

PLEXCONNECT

Edition 56, February 2024

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From the Chairman's Desk



As we enter the month of February, as most of the nation that is perhaps delving into the crucial discussions surrounding the annual budget coming fiscal year, I would like to begin by sharing some significant updates and recommendations from the Council.

In our pre-budget recommendations, the Council has advocated for an increase in the basic import duty on plastics from 10% to 15%. This strategic move is aimed at bolstering India's domestic plastic processing industry, valued at Rs. 3 lakh crores. The proposal aligns with our objective to enhance revenue, enable capacity expansion, and foster competitiveness in the sector, especially considering the value-added imports reaching USD 7 billion in 2022-23.

To further support exports, the Council emphasizes the importance of expediting the ASEAN Free Trade Agreement. Currently, while value-added plastics enjoy a 5% duty under ASEAN FTA, the lack of reciprocal benefits for Indian plastics in ASEAN markets poses a challenge to the sector. Additionally, the Council advocates for the exemption of BIS on polymer imports to alleviate the strain on processors in India.

In the realm of exhibitions, our exporters have been actively participating in several international events. Following the successful participation in ARABPLAST in December 2023, for the very first time, a delegation of 10 exporters, led by the Council, participated in

RUSPLASTICA held from January 23-26, 2024, in Moscow, Russia. Russia is an important market and ally for India and through this participation, we were able to explore opportunities for our industry. We also successfully engaged in Paperworld India 2024 in Mumbai from 18-20 Jan, promoting writing instruments and stationery exports. Looking ahead, the Council will participate in Plastfocus organized by PMMAI in New Delhi from 1-5 February 2024 and other important exhibitions in the coming year.

On the other hand, fruitful discussions were held with buyers from Malawi, facilitated by the Indian High Commission in Malawi and the Council, exploring export opportunities, and promoting PLEXCONNECT 2024. Similar meetings are planned with the Indian Embassy in Brussels and Costa Rica in the coming days as we continue our efforts to explore new markets and deepen penetration into traditional markets for plastics exports. Amidst these developments, it is crucial to acknowledge the challenges posed by recent events in the Red Sea, particularly the disruptions in maritime navigation due to attacks by the Iran-based Houthi group. The ongoing Houthi rebel attacks on cargo ships and tankers have created significant impacts on the maritime sector, raising concerns about potential inflationary pressures. However, it is noted that, unlike the early days of the pandemic, there is currently unused excess vessel capacity that can be strategically deployed to address these challenges.

Meanwhile, during December 2023, India exported plastics worth USD 1,115 million, an increase of 12.7% from USD 989 million in December 2022. Cumulative value of plastics export during April 2023 – December 2023 was USD 8,520 million as against USD 9,166 million during the same period last year, registering a decline of 7.1%. In this issue we bring you interviews with Sanjay Charati, President & Head R&D, Garware Technical Fibres Ltd. who shares detailed insights into the technical textiles industry; as well as Muraleedharan Paloran, Founder & CEO, DM Thermoformer on the vast advantages of thermoforming in plastics processing, new developments, and potential. Our focus in on Thailand in the countryscape section, in addition to news and views from around the world.

Given the ongoing geopolitical conditions, and as we navigate through these dynamic scenarios, we assure you of our unwavering commitment to advancing the interests of our industry and ensuring its resilience in the face of evolving global dynamics. Your continued collaboration is instrumental in overcoming the challenges presented by the current geopolitical landscape, and we deeply appreciate your ongoing support to our shared objectives.

Thank you.

Warm regards,

Hemant Minocha Chairman

Council Activities

Virtual Meeting on India-Oman CEPA - 4th December 2023 | Eastern Region

The above meeting chaired by Shri Amardeep Singh Bhatia, Additional Secretary, Department of Commerce & Chief Negotiator for the India-Oman CEPA Negotiations. Mr Nilotpal Biswas, RD(East) represented the Council at this meeting.

Reverse Buyer Seller Meet(RBSM) During PLASTIV-ISION 2023 exhibition (7-11 December 2023) | Western Region:

The above event was held in Mumbai during Plastivision Exhibition.101 buyers from 26 countries attended/visited the event. Mr Nilotpal Biswas, RD(East) deputed for the above activity in order to facilitate the B2B Meeting.



Plexconcil participation at Plastivision 2023 – 07th to 11th December 2023 | Western Region:

Plexconcil participated in Plastivision 2023 from 7th to 11th December, 2023 at NESCO, Mumbai for the promotion of Plexconnect 2024 and for membership outreach.

Virtual Meeting with JIIPA, Japan on 13th & 21st December 2023 | Southern Region

A Meeting was held between Plexconcil and Japan India Industry Promotion Association (JIIPA) to identify market opportunities for Indian FIBC Sector.



India Pavilion at Arabplast 2023 – 13th to 15th December 2023 | Western Region

Plexconcil organized India Pavilion at Arabplast 2023 which was held from 13th to 15th December, 203 at DWTC, Dubai with 73 Indian Exhibitors. Total 750 Exhibitors & Co-Exhibitors from 35 countries participated in this event in 11 different country Pavilions. During the show 30006 number of Trade Visitors visited the show from 134 countries. The show was every good in terms of trade.

Plexconcil signed MOU with the show organizer for next edition of Arabplast.

Education Tour to proposed Bharat Mart in Free Trade Zone of Jabel Ali port, Dubai on 16th December 2023 | Western Region

Plexconcil has organized the education tour to the proposed Bharat Mart in Free Trade Zone of Jabel Ali port, Dubai. There were 16 participants from 13 Indian companies have joined the tour. The full support from M/s. DP World, Dubai extended to the council in organizing this tour.

Further, Mr. Aneez Shahal, Third Secretary (Economic Affairs & Commercial Affairs from Embassy of India, Abu Dhabi, UAE) with his official have also joined the tour. The tour was very much useful to the Indian companies and the participants have shown interest in the proposed Bharat Mart area, the technology used by the port for logistics and the system adopted by the port.

Meeting with the officials of Ministry of Commerce on 18th December 2023 | Northern Region

Meeting of the Empowered Committee of MAI was held on December 18, 2023 at Udyog Bhawan. The meeting was chaired by Mr. Anant Swarup, JS E&MDA. The meeting was held to discuss the proposals for the F.Y.2023-24 & 2024-25. Mr. Sribash Dasmohapatra, Executive Director represented the Council at the above meeting.

Meeting with the officials of Ministry of Commerce and MSME - December 19, 2023 | Northern Region

Mr. Sribash Dasmohapatra, Executive Director met with the officials of MoC and MSME. The meeting was held with the Joint Secretaries of the FT(NEA) to discuss the participation of the Council at NPE Trade Fair. The Council put forth the importance of this flagship event and our repeated participation at this event. The Joint Secretary responded positively regarding the grant of approval towards our participation for the event.

Executive Director also met with Joint Secretary FT(WA-NA) regarding Arabplast and stressed upon the high im-

Council Activities

portance this event carries for the Council and its members. The meeting ended on a positive note regarding our participation at the event.

India-Korea CEPA stakeholder consultation VC Meeting on 19th December 2023 | Southern Region:

India-Korea CEPA stakeholder consultation VC Meeting was held under the chair of Shri Anant Swarup, Joint Secretary on 19th December 2023 to discuss on the tariff lines during India-Korea CEPA upgrade negotiations meeting. Mr. Ruban Hobday, Regional Director-South represented from the Council.

Road Show of PLASTIFOCUS plastics Exhibition held in Kolkata on 21st December 2023 | Eastern Region

Above Road Show held in Kolkata on 21st December 2023. Mr Nilotpal Biswas, RD represented the Council at this event.

India-Peru Trade Agreement: Stakeholder Consultations with DPIIT held on 22nd December (Virtual mode) | Eastern Region

The above stakeholder consultation meeting organised by FT(LAC) Division of the Department of Commerce. Mr Nilotpal Biswas, RD represented the Council at this meeting.

India-Peru Trade Agreement: Stakeholder Consultations on Chemical Products held on 27th December (virtual mode) | Eastern Region

The above meeting was organised by FT(LAC) Division of the Department of Commerce. Shri Vipul Bansal, Joint Secretary and Chief Negotiator of India-Peru Trade Agreement Delivered the welcome address. MR Abhimanyu Kumar Deputy Secretary, DOC made a presentation on the proposed trade agreement between India & Peru. Senior Officers from DCPC and industry representatives attended the meeting. Mr Nilotpal Biswas, RD represented the Council at this meeting.

Meeting with MSME officials on 28th December | Northern Region

Plexconcil – Northern Region met with the officials of MSME in view of the MOU of our Council with MSME regarding the provision of reimbursement of Membership fee for First time members registered with the Council. It was informed that reimbursement to the tune of Rs. 20,000 is available to each member of our Council who are registered as first time in our Council. The entire guidelines are available online on the website of MSME. After the astounding success of PLEXCONNECT 2023, we are back.



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Sanjay Charati

President & Head R&D Garware Technical Fibres Ltd.

The technical textile industry is experiencing a dynamic evolution, fueled by a myriad of growth drivers that span diverse applications and end-users. The increasing demand for technical textiles in sectors such as construction, aerospace, agriculture, medical, and packaging is steering the global market toward unprecedented growth. The versatility of technical textiles, ranging from lightweight and durable materials resistant to adverse weather conditions to high-performance fabrics used in automotive components, has positioned them as indispensable across various industries. The industry is not only driven by traditional applications but is also witnessing a surge in demand catalyzed by biotechnological developments, quick modifications, and transformative shifts in farming methods. Additionally, the incorporation of modern technologies into textile production operations is paving the way for revolutionary advancements in technical textiles, meeting the growing needs of sectors like healthcare and personal protective equipment (PPE).

However, the industry faces challenges, particularly in terms of manufacturing costs, as the use of sophisticated raw materials contributes to higher production expenses. Despite this restraint, opportunities abound in the form of launching modern technologies that enhance the characteristics of technical textiles. The market outlook remains positive, driven by the increasing prevalence of infectious diseases, a rise in construction site accidents necessitating PPE, and the growing participation of individuals in sports. Moreover, strategic collaborations, mergers, and acquisitions by market leaders are poised to expand market reach and overall profitability. Regionally, Asia Pacific emerges as a dominant player, accounting for a substantial market share due to the high growth of the automotive industry, favorable government support, and robust expansion in the healthcare sector. The technical textile industry is not just witnessing growth but is redefining the boundaries of textiles, highlighting its adaptability and indispensability in an ever-evolving global landscape.

A pioneer in the field of Technical Textiles, Garware Technical Fibres Ltd (GTFL) is a leading manufacturer of technical textiles with a rich history that dates back to its incorporation on April 1, 1976, in Mumbai. Over the years, the company has positioned itself as a global player, catering to both domestic and international markets. GTFL is known for providing innovative solutions in various sectors, including fisheries, aquaculture, shipping, sports, agriculture, coated fabrics, and geo-synthetics.



Better Ideas in Action

GTFL has successfully expanded its market presence to over 75 countries worldwide. Noteworthy is its strategic approach to diversification, entering new business segments such as agritech and coated fabrics. GTFL's commitment to innovation is evident through its collaborations and investments in innovative technologies. It has ventured into international markets, with subsidiaries like Garware Technical Fibres USA INC, Garware Technical Fibres Chile SpA, and Garware Technical Textile Private Limited, reflecting its global expansion strategy.

The company's emphasis on sustainability and technical excellence is highlighted in its product offerings, including predator nets, fishing nets, and geo-textile solutions. GTFL's contributions to diverse sectors, from aquaculture to infrastructure



projects, highlight its versatility and adaptability in meeting market demands.

In this issue, we spoke to Sanjay Charati, President & Head R&D who shares his valuable insights on the Technical Textile industry and the growing demand, diverse applications and technical advancements driving growth of the segment.

(excerpts)

Please provide an overview of the current state of the Technical Textile industry. What are the key segments within the Technical Textile industry, and how have they evolved in recent years?

In the post-COVID landscape, Technical Textiles has garnered significant attention from the Indian government, marked by its inclusion as a priority sector and the introduction of the Production Linked Incentive (PLI) scheme. The sector comprises twelve segments, all experiencing notable growth, with Agrotech, Geotech, Meditech, Protech, and Sportech leading the way.

The PLI initiative underscores the government's commitment to fostering innovation and competitiveness within the industry. Notably, Agrotech addresses agricultural challenges, Geotech supports infrastructure projects, while Meditech, Protech, and Sportech cater to the burgeoning demand for medical and protective textiles. As India positions itself globally in Technical Textiles, the convergence of technological advancements and government support propels the sector toward unprecedented growth and innovation.

What are the emerging markets or applications for Technical Textiles that show significant potential for growth? How is the industry leveraging technological advancements to create new opportunities?

The burgeoning global demand for technical textiles presents significant opportunities for our country, as a nuanced understanding of the diverse applications of these products unlocks new markets. Beyond established markets such as the USA and EU, emerging regions like Africa, South Asian, and Oceania hold immense potential. As industries worldwide increasingly recognize the versatility and efficacy of technical textiles, our nation stands at the forefront of capitalizing on these opportunities. The proactive exploration and engagement with these evolving markets position us to play a pivotal role in the expanding landscape of technical textiles on a global scale.



What are the major challenges currently faced by the Technical Textile industry?

The technical textiles sector faces challenges stemming from the absence of world-class testing facilities, limited access to the latest technology, and hurdles in penetrating new markets. Recent regulations governing the import of specific raw materials, crucial for the development of export-oriented products and not produced domestically, pose a hindrance to industry growth. Recognizing these challenges, the government is actively working towards addressing these impediments.

To foster sustainable growth, increased collaboration between the industry and government is essential. By jointly navigating these challenges, a conducive environment can be cultivated, propelling the technical textiles sector towards a trajectory of innovation, global competitiveness, and enduring success.

What are the measures that you believe should be taken to address these challenges?

Fostering frequent meetings, constructive dialogues, and decisive actions to tackle challenges faced by technical textiles exporters is instrumental in addressing sectoral issues. Recent government initiatives reflect a commitment to this approach, aiming to create a supportive ecosystem for the industry.

The National Technical Textiles Mission (NTTM) plays a pivotal role in advancing research and development facilities within the country, further contributing to the sector's growth. By promoting collaboration and proactive engagement, stakeholders can collectively propel the technical textiles industry towards innovation, resilience, and sustained success, aligning with the overarching goals of national development.



What are the latest advancements in materials used in Technical Textiles? How are advancements in nanotechnology, smart textiles, or other fields influencing the development and growth of the segment?

The continual invention and integration of specialty fibers across diverse applications underscores the ever-growing significance of technical textiles in various industries. As these innovative fibers find their way into nearly every sector, it becomes evident that the relevance of technical textiles is poised for a substantial escalation in the future. This evolution not only reflects a commitment to advanced materials but also highlights the pivotal role technical textiles will play in shaping the landscape of modern and future industries.

As industries increasingly prioritize functionality and adaptability, the trajectory of specialty fibers in technical textiles marks a pivotal stride towards innovation and efficiency on a global scale.



How is the Technical Textile industry addressing global sustainability concerns?

Amidst a growing awareness of sustainability, manufacturers, including those in technical textiles, are increasingly prioritizing eco-friendly practices. Actively working to reduce energy, carbon, and water footprints, these manufacturers are at the forefront of developing more sustainable processes. This commitment reflects a broader global shift towards green energy and circular economies, positioning the technical textile industry as a key player in fostering a more environmentally conscious future.

How has the export landscape for Technical Textiles evolved in recent years?

Rising investments in new products and technologies are catapulting Indian manufacturers into global competitiveness, resulting in a substantial surge in both the number and volume of exported products. This upward trajectory is anticipated to persist in the coming years, marking a transformative phase for the Indian manufacturing sector on the global stage.

What are the key export markets, and how is the industry adapting to different regulatory environments? Are there specific strategies in place to enhance export growth?

Aquaculture, Fisheries, Sports, Agriculture & Geosynthetics are some of the key technical textile sectors that continue to show promise and the demand for the same is expected to grow across the Americas, Europe as well as Asia.



The Industry is rapidly evolving in developing quality products global standards and getting them certified in global accredited institutes/laboratories. Parallel, the industry is working with the Government to ensure that all the required raw materials are available for the developments.

How are changing global dynamics, such as geopolitical factors or economic shifts, influencing the industry? Are there any notable shifts in demand for specific types of Technical Textiles?

Post Covid many countries are adopting the policy of giving priority to domestic manufacturing or ensuring that a significant portion of the manufacturing is done locally. Such policies are changing the export market dynamics. The geopolitical wars are also posing further challenges in logistics and supply chain. The recent Red Sea Crisis has caused significant disruption in the overall global supply chain.

How can global collaboration foster innovation and address industry challenges?

The global shift towards emphasizing local production presents both challenges and opportunities. While it necessitates a revaluation of traditional approaches, it also opens avenues for collaboration. Indian manufacturers, by leveraging specific areas of expertise and competitiveness, can forge partnerships with global counterparts. This collaborative approach not only allows joint development but also facilitates the provision of competitive solutions, aligning with evolving policy requirements worldwide.



Export Performance – December 2023

TREND IN OVERALL EXPORTS

India reported merchandise exports of USD 38.5 billion in December 2023, an increase of 1.0% from USD 38.1 billion in December 2022. Cumulative value of merchandise exports during April 2023 – December 2023 was USD 317.1 billion as against USD 336.3 billion during the same period last year, reflecting a decline of 5.7%.



Exhibit 1: Trend in overall merchandise exports from India

TREND IN PLASTICS EXPORT

During December 2023, India exported plastics worth USD 1,115 million, an increase of 12.7% from USD 989 million in December 2022. Cumulative value of plastics export during April 2023 – December 2023 was USD 8,520 million as against USD 9,166 million during the same period last year, registering a decline of 7.1%.

(USD Million) 989 1,115 Dec-22 Dec-23 Dec-23 Source: Ministry of Commerce & Industry, Government of India

Exhibit 2: Trend in plastics export by India

PLASTICS EXPORT, BY PANEL

In the month of December 2023, a notable surge in exports was observed across majority of the product panels such as Consumer & houseware products; Plastic films and sheets; Plastic raw materials; FRP & Composites; Floorcoverings, leathercloth & laminates; Medical items of plastics; FIBC, Woven sacks, Woven fabrics, Tarpaulin; Plastic pipes & fittings; Packaging items - flexible, rigid and Human hair & related products. The other panels which struggled to grow were Cordage, fishnets & monofilaments; Writing instruments & stationery and Miscellaneous products & items nes.

Panel	Dec-22	Dec-23	Growth	Apr 22- Dec 22	Apr 23- Dec 23	Growth
	(USD Mn)	(USD Mn)	(%)	(USD Mn)	(USD Mn)	(%)
Consumer & houseware products	61.8	147.8	+139.1%	556.3	628.7	+13.0%
Cordage, fishnets & monofilaments	24.1	20.3	-15.6%	202.6	187.0	-7.7%
FIBC, woven sacks, woven fabrics, & tarpaulin	113.4	117.6	+3.7%	1,099.6	991.2	-9.9%
Floorcoverings, leathercloth & lami- nates	50.0	59.4	+19.0%	431.3	509.9	+18.2%
FRP & Composites	30.3	42.5	+40.1%	315.7	356.6	+13.0%
Human hair & related products	64.4	76.1	+18.3%	499.4	562.0	+12.5%
Medical items of plastics	44.5	49.3	+10.8%	369.8	404.1	+9.3%
Miscellaneous products & items nes	95.6	52.7	-44.9%	771.5	546.8	-29.1%
Packaging items - flexible, rigid	50.5	52.3	+3.6%	482.5	463.9	-3.9%
Plastic films & sheets	143.4	165.1	+15.2%	1,409.7	1,273.9	-9.6%
Plastic pipes & fittings	22.4	26.0	+16.1%	222.4	211.1	-5.1%
Plastic raw materials	266.8	285.3	+6.9%	2,606.8	2,191.5	-15.9%
Writing instruments & stationery	22.0	20.7	-5.9%	198.9	193.2	-2.9%
	989.0	1,115.1	+12.7%	9,166.5	8,519.8	-7.1%

Exhibit 3: Panel-wise % growth in plastics export by India

Source: Ministry of Commerce & Industry, Government of India

Exports of **Consumer & houseware products** witnessed a significant growth of 139.1% in December 2023. This growth was primarily due to higher sales of tableware and kitchenware of plastics (39241090); wallets, purses and similar articles (42023290); safety headgear (65061090) and sunglasses (900410).

Exports of **Cordage, fishnets & monofilaments** faced a decline of 15.6% in December 2023 due to weakened sales of monofilaments of any cross-sectional dimension > 1 mm of plastics (391690) along with made up knotted fishing nets (56081190).

In December 2023, the export of **FIBC**, woven sacks, woven fabrics, & tarpaulin showed a positive growth of 3.7% due to increased sales of sacks and bags of plastics (39232990) and woven fabrics (54072090).

Export of **Floor coverings, leather cloth & laminates** surged by 19.0% during December 2023 on account of higher sales of PVC floorcoverings (391810); decorative laminates (48239019) and textile fabrics impregnated, coated, covered or laminated with plastics (590390).

Export of **FRP & Composites** demonstrated a remarkable surge, registering a substantial growth of 40.1% during December 2023. This notable increase was due to higher exports of articles of plastics and articles of other materials of heading 3901 to 3914, n.e.s (39269099).

De

Export of **Human hair & related products** were up by 18.3% in December 2023 due to higher sales of human hair, dressed, thinned and bleached (67030010).

Medical items of plastics continued to perform well and its exports were up by 10.8% in December 2023 due to increase in sales of contact lenses (900130); spectacles and goggles (90049090) and syringes, with or without needles, used in medical, surgical, dental or veterinary sciences (90183100). Notably, India reported its highest-ever monthly export of spectacles and goggles in December 2023.

Export of **Miscellaneous products & items nes** fell by 44.9% in December 2023 due to lower shipments of optical fibres, optical fibre bundles and cables (90011000).

Packaging items - flexible, rigid export increased by 3.6% on account of higher sales of sacks and bags of plastics (392321) and articles for the conveyance or packaging of goods, of plastics (39239090).

In December 2023, the export of **Plastic films & sheets** were higher by 15.2% on account of increased sales of self-adhesive plates and sheets (39199090); films and sheet of polymers of ethylene (39202020) & films and sheet of polyethylene terephthalate (39206220).

Export of **Plastic pipes & fittings** increased by 16.1% due to higher sales of rigid tubes and pipes of polyethylene (391721); rigid tubes and pipes of polymers of vinyl chloride (39172390) and fittings like joints, elbows and flanges of plastics for pipes (391740).

Plastics raw materials exports increased by 6.9% in December 2023 due to a rise in sales of polyethylene with a specific gravity of >= 0.94 (39012000); polypropylene (390210); linear low density polyethylene (390140). In December 2023, export of polypropylene from India reached its highest- monthly value in one year.

Export of **Writing instruments & stationery** declined by 5.9% in December 2023 due to decrease in sales of ballpoint pens (960810).

		Apr 22-	Apr 23-	
HS Code	Description	Dec 22	Dec 23	Growth
		(USD Mn)	(USD Mn)	(%)
63053200	Flexible intermediate bulk containers	673.2	581.0	-13.7%
90011000	Optical fibres, optical fibre bundles and cables	520.2	296.6	-43.0%
39076190	Polyethylene terephthalate: Other primary form	505.5	237.2	-53.1%
67030010	Human hair, dressed, thinned, bleached or otherwise worked	371.3	424.2	+14.3%
39269099	Articles of plastics and articles of other materials of heading 3901 to 3914, n.e.s: Other	309.9	351.0	+13.2%
39232990	Other sacks and bags, incl. cones, of plastics	323.3	315.7	-2.4%
39021000	Polypropylene, in primary forms	277.4	252.9	-8.8%
48239019	Decorative laminates	215.8	226.5	+5.0%
39202020	Plates, sheets, film, foil and strip, of non-cellular polymers of ethylene: Flexible, plain	202.9	150.5	-25.9%
39269080	Articles of plastics and articles of other materials of heading 3901 to 3914, n.e.s: Polypropylene articles, not elsewhere	167.0	154.9	-7.2%
39206220	Plates, sheets, film, foil and strip, of non-cellular polyethylene terephthal- ate: Flexible, plain	162.2	154.4	-4.8%
39232100	Sacks and bags, incl. cones, of polymers of ethylene	162.3	152.8	-5.9%
39069090	Other acrylic polymers, in primary forms	153.7	156.8	+2.0%
39076990	Polyethylene terephthalate: Other primary form	170.2	105.0	-38.3%
39239090	Articles for the conveyance or packaging of goods, of plastics: Other	135.5	137.0	+1.1%
05010010	Human hair, unworked; whether or not washed or scoured	117.7	127.7	+8.5%
39202090	Plates, sheets, film, foil and strip, of non-cellular polymers of ethylene: Other	121.6	109.9	-9.6%
39046100	Polytetrafluoroethylene, in primary forms	117.2	90.5	-22.7%
90015000	Spectacle lenses of materials other than glass	108.7	136.6	+25.7%
96081019	Ball-point pens	103.5	102.3	-1.1%
90183930	Cannulae	106.2	99.0	-6.8%
39011090	Polyethylene with a specific gravity of $<$ 0,94, in primary forms: Other	95.2	75.2	-21.0%
59039090	Textile fabrics impregnated, coated, covered or laminated with plastics other than polyvinyl chloride or polyurethane: Other	87.0	129.8	+49.3%
56074900	Twine, cordage, ropes and cables of polyethylene or polypropylene	91.0	82.3	-9.6%
39219099	Plates, sheets, film, foil and strip, of plastics, reinforced, laminated, sup- ported or similarly combined with other materials: Other	83.8	89.6	+7.0%
39046990	Other fluoro-polymers of vinyl chloride or of other halogenated olefins, in primary forms	78.5	62.3	-20.7%
96032100	Tooth brushes	74.5	59.5	-20.1%
39219094	Plates, sheets, film, foil and strip, of plastics, reinforced, laminated, sup- ported or similarly combined with other materials: Flexible, metallised	79.3	59.0	-25.6%
54072090	Woven fabrics of strip or the like, of synthetic filament, incl. monofilament of $>= 67$ decitex and with a cross sectional dimension of $<= 1$ mm: Other	75.5	75.3	-0.3%
39206919	Plates, sheets, film, foil and strip, of non-cellular polyesters, not reinforced, laminated, supported or similarly combined with other materials: Other	74.0	70.3	-5.0%
39073010	Epoxy resins	76.1	45.5	-40.2%
39206290	Plates, sheets, film, foil and strip, of non-cellular polyethylene terephthal- ate, not reinforced, laminated, supported or similarly combined with other materials: Other	65.3	54.4	-16.7%
39129090	Other cellulose and chemical derivatives thereof, n.e.s., in primary forms	66.9	76.0	+13.5%

Exhibit 4: Details of % change seen in top 50 items of export

39241090	Other tableware and kitchenware, of plastics	68.3	72.4	+6.0%
39095000	Polyurethanes, in primary forms	68.6	59.2	-13.7%
39199090	Self-adhesive plates, sheets, film, foil, tape, strip and other flat shapes, of plastics, whether or not in rolls > 20 cm wide: Other	68.4	87.9	+28.5%
39140020	lon-exchangers based on polymers of heading 3901 to 3913, in primary forms	64.6	59.8	-7.5%
39014010	Linear low-density polyethylene	60.3	87.5	+45.0%
39204900	Plates, sheets, film, foil and strip, of non-cellular polymers of vinyl chlo- ride, containing by weight < 6% of plasticisers, not reinforced, laminated, supported or similarly combined with other materials	61.4	59.0	-4.0%
39219096	Plates, sheets, film, foil and strip, of plastics, reinforced, laminated, sup- ported or similarly combined with other materials: Flexible, laminated	66.1	47.8	-27.6%
39119090	Other polysulphides, polysulphones and other polymers and prepolymers produced by chemical synthesis, n.e.s., in primary forms	55.4	75.3	+36.1%
59031090	Other textile fabrics impregnated, coated, covered or laminated with poly- vinyl chloride	54.8	56.7	+3.4%
39235010	Stoppers, lids, caps and other closures, of plastics	52.8	50.4	-4.6%
39100090	Silicones in primary forms: Other	53.1	38.4	-27.6%
39249090	Other household articles and toilet articles, of plastics	53.4	51.2	-4.2%
39172390	Rigid tubes, pipes and hoses, and fittings therefor, of polymers of vinyl chloride: Other	51.6	53.5	+3.6%
39201019	Plates, sheets, film, foil and strip, of non-cellular plastics, not reinforced, laminated, supported or similarly combined with other materials: Other	47.8	51.9	+8.5%
39206929	Plates, sheets, film, foil and strip, of non-cellular polyesters, not reinforced, laminated, supported or similarly combined with other materials: Other	53.5	45.9	-14.3%
39019000	Other ethylene-alpha-olefin copolymers, having a specific gravity of less than 0.94	52.3	44.3	-15.3%
39011020	Low density polyethylene	60.0	16.9	-71.9%

Source: Ministry of Commerce & Industry, Government of India



Muraleedharan Paloran

Founder & CEO, DM Thermoformer

Shaping Tomorrow through Innovation & Excellence

Advances in materials, tooling, and technology continue to blur the line between the most suitable process and a given application. Thermoforming, of course, can be used to make everything from lightweight, thin-wall packaging to heavy-gauge panels and parts for a range of industries, including automotive, agriculture, construction, medical, and aerospace.

The process benefits from relatively low tooling costs, as well as from the ability to economically deliver low-volume production runs. Many materials are ripe for thermoforming, including ABS, acrylic, polycarbonate, Kydex-branded acrylic/ PVC, and glycol-modified PET (PETG).

Thermoform tooling, meanwhile, has become more sophisticated today. At a cost of roughly 25% that of injection mold tooling, it can offer a huge economic benefit, which is vital for short-run jobs.



The Thermoformed Plastics Market is experiencing substantial growth, driven by increased applications across industries such as packaging, healthcare, automotive, and electronics. Thermoforming's advantages, including easy processing and cost-effectiveness, are major contributors to market expansion. While rising demand for sanitized products fuels growth, environmental concerns and governmental regulations pose challenges to the industry. Regional dynamics show North America leading, followed by significant growth in Asia Pacific and Europe.

When it comes to rigid, thin-wall packaging generally, thermoforming is the process that enables the thinnest wall thicknesses with high top-load strength values. Thin packaging walls deliver economic and environmental benefits including;

- Fast processes deliver high output quantities.
- Mold costs are lower compared to injection molding.
- Most thermoforming applications require only one mold half.
- Typically, it is a low-stress process that enables parts to be produced stronger with fewer concerns of twist or warp.
- Faster speed to market, typically with lower tooling costs, allows for changes to be done easily in secondary machining operations.
- It offers the ability to change material wall thicknesses and use a variety of materials on the same mold.
- Processors usually can produce larger parts with lower costs and in reduced quantities.
- And they also can produce parts in lower batch releases.

Additionally, twin-sheet forming — the process of creating hollow plastic parts with double walls or multiple layers — is making inroads in the industrial blow molding market. Like with injection molding, twin-sheet thermoform tooling is less expensive than blow molding tooling and it allows for the production of more complex shapes.

Macroeconomic factors have helped to drive growth in another product area and as companies continue to reshore their manufacturing operations from China and elsewhere.



Despite these innovations and advances, many processors don't know what the capabilities of thermoforming are and prefer to opt for injection molding. They don't know about twin-sheet or pressure forming, or what can be achieved using those processes.

In this issue, Muraleedharan Paloran, Founder & CEO, DM Thermoformer shares his insights into the process and the industry in India. The company specializes in providing custom thermoformed packaging solutions tailored to specific requirements and possesses expertise in designing and manufacturing a range of thermoformed products, such as plastic trays for material handling, packaging blisters, clear clamshell containers, PETG trays for medical devices, plastic shipping trays, food packing containers, PCB storage trays, and similar custom plastic packaging solutions in India. Founded by a team of seasoned mechanical, poly-



DM THERMOFORMER CUSTOMIZED BLISTER PACKAGING

mer, and packaging design engineers with over three decades of experience, their approach leverages the advantages of thermoforming, offering low tool costs and rapid project execution compared to other plastic molding methods like injection molding.

Can you share insights into the specific thermoforming processes currently employed in India – vacuum forming, pressure forming, or a combination of both?

Vacuum Forming is used for making large parts like Refrigerator liners, Housing (covers) for medical equipment such as scanners, and Some automobile parts such as fenders for Trucks and buses and cabin parts of off-highway vehicles such as Backhoe loaders. Plastics used are mainly ABS, HDPE and PP. Starting thickness can range between 3 to 8 mm.

Pressure Forming or Combined Pressure forming plus Vacuum forming technique is used by packaging manufacturing industries. There are two general categories in that space. The first one is catalogue types product manufacturers who make containers of fixed fill volumes ranging from 250cc up to 1000 cc. Such containers are used for packing and sealing food and Dairy products. Most of these containers are pre-printed with product information. All major dairy and sayouries brands use such containers. Then there are the custom-designed Industrial packaging manufacturers who make part-handling trays for Electronic and automobile component manufacturers. DM Thermoformer is one such manufacturer(www.dmthermoformer. com



Which industries popularly use thermoformed products, and are there specific sectors where you see growth potential for export markets?

The packaging as an item is not shipped out in general due to its lightweight and bulky nature. However, some export of Catalogue products such as cups and tubs do get exported. During to current trade restrictions between China and the US, there is a potential for growth for this category in the North American market.

(excerpts)

However, concerning customised packaging for industrial parts, India still lacks the technology to produce high-quality industrial packaging required for Manufacturers in the electronic and automobile industries. Therefore, some of the packaging is still being imported. The same is the case with packaging for medical devices such as orthopaedic implants. DM Thermoformer has worked with OEMs to develop such packaging and help the customer save both money and time by avoiding importing of packaging for their sensitive products.

Another area of growth is the Toy industry, which requires thermoformed clear packaging to pack their products. With the current policy of the Government, there is a huge growth happening in that market. Thus, when the product gets exported the packaging goes with that.



How do you adapt your thermoforming capabilities to cater to the diverse needs of industries like automotive, agriculture, construction, medical, and aerospace?

We have invested heavily in training our design and tool-making teams so that we can quickly respond to the customer's requirements for developing new packaging. We use 3D printing to reduce the turnaround time for prototype sampling. This can be done as quickly as 2 to 3 days.

We also work very closely with Extruded Plastic Sheet Manufacturers so that very specific material requirements are taken care of. Along with the customer, we also work hand in hand with our sheet supplier to achieve the required packaging properties in time. What are some of the new tooling technologies, smart technologies, automation, etc that can improve production capabilities for export-oriented projects? Both mass as well as specific projects with limited demand in terms of quantity?

- 3D Printed tool for repaid prototyping
- Aluminium Gravity Casting for larger tools for the Toy industry

Embracing cutting-edge tooling technologies and smart automation is crucial for enhancing production capabilities in both mass and limited-quantity export-oriented projects. The integration of 3D-printed tools facilitates rapid prototyping, expediting design iterations and validation of packaging concepts. This accelerates project timelines and enables efficient adjustments based on client feedback.

For larger tools catering to industries like toys, adopting aluminum gravity casting ensures the production of robust tools that strike a balance between durability and cost-effectiveness, ideal for mass manufacturing. Advanced automation integrated into production lines streamlines processes, minimizing lead times and boosting overall efficiency.

What are the challenges or opportunities you see in coming years in the processing segment?

Challenges arise from the uncertainty surrounding the cost of base resins, driven by ongoing conflicts in the Middle East and Russia. Additionally, the devaluation of the Indian Rupee imposes an extra burden on the cost of importing machines and machine parts.

Despite these challenges, opportunities emerge as the Rupee devaluation enhances competitiveness, particularly in the context of import substitution efforts. Anticipated growth in industries such as Electric Vehicles (EV), toys, mobile phones, and the food sector presents promising prospects for our business, instilling optimism in the face of market dynamics.



How do you choose materials for thermoforming, including sustainable options to align with global environmental standards?

We promote the use of Recycled plastic wherever possible. Currently, our usage of recycled material is over 50%. In case of Industrial Packaging it is as high as 80%.

What is your perspective on 3D printing in the context of thermoforming? What is the impact as a valuable tool for prototyping and rapid design iterations?

As mentioned elsewhere, this method is now used to make prototype sample-making incredibly faster. It is likely that in the future this technique could replace conventional milling for Mass Production Tool Making.

What are the potential regions or countries for India's export growth?

Mainly in North America but also in Middle Eastern countries.

How do you navigate regulatory compliance and quality standards for international markets?

We adhere closely to the specifications and tolerance details provided by our customers in the documents and drawings for the packaging manufacturing process. Our quality systems align with ISO 9001:2015 standards, ensuring comprehensive and rigorous quality management throughout the production and supply chain.



Given the emphasis on sustainable packaging, how can thermoforming capabilities contribute to the development of eco-friendly and export-friendly packaging solutions?

Extruded Plastic Sheets, which this the Raw Material for Thermoforming can be easily manufactured with recycled materials. Making use of the technique of co-extrusion, a sheet with two surface layers (thin) made of virgin (which contact the product), and the bulk centre layer made of recycled material, can be made. Without such a window of opportunity to use recycled material, the value chain of post-consumer plastic waste can break down. Therefore, thermoforming industry is contributing in a big way to making the recycling process sustainable.



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Polymer Price Tracker



POLYMER PRICE TRACKER (DOMESTIC MARKET) DECEMBER 2023

High Density Polyethylene (HDPE)		thylene	• HDPE prices rebounded with an increase of Rs 1,000 per MT in Decem-			
↓	$ \Longleftrightarrow $	1	 ber 2023. HDPE prices remained unchanged in November 2023 after a decline of Rs 9,000 per MT in October 2023. In December 2023, HDPE prices were up by Rs 1,000 per MT in the first week of the month itself. 			
Oct-23	Nov-23	Dec-23				
Linear Lov	v-Density Po (LLDPE)	olyethylene	 LLDPE prices experienced a notable recovery with a Rs 1,500 per MT in December 2022 and by De 2,000 per MT in Neuropher 2023. Prices 			
➡			 in December 2023 and by Rs 2, 000 per MT in November 2023. Prices had slumped by Rs 9,000 in October 2023. In December 2023, LLDPE prices were up by Rs 1,500 per MT in the first week of the month. 			
Oct-23	Nov-23	Dec-23				
Low Densi	ity Polyethyl	ene(LDPE)	• LDPE prices rose by Rs 3,000 per MT in December 2023. LDPE prices			
	$ \Longleftrightarrow $		 were steady in November 2023 after a moderate increase of Rs 1,000 per MT in October 2023. In December 2023, LDPE prices were raised by Rs 3,000 per MT during the first half of the month. Thereafter no price changes were announced. 			
Oct-23	Nov-23	Dec-23				
Poly	ypropylene((PP)	• PP prices strengthened by Rs 4,000 per MT in December 2023. PP pric-			
-	₽		 es fell by Rs 5,000 per MT in November 2023 and by Rs 3,500 per MT in October 2023. In December 2023, PP prices were up by Rs 3,000 per MT in the first week of the month itself and by Rs 1,000 per MT later. 			
Oct-23	Nov-23	Dec-23				
Polyvinyl Chloride (PVC)		(PVC)	• PVC prices were hiked by Rs 2,000 per MT in December 2023, similar			
↓	1		to the increase seen in November 2023. PVC prices had dropped by Rs 10,000 per MT in October 2023.In December 2023, PVC prices were up by Rs 2,000 per MT in the first			
Oct-23	Nov-23	Dec-23	week of the month itself. Thereafter no price changes were announc			

Source: Industry, Plexconcil Research



Understanding Polymer Price Trends – January 2024

The polyolefins market saw a price increase in December and early January due to fewer incoming vessels, boosting prices and demand. However, demand in the Polypropylene segment weakened after this increase. Despite the price rise, market sentiment remains optimistic.

Indian merchandise exports, particularly in consumer & houseware products and FIBC, fell by 2-3% in December. The emerging FRP (Fibre Reinforced Plastic) industry is expected to notably contribute to composite parts exports in the Defence sector.

PVC prices have been volatile, with international offers at the end of the month and for February around USD 800/ MT, up by USD 15-20 from previous months. Extreme weather in Europe and the USA could lead to a temporary supply shortage and higher market prices, but no further polymer rate increases are expected soon.

Countryscape



THAILAND Economic overview

Thailand, located in Southeast Asia, sharing land borders with Myanmar, Laos, Cambodia, and Malaysia. It has an area of 513,120 square kilometres and a population of 70.1 million. Thailand's economy is the second largest in ASEAN, trailing only Indonesia. The nation stands as a diverse and rapidly developing economy, with a robust presence in agriculture specifically traditional crops such as rice, rubber, and cassava. The services sector, contributing 55% of the GDP, includes tourism, finance, and telecommunications. Thailand provides a strategic business location, with easy access to many Asian and other nations.

As of January 09, 2024, S&P's rating for Thailand is BBB+ (Stable); Moody's rating stands at Baa1 (Stable); and Fitch has a reported rating of BBB+ (Stable).



Thailand is actively engaged in various trade agreements that span across the Asia-Pacific region and beyond. As a member of the ASEAN bloc and a signatory with Regional Comprehensive Economic Partnership (RCEP), Thailand has seen heightened trade ties with Australia, New Zealand, China, Hong Kong, Japan, and South Korea. Additionally, Thailand has bilateral trade agreement with Chile, Japan, Australia, New Zealand and Laos. Since 2004, Thailand has a separate trade agreement with India.

Economic indicators		2020	2021	2022
Nominal GDP	USD Billion	500.5	505.6	495.4
Nominal GDP per capita	USD	7,170	7,227	7,070
Real GDP growth	%	-6.1	1.5	2.6
Total population	Million	69.8	70.0	70.1
Average inflation	%	-0.8	1.2	6.1
Total merchandise exports	USD Billion	229.3	267.5	284.1
Total merchandise imports	USD Billion	208.6	269.1	306.3

Source: Department of Commerce, Govt. of India, Plexconcil Research

Countryscape

Trade overview

Trade relations between India & Thailand are on an upswing. Within ASEAN, Thailand ranks as India's 4th largest trading partner after Indonesia, Singapore and Malaysia. India and Thailand engaged in bilateral trade worth USD 17.3 billion in 2022. During the year, India's exports to Thailand were valued at USD 6.1 billion while India's imports from Thailand were valued at USD 11.2 billion.

The major items of export (2-digit HS) from India to Thailand are processed diamonds (USD 1,315 million), nuclear reactors (USD 1,083 million), parts and accessories of vehicles (USD 321 million) and Indian mackerel (species of fish) (USD 320 million). Likewise, major items of export (2-digit HS) from Thailand to India are storage units for data processing machines (USD 1,665 million), plastic raw materials (USD 1,484 million) and crude palm oil (USD 1,232 million).

For products that come under the purview of PLEXCON-CIL, the trade is largely in favour of Thailand with exports of USD 1.5 billion to India while imports from India to Thailand stand at USD 124 million, leading a substantial trade deficit of USD 1.4 billion for India.

The major items of export to Thailand are:

- Plastic raw materials (32.7%),
- Plastic films and sheets (19.8%), and
- Floorcoverings, leathercloth & laminates (13.4%)



Thailand's annual plastics imports are valued at USD 14.5 billion approx. Its plastic imports are largely catered to, by the China (35.0%); Japan (15.2%) & the United States of America (7.2%). India's market share in Thailand's plastic import is quite insignificant (1.0%). Though, India holds a substantial standing in Thailand's import for products such as writing instrument & stationery with a market share of 11.6%.



Countryscape

Export potential for India

Based on our internal research, India's export of PLEXCONCIL member products to Thailand has the potential to grow by USD 7.0 billion. Details of product panels and their export potential to Thailand is provided below:

Product panel	Thailand's import from India	Thailand's import from world	India's export to world	Export potential for India
	USD Million	USD Million	USD Million	USD Million
Plastic raw materials	40.7	5,511.9	3,602.4	2,237.9
Plastic films and sheets	24.6	1,763.0	1,936.2	1,063.8
Consumer & houseware products	5.8	2,033.5	1,623.6	987.9
Medical items of plastics	4.4	818.1	1,041.6	644.5
Packaging items - flexible, rigid	9.9	787.5	647.6	484.7
Floorcoverings, leathercloth & laminates	18.6	356.5	775.8	275.0
FIBC, Woven sacks, Woven fabrics, Tar- paulin	5.4	271.9	1,512.6	238.6
Plastic pipes & fittings	2.3	329.3	304.0	137.8
Writing instruments & stationery	7.6	67.8	260.9	59.3

Source: TradeMap, Plexconcil Research



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How HP is making Sustainability PROFITABLE

In the contemporary landscape, the global business community is undergoing a transformative shift towards sustainability, with an increasing emphasis on adopting circular economy approaches. The impetus behind this paradigm change lies in the urgent need to curtail environmental degradation and foster resource efficiency. Brands and businesses, once primarily focused on profitability, are now recognizing the intrinsic link between their operations and the health of the planet. This fundamental shift is not merely an altruistic endeavor; it aligns with the growing awareness among consumers, investors, and regulators about the environmental impact of industrial practices.

One notable facet of this sustainability drive is the escalating investments made by brand owners in adopting sustainable manufacturing solutions. Recognizing their role as key stakeholders in the global supply chain, brand owners are taking proactive measures to integrate eco-friendly practices into their production processes. This involves reevaluating material sourcing, optimizing energy consumption, and incorporating innovative technologies that minimize waste generation. These sustainable manufacturing solutions not only contribute to a reduction in the overall carbon footprint but also enhance operational efficiency and resilience in the face of evolving environmental regulations. Furthermore, a significant area of focus for brand owners is their commitment to fostering a circular economy, particularly in the realm of plastics. Plastics, ubiquitous in various industries, have posed a considerable environmental challenge due to their persistence in ecosystems and the proliferation of single-use plastics. In response, brand owners are spearheading initiatives to revolutionize the way plastics are utilized and managed across sectors.

In the realm of packaging, for instance, brand owners are reimagining product delivery mechanisms by exploring alternatives such as biodegradable materials, reusable packaging, and innovative design concepts that facilitate recycling. This shift not only addresses the growing concerns of plastic pollution but also resonates with environmentally conscious consumers who increasingly prioritize sustainable packaging choices.

Beyond packaging, brand owners are collaborating with partners along the supply chain, including manufacturers and recyclers, to establish closed-loop systems for plastics. These systems involve the collection, processing, and reintroduction of recycled plastics into the manufacturing process, creating a continuous and sustainable materials cycle. This approach not only mitigates the demand for virgin plastics but also contributes to the reduction of waste in landfills and marine environments.

In addition to technological advancements, brand owners are leveraging their influence to advocate for policy changes that support circular economy principles. Collaborating with governmental bodies, industry associations, and non-governmental organizations, they are actively participating in the development of regulations that incentivize sustainable practices and penalize en-

Case study

vironmentally harmful ones. This collaborative effort aligns with the understanding that systemic change requires a comprehensive and unified approach.

Moreover, brand owners are incorporating sustainability into their brand identity, recognizing that consumers increasingly make purchasing decisions based on ethical considerations. Communicating transparently about their sustainability initiatives, from responsible sourcing to circular economy practices, fosters a sense of trust and loyalty among consumers who prioritize environmentally conscious brands.

The surge in the adoption of circular economy approaches by businesses and brand owners signifies a fundamental shift towards a more sustainable and responsible future. The integration of sustainable manufacturing solutions, coupled with a commitment to circularity in plastics, demonstrates a proactive response to the environmental challenges facing industries today. As brand owners continue to invest in and champion these initiatives, they not only contribute to the global sustainability agenda but also position themselves as leaders in a market where conscientious consumers and stakeholders increasingly value responsible business practices.



The HP Case Study

This case study* delves into the collaborative efforts between Hewlett-Packard (HP), a global information technology company, and Sims Lifecycle Services (SLS), a leader in resource recovery and recycling. The focus lies in HP's commitment to a circular economy, particularly in developing a sustainable plastics recovery strategy. Through extensive collaboration and experimentation, HP and SLS achieved remarkable success in recovering and reusing materials, setting an industry-leading example in circular design and practice.

1. The Client:

Hewlett-Packard (HP) is a multinational information technology company with a mission to enhance life for everyone, everywhere. Recognizing the significance of the circular economy in reshaping product life cycles, HP has embraced the concept to create value for its business, customers, and society. Both HP and Sims Lifecycle Services (SLS) share a history of reducing environmental impacts, laying the foundation for a successful partnership in resource recovery and reuse.

2. The Challenge:

As part of its commitment to a resource-efficient economy, HP embarked on a journey to reinvent its approach to product design, manufacturing, usage, and recovery. A key aspect of this transformation was transitioning from a linear model to a circular model, emphasizing a healthy materials cycle.



To address the environmental impact of its products, HP sought collaboration with SLS to formulate a sustainable plastics recovery strategy.

3. The Result:

HP and SLS engaged in extensive collaboration, including a significant experimentation period involving various approaches to materials recovery. The goal was to achieve a sustainable and economically viable solution. Three primary approaches were considered: full disassembly, smart/optimized disassembly, and segregate & shred. After thorough analysis, the most economically-viable solution emerged – collating material from HP returns and other sources and processing it through mechanical shredding and separation.

4. Material Recovery Approaches:

Approach One: Full Disassembly Teardown to individual components. Separate out HIPS/ABS plastics. Shred the remainder.

Approach Two: Smart/Optimized Disassembly Remove case parts. Shred the remainder.

Approach Three: Segregate & Shred Separate IJ/LJ and shred. Current approach shreds all WEEE (Waste Electrical and Electronic Equipment) together.







Case study

The most economically-viable solution involved collating material from HP returns and other sources, processing it via mechanical shredding and separation. This approach proved successful, enabling the recovery of rHIPS and ABS plastics in two HP-specific colors, scaling up from 40 metric tonnes to 320 metric tonnes in just four months.

5. The Outcome:

SLS's effective recovery process resulted in clean recycled plastics, specifically rHIPS and ABS. These high-quality, closed-loop plastics became instrumental in manufacturing new products, adorned with a Green Label to signify their production from post-consumer, closed-loop recycled content. The benefits of advanced material recovery included improved financial returns from recycled waste streams, reduced material acquisition costs, diminished environmental impact of products, and a notable contribution to the circular economy.



Benefits from Advanced Material Recovery:

- Improved financial returns from recycled waste streams.
- Reduced cost of material acquisition.
- Reduced environmental impact of products.
- Reduced need for raw material extraction.
- Contribution to the circular economy.
- Reduced suppliers and supplier management.
- Certainty of resource supply.
- Reduced logistics movements and transport miles for resources.
- Product differentiation for HP.
- Helped HP customers reduce their environmental impact.
- Increased sales and strengthened channel relationships.

The result is an industry-leading solution in circular design and practice, with HP taking responsibility for its products throughout the entire lifecycle.

6. Lifecycle Overview:

- 1. Customer purchases HP product: The lifecycle begins with a customer choosing an HP product, setting the stage for responsible consumption.
- 2. HP manufactures product: HP manufactures the product with a focus on sustainable design and materials, laying the foundation for responsible end-of-life management.
- 3. Customer recycles EOL product: The customer responsibly recycles the end-of-life (EOL) product, contributing to the circular economy and reducing environmental impact.
- 4. Product recycled: The recycled material undergoes an efficient recovery process, leading to the extraction of clean recycled plastics.
- 5. Closed-loop PCR resin for new product: These recycled plastics, specifically rHIPS and ABS, serve as closed-loop post-consumer resin (PCR) for manufacturing new products.
- 6. Recycling output material: The new products, proudly carrying the Green Label, signify their production with post-consumer, closed-loop recycled content.

Conclusion:

The collaboration between HP and Sims Lifecycle Services exemplifies the success that can be achieved through a circular economy approach. By prioritizing resource recovery and sustainable material reuse, HP not only reduced its environmental footprint but also established itself as an industry leader in circular design and practice. The case study highlights the economic viability of such initiatives, bringing financial returns, reduced costs, and strengthened relationships with customers and channels. As businesses worldwide grapple with the challenges of sustainability, this partnership serves as a beacon, demonstrating that making sustainability profitable is not only achievable but also essential for a resilient and responsible future.

*The original case study was published on https://www. simslifecycle.com/resources/case-study-plastic-recycling/



World Bank introduces innovative \$100 million plastic waste reduction-linked bond to tackle plastic pollution

The World Bank (International Bank for Reconstruction and Development, IBRD) has unveiled a groundbreaking seven-year USD 100 million Plastic Waste Reduction-Linked Bond.

According to the World Bank, this innovative financial instrument ties investor returns to Plastic Waste Collection Credits, Plastic Waste Recycling Credits, and Voluntary Carbon Units expected to be generated by projects in Ghana and Indonesia.

The selected projects aim to reduce and recycle plastic waste in vulnerable communities, addressing the global challenge of plastics leaking into nature and oceans.

Citi served as the Lead Manager for this pioneering outcome bond, mobilizing private capital to support projects with positive climate and development impacts.

Investors in the bond are contributing approximately USD 14 million in upfront financing to enhance the capacity of existing facilities, expand to new collection and recycling sites, and install food-grade recycling equipment in the selected projects.

Beyond curbing plastic pollution, these projects aim to improve local pollution and air quality, reduce associated health impacts, and create jobs in marginalized communities.

The Plastic Waste Reduction-Linked Bond introduces a new approach to financing plastic collection and recycling operations, emphasizing the prevention of plastic waste leakage into the ocean. The bond is 100 per cent principal protected, with the USD 100 million proceeds supporting the World Bank's sustainable development activities globally.

Notably, the plastic collection and recycling projects in Ghana and Indonesia are not World Bank projects.

Investors in the bond will forego a portion of ordinary coupon payments. Instead, equivalent amounts will be provided, through a hedge transaction with Citi, to support the financing of the projects managed by Plastic Collective UK.

In return, investors will receive annual coupons composed of a fixed amount and payments linked to the sale of a portion of the plastic and carbon credits produced by the projects.

This structure offers investors a potential financial benefit compared to regular World Bank bonds of similar maturity if the projects and monetization of plastic and carbon credits perform as expected.

Anshula Kant, Managing Director and World Bank Group Chief Financial Officer said, "Given the huge needs for development, channelling private capital to support development challenges has been a fundamental part of our work.

Outcome bonds, like the Plastic Waste Reduction-Linked Bond align incentives, so that investors benefit financially when positive development outcomes are achieved. They create a win-win with the local communities and ecosystems that benefit from less pollution, and we will continue issuing them.

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Philip Brown, Global Head of Sustainable Debt Capital Markets at Citi, expressed pride in the innovative use of VERRA-registered plastic credits to finance projects that reduce plastic pollution. The bond responds to investor appetite for transactions with direct and quantifiable development impact.

Several leading investors, including Velliv, Skandia, Mackenzie Investments, T. Rowe Price, and Muzinich & Co., have participated in the Plastic Waste Reduction-Linked Bond.

They emphasized the bond's impact on reducing plastic waste and creating economic opportunities for underserved communities, showcasing the potential for impactful and sustainable investments.

The Plastic Waste Reduction-Linked Bond marks a step towards addressing the global plastic crisis through innovative financial instruments and collaborative efforts between the public and private sectors.

Source: Zee Business

Arburg at Chinaplas 2024: A Focus on Mobility and Automation

At Chinaplas, which takes place from 23 to 26 April 2024, Arburg will present itself as a comprehensive technology and system partner for the efficient production of plastic parts.

The focus will be on applications for the automotive and medical industries. Three Allrounder exhibits will demonstrate the fully automatic overmoulding of inserts, the processing of liquid silicone (LSR) and the production of sophisticated medical components.

In addition to injection moulding technology, Arburg will showcase additive manufacturing and automation and offer trade visitors comprehensive and individual advice in the interactive arburgSOLUTIONworld exhibition area.

"At Chinaplas 2024, we will be exhibiting in the same hall as the Asian injection molding machine manufacturers for the first time, bringing us even closer to our local customers. The mobility sector in particular, and especially electric vehicles in the mid and upper price segments, are successful in the Chinese market. This is why we have focused our exhibits on this area," emphasised Zhao Tong, managing director of the Arburg organisations in China.



"At arburgSOLUTIONworld, we are pooling our consulting expertise at the trade fair stand. China has built the world's largest 5G network and digital transformation is currently a hot topic for our customers. Our experts will be on hand to answer questions and present our digital products as well as automation solutions and services."

The unique interactive exhibition area "arburgSOLU-TIONworld" is not only an eye-catcher, but also offers trade visitors real added value. Arburg experts will be on hand at five stations around a four-metre-high LED column to provide customised consultations - for example on the use of the arburgXworld customer portal and the Arburg host computer system ALS. Other key topics include increasing efficiency through automation, advice on injection moulds, the arburgGREENworld sustainability programme and all aspects of service and training.

At Chinaplas 2024, Arburg will be demonstrating the benefits and added value that can be achieved through industrial additive manufacturing with a Freeformer. Using Arburg Plastic Freeforming (APF), functional parts, operating equipment and robotic grippers can be 3D printed based on original plastic granulates, even from very soft materials and in hard/soft combinations.

Source: Interplas Insights

UBQ Materials Expands its Globally Patented Waste-to-Materials Technology

UBQ Materials, climate tech developer of advanced materials made from waste, announced its Sustainability Product Portfolio. The new comprehensive product portfolio of sustainable, bio-based materials encompasses three bio-based material replacements and sustainability additives as well as two modifiers.

Each product line features unique and complementary properties, meticulously engineered to meet specific sustainability targets including waste diversion, circularity, increased post-consumer recycled content and emissions removal and avoidance.

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"For those already exploring material alternatives, the trade-offs between sustainability and product performance are well-known. Incorporating minimal amounts of UBQ can help businesses achieve a carbon-negative status, providing a win-win scenario for sustainability and business," said Patricia Mishic O'Brien, CCO of UBQ Materials.

"Sustainability is becoming an imperative for customers. Businesses incorporating UBQ are gaining a market advantage, enabling them to hit their sustainability goals while maintaining or improving upon their pricing power."

The new material replacements and additives, all based on UBQ Materials' globally patented waste-to-materials approach, are formulated to resolve performance challenges commonly encountered when integrating sustainable materials. The product lines are suitable as sustainability additives (10% to 30% load of UBQ-based material), or as material replacements (25% and higher load of UBQ-based material). This enables compounders and manufacturers to determine the right load level to balance consistent functionality with sustainability benefits.



"Sustainable product development has historically been hindered by material efficiency. Now compounders, product manufacturers and designers can focus on the upside opportunities of sustainability within their operations and product lines," said Mishic O'Brien.

"Our priority is to provide a full spectrum of functional sustainability options. We are confident that our new product lines will both benefit our customers and also drive substantial business growth for UBQ Materials in the future."

The product portfolio includes three bio-based sustainability additives and material replacements, each tailored for different sustainability needs, encompassing circularity, recyclability, low-carbon footprint, and climate-positivity:

- UBQ ClimaPos: A bio-based, climate-positive sustainability additive that enables greenhouse gas removal and avoidance and assists companies in achieving or surpassing ambitious climate objectives. With proven uses including planters, pet carriers, transport boxes, and window profiles, incorporating as little as 5%, UBQ ClimaPos can shift products' carbon footprints to carbon neutrality.
- UBQ Q Series: The proven, standard material replacement known as UBQ, the Q Series is a one-toone material swap that blends with most polymers. It can be used across industries, including automotive and mobility, building and construction, and logistics and supply chain management applications and is suitable for use on its own where final product characteristics permit.
- UBQ Industrial: A material replacement engineered for high-value function and reliability in operational uses, from shipping pallets in logistics to bitumen roofing or building infrastructure, UBQ Industrial is a cost-effective material choice when appearance matters less than functionality.

These primary formulations can be combined with additional modifiers or enhancers to achieve desired properties, optimising product development, and reducing guesswork for product manufacturing. Supporting formulations for additional benefits include:

- UBQ Nclozur: A sustainability modifier formulated for odour mitigation, ideal for indoor and interior applications, which can include automotive interiors, consumer products, flooring, footwear and carpet backing.
- UBQ Impact: An enhancer that blends with a range of polymer matrices to meet performance requirements, enabling business to bring climate-positive circularity to applications as diverse as decking, office furniture, and car-door mirrors.

By incorporating as little as 5% of a UBQ material replacement or additive, businesses can – whether in a single product application or across supply chains – achieve greater circularity, carbon-neutrality or even carbon-negative/climate-positive status. By designing products with various load levels and capabilities, UBQ enables businesses to achieve productivity goals while transitioning away from fossil-based plastics.

"For years, we have worked with our customers through trials and application development. We've developed this portfolio to streamline the journey towards circular manufacturing practices," said Gil Felus, chief operations officer and chief innovation officer of UBQ Materials. "With this, sustainability to profitability becomes a simple equation." The company will work with compounding partners, value chain manufacturers, brand partners and product development teams to tailor the

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ideal formulation for each specific application.

Source: Interplas Insights

Storopack's Mini Touch Machine Suitable For Diverse Film Types

Storopack's new AIRplus Mini Touch machine is suitable for different types of film and offers fast, intuitive operation thanks to its touch display, which can be positioned on the front or back.



Storopack's AIRplus Mini Touch is an all-around system and can process different types of film up to 400 mm in width. The air pillow system comes with a touch display, which can be positioned on the front or back of the machine. Thanks to the display's intuitive user interface, users can configure the machine with ease in no time. There are three modes to choose from: manual, lengthdependent, and automatic.

The machine also has a preinstalled library, allowing users to choose parameters for individual film types.

AIRplus Mini Touch is compatible with all COMFORT. PROTECT modules from Storopack. Convenient AIRplus Mini Touch offers a touch display with adjustable position, which is a benefit when it comes to machine configuration and servicing. Even if the machine is integrated and less accessible on all sides, the display can be positioned for easy access.

Source: Interplas Insights

Films Innovate Recycle-Ready PE Packaging for Confectionery

Charter Next Generation (CNG), a leading provider of sustainable films, announced January 23 that it has expanded its GreenArrow portfolio with a new line of cavitated polyethylene (PE) films.

Developed in collaboration with VOID Technologies (VOID), the new recycle-ready films meet the rapidly growing demand for flow wrap and confectionery applications. Using VOID's patented VO+ PE Voiding Agent

Masterbatch and Machine Direction Orientation (MDO) film processing, CNG has successfully developed high-performing PE film structures that are opaque yet compatible with existing PE recycling streams making more packaging suitable for recycling.



Adoption of MDO PE film is a rapidly growing industry trend as it enables recyclable, high-performing flexible packaging. By using VO+ Masterbatch, CNG can now produce thin-gauge voided MDO PE films that offer a combination of low density and high opacity not achievable with mineral additives such as TiO2 pigments or CaCO3 cavitation agents. This innovation creates a unique PE-based recycle-ready alternative to conventional PP-based substrates that often require biaxial orientation.

"Using VOID's patented VO+ technology enables us to achieve the high opacity, ease of processing, and recycle-ready performance we are targeting for these films," says Brent Greiner, VP of technology at Charter Next Generation. "This allows our customers to reduce their use of virgin materials and process their packaging in existing polyethylene film recycling streams."

Masterbatch unlocks performances benefits.

The VO+ PE Masterbatch is added to PE resin to create nano- and micro-scale voids, reducing density, and creating high levels of opacity via light scattering through the voided structure. The lighter-weight material performs better structurally and improves the potential for recycling.

VOID's latest VO+ PE Masterbatch product is compliant with direct food contact standards in North America and Europe and has passed key recycling standards.

James Gibson, CEO of VOID Technologies, comments, "We are delighted with this collaboration and to be part of launching this new generation of recycle-ready voided PE films. As we look to the future, we are excited to be working with CNG across a range of projects that directly address sustainability and recycling targets."
Charter Next Generation is a major North American producer of highly engineered solutions used in the food, consumer, healthcare, and industrial markets.

VOID extensively patented VO+ technology was developed in a research initiative at Kimberly-Clark. Soon after, in 2015, VOID was launched as an independent company.

Source: Plastics Today

Teijin to Produce Carbon Fiber from Sustainable Raw Materials

Japan's Teijin Ltd. will commence production and sale of Tenax carbon fiber made with sustainable acrylonitrile (AN) based on waste and residue from biomass-derived products or recycled raw materials that have received ISCC Plus certification from the International Sustainability and Carbon Certification system. The Tenax carbon fiber under ISCC Plus certification will be produced at Teijin's Mishima plant in Shizuoka Prefecture, Japan, using the mass balance approach.



In June 2023, the company obtained ISCC Plus certification for Tenax carbon fiber and the polyacrylonitrile (PAN) precursor fiber produced at its Mishima plant. The sustainable AN has the same physical properties as petroleum-derived AN, while Tenax carbon fiber based on this material delivers the same performance and processing attributes as equivalent fossil-based Tenax products. This similarity allows customers to easily drop in Tenax carbon fiber made with bio-based or circular materials, helping to reduce greenhouse gas (GHG) emissions throughout the product's lifecycle.

Teijin aims to expand its lineup of sustainable products. To this end, the company is pursuing ISCC Plus certification not only for carbon fiber, including its precursor, but also for intermediate products such as prepregs and short fibers that use sustainable raw materials. Further, Teijin is working toward obtaining ISCC Plus certification at overseas locations. Teijin's European facilities are expected to obtain certification in early fiscal 2024, which commences this coming April, while US facilities should obtain certification during fiscal 2024. Carbon fiber is used as a reinforcement material in a range of markets, including aerospace, automotive, and sporting goods.

Source: Plastics Today

MedTech moulding trends to watch

Regional medical director of the Sumitomo (SHI) Demag team Andrew Sargisson shares his industry insight and global predictions for the medical market, touching upon how these latest trends are influencing investments in medical injection moulding facilities worldwide.



Thermoplastic and LSR moulding continues to be used extensively to manufacture a huge variety of everyday medical applications. The range is broad and can include implantable components, test tubes, petri dishes, PCR tubes, pipette tips and other labware, as well as medical monitoring devices, drug delivery components and surgical equipment.

In 2023, the global medical injection moulding market size was estimated at \$22.54 billion. It is expected to grow at a compound annual growth rate (CAGR) of 5.8% from 2024 to 2030. Much of this growth is being driven by advances in self diagnostics, the home healthcare sector, improved healthcare infrastructures in emerging economies, and an ageing population, which WHO predicts will double by 2050.

The medical market, particularly diagnostics, was strongly influenced by the Coronavirus pandemic. As anticipated, there has been a natural levelling-off for pandemic-related consumables.

More recently, there is a stronger leaning in the medical market towards larger strategic and more complex projects, such as drug delivery devices and pen style injectors. This is predominantly due to the global growth in diabetes care, where demand for advanced glucose monitoring and insulin delivery devices is propelling innovation. Testament to demand, credible industry reports forecast that the diabetes device market will surpass \$68.2 billion by 2032, almost triple its 2022 value.

With regard to machinery, there is a strong move towards "copy & paste" systems and processes in both Europe and North America. The global medical team at Sumitomo (SHI) Demag, led by business development director Anatol Sattel, are also noting more requests for remote system access to historical machine data. This is predominantly to assist with troubleshooting and monitoring validated process settings.

To support these efforts, the company's R&D team continues to develop an IoT dashboard to facilitate data analysis and visualisation, transfer and storage of knowhow, as well as maintenance planning and prediction. Within this assistance system, additional autonomous and interconnected functions are being conceived to provide valuable insight into the machine performance and different production variables.

The development of process optimisation systems, integrating material and knowledge with simulation tools is probably the most exciting development on the horizon, claims Sargisson. Such systems will enable processors to observe advanced settings and capture deeper processing insights.

The company's ultimate vision is an intelligent machine that can independently make predictions about part quality, machine wear and failures and deliver optimisations online. Enabling greater process consistency and allowing for real-time machine maintenance to be adjusted accordingly.

To support these advances and in order to meet the explicit quality management and validation ISO 13485 standards for medical devices, Sumitomo (SHI) Demag introduced new machine user parameters, digital quality control and KPI analytics into its IntElect S medical production package. One of these advanced Med-Spec demo cells is now located in Limerick, Ireland. This will enable customers to perform validations, run tool trials and use the facility to provide valuable process optimisation training to technicians.



Also observed during the pandemic, larger scale adoption of home healthcare and smart diagnostic devices, continues to accelerate at pace. With significant access to start-up finding, telehealth is the boom-market to watch. It is current exhibiting a CAGR of 19.7% between now and 2030. Online video and audio consultations with physicians and medical consultants are increasingly being used to deliver quality healthcare while simultaneously reducing heavy work and cost burdens. The telehealth segment is split between services and products. Items such as wearable patient monitoring and telecommunication devices accounts for around one third of the market.

For medical moulders already producing vital monitoring devices, including oxygen, weight, glucose and ECG devices, as well as infusion pumps and cannulas etc. and already meeting the exacting healthcare standards, the transition to homecare device production should be relatively seamless.

High profile acquisitions of diagnostics companies, IPO listings, strategic partnerships, and the rise of virtual care platforms provide further assurance that the diagnostics market is on the cusp of another huge growth curve. This all indicates that there are clearly exciting opportunities ahead for moulders operating in the high tech medical device and diagnostics product development and production space.

In 2024, Sumitomo (SHI) Demag will host its inaugural productivity roadshow. With four stopovers planned for July in the UK and Ireland, including Limerick, customers will be invited to explore all the latest trends, productivity and profit-enhancing technologies.

Source: Medical Plastics News

Expansion in the Caribbean: ALPLA acquires packaging specialist Fortiflex

Buckets, canisters, crates, barrels and closures: ALPLA has acquired the packaging specialist Fortiflex based in Puerto Rico. The two companies have been jointly producing packaging for the markets in the Caribbean and Central America since 2017. With the acquisition of Fortiflex, ALPLA strengthens the ALPLAindustrial division established in 2023 for large-volume packaging solutions and expands its offerings as a complete provider. The ALPLA Group is accelerating the production of large-volume plastic packaging. The internationally active packaging and recycling specialist has acquired all shares in the packaging company Fortiflex, Inc., based in Puerto Rico. The two companies have been partners since 2017, producing buckets, lids, crates, tubs and other products at locations in Puerto Rico, Costa Rica and the Dominican Republic.

Founded in 1975, the packaging specialist Fortiflex is one of the leading manufacturers in Central America and the Caribbean, with a range of more than 700 prod-

ucts. 'Through the acquisition of Fortiflex, we strengthen our position, expand our portfolio, and set the stage for further growth in the region. We gain decades of experience, recognised quality and state-of-the-art production lines,' emphasises Carlos Torres, ALPLA Managing Director Mexico, Central America and the Caribbean. All 102 employees have been taken over by ALPLA.



Packaging solutions for the industry

Fortiflex's facilities supply products to major regional and international customers in the construction, chemical and food industries. Production and export capacities are continually expanded, now encompassing not only Central America and the Caribbean but also South and North America. In 2023, ALPLA and Fortiflex installed a new production line for buckets in Costa Rica. Further investments are planned.

The integration of Fortiflex into the ALPLA Group, combined with the portfolio of the ALPLAindustrial brand established in 2023 and ALPLA's recycling expertise, create added value for customers in the region. 'The business with industrial containers has great potential, and as a complete provider, we deliver closures and decorations along with them', adds Torres.

The acquisition was contractually agreed upon on 22 December 2023. The terms were kept confidential.

Source: Packaging 360

Dow CEO predicts 15% of PE demand met by mechanical recycling by 2050

Materials supplier Dow posted lower sales and profit in the fourth quarter to round off a challenging 2023. Sales were down 10% versus the same quarter in 2022 to \$10.6 billion. The company posted losses of \$95 million, compared with a profit of \$647 million in the same period last year. This was primarily driven by lower prices, according to a company statement.

Chairman and CEO Jim Fitterling said that in the fourth quarter, Dow "continued to advance our strategic, financial and operational priorities in a challenging and dynamic macroeconomic environment."

"We saw year-over-year volume improvements in the quarter, delivered our goal of \$1 billion in targeted cost actions for the year, and took actions to further de-risk our pension plans," Fitterling added in a Jan. 25 news release. "We also hit a key milestone towards advancing our long-term Decarbonise & Grow strategy with the final investment decision for our Path2Zero project in Fort Saskatchewan, Alberta, where construction will begin this year."



In his presentation of the results, Fitterling also gave an update on Dow's decarbonisation and sustainability roadmap, including the construction start for Fort Saskatchewan, which is planned to become the world's first ethylene cracker with net-zero Scope 1 and 2 emissions.

Dow's CEO predicted that mechanical recycling will account for 15% of global polyethylene (PE) demand by 2050. The remaining 85% will be sourced from chemical recycling, bio-based feedstocks, low-carbon solutions, and traditional fossil fuels, he said during the earnings call.

His presentation shows that the vast majority of the estimated 250-300 million tonnes demand will be met by a mix of traditional and low-carbon fossil, followed by mechanical recycling, chemical recycling, and bio-based.

"Our view is that both mechanical recycling and advanced recycling are going to continue to grow," Fitterling said. "There's going to be demand drivers to grow all of those segments."

Fitterling added that there is 'solid growth' in the circular polymers sector, despite higher prices.

"I feel that over time, you're going to see more focus on low-carbon fossil approaches like we're doing with Alberta," Fitterling said. "So how can you make plastics from fossil fuels that have zero CO2 emissions? You're going to see focus on [chemical] recycling and mechanical recycling and all of the above, and we're just going to place bets in different regions by what the market demand dictates."

Source: Sustainable Plastics



Cosmo First unveils Cutting-Edge Innovations at Two Premium Trade Shows

Cosmo First, having multiple businesses in Films, Rigids, Petcare, Adhesives, Coatings, etc has announced its participation in two prominent trade shows. The company will exhibit at the 2nd Edition of PlastFocus from 1-5 February 2024, Yashobhoomi (IIC), Stand no. F16A, Dwarka, New Delhi and at the ABID, Kolkata from 2-5 February 2024, Milan Mela, stand no. BB158, Kolkata highlighting its latest product offerings and industry-leading innovations.

Sharing his thoughts on the same, Mr Sanjay Chincholikar, Business Head (Cosmo Plastech and Cosmo Sunshield) said, "Sustainability is at our heart and both our product lines truly demonstrate this. Cosmo Sunshield will display its exclusive range of sun protection and security films to reduce energy consumption and provide safety in residential and commercial buildings while Cosmo Plastech will showcase its specialty range of rigid containers and sheets which are easily recyclable and meant for multiple use."

The company aims to leverage these exhibitions to foster new collaborations and partnerships, exchange industry knowledge, and gain a deeper understanding of customers' requirements to deliver the most effective and innovative solutions. With a strong focus on innovation, quality, and sustainability, Cosmo First has emerged as a preferred partner for several leading brands and customers across the globe.

Established in 1981 and founded by Mr. Ashok Jaipuria, Cosmo First is a global leader in specialty films and an emerging player in specialty chemicals (Masterbatches, Adhesive, & Coating), Cosmo Plastech and Cosmo Sunshield, along with a digital-first Omni channel Pet care business under the brand name 'Zigly'. Cosmo First is into D2C, B2B2C and B2B businesses and has operations in India, Japan, Korea and USA. Visit www.cosmofirst.com for more details.

Source: Packaging 360

Interim Budget 2024: Exporters seek higher allocation for MAI scheme

Ahead of the interim Budget 2024, exporters have urged the government to allocate funds worth \$3.88 billion for the Market Access Initiative (MAI) scheme to promote Indian exports and help them hit the ambitious \$2 trillion target by 2030. The marketing support given under the MAI scheme, with a total allocation of less than Rs 2 billion for the current year, for promoting exports of US\$ 2 trillion is grossly inadequate, according to the Federation of Indian Export Organisations (FIEO), the apex body for exporters.

The scheme aims to promote India's exports on a sustained basis and works with a 'focus product-focus country' approach through market studies and surveys. "The country is aiming to take goods and services from \$776 billion recorded in 2022-23 to \$2 trillion by 2030. This requires aggressive export marketing to showcase Indian products and services to global customers. Therefore, for aggressive marketing, there is a need for the creation of a corpus of a minimum of 0.5 per cent of the preceding year's exports for the MAI scheme," said FIEO President (officiate) Israr Ahmed.

A focus on marketing, with government support, is expected to benefit especially small exporters. FIEO has also urged the government for a financial outlay of Rs 5,000 crore shared between the Centre and states for the District as an Export Hub (DEH) scheme.



"A planned scheme to address the infrastructure gaps through central-state funding can be the game changer and will help in exponential growth in exports from the districts, thus pushing states' exports and thereby of the country. The Budget may announce a scheme which on a pilot basis may be introduced in 50 districts with a corpus of Rs 5,000 crore with sharing between Centre and states," it said.

Exporters have also asked the government to encourage more investment in the manufacturing sector and exports in the upcoming Budget. They urged the government to extend the sunset date for commencing manufacturing from March 31, 2024, till March 31, 2027, for companies availing 15 per cent concessional income tax rate. They have also asked the government to focus on developing an Indian Shipping Line of global repute, the body said.

The Apparel Export Promotion Council (AEPC) has urged the government to increase the rates to 5 per cent for all exporters under the Interest Equalization Scheme. This will increase the apparel industry's competitiveness in the international market and enable it to avail necessary working capital.

Interest equalisation rates were revised downwards from 3 to 2 per cent for non-MSME manufacturer exporters under the scheme on pre and post-shipment export credit. The high cost of capital has been a major bottleneck for the exporting community, according to the Export Promotion Council.

Source: Business Standard

India's electronics exports surpass \$20 billion, iPhone dominates surge

India witnessed a 22.24 per cent surge in electronics exports, surpassing the \$20 billion milestone within the nine months of the financial year 2023-24 (FY24). This was spearheaded by surging smartphone shipments, especially Apple's iPhone, according to a report by The Economic Times (ET).

Mobile phone exports, accounting for 52 per cent of total electronics exports, reached \$10.5 billion between April

and December 2023. Notably, iPhones emerged as the primary driver of exports, contributing 35 per cent of the total electronics exports and a staggering 70 per cent to the country's overall mobile exports during this period. In December 2023 alone, iPhone exports exceeded \$7 billion.



The data, provided by the India Cellular and Electronics Association (ICEA), as reported by ET, indicates that electronics exports experienced the fastest growth among the top 10 export categories in the current financial year, elevating the sector to the fifth position from sixth last year. This growth is attributed to the smartphone production-linked incentive (PLI) scheme initiated under the Modi-government in 2021.

ICEA forecasts mobile phone exports to reach \$14-15 billion by the end of FY2. If the current growth trajectory persists, electronics exports are likely to secure the fourth position by March, marking a two-rank jump within a single financial year. ALSO READ: India electronics exports to US jump two-fold to \$6.6 bn in Jan-Sep 2023

The surge in mobile exports, increasing nearly sevenfold from \$1.6 billion in FY19 to \$11.1 billion in FY23, is propelled mainly by Apple and its contract manufacturers—Foxconn, Wistron (now owned by Tata group), and Pegatron. In contrast, Samsung has faced export challenges, even missing production targets under the PLI scheme.

Apple's iPhone production surpassed the Rs 1 trillion production mark in 2023, making the US-based company a pivotal player in India's electronics landscape.

With exports poised to drive further expansion in mobile phone manufacturing, the industry advocates for a competitive tax and tariff regime to sustain global competitiveness with countries like China and Vietnam.

India also green-lighted \$10 billion semiconductor PLI in 2021 to make India a global manufacturing hub. The chip can be used for a range of electronics, from mobile phones to cars. This also contributes to India's "Make in India" initiative that aims to bolster the country's manufacturing sector.

Source: Business Standard

Budget 2024: MSME expects a special package from Sitharaman to help India become \$5-trillion economy

On expectations from the Budget, Federation of Indian Micro and Small & Medium Enterprises (FISME) said the relationship between banks and MSME is an uneven one with the balance of power heavily tilted in favour of the lenders.

The MSME sector wants Finance Minister Nirmala Sitharaman to come out with a special package for small and medium enterprises to ensure greater availability of institutional credit at competitive rates to enable it to play a bigger role as India moves closer to becoming a \$5 trillion economy.

The share of MSME (Micro, Small & Medium Enterprises) sector in the country's Gross Domestic Product (GDP) in 2021-22 was 29.15 per cent.

"Lack of competition in the banking sector (75 per cent of banks being public sector) and weak regulatory institutions, which have not been very successful in ensuring customer centredness of banks, and near-defunct grievance redressal mechanism (Office of Banking Ombudsman) all coalesce into an unhappy experience for an ordinary MSME owner with the banks -- whether private or public," FISME Secretary General Anil Bhardwaj said.



The share of export of MSME-specified products in the country's overall exports was 45.56 per cent in 2023-24 (up to September 2023), up from 43.59 per cent in 2022-23, according to a reply to the Lok Sabha by the Ministry of Micro, Small and Medium Enterprises.

Consultancy firm Deloitte said to reduce risks in capital flows to MSMEs, particularly industries such as automotive, electronics, industrial, and electrical machinery, and chemicals, it is advisable to promote risk mitigation tools, like credit guarantees, and insurance schemes.

It also noted that only 6 per cent of MSMEs actively sell on e-commerce platforms. To boost digital commerce, the government must reimagine it, with an ecosystem that eliminates or resolves challenges for stakeholders.

As on December 8, 2023, the total employment recorded on the Udyam Registration Portal (since July 2020) was 15.55 crore, including informal micro enterprises registered on Udyam Assist Platform.

Puneet Kaura, Chairman of CII Delhi State and MD & CEO of Samtel Avionics, said the MSME sector is the backbone of the country as it employs a large number of people, besides contributing to the growth of the manufacturing sector and promoting exports.

He said one of the main problems being faced by the MSME sector is the availability of timely credit at competitive cost. "We want Finance Minister Nirmala Sitharaman to come up with a special package for MSMEs in the Interim Budget, so that the small and medium units do not suffer for want of credit.

"This sector has the talent and risk-taking appetite and can play a big role in strengthening India's capabilities even in critical sectors such as semiconductors, space technology, defence, and medical equipment," Kaura said.

Rohit Arora, CEO and Co-founder, Biz2X and Biz2Credit, anticipates a Budget that prioritises financial inclusion and ease of doing business, fostering a conducive environment for growth. "Measures such as simplified regulatory procedures and reduced compliance burden can empower startups and MSMEs, promoting a more agile and competitive landscape," he said.

In alignment with the digital era, investments in digital infrastructure, cybersecurity, and skill development are essential for the sustainable growth of startups and MSMEs, he added.

The Union Budget 2023-24 had earmarked Rs 22,137.95 crore for the MSME ministry, 41.6 per cent higher than the preceding fiscal year. There are expectations that the allocations will be significantly higher for the next fiscal. H S Bhatia, Managing Director at Kelwon Electronics & Appliances Pvt Ltd, which is the manufacturing partner of DAEWOO India, said a pressing concern for the majority of MSMEs is the hope for relief from financial burden through proposed tax breaks and benefits.

A pivotal expectation revolves around the potential simplification of the capital gains tax structure, viewed as a positive step that could significantly enhance the investment landscape, he said.

The Budget should also consider the challenges faced by MSMEs in the consumer electronics manufacturing sector, he added. Ayush Lohia, CEO of Lohia, an Electric Vehicle (EV) manufacturing company, said the MS-MEs in the sector are anticipating targeted measures to address their unique challenges and opportunities. For easing financial access, a paramount expectation is the reduction of interest rates on loans, he said.

"Moreover, expanding the coverage of credit guarantee schemes such as Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE) is crucial. By enhancing the effectiveness of these schemes, the government can improve risk perception among financial institutions, by encouraging them to lend more liberally to MSMEs in the EV domain," Lohia added.

The MSME ministry implements various schemes and programmes aimed at promotion and development of the sector in the country. These schemes/programmes include MSME Champions Scheme, CGTMSE, Prime Minister's Employment Generation Programme (PMEGP), Micro and Small Enterprises - Cluster Development Programme (MSE-CDP), and Raising and Accelerating MSME Performance (RAMP).

Source: Deccan Herald

Govt to launch portal to push exports by MSMEs, startups

Union commerce minister Piyush Goyal announced the launch of the Trade Connect ePlatform to increase the participation of Micro, Small and Medium Enterprises (MSME), and startups in exports, a move aimed at promoting exports with the involvement of small and medium traders.

The platform will be available for traders in the next three to four months, the minister said.

Trade Connect ePlatform is an intermediary platform providing the facility to connect Indian exporters and entrepreneurs with various stakeholders in international trade, according to a senior official.



The portal will also help new exporters access key information and opportunities for MSME traders, which is not easily accessible for small traders due to restricted knowledge about the mechanism, the official added.

The platform will be designed in such a way that anyone can get all the information for export promotion activities, including contact details of all resource persons, the official cited above said.

The announcement in this regard was made by the minister during the second meeting of the reconstituted Board of Trade (BOT) held at the Bharat Mandapam on Tuesday.

Notably, BOT was constituted by merging the Council for Trade Development and Promotion with it. It advises the government on policy measures connected with trade and its first meeting was held on 13 September 2022.

At the meeting, Goyal stressed the need to internationalize the goods and services to help in improving the quality of the products and increase the size of the economy.

The minister also emphasized on making exports a people's movement with all key stakeholders such as states, Centre and industry playing an equal role in accelerating exports.

The Board of Trade meeting focused on reviewing the export performance to achieve the \$2 trillion export target by 2030, the priorities identified in the new Foreign Trade Policy (FTP) 2023 and the strategies and measures to be adopted to take forward the export growth.

At the meeting, Engineering Export Promotion Council (EEPC) chairman Arun Kumar Garodia suggested connecting waterways with ports, bringing more steel products under the export parity price scheme, and bringing steel under the purview of remission of duties and taxes on exported products (RoDTEP).

India's goods trade has shown an upward trend due to a rise in exports in December due to which the goods deficit narrowed by about 4% in December as compared to November, according to commerce ministry data.

Services exports fell marginally to \$27.88 billion in December, compared to \$28.69 billion in November, but remained higher than imports which fell to \$13.25 billion from \$13.40 billion in the previous month.

The merchandise trade deficit fell to \$19.80 billion in December, from \$20.58 million in November, amid a surge in electronic goods, drugs and pharmaceuticals, and iron-ore exports.

Source: Mint

Top 3 States contribute 40% of registered MSMEs in India: report

Maharashtra, Tamil Nadu, and Uttar Pradesh collectively contribute nearly 40 per cent of all registered micro, small, and medium enterprises (MSMEs) in India, per a CBRE-CREDAI report. As of December 2023, there are over 3 crore MSMEs registered in the country, according to government data.

Uttar Pradesh has secured a significant position among the top three States, holding a 9 per cent share in the national MSME landscape. This is due to policy initiatives like 50 per cent interest subsidy for micro units (capped at ₹25 lakh), an annual infrastructure interest subsidy of up to 50 per cent for approved projects with 10 acres or more (capped at ₹2 crore), 100 per cent stamp duty exemption in select regions, and other supportive measures.



The MSME ecosystem in Uttar Pradesh has seen the emergence of key clusters in cities such as Agra, Kanpur, Varanasi, Lucknow, Meerut, and Ghaziabad, actively participating in the Udyam scheme. To further incentivise MSMEs, the State government has implemented a range of schemes.

Anshuman Magazine, Chairman, India, Southeast Asia, Middle East and Africa, CBRE, highlighted the crucial role of the MSME sector in shaping India's economic landscape and emphasised Uttar Pradesh's role in driving growth and reducing regional imbalances.

The report also delves into the transformative shifts in India's MSME financing scene, driven by technological advancements and collaborative partnerships. Furthermore, it underscores the strategic opportunity for Indian MSMEs in the construction sector, contributing approximately 8 per cent to the GDP.

With the construction sector poised to become the third-largest globally in the next three years, unorganised firms in this domain stand to benefit significantly by registering under the MSME ambit. The integration of digitisation, traditional banking systems, and open protocols has fostered a more inclusive financing ecosystem, breaking down barriers for a broader segment of MSMEs.

Boman Irani, CMD, Rustomjee Group, National President, CREDAI, emphasised the need for streamlined regulations, skill development, and technology adoption in the real estate sector. He underscored that collaborative efforts between the government, industry, and financial institutions are crucial to ensure sustained growth in both MSMEs and real estate, paving the way for a robust, inclusive, and resilient economic future for India.

Source: HBL

Foxconn, HCL Group to form chip packaging, testing joint venture in India

Foxconn, also known as Hon Hai Precision Industry, said it is partnering with India's HCL Group to start a chip packaging and testing venture in the country.

Foxconn Hon Hai Technology India Mega Development, a unit of the Taiwanese contract manufacturer, will invest \$37.2 million for a 40% stake in the joint venture, a regulatory filing to Taiwan's stock exchange said.

The chip packaging and testing venture, known as OSAT in industry lingo, comes after Foxconn abandoned a joint venture with India's Vedanta in July. HCL Group previously said it was holding active discussions with the Karnataka state government to set up an OSAT facility.



"HCL Group has a strong engineering and manufacturing heritage and this is an opportunity that provides strategic adjacency to the Group portfolio," a HCL Group spokesperson in a statement to Moneycontrol said.

The development comes just after it submitted a fresh application to establish a semiconductor fabrication unit in India under the "modified scheme for setting up of semiconductor fabs in India", a government initiative aimed at boosting the electronics manufacturing sector in the country, including semiconductors. Rajeev Chan-

drasekhar, the Minister of State for Electronics and IT, disclosed this development to the Parliament.

The Ministry of Electronics and Information Technology (MeitY) is verifying Taiwanese contract manufacturer Foxconn's application to set up a semiconductor factory in the country.

"Foxconn has to bring in technology. They have to establish that they have the technology to manufacture semiconductors. The process of verifying the technology and so on is currently underway at the ministry," a government official said on the condition of anonymity.

Both developments come after its exit from a joint venture with the Vedanta Group, which had plans to set up a chip plant in Gujarat with an investment of around Rs 1.5 lakh crore.

Foxconn, the world's largest assembler of iPhones and other electronics for global brands, is expanding in India as geopolitical tensions and economic uncertainty begin to disrupt its primary operations in China.

Foxconn has been India's leading manufacturer of iPhones, contributing 68% of total production, followed by Pegatron at 18% and Wistron [Tata] at 14%. Foxconn exported nearly 58% of its total production of iPhones, while Pegatron and Wistron exported 80% and 96% of their iPhone production, respectively, from their India factories.

According to reports, Foxconn received approval to invest an additional \$1 billion in a new plant to manufacture Apple products in India in December. This investment is in addition to the \$1.6 billion they had already allocated for the 300-acre site near Bengaluru's airport. The bulk of this cumulative investment is for Apple in India. Bloomberg reported that Foxconn may use some investment to make devices and components, such as electric vehicle parts, for other customers.

Apple produced iPhones worth over Rs 1 lakh crore in India last year, having ramped up output sharply from the year before. Of this, made-in-India iPhones worth Rs 65,000 crore were exported from January to December.

Apple has exceeded the targets under the production-linked incentive (PLI) scheme, which may allow its contract manufacturers to get more residual incentives depending on the outlay, the Economic Times reported on January 9.

Source: Money Control



Why become a Plexconcil Member?

Established since 1955, the Plastics Export Promotion Council, PLEXCONCIL, is sponsored by the Ministry of Commerce and Industry, Department of Commerce, Government of India. PLEXCONCIL is a non-profit organization representing exporters from the Indian plastics industry and is engaged in promoting the industry exports.

The Council is focused on achieving excellence in exports by undertaking various activities and initiatives to promote the industry. The Council undertakes activities such as participation at international trade fairs, sponsoring delegations to target markets, inviting foreign business delegations to India, organising buyer-seller meets both in India and the overseas etc.,

The Council also routinely undertakes research and surveys, organizes the Annual Awards to recognize top performing exporters, monitors the development of new technology and shares the same with members, facilitates joint ventures and collaboration with foreign companies and trade associations as well as represents the issues and concerns to the relevant Government bodies. The Council represents a wide variety of plastics products including – Plastics Raw Materials, Packaging Materials, Films, Consumer Goods, Writing Instruments, Travel ware, Plastic Sheets, Leather Cloth, Vinyl Floor Coverings, Pipes and Fittings, Water Storage Tanks, Custom made plastic Items from a range of plastic materials including Engineered Plastics, Electrical Accessories, FRP/GRP Products, Sanitary Fittings, Tarpaulins, Laminates, Fishing Lines/Fishnets, Cordage/ Ropes/Twines, Laboratory Ware; Eye Ware, Surgical/ Medical Disposables.

Membership Benefits

- Discounted fees at International Trade Fairs and Exhibitions
- Financial benefits to exporters, as available through Government of India
- Disseminating trade enquiries/trade leads
- Instituting Export Awards in recognition of outstanding export performance
- Assistance on export financing with various institutions and banks
- Networking opportunities within the plastics industry
- Special price for Dun & Bradstreet's DUNS Registered Solution, Global Profiler, and ESG Report



The Plastics Export Promotion Council added the following companies/firms as new members during December-2023. We would like to welcome them aboard!

Sr.	Name of the Company	Address	City	Pin	State	Director Name	Email
No 1	A W Faber Castell (India) Private Limited	801, 8th Floor Kamla Executive Park, Near Vazir Glass , J. B. Nagar M V Road, Andheri East	Mumbai	400059	Maharashtra	Partha Chakra- barti	siddhivinayak- dinesh@gmail. com
2	Accufine Life Sciences	Ns-28, Second Floor, Mianwali Nagar, Rohtak Rd, Paschim Vihar, New Delhi,	Delhi	110087	Delhi	Gaurav Jindal	accufine.life@ gmail.com
3	Aditya Enterprises	No 2222, 24th Cross, 4th Main Kr Road, Bsk 2nd Stage,	Bangalore	560070	Karnataka	Jamuna Bala- ram	adityaentrpri- ses.blr@gmail. com
4	Asawa Insulation Private Limited	805, Cyber One Building, S Pranavanandji Marg, Sector 30,, Vashi,	Navi Mumbai	400703	Maharashtra	Rajkumari Asawa	ho.accounts@ asawainsula- tion.com
5	Axonn Polypack Private Limited	Revenue Survey No-3 P1/P2, Plot No-1 And Plot No-2, Bhutkotda	Morbi	363650	Gujarat	Lalitbhai Avac- harbhai Dhedhi	info@axonn- polypack.com
6	B R Plastics	16 Bigha Kumar Indust- rial Complex P.O Kolorah Domjur	Kolkata	711411	West Bengal	Rajkumar Mundhra	getrajkumar- mundhra@ gmail.com
7	Best Elastomers Private Limited	M3 & M4 Khan Real Estate, Vasai East -	Vasai	401208	Maharashtra	Harshil Mu- kesh Shah	info@bestelas- tomers.com
8	Canam Products	N.H. 27, Dhoraji Road,,- Near Toll Plaza, At Dumiyani, Taluka Upleta District Rajkot,	Rajkot	360490	Gujarat	Chandreshbhai Ramnikbhai Vekariya	canampro- ducts@gmail. com
9	Daisy Industries	902, Radheshyam Apt. Opp. Gokul Shopping Centre, S. V. Road Bori- vali West	Mumbai	400092	Maharashtra	Ravi Ajaykumar Agrawal	daisyinds@ gmail.com
10	Ebro Delta Private Limited	397e 398b 6-212 Opp Delta Industries Office Baikampady Industrial Area New Mangalore Mangalore Dakshin Kannad Karnataka 575011 Karnataka	Mangalore	575011	Karnataka	Mohammed Hasansa Haroz	rozworld@ gmail.com
11	Fasten Medical Private Limited	Ground Floor, 2/290a, Aseezi Nagar Road, Mambra Karukutty P O Angamaly Ernakulam Kerala 683576	Ernakulam	683576	Kerala	Firoz P	fastenindia@ gmail.com
12	Four Stars Poly Private Limited	Urvey No 436/2 (S) At Vill. Mokulgaon, Teh. Pandhana,	Khandwa	450001	Madhya Pra- desh	Siddharth Jain	siddharth- jain974@gmail. com
13	Gaurav Engineering	B-307,Shaligram Lake View, Opp Vanijya Block, Vaishnodavi Circle,	Ahmedabad	382421	Gujarat	Gaurav Engi- neering	gauravengg@ rediffmail.com
14	Gkb Eyecare Private Limited	14, Old Vijay Nagar Colony, Agra,	Agra	282004	Uttar Pradesh	Lalit Sharma	logistic@gk- beyecare.com
15	Globaltech	Survey No. 692/1, Suk- hada Society, Chaphal- kar Colony, Flat No.1, First Floor Near Market Yard, Une Satara Road,	Pune	411037	Maharashtra	Kedar Bhaskar Mehendale	kedar@tech- martindia.in

New Members

4.0				11001-			
16	H K Industries-Delhi	3/23, Industrial Area, Kirti Nagar, New Delhi	Delhi	110015	Delhi	Kavita Hikon	sumit@hiko- nindia.com
17	Hitco Electricals Private Limited	2226, Ground Floor Gali No. 169, Ganesh Pura-A, Tri Nagar,	Delhi	110035	Delhi	Keshav Bhardwaj	mdo@ hitcogroup.in
18	leec Power Electronics Private Limited	leechouse72bcdgovtindl Estate, Charkop, Kandi- vili-West	Mumbai	400067	Maharashtra	Vishwas Jaywant Varde	vjv@ieecpe. com
19	Kumbhojkar Plastic Moul- ders	129,Naryan Peth, Sitap- hal Baug Colony, Near Mati Ganpati,	Pune	411030	Maharashtra	Anand Arun Kumbhojkar	kumbhojkara- nand@gmail. com
20	Mihan Hair Industries Of India	Vill- Bishnupur, P.O. & Ps-Bhagwanpur Purba Medinipur	Kolkata	721601	West Bengal	Sekh Sabir	sabirhair1@ gmail.com
21	Nishan Multitrade Private Limited	B/204, Krishna Complex, Near Dev Ashish School S.G.Road, Bodakdev,	Ahmedabad	380054	Gujarat	Manjulaben Govindbhai Thakkar	info@nishanm- kt.in
22	Omni Lens Pvt Ltd	5, Samruddhi, Opp. Sa- kar lii, Navrangpura	Ahmedabad	380014	Gujarat	Hemal Pankaj Patel	mail@omni- lens.in
23	Oriental Rail Infrastructure Limited	S.No.49 Village Aghai, Via Kalyan Railway Station,	Thane	421601	Maharashtra	Suresh Govind Mane	deepa@visio- norg.net
24	Pariflex Fibc Private Limited	H No 34 Shiv Shakti Nagar, Kanadia Road In Front Of Shahid Goutam Garden,	Indore	452016	Madhya Pra- desh	Parasram Indorey	amit@pariflex- fibc.com
25	Pb Plastics	Prabhakar Apts,Acharya Hou Soc, Plot No 1, Near Warje Old Naka Warje,	Pune	411052	Maharashtra	Pranav Waman Belhekar	pbplasticspu- ne@gmail.com
26	Poddar Associates	House No 05 Ward 24 B P Chaliha Nagar Kalibari Guwahati	Kalibari	781021	Assam	Chandan Poddar	chandan.pod- dar82@gmail. com
27	Polyform Technologies	A/102 Pruthvi Enclave Phase Ii Chs Ltd, Sidd- harth Nagar, Address Line 2 W E Highway, Opp Bhor Ind, Broadway Mall, Borivali East	Mumbai	400066	Maharashtra	Alpa Bhavesh Bhojani	polyformtm@ gmail.com
28	Polyform Technotools	7 Cosmos Industrial Estate, Naik Pada Waliv Vasai East	Palghar	401208	Maharashtra	Alpa Bhojani	polyform.tech- notools@gmail. com
29	Pst Polytex Llp	Plot No 953 Old Survey No 941, Kalol Pansar Road Isand, Kalol	Kalol	382721	Gujarat	Ambarishku- mar Bhagvanb- hai Patel	admin@pst- polytex.com
30	Punya Masterbatches Private Limited	Sp7 - 47, Riico Industrial Area, Ghiloth, Neemra- na, Ghiloth,	Alwar	301705	Rajasthan	Manish Gupta	accounts1@ mgpolyblends. com
31	Radiant International	14 Sunset Bunglow, Opp Prakash College Drive In Road Thaltej	Ahmedabad	380015	Gujarat	Vijaybhai Vipinchandra Shah	vijays- hah1903@ gmail.com
32	Rainbow Plastics India Limited	45-A, Giriraj Industrial Estate, Mahakali Caves Road, Andheri (E)	Mumbai	400093	Maharashtra	Mansukhlal Dharamshi Savla	ajay@rain- bowplastics. co.in
33	Rarean Fluid-Tech Private Limited	Plot No. 26/2, 35 To 37, Idco Industrial Estate Village, Jaymangal, Industrial Estate,	Khordha	752055	Orissa	Mukesh Agarwal	fluidtech@ rarean.com
34	Rebrain India Private Limited	124, S.N Ghosh Ave- nue,South 24 Pgs	24 Paragana	700103	West Bengal	Biswadeep Ghosh	biswadeepg- hoshadv@ gmail.com

New Members

35	Rudra Packaging	N.G. Suncity Phase - 1, W/O- Ratnakar Singh, 1e-Flat No-704, Thakur Village, Thakur Village Road, 287 Last Bus Stop, Kandivali East	Mumbai	400101	Maharashtra	Hemlata Rat- nakar Singh	ratnakarudai- singh@gmail. com
36	S G Metals	Ll66 Amber Tower, S C Road,	Jaipur	302001	Rajasthan	Kshitij Goyan- ka	kshitij12000@ rediffmail.com
37	S.K. Enterprise	Sarkhej Bavla Road, Plot No 44,45, Panchrat- na Industrial Estate, Changodar Village, Changodar	Ahmedabad	382210	Gujarat	Anil Shantilal Patel	documents@ dragontarpau- lin.com
38	Safari Chemicals Private Limited	F-16 Panki Industrial Area, Site 2,Kanpur Up,	Kanpur Nagar	208022	Uttar Pradesh	Amol Jain	amol.jpi@ gmail.com
39	Sanidhya Polytech Pvt Ltd	Plot No 11-12, R.K. Ind. Zone, Village-Ranpar, Taluka-Rajkot	Rajkot	360003	Gujarat	Rajan Rajeshb- hai Dholariya	sanidhyapoly- tech@gmail. com
40	Santuro Polyfab Llp	Survey No. 250 P2 03- Hirapar Nesda Road B/H Freshmart Cold Storage	Morbi	363650	Gujarat	Kishorbhai Jasmatbhai Chaudhari	santuro- polyfabllp@ gmail.com
41	Satyen Polymers Private Limited	307, A To Z Industrial Premises, G.K. Marg Nr Dawn Mill Compound, Lower Parel West	Mumbai	400013	Maharashtra	Devyani Jitend- ra Vora	khegde@ satyenpoly- mers.com
42	Sidhu Exports	549, Partap Nagar, G.T Road Near Kohli Karya- na Store,	Amritsar	143001	Punjab	Gurleen Singh	sid- huexport22@ gmail.com
43	Sk Abu Darda Human Hair Processing And Finishing	Betulya Chaklalpur Lalpur Tamluk	24 Paragana	721601	West Bengal	Sekh Abu Darda	sdarda72@ yahoo.com
44	Sudarsshan Pollyblends Private Limited	Gut No 295 Turkabad Kharadi, Taluka- Ganga- pur Turkabad Kharadi	Aurangabad	431133	Maharashtra	Shamsundar Dwarkadas Somani	sck@sudars- shanpolly.com
45	Univerzsal Poly Packks Private Limited	22, Gandhi Nagar, Vadavalli, Coimbatore Coimbatore Tamil Nadu 641046	Coimbatore	641046	Tamil Nadu	Murugesan Ramesh	univerzalpoly- packks@gmail. com
46	Urban Farm Systems And Technologies Llp	B/41, Ground Floor, Kohinoor Industrial Complex, Plot No J7, J8, J9 Midc Industrial Area, Taloja	Panvel	410208	Maharashtra	Alson David	alson.david01@ gmail.com
47	Verpack Plastics Private Limited	211 Floor 2 Plot No 418, B Anjirwadi Dr Mascarh- nes Road,	Mumbai	400010	Maharashtra	Shruti Chordia	sharad@ indexone.in
48	Vihani Transoceanic Priva- te Limited	D-502, Yash Arian, Nr. Swami Vivekanand Chowk,	Ahmedabad	380052	Gujarat	Harish Velji Soni	vihani.tran- soceanic@ gmail.com
49	Vinayak Associates	73/11 Collector Ganj, Near Ghantaghar,	Kanpur	208001	Uttar Pradesh	Vishnu Gopal	vinayak9922@ gmail.com
50	Vora Packaging Private Limited	Plot No. G-27, Part, 27/2, 27/2/1 M.I.D.C., Tarapur, Saravali,	Palghar	401506	Maharashtra	Pankaj Laxmi- kant Vora	pankaj@vora- pack.com
51	Weorex	23/109a, Ram Nagar 6th Street, Ss Colony Madurai,	Madurai	625016	Tamil Nadu	Raj Kumar	weorexteam@ gmail.com
52	Winners Labels Llp	272, Sailesh Nagar, Digberia Madhy Amgram Po Abdalpur	Kolkata	700155	West Bengal	Manish Sing- hania	winnersla- bels@gmail. com

New Members

53	Zenex Polypack Llp	Revenue Survey No 261 , P1 / P1, Mitana Paddhari Road.Mitana	Morbi	363650	Gujarat	Dharmeshbhai Nagarbhai Ramani	rama- nidn.27371@ gmail.com
		Tankara				Namam	gillall.com