A., Gahlot, A., Rani, A., & Sangma, M. A. (2019). Keeping traditions alive in advancing society: Value addition of Rangwali Pichhora through adaptation of Aipan designs of Uttarakhand, India. [Publication details unavailable].
2. Bigambo, P., Wellah, H., Ngaga, H., Kimbokota, S., & Mrango, M. (2024). Turmeric dyeing of cotton fabrics using tie-dyeing techniques. Tanzania Journal of Science, 49(5), 1064–1078. https://doi.org/10.4314/tjs.v49i5.11
3. Chantia, S. (2018). Folk art in contemporary fashion world: An appraisal. *International Journal of Creative Research Thoughts (IJCRT)*, 6(1), 722 https://www.ijcrt.org/papers/IJCRT1803199.pdf
4. Chouhan, S. (2022, March 7). An insight into U'khand's traditional attire 'Pichora'. Garhwal Post. https://garhwalpost.in/an-insight-into-ukhands-traditional-attirepichora/
5. Cultural India. (n.d.). Aipan – Aipan designs, Indian Aipan design, Aipan patterns in Uttarakhand, Aipan art of Uttaranchal. Retrieved April 17, 2025, from https://www.culturalindia.net/indian-art/rangoli/aipan.html
6. Dainik Nation. (2024, October 22). Pichhoda: A symbol of tradition and culture for Uttarakhand's women. https://dainiknation.com/2024/10/pichhoda-a-symbol-oftradition-and-culture-for-uttarakhands-women/
7. Darashan. (n.d.). What is Swastik? Significance of Swastik symbol in Indian culture. Retrieved April 17, 2025, from https://darashan.com/what-is-swastiksignificance-of-swastik-symbol-in-indian-culture
8. eSamskriti. (n.d.). About AIPAN art Kumaon, Uttarakhand. Retrieved April 17, 2025, from https://www.esamskriti.com/e/Culture/Indian-Art/About-AIPAN-Art- Kumaon%2C-Uttarakhand-1.aspx
9. eUttaranchal. (2024, March 16). Aipan in Uttarakhand – Aipan art forms, history, types of Aipan in Uttarakhand. Retrieved April 17, 2025, from https://www.euttaranchal.com/culture/aipan-other-arts-form.php
10. eUttaranchal. (n.d.). Project Aipan: An effort to revive an ancient art form of Kumaon. Retrieved April 17, 2025, from https://www.euttarakhand.com/projectaipan
11. Gahlot, M., & Arya, A. (2016). Legacy of Rangwali Pichhora in Indian traditional textile. Man-Made Textiles in India, 44(10), 356–359.
12. Gahlot, M., & Arya, A. (2017). Effect of different mordants, extraction conditions, and dyeing process variables on color interaction parameters and color fastness properties in dyeing of jute fabric with Manjistha. Man-Made Textiles in India, 45(2), 52–58.
13. Himalayan Buzz. (2016, October 4). Pichhaura: A traditional attire of Uttarakhand. Retrieved April 17, 2025, from https://www.himalayanbuzz.com/pichhaura-traditional-attire-uttarakhand/
14. India Art Fair. (2021, November 11). Aipan: A devotional artform from the Himalayas. Retrieved April 17, 2025, from https://indiaartfair.in/aipan-a-devotionalartform-from-the-himalayas
15. Jishu. (2024). A review of Uttarakhand's craftsmanship in natural textiles and hand weaving. Tuijin Jishu/Journal of Propulsion Technology, 45(4), https://propulsiontechjournal.com/index.php/journal/article/view/8243
16. Kumar, S., & Rawat, P. (2021). Integrating Aipan art into contemporary fashion: Reviving Rangwali Pichhora motifs. *International Journal of Textile and Fashion Technology, 9(3), 67–79.*
17. Negi, M., Rani, A., & Singh, A. (2015). New horizon for Aipan (folk art of Uttarakhand) motifs through appliqué. *International Journal of Research - Granthaalayah*, 3(9), 36–48. https://doi.org/10.29121/granthaalayah.v3.i9.2015.2944
18. Pant, C. (2023, September 14). Rangwali Pichaura: Weaving love, tradition, and culture. https://chandrapant3.wordpress.com/2023/09/14/rangwali-pichauraweaving-love-tradition-and-culture/
19. Prashar, O., & Chhabra, J. (2024). The legacy of Rangawali Pichhaura *in Indian traditional textiles. Journal of the Textile Association*, 85(2), 198–203. https://doi.org/10.5281/zenodo.13364153
20. Project FUEL. (n.d.). Aipan: Ritualistic folk art of Kumaon. Google Arts & Culture. Retrieved April 17, 2025, from https://artsandculture.google.com/story/pwUB1enKByW2Vg
21. Sah, R. (2023). Historical narratives of Rangwali Pichhora: Migration and cultural integration in Kumaon. In Proceedings of *the International*

Conference on Himalayan Studies (pp. 112–120). Kumaun University Press.

22. Sangma, A. M. A., & Baruah, B. (2019). Designing party wear skirts for teenage girls. *Asian Journal of Home Science*, 14(1), 151–155. https://doi.org/10.15740/HAS/AJHS/14.1/151-155
23. Sharma, A., & Joshi, M. (2018). The cultural significance of Rangwali Pichhora among married women in Uttarakhand. Journal of Himalayan Cultural Studies, 12(1), 45–58.
24. Sharma, A., Pant, S., & Juneja, S. (2025). Assessing awareness of traditional manufacturing process of Rangwali Pichhora among people of Uttarakhand: *A study on cultural knowledge and preservation. International Journal of Novel Research and Development*, 10(4), Article IJNRD2504589. (https://www.ijnrd.org)
25. Singh, N., & Mehta, R. (2019). Consumer preferences for traditional crafts in modern apparel: A case study on Rangwali Pichhora. *Journal of Consumer Behavior Studies*, 7(4), 88–99.
26. Singh, P. (2024). Development of cotton & denim skirts using Madhubani motifs. *International Journal of Home Science*, 10(1), 189–199. https://www.homesciencejournal.com
27. The Times of India. (2023, December 21). The Swastik in Hinduism: Significance of the divine symbol. [URL not provided]
28. Verma, R. (2020). Modernization and the decline of traditional attire: A study on Rangwali Pichhora. Fashion and Culture Journal, 8(2), 102–115.
29. Wandersky. (n.d.). Aipan art – The cultural jewel of Uttarakhand. Retrieved April 17, 2025, from https://wandersky.in/aipan-art/
30. Sen, A. (2021). Textile traditions of India: Preserving intangible heritage through innovation. Textile Outlook International, 210, 45–55.
31. Roy, T., & Agarwal, D. (2020). Heritage textiles of India: Revival and sustainability practices. Journal of Sustainable Fashion, 5(1), 20–34.
32. Jain, R. (2017). Symbolism in Indian folk textiles: A comparative analysis. South Asian Textile Journal, 10(3), 34–42.
33. Mehta, S. (2019). Folk motifs in the digital age: Transforming Indian traditional art for fashion design. *International Design Journal*, 11(2), 78–91. ■

Ind-Ra lowers outlook for textiles, diamond sectors to 'deteriorating'

Credit rating agency India Ratings has downgraded the outlook for textiles as well as cut & polished diamonds (CPD) sectors from "neutral" to "deteriorating" amid rising fear of adverse impact of high US tariffs on Indian exports.

It also maintained deteriorating outlook on sectors namely road construction and second-tier players in cement and residential real estate years for the second half of 2025-26 (H2FY26).

Tariff uncertainty is likely to impact earnings and cash flows for H2FY26 for large companies in export-heavy sectors, along with an increase in the working capital cycle.

While the balance sheets of large units are healthy, the demand slowdown has caused lingering stress for job-intensive small and medium enterprises (SMEs), India Ratings said in a statement.

Dwelling on sources of stress for big companies and SMEs, India Ratings said in domestic consumption-driven sectors such as auto, FMCG, real estate, K-shaped recovery persists, impacting the value chains exposed to the lower jaw of recovery.

A subdued growth outlook in infrastructure spending has also intensified competition in certain sectors, driving margin erosion in EPC, cement and telecom-media.

Finally, the recent geopolitical shocks, including US tariffs have created significant vulnerability for export-led sectors (suchas textiles, diamonds, and select agro-commodities).

In commodity-driven sectors such as metals and jewellery, SMEs are likely to be more severely impacted by external shocks than large corporates. The latter cater to primarily domestic demand, have a diversified customer profile and have benefited from the recent deleveraging cycle, it added. While the overall capex recovery remains uneven, corporates with robust balance sheets continue to invest in brownfield capacity expansion and inorganic opportunities. The sectors such as power, telecom, oil & gas, and metals are expected to drive bulk of the ongoing capex. ■

SUSTAINABLE HOME TEXTILES THROUGH RECYCLING AND NANO FINISHING

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Abstract

The home textile industry is increasingly under pressure to incorporate sustainable practices because it has a substantial environmental impact. This research introduces an integrated strategy that blends textile recycling with green Nano finishes for creating high-performance, sustainable home textiles. Cotton wastes were mixed with virgin cotton and fabricated into nonwoven and woven forms. ZnO and TiO_2 nanoparticles were applied through a nano-spray coating process to provide flame-retardant, water-repellent, and antimicrobial properties. The treated fabrics were tested via SEM analysis, flammability, contact angle, antibacterial, and mechanical performance tests in combination with user-based evaluation of finished products. Scanning Electron Microscope (SEM) observations verified homogeneous nanoparticle adhesion and dispersion. Even though flame retardancy still needs to be improved total burning in nonwoven samples it showed strong antibacterial activity on Escherichia coli and Staphylococcus aureus. Near-neutral wetting behavior was reflected in a measured contact angle of 89.2°. The mechanical properties, such as tensile and tear strength and thickness, were stable and strong. Subjective assessments of pot holders and oven mitts proved great customer acceptance, with excellent scores in thermal protection, comfort, durability, price, and general recommendation. These results prove the viability of recycling along with nanotechnology as a green route for home textiles. Future studies should aim to enhance flame retardancy and assess the long-term stability of deposited nano coatings.

Key words: Antibacterial activity, Contact angle, Flammability, Nanoparticles, Recycled cotton fabric.

Introduction

The home textile industry is experiencing a radical shift in line with increasing global realization of environmental sustainability. Conventional manufacturing of home textiles has been characterized by enormous consumption of water and chemicals, energy use, and generation of waste, rendering a substantial environmental footprint[1]. To counter this trend, new methodologies are arising aimed at manufacturing high performance, yet sustainable, home textiles[2]. Of these, two approaches have come to the forefront: advanced recycling techniques and Nano technological processes.

Home textile recycling is going beyond mere mechanical processes to include highly advanced chemical and molecular methods to make it possible for textile trash to be transformed into premium fibers for new products in a manner that minimizes dependence on virgin material and landfill input[3]. In parallel, nanotechnology is changing textile finishing with the inclusion of nanoparticles that deliver improved functionalities like antibacterial effect, flame retardancy, water resistance, and ultraviolet protection, previously accomplished through dangerous chemical finishes[4]. Nanoparticles are becoming more frequently sourced from bio-based or green synthesis pathways, lowering environmental toxicity even further and supporting the ethos of sustainable development[5].

This simultaneous focus on recycling and Nano-finishing is a fresh holistic approach to home textile innovation for the future. By combining the circular value of leading-edge recycling with the performance advantage of environmentally friendly Nano-finishes, the industry can provide home textiles that respond to consumers' current needs for durability, safety, and sustainability.

This study aims to determine and create home textile products using waste fabrics, hence increasing resource efficiency and lowering environmental pressure.

Materials and Methods

The research process entailed the application of zinc oxide and titanium dioxide nanoparticles to cotton and recycled cotton fabrics using a Nano spray coating method. The research process commenced with fabric selection for both cotton and recycled cotton fabrics. This was followed by web formation, including needle punching to create the textile structure. The treated fabrics were then analyzed using a series of characterization tests to assess their properties. These examinations incorporated Vertical Flame Retardant testing to evaluate flame resistance, Contact Angle testing to quantify water repellence, Antimicrobial testing to analyze the capability of the fabric to prevent microbial growth, and Scanning Electron

Microscopy (SEM) to investigate the surface topography of the coated fabrics. Further, finishes including flame retardant, water repellent, and antimicrobial treatments were used to add value to the functional properties of the home textile products created through this methodology.

Collection of Material

Fabric waste, sourced from Cossmo Tex Unit 2 in Tamil Nadu, India, consisted of 100% white cotton from both pre-consumer and post-consumer sources. This waste was processed into fibers, and because the short staple fibers of recycled cotton lead to poor strength, pure, long-staple cotton (29-35 mm) was added to enhance its durability. Cotton itself is a soft, breathable, strong, and biodegradable cellulose fiber with excellent moisture-wicking properties. For chemical treatment, zinc oxide (ZnO), a white inorganic compound with Ultra Violet (UV) blocking, antifungal, and antibacterial properties, was used for its antimicrobial and water-repellent effects. Titanium dioxide (TiO2), a naturally occurring white inorganic substance found in minerals like anatase and rutile, was incorporated for its flame retardant, UV-resistant, and self-cleaning attributes. Deionized water served as the diluent for these nano finishing chemicals, ensuring the absence of contaminants and promoting uniform application.

Methods

The methodology began with fabric waste collection and sorting from the textile industry, focusing on white cotton to minimize landfill waste and promote a circular economy. Both pre-consumer and post-consumer waste were sorted by fiber type and color. Next, the fiber grinding and blending process involved shredding 7 kg of this waste into reusable fibers. These were then blended with pure cotton in a 3:1 ratio (300g recycled to 100g pure cotton) to improve the overall strength, durability, and spinning ability, as recycled cotton typically has shorter fibers. Following this, web formation was achieved using a carding machine to align the fibers into a continuous web. This web was then layered via cross-lapping to achieve the required thickness and density. Finally, needle punching was performed on the web using a needle loom. Barbed needles mechanically entangled the fibers, creating a stable and cohesive nonwoven wadding. Careful selection of the needles, punch density, and stroke frequency was crucial to accommodate the fragile recycled fibers, ultimately improving the mechanical strength and texture of the wadding for its final use in home textile products.

Nano Finish Application

Nano finishes were put on the cotton wadding via a nano spray coating method to enhance fabric performance without affecting its feel or appearance.

Flame Retardant: A 2 wt% dispersion of Titanium Dioxide (TiO_2) nano particles in deionized water with a stabilizing agent such as polyvinyl alcohol (PVA) was made and evenly sprayed onto the wadding. The coated wadding was then dried at 60°C, followed by a short cure at 135°C to improve bonding. This formed a protective coating, which served as a heat barrier and facilitated char development.

Water Repellent: Zinc Oxide (ZnO) nano particles (20-50 nm) were dispersed in ethanol and ultra-sonicated for 30-60 minutes. A hydrophobic surface modification agent stearic acid was added to create a hydrophobic barrier. The solution was sprayed onto the cotton, then dried at 60°C for up to an hour. This treatment gives a water contact angle greater than 135°, making water bead and roll off, and is also antibacterial and sun protective. Antimicrobial: Zinc Oxide (ZnO) nano particles were dispersed in ethanol, ensuring uniform dispersion by magnetic stirring or ultrasonication.

A binder such as polyvinyl alcohol (PVA) was incorporated to enhance binding and retention. The nano suspension was spray-coated onto washed and dried recycled cotton wadding. The material was dried at 60°C to bond the fabric and nano particles. This treatment is highly active against bacteria, fungi, and certain viruses and stimulates cleanliness and odor control, along with sustainable processes.

Evaluation Methods

To evaluate the nano coated fabrics, a series of tests were conducted. The Vertical Flame Retardant test (ASTM D6413) measured the flammability by exposing a fabric sample to a flame for 10 seconds, recording after-flame time, after-glow time, and char length[6]. Contact Angle (ASTM D7334) was used for water repellency, with a higher angle indicating better resistance; an angle over 120° signifies excellent repellency, crucial for kitchen fabrics[7]. Antibacterial Activity (EN ISO 20645) was assessed by inoculating sterile plates with E. coli and S. aureus, and measuring the zone of inhibition around fabric discs after a 24-hour incubation[8]. A Scanning Electron Microscope (SEM) provided high-magnification images (100X to 5.5KX) to examine the surface morphology and coating uniformity[9]. Tensile Strength (ASTM D5034) was

measured to determine the maximum force the fabric could withstand before breaking, while Tear Strength (ASTM D1424) evaluated its resistance to tearing[10 & 12]. The Thickness (ASTM D1777) [11], GSM (grams per square meter) (ASTM D3776)[13], and Drape ability (IS 8357) were also measured to assess physical properties like weight, density, and flexibility[14]. Finally, a Subjective Evaluation was conducted using a questionnaire to gather consumer feedback on the finished home textile products, covering aspects such as comfort, heat effectiveness, durability, and overall market comparison.

Development of Home Textile Products

The final phase of this project focused on developing home textile products like pot holders and oven mitts, prioritizing creativity, functionality, and durability. These essential kitchen tools are designed to protect hands from heat using materials like heat-resistant cotton and insulated battings. The process began with pattern making, creating precise patterns for both items with specific measurements to ensure safety, comfort, and a professional finish. Next, the sewing process involved quilting the fabric layers—an inner lining and exterior cloth—with uniform stitches. The oven mitt pieces were sewn together, leaving an opening at the wrist, and excess fabric was trimmed from the curves to reduce bulk. Bias tape was used to bind the edges for a clean finish and durability, and a hanging loop was attached for easy storage. Both the pot holder and oven mitt were pressed with an iron to give them a polished look. The final products were a set of well-made, useful kitchen tools that offered excellent heat protection, a secure grip, and an appealing aesthetic.

Results and Discussions

Vertical Flame Retardant

Fig. 1 - Vertical flammability test

The vertical flammability test was conducted in accordance with ASTM D6413, using a burner flame height of 38 mm, a flame application time of 12 seconds, and bottom ignition (fig.1). The test results for the non-woven sample indicated complete burning with flame propagation reaching the top edge of the specimen. This behavior reflects a lack of flame-retardant properties, as the material did not self-extinguish and allowed the flame to spread rapidly. Such performance classifies the sample as highly flammable and unsuitable for use in applications that require fire resistance, such as protective clothing, automotive interiors, or industrial textiles. Kerekes Z, Kopecskó K and et, al found that, the way non-woven fabrics burn is complex because their specific combustion features are determined by the combination of their surface, microstructure (at the fiber level), and macrostructure (the overall construction of the fabric)[15].

Contact Angle Test (Water Repellent)

The angle formed by the liquid surface and the solid surface at this location is known as the contact angle (fig.2). The contact angle decreases when the liquid drop disperses across a surface. This contact angle is resembled how water is penetrating into the water. In this contact angle has five stages here for note out the absorption on the fabric.

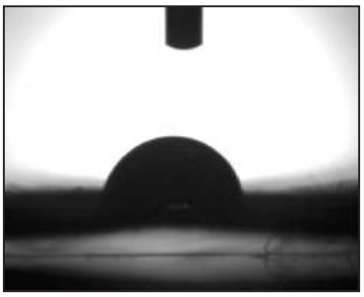

Fig. 2 - Contact angle test

Time intervals (ms) = 1000

Frequency = 21

Analysis technique = sessile drop method

Table 1 - Value of the droplet

TIME (ms)	CA (DEG)	C.A.R	V0 (ul)	V1 (ul)	V2 (ul)	VR (%)	R(um)
1000	89.2	89.2	1.3	5.6	-4.4	446.2	1400

The contact angle measurement was performed using the sessile drop method with a time interval of 1000 milliseconds and a frequency of 21. The

contact angle recorded was 89.2°, indicating that the surface exhibits near-neutral wetting behavior, characteristic of a borderline between hydrophilic and hydrophobic surfaces. The contact angle remained stable (C.A.R = 89.2), suggesting minimal dynamic change in wetting over the observation period. The initial droplet volume (V0) was 1.3 µL, and the calculated volume retention (VR) was 446.2%, with radius (R) measured at 1400 µm. The negative V2 value indicates a reduction in droplet volume due to evaporation or absorption[16]. Overall, the surface demonstrates moderate wet ability and significant volume retention, which may be relevant for applications involving controlled fluid interaction, such as in textile coating.

Antibacterial Activity

The antibacterial activity of the given non-woven sample demonstrated good inhibitory zones against test bacteria, Escherichia coli and Staphylococcus aureus, measuring approximately 35 mm and 33 mm, respectively (fig.3). Similarly, the plain poplin fabric sample also exhibited good antibacterial performance, with inhibitory zones of about 32 mm for Escherichia coli and 33 mm for Staphylococcus aureus.

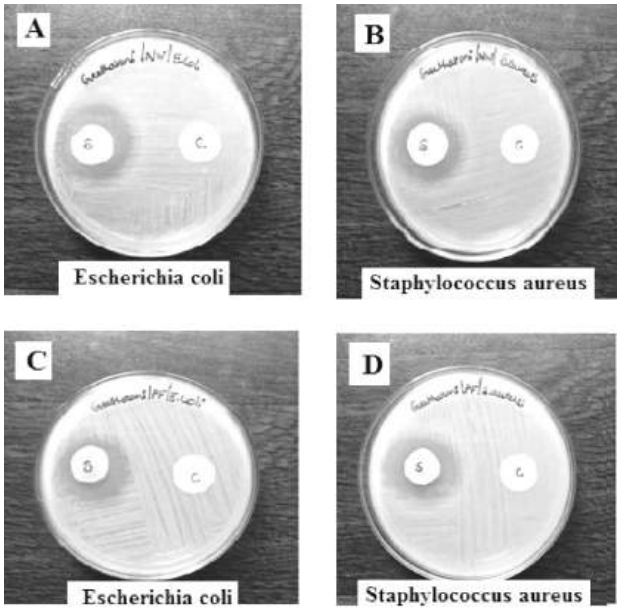

Fig. 3 – A&B Non - woven fabric, C&D Plain fabric

Based on the visible zones of inhibition in all four panels (A, B, C, and D) around the treated fabric samples ('S'), it can be inferred that both the non-woven fabric and the plain fabric, after treatment, exhibit significant antibacterial activity against both Escherichia coli (a Gram-negative bacterium) and Staphylococcus aureus (a Gram-positive bacterium). The absence of inhibition zones around the control samples ('C') further confirms that the observed antibacterial effect is attributable to the fabric treatment. This suggests that the treatment applied to these fabrics is effective against a broad spectrum of bacteria. Ding, Q., Liu, Jl., Liu, YY. et al. demonstrated that the treated cotton fabric achieved a high bacteriostatic and fungistatic rate of 99.99%, 87.5%, and 99.99% against S. aureus, E. coli, and C. albicans respectively even after 50 laundering cycles, while maintaining exceptional antibacterial effectiveness and laundering durability due to the formation of covalent bonds with the cotton fabric[17].

Tensile strength

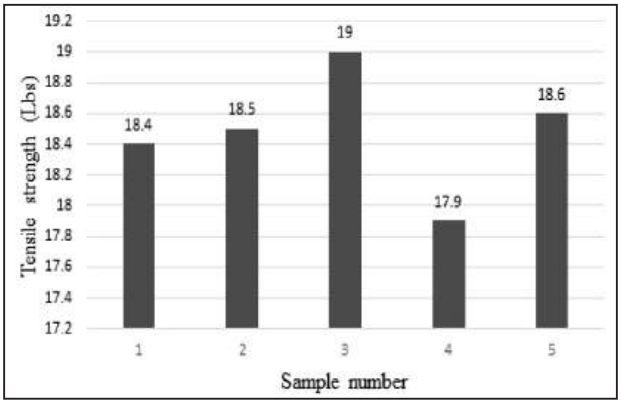

Fig. 4 - Tensile strength

The average tensile strength of the fabric is 18.48 Lbs (fig.4). The range of the fabric's tensile strength values indicates the spread between the minimum and maximum observed measurements. The minimum tensile strength recorded is 17.9 Lbs, while the maximum is 19.0 Lbs. This results in a range of 1.1 Lbs (19.0 - 17.9), reflecting a relatively narrow variation in tensile strength across the samples tested.

This consistency suggests uniformity in the fabric's performance under tension. The data shows slight variation, indicating a relatively consistent tensile strength across samples. The fabric demonstrates good tensile strength with low variability, suggesting good manufacturing consistency and reliability for applications requiring uniform strength.

Surface Analysis - Scanning Electron Microscope (SEM)

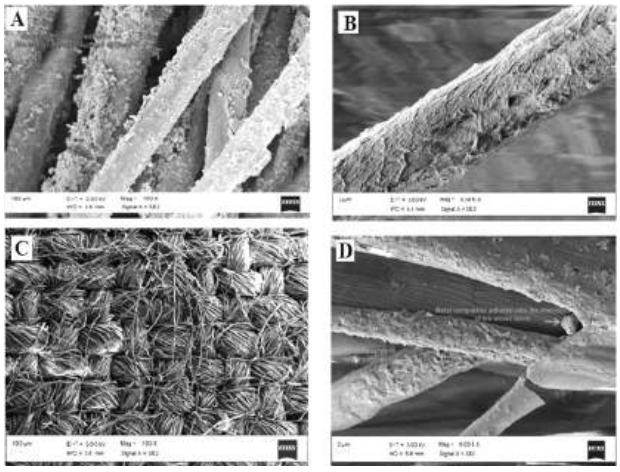

Fig. 5 – SEM images of Nano coated samples - A&B Non - woven fabric, C&D Plain fabric

The SEM images collectively infer that a Nano coating has been successfully applied to both non-woven and woven fabric samples. The coating morphology differs between the fabric types, with the non-woven fabric showing a more uniformly dense and rough coating on individual fibers, while the woven fabric exhibits adhesion of the metal composites within its interstices as well as on the fiber surfaces. This visual evidence is crucial for understanding the effectiveness and distribution of the coating material on the fabric substrates, which can impact properties such as durability, surface area, and functional performance (e.g., antibacterial activity, UV protection). (fig.5)

Thickness

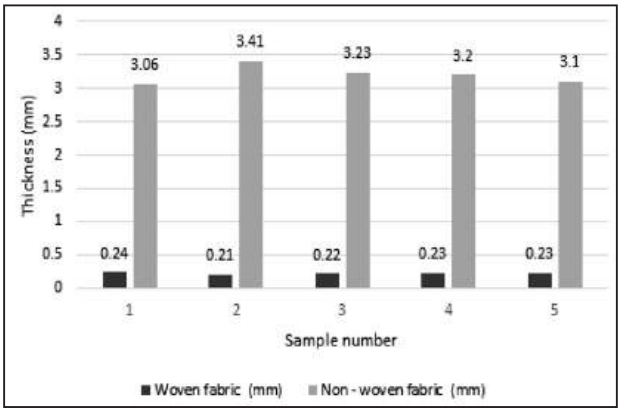

Fig. 6 - Thickness tester

The thickness of both fabric and nonwoven samples was measured using a mechanical fabric thickness tester. The recorded thickness values for the fabric samples ranged from 0.21 mm to 0.24 mm, while the nonwoven samples showed significantly higher thickness values, ranging from 3.06 mm to 3.41 mm (fig.6). The relatively consistent readings across all samples indicate stable material structure and uniformity. The fabric samples demonstrated an average thickness of approximately 0.226 mm, whereas the nonwoven materials averaged around 3.20 mm, highlighting the substantial difference in thickness between the two materials.

Tear Strength

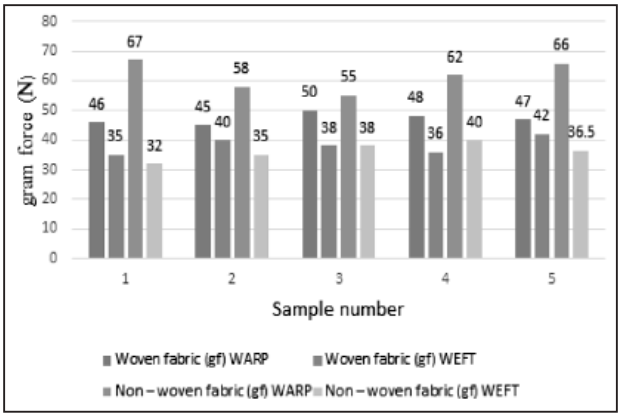

Fig. 7 - Tearing strength test

The tearing strength of both fabric and nonwoven samples was assessed in both warp and weft directions using a fabric tearing strength tester (Fig.7). The results showed that the tearing strength of the woven fabric ranged from 45 to 50 N in the warp direction and from 35 to 42 N in the weft direction. In comparison, the nonwoven samples exhibited higher tearing strength in the warp direction, ranging from 55 to 67 N, while the weft direction values varied between 32 and 40 N.

On average, nonwoven materials demonstrated superior tearing strength in the warp direction compared to the woven fabric, suggesting better resistance to tear propagation along that axis. However, in the weft direction, both materials displayed relatively comparable strength values. These results indicate that the tearing behavior of nonwoven materials is generally more robust in one direction, likely due to the fiber orientation and bonding process, while woven fabrics show a more balanced performance across both directions.

Areal density (GSM)

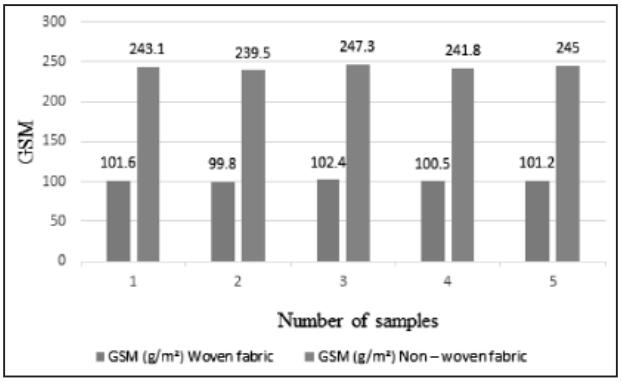

Fig. 8 - Areal density (GSM)

The areal density (Grams per Square Meter - GSM) of both fabric and nonwoven samples was measured using a fabric GSM tester to assess the material weight and density (Fig. 8). The results for the fabric samples ranged from 99.8 to 102.4 GSM, with an average of approximately 101.1 GSM, indicating consistent fabric construction and uniform yarn distribution. In contrast, the nonwoven samples exhibited significantly higher GSM values, ranging from 239.5 to 247.3, with an average of about 243.3 GSM. This substantial difference highlights the denser and heavier structure of the nonwoven material compared to the woven fabric.

The GSM values obtained reflect the quality and application potential of each material type, where higher GSM in nonwovens suggests suitability for heavy-duty or industrial applications, while the lower GSM of woven fabric aligns with lightweight uses such as garments and linings. These consistent readings demonstrate the effectiveness of the GSM tester in providing reliable data for material evaluation.

Subjective Evaluation Responses

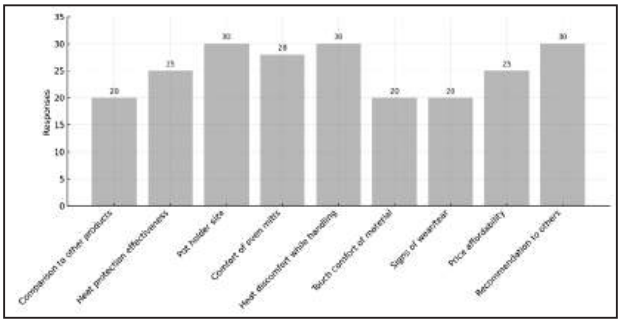

Fig. 9 - Subjective evaluation responses

The subjective evaluation of fabric samples coated with ZnO-TiO_2 reveals a highly positive reception, suggesting significant potential for practical applications, particularly in products like pot holders and oven mitts (Fig. 9). The product received an overwhelmingly positive overall ranking, with a substantial majority of respondents rating it as "Excellent" or "Good." In terms of thermal protection and comfort, the fabric demonstrated exceptional effectiveness in preventing heat transfer, with most users confirming it "Definitely" helps produce heat effectively and feeling "Not at all" uncomfortable when handling hot objects. While generally comfortable for oven mitts, a small number found them "Somewhat comfortable." From a design and material perspective, the pot holder size was widely considered "Just right," and the material itself was perceived as "Very comfortable." Durability and affordability also received favourable feedback, with most respondents reporting no signs of wear and tear and perceiving the product as "cost-effective" or "low cost." This strong positive feedback culminates in a high likelihood of user recommendation, indicating strong user satisfaction and promising market potential for the ZnO-TiO_2 coated fabric. This makes it a competitive option in the market and a suitable choice for regular household or kitchen use.

Conclusion

This research effectively proved an innovative integrated methodology towards the design of sustainable home textiles through the integration of recycled cotton with sustainable nano-finishes of zinc oxide (ZnO) and titanium dioxide (TiO_2). The process included careful processing of fabric scraps into reusable fibers, web formation, and needle punching to produce sturdy textile structures. The use of ZnO and TiO_2 nanoparticles through a nano spray coating method greatly improved the functional performance of both plain woven and non-woven fabrics.

Extensive characterization tests verified the effectiveness of the nano-finishes. Scanning Electron Microscopy (SEM) images created a clear visible proof of successful nanoparticle fixation, not just on fiber surfaces but even in the interstices of the woven fabric, reflecting good penetration and distribution of the coating. Although the first test of flame retardancy on the non-woven sample indicated total burning, indicating the need for

further optimization in this particular area, the fabrics displayed high antibacterial activity against Escherichia coli and Staphylococcus aureus with clear zones of inhibition. The measurements of contact angles revealed a trend of near-neutral wetting behavior, which implies potential for controlled interaction of fluids.

In addition, the mechanical performances of the treated fabrics, such as tensile strength, thickness, tear strength, and GSM, proved to be consistent and reliable for their respective uses. Most importantly, the subjective assessment of the created home textiles products (pot holders and oven mitts) depicted largely positive feedback from the users. The users gave high scores to the products for effectiveness in heat protection, comfort, optimal size, durability, and price, which ultimately resulted in a high willingness to recommend them to others.

In summary, this study confirms the viability of combining textile recycling with innovative nano-finishing technologies to create high-performance and environmentally friendly home textiles. The constructed fabrics, especially with their demonstrated antibacterial properties and good consumer acceptance, provide an encouraging solution to minimize environmental footprint at the same time as addressing new consumer needs for functionality and eco-friendliness in home textiles. Further research would be to improve flame retardancy and investigate the long-term stability and wash fastness of these nano-coatings.

References

1. Rita Kant Textile dyeing industry an environmental hazard; Natural Science Vol.4 No.1, January 13, 2012; DOI: 10.4236/ns.2012.41004.
2. Karthik T., & Rajendran, S. (2021). Advances in sustainable home textiles: Eco-friendly materials and innovative processing techniques. Journal of Cleaner Production, 279, 123456. https://doi.org/10.1016/j.jclepro.2020.123456.
3. Yanan Zhang, Yanguang Chen, Wei Kang, Hongjing Han, Hua Song, Chunlei Zhang, Haiying Wang, Xiuqi Yang, Xuzhong Gong, Changxiu Zhai, Jitong Deng, Liling Ai, Excellent adsorption of Zn(II) using NaP zeolite adsorbent synthesized from coal fly ash via stage treatment, Journal of Cleaner Production, Volume 258, 2020, 120736, ISSN 0959-6526, https://doi.org/10.1016/j.jclepro.2020.120736.
4. Md. Tanvir Hossain, Selim Reza, Md. Ariful Islam, Md. Mohebbullah, and Tarikul Islam; Progress and Prospects of Chemical Functionalization of Textiles Via Nanotechnology; ACS Applied Engineering Materials 2025 3 (1), 1-20 DOI: 10.1021/acsaenm.4c00644.
5. Singh, P., Kim, Y. J., Zhang, D., & Yang, D. C. (2016). Biological synthesis of nanoparticles from plants and microorganisms. Trends in Biotechnology, 34(7), 588-599. https://doi.org/10.1016/j.tibtech.2016.02.006.
6. http://www.astm.org/Standards/D6413.html.
7. https://www.astm.org/standards/d7334-08r22.html.
8. https://cdn.standards.iteh.ai/samples/35499/8957383b52cf4894948debbba5c88812/ISO-20645-2004. pdf.
9. Giri, C.C. (2002). Scanning electron microscope and its application in textiles. Colourage. 49. 29-42.
10. https://store.astm.org/d5034-21.html; DOI: 10.1520/D5034-21; ICS Code: 59.080.30.
11. https://store.astm.org/d1777-96r19.html DOI: 10.1520/D1777-96R19; ICS Code: 59.080.30.
12. https://store.astm.org/d1424-21.html DOI: 10.1520/D1424-21; ICS Code: 59.080.30.
13. https://store.astm.org/d3776_d3776m-20.html; DOI: 10.1520/D3776_D3776M-20; ICS Code: 59.080.30.
14. https://law.resource.org/pub/in/bis/S12/is.8357.1977.pdf;
15. Kerekes Z, Kopecskó K, Lublóy É, Szép J. The effect of macrostructure and stability on the flammability of non-woven fabrics. Journal of Industrial Textiles. 2020;51(5_suppl):8472S-8489S. doi:10.1177/1528083720908803.
16. Hu, H., & Larson, R. G. (2002). Evaporation of a sessile droplet on a substrate. The Journal of Physical Chemistry B, 106(6), 1334-1344.
17. Ding, Q., Liu, Jl., Liu, YY. et al. Durable antibacterial cotton fabrics with good performance enabled by quaternary ammonium salts. Cellulose 31, 6551–6564 (2024). https://doi.org/10.1007/s10570-024-05991-w. ■

Textile industry in negotiation with customers as additional tariffs kick in

The multi-billion-dollar Indian textiles and leather industries face uncertainty following the additional 25 per cent US tariff from August 27.

Companies have pushed most of the inventory to the US in the last couple of months to avoid the additional tariffs, but still tonnes of garments and leather goods are lying in warehouses. There is increasing pressure from customers to share the cost with discounts ranging between 5 per cent and 25 per cent on goods, said sources.

"We will know the impact of this fallout only by the first two weeks of September as many tried to push deliveries for September by last week of August, said Thirukkumaran Natarajan, Chairman of Tiruppur based Esstee Exports India Pvt. Ltd. The revenue loss could be ₹1,300 crore to ₹1,500 crore per month for Tiruppur exporters, and ₹4,000 crore to ₹4,250 crore per month pan-India, he said. Its advantage Bangladesh, Vietnam, Cambodia and Pakistan that face much lower tariffs, he added.

Branded Textiles

When asked why the goods meant for the US cannot be sold in India, he said it is tailor made to the US market with brand name and cannot be sold in the domestic market. A source said that due to the huge volumes, US-bound goods cannot be altered and sold in India. The solution now is to negotiate with the customers on discount.

Siddhartha Rajagopal, Director, the Cotton Textiles Export Promotion Council (Texprocil), said while many exporters have shipped the goods in hopes of beating the deadline, others are holding on to the merchandise, hoping that the additional tariffs may be deferred.

New orders are on hold as buyers are looking for discounts up to 20-25 per cent, and if this trend continues, job losses cannot be ruled out. The 50 per cent reciprocal tariff will literally drive the Indian apparel industry out of the US market, as the 30-31 per cent tariff disadvantage compared to major competing countries is simply unworkable, said Mithileshwar Thakur, Secretary Promotion Council. India's annual exports to the US in FY25 were valued at $86.5 billion, with textiles exports, worth $10.3 billion, one of the worst impacted sectors, he added.

Three Categories

Exports to the US fall under three categories — round the year, seasonal trade, and direct trade with brands and buyers.

A decision needs to be taken on how to handle requests for discounts on goods subject to higher taxes, instructions to higher taxes, instructions to temporarily suspened pending orders, and the cancellation of many orders, said Kumar Duraisamy, Joint Secretary, Tiruppur Exporters' Association, at an interactive session on the challenges faced by Tiruppur exporters. The industry is intensifying its efforts towards market diversification and is looking at taking advantage of the trade deal with UK and EFTA countries to contain the damage, he said.

According to Rahul Mehta, Chief Mentor at the Clothing Manufacturers Association of India (CMAI) and Director at Creative Group of Companies, "this is a disastrous situation for the industry, especially for exporters dependent on the US market. At some stage, there will likely be a political reasolution, because even for American consumers, paying an additional 50 per cent is not sustainable. Buyers, too, will weigh their options; it is not easy to suddenly replace a $50 million or $500 million business, so they may choose to absorb part of the cost increase to ensure continuity of supply".

While large exporters may find ways to cushion the impact, including nearshorting or negotiating with buyers, the real challenge will be for MSMEs, who account for nearly 80 per cent of India's garment exports to the US. Of India's annual $5.5-6 billion apparel exports to the US, $3-3.5 billion worth of orders are currently at stake. For small and mid-sized players, such disruptions could be a severe blow, he said. It's a similar situation in the leather sector. "We cannot quantify the inventory. But it's going to be millions of dollars. We have started looking at other markets. Also, we are supporting the customers by sharing the tariffs. They want us to bear 25 per cent, but we are still negotiating on how to solve it," said Sanjay Lulla, Managing Director, SM Lulla Industries Worldwide. ❐

Naturally Coloured Cotton Revival faces Funding Crunch despite having huge export potential

India's naturally coloured cotton, which thrived commercially in the 1940s, is struggling to stage a comeback despite rising global demand for sustainable textiles and decades of government's

efforts in research.

The speciality crop is currently grown on just 200 acres across Karnataka, Maharashtra, Tamil Nadu and Andhra Pradesh, fetching $240 per kg, 50% more than regular cotton at ₹160 per kg. However, farmers are hesitant to expand cultivation due to significantly lower yields.

"The productivity of light brown cotton is very low at 1.5-2 quintals per acre, compared to 6-7 quintals per acre for normal cotton. This discourages farmers from expanding the area under this crop." Ashok Kumar, principal scientist at ICAR-Central Institute for Research on Cotton Technology (CIRCOT), told reporters.

Annual production from these limited acres stands at merely 330 quintals, underscoring the challenge facing this specialty crop that could potentially transfor India's textile sustainability profile.

ICAR-CIRCOT is currently focusing on light brown coloured cotton.

Coloured cotton has ancient roots in Indian agriculture, with cultivation dating back to 2500 BC. Before independence, red, khaki and brown varieties of Cocanada 1 and 2 were grown commercially in Rayalseema, Andhra Pradesh, with exports to Japan. Traditional varieties were also cultivated in Assam and Karnataka's Kumta region.

However, the Green Revolution's emphasis on highly-yielding white cotton varieties pushed coloured cotton to the sidelines. The crop's inherent limitations – fewer bolls, lower weight, poor fibre strength, short staple length and colour variations made it economically unviable for large-scale cultivation.

Indian agricultural institutions have developed improved varieties, including DDCC-1, DDB-12, DMB-225, and DGC-78 by the University of Agricultural Sciences, Dharwad. The Central Institute for Cotton Research, Nagpur, created Vaidehi-95, considered the most prominent among 4-5 available varieties.

Between 2015-19, ICAR-CIRCOT processed 17 quintals in demonstration batches, producing 9,000 metres of fabric, over 2,000 jackets and 3,000 handkerchiefs, proving commercial viability.

The environmental benefits are significant. Traditional cotton dyeing requires approximately 150 litres of water per metre of fabric, while naturally coloured cotton eliminates this requirement, potentially reducing toxic waste disposal costs by up to 50%.

"Naturally coloured cotton has huge export potential. More government support is required to enhance production and value addition," Kumar said. ❐

Textile units in Surat, Tiruppur, Noida discontinue production

Export-oriented Textiles and apparel manufacturers in the industrial hubs of Tiruppur, Noida, and Surat have halted production, fearing a worsening of cost competitiveness in the US market owing to the 50% additional tariffs, the Federation of Indian Export Organisations (FIEO) said recently.

The traders' body also said that among seafood export units, the tariff increase risks stockpile losses, disrupted supply chains, and farmer distress.

The textile units are losing ground to lower-cost rivals from Vietnam and Bangladesh, FIEO president S C Ralhan said, while urging the government to unvell support measures to sustain the export momentum from the labour-intensive industry.

"About 55% of India's US-bound shipments worth $47-48 billion are now exposed to pricing disadvantages of 30-35%, rendering them uncompetitive in comparison to competitors from China, Vietnam, Cambodia, the Philippines and other Southeast and South Asian countries," Ralhan said.

"However, leveraging the negotiating window for urgent diplomatic engagement with the US still remains the key. Yet another approach could be the promotion of Brand India and innovation through enhanced global branding, investment in quality certifications, and embedding innovation in export strategy to make Indian goods more attractive globally," he added. Among various product categories, India's competitors include Myanmar that has 40% US tariff, Thailand (19%), Cambodia (19%), Bangladesh (20%), Indonesia (19%), China and Sri Lanka (both 30%), Malaysia (19%), the Philippines (19%) and Vietnam (20%).

On other labour-intensive sectors of exports like leather, ceramics, chemicals, handicrafts and carpets, the industry faces a sharp erosion of competitiveness, particularly against European, Southeast Asian and Mexican producers. Delays, order cancellations, and negated cost advantages loom large on these sectors, Ralhan said.

The FIEO chief said there is a need for immediate government support which includes push for interest subvention schemes and export credit support to sustain working capital and liquidity. To further support this, low cost of credit and easy availability of credit with emphasis on MSMEs with the support from banks and financial institutions with special direction in this regard both from the government and the Reserve Bank of India is needed. Ralhan also called for a moratorium on payment of principal and interest for loans up to a period of one year. Additionally, automatic enhancement of the existing limit by 30% along with collateral free lending.

Exporters said trade agreements with the EU, Oman, Chile, Peru, Gulf Cooperation Council, and African and other Latin American countries with a provision for early-harvest for labour-intensive sectors should be prioritised. However, leveraging the negotiating window for urgent diplomatic engagement with the US still remains the key, they feel. ❐

Textile exporters may switch to abroad

"Buyers have also shown an understanding of the situation. The entire value chains from yarn, fabrics and even suppliers of trims and retailers will have to absorb the impact of tariff increase," team leader at Triburg Consulting Sanjay Shukla said. Triburg offers services for the apparel, accessories, and home products industries with vendors located in India, Bangladesh and Indonesia.

The apparel exported from India is sold at 3-6 times the cost in the US stores and even a 10% increase in retail price is enough to absorb the tariff impact, Kansal said.

Products like dress shirts can be moved to Ethiopia, and denim, knitwear and wovens can be processed from Jordan, Shukla said.

While Bangladesh logistics issues exist after the port and transit restrictions were placed by both countries, some of the fabric that the exporters source from China and other countries can be landed directly in Bangladesh and exported from there. Some of the processing can be done by units set up by Indian companies in these geographies while for some the facilities of partners can be used, Shukla said.

A lot of juggling is going on and brands are hoping that things will settle down, he added. While Indian companies that can negotiate complex sourcing may retain the US market, it is the smaller players and suppliers that will be at the receiving end. There is fear of job losses if the stand-off on tariffs is not resolved with the US.

The countries that can be the conduits for India's exports have much less tariffs than India. Bangladesh faces a 20% tariff, Indonesia 19%, and Sri Lanka 30%. The countries in other geographies have only a 10% baseline tariff to pay.

Apart from managing complex supply chains, the exporters will also have to work with much lower margins. If they do not accept orders then they will also have to pay their staff and suffer losses or they accept orders and continue to work with the hope that things will be sorted out in next 2-3 months, secretary general of Apparel Export Promotion Council Mithileshwar Thakur said.

About the threat of job losses going forward, Kansal said in fact there is a shortage of workers in many export clusters and orders from other markets like Europe remain intact.

The industry can also take comfort from the fact that between 20-40% of apparel exports to the US are unique to India and cannot be replicated by other suppliers. These include garments with complex styling and embellishments which also fetch good value per unit, Kansal said. ❐

Govt longers duty exemption on cotton imports till Dec-end

A day after the US imposed 50% tariffs on Indian goods, the finance ministry recently extended the exemption on cotton import duty by another three months to December 31, 2025. The move is aimed at helping the Indian textle industry place long-term cotton import orders.

EXPORT PROSPECTS AND MARKETS

Earlier, the government had exempted cotton imports from duty between August 19 and September 30, 2025. "In order to support exporters further, the Central Government has decided to extend the import duty exemption on cotton from September 30 till December 31, 2025," the ministry said.

India had imposed an 11% import duty on cotton in February 2021, when domestic production stood at 35 million bales (170 kg each) against a requirement of 33.5 million bales. Output has since declined — from about 33.7 million bales in 2022-23 to an estimated 30.7 million bales in 2024-25 — forcing mills to step up imports.

The Confederation of Indian Textile Industry welcomed the move, noting the exemption on cotton imports would provide "much-needed" support to the textile and apparel sector, which is already grappling with the impact of the US tariff.

The Southern India Mills Association (SIMI) described the extension of duty-free imports as "timely relief", adding that concerns about the move hurting farmers were misplaced. "The 11% duty was imposed on cotton at a time when India was exporting around 3-5 million bales annually, while currently cotton production has fallen below 29.5 million bales against the industry's requirement of about 31.8 million bales, leading to the lowest closing stock in history," SIMI said.

The US is the largest market for India's textile exports, accounting for nearly 28% of global sales. Cotton imports surged 107.4% y-o-y on FY2025 to $1.2 billion. Major suppliers included Australia ($258.2 million), the US (234.1 million), Brazil ($180.8 million), and Egypt ($116.3 million). ❐

Textile exports to US climbed to 9% in July on pre-tariff rush

A rush by US textile and apparel companies and their Indian suppliers to ship goods before the Donald Trump administration's new tariff on India took effect led to a 9.1 per cent year-on-year (Y-o-Y) rise in India's exports in July. On a month-on-month basis, exports grew 12 per cent over June, according to data shared by the Office of Textiles and Apparel (OTEXA), part of the US International Trade Administration.

An analysis by the Confederation of Indian Textile Industry (CITI) said that despite this growth, India's expansion remained significantly lower than that of its key competitors in the year-to-date period. Exporters from Tiruppur told reporters that while major US brands have agreed to continue with existing orders for the upcoming summer season, they are doing so at a discount of 5-8 per cent, depending on the margins of Indian exporters.

"In July, US textile and apparel imports from Vietnam and Bangladesh rose by 14.2 per cent and 5.2 per cent, respectively, compared to July 2024. While growth momentum moderated versus June, both countries continued to strengthen their position in the US market," CITI's analysis said.

The rise in exports from India and other suppliers came largely at China's expense, as Beijing's shipments to the US fell 35 per cent versus July 2024. From January to July, India's textile and apparel exports to the US rose 11.4 per cent to $6.22 billion, up from $5.58 billion in the same period of 2024. For Vietnam, exports touched $10.41 billion, up 18 per cent Y-o-Y, while Bangladesh's exports rose 21 per cent to $5.11 billion. the rise was mainly owing to a 20 per cent dip in Chinese exports $11.21 billion.

The textile and apparel sector accounts for about 2 per cent of India's GDP and is one of the country's largest sources of jobs and livelihoods. The US remains India's single-largest market, accounting for almost 28 per cent of its textile and apparel exports.

"It is a fact that no new orders are being placed by the US companies in Tiruppur. However, the existing orders are being maintained by the US brands," said Elangovan Viswanathan, president of the Buying Agents Association and managing director of SNQS Internationals.

"They are picking the summer season orders. The industry in Tiruppur may face a hit of around ₹10,000-15,000 crore if no new orders are placed for next year," said Viswanathan. ❐

India will pursue to be a reliable supplier of textile products in 40 Nations

India is a working on dedicated outreach programmes in 40 countries, including the UK, UAE, Russia, Japan and South Korea, to push textiles exports as punitive US tariffs take effect.

New Delhi aims to participate in International exhibitions, trade fairs and buyer-seller meets besides running sector-specific campaigns under a unified Brand India vision, an official said.

The commerce and industry ministry will also hold a series of meetings of late with exporters from various sectors such as chemicals and gems and jewellery to discuss ways to boost exports to new markets to shield industries.

"The ministry will meet stakeholders on the diversification of exports in the next 2-3 days," the official said.

The official also said work is progressing fast on the formulatin of the Export Promotion Mission, announced in the FY26 Budget.

The 50% tariff, which came into effect from August 27, would impact India's exports worth more than $48 billion, with apparel and textiles, gems and jewellery, shrimp, leather and footwear, animal products, chemicals and electrical and mechanical machinery being the worst hit.

The US accounted for about 20% of India's $437.42 billion goods exports in FY25 and has been India's largest trading partner since FY22.

Officials said that New Delhi aims to pursue a targeted approach, positioning itself as a reliable supplier of quality, sustainable and innovative textile products in each of the 40 identified destinations that include both traditional markets and emerging ones.

"FTAs and negotiations with several of these geographies will help make exports competitive and there is a huge potential for growth in these areas," the official added. ❐

Textile units stop production

While winter orders are few, the exporters of apparel are sitting on spring orders that are shipped between October and December. The buyers are asking for a 30% discount to level the prices with competing countries which have 20% tariffs in the US, secretary general of Apparel Export Promotion Council Mithilishwar Thakur said. "The exporters may take that 30% hit for a few months to retain relationships with buyers and keep their workers engaged but unless some kind of a solution is found the layoffs may start," Thakur added.

Nearly a third of India's textile and apparel exports of $37 billion go to the US. "The recent US duty hike has put ₹72,000 crore of Indian textile & apparel exports at risk, creating a 30-31% duty gap against competing nations," said Prabhu D, convenor of the Coimbatore-based Indian Texpreneurs Federation (ITF). The federation represents the entire textile value chain, including spinning units, weaving firms and exporters of apparel and home textiles.

Prabhu said exporters have poured substantial sums into capacity expansion over the past 2-3 years to capitalise on the China Plus One strategy and secure more US buyers. "Those investments and jobs are now at risk."

The 50% tariff places India at a major disadvantage against key competitors such as Bangladesh, Vietnam, and Indonesia, which face much lower duties in the range of 19-20%. Industry experts warn that India's uncompetitiveness in exports could trigger mass lay-offs in the country's second-largest employment-generating sector, which employs over 45 million people. "Treat this as a Covid-like crisis and extend relief across the entire textile vale chain," Prabhu said, urging a one-year moratorium on term loan repayments.

Until a bilateral trade agreement with the EU is in place, the industry is pressing for time-bound, targeted export incentives for EU markets, where annual apparel imports total $92 billion — nearly 15% higher than the US — but India accounts for just a 5% share. ❐

Tiruppur making waves in global market for man-made future garments

Many call it a quiet textile revolution, engineered by the Tamil Nadu government alongside a determined group of exporters in Tiruppur. Long recognised as India's knitwear capital and a hub of cotton textiles, the city is now making waves in the global market for man-made fibre (MMF) garments—powered by aggressive policies and bold industry moves.

EXPORT PROSPECTS AND MARKETS

The figures are striking. From virtually no exposure to MMF four years ago, Tiruppur is today exporting around $500 million worth of such garments. The timing is significant: Globally, MMFs such as polyester, viscose, and nylon account for more than 60 per cent of fibre consumption, compared with about 25 per cent for cotton.

When reporters met K M Subramanian, president of the Tiruppur Exporters' Association (TEA) and promoter of KM Knitwear, he laid out a road map. "Our target is to increase the export revenue from ₹44,747 crore to ₹1 trillion by 2030. The idea is to raise the share of MMF from around ₹4,500 crore ($3 billion) by then," Subramanian said. "We had near zero MMF in our basket almost four years back," he added.

The spark

The segment got a leg up from a special scheme launched by the M K Stalin government a few years ago, offering subsidies to MMF yarn, fabrics made from recycled materials, and technical textiles manufacturing units. This was followed by a partnership with Taiwan, a global leader in MMF processing, and, this June, a new integrated textile policy that earmarked ₹250 crore to strengthen the ecosystem.

The Tiruppur industry expects at least ₹1,000 crore of MMF processing investments this year, and over ₹10,000 crore over the next five years.

Taiwanese chemical, machinery, dye, and technology suppliers have already set up a base in Tiruppur, providing expertise to help transition. The roster includes Tainan Enterprise, Lealea Group, Alchemie Taiwan, and Hsing Yong Ho. By late July, leaders from these companies had convened a series of meetings with local businesses.

Tamil Nadu's own textile glants have stepped forward too. Companies such as Menaka Mills, SCM Garments, TechnoSport, Best Corporation, CR Garments and Shobikka Knits are investing heavily in MMF knitting and processing. "We are getting help from Taiwanese companies, and some are already in Tiruppur. Around six companies have built their manufacturing units. We need 20-30 more to achieve the $3 billiion export target for 2030," said Sunil Jhunjhunwala, co-founder of sportswear company Technosport. India must accelerate its free-trade agreements with the US and EU to secure a level playing field in global markets, he added.

"All the global sportswear and activewear giants like Adidas are looking for MMF. It is the future, and we have to catch up with other markets importing fabrics from China, Taiwan, and South Korea initially and exporting garments made out of its, until the ecosystem is developed," said A Sakthivel, founder of Poppys Knitwear and TEA chairman.

The Centre has also stepped in with a push, through the production-linked incentive (PLI) scheme and the development of PM MITRA parks dedicated to MMF apparel, fabrics and technical textiles.

Challenges ahead

MMFs fall into two broad categories Synthetic, derived from crude oil, such as polyester, acrylic and polypropylene; and cellulosic, produced from wood pulp, like viscose and modal. While Inda has a foothold in cellulosic fibres, exporters say it needs an overhaul.

"Indian companies should also invest in new-age MMF like lyocell and polyester filament, rather than continued investment in conventional products. These new-generation products are most sought after in the global market," Jhunjhunwala observed, pointing out that China dominates in this space. Imports of Chinese fabrics are currently hindered by the quality control order (QCO), adding another bottleneck.

Others warn India risks being left behind. "By 2016, we had 40 kilogonne lyocell supplies, and we are at the same level now, whereas China zoomed from zeroto 2,000 KT during the same time," said an industry leader.

At present, India holds just 3-4 per cent of the global trade in MMF textiles. Projections suggest exports will rise by 75 per cent to $1.4 billion by 2030, from the current $6.5-7 billion. Yet, according to Arun Ramasamy, chairman of TEA's MMF Sub-Committee. "We have a knowledge gap compared to China. Taiwan, Vietnam and other MMF-advancing countries, affecting the production of high-quality, value-added MMF products. These issues need to be addressed immediately."

TEA's plan in clean : Import fabrics and manufacture garments for the US and EU markets; plough investment into knitting and processing; and within five years, establish a full value chain of MMF including yarn, dyes and chemicals.

If the blueprint unfolds as intended, Tiruppur—long defined by cotton—could soon weave a new chapter in India's textile story. ■

ITMA ASIA + CITME, Singapore 2025 gathers strong support from industry partners

Over 80 organisations keen on supporting the region's leading textile machinery exhibition

The region's much-anticipated exhibition for sourcing cutting-edge technologies and sustainable solutions across the entire textile and garment value chain will open next month on 28 October.

ITMA ASIA + CITME, Singapore 2025 has already seen strong interest from textile and garment industry professionals in the region since visitor registration was launched in March. Held from 28 to 31 October 2025 at the Singapore Expo, the exhibition will gather technology providers and key stakeholders from the entire textile and garment value chain.

To-date, the Singapore edition has drawn the support of over 80 textile and garment industry organisations. Among them are All Pakistan Textile Mills Association (APTMA), Asosiasi Pertekstilan Indonesia (API), Association of Iran's Textile Industries (AITI), Confederation of Indian Textile Industry (CITI), International Trade Centre (ITC), Malaysian Knitting Manufacturers Association (MKMA) and Sri Lankan Apparel Exporters Association (SLAEA). Many of the associations are organising visiting delegations.

Mr. Kamran Arshad, Chairman APTMA sees the 2025 edition as a good opportunity for their association members to explore the latest innovations that can help boost their business competitiveness.

He enthused, "Our members look forward to attending ITMA ASIA + CITME, Singapore 2025 as the gains they make in automation, digitalisation and resource efficiency will translate into higher productivity, lower costs and stronger compliance with global buyers. As such, we have promoted the exhibition to our members and response has been encouraging as Singapore is more accessible to us."

Joseph Ikpe, National President of the Garments and Footwear Factory Owners Association of Nigeria (GAFFOAN) also sees great value for his members to attend the exhibition. He said, "This exhibition is a key opportunity for us to see advanced machinery and make the right investment decisions. It is timely as the Bank of Industry Fashion Fund offers loans for equipment purchases at favourable rates."

He added, "We are sending a delegation as we hope to keep abreast of trending technologies and find solutions that will make our industry more efficient and competitive. With Africa gaining attention as a sourcing destination, now is the time to invest in technology that matches our ambitions."

The much-anticipated textile machinery showcase features 19 product sectors encompassing the entire textile manufacturing value chain. Buyers will be able to source technologies and products from over 800 exhibitors from 30 countries and regions.

Early bird visitor badge registration will close on 28 September, according to the organiser ITMA Services. Project Director Ms Sylvia Phua advised, "Visitors planning to attend the exhibition have a few days left to secure their badges at 50% off regular rates. Those who require a visa can submit their application supported by our invitation letter to the nearest Singapore Overseas Mission or through its authorised visa agent.

"Participants will find that Singapore offers exceptional value for industry professionals beyond business: a short stay can be both productive and cost-effective. Visitors can enjoy the island's exciting tourist hotspots and renowned food scene — from affordable hawker fare to Michelinstarred dining — making their visit a delightful cultural experience for every budget."

About ITMA ASIA and ITMA

CEMATEX launched its ITMA ASIA exhibition in 2001. It was followed by a second show in 2005 that was supported by the Japan Textile Machinery Association. Both exhibitions were held in Singapore. ITMA ASIA combined with CITME in Shanghai in 2008.

CEMATEX is the owner of ITMA, the world's largest textile and garment technology exhibition. ITMA, the Olympics of textile machinery exhibitions, is held every 4 years in various European locations since 1951. Its next exhibition will be held in Hanover in 2027.

About CITME

CITME, the China International Textile Machinery Exhibition, was launched in 1988. It is owned by China Textile Machinery Association (CTMA), Sub-Council of Textile Industry, CCPIT (CCPIT TEX) and the China International Exhibition Center Group Limited (CIEC). Held in Beijing every 2 years, it was staged for 10 editions until 2006.

About ITMA ASIA + CITME

Since 2008, ITMA ASIA + CITME has been held in Shanghai every two years. The next combined exhibition will be held in 2026 at the National Exhibition and Convention Centre (Shanghai, China).

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A Seminars hosted by ITAMMA on Trends of Man-Made textiles held on 29th and 30th August 2025 at Panipat and Ludhiana

29th Aug 25

Seminar on Trends of Man-Made Textiles – a challenge or opportunity to the Stakeholders involved in Manufacturing and Trading of Textiles and it's Machines" at Panipat

Mr. N D Mhatre, Director General (Tech), ITAMMA in his opening remarks mentioned that the global trend is towards man-made fibre (MMF) textiles and is increasing rapidly so it calls for our members to be prepared while manufacturing their machines and accessories especially to run man-made textiles successfully. At the same time the demand for Artificial Textile Machinery is also increasing with a total trade of $887M. A ~$2.5 bn textile machine industry which is growing at 5% currently reflects on the growing strength of this sub-segment in the textiles value chain in India.

Mr. N D Mhatre, Director General (Tech), ITAMMA delivering Opening Remarks

Mr. Omprakash Mantry, President, ITAMMA in his Welcome Speech said that " Every second, a garbage truck's worth of clothes ends up in landfills globally— amounting to a staggering 92 million tons of textile waste annually. Against this grim backdrop, Panipat's efforts are crucial in tackling the global textile waste crisis.

With approximately 250 tons of textile waste flowing daily, Panipat's textile industry has an annual turnover of Rs. 50,000 crore (around US $ 6.02 billion), of which around Rs. 12,000 crore (US $ 1.44 billion) is from exports only. The cluster provides direct and indirect employment to about 8-10 lakh workers.

Panipat is home to around more than 2000 registered textile units, most of which are Micro, Small and Medium Enterprises (MSMEs). Not just a local hub, Panipat has been recognised as a Town of Export Excellence under Foreign Trade Policy, especially for its export of high-quality woolen blankets.

Friends, today textile market vision is the requirement of 20 MMT of all fibre supply, where Cotton is 7 MMT and MMF is13 MMT, (Global MMF share in textiles 75% = $ 140 in 2021/22). If India needs to get into driving seat in MMF Textiles to achieve this target it will have to GROW in next 2/4 YRS TO $ 150 billion DOMESTIC $ 95 billion and $ 100 billion in EXPORTS.

ITAMMA has always tried to be with the Global trends while organizing services and activities for its members and today's seminar is also planned with same objective to make awareness and importance of man-made textiles to the industry to be prepared in adoption of techniques and latest technologies while manufacturing textile machines and accessories in order to enhance the performance of man-made textiles on their machines.

Mr. Omprakash Mantry, President, ITAMMA delivering Welcome Address

Mr. Ritesh Singla, Director (Corp Relations & Placements), Panipat Institute of Engineering & Technology, Panipat, informed in details about the facilities available at PIET for the development of Panipat Textile Industry and stressed upon some in-house projects working on AI.

Mr. Ritesh Singla, Director (Corp Relations & Placements), Panipat Institute of Engineering & Technology, Panipat,

A Seminars hosted by ITAMMA on Trends of Man-Made textiles on 29th and 30th August 2025 at Panipath and Ludhiana

Mr. Vikas Sharma, PRINCIPLE CONSULTANT -TEXTILES, Gherzi Consulting Engineers Pvt. Ltd made his PPT giving details on MMF Trends & Implications: MMF's are reshaping the textile world. It's not just a substitution story, MMF is becoming the backbone of the value chain. The implications are profound for manufacturers, traders, and machinery players, where sustainability, innovation, and compliance define tomorrow's winners. The rise of MMF is both a challenge and an opportunity. On one hand, it opens new frontiers in functional, technical, and sustainable textiles. On the other, it requires heavy investments and agility to meet evolving regulations. Stakeholders who modernize early and embed sustainability will secure long-term competitive advantage, while laggards risk irrelevance.

World Scenario:

Globally, MMF now represents nearly 70% of fibre consumption. Cotton is volatile, natural fibres are stagnating, but MMF, especially polyester filaments, is expanding steadily. Sustainability pressures, rising demand in technical textiles, and sourcing shifts are accelerating this trend. For India, aligning with this trajectory is critical to stay competitive in world trade.

India:

India's fibre demand is estimated at 14 million tons in 2024, but supply gaps remain sharp. To reach USD 350 billion by 2030, India must expand fibre supply by at least 8 million tons. Without competitive feedstock, growth targets will be difficult to achieve. Cotton alone cannot deliver this and polyester faces raw material bottlenecks. This imbalance means India must import or scale recycling and alternative fibres. MMF and recycling must fill the gap. For fibre and textile manufacturers, opportunities lie in scaling recycling and bio-based capacity, moving into functional fabrics, and building traceability systems. But challenges include high CAPEX, evolving sustainability standards, and price sensitivity in global apparel chains. Strategic partnerships with machine OEMs will be vital to optimize processes and remain cost competitive.

The way forward is clear:

Manufacturers must invest in recycling infrastructure and product differentiation. - Machine OEMs should focus on PET, lyocell, and circularity-enabled machines. - Exporters must position in value-added textiles with certifications and supply chain transparency. Success will depend on combining scale, sustainability, and credible traceability.

Call to Action:

1. Map your fibre and data flows now to prepare for Digital Product Passport.

2. Invest in recycling capacity and value-added MMF products.

3. Secure third-party assurance to satisfy global buyers.

The MMF era is here. Those who adapt early will lead India's textile growth story.

Mr. Vikas Sharma, PRINCIPLE CONSULTANT -TEXTILES, Gherzi Consulting Engineers Pvt. Ltd making his presentations

Mr. Manoj Sharma AGM SIDBI, Panipat gave details of various schemes of SIDBI available for the development of Textile Industry.

Mr. Manoj Sharma AGM SIDBI, Panipat gave details of various schemes of SIDBI available for the development of Textile Industry

Mr. Vikrant Singh Dhankhar, of "NEXA SOLAR PRIVATE LIMITED" TATA Rooftop Channel Partner, Panipat.

Mr. Vikrant Singh Dhankhar, of " NEXA SOLAR PRIVATE LIMITED" TATA Rooftop Channel Partner, Panipat

Chief Guest, **Mr. Vinod Khandelwal,** President, Haryana Chamber of Commerce and Industry urged for technical support from Textile Institutes and Government to guide the Panipat Recycling, Carpet and Blanket Textile Industry to have a product and process development.

Chief Guest, Mr. Vinod Khandelwal, President, Haryana Chamber of Commerce and Industry being felicitated with Memento and CTB of ITAMMA

Mr. Rajmeet Dhammu, (Director), Dashmesh Jacquard and Powerloom Pvt. Ltd. in his Vote of Thanks said that the session was knowledge enriching giving us the importance of AI which can be applicable in our industry in the development of Products and Processes as well as reduction in the time and man-power.

30th Aug 25

Seminar on Trends of Man-Made Textiles – a challenge or opportunity to the Stakeholders involved in Manufacturing and Trading of Textiles and it's Machines" at Ludhiana

Mr. N D Mhatre, Director General (Tech), ITAMMA in his opening remarks mentioned that the we have organized many seminars in past with the support of Machine Tool Associations with an objective of strengthening the backward integration of our members from Textile Engineering industry. However this time we have invited the support of NITMA, an association of user industry, thus focussing on forward integration of our members. Thus learning the requirements of the customers of our member manufacturers and working out innovations on reverse engineering principles.

Mr. N D Mhatre, Director General (Tech), ITAMMA delivering Opening Remarks

Mr. Omprakash Mantry, President, ITAMMA in his Welcome Address said that Ludhiana's textile industry is a major Indian hub, particularly for woolen and acrylic knitwear, hosting major brands like Duke and Monte Carlo. Despite facing challenges from foreign competition, increasing costs, and economic setbacks like demon demonetization and the pandemic, the sector is adapting with new technologies and a focus on sustainability, including circular economy models, digital printing, and green practices like wastewater management. The industry is seeking to overcome current "supply shocks" by reopening the Shanghai port and implementing industry-led sustainable roadmaps.

ITAMMA has always tried to be with the Global trends while organizing services and activities for its members and today's seminar is also planned with same objective to make awareness and importance of man-made textiles to the industry to be prepared in adoption of techniques and latest technologies while manufacturing textile

machines and accessories in order to enhance the performance of man-made textiles on their machines.

Mr. Omprakash Mantry, President, ITAMMA delivering Welcome Address

Dr. Debasish Banerjee, CEO & Executive Director, Blackstone Synergy Consulting Group Limited, Nairobi, Kenya and Mr. Sanjay Sharma, OEM Saurer (Schlafhorst) shared their experience for the development of Ludhiana Textile Industry.

Dr. Debasish Banerjee, CEO & Executive Director, Blackstone Synergy Consulting Group Limited, Nairobi, Kenya and Mr. Sanjay Sharma, OEM Saurer (Schlafhorst) shared their experience

Mr. Chandandeep Singh, B.Tech (Textiles), MBA PRINCIPLE CONSULTANT -TEXTILES, Gherzi Consulting Engineers Pvt. Ltd made his PPT giving details on MMF Trends & Implications.

Driven by demographic shifts and rising per capita consumption, global textile fibre demand is projected to grow at a CAGR of 1.4%, reaching approx. 143 million tons by 2030. A significant share of this growth will be fuelled by manmade fibres (MMF), which are rapidly transforming the textile landscape.

MMFs are no longer just substitutes—they are becoming the backbone of the textile value chain. This shift carries profound implications for manufacturers, traders, and machinery providers, where sustainability, innovation, and regulatory compliance will define tomorrow's leaders.

Global Landscape

MMFs now account for nearly 70% of global fiber consumption. While cotton remains volatile and natural fibers stagnate, MMFs—especially polyester filaments—are expanding steadily. Key drivers include - Rising demand in technical textiles, shifts in global sourcing strategies and sustainability pressures

For India, aligning with this global trajectory is essential to maintain competitiveness in international trade.

India's Opportunity and Challenge

India's fiber demand is expected to reach 14 million tons in 2024, yet supply gaps persist. To achieve the ambitious USD 350 billion target by 2030, the country must expand fiber supply by at least 8 million tons. However:

- Cotton alone cannot meet this demand
- Polyester faces raw material bottlenecks
- Competitive feedstock remains a constraint

This imbalance necessitates either increased imports or a rapid scale-up of domestic MMF capacity.

Strategic Implications

The rise of MMF presents both opportunity and challenge. Opportunities include expansion into functional and technical, integration across the value chain and development of traceability and compliance systems. However, there are many challenges such as significant capital investment, skill development and agility to meet evolving global regulations.

Early adopters who modernize operations and embed sustainability will gain long-term competitive advantage. Strategic partnerships

with machinery OEMs will be crucial to optimize processes and maintain cost efficiency.

Conclusion

The MMF era has arrived. Those who adapt early and decisively will shape India's textile growth story and secure their place in the global value chain.

Mr. Chandandeep Singh, B.Tech (Textiles), MBA PRINCIPLE CONSULTANT -TEXTILES, Gherzi Consulting Engineers Pvt. Ltd delivered his presentations

Mr. Rajan Gupta, Dy. General Manager, SIDBI, Ludhiana gave details of various schemes of SIDBI available for the development of Textile Industry.

Mr. Rajan Gupta, Dy. General Manager, SIDBI, Ludhiana gave details of various schemes of SIDBI available for the development of Textile Industry

Mr. Piyush Mishra, Area Sales Manager, of " B & B METAL KRAFTS" TATA Rooftop Channel Partner, Ludhiana who mentioned about the benefits which can be availed after installation of TATA Rooftop including contributing to Green Energy.

Mr. Piyush Mishra, Area Sales Manager, of " B & B METAL KRAFTS" TATA Rooftop Channel Partner, Ludhiana delivered his presentations

Mr. Pankaj Sharma, Secretary General, Northern India Textile Mills' Association (NITMA), in his Vote of Thanks said that NITMA is planning to organize 1 day international conference with the support of ITAMMA probably in Dec 25 which shall give a platform to both the supply and user textile industry of Ludhiana to know the latest developments in products and process for the development of Ludhiana textile industry.

Mr. Pankaj Sharma, Secretary General , Northern India Textile Mills' Association (NITMA), delivered his Vote of Thanks

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GLI-CLEAN

A OHTC for Spinning & Weaving

BUSBAR AND CHAIN DRIVE SYSTEM:

- Pioneer to install OHTC for Ring Frames with Auto-piecer by using a tilting mechanism.
- Travelling speed possible upto 22 mtrs/min.
- Conveniently suits upto 2400 Spindles/Ringframe and 280 Spindles/Speedframe.
- Achieve power saving through VFD for both traverse and blowing (optional).
- Improved blowing and suction.
- In house design and manufacturing of complete OHTC.

BELT DRIVE:

- Travelling speed possible upto 12 mtrs/min
- Patented design of self discharging (waste) unit
- Proven upto 1824 Spindles/Ringframe.
- In house design and manufacturing of complete OHTC.

LAKSHMI PRECISION TECHNOLOGIES LIMITED

(Formerly known as Lakshmi Precision Tools Limited)

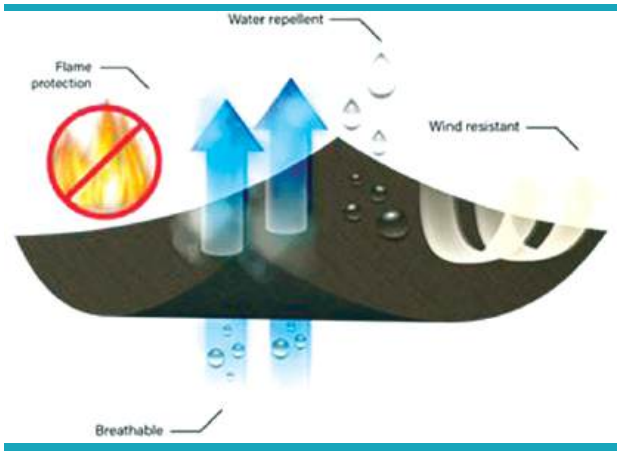
Arasur- 641407. Coimbatore District, INDIA. Phone: +91 422 617 3500

Email: mktg_textile@lptindia.com | Website: www.lptindia.com

TEXTILCOLOR AG obtained Pyroshell™ patents from SCHOELLER TEXTIL AG

TEXTILCOLOR AG, a leading provider of innovative textile chemicals, today announces the acquisition of the application patents for PyroshellTM from Schoeller Textil AG, based in Sevelen.

Textilcolor already manufactures the chemical components used in the Pyroshell™ technology and is now also acquiring the patents of the application technology. This strategically important step strengthens the company's position in the international market and makes Pyroshell™ available to a wide range of customers in high-tech textile manufacturing. This unique technology can now be used in an even larger segment of functional and protective textiles.



Pyroshell™ technology is a patented, permanent flame protection for polyamide and polyester fabrics and represents a milestone in the field of protective equipment for synthetic textiles. Pyroshell™ is revolutionising flame protection by significantly reducing the risk of burns. When a fabric equipped with Pyroshell™ is exposed to a flame, its textile structure expands substantially in volume. This effect keeps heat and fire-promoting gases largely away from the fabric. Therefore the time between the first sensation of pain from heat exposure and the onset of second-degree burns doubles. As a result, wearers gain valuable additional reaction time compared to conventional flame protection solutions.

Unlike conventional treatments, Pyroshell™ is firmly integrated into the textile fabric. This ensures permanent, halogen-free protection that cannot be washed off or worn away – all while maintaining full breathability, elasticity, and freedom of movement. This makes the technology particularly suitable for security personnel, railway workers, police officers, electricians and military special forces who require the highest level of protection against potential contact with flames or sparks, without impairing the comfort of synthetic performance fabrics.

The technology is already being used in tactical clothing, such as UF PRO's Striker FR Gen.2 BDU, which was developed specifically for extreme conditions such as flashover fires or IED scenarios.

The advantages at a glance:

- Permanent flame protection – no washing or wearing off
- Suitable for synthetic fabrics such as polyamide and polyester
- High comfort – breathable, water- and wind-repellent, tear- and abrasion-resistant
- Durable and sustainable – halogen-free, integrated protection instead of surface coating
- Patented safety – property rights until 2037, ensuring full market freedom

"The acquisition is another milestone in our long-term growth strategy in the field of high-tech textile technologies," explains Detlef Fischer, CEO of TEXTILCOLOR AG. "With Pyroshell™, we are not only acquiring a renowned technology but also a team of highly qualified application engineers. This will enable us to support our customers worldwide with integrating this innovative technology into their production processes. We will continue to develop the products created through this partnership to deliver sustainable, future-oriented solutions. The existing customer relationships of Schoeller Textiles AG will continue to be served with the same high quality within the established partner network – and will be further strengthened by the expanded capabilities of TEXTILCOLOR AG."

About TEXTILCOLOR AG

TEXTILCOLOR AG, based in Sevelen, is a globally active company specializing in the development, manufacture and distribution of high-quality chemical products for textile finishing. The company places particular emphasis on sustainability, quality and customer-oriented solutions.

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CORPORATE NEWS

Asteks stands out with offer to textile manufactures in Uzbekistan and surrounding markets at CAITME 2025

Asteks' best-selling and most trusted aprons and cots, along with its advanced R&D grinding technologies, stand out with the advantages they offer textile manufacturers. The Asteks booth at CAITME 2025 will become a popular destination for visitors with innovative offerings.

Asteks, a leading manufacturer of high-quality and durable aprons and cots as well as advanced cots grinding, UV cots surface treatment, and automation solutions, will highlight its innovative products and strong local service at the 16th Central Asian International Textile Machinery Exhibition, CAITME 2025. At the exhibition to be held in Tashkent, the capital of Uzbekistan, on September 9-11, Asteks will welcome visitors at Hall 2, Booth D20, showcasing a comprehensive product portfolio.

Asteks' renowned open-top booth design will allow visitors to closely examine solutions and engage in productive B2B meetings with company representatives. The 24m² Asteks booth will showcase numerous samples of the company's core product portfolio, the aprons and cots that have steadily gained market traction over the years. Asteks' aprons and cots, preferred by yarn manufacturers for their technical features and durability, will attract attention with their advantages throughout the exhibition. Reflecting the company's position as a technology manufacturer in recent years, the R&D-developed grinding department solutions will be showcased to visitors from the global market through posters, catalogues, and video presentations. Showcasing key advantages such as highly automated and digitally enabled cot grinding machines, cot mounting & de-mounting presses, cot measuring devices, and AGV (Automated Guiding Vehicles), Asteks will present a wide range of innovative product solutions.

Textile manufacturers from Uzbekistan and the surrounding region will discover innovations at the Asteks booth

Asteks International Sales & Marketing Manager Taner Engin stated that Uzbekistan is a market where they have successfully and intensively been working and noted that they will focus on this growing market throughout the event. "We have a strong position in Uzbekistan. We receive repeat orders and new business demands from several existing customers. We also continue to deliver both our aprons and cots, as well as our machines, to customers who choose us for the first time. Therefore, our primary goal at CAITME 2025 will be to reach Uzbek textile manufacturers. Furthermore, thanks to the exhibition's broad scope, we also want to connect with industry professionals and decision-makers from surrounding countries such as Tajikistan, Kyrgyzstan, and even Russia. In short, the event will become an ideal platform for accessing not only Central Asia and the Turkic Republics, but also the surrounding region. Visitors will be able to discover innovations and opportunities at our booth to grow their businesses. Our expert team will be on hand throughout the exhibition to provide them with the best possible welcome and detailed information," he said.

Taner Engin
Sales & Marketing Manager

Engin announced that they will convey the message at the event that they offer a complete and comprehensive service of superior quality for spinning systems, drawing on their extensive knowledge and experience in apron and cot products and cots grinding solutions. Noting that their brand recognition is quite high in the regional market thanks to their product quality and performance, as well as their high customer satisfaction service, he continued: "Asteksdevelops its products 100% through its own R&D efforts and proudly presents them to its customers with the 'Made in Türkiye' label, and quickly makes a difference in all export markets it reaches and establishes strong ties with textile manufacturers. By optimizing our services with our local partners,

we offer our customers the best products under the best conditions. In this context, CAITME 2025 will be beneficial both in further strengthening our relationships with existing customers and in reaching potential new ones."

Asteks has recently made significant strides in emerging textile markets such as Egypt, Bangladesh, and Brazil, meanwhile maintaining a competitive position, particularly with its cots grinding solutions. Having been present in the Uzbekistan market for many years, the company also handles new orders, production, and deliveries with a rapid schedule. Local textile manufacturers in the region prefer Asteks' aprons and cots for their high quality, durability, and successful performance under challenging production conditions. They also particularly favour the brand's solutions for cot grinding machines. The 401-SF&M cot grinding machine is attracting significant interest in this region due to its advantages and efficiency.

The next stop after CAITME 2025 is ITMA ASIA + CITME Singapore

Asteks has a busy autumn schedule andwill be strongly participating in ITMA ASIA + CITME Singapore 2025 to be held on October 28-31, following CAITME 2025. At this largest textile event in the Asian market, Asteks will be showcasing its comprehensive range of aprons and cots, as well as its advanced, fully integrated UV-305 cot surface treatment machine and 401-SF&M cot grinding machine, to visitors from diverse markets.

About ASTEKS

Since 1970, ASTEKS has been serving the textile industry by combining its experience and quality with modern technology without deviating from the principles determined in its foundation. Today, the company continues its production with the work force reaching up to 150 employees including highly educated experts in their field at its modern facilities in 11.000 m2 open and 6.000 m2 closed area in Beylikdüzü/İstanbul.

The company is the market leader in Turkey with a far better share and also exports to more than 25 countries including Uzbekistan, Turkmenistan, Indonesia, Vietnam, China, Egypt, Bangladesh, Pakistan, Ethiopia, Peru, Mexico, Italy, Greece, Poland, France, Lithuania and Bulgaria.

In addition to rubber-based apron & cots products, Asteks has commercially started to produce machinery and equipment in 2014, in respect to the goal of offering entire and complete solutions to the yarn manufacturers by transferring its 50 years of experience in the field. Offering new generation smart system high-tech cots grinding machines, cots UV surface treatment machines, all the other roll shop equipment and automatic guided vehicle systems (AGV), the company can supply a wide range of machinery products.

Asteks, addition to the textile industry, serves the paper printing sector with their rubber coated printing rollers. Asteks, has an international identity and awareness in this segment, as well.

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CORPORATE NEWS

Special threads to be focussed at the A+A 2025

Functional solutions from Durak Tekstil that ramps up occupational safety and protect worker health

Durak Tekstil will be exhibiting R&D and brand power to the global market with the technical threads developed for occupational safety and worker health at the A+A 2025 Düsseldorf, which they will be attending for the first time after the pandemic.

Yiğit Durak, Vice Chairman, Durak Tekstil

Durak Tekstil, a leading manufacturer of industrial sewing and embroidery threads, will showcase R&D product solutions at the occupational health and safety exhibition A+A Düsseldorf 2025 to be held on November 4-7. Taking their place in Hall 17, Booth 17C74, the company offers specialized solutions for more than 20 industries, including occupational safety.

Yiğit Durak, Vice Chairman of the Board of Durak Tekstil, stated that the A+A Düsseldorf is a globally significant event for the occupational safety industry. "Occupational health and safety is a subject with several different aspects and impacts. Strict regulations have been established to protect the health and well-being of employees throughout the production process, from workplace accidents to occupational diseases. In this context, the need for innovative solutions to enhance occupational safety is constantly growing. At Durak Tekstil, we have achieved significant advancements in this area through our uninterrupted and interdisciplinary R&D efforts. The A+A 2025 will be an important platform to showcase our strength in technical threads, especially our highly flame and cut-resistant threads," he commented.

Durak Tekstil last participated in this event before the pandemic, and is poised to make a strong return with a rich and advanced product portfolio. At Durak Tekstil's booth, numerous technical threads, produced from different raw materials with special recipes and featuring different functions, will be on display for industry experts. Among the threads selected with their functional properties in mind, stand out; cut-resistant threads (Durak Cut-Safe), flame-retardant threads (Durak Fire-Safe), electrically conductive (Durak SilverPro) or insulating threads, threads with optical functions such as invisibility, color change, and reflection by laser and light waves (Durak Poly-Strong PC-IR and Durak Reflective), pest repellent products (Durak Bug-Safe), and certain products for the medical industry. These threads, which have successfully passed internationally recognized functional tests, offer durability and longevity suitable for their intended use thanks to their high-quality raw materials and special processing recipes.

Durak Tekstilbases the corporate vision on technology, art, and nature, meanwhile continuing to develop technical threads with an established R&D department, while also opening new doors for customers with artistic threads focused on creativity. The company also produces recycled threads within the framework of sustainability and prioritizes minimizing environmental footprint and protecting clean water resources through investments.

The A+A 2025 will contribute to the awareness of the Durak brand

Yiğit Durak, stating that they aim to meet with industry professionals and representatives from companies producing occupational safety tools and equipment, said; "At the event, we will showcase both our rich product portfolio and our vision dedicated to R&D and innovation with our technical threads for a wide range of products, from

protective clothing and shoes to bags and tents. We aim to bring our value-added solutions to a wider market. We expect to meet visitors from Central and Eastern Europe, Russia, and the US at A+A 2025. If this forecast, which aligns with our export target markets, comes true, the event will be considered a success for us. We also believe that the exhibition will provide new opportunities for our strategy to transform the Durak brand into a well-known and preferred brand in this specific segment of the global market".

About Us

Founded in 1972 in Bursa, Durak Tekstil develops and produces sewing and embroidery threads and sells them domestically and internationally. Durak Tekstil has a production facility in Türkiye, as well as several sales offices and representatives abroad. The company, which cooperates with global brands from Türkiye and abroad, responds to the textile industry's growing demand for quality and qualified products.

The products developed and produced by Durak Tekstil are preferred in garment / apparel, embroidery, denim, outdoor, automotive, bedding / quilting and similar application areas. For more information;https://www.durak.com/

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Spykar rolls out AW25 Denim Collection Celebrating Exploration and Individuality

Spykar, India's leading denim and lifestyle brand, is set to launch its Autumn/Winter 2025 collection, AW25, bringing together high-fashion streetwear and the spirit of Indian streets. The new season embraces understated elegance, highlighting luxury through longevity, while celebrating the playful and imaginative spirit of bold aesthetics and fantasy. Rooted in nature, heritage, and human imagination, the AW25 collection reflects a balance between timeless style and youthful irreverence, offering clothing that is as expressive as it is versatile.

Spykar is embracing AI-powered visuals instead of traditional physical photoshoots. This innovative approach reimagines iconic Indian locales through a high-fashion street photography lens, blending realism with digital imagination. The campaign embodies "main character energy," capturing individuals in authentic, unfiltered moments as they navigate from urban streetscapes to vibrant festivals to serene ghats — turns each backdrop into a canvas for denim as a lifestyle.

On the launch, Sanjay Vakharai, CEO and Co-Founder of Spykar Lifestyle, said, "AW25 is our most daring collection yet. It reflects the dynamic spirit of today's youth — bold, imaginative, and unapologetically themselves. By combining timeless denim with AI-driven storytelling, we are redefining how fashion speaks to a generation that values authenticity, creativity, and sustainability."

AW25 is designed not just to be worn, but to claim spaces, tell stories, and resonate with a new generation of explorers, creators, and dreamers who define their own journey. The brand celebrates sustainable creativity, reducing the need for extensive on-location shoots while unlocking limitless storytelling possibilities.

CORPORATE NEWS

Spykar's AW25 collection is more than just apparel — it's an invitation to embrace the streets, celebrate individuality, and experience fashion as a lifestyle statement.

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'AD' from the House of Arvind proudly announces appointment of Raghav Juyal as its Brand Ambassador

Championing Comfort, Style & Everyday Fashion

'AD', the contemporary ready-to-wear brand from the house of Arvind, proudly announces the appointment of Raghav Juyal, celebrated actor and youth icon, as its new brand ambassador. Known for his authentic personality, effortless charm and distinctive sense of style, Raghav perfectly embodies the spirit of AD – comfortable, breathable and fashionable everyday wear that resonates with today's generation.

Commenting on the announcement, Pranav Dave, Chief Business Officer – Retail & Knits, Arvind Limited said, "Raghav Juyal's individuality and effortless style align seamlessly with our brand ethos. 'AD' from the house of Arvind is about creating versatile, easy-to-wear fashion that fits into the everyday lives of our consumers, while making them look and feel confident. Raghav brings that spirit alive with his relatable and charismatic personality."

Raghav Juyal, known for his individuality and creative energy, shared his excitement, "I am excited to associate with 'AD' from the House of Arvind. The brand represents fashion that is relaxed yet stylish – something I personally relate to. For me, comfort is non-negotiable, and the brand delivers exactly that while still keeping it trendy. I look forward to this partnership and connecting with people who enjoy fashion that feels as good as it looks."

'AD' redefines everyday fashion by offering stylish, breathable, and versatile apparel designed for the modern lifestyle. With a focus on balancing comfort and fashion, the brand is fast becoming a preferred choice for those who seek clothing that transitions effortlessly from work to leisure.

With Raghav on board, the brand will soon unveil a new campaign across digital platforms, retail stores, and marketplaces, celebrating the idea of everyday fashion that is effortless, confident, and in tune with today's lifestyle. The collection is available across The Arvind Store, Myntra, and other leading e-commerce platforms, ensuring easy access for today's fashion-forward consumers.

About AD

ADis a modern menswear label redefining wardrobe essentials through premium fabrics, technical construction, and versatile designs. Focusing on innovation, resilience, and timeless appeal, the brand caters to men who equally value comfort and confidence.

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Oerlikon successfully announced successful placement of CHF 350 million dual-tranche senior unsecured bonds

OC Oerlikon Corporation AG, Pfäffikon ("Oerlikon") today announces the successful placement of two series of senior unsecured bonds: CHF 150 million due in September 2027 and CHF 200 million due in September 2030 (together, the "Bonds"). The proceeds of the Bonds will be used for general corporate purposes, including the repayment of outstanding debt. The Bonds have attracted broad investor demand.

The coupons have been set at 1.375% per annum for the Bonds due 2027 and 2.000% per annum for the Bonds due 2030. The coupons for both tranches are payable annually on September 3 with the first coupon payable on September 3, 2026, on both tranches.

An application for the Bonds to be admitted for listing and trading on the SIX Swiss Exchange will be filed, with provisional trading expected to commence on or around September 1, 2025. Settlement date of the Bonds is expected on September 3, 2025.

Commerzbank, Bank J. Safra Sarasin, UBS Investment Bank and Zürcher Kantonalbank acted as the Joint Lead Managers and Bookrunners, and DBS Bank Ltd acted as a Co-Manager on the offering.

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Laufey advents into 'Laufey in Everland' as face of everlane's fall 25 campaign

Of late, Everlane (www.everlane.com) unveiled its Fall 2025 Campaign, Laufey in Everland featuring GRAMMY award winning artist, Laufey. Everlane's first talent-led campaign marks a bold, new creative direction from the brand, inviting audiences into the whimsical world imagined with Laufey.

"Partnering with Laufey for our first talent-led campaign is a natural extension of who we are as a brand," said Alfred Chang, CEO of Everlane. "Her artistry, global presence, and personal story align seamlessly with our values of timeless design, individuality, and cultural relevance. Laufey's effortless style is distinctly Everlane, and through Laufey in Everland, she offers a fresh, personal perspective on the future of Clean Luxury. Better For You."

In its latest campaign, Everlane introduces Laufey in Everland, a cinematic dreamscape where Laufey journeys through a portal from her real-life home into a surreal, miniature city inspired by clean luxury and imaginative storytelling. The film explores the intersection of timeless style, musical identity, and self-expression.

CORPORATE NEWS

Throughout the campaign, Laufey highlights key pieces from Everlane's new collection, each reflecting the brand's core pillars - accessibility, thoughtful materials, and cleaner luxury - all brought to life within the world of Laufey in Everland. As she strolls through Laufey in Everland in the Leather T-Strap Flat, her first stop is a charming farmers market, embodying Everlane's commitment to approachable style and quality craftsmanship. From a train car, we see rolling hills adorned with new arrivals like the Wrap Mini Skort, underscoring the brand's dedication to its better for you mantra. Other standout pieces featured in the campaign include the Air Alpaca™ Short-Sleeve Cardigan, Cashmere Handkerchief, Blazer in Tailor Twill, and the Slip Skirt in Silk Charmeuse.

As a continuation of the partnership, Everlane and Laufey have also collaborated on an exclusive capsule collection created to benefit The Laufey Foundation. The collection will include a Crop Zip Hoody, Cropped Crew Fleece, Wide Leg Sweatpant and Pocket Tee Shirt in multiple colorways, each decorated with Laufey <3 Everlane embroidery in Laufey's own handwriting. Everlane and The Laufey Foundation Collection will be available in limited quantities online and in-stores.

CREDITS

Creative Producer: Junia Lin
Creative Direction: PlayLab, Inc.
Director and Photographer: Sam Cannon
Set Design: Nucalifornia
Production: Derby Studio

ASSETS

Campaign Assets HERE (Courtesy of Everlane)
Campaign Video HERE
Product Images HERE (Courtesy of Everlane)

ABOUT EVERLANE

Everlane is the destination for clean luxury - effortless, premium pieces made to last. Our commitment to better clothing goes beyond design; it's built into every decision we make. From certified materials and lower-impact production to circular design and full traceability, we're focused on creating clothes that are better, forever.

ABOUT LAUFEY

Laufey has captivated a generation with virtuosic songs of love and self-discovery by manifesting her vision of jazz- and classical-infused pop music. After becoming the youngest ever recipient of the GRAMMY for Best Traditional Pop Vocal Album (for Bewitched), the Icelandic-Chinese composer and singer, producer, and multiinstrumentalist further crystalizes her singular sound on A Matter of Time. To that end, Laufey teams with fellow producers Spencer Stewart and Aaron Dessner to break the set of expectations she herself set, serving up a transcendent sound and honest writing that cuts to the heart. It's the culmination of an incredible journey that began with her playing cello with the Iceland Symphony as a teen before writing her first charting single while studying jazz at Berklee College of Music. Laufey's many achievements have since grown to include over 5 billion global streams, the biggest jazz LP debut in Spotify history, an album in Billboard's Top 20, a pile of Platinum plaques, a Forbes 30 Under 30 designation, and, in 2025, being named one of TIME's Women of the Year. She's also: sold out the Madison Square Garden, Crypto.com Arena, Red Rocks Amphitheatre and London's Royal Albert Hall.

For further information, please contact:
everlane@chapter2agency.com ■

PROCESS CONTROL INSTRUMENTS FOR SPINNERS

DRAW FRAME TOP ROLLER LOAD GAUGE - SUNRISE NILOMETER

(For individual & independent end load measurment of top rollers)

(With 2 Dials & Planometer)

(For draw frame, comber, sliver lap, ribbon lap.)

It helps decrease Sliver CV%, Strength CV% and count CV% besides improving appearance. It is a must for better Uster Values.

SUN TARP GAUGE (TOP ARM LOAD GAUGE)

Replaceable varying sized rollers for specific roller cover size running in the mill

YARN SPLICE TESTER (PORTABLE)

ANALOG MODEL RANGE 500, 1000, 1500 & & 2000 GMS.

DIGITAL MODEL RANGE UP TO 2000 GMS. LEAST COUNT 1 GM.

DIGITAL YARN TENSION METER

RANGE UP TO 200 GMS, 500 GMS & 1000 GMS

DIGITAL MOISTURE METER

RANGE UP TO 50% (For Cone, Loose Cotton, Bale)

PACKAGE HARDNESS TESTER

(For Cone, Warp Beams, Bobbin)

DIGITAL STROBOSCOPE

LED FLASH TYPE

(For Spindle RPM Measurement)

SUNRISE INDUSTRIES

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E-mail : sunriseindustriesahmedabad@gmail.com / 9825226318j@gmail.com,
Website : http//www.sunriseindustries.co.in / www.sunriseindustries.net / www.homogenisers.in

Successful conclusion of 'Inaugural edition of Digital Print Asia 2025 what sets the stage for the Future of Print Innovation

The printing industry witnessed a groundbreaking moment with the successful conclusion of the inaugural edition of Digital Print Asia 2025, hosted at Novotel Jaipur. The event, the first of its kind in the industry, brought together global leaders, technology innovators, and print professionals under one roof to reimagine the future of printing in an increasingly digital-first world.

The grand inauguration of Digital Print Asia 2025 was graced by an esteemed panel of industry leaders and visionaries. The ceremony was led by Mr. Nihar Kothari, Executive Editor & Director, The Patrika Group; Mr. Seiji Nakashima, Corporate Vice President and Division President of Professional Print Business Headquarters, Konica Minolta, Inc.; Mr. Anil Arora, Director, Reenvision Events Private Limited; Mr. Tushar Dhote, Curator of Digital Print Asia; Mr. Janaka Rathnakumara, Chief Executive Officer, Wijeya Newspaper Ltd.; Mr. Satish Malhotra, President, All India Federation of Master Printers; and Mr. Vinod Kumar Sharma, President, Rajasthan Offset Printers Association. Their collective presence not only elevated the event's stature but also marked a powerful beginning to this first-of-its-kind industry gathering.

The summit was marked by an engaging series of breakout sessions, each designed to highlight transformative innovations and practical solutions shaping the print landscape:

BREAKOUT 1 - Flexible Packaging and Label Printing

This breakout opened with insightful sessions on the power of inkjet technologies and their role in enhancing productivity and print quality. A highlight was the discussion on how digital print empowers start-ups, enabling small businesses to compete with agility in a highly competitive market. The segment concluded with an expert panel discussion, offering diverse perspectives from across the value chain.

BREAKOUT 2 - Exploring Innovation in Book Printing

The second breakout was dedicated to the world of publishing, where stakeholders came together to discuss digital solutions for book printing. Key topics included the publishers' viewpoint on digital adoption, innovations in binding solutions for digital printing, and advances such as head cleaning technologies. A compelling case study from Inkfinity Prints showcased real-world applications, while discussions on paper printing for digital books further enriched the knowledge exchange. The session concluded with a thought-provoking panel discussion on the future of digital book publishing.

BREAKOUT 3 - Digital Commercial Printing & Packaging

The final breakout addressed the broader commercial printing landscape. Sessions delved into the role of Artificial Intelligence in the printing world, opportunities in inkjet for commercial printers, and concluded with a panel discussion that tied together practical insights with forward-looking strategies for printers seeking to innovate in packaging and commercial solutions.

With rich content, engaging discussions, and an exceptional networking platform, Digital Print Asia 2025 was a true convergence of ideas, innovation, and collaboration.

Reflecting on the success of the inaugural edition, Anil Arora, Director, Reenvision Events Private Limited, the organiser for the event stated:

"Digital Print Asia 2025 has marked a defining moment for the print industry by creating a platform that unites innovation, dialogue, and collaboration. Our vision was to set a new benchmark for digital printing events, and the overwhelming response from participants validates that we are on the right path. This is just the beginning of a journey to continuously reimagine the future of print.

Adding his perspective, Tushar Dhote, Curator of Digital Print Asia, stated:

"Digital Print Asia was about creating a platform that brings together technology providers, printers, and innovators under one roof to discuss what's next for our industry. The response to this first edition validates the need for such a forum, and we look forward to taking this dialogue further in the years to come."

Powered by the support of industry giants, Konica Minolta came on board as Platinum Partner, TechNova Imaging Systems as Principal Partner, Insight Communication as Gold Partner, Redington and Bindwel as Silver Partners, while Sona Fine Paper, Canon, and Domino supported as Bronze Partners.

Building on the success of this year's edition, Digital Print Asia has officially announced its next

edition in Kochi, where the summit will return with expanded discussions and greater global participation. The upcoming edition will offer attendees even deeper opportunities to connect with industry pioneers, and unlock new avenues for sustainable business growth.

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ITMA ASIA + CITME

Singapore 2025

28-31 October 2025, Singapore Expo

The region's leading textile and garment technology exhibition, ITMA ASIA + CITME, Singapore 2025, is fast approaching. Secure your visitor badge now. Early bird rates end 28 September. Be part of the region's must-attend textile and garment technology exhibition.

Why you should attend:

- See live machinery in action: Compare technologies side-by-side and make confident investment decisions.
- Connect with technology manufacturers: Get expert advice and practical solutions for your business needs.
- Source across 19 product sectors: Find the latest cutting-edge technologies efficiently, clustered by sector.
- Stay competitive: Upgrade your production capabilities with cost-effective technologies to meet global sustainability demands.

Don't miss the chance to save with the early bird badge rate.

Demonstrations

Witness the industry's most advanced machinery in action. Compare technologies and plan your visit around exclusive live demonstration timings.

30 October, Singapore Expo

Join a global community to explore the future of sustainable textiles. Gain insights on EU regulations and real-world success stories to stay ahead. Find out more here.

Discover Singapore's Culture & Heritage

While you discover Singapore, immerse yourself in vibrant enclaves, like Chinatown, Little India, and Katong-Joo Chiat, each offering rich heritage, unique architecture, and world-class cuisine. From iconic landmarks to lush green spaces, Singapore promises a truly memorable experience.

Experience Singapore's rich cultural diversity and heritage while you are here for ITMA ASIA + CITME, Singapore 2025!

- Special rates at selected hotels
- Convenient scheduled coach transfer service to and from Singapore Expo at selected hotels
- Exclusive group offer available for 10 rooms and above
- Discounted airfares with Singapore Airlines, our official airline partner. Simply use the promo code when booking to enjoy special rates.

Lock in your preferred hotel and flight to enjoy exclusive benefits today!

Download the Exhibition App

Plan Your Visit with Ease, All from Your Mobile App

- Explore the exhibitor list and product sectors
- Save your favourite technologies and sessions
- Navigate the venue with the interactive floorplan

For further information, please contact:
ITMA ASIA + CITME, Singapore 2025
<info@itma.com> ❐

ITMA 2027

16-22 September 2027
Messegelaende Hannover
Germany

Stand Space Applications launch 9 September 2025, 9 am CEST – Save the Date

From 16 to 22 September 2027, Hanover will host the world's largest textile and garment technology exhibition under the theme Co-creating the Future of Textiles.

ITMA 2027 is a strategic platform where groundbreaking ideas come to life, collaborations thrive and new opportunities emerge. The upcoming edition focuses on innovation in four areas:

- Advanced Materials
- Automation & Digital Future
- Human-centric Manufacturing
- Sustainability & Circularity

Stand space applications open in a week — ensure your company is part of the journey to cocreate the textile industry's future.

Why Exhibit at ITMA 2027

- Reach global buyers across 20 product chapters
- Engage decision-makers actively sourcing the latest technology.
- Showcase breakthroughs at the world's leading textile and garment technology platform.

Need for Exhibiting

Special Grants for Research and Start-Ups

CEMATEX supports innovation through special grants for research and education institutions (50% rental subsidy) and start-ups (full subsidised stand packages).

Apply for Grant from 9 September

Push up Innovation Together with Our Global Partners

ITMA works closely with the global textile industry to foster collaboration, accelerate innovation and build valuable networks. At ITMA 2023, 114 media partners and more than 170 international associations, institutions, and government bodies lent their support.

Become our partner and help co-create a stronger, more connected textile future together.

Secure Your Accommodation

ITMA 2027's official travel agent, bnetwork, has launched their booking site! Visit their webpage to explore a wide range of accommodation options and book early to secure your preferred rooms.

Bite-Sized Updates

Follow our socials @ITMA_2027 for fresh and fast updates delivered straight to your feed!

For further information, please contact:
info@itma.com ❐

HanoiTex 2025 - Vietnam Hanoi Textile & Garment Industry Expo 2025

16 - 18 December, 2025, ICE, Hanoi, Vietnam

Textile fraternity are cordially invited to participate in HanoiTex 2025, the only dedicated textile and garment machinery and materials expo in Hanoi of Vietnam since the 1990s.

Vietnam Textile & Apparel Association (VITAS) has raised Vietnam's 2025 export target for textiles, garments, and yarn to $47–48 billion. Vietnam needs to import more textile and garment machines and parts from overseas for self production, to meet the low tariff requirements for the US market.

Why Hanoi? A New Production Base in Vietnam

- **Cost Efficiency:** Giving its lower labour, production, and land costs compared to Ho Chi Minh City, Northern Vietnam presents a lucrative opportunity for businesses.
- **Infrastructure Development:** The Vietnamese government is investing heavily in infrastructure in Northern Vietnam, making it an attractive area for production facilities.
- **Strategic Location:** Compared to Ho Chi Minh City, Hanoi offers cheaper land transport for supplies from China, thanks to its proximity, ensuring a seamless supply chain.
- **Growing Industry Presence:** A significant number of local and international textile and garment factories are already setting up operations in Northern Vietnam, capitalising on the region's advantages.

Don't miss out on the chance to present at HanoiTex 2025!

Despite the organizers having opened an additional hall for HanoiTex 2025 (for a total of 3 halls), over 80% of the booths have already been booked. Register now to secure your booth! For more details or to register, please visit www.vhanoitex.com or contact Mr Jason Chow in Hong Kong (Tel: +852 25117427, Fax: +852 25119692, Email: jason@cpexh.com, cpexh@yahoo.com, Wechat: cpexhibition) or our representative in your region.

We look forward to your participation!

From the Desk of
Vietnam Hanoi Textile & Garment Industry Expo 2025
Organizing Committee

Other events in Vietnam:

SaigonTex 2026 (36th year) - Vietnam Saigon Textile & Garment Industry Expo

8 - 11 April, 2026, SECC, Hochiminh City, Vietnam

For further information, please contact:
jason@cpexh.com ❐

Techtextil India-2025

19 - 21 November 2025
Bombay Exhibition Centre, Mumbai

Dear Industry Professional,

If sourcing innovative and cost-efficient technical textiles and nonwovens is a key priority for your business - Techtextil India 2025 is a non-negotiable destination for you.

From 19 - 21 November 2025 at Bombay Exhibition Centre, Mumbai , this landmark 10th edition will bring together the full value chain - so you can source smarter, meet global leaders, and unlock growth like never before.

Serious buyers asked to attend

- Meet 150+ top brands offering the best in fibres, yarns, coated textiles, adhesives, machinery, and more
- Connect directly with manufacturers from Germany, Italy, China, Japan, USA, Switzerland and beyond
- This is a sourcing opportunity for buyers from 12+ Industry verticals from geotextiles, medical, agriculture, mobility, filtration, activewear and more
- Introduce your brand to international exhibits from the German Pavilion
- Be at the Sporttech pavilion where you can Explore the latest in fitness apparel, smart textiles and performance gear
- Techtextil India Symposium 2025 is proud to host its upcoming edition in collaboration with the world's largest fibre innovation congress - the Dornbirn Global Fibre Conference Asia
- Visit ReCycle Zone is Techtextil India - a dedicated recyclable & sustainable Textiles Pavilion

The Indian market is your gold mine

India's expanding sectors - automotive, healthcare, agriculture, and infrastructure - are consistently boosting the demand for technical textiles across a wide range of industrial uses.

Advances in automation, smart textiles, and eco-friendly materials are raising quality standards and positioning India as a global hub for sustainable and high-tech textile solutions.

Join thousands of buyers and decision-makers already planning their visit

- Register as a visitor to the upcoming edition
- Exhibitor list
- Concurrent events

For further information, please contact:
Messe Frankfurt Trade Fairs India Pvt. Ltd.,
Gala Impecca, 5th Floor, Andheri Kurla Road,
Chakala, Andheri (E), Mumbai - 400093 ❐

Bharat Print Expo 2026

The Total Print & Package Converting Exhibition

Bharat Print Expo 2026- The South India's Largest Print Exhibition Is All Set to Take Over Chennai!

After a phenomenal success in Bengaluru, Bharat Print Expo is gearing up for its next power-packed edition — this time in Chennai. Scheduled from 27th to 29th April 2026 at the Chennai Trade Centre, the show is poised to unlock a new chapter of innovation, collaboration, and business growth in South India's thriving print and package converting industry.

As one of India's most anticipated industry events, Bharat Print Expo 2026, organised by All India Federation of Master Printers (AIFMP) in association with ReEnvision Events Private Limited (REPL), will bring together a dynamic blend of visionaries, innovators, and decision-makers from across the industry. From commercial printers, package converting professionals, and brand owners to textile printers, signage specialists, corrugated box manufacturers, graphic designers — the event will serve as a one-stop destination for the entire print ecosystem.

This edition is set to be even more diverse, featuring cutting-edge technologies and futuristic solutions from exhibitors across the nation. Expect to witness a vibrant showcase of Offset, Screen, Digital, Prepress and Postpress solutions, Package Converting Machines, Label Presses, 3D Printers, Corrugated Box Making Machinery, Inks & Consumables, Automation Tools, Wide Format Signage Printers, Textile Printers and much more- a tech-laden experience designed to push the boundaries of what's possible in print.

"Chennai 2026 will be a grander, more inclusive platform that builds on the incredible momentum we witnessed in Bengaluru," said Anil Arora, Director, REPL. "Get ready to witness something even bigger – a show that is expected to redefine opportunities for the print industry in South India."

Adding to the enthusiasm, Mr.Satish Malhotra, President of the All India Federation of Master Printers (AIFMP) & Chairman Of Bharat Print Expo, remarked,

"Bharat Print Expo has become a landmark initiative in energising South India's print industry. We are thrilled to see its next edition take shape in Chennai — a region full of talent, enterprise, and untapped potential."

For further information, please contact:
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Excellence in Spinning : VishwaTriveni Cotspin Sets New Standards in Yarn Realization and Benchmarking Performance with LMW Machinery

In 2021, VishwaTriveni Cotspin Private Limited began its transformative journey in partnership with LMW, transitioning from ginning operations at Shri Balaji Group, Hinganghat to establishing a state-of-the-art spinning facility. Entrusting LMW with the outfitting of their 22,000-spindle plant, VishwaTriveni Cotspin, Hinganghat (Maharashtra) aimed to integrate cutting-edge technology to ensure unparalleled efficiency and quality. Today, the company is renowned for setting industry benchmarks in yarn realization, showcasing exceptional efficiency, precision, and product quality that distinguish them in the textile market.

Dr. Madhusudan Vishwanath Goyanka, a chest physician by training and a visionary entrepreneur by passion, has an impressive history of pioneering initiatives across various sectors. From launching the first Dal mill in 1989 to introducing private sector ginning in 2002, and establishing several financial institutions, Dr. Goyanka has made significant contributions to the business and social sectors. In 2021, he ventured into the spinning industry by founding VishwaTriveni Cotspin as a Greenfield project and selected LMW Limited as their trusted partner for the execution. Under this partnership, the company not only achieved operational excellence, but also setting benchmarking standards across several parameters.

LMW's advanced solutions at the Heart of VishwaTriveni Cotspin's Yarn Realization Triumph

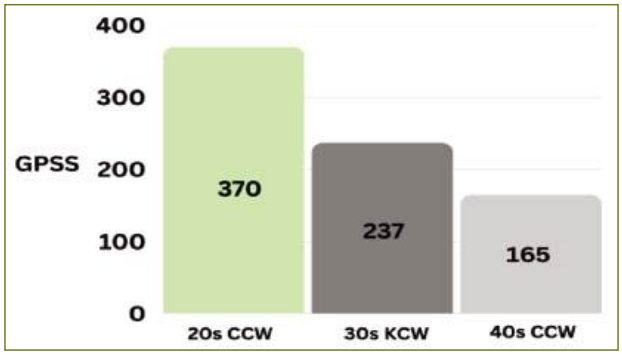
VishwaTriveni Cotspin Private Limited		
Department	Model	Plant Configuration
LMW Blow Room line	LA23/S	1
LMW Card	LC363/361	15
LMW Draw frame (Breaker)	LDB3	4
LMW Lap former	LH20 S	1
LMW Comber	LK69 S	4
LMW Draw frame (Finisher)	LDF3 S	5
LMW Speed frame	LF4280/SX	4
LMW Ring frame	LRJ 9SXL	12

LMW's cutting-edge technology has empowered VishwaTriveni Cotspin to achieve remarkable yarn realization rates, setting new industry benchmarks for production and energy:

- **Cotton Combed Yarn:** Realization at 74%
- **Cotton Carded Yarn:** Realization at 88%
- **Average Plant UKG:** 2.8

The production capabilities of VishwaTriveni Cotspin highlight the precision and power of LMW's technology:

Count	CSP
40's CCW	3300
30's KCW	2900
20's CCW	3200



These figures not only underscore the exceptional quality and efficiency achieved through LMW's advanced spinning solutions but also ensure that the yarn produced meets the rigorous demands of both domestic and international markets, maintaining consistent high quality across all product lines.

Voices of Confidence: Why Customer Choose LMW

Dr. Madhusudan Vishwanath Goyanka, (Chairman), alongside Mr. Rohan Goyanka (MD), comments: *"When we initiated plans for this project, LMW emerged as the definitive choice. The performance of LMW machines has exceeded our expectations with their flawless operation. Additionally, the sales and service support has been exceptional, which has ensured seamless operations with benchmark performance."*

Beyond achieving operational excellence, VishwaTriveni Cotspin is committed to integrating energy-efficient practices. This not only minimizes the environmental impact but also maximizes productivity. With steadfast support from LMW & Voltas (UMPESL), the company has achieved-

- **Optimized Yarn Realization and Quality:** Ensuring top-tier product standards.
- **Enhanced Operational Efficiency:** With Latest Smart Technology & Sustainable Automation from LMW (Auto Doffer SF & RF), streamlined processes to maximize output and reduce waste.
- **Strengthened Market Position:** Gaining a competitive edge through reliability and precision in all outputs. Spinpact Quality is well established in market.
- **Green Operations:** The higher production and energy efficiencies achieved, speak about the commitment of VishwaTriveni Cotspin towards green operations.
- **Market Dominance through Technological Leadership:** Solidifying market position by leveraging LMW's reliable and precise machinery to set new industry benchmarks.

Mr. K. Gurumoorthy (GM-Technical) says - *"In my experience of managing operations, it's crucial to have machinery that not only delivers output but does so with consistency and efficiency while ensuring quality. LMW machines have proven their mettle, surpassing even some European brands in performance. The reduced service and maintenance costs are significant for us, and the ease of operation further enhances our productivity. We are also achieving higher yarn recovery. This is why we will choose LMW to scale up. Thanks to the Service support of the team with which we are able to achieve benchmark performance."*

Mr. S.K. Gupta, Technical Director, VishwaTriveni Cotspin Private Limited - *" We are extremely happy with performance of LMW's latest smart machines and achieving benchmark performance. For any spinning mills, LMW smart machines are the best choice."*

Mr. S.K. Gupta, Technical Director, VishwaTriveni Cotspin Private Limited

A Future Forged in Excellence

With an eye on the future, the enduring partnership between VishwaTriveni Cotspin and LMW continues to be a cornerstone of the company's growth strategy. This collaboration is instrumental in propelling forward our commitment to innovation and excellence within the yarn-manufacturing sector. By harnessing cutting-edge technology and embracing strategic collaboration, VishwaTriveni Cotspin sets a standard for excellence, demonstrating how these elements synergize to propel the textile industry forward. With LMW by our side, VishwaTriveni Cotspin is poised to explore new horizons and achieve greater heights, continuing to spin a legacy of quality and innovation.

Scan here to visit website of LMW

For further information, please contact
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Periyanaickenpalayam, Coimbatore-641020
Phone : +91 73976 88873
Email: info@lmwtmd.com
Website: http://www.lmwtmd.com/ ■

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Size Premixing Vessel

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+91 9824006569 | +91 9687655699

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Oerlikon

Oerlikon Textile Inc. unveils new service

Crimper repair workshop launches operations

Since the beginning of the year, Oerlikon Textile Inc. has been offering a crimper repair service, making it the company's first location worldwide to do so. The workshop in Charlotte specializes primarily in Fleissner and Neumag crimpers.

Crimping is one of the most important and demanding steps in the staple fiber process. A uniform and stable crimp is crucial for optimum product quality. This makes it even more important to keep the essential components in good condition and repair them promptly to prevent production downtime.

Crimping is one of the most important and demanding steps in the staple fiber process. As such, the condition of the relevant components has an impact on product quality.

Competence center established

In addition to the right equipment, this precise work also requires appropriate specialist personnel. Oerlikon Textile Inc. has built up a competent team at its Charlotte site, which offers a complete overhaul including pressure roller and chamber repairs, as well as checking the pneumatic, hydraulic, and electrical systems. Each crimper is delivered pre-set and undergoes a thorough test run. These services are, of course, also covered by a warranty. "With this new service, we can work closely with our customers and guarantee the best service with OEM standards and short response times," says Daniel Möller-Langmaack, Team Leader Service Sales Staple Fiber at Oerlikon Neumag. "This repair center is another important step in helping our customers to be successful and profitable in their business," adds Tilmann Seidel, Vice President and Head of Customer Services at Oerlikon Neumag.

About Barmag

Since 2025, the Swiss Oerlikon Group has continued its manmade fiber business as a subsidiary under the traditional name Barmag. This includes the established product brands Oerlikon Barmag, Oerlikon Neumag and Oerlikon Nonwoven. As a future-oriented company, research and development are focused on energy efficiency and sustainable technologies (e-save).

Barmag is one of the leading suppliers of filament spinning systems for manmade fibers, texturing machines, BCF systems, staple fiber systems and solutions for the production of nonwovens. Together with its range of polycondensation and extrusion systems and their key components, Barmag thus covers the entire manufacturing process - from monomer to textured yarn - and supports it with customeroriented engineering services. The product portfolio is rounded off by automation and digitalization solutions. In addition, Barmag offers high-precision gear metering pumps for the textile industry and other sectors, including the automotive, chemical and paint industries.

The main markets for the Barmag product portfolio are in Asia, particularly in China, India, Turkey and the USA. Barmag employs around 2,500 people worldwide and is represented by production, sales and service organizations in 120 countries. In the research and development centers in Remscheid, Neumünster (Germany) and Suzhou (China), highly qualified engineers, technologists and technicians develop innovative and technologically leading products for the world of tomorrow.

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❐

BB Engineering GmbH

An Interview on COBRA of BB Engineering

Efficient filtration in PET recycling – How the new COBRA filter is setting new standards

A conversation with Matthias Schmitz, Head of Engineering Recycling Technology at BB Engineering

Rapidly rising recycling rates, fluctuating input qualities and high demands on product purity pose major challenges for recyclers – especially in filtration. BB Engineering GmbH is responding to this with an innovative filter system: the COBRA filter. This combines large-area fine filtration with inline cleaning and promises not only increased efficiency and low operating costs, but also noticeable cost reductions. In this interview, Matthias Schmitz, Head of Engineering Recycling Technology at BB Engineering, talks about the development goals, technical features and practical benefits of the new solution.

Mr Schmitz, what was the main motivation behind the development of the COBRA filter?

Schmitz: The filtration requirements in PET recycling are high. The input material is often heavily contaminated, but at the same time the quality of the end product must be right. Conventional filter systems quickly reach their limits – either they cannot achieve the necessary filtration fineness, or they are extremely maintenanceintensive and complicated to handle. And yet filtration plays a key role in recycling. Our motivation was to develop a system that could overcome these challenges – efficiently, automatically and with as little waste of resources as possible.

The result is an automated large-area fine filter with inline cleaning – a system that has never existed before. Can you tell us more about the COBRA filter? What makes it special and how does it stand out from existing filter systems?

Schmitz: Exactly. Our COBRA filter is a continuous large-area fine filter with an automated cleaning process directly in the filter – a novelty in this form. We use pleated filter cartridges in two filter inserts so that COBRA can produce non-stop. Switching between the two filter inserts is automated, as is inline intermediate cleaning. While one filter insert is in production, the other insert is cleaned. The whole system is closed and runs without manual intervention or cleaning chemicals. Our 'White Filter Cleaning' technology works exclusively with superheated steam and restores the filter cartridges to an operational condition. This extends the service life of the filter many times over and protects the materials. In summary, our COBRA filter achieves significant efficiency gains through integrated intermediate cleaning, requires only minimal operating effort thanks to automation, and is very safe in terms of both process stability and handling.

There are many exciting aspects to this. Let's first return to the topic of filtration itself. COBRA is a large-area fine filter with cartridges. Why do you use this particular method and how effective is the filtration?

Schmitz: Large-area filtration has the stigma of high costs, high maintenance and time-consuming conversion and cleaning work. This is why many producers shy away from large-area filters. However, they offer the best filtration performance, which is essential, especially with increasing rPET proportions. That is why we have created a large-area filter that precisely overcomes these known weaknesses. With its pleated filter cartridges, COBRA offers a filter area of up to 24 m² with a fineness of up to 20 µm. COBRA therefore filters more finely than screen changers or laser filters and can absorb a larger amount of contamination. This makes it perfect for recycling applications or other demanding filtrations tasks, such as synthetic fibre spinning and film production. In a filter test with rPET, the COBRA filter with 20 µm showed a filter pressure value of 1,5 bar/kg/cm², which corresponds to the quality of virgin material.

Your approach to the high operating costs associated with changeover and cleaning is the intermediate inline cleaning. How exactly does it work?

Schmitz: We have been offering our White Filter Cleaning (WFC) filter cleaning system as a standalone solution for several years now. This intermediate cleaning of filter inserts does not require any chemicals and uses only superheated steam. This protects the components, is more cost-effective and also significantly safer for operators and, of course, for the environment. The WFC system is now fully integrated into the COBRA and can therefore be used as a closed system with filtration to its full advantage. The filter

control system signals when intermediate cleaning is required, switches production to the second filter insert and initiates cleaning. The filter insert remains in the filter and is automatically drained and then repeatedly exposed to superheated water vapour in several hundred cycles until it is ready for operation again. The cleaning process takes only 10 hours, whereas pyrolysis and chemical cleaning require several days.

What advantages does this offer producers?

Schmitz: COBRA offers advantages in many respects. Operators do not have to handle molten liquids or hot components, and there is no need to spend time on changeovers and cleaning. Furthermore, the consumables and materials have a longer service life because they are cleaned gently, without aggressive chemicals or the extremely high temperatures of pyrolysis. The costs for chemicals and their disposal are eliminated. Ultimately, COBRA's automation and intermediate cleaning lead to noticeable OPEX savings in terms of personnel, energy, materials, and parts. However, in our view, the biggest advantage is the significantly longer service life of the filter. Thanks to the intermediate cleaning cycles, the filter can remain in use approx. 3-5 times longer before it needs to be cleaned and inspected again. This means a significant increase in efficiency, especially in recycling, where service lives tend to be shorter rather than longer. This also applies to downstream processes.

To the downstream processes – in what respect?

Schmitz: The high filtration performance of the COBRA filter makes the melt so clean that downstream cleaning steps are significantly reduced or even eliminated. This saves time, material, and energy. In addition, there are fewer interruptions in the production chain due to residual particles in the melt. This is a decisive advantage, especially in demanding applications such as the packaging or textile industry.

Are there any applications beyond PET recycling?

Schmitz: Definitely. Although the COBRA filter was developed with a focus on PET recycling, its modular design means it can also be used in other areas – such as plastic spinning or the processing of technical plastics. Wherever high-purity melt is required, and contamination is to be expected, COBRA can demonstrate its strengths, even as a retrofit solution in existing plants.

How do you see the future of filtration in the context of the circular economy and sustainability?

Schmitz: Filtration already plays a key role in recycling and will become even more critical if we want to achieve really high recycled content in high quality products. To do this, filters have to perform well under high levels of contamination while remaining efficient. What's more, sustainability doesn't just start with the product, but with the process design. I believe that solutions such as COBRA help to ensure that recycling remains economical, becomes more efficient and becomes even more widespread in industrial applications.

Will the COBRA filter be on display at upcoming trade fairs?

Schmitz: We will be at the K show in Düsseldorf in October and will also be holding an in-house exhibition at our technical center at the same time. The COBRA filter will of course be one of our

main topics there. We will also be represented at the booth of our parent company Barmag at ITMA Asia in Singapore.

Rendering of the new COBRA filter from BB Engineering

About BB Engineering GmbH:

BB Engineering GmbH is a German mechanical engineering company founded in 1997 as a joint venture between Barmag, a subsidiary of the Swiss Oerlikon Group, and Brückner Group GmbH. Today, the company employs more than 160 people at its Remscheid site, who focus on the development, design and manufacture of extrusion, mixing and filtration technologies, as well as complete spinning systems (VarioFil®) and recycling technologies (VacuFil®, Visco+®) for the plastics and textile industries. The range of services extends from conception and planning to the implementation of projects.

For further information, please contact :
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Marketing, BB Engineering
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www.bbeng.de

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Crealet AG

Creels and Yarn Tension Devices — Precision from the Start

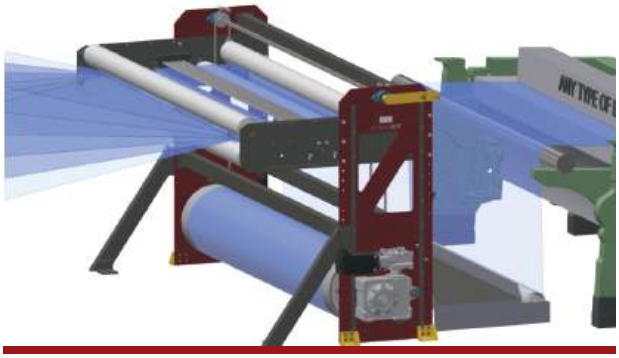
As a specialist in electronic warp yarn feeding units, CREALET AG offers precise solutions for the controlled delivery of warp yarns from the creel to the weaving machine.

Our technology ensures an exactly defined and uniform yarn tension - a key factor for consistent fabric quality, stable processes, and economical production.

Optimal Yarn Tension through Intelligent Control

Our electronically controlled warp yarn feeders allow precise adjustment of yarn tension directly at the control unit.

This enables the ideal conditions for each weaving process to be configured individually and reproducibly - regardless of the type of yarn or production speed used.



In the event of a weaving disturbance where individual weft picks need to be retracted, our system automatically intervenes: Loose warp yarns are reliably stored in the integrated yarn reserve.

This prevents yarn entanglements, reduces downtime, and optimally protects the yarn.

The Creel - A Key Component for Stable Yarn Feeding

The creel is often underestimated but plays a crucial role in the entire yarn delivery system. It carries the yarn carriers (spools) and must be precisely matched to the material, format, and process requirements. Insufficient design can significantly limit the performance of even the most advanced feeding units.

Therefore, CREALET, together with experienced partners, specifies tailor made reed solutions - always in combination with the appropriate yarn tension device. Depending

on your application, mechanical, pneumatic, or magnetic yarn brakes are used to ensure maximum efficiency and process reliability.

Our Commitment: Efficiency, Quality, and Process Reliability

The well-thought-out combination of modern reed design, individually tailored yarn tension systems, and our proven warp yarn feeders sustainably optimizes your weaving processes.

Your benefits include:

- Consistent fabric quality
- Increased production reliability
- Reduced maintenance effort
- Minimized downtime

CREALET - Precision You Can Weave On.

Are you planning a new project or want to optimize your existing system? Then get in touch with us! Our experts will be happy to advise you personally - together, we will find the best solution for your weaving technology.

For further information, please contact:
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Dhartex A DH Group Companies

To know about Dhartex

Dhartex Machinery India Pvt. Ltd. is a reputed name in the Indian and international textile machinery market. The company specialized in the design manufacturing and commissioning of high-performance equipment for wet finishing, dyeing, drying, squeezing, and fully automated size cooking solutions.

With a legacy built on trust, precision engineering, and innovation, Dhartex has grown to become a preferred technology partner for modern textile processing units. The company focuses on combining functionality, energy efficiency, and operator-friendly automation to develop robust systems that improve textile production quality and operational consistency.

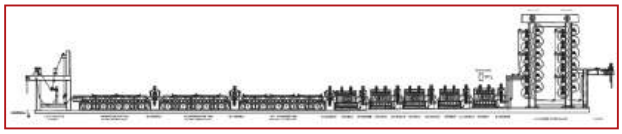
Mr. Narendra Panchal, the Managing Director and pioneer behind Dhartex Machinery India Pvt. Ltd. brings with him over 35 years of rich and hands-on experience in the textile machinery sector. With his deep-rooted technical knowledge and visionary approach, Mr. Panchal has led the company from its early beginnings to awell-recognized and respected brand in the textile industry.

His belief "engineering with purpose" and his focus on practical, production-centric solutions have guided the company's R&D and product innovation efforts. Mr. Panchal continues to mentor new generations of engineers and technologists within the company, maintaining Dhartex's industry edge.

DMERC PRO™

Chainless Mercerizing Range

Next-Generation Mercerization for Superior Fabric Quality



Introducing D-MERC-PRO™ the latest innovation from Dhartex—a cutting edge Chainless Mercerizing Range engineered for optimal performance, low maintenance, and unmatched fabric quality. Designed with advanced automation and energy-efficient technology, D-MERC-PRO™ redefines mercerizing with seamless fabric handling and consistent results across a wide variety of woven fabrics.

Benefits

Superior Fabric Quality : Enhanced luster, dye uptake, and hand feel make your fabrics stand out in the competitive textile market.

Energy & Resource Efficiency : Reduced water, steam, and chemical usage contribute to a lower environmental footprint and operational cost.

Low Maintenance, High Uptime : The chainless design, robust construction, and self-

cleaning systems ensure longer intervals between maintenance shutdowns.

Fast ROI : Increased productivity, reduced wastage, and long service life translate into rapid return on investment.

Applications

- 100% Cotton Woven Fabrics
- Cotton Blends
- Poplin,Twill, Voile, Satin & Shooting Fabrics
- High-thread-count Shirting Materials

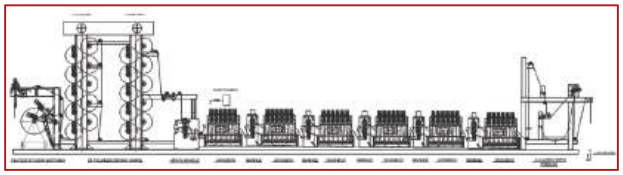
Key Features

1. **Chainless Fabric Transport System :** Eliminates the need for traditional chains, reducing mechanical wear, maintenance costs, and downtime.
2. **Uniform Tension Control :** Intelligent tension regulation across the entire range ensures perfect dimensional stability and smooth mercerizing.
3. **High-Efficiency Dwell Time Impregnator Tank :** Ensures uniform and deep penetration of caustic soda by controlling dwell time precisely. The well engineered tank design allows even saturation of fabric, crucial for achieving consistent luster, improved strength, and enhanced dye affinity.
4. **Advanced Stabilizer Tank System :** Designed to lock in the mercerizing effect, the stabilizer tank ensures controlled relaxation and alkali retention time. This results in better fiber swelling, dimensional stability, and minimized fabric shrinkage. Integrated washing and neutralization ensure effective alkali removal and smooth fabric feel.
5. **High-Performance Caustic Recovery System :** Maximizes lye recovery and minimizes chemical consumption, resulting in a more sustainable and cost-effective process.
6. **Modular Design :** Flexible, space-saving layout tailored to your production floor—easily expandable for future upgrades.
7. **Advanced Automation & Monitoring :** Intuitive HMI with real-time process visualization, automatic concentration control, and integrated production analytics.
8. **Efficient Washing & Neutralizing Units :** Multi-stage counterflow washing for thorough alkali removal and minimal water usage.
9. **Optimized for Fine & Delicate Fabrics :** Gentle yet precise treatment ensures high luster, enhanced dye affinity, and improved fabric strength.

DWASH PRO™

Smart Washing in Wet Finishing

Intelligent Open-Width Washing System for Pre-treatment, Dyeing & Finishing



Clean Fabric. Controlled Process. Consistent Results.

DWASH PRO™ by Dhartex is a next-generation modular open-width washing unit designed to optimize washing performance while drastically reducing water, steam, and chemical consumption. With intelligent automation features and customizable configurations, it ensures consistent quality across fabric types and processing needs.

Smart Automation for Precision Washing

Automation Feature	Description
Water Flow Control	Auto-adjusts water input based on fabric load & speed using VFD-regulated pumps and flow meters
Steam Control	Steam injection regularted by temperature sensors & PID logic to maintain precise liquor temperatures
Dosing System	Smart dosing unit integrated with pH sensors to neutralize acids/alkalis in real-time
Tank Filtration	Continuous inline filtration system removes suspended particles to extend liquor life and protect fabric
Sensor Integration	pH, temperature, flow, and level sensors enable real-time monitoring and closed-loop feedback
PLC-HMI System	Centralized touch panel with recipe management, alarm systems and SCADA
Water Reuse Logic	Cascade rinsing and recycled liquor return with conductivity-based quality control

Core Features & Technical Excellence

1. **Vertical Fabric Passage**
   - Enhances drainage and liquor contact

- Ideal for deep, uniform penetration of water or neutralizing agents

2. **Modular Construction**
   - Add/remove wash modules as per process length
   - Supports washing sections, hot wash, neutralizing, or chemical rinsing
3. **Twin Drive System (Optional)**
   - Independent top and bottom drives for ultra-low tension handling
   - Especially useful for sensitive or stretch-prone fabrics
4. **Splint Rollers & Pneumatic Compensators**
   - Optimize liquor extraction without excess tension
   - Maintain smooth and wrinkle-free passage
5. **Tension Control System**
   - Real-time tension feedback loop via load cell & pneumatic cylinders
   - Prevents fabric elongation or distortion during high-speed runs

Applications

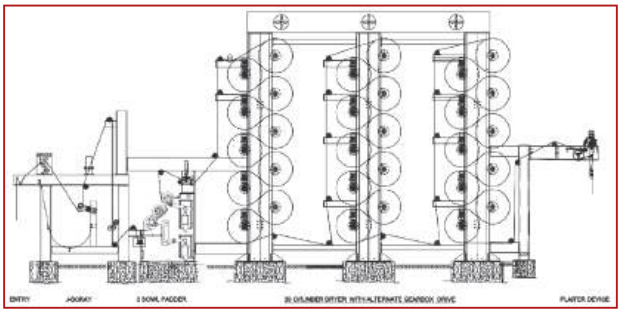
- Open-Width Washing after Mercerization
- Post-Dyeing Neutralization
- After-Scouring or Bleaching Rinsing
- Final Finishings Wash
- Sizing Agent Removal

Key Benefits at a Glance

- Superior Washing Quality at higher speeds
- Compact Modular Design to fit any production line
- Eco-Friendly Operation via liquor reuse and filtration
- Automated Chemical Neutralization with inline pH monitoring
- Reduced Utility Costs through controlled water/steam use

DHARTEX PRODRY™

Professional-grade, High-Performance Drying System



Introducing Prodry

Precision Drying. Intelligent Steam Control. Superior Results.

The Dry Nova Dryer is a high-efficiency, modular cylinder drying system designed for modern textile finishing.

Now enhanced with advanced steam automation — including moisture control and steam pressure regulation for both individual cylinder groups and the entire dryer — Dry Nova guarantees maximum performance, minimal energy waste, and consistently flawless fabric quality.

Intelligent Steam Accessory Package

1. **Group-Based Steam Pressure Control**
   - Independent steam regulation for each cylinder group
   - Enables thermal profiling based on fabric behavior
   - Improves drying balance and energy efficiency
2. **Whole-Dryer Steam Management**
   - Centralized pressure control for full-systm stability
   - Maintains consistent heat across all drying zones
   - Ideal for continuous production lines
3. **Real-Time Moisture Control**
   - Inline moisture sensors instantly measure fabric wetness
   - Dynamic steam flow adjustment
   - Prevents over-drying and preserves fabric hand
4. **Closed-Loop Automation**
   - Seamless feedback between sensors and steam valves
   - Self-regulating system ensures process consistency
   - Enhances overall production efficiency

Core Technology & Configurations	
Direct Drive System	➤ Frequency-controlled geared motors ➤ Eliminates belts, reduces mechanical wear
Adaptive Speed Control	➤ Automatically compensates for fabric shrinkage ➤ Maintains preset tension and fabric integrity
Modular Vertical Configuration	➤ Choose 1 to 4 stands ➤ 4 to 12 drying cylinders per stand
Cylinder Surface Options	➤ Teflon-coated for easy cleaning and non-stick drying ➤ Independent temperature zones per cylinder group

Flexible Customization Options

- ➤ Optional cylinder or zone shutdonw
- ➤ Pendulum roller for optimized fabric handling
- ➤ Alternative belt drive system
- ➤ Integrated or standalone cooling cylinders
- ➤ Exhaust hoods, fans, or enclosures for heat management
- ➤ Entry frames, winders, and stackers for separate operation

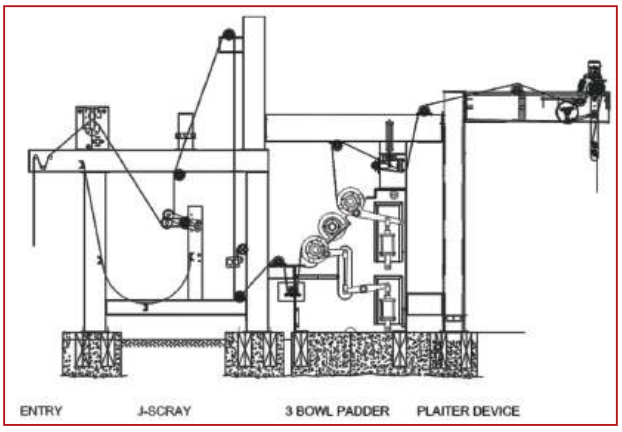
Key Benefits

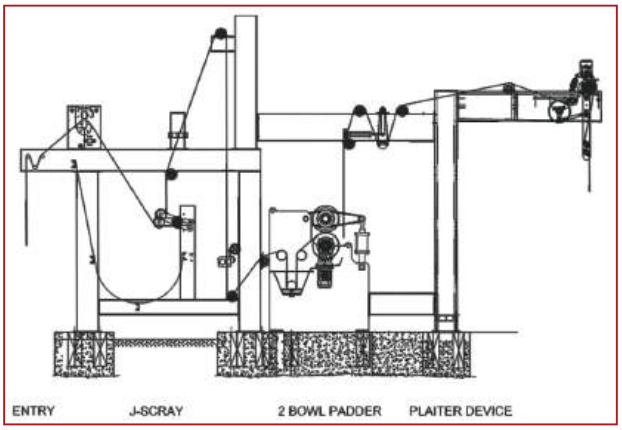
- ➤ **Built to Last :** Heavy-duty, vibration-free frame design
- ➤ **User-friendly :** PLC interface with intuitive controls
- ➤ **Energy Efficient :** Smart steam regulation minimizes consumption
- ➤ **Fast Start-up :** Quick heat-up times reduce delays
- ➤ **Fabric Safe :** Tension-free drying for sensitive textiles
- ➤ **Consistent Output :** Uniform temperature for flawless finish

DHARTEX PADMASTER™

Mastering the Art of Fabric Squeezing

Highlights dominance in fabric padding and pressure control





Engineered for Versatility – Built for Precision

Now with Advanced Filtration Unit

Smarter Application. Cleaner Operation. Greater Efficiency

The Dhartex Padder System, enhanced with a high-efficiency filtration unit, elevates precision textile processing to new heights. Continuous chemical bath filtration ensures :

- Chemical purity
- Reduced chemical wastage
- Consistent processing temperatures

These features translate into significant chemical savings and optimized application quality. Whether dyeing, finishing, or dewatering, Dhartex Padder Systems deliver mechanical reliability and adaptive performance across a broad range of fabric types and processes.

Configurable to Your Needs

1. **2-Bowl Padder**
   - Compact, efficient desing for standard operations
   - Ideal for light to medium squeezing applicationss
2. **3-Bowl Padder**
   - Enhanced pressure uniformity
   - Suitable for high-throughput, multi-stage finishing lines

Squeezing Variants

1. **Low Squeezing Option**
   - Gentle on delicate, lightweight fabrics
   - Enables precision chemical application with minimal mechanical stress
2. **High Squeezing Option**
   - Equipped with swimming rolls and nip-pressure control
   - Maximizes dewatering, reducing drying load and improving efficiency

Key Features

1. **Integrated Filtration Unit :** Maintains chemical purity, reduces re-dosing, extends bath life and cuts operating costs
2. **Thermal Stability System :** Ensures consistent bath temperature for uniform fabric-to-fabric results
3. **Adjustable Nip Pressure :** Up to 50 N/mm, adaptable to different fabric requirements
4. **Durable Roll Surfaces :** Speical coatings for fabric protection and long-term durability
5. **PLC-Controlled Operation :** Maintains chemical purity, reduces re-dosing, extends bath life, and cuts operating costs
6. **Available Widths :** From 1400 mm to 3600 mm
7. **Pressure Systems :** Motorized or pneumatic options for flexible integration

Smart Add-Ons

1. **Water Cleaning System**
   - Faster line cleaning and reduced downtime
2. **Pneumatic Control Junction**
   - Provides accurate pressure feedback and automation

Applications

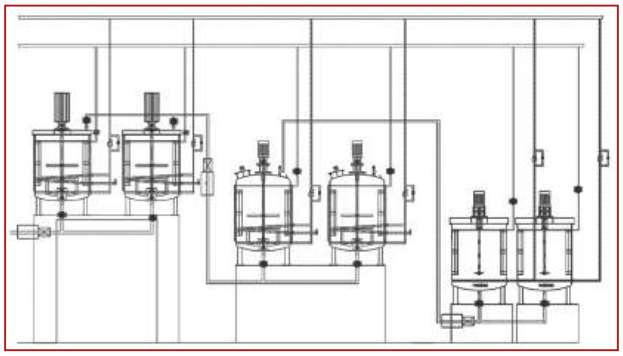
- Dyeing
- Pre-Treatment
- Resin & Softener Application
- Moisture Control
- Finishing

Achieve consistent results, cost efficiency and process reliability with the Dhartex PadMaster™ — now smarter with filtration and temperature management. Built to meet the demands of modern textile finishing.

Dhartex Sizepro™

Precision Sizing. Consistent Performance

Fully Automated Sizing Solution for Precision, Productivity and Consistency



Smart Sizing Starts Here

The Dhartex SizePro™ Cooking Kitchen is a state-of-the-art, fully automated system engineered for superior slurry preparation in modern textile sizing. It integrates the Pre-Mixing, Pressure Cooking, and Storage stages under a centralized control architecture — ensuring consistent performance, minimal waste, and zero process variability.

System Components with Technical Specifications

Size Pre-Mixing Vessel

Initial Dispersion & Pre-Heating Stage	
Feature	**Description**
Construction Material	SS 304/SS 316L grade stainless steel
Design Type	Cylindrical vertical tank with dished ends
Agitation System	Top-mounted high-efficiency anchor-type agitator with VFD control
Load Cells	For accurate weight-based ingredient dosing
Heating System	Steam jacketed electric pre-heating coil
Instrumentation	PT-100 temperature sensors, level transmitters, digital pressure gauges
Capacity Options	750/1000/1500/2000/3000 Litres
Special Features	Foam-level sensors (optional), auto dosing ports for chemicals

Size Pressure Cooking Vessel

High-Temperature Gelatinization & Cooking Phase	
Feature	**Description**
Construction Material	SS 304/SS 316L pressure-rated stainless steel
Design Pressure	2 to 4 bar (as per process requirement)
Agitation System	Bottom-entry propeller agitator with variable speed drive
Heating System	High-efficiency steam jacket or direct steam injection
Vacuum System	Optional vacuum degassing unit with condensate trap
Cleaning System	Fully integrated CIP (Clean-in-Place) rotary spray balls
Instrumentation	Digital temp. & pressure transmitters, safety relief valves, RTDs
Insulation	Double-layer with thermal cladding
Capacity Options	750/1000/1500/2000/3000 Litres
Safety	Pressure relief valves, rupture discs, interlocked steam control

Centralized Control & Automation

1. **Integrated PLC + SCADA**
   - system with real-time feedback loops
2. **HMI touchscreen**
   - Interface for recipe management and process visualization
3. **Batch memory & logging for**
   - traceability and audit compliance
4. **Remote diagnostics**
   - via IoT for proactive maintenance
5. **Interiocks & alarms**
   - for pressure, temperature, and overfill protection

Key Advantage

1. **Repeatable Batch Quality**
   - Intelligent gelatinization, precise viscosity
2. **Energy Saving**
   - Optimized pre-heating and controlled steam usage
3. **Minimal Labor**
   - Fully automated flow with process alerts
4. **Modular Scalability**
   - From single-vessel setups to large-scale kitchens

5. **Clean & Safe**
   - Hygienic design, pressure-certified, CIP-enabled vessels

Applications

Ideal for preparing size slurries for:

Cotton, Polyester, Viscose, and Blended Yarns used in

- Apparel Weaving
- Technical Textiles
- Industrial Fabrics

Dhartex SizePro™ — Where Efficiency Meets Intelligence

Deliver precision sizing with confidence. Whether you're running high-speed looms or technical fabric lines Dhartex SizePro™ ensures the perfect size, every time.

Dhartexpro Dry Cylinders

Precision Engineered for Superior Drying Performance

At DhartexPro, we build cylinders that drive your production forward. With over 35 years of specialized experience, we manufacture thin-walled steam, thermo oil, electrically heated, and water-cooled drying and cooling cylinders designed to meet the highest quality and safety standards.

Our cylinders are a trusted choice across a variety of applications, including sizing machines, non-woven production lines, and both textile and technical fabric finishing processes. Built with precision and innovation, DhartexPro Dry Cylinders guarantee exceptional temperature uniformity, minimal radial run-out, and flawless welding quality for optimum performance and durability.

Cylinder Types

- Steam Heated
- Thermo Oil Heated
- Electrically Heated
- Water Cooled

Ready-Assembled Accessories

- Heavy-duty, grease-lubricated pillow block bearings designed for high-temperature use
- Stainless steel siphon pipes for safe condensate removal
- High-quality two-way rotary joints with integrated vacuum breakers
- Flexible, corrugated stainless steel hoses for reliable fluid transfer

Key Advantage

1. **Robust Construction**
   - Thin-walled cylinders built as pressure vessels, certified to international standards including CE.
2. **Wide Operating Range**
   - Steam pressure up to 16 bar (204°C saturated steam), electric heating up to 300°C
3. **Flexible Dimensions**
   - Standard diameter of 800 mm (custom sizes 400 mm to 800mm), surface widths up to 4500 mm.
4. **Premium Materials**
   - Outer shells crafted from high-grade stainless steel (AISI 304, AISI 316L) with wall thicknesses up to 5 mm.
5. **Superior Surface Quality**
   - Highly belt-ground surfaces polished with optional Teflon and custom non-stick coatings.
6. **Durable Side Plates & Journals**
   - Made from high-grade carbon steel with advanced insulation and bolted journals featuring special high-temperature sealing.
7. **Precision Tolerances**
   - Typical true running less than 0.1-0.8 mm and diameter tolerance ±0.4-0.6 mm ensure smooth, reliable operation.

Why Choose DhartexPro Dry Cylinders?

Because your production deserves cylinders that combine cutting-edge engineering, proven durability and consistent, top-quality drying results — every time.

Dhartexpro Guide Rollers and Steam Rollers

Precision Guidance for Smooth Fabric Handling

DhartexPro Guide Rollers are engineered to deliver reliable, smooth, and precise fabric guidance throughout your drying and finishing processes. Manufactured from premium stainless steel and designed for exceptional durability, these rollers ensure optimal fabric tension control, minimizing the risk of fabric damage, creasing, or misalignment.

Key Features

1. **Premium Materials**
   - Constructed from high-grade stainless steel (AISI 304 & 316) for superior corrosion resistance in demanding production environments.
2. **Optimal Diameter**
   - Standard diameters up to 600 mm, ideal for guiding a wide range of fabrics — from delicate knits to heavy technical textiles.
3. **Robust Construction**
   - Built to last with heavy-duty bearings that guarantee smooth rotation and reduced maintenance.
4. **Enhanced Fabric Care**
   - Precision-ground surfaces offer gentle fabric contact, preventing snagging and ensuring wrinkle-free processing.
5. **Versatile Application**
   - Compatible with all fabric types and suitable for integration into various finishing lines.
6. **Seamless Integration**
   - Designed to perfectly complement DhartexPro Dryers and other finishing equipment, enabling synchronized and efficient fabric flow.

For further information, please contact:
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Manufacturing Unit
Plot No. 3703/E, Phase-4, Behind new Nirma, G.I.D.C. Vatva, Ahmedabad-382445, Gujarat, India ❐

Mimaki Engineering Co. Ltd.

Mimaki's Flagship Printer and High Color, Weather Resistant Eco-Solvent Ink decleared to be in approval for 3M™ MCS™ Warranty Program

Mimaki Engineering Co. Ltd., (Head Office: Tomi-city, Nagano, Japan; President & CEO: Kazuaki Ikeda), a manufacturer of industrial inkjet printers, cutting plotters and 3D printers, is to announce that our 330 series of high quality large format printers and our Eco-Solvent inks SS21 and BS4 used in these printers have been approved for the 3M™ MCS™ Warranty Program.

The 3M™ MCS™ Warranty is the most comprehensive finished graphics warranty in the industry. The 3M™ MCS™ Warranty provides non-prorated warranty coverage for the graphic's intended lifespan, including protection against fading, cracking, peeling, blistering, discoloration, and other aspects of graphic performance, thereby providing print service companies and their customers with the peace of mind and confidence that their graphics will perform as expectedfor the intended lifetime of the printed graphic.

The 330 series of our flagship printers (JV330 and CJV330) and the Eco-Solvent SS21 and BS4 inks used with them have now been approved for the 3M™ MCS™ Warranty program, giving customers using these products even greater peace of mind.

Certified Printers	Approved Inks/ Colors
JV330-130/160	SS21/C,M,Y,K,Lc,Lm,Lk,Or*
CJV330-130/160	BS4/C,M,Y,K

The addition of our product line to the 3M™ MCS™ Warranty Program further strengthens the cooperation between our companies. Customers can expect greater confidence in the quality of graphics production using the products and solutions offered by both companies.

We look forward to further expanding this collaboration to help our customers grow their businesses around the world.

About 3M

3M (NYSE: MMM) believes science helps create a brighter world for everyone. By unlocking the power of people, ideas and science to reimagine what's possible, our global team uniquely addresses the opportunities and challenges of our customers, communities, and planet. Learn

how we're working to improve lives and make what's next at 3M.com/news-center.

About Mimaki Engineering Co., Ltd.

Mimaki Engineering develops, manufactures, markets and maintains industrial inkjet printers, cutting plotters, 3D printers, 3D printer inks, and related software. By providing total printing process solutions for sign graphics, industrial products and textile apparel markets, we intend to become innovators capable of consistently delivering "Something New, Something Different" to our customers.

Company/IR website: https://ir-eng.mimaki.com/

Product website:https://mimaki.com/

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MAIL:press@mimaki.com
Inquiries from general customers:
Please contact us via
our online inquiry form.
https://mimaki.com/inquiry/ ❐

Bluesign

bluesign carried out new monthly BRIEFING: Recycled Polyester

Managing Chemical Realities of Circular Fashion

As regulatory pressures, material circularity goals, and chemical safety mandates accelerate across global fashion supply chains, textile to textile polyester recycling is emerging as a critical solution area. bluesign®, a global leader in sustainable chemical management, has developed extensive expertise in both mechanical and chemical recycling technologies through its

bluesign Academy, internal research, and system partnerships.

This bluesign briefing integrates findings from bluesign Academy's most recent research, highlighting the nuances of chemical recycling processes, purification needs, and regulatory implications. It is designed to support your ongoing coverage of climate-conscious innovation, textile policy, and material science in fashion.

Recycling alone isn't clean unless the chemistry is. Chemical recycling requires strict controls on input materials, solvents, and emissions. bluesign's expertise ensures that polyester recycling isn't just circular - it's safe.

How Polyester Recycling Works

- Collection → Cleaning → Shredding → Depolymerization → Purification → Repolymerization → Pelletization
- Depolymerization breaks PET into monomers such as BHET, TPA, or DMT through methods like glycolysis, hydrolysis, or methanolysis.
- Purification steps (e.g. solvent extraction, distillation, crystallization, filtration) remove harmful residues, dyes, coatings, blended fibers and additives.
- Final output: high-grade recycled polyester with 'virgin-like quality' suitable for performance apparel and compliant with current and upcoming chemical safety laws

Mechanical vs. Chemical Recycling

Mechanical Vs. Chemical Recycling Differences		
Factor	Mechanical Recycling	Chemical Recycling
Output Quality	Degrades with each cycle	Produces virgin-like quality
Feedstock Flexibility	Requires clean, mono-material input	Can process blended, dyed, or contaminated input
Regulatory Compliance	Cannot remove restricted substances	Removes banned/ toxic substances through purification
Energy Usage	Lower	Higher (requires heat, solvents, pressure)
Circularity Potential	Limited Reuse	Enables closed-loop, infinite reuse

bluesign's conclusion: Chemical recycling is essential to true, scalable circularity for polyester textiles

Chemical Releases in Polyester Recycling

Mechanical Recycling is relatively simple and involves no chemical alteration of the polyester polymer. However, contaminants from the original garment or bottle feedstock may still pose risks.

Common contaminants:

- Dyes and pigments
- Softeners, finishing agents, or plasticizers from coatings
- Restricted substance impurities such as PFAS, Bisphenols, heavy metals and PVC
- Microplastics shed during shredding and reprocessing

****Mechanical recycling doesn't add chemicals, but it doesn't detox either.***

Chemical Recycling processes break polyester (PET) down into its monomers using heat, solvents, and catalysts.

These methods – e.g. glycolysis, methanolysis, hydrolysis, or enzymatic - require chemical inputs and produce potential emissions if not tightly managed.

Chemical Inputs (Depending on Process)

Process	Common Inputs
Glycolysis	Ethylene glycol (EG), catalysts like zinc acetate
Methanolysis	Methanol, pressure, heat, possibly sodium hydroxide
Hydrolysis	Sulfuric acid (acidic), caustic soda (alkaline), water/steam
Enzymatic depolymerization	Enzymes (cutinases/esterases), buffers

Potentially Released / Risky Chemicals

Chemical recycling is capable of removing impurities from post-consumer textile feedstock but If not properly managed, chemical recycling may emit or leave behind:

- Solvents/Volatile Organic Compounds (VOCs) that may be used within the process e.g. methanol, toluene, DMF, DMSO
- Catalyst residues from de-polymerization
- Dyes, finishes, coatings and blended fiber residues from postconsumer feedstock
- Restricted substance contaminants from post-consumer textile feedstock such as heavy metals, PFAS, Phthalates, flame retardants

SCIENCE IN INDUSTRY

Without purification and emission control, these substances can affect garment workers, recycling facility operators, surrounding environments, and consumers wearing recycled textiles.

What is bluesign's Role in Chemical Management for Recycled Polyester

- Assessing whether all chemical inputs are properly managed and risks are considered
- Verifying purification systems to remove harmful contaminants to assure a safe virgin quality recycled PET product
- Confirming that air emissions (such as VOC) are captured (e.g. using condensers, scrubbers, activated carbon) and wastewater is treated adequately.
- Assessing chemical compliance and consumer safety of recycled polyester – recycled PET shall meet bluesign's strict chemical substance limits defined in BSBL and BSSL in line with regulations (e.g. REACh) and other industry standards (ZDHC MRSL & AFIRM RSL)

Current Regulatory Drivers Creating Urgency for Polyester Recycling

EU ESPR (Ecodesign for Sustainable Products Regulation):

- Introduces Digital Product Passport (DPP)
- Prioritizes textiles as an early compliance category (2025–2027)
- Mandates design criteria such as recyclability and recycled content

EU Waste Framework Directive (Revised 2025):

- Focuses on recycling and waste prevention
- Mandates separate textile waste collection and Extended Producer Responsibility (EPR)

California SB 707 (U.S. Textile Recovery Law):

- First mandatory EPR scheme in the U.S.
- Promotes closed-loop recycling where textiles are recycled back into textiles
- Full brand compliance expected by 2030

REACH restriction proposal for skin sensitizing dyes and PFAS

- Proposes the restriction of wide range of chemicals that are common to appear in textiles to be recycled
- Chemical recycling help to meet safety thresholds and ensure compliance by removing restricted substances from post consumer textile waste

Why is bluesign a media resource for this topic:

- Unmatched understanding regarding chemical inputs, safety protocols, and recycling performance
- A leader uniquely positioned at the intersection of sustainability, compliance, and materials science
- A proven track record with 970+ supply chain partners
- Access to scientists, chemists, and engineers for on-the-record insights
- Expert interviews and data-backed commentary
- Regulatory briefings tied to ESPR, DPP, REACH, and SB 707

For further information, please contact :
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bluesign@chapter2agency.com
Chapter 2
New York, Los Angeles ❐

Laxmi Textile Products

Laxmi Textile Products a leading manufacturer of Roving Stripping & Opening Machines in the Textile Industries since 2000

ROVING STRIPPING & OPENING MACHINE

LAXMI TEXTILE PRODUCTS is the company which has been firstly introduced this product in india. After great efforts our 300 Machines are satisfactorily & successfully running in reputed textiles units in INDIA as well as in ABROAD. The LTP Machine solves your Problems concerning the utilization of the flyer roving remnants efficiently and economically. This machines are therefore indispensable for your progress minded enterprises.

- This machine is total mechanical. In this machine compressed air (pneumatic) connection is not require.
- The Flyer roving stripping and opening machine is extremely easy to operate and offers a striking capacity for the re-cylining of any roving of cotton, viscose, synthetics, Acrylic and blended fibers from any size of roving bobbins.
- The roving bobbins are simply put on the rotating conveyor belt by the operator. The

roving end is sucked into strip roller where after the roving strand is automatically opening the fibers. The re-use opened roving in its original staple is this granted.

TECHNICAL DATA	
Type of material	Cotton Synthetic and various blended fibers, acrylic
Size of bobbin length	300 mm to 450 mm
Max. Diameter of Bobbin	80 mm
Conveyor Belt put on	12 bobbins
Suction Fan	1.5 HP (1.1 KW)
Strip Roll	1.5 HP (1.1 KW)
Conveyor belt Drive	0.5 HP (0.37 KW)
Capacity available	250 bobbins per hr.(approx)
Weigt	650 kg.
Size	2185mm (L) x 1016mm (W) x 915mm (H) 690mm (L) x 690mm (W) x 2045mm (H)

*The Dimension and specification are subject to change without notice based on the improvements in design.

ADVANTAGE

- No any Longer roving waste owing to complete re-cyling.
- Easy to work without damage of bobbins.
- A machine which treats your bobbins with umost care.
- The roving opening machine save the labour, bobbin damage, reduce bobbin inventory (Lot run out),power and avoid fiber rupture.
- After opening Fiber it is not rupturing as well as naps are not generated in the machine.

Automatic Bobbin Stripping Machine

LAXMI TEXTILE PRODUCT is a well known company in the field of manufacturing SEMI AUTOMATIC BOBBIN STRIPPING MACHINE since 1982 in the textile industries.

LTP make Automatic bobbin stripping Machine which has unique solutions for removing left over bottoms from ring farm bobbin, plain weft Pirns & ruti C bobbin.

This product has clean 2800 both sided bobbin per hour. In plastic bobbin the surface of bobbin clean without any mark & scratches.

The payback of machine considering of the features in very short period.

Presently our 600 machine are successfully running in the leading mills of India & Aroad.

Advantage

- Reduction handing, strong and transportation of bobbins.
- Elimination of the dangerous hand, knief Process.
- Minimum maintenance cost.
- Different length, Size and types of plastic tubes as well as manual setting.

SCIENCE IN INDUSTRY

SPECIFICATION	
Tube Dia	16mm to 30mm
Tube Length	175mm to 300mm
Type of tubes	Plastic Ring Frame bobbins / Auto looms Ruti "C" bobbins
Type of Yarn	Cotton/Synthetic
Operation	Automatic
Production Capacity	2800 tubes / hour
Power Requirements	1.5 HP (1.1 KW)
Weight	850 kgs
Size	1960mm (L) x 775mm (W) x 1220mm(H)

*The Dimension and specification are subject to change without notice based on the improvements in design.

TECHNICAL SPECIFICATION

1.	Capacity of Machine	150 Tons	100 Tons	75 Tons/45 tons
2.	Type	Hydraulic	Hydraulic	Hydraulic
3.	Bale Size	1220mm (L) × 610mm (W) × 700mm (H)	1220mm (L) × 610mm (W) × 700mm (H)	1220mm (L) × 610mm (W) × 700mm (H)
4.	Approx weight of Bale	150 kg to 180 kg	150 kg to 180 kg	125 to 145 kg/90 to 100 kg
5.	Platform Size	1220mm (L) × 550mm (W)	1220mm (L) × 610mm (W)	1220mm (L) × 610mm (W)
6.	Max. Table Travel	1200mm	1600mm	1200mm
7.	No. of Cylinder	Double cylinder	Single cylinder	Single cylinder
8.	Operating	Liver Operate or Electrical operate	Liver operate or Electrical operate	Liver operate or Electrical operate
9.	Production Rate	15 to 20 mins per bale	15 to 20 mins per bale	15 to 20 mins per bale
10.	Electrical Motor	AC 20 HP/1500 RPM	AC 15 HP/1500 RPM	AC 12.5 HP/10 HP/1500 RPM
11.	Overall Size	3000mm (L) × 900mm (W) × 4500mm (H)	3000mm (L) × 900mm (W) × 5000mm (H)	3000mm (L) × 800mm (W) × 4000mm (H)
12.	Approx Weight	5 Ton	4.5 Ton	2.5 Ton/2 Ton
13.	Day light gap Bottom plate between Pressing Plate	1600mm	2000mm	1600mm

SALIENT FEATURESURES

Laxmi Hydraulic Bailing Press is Compact Vertically Operated Gear less Simple Machine's Maintenance free Rigid Structure. This is Versatile Machine in Designed for free shift Operation.

For further information, please contact :
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Bharat Beams Pvt. Ltd

Bharat Beams leading Manufacturers of Weaver's Beams Dynamically balanced Warper Beams

EXCELLENCE IN WARPER & WEAVER BEAMS

About Bharat Beams

Textiles have comea long way sincetheir inception. We have been manufacturing quality Warper Beams and Weaver beams since long. Bharat Beams exists to serve wide-ranging customer needs with highest operational capability and talented team. Our commitment to execute research and test-based development made us a leader in our field. Our dedicated team creates and improves product for varied needs of textile industry.

Exceptional Services

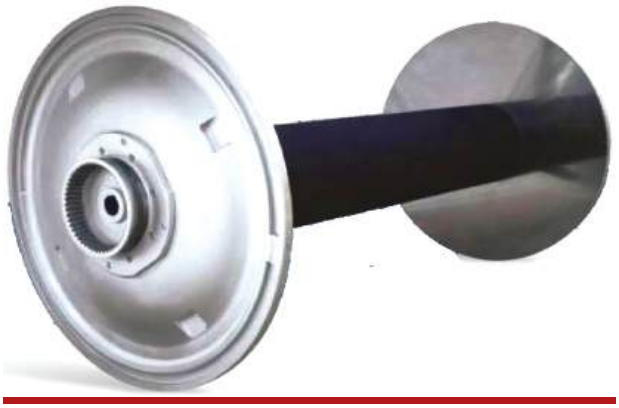
Our dedication to offer exceptional services to our clients is demonstrated through our customer satisfaction. We execute in-plant load analysis of flanges for stress/ strain relationships. The resulting data from the analysis is utilized for selection of right type offlanges to fulfill customer's requirement.

Facilities

- State ofthe art aluminum foundry for casting of aluminum flanges
- Integrated manufacturing facility with high precision machinery
- Full fledged inspection dept. with latest digital measuring instruments
- Computerised dynamic balancing machines
- In-house facility for zinc-plating beam bartels
- Fully automated slotting machines to ensure hubs are manufactured as per ISO/DIN norms
- We manufacture wide range of beams as per ISO/DIN norms
- We manufacture warper and weaver beams suitable for natural fiber yarns and for man-made fiber yarns utilized in synthetic industry as well as in technical textiles.

Warper Beams

We offer dynamically balanced warper beams of flange diameter upto 1600 mm and warping width upto 2800 mm suitable for Benninger, Karl Mayer, Hacoba, Ramallumin, UKIL, Tsudakoma, Prashant West - Point, Jupiter, Prism and other high speed warping machines suitable for spun and filament yarn.

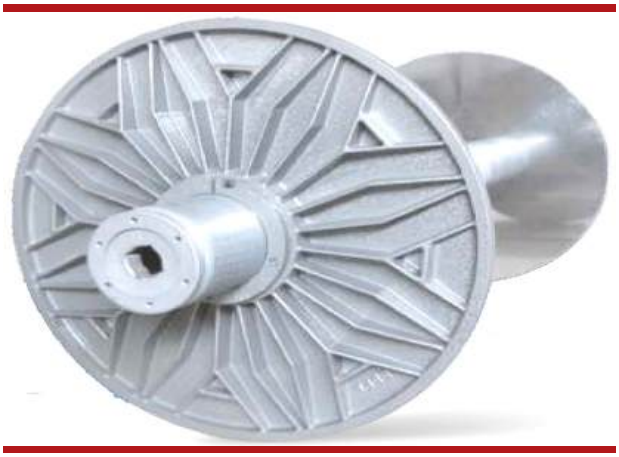


Double-Walled Flanges and Re-inforced Ribbed Flanges

All warper beams are assembled and dynamically balanced as per ISO/DIN norms. Each beam passes through rigorous inspection process toascertain highest quality standard.

Weaver Beams

Weaver Beams for Picanol, Toyota, Tsudakoma, Sulzer, Dornier, tema, Smit and other types of Airjet, Rapier and Projectile weaving machines in single section and double section construction with or without differential motions upto 1250mm. flange diameter and 560 cms reedwidth.



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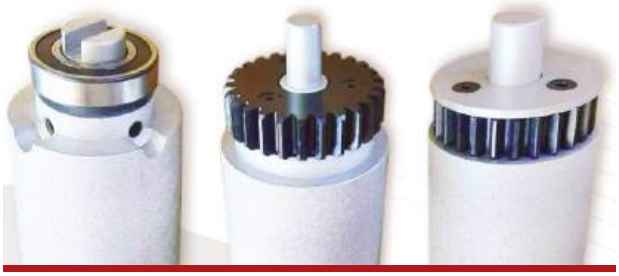
Wide variety of Ribbed Flanges

Drive Gear

Chucks and Hubs

Cloth Rolls



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For over 25 years, we have been manufacturing Q3 quality class (HEAVY DUTY and Q4 quality class (VERY HEAVY DUTY) warp beams as well as dynamically balanced warper beams for TECHNICAL TEXTILES INDUSTRY upto 1250mm

flange diameter and 5.6 metres reedwidth. We also cater to the customized requirement of beams for our customers' special needs / application. Customers can warp 100% relaxed filament yarn, polyester yarn, PP flat tape yarn onQ3 quality beams, whereas Q4 quality warp beams cater to the requirement of 100% un relaxed filament yarn, monofilament yarn, nylon yarn, carbon fiber yarn, aramide yarn and other very high tenacity industrial yarn in warp.

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most Spinners

are roughly 80% of Indian Spinners. To achieve target production spin at very high speed compromising quality and still do not meet target production. Reflects, Productivity loss.

is reflected in ... 3 ... Productivity

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elite Spinners

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*Above stated example is of 30s Combed Cotton with new prototype developed. Likewise productivity is maintained significantly in all counts of Cotton combed and carded and also in most man made fibers. Current high speed 22,000, optimum 21,000 rpm.

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