PLEXCONCIL - The Plastics Export Promotion Council

PLEXCONNECT

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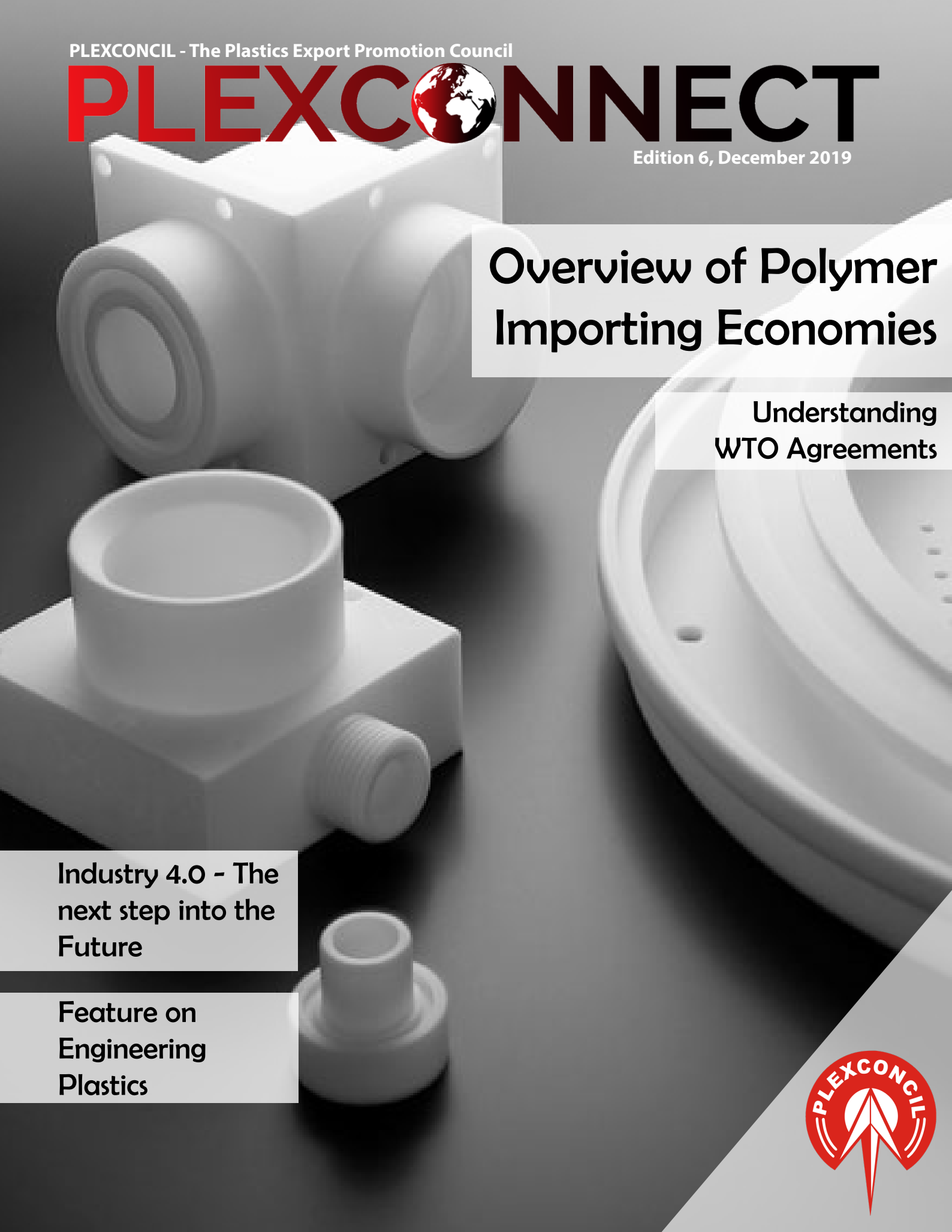

Overview of Polymer Importing Economies

Understanding WTO Agreements

Industry 4.0 - The next step into the Future

Feature on Engineering Plastics

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The Plastics Export Promotion Council

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INTERPLASTICA

INTERPLASTICA, MOSCOW, RUSSIA

28 29 30 31

JANUARY 2020

BE A PART OF RUSSIA'S NO.1 TRADE FAIR FOR PLASTICS AND RUBBER

Why you should be a part of the show?

- Avail benefits under the Market Assistance Initiative Scheme from the Ministry of Commerce
- Keep on top of industry trends for the entire process chain of plastic and rubber
- Compare and source products and services with market companions
- Network with high quality experts of the industry
- Save time and minimize costs marketing your product to the right audience

Major Product Segments

- Machines and equipment for the plastics and rubber industries
- Raw materials and auxiliaries
- Plastics and rubber products
- Services for the plastics and rubber industries

Visitor/ Buyer Profiles

- Over 25000 trade visitors
- Raw material producer
- Manufacturer of plastics and rubber pr
- User of plastics and rubber products
- Trade services
- Universities, technical colleges
- Craft

PLEXCONCIL

The Plastics Export Promotion Council

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We are living in times where the entire global economy has been quite dynamic, making unexpected twists and turns as months progress. The on-going trade tussle between US and China continue to dominate discussions and every exporter as well as the Government have been weighing in on any potential opportunity with the view to boost Indian exports to the country.

India's overall merchandise exports have witnessed a decline in the first half of the fiscal year. And hence, the focus on identifying new markets and enhancing the country's market share in existing destinations has become all the more critical to boost this sector. Today, India is placed 63rd among 190 countries in World Bank's Ease of Doing Business Ranking. With an immense pool of skilled human resource, technology, capacities and capabilities India fast gaining recognition as a global sourcing hub on an international level. Favourable policies, reduction in corporate taxes, etc make the climate ripe for foreign investors to set up in India, which we are sure, will further strengthen our manufacturing sector as well.

On our part, we have recently undertaken the compilation of data on polymer importing economies across the world. These regions have been identified based on their existing imports as well as the potential that they present to the Indian exporters. We will be submitting the same to the Ministry of Commerce soon and we are hoping that with this information and understanding on hand, we can help our members extend their outreach with greater support from Indian High Commissions and Embassies as well as Trade associations and bodies of the target regions. Work is currently moving ahead in this direction and we hope that with collective efforts, our exports will pick pace once again.

Meanwhile, during October 2019, India exported plastics worth USD 693 million, down 10.9% from USD 778 million in October 2018. Cumulative value of plastics export during April 2019 – October 2019 was USD 5,017 million as against USD 5,372 million during the same period last year, registering a negative growth of 6.6%. The decline can be mainly attributed to a nearly 20% decline in raw material export. However, while projections show that growth may remain flat for the remainder of the financial year, the good news is that we expect manufactured exports to grow about 20% on account of the huge opportunities in the US market for the packaging and FIBC segments given the sanctions on China.

It is the last month of the year and what a year it has been. This past year has given us so much to think about and yet so much more to look forward to. In the last issue for this calendar year, we take a look at various topics of interest including the importance of moving all manufacturing to Industry 4.0, opportunities in Engineering Plastics, Panel of the Month focusing on Masterbatches and understanding WTO Agreements on Anti-dumping, subsidies, safeguards, contingencies, etc. As always, we hope you find the information interesting and helpful.

Before I sign off, I am also pleased to welcome Mr. Ruban Hobday who joined our Chennai office as Regional Director. He takes over from Mr. Jaswanth Soundarapandian who had been with us for 18 years and was of great support to our members and team from the Southern region. We extend our warm wishes to Mr. Soundarapandian in his future endeavours and heartily welcome Mr. Hobday to the Plex family.

Warm regards,

Ravish Kamath
Chairman

Council Activities September 2019

PLEXCONCIL's participation at VietnamPlas 2019 (19th Vietnam International Plastics & Rubber Industry Exhibition) – October 03-06, 2019, Ho Chi Minh City, Vietnam

The Council organized India Pavilion and participated at VietnamPlas show held at the Saigon Exhibition & Conference Center (SECC) between 3rd and 6th October 2019. 13 (Thirteen) companies participated at this exhibition through the Council. Dr. K Srikar Reddy, Consul General, O/o Consulate General of India, Ho Chi Minh City visited the Council's pavilion and interacted with the Indian exhibitors.

Dr. K Srikar Reddy, Consul General, O/o Consulate General of India, Ho Chi Minh City Vietnam interacting with the Indian Exhibitors at Vietnam Plas 2019

Dr. K Srikar Reddy, Consul General, O/o Consulate General of India, Ho Chi Minh City Vietnam at the PLEXCONCIL booth

Mr Sribash Dasmohapatra, Executive Director, and Mr Nilotpal Biswas, Regional Director, represented the council at the exhibition.

Meeting with the Joint Secretary (Tax Research Unit), Ministry of Finance - October 10, 2019 – North Block, New Delhi

A meeting was held with Mr. G.D. Lohani, Joint Secretary (Tax Research Unit 1), Department of Revenue, Ministry of Finance, for our Vice Chairman, Mr. Arvind Goenka to discuss the issue of increasing the Customs Duty on PVC Sheeting from 10% to 15%.

Mr. Arvind Goenka, Vice Chairman, Mr. Kamal Dayal, Vice President, RMG Poly Vinyl India Ltd., and Mr. Sanjiv R. Dewan, Regional Director attended the meeting.

PLEXCONCIL's participation at K-fair, Germany – 16th – 23rd October, 2019

PLEXCONCIL organized a joint participation of 45 exhibitors in association with the PLASTINDIA Foundation at the K-fair in Germany. The India Pavilion was inaugurated by Shri Sadanand Gowda, Hon'ble Minister of Chemicals and Fertilizers, Government of India. Smt. Alka Arora, JS – MSME and Shri Kashinath Jha, JS (PC) also visited India pavilion and interacted with the exhibitors.

Mr. Sribash Dasmohapatra, Executive Director, and Mr. Krunal Goda, Senior Manager - Exhibitions represented the council at the exhibition.

Meeting with Additional DGFT regarding Fixation of Minimum Export Price of Human Hair – October 17, 2019 – Udyog Bhawan, New Delhi

The Council held a meeting along with representatives from the Human Hair sector, with the Additional DGFT, Mr. Vijay Kumar, to discuss the issue of fixing a Minimum Export Price for Non-Remy Hair, in order to curb under-invoicing and smuggling of the same.

Mr. Sunil Eamani, Mr. Steven, and Mr. Solanki from the Human hair sector, along with Mr. Sanjiv R. Dewan, Regional Director represented the Council at the meeting.

Interactive Session on Trade & Business Opportunities between India & Japan – October 18, 2019 – Hotel The Lalit, New Delhi

An interactive session organized by FIEO was held on Trade & Business Opportunities between India and Japan with the primary objective of exploring emerging opportunities between India and Japan and enhance trade and economic ties between the two countries. FIEO signed an MOU with the Japan India Industry Promotion Association (JIIPA) at this session.

Mr. Sanjay Chadha, Additional Secretary, DOC, Mr. Kamal Saraf, President, FIEO, Mr. Shigemaro Yasui, Chairman, JIIPA, along with our Former Chairman, Mr. Manoj Agarwal, were some of the dignitaries present at the interactive session.

Regional Summit on Water Resource Management organized by CII – October 23, 2019 – Chennai

The Confederation of Indian Industry (CII), Southern Region, organized a Regional Summit on Water Resource Management at the Taj Coromandel, with objective of "Towards water secure South India". The Summit focused on critical gaps on water security and account-

ability across Industry.

The meeting had senior representatives from various industries and Trade Associations. Mr. R. Dayanidhi, Assistant Director, represented the Council at the summit.

Meeting with EPCs to discuss Export Performance – October 24, 2019 – Udyog Bhawan, New Delhi

A meeting chaired by the Commerce Secretary (CS) was held with all EPCs to discuss the export performance, and issues hampering growth in exports was held in Delhi on 24th October,2019.

Mr. Arvind Goenka, Vice Chairman, and Mr. Sanjiv R. Dewan, Regional Director, represented the Council at the meeting.

Interactive Session with stakeholders to enhance competitiveness of Indian Industry – October 28, 2019 – Hotel Ashok, New Delhi

An Interactive Session with stakeholders was held to discuss ways to enhance competitiveness of the Indian Industry and was chaired by the Hon'ble Minister for Commerce & Industry, Shri Piyush Goyal.

The meeting was organized by DPIIT, and was attended by some of the major industry leaders, such as the M.D. of Tata Steel, Mr. Sajjan Jindal, M.D. Jindal Steel, Mr. A.S. Mehta, MD, JK Paper, MD, Escorts Ltd, Group Head, Apollo Tyres Ltd., etc.

The Council's Regional Chairman (North) and Regional Director (North) represented our Council at the meeting.

CII's MSME Tech Summit – October 30, 2019 – Chennai

The Confederation of Indian Industry (CII) organized a Tech Summit at the Ramada Wyndham, for the MSME Sector with a view to provide an opportunity to entrepreneurs from the MSME Sector to understand the transformation and innovation happening in the MSME Sector and adapt to the changing business requirements and global business environment.

Mr. Jaswanth Soundarapandian, Regional Director, participated at the MSME Tech Summit.

Interaction with President, Indian Plastics Federation (IPF) – November 30, 2019, Kolkata

Mr. Rajeev Chitalia, Past-Chairman, PLEXCONCIL, Mr. Sribash Dasmohapatra, Executive Director, PLEXCONCIL and Mr. Nilotpal Biswas, Regional Director had an interaction with Mr. Ramesh Rateria, President, IPF. Mr. Ashok Jajodia, Ex-President, IPF was also present at the meeting.

Important Circulars and Notifications

Regarding Amendment in Import policy condition no.2 of Chapter 39 of ITC (HS) 2017, Schedule – I (Import policy) - Import of PET bottle waste/scrap

DGFT, New Delhi has issued Notification no. 26 dated 24.10.2010 regarding Amendment in Import policy condition no.2 of Chapter 39 of ITC (HS) 2017, Schedule – I (Import policy). Amendment details are given below :-

Existing Policy Condition No.2
The Import PET bottle waste/scrap is "Prohibited" as per OM No. 23-4/2009-HSMD dated 30.08-2016

Revised Policy Condition No.2
The Import PET bottle waste/scrap/**PET FLAKES MADE FROM USED PET BOTTLES ETC** is "Prohibited" as per OM No. 23-4/2009-HSMD dated 30.08-2016 **and O.M. No. 23/66/2019-HSM dated 03.10.2019 of Ministry of Environment, Forest and Climate Change.**

Import of PET flakes made from used PET bottles etc is "Prohibited".

Members are requested to take note of the same and do the needful accordingly. The above-said notification is available for reference on:

https://dgft.gov.in/sites/default/files/notification%20No.%2026%20dated%2024.10.2019%20in%20E.pdf

Regarding introduction of online module for facilitation of MSMEs set-up by Mumbai Customs Zone-II

O/o Commissioner of Customs (NS-III), DPD CELL, JNCH has issued Public Notice No. 95 /2019 dated 22.10.2019 regarding introduction of online module for facilitation of MSMEs.

As a trade facilitation measure, Mumbai Customs Zone-II has introduced a facility for Micro, Small and Medium Enterprises (MSME) wherein MSMEs can opt for registering themselves under 'MSME Seva Module' on the DPD JNCH website i.e. (www.dpdjnch.com). MSMEs which register themselves through the said module will be provided facility such as Priority Assessment, Priority Examination and online redressal of grievances.

For the purpose of online registration under MSME Seva module, importers / exporters are required to visit DPD JNCH website (www.dpdjnch.com) and follow the steps mentioned in P/N No. 95 available at http://www.jawaharcustoms.gov.in/pdf/PN-2019/PN%20No.%2095-2019.pdf

MSMEs which register themselves through the said module will be provided facility of 'Priority Assessment', 'Priority Examination' and 'online redressal of grievances' available on DPD JNCH website. The detailed guidelines regarding said three modules are available in public domain through JNCH Public Notice Nos. 117/2018 dtd. 02/08/2018 - http://www.jawaharcustoms.gov.in/pdf/PN-2018/PN_117.pdf (for priority assessment and priority examination) and 43/2019 dtd.15/05/2019 - http://www.jawaharcustoms.gov.in/pdf/PN-2019/Public%20Notice%20No.%2043_2019.pdf (for online redressal of grievances).

All the concerned MSME members are requested to get themselves registered to avail the above-mentioned benefit.

Regarding Mis-declaration of imported goods under 'Others' category of ITC (HS),2017,Schedule-I (Import Policy)

O/o DGFT, New Delhi has issued Trade Notice No. 37/2019-20 dated 22nd October, 2019 regarding Mis-declaration of imported goods under 'Others' category of ITC (HS), 2017, Schedule – I (Import Policy).

It is stated in the Trade Notice that many importers while filing Bill of Entry with the Customs Authorities are not doing due diligence in mentioning the correct HS codes at 8 digit level. Even though specific HS codes may be available for the imported items under ITC (HS), 2017, Schedule- I (Import Policy), importers tend to casually adopt the 'others' category, which is essentially a residual category of the relevant products. This creates avoidable errors in India's import data.

In view of the above mentioned trade notice, trade and industry have been advised to be careful while mentioning HS Codes for imports and exports, and indicate the specific HS codes of items at 8 digit where they exist, instead of using the 'Others' category in a loose and inaccurate manner. Any wilful mis-declaration of HS Codes will be duly dealt with under the Foreign Trade (Development & Regulation) Act, 1992.

Members are requested to take note of the same and do the needful accordingly. The above-said trade notice is available for reference on:

http://dgft.gov.in/sites/default/files/trade%20notice%20no.%2037%20dated%2022.10.2019.pdf

Regarding 'Help Desk & Facilitation Centre' established by Directorate General of Trade Remedies (DGTR) & Launching of ARTIS - Online filing of Anti-Dumping Applications

DGTR has established a **Help Desk & Facilitation Centre** under the supervision of Principal Advisor Cost. The Help Desk & Facilitation Centre is an institutional arrangement to facilitate optimal utilization by different stake-holders of available trade remedial measured aimed at curbing 'unfair trade'.

Kindly refer functions of Help Desk from the Trade notice available on: http://www.dgtr.gov.in/sites/default/files/Helpdesk.pdf

The Help Desk Centre shall function between 10.00am to 5.00pm on all working days. The Help Desk can be contacted on the Toll Free No. 1800111808 and by email on – helpdesk.dgtr@gov.in. Names and contact details of the members of the Help Desk & Facilitation center are available on DGTR website.

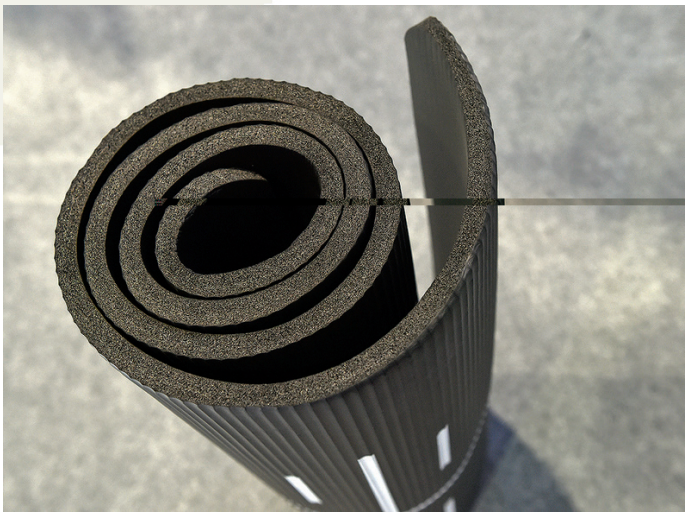
Launching of ARTIS - Online filing of Anti-Dumping Applications (http://www.dgtr.gov.in/sites/default/files/Trade%20notice%203_ARTIS.pdf)

Please also note that as a measure of facilitating speedy resolution to the injury faced by Indian domestic industry and to increase the accessibility of Directorate General of Trade Remedies to all the stakeholders, an online filing system called ARTIS (Applications for Remedies in Trade for Indian Industry and other Stakeholders) is being developed for e-filing of applications, responses and other related submissions with respect to various trade remedial measures undertaken by DGTR.

Facility for filing Anti-Dumping petitions electronically even from any remote location through ARTIS as per the link (http://164.100.68.187/) available at DGTR web site.

International News

After Addivant merger, a bigger SI Group brings new additives to K 2019



A year after its big merger with Addivant, SI Group was at K 2019 with new grades of additives. “The strategic rationale for the merger was to create a global footprint by combining services,” Senior Vice President Joey Gullion said at an Oct. 18 press event. “Based on customer meetings, we’ve been successful at that.” Schenectady, N.Y.-based SI had worked with Addivant of Danbury, Conn., for many years as a supplier. New York private equity firm SK Capital Partners bought SI in June 2018 and combined it with Addivant, an additives supplier that it had acquired in 2013. “Our vision is to be a global performance additives powerhouse,” Gullion said. “Instead of cost-cutting, we’re filing more patents than ever.”

At K 2019, SI introduced a new antioxidant for polyolefins. Officials said the material can improve performance and color retention at lower loadings than previous materials. The new grade is aimed at food packaging uses and is expected to be commercially available in 2021. SI also has launched new stabilizers for use in styrene-butadiene rubber and nitrile rubber. The material has increased thermal resistance and color stability, officials said.

After merging with Addivant, SI now employs more than 3,000 at more than 30 manufacturing sites. The firm has annual sales of around $2 billion. In March, David Bradley was named president and CEO of SI. Bradley previously had been president of resin and chemicals distributor Nexeo Solutions.

Parent firm SK in June paid $775 million in cash for the Performance Products and Solutions unit of PolyOne Corp. of Avon Lake, Ohio. That business ranks as one of North America’s largest PVC compounders. SK also owns nylon 6/6 resin leader Ascend Performance Materials of Houston.

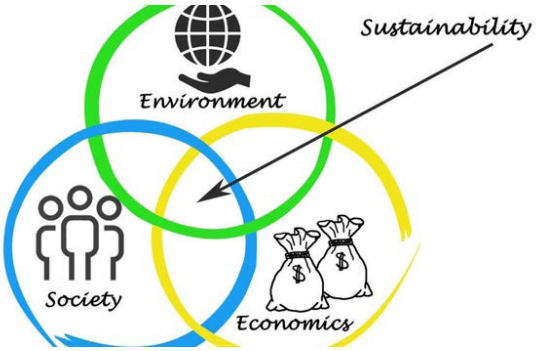
Source: Plasticnews.com

Sustainability key to economic viability of packaging companies, says report

A major shift took place among packaging companies that attended Pack Expo 2019 versus those that attended in 2018: Sustainability moved “head and shoulders” above all other topics. That analysis comes from CIBC World Markets, a Toronto-based investment banking subsidiary of the Canadian Imperial Bank of Commerce. Competition, labor availability, capital, M&A, resin pricing and even the economic outlook were all subordinate to sustainability, reported CIBC.

“Sustainability will also play a significant role in the con-

solidation of the highly fragmented packaging industry: Smaller companies without sufficient scale and financial resources to invest in product development and marketing may look to join larger packaging outfits or risk being left behind," said the report. Takeaways from a packaging M&A conference in Chicago, hosted by AWA Alexander Watson Associates, also cited sustainability as becoming a "table-stakes" issue, according to CIBC. "Sustainability is now the most important topic throughout the packaging value chain, reaching from the materials supplier to the converter to brand-owner customer through to the end-use customer," said CIBC. It's also a hot topic in every packaging company boardroom.



While single-use plastic (SUP) packaging is taking hits from all quarters, it is not under immediate threat of being completely obliterated. "We won't dispute that single-use plastics do not constitute a growth market. However, intelligent plastic packaging will continue to have its place," said CIBC. "Compared to other packaging materials, plastic offers superior product protection/safety, [a better] life-cycle carbon footprint (including transportability because of smaller size and lighter weight) and consumer convenience." That said, it doesn't mean that SUPs won't have sustainability challenges, including technical issues related to product safety and health considerations; substitute and competing technologies; the higher cost associated with sustainable packaging initiatives; and changing consumer behaviors, including a shift in mindset to one that is more driven by data and economic viability, said the report.

Sustainability will also impact M&A activity. "Simply put, we see the required investment in R&D and manufacturing equipment as a factor that will incentivize smaller companies to sell," said CIBC. "From the buyer's perspective, a target's sustainability positioning will materially influence valuation."

In the short term, the impact on valuations may not be great as the economy continues to chug along and capital, both private and public, remains available, explained CIBC. "However, a deteriorating macro picture should eventually cause packaging company valuations to recede from the current 8 to 11X EV/EBITDA multiple range," noted CIBC. It suspects that the balance between buyers (based on capital availability, motivation to deploy and risk appetite) vs. sellers (competitive positioning, company size and ability to finance sustainability measures) will be skewed in the buyer's favor. The combined macro/sustainability outlook suggests packaging companies will need greater scale and financial resources in order to compete."

Source: Plastics Today

Sekisui Chemical completes acquisition of AIM Aerospace

Sekisui America Corp. (Secaucus, NJ), the North American headquarters of Japan's Sekisui Chemical Co. Ltd., announced the successful completion of its acquisition of AIM Aerospace, based in Renton, WA. The company also will transition its name to Sekisui Aerospace.

"The acquisition of Sekisui Aerospace continues Sekisui's commitment to investing in growth markets with high-quality and principled companies that share our corporate values," said Ian Moran, President of Sekisui America. "The addition of Sekisui Aerospace creates new value for our shareholders, customers, communities and employees. I look forward to working with the Sekisui Aerospace team, as they will both contribute to and benefit from the scale, capabilities and diversity of Sekisui America Corporation's companies.

Founded in 1988, Sekisui Aerospace is a leading designer and producer of highly engineered advanced composite structures, systems, engine components, assemblies and thermoplastic technology for the aerospace industry. With more than 1,000 employees, the company operates manufacturing centers of excellence as well as a research and technology center at locations in Washington and Iowa. Sekisui Aerospace is a fully integrated, diversified composites supplier and includes Quatro Composites.

"Through the relentless efforts of our skilled employees, Sekisui Aerospace has successfully positioned itself on key growth programs in structures and engine components on both Boeing and Airbus platforms. We deliver innovative solutions to complex problems as one integrated platform," said CEO Daniele Cagnatel. "We are excited to join the Sekisui Group and plan to leverage their strong industrial, material and manufacturing expertise to further enhance our capabilities, as well as utilize their global presence to better serve our current and emerging customer needs."

Source: Plastics Today

Audia Elastomers launches line of thermoplastic elastomers made from marine waste plastics

Audia Elastomers, a global supplier of innovative elastomer materials, has launched its OP line of thermoplastic

elastomers (TPEs) based on marine waste plastics. The OP line of elastomer materials includes products with up to 45% marine waste and 70% total recycled material content in a wide range of hardness from 35 Shore A to 95 Shore A.

New elastomer materials include products with up to 45% marine waste and 70% total recycled material content. This new range of high-performance materials increases the potential market for marine waste beyond basic PET fibers and containers and allows more brand owners the opportunity to help keep oceans clean and free from debris, according to Anthony Marozsan, market development manager for Audia Elastomers. Audia is focused on recapturing beach cleanup materials, commercial fishing gear, and ocean-bound plastics as the source for its innovative TPEs. “These materials offer our customers a cost-effective way to incorporate marine plastics into products without sacrificing performance,” said Marozsan.

The challenge of ocean pollution is multifaceted and requires more than one solution, according to Marozsan. “The most important step in stopping and preventing ocean waste is intercepting waste before it ever enters the oceans or a waterway,” he said. “A key component of this initiative is to create a market for recycled plastic from regions with poor existing waste infrastructure before it enters the ocean.”
Marine fishing gear is a major contributor to ocean waste and historically, a large amount of fishing gear has been abandoned at sea. In addition, collecting and cleaning up existing waste in oceans and on beaches requires outlets for waste that may be degraded by saltwater and light exposure.

Elastomer compounds allow more design freedom and end uses for marine plastics versus single resin recycling. Audia Elastomers incorporates these marine waste materials into its formulations via its proprietary compounding technology. Raw material sources are customized for each brand owner to focus on at-risk recycling, fishing gear, or beach clean-up. These materials can compete in high-performance applications with conventional TPEs, TPVs, and TPU chemistries for use in consumer goods, toys, electronics, and sporting equipment.

Audia Elastomers is working closely with customers to commercially adopt its new marine waste-based TPEs for select end-use applications.

Source: Plastics Today

A totally tubular concept in medical implant packaging

Medical packaging must meet several criteria, depending on the type of device that it holds, but at the most basic level it must be safe and easy to handle. That’s the guiding principle behind TubeInTube packaging developed by rose plastic medical packaging (Hergensweiler, Germany). The packaging design provides a sterile environment for the implant and enables contact-free handling of the device. Image courtesy rose plastic medical packaging.

The “tube within the tube” ensures a sterile environment for the implant and enables contact-free handling of the device, said rose plastic. The double sterile barrier packaging consists of two transparent tubes, one of which is inserted into the other. Each tube is secured by an airtight closure, and the implant is firmly seated within the inner tube. Labeling, laser engraving, colored tamper-evident closures and other techniques can be used to identify the contents, so that the surgical staff can quickly choose the correct implant for a procedure.
Rose plastic also touts the cost effectiveness of the packaging. Compared with blister packs and other conventional systems, TubeInTube produces less packaging waste, reduces transport volumes, simplifies disposal and minimizes space requirements in clinics. Especially practical for holding bone screws in various sizes, TubeInTube packaging can be adapted to suit other implants and devices, said rose plastic.

Source: Plastics Today

Six facts about the global injection molding market and the automotive industry

Despite some speed bumps in the automotive sector, the global plastic injection molding market is poised for sustained growth, according to Saipriya Iyer, Research Content Developer at Global Market Insights (Selbyville, DE). The market research and management consulting company has published a report on the global injection molded plastic market, which can be purchased on its website. Iyer shared some key insights from her research with PlasticsToday.

- The global plastic injection molding market is expected to reach a value of $345 billion by 2024. Key sectors contributing to this growth are automotive,

driven by lightweighting to improve fuel efficiency and electric vehicle range; packaging, including thin-wall and rigid bulk products; and electronics, where plastic injection molding results in consumer-friendly designs and lower production costs.

- China's market for plastic injection molding is expected to grow at 6% through 2024. The continued building spree and norms supporting sustainable construction contribute to this growth.
- The German market, which was valued at $11 billion in 2018, is expected to reach $14.5 billion by 2024. The automotive sector historically has been a big customer of injection molding services, but it is currently in a down cycle.
- The automotive sector typically is one of the prime, revenue-generating end markets for injection molders in Germany and elsewhere, but economic factors and technological change are affecting that dynamic. Slumping demand in China, emissions-related issues in Europe and a shifting trend toward electric cars are conspiring to drive down global demand. Germany saw an approximate 12% decline in car production in the first half of 2019. Although new car sales have declined from historic highs in the United States, the country remains a bit of an economic oasis in the world, and that has propped up vehicle sales in 2018, which grew 0.3% over the previous year.
- Stringent regulations regarding CO2 emissions in Europe will saddle carmakers with an additional expense of approximately €1000 per vehicle to comply with the new standards. But demand for injection molded plastic parts will continue to grow, as automotive OEMs seek to improve fuel efficiency through lightweighting. Molded plastic parts are widely used throughout automobiles, from wiring harnesses and light covers to dashboards and door handles.
- The adoption of electrical vehicles is likely to increase at a rapid rate by the year 2030. Companies such as Tesla are witnessing double-digit growth in terms of revenue. The company's Model 3 was ranked the best-selling electric car in 2018, followed by Model X (ranked fourth) and Model S (fifth). The company reported revenue growth of 82.5% in 2018 as compared to 2017. Electric vehicle sales volumes are creating significant profit pools for upstream players and distributors: Sales of electric vehicles grew to more than two million units globally, 63% year-on-year growth but a market penetration rate of only 2.2%.

Source: Plastics Today

Breakthrough technology makes 'living' polymerization compatible with 3D printing

In what is described as a world first, researchers in Australia and New Zealand have developed a 3D-printing process that is compatible with "controlled polymerization," using visible light to control the makeup of polymers and "tune" their mechanical properties. The new process also enables 4D printing, by which the 3D-printed object can change shape or its chemical and physical properties can be altered to adapt to its environment. Advancing the recycling and reuse of plastics and supporting biomedical breakthroughs are among the potential applications.

Research teams from the University of New South Wales (UNSW) in Australia and the University of Auckland in New Zealand collaborated in the successful merging of 3D and 4D printing and photo-controlled, or "living," polymerization. The method uses visible light to "create an environmentally friendly 'living' plastic or polymer [that] opens a new world of possibilities for the manufacture of advanced solid materials," writes Caroline Tang in an article published on the UNSW website.

The research builds upon the 2014 discovery of PET-RAFT polymerization (Photoinduced Electron/energy Transfer-Reversible Addition Fragmentation Chain Transfer polymerization) at the UNSW Sydney Boyer Lab. Described as a new way to make controlled polymers using visible light, the technology was not compatible with 3D printing. "The rates of typical controlled polymerization processes are too slow for 3D printing, where the reaction must be fast for practical printing speeds," explained Cyrille Boyer, lead author of a paper describing the research in Angewandte Chemie International Edition. Two years of research and hundreds of experiments eventually bore fruit with the development of a 3D-printing system that enabled the PET-RAFT polymerization technique.

By using visible light, the researchers are able "to control the architecture of the polymers and [to] tune the mechanical properties of the materials prepared by our process," said Boyer. "This new process also gives us access to 4D printing and allows the material to be transformed, or functionalized, which was not previously possible."

"With 4D printing, the 3D-printed object can change its shape and chemical or physical properties and adapt to its environment," explained UNSW's Nathaniel Corrigan, co-first author of the paper.

"In our work, the 3D-printed material could reversibly change its shape when it was exposed to water and then dried. For example, the 3D object starts as a flat plane and when exposed to certain conditions, it will start to fold—that's a 4D material. So, the fourth dimension is time."

The researchers envisage multiple potential groundbreaking applications for the new technology. The material could negate the need to recycle or discard plastics in some cases because the "new living material will be able to repair itself," explained Boyer. As a "living" object, the plastic part can continue to grow and expand, he said. It would also enable advanced biological applications, such as tissue engineering, added Boyer. "Current 3D printing approaches are typically limited by the harsh conditions required, such as strong UV light and toxic chemicals, which limits their use in making biomaterials," Corrigan explained in the news release. "But with the application of PET-RAFT polymerization to 3D printing, we can produce long polymer molecules using visible light rather than heat. Using heat above 40 degrees kills cells, but for visible light polymerization we can use room temperature, so the viability of the cells is much higher."

Source: Plastics Today

Repsol introduces new LDPE grades for medical and pharmaceutical applications

New grades of low-density polyethylene (LDPE) for medical device and pharmaceutical packaging applications have been introduced by Repsol, a global energy and chemicals company headquartered in Madrid. It made the announcement at Compamed, a medical manufacturing trade show co-located with Medica this week in Düsseldorf, Germany.

The new LDPE grades offer processors a variety of alternatives designed to meet their needs as regards both melt flow index (0.3 to 20 g/10 minutes) and density, said Repsol. These new grades allow processors to manufacture novel containers, parts and films using lamination, blown film extrusion and injection molding.
The extension of the materials portfolio was made possible through the addition of the company's LDPE plant in Sines, Portugal, to its Repsol pharma family, joining Spanish units in Tarragona, where polypropylene, LDPE and high-density polyethylene are produced, and Puertollano, which makes ethylene-vinyl acetate copolymers.

Source: Plastics Today

Asia's plastics in limbo amid stalled progress in US-China trade war

Asia's petrochemical markets remain weak amid stalled progress in the US-China trade feud, as sentiment has devolved into bearishness particularly at the end of the year when buyers are also keen to keep lean stocks.

Buying momentum for import acrylonitrile-butadiene-styrene (ABS) cargoes remains tepid amid the traditionally slower fourth quarter of the year. Some sellers concede that demand would likely show limited improvement in the near term as production for the year has largely been completed.

While margins remained adequate so far, resins suppliers remained concerned that profitability could be eroded in the near term should ABS market weaken significantly. On paraxylene (PX), higher costs faced by Asian PX producers, coupled with stable to soft demand seen in the downstream markets, have resulted in producers continuing to face squeezed production margins.

Relatively firm feedstock naphtha costs, coupled with weak by-product benzene prices, have exerted downward cost pressure for aromatics producers. Despite ongoing shutdowns at PX facilities, and limited availability for prompt-lifting cargoes, price gains were largely met by resistance from end-users. "Demand has been curbed, with downstream PTA production margins coming under pressure. Polyester sector demand has slowed as a result of unfavorable global macroeconomic outlook," said an industry source.

Demand for high-cis polybutadiene rubber remained soft because of the slump in the automotive sector. Spot trades were limited due to the uncertain market outlook and declining feedstock butadiene (BD) price. Rising natural rubber (NR) prices helped bolster and support selling interest, with the major Asian PBR makers keeping offers unchanged despite prevailing softness in demand.

Further downstream, acetic acid prices in Asia extended previous losses last week to levels last seen around May and July; a supply glut in China led suppliers to lower export offers to levels last seen around early July

2019 when the average plant operating rates of 85% in China were lower than the prevailing 89%.

Looking ahead, the lack of acetic acid supply shortage in Asia following the completion of most plant turnarounds for the year, coupled with healthy acetic acid price premiums over methanol feedstock costs in China, may continue to depress the market. On methyl ethyl ketone (MEK), amid a slowing economy, downstream buyers in Asian markets preferred to buy on a need-to basis and were reluctant to take any risks in a volatile market.
In China's polyethylene (PE) market, there were limited deals concluded and the ample availability of competitively-priced import cargoes dragged down prices in the local market. Distributors, having cut their offers in tandem with the softer pricing policy from local producers, lacked confidence in the outlook, as expectations of a demand uptick in November ahead of the Lunar New Year in January 2020 did not materialize.

Last week, hopes emerged that the US-China trade optimism was releasing its shackles on global markets. The US president released comments that there were no rollbacks planned for the tariffs imposed on China, leaving the oil markets to reel in the disappointment as the likelihood of striking a new trade deal with China eased. Reflecting a slowing Chinese economy, China sold 2.28m units of vehicles in October, down 4% from the previous corresponding period, according to the China Association of Automobile Manufacturers (CAAM). Total sales in January-October declined 9.7% year on year to 20.65m units, according to the China Association of Automobile Manufacturers, the CAAM data showed.

Source: icis.com

India News

Lindsay Goldberg acquires Swiss arm of Bilcare Research

Private equity investor Lindsay Goldberg has bought Bilcare Research, a subsidiary of India headquartered company Bilcare Ltd.

Bilcare is a pioneer in the provision of blister films for the pharmaceutical industry as well as a specialist in shrink films for multipurpose packaging. Within the pharmaceutical packaging segment, an end market with high barriers to entry and attractive growth, Bilcare has the #1 position in Europe and the #2 position globally. Lindsay Goldberg believes that, in addition to the Company's organic growth and significant operational improvement opportunities, Bilcare provides an attractive platform to execute on a buy-and-build strategy in the pharmaceutical packaging sector.

Bilcare Ltd is a member of PLEXCONCIL.

Kerala govt bans manufacturing, sale of single-use plastic from January 1

As per the decision, plastic manufacturers, wholesalers and small sellers who violate the law can be fined Rs 10,000 for the first time and Rs 25,000 for violating the law againKerala Government, in a cabinet meeting chaired by Chief Minister Pinarayi Vijayan on Thursday, decided to ban the manufacturing, sale and storage of single-use plastic products from January 1, 2020.

"Strict action will be taken against those who violate the Prohibition Act, 1986. Collectors, Sub-Divisional Magistrates, Pollution Control Board Officers, Local Government Secretaries and Central Government appointed officials under the Environmental Protection Act are entitled to take action," the government said in a release.

As per the decision, plastic manufacturers, wholesalers and small sellers who violate the law can be fined Rs 10,000 for the first time and Rs 25,000 for violating the law again. "Failure to comply with the law will result in a fine of Rs 50,000 and cancellation of working permit. This has been vested in local authority secretaries and pollution control board officials," the release said.

Regardless of thickness, carry bag, sheets, cooling film, plates, cups, thermocol and styrofoam, cups, plates, spoons, forks, straws, dishes, stirrers, flags, water pouches, juice packets, drinking pet bottles, garbage bag, PVC Flux Materials and packets made of plastic are banned. However, plastic manufactured for export, plastics used in the health care industry, and materials made from compostable plastics are exempted from the ban.

According to Extended Producers Responsibility Plan, Beverages Corporation, KeralaFed, Milma and Kerala Water Authority are obliged to pay back the plastic bottles and covers sold by the consumers. As per the solid waste management rules of the Ministry of Environment and Forests, five per cent of the land in industrial parks should be earmarked for waste management and recycling. The Department of Industry will promote units that produce eco-friendly bags instead of that made of plastic. The Kerala government had appointed an expert technical committee to advise on how to control the use of plastic substances and based on the recommendations made by the committee, the decision was taken. The government has also banned the use of flux boards in the state as well.

Source: Business Standard

India needs new green industries to ensure economic growth

Green industries are classic 'impact investments' — investments that offer both investment and social returns. The apocalyptic air pollution over northern India once again reminded us that our future is threatened by severe environmental challenges. Significant policy initiatives are underway to address them. Nonetheless, India's longterm development model must ensure tight coupling between economic growth and environmental sustainability.

This will require the creation of many new green industries in the next decade or so. Prime Minister Narendra Modi's green policies are recognised globally as being both progressive and impactful.

He has repeatedly emphasised how India's ancient culture reveres nature and believes in living in harmony with Mother Earth. Applying these principles, India has taken several major steps.

First, India was a prime mover in the Paris COP (Conference of the Parties) 21 negotiations and committed to far-reaching nationally determined contributions (NDCs) to reduce carbon emissions. As part of these NDCs, India will reduce carbon intensity (carbon emissions per unit of GDP) to 33-35% below 2005 levels, increase renewable energy contribution to power supply to 40%, and restore 26 million hectares of degraded land. All these goals are to be achieved by 2030.

Second, through the Jal Shakti Abhiyan, clean drinking water will be provided to every household. In combination with the Swachh Bharat Abhiyan and the Namami Gange programme this will substantially reduce water pollution and reduce the health burden associated with water pollution.

Finally, a complete policy framework in support of electric mobility and metro transportation is being implemented in major cities. These efforts will reduce both particulate and carbon emissions. In fact, the PM's environmental leadership has led to many major awards, including the United Nations Champion of the Earth award in 2018.

With India's carbon reduction targets now largely in place, its entrepreneurs must step forward to build the industries that will enable us to move to a low-carbon economy. Studies have shown that building green businesses that use energy more efficiently and reduce carbon emissions are also more profitable. In addition, with environmental, social and governance (ESG) factors becoming ever more important for investors, green businesses are also considered much more valuable.

Renewable energy is already a major success story for India. Modi recently increased our renewable energy target from 175 GW to 450 GW. High quality equity and debt financing have been available for renewable energy companies and they have expanded rapidly. Similarly, there are at least four other industries where green businesses can be scaled up quickly: electric mobility, waste management, food packaging and green finance. Green packaging is another major opportunity area. Increasingly, producers will have to move away from single-use plastic to closed-loop solutions that recycle plastic packaging. This will require new business models for logistics and recycling. Innovation in biodegradable packaging is also underway, and existing equipment will probably have to be replaced to provide for new packaging materials.

For instance, most packaged milk is sold in environmentally harmful plastic pouches. These will have to be replaced over time. Also, as consumers use more prepared foods and food delivery, new green packaging formats will have to be developed.

Each of these new industries will require significant financing support as they scale up. Venture capital, both debt and equity, is necessary to get these businesses off the ground. As these businesses scale, they will require thousands of crores of growth capital from both the private and public markets. Green industries are classic 'impact investments' — investments that offer both investment and social returns. Indian financial institutions have been very successful in building up such industries, like microfinance, educational technology (EdTech) and affordable healthcare. However, financial support for green industries will have to be many times larger, for which financial institutions must be ready to deploy capital.

GoI has defined its national targets and established a clear framework for action. We must now build the industries that will help us shape a clean and green future.

Source: Economic Times

Polymer Importing Economies

Overview of India's Export Potential

The global polymers export market size was at around $1 trillion as of 2018, and its value is poised to grow at a CAGR of 5.1% during the forecast period (2019-2025). Increasing consumption of polymers in various end-user industries such as packaging, construction, automobiles, and healthcare, for the manufacturing of elastomers, adhesives, and surface coatings, is projected to fuel the growth of the market. Polymeric materials are usually obtained from oils such as petroleum and crude oil, but significant research is initiated to develop innovative methods of producing these materials using renewable energy sources.

While packaging is the leading application segment for polymers market, polymers are used in high amounts across various industries and demand is estimated to grow with a healthy CAGR of 4.1% in the forecast period. The various factors influencing the growth of the polymers market are consumption, manufacturing focus, end-use industries, feedstock availability, and increasing urbanization and changing lifestyle.

Plexconcil has undertaken an analysis of India's Polymer exports across the globe with the view to identify export potential within target destinations. These regions have been identified by studying their existing imports, key importing countries and India's market share within the region. The aim of this study is to ultimately boost Indian exports through various initiatives in line with the Council's objectives to touch USD 25 billion in plastics exports by 2025.

Escalating trade tensions, slowing global economy, slump in crude oil prices, and growing scepticism towards use of plastics, are few reasons that have led to the decline of India's plastic exports. Cumulatively, while India's net exports have been significantly higher (~USD 12,500 million in 2018) in comparison with other SAARC countries, there are several unexplored markets which have the potential to aggressively increase our exports. At present, Indian plastics industry is only about 1% of the global plastics industry. Africa, Latin America, and CIS countries, which consume and import a substantial quantity of plastics, present a unique opportunity for India to increase its exports share, and establish itself as a major force to reckon with in the global arena.

Vikram Bhadauria
Regional Chairman
North, PLEXCONCIL

NET IMPORTS OF PLEXCONCIL PRODUCTS – SAARC REGION

SAARC has eight member countries, namely Afghanistan, Bangladesh, Bhutan, India, Nepal, Maldives, Pakistan and Sri Lanka. In 2018, the total import of PLEXCONCIL products by the SAARC region was USD 28,686.40 million in comparison to export of USD 14,684.60 million, resulting in a net import of USD 14,001.80 million in the region. In 2018, India's exports of PLEXCONCIL products to the SAARC region was USD 1,028.87 million.

Country	Imports (2018)	Exports (2018)	Net Import (2018)	Imports from India (2018)
	USD million	USD million	USD million	USD million
Afghanistan	900.45	1.24	899.21	23.58
Bangladesh	3,266.71	799.01	2,467.70	370.31
Bhutan	27.59	6.29	21.30	21.25
India	19,733.83	12,748.23	6,985.60	-
Maldives	152.42	0.08	152.34	21.75
Nepal	395.08	49.54	345.55	269.38
Pakistan	3,161.13	807.51	2,353.62	177.87
Sri Lanka	1,049.18	272.70	776.49	144.73
	28,686.40	**14,684.60**	**14,001.80**	**1,028.87**

Note: All analysis at six-digit HS level
Source: TradeMap; Plexconcil Research

NET IMPORTS OF PLEXCONCIL PRODUCTS – NORTHERN AFRICA

NORTHERN AFRICA has seven countries, namely Algeria, Egypt, Libya, Morocco, South Sudan, Sudan, and Tunisia. In 2018, the total import of PLEXCONCIL products by the NORTHERN AFRICA region was USD 13,391.82 million in comparison to export of USD 3,262.71 million, resulting in a net import of USD 10,129.10 million by the region. In 2018, India's exports of PLEXCONCIL products to NORTHERN AFRICA was USD 370.72 million

Country	Imports (2018)	Exports (2018)	Net Imports (2018)	Imports from India (2018)
	USD million	USD million	USD million	USD million
Algeria	2,680.59	4.87	2,675.72	75.79
Egypt	4,758.05	1,931.54	2,826.51	180.07
Libya	539.13	0.29	538.84	4.02
Morocco	2,913.14	378.69	2,534.45	51.04
South Sudan	31.20	0.05	31.15	-
Sudan	584.77	5.51	579.26	34.07
Tunisia	1,884.93	941.76	943.18	25.72
	13,391.82	**3,262.71**	**10,129.10**	**370.72**

Note: All analysis at six-digit HS level
Source: TradeMap; Plexconcil Research

NET IMPORTS OF PLEXCONCIL PRODUCTS – CENTRAL AMERICA

CENTRAL AMERICA has seven countries, namely Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and Panama. In 2018, the total import of PLEXCONCIL products by CENTRAL AMERICA was USD 6,207.50 million in comparison to export of USD 3,806.82 million, resulting in a net import of USD 2,400.68 million in the region. In 2018, India's exports of PLEXCONCIL products to CENTRAL AMERICA was USD 61.63 million.

Country	Imports (2018)	Exports (2018)	Net Imports (2018)	Imports from India (2018)
	USD million	USD million	USD million	USD million
Belize	55.82	2.34	53.48	0.25
Costa Rica	1,876.31	2,756.97	-880.67	9.28
El Salvador	840.93	373.26	467.66	5.68
Guatemala	1,439.99	411.00	1,028.99	18.74
Honduras	569.83	137.77	432.07	6.56
Nicaragua	466.10	24.81	441.29	9.25
Panama	958.53	100.67	857.86	11.87
	6,207.50	**3,806.82**	**2,400.68**	**61.63**

Note: All analysis at six-digit HS level
Source: TradeMap; Plexconcil Research

NET IMPORTS OF PLEXCONCIL PRODUCTS – CIS

CIS has 12 countries, namely Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan. In 2018, the total import of PLEXCONCIL products by the CIS Region was USD 25,457.31 million in comparison to export of USD 6,868.12 million, resulting in a net import of USD 18,589.20 million in the region. In 2018, India's exports of PLEXCONCIL products to the CIS Region was USD 127.94 million.

Country	Imports (2018)	Exports (2018)	Net Imports (2018)	Imports from India (2018)
	USD million	USD million	USD million	USD million
Armenia	213.54	22.68	190.86	0.46
Azerbaijan	486.19	137.93	348.26	1.06
Belarus	2,161.48	1,278.94	882.54	1.02
Georgia	412.48	49.28	363.20	8.58
Kazakhstan	1,757.50	157.79	1,599.71	3.67
Kyrgyzstan	259.54	36.87	222.66	0.52
Moldova	426.79	68.48	358.30	0.25
Russia	15,015.15	3,698.07	11,317.08	82.50
Tajikistan	105.07	0.75	104.32	0.36
Turkmenistan	166.43	76.26	90.16	0.37
Ukraine	3,754.69	866.39	2,888.30	21.75
Uzbekistan	698.46	474.66	223.79	7.41
	25,457.31	**6,868.12**	**18,589.20**	**127.94**

Note: All analysis at six-digit HS level
Source: TradeMap; Plexconcil Research

NET IMPORTS OF PLEXCONCIL PRODUCTS – BALKANS

BALKANS has six countries, namely Albania, Bosnia & Herzegovina, Croatia, Montenegro, North Macedonia, and Serbia. In 2018, the total import of PLEXCONCIL products by the BALKANS was USD 5,467.73 million in comparison to export of USD 2,261.58 million, resulting in a net import of USD 3,206.15 million by the region. In 2018, India's exports of PLEXCONCIL products to the BALKANS was USD 24.70 million.

Country	Imports (2018)	Exports (2018)	Net Imports (2018)	Imports from India (2018)
	USD million	USD million	USD million	USD million
Albania	236.28	3.98	232.30	1.39
Bosnia & Herzegovina	851.26	306.82	544.45	1.29
Croatia	1,695.95	611.85	1,084.10	7.11
Montenegro	132.21	3.57	128.64	9.58
North Macedonia	626.97	159.41	467.56	0.35
Serbia	1,925.06	1,175.95	749.11	4.97
	5,467.73	**2,261.58**	**3,206.15**	**24.70**

Note: All analysis at six-digit HS level
Source: TradeMap; Plexconcil Research

NET IMPORTS OF PLEXCONCIL PRODUCTS – EASTERN EUROPE

Eastern Europe has 23 countries, namely Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Georgia, Hungary, Latvia, Lithuania, Macedonia, Moldova, Montenegro, Poland, Romania, Russian Federation, Serbia, Slovakia, Slovenia, and Ukraine. However, since many of these countries are also categorised under BALKANS and CIS, the below analysis has been carried out for the remaining 11 countries. In 2018, the total import of PLEXCONCIL products by Eastern Europe was USD 65,716.68 million in comparison to export of USD 52,089.95 million, resulting in a net import of USD 13,626.74 million in the region. In 2018, India's exports of PLEXCONCIL products to Eastern Europe was USD 232.75 million.

Country	Imports (2018)	Exports (2018)	Net Imports (2018)	Imports from India (2018)
	USD million	USD million	USD million	USD million
Bulgaria	2,178.93	1,367.56	811.36	15.89
Czech Republic	14,339.39	13,908.39	431.00	20.36
Estonia	1,097.35	687.59	409.75	4.33
Hungary	7,629.01	7,399.40	229.60	12.38
Latvia	942.36	571.58	370.78	14.77
Lithuania	2,101.82	2,591.71	-489.90	8.82
North Macedonia	626.97	159.41	467.56	0.35
Poland	21,099.35	16,597.31	4,502.03	109.15
Romania	7,731.10	2,909.23	4,821.88	26.85
Slovakia	5,264.18	3,596.10	1,668.07	6.93
Slovenia	2,706.25	2,301.66	404.59	12.92
	65,716.68	**52,089.95**	**13,626.74**	**232.75**

Note: All analysis at six-digit HS level
Source: TradeMap; Plexconcil Research

Industry Speak

Sribash Dasmohapatra, Executive Director, Plexconcil

Why has Plexconcil undertaken the exercise of studying the markets specified in the report?

As an apex body that represents the plastics exporters, one of the key areas that we focus on is exploring market potential in new destinations besides traditional exports destinations. Through this exercise, we are hoping to get a better perspective on the value of imports within the said regions, where our industry stands and how we may develop export strategies to boost exports to these regions.

The data is also the foundation for our Council to engage with Indian High Commissions and embassies and work collaboratively through them to understand local perspectives, trade cultures and extend our member's outreach into the target regions by further engaging with trade bodies and trade of the same. We are planning on organizing an Ambassadors' Meet in New Delhi in February 2020 and this exercise will enable us in identifying the right audience for the meet.

What are the objectives or goals set out by the Council through this exercise?

The Council's goals are multiple and enumerate some of the most import ones:

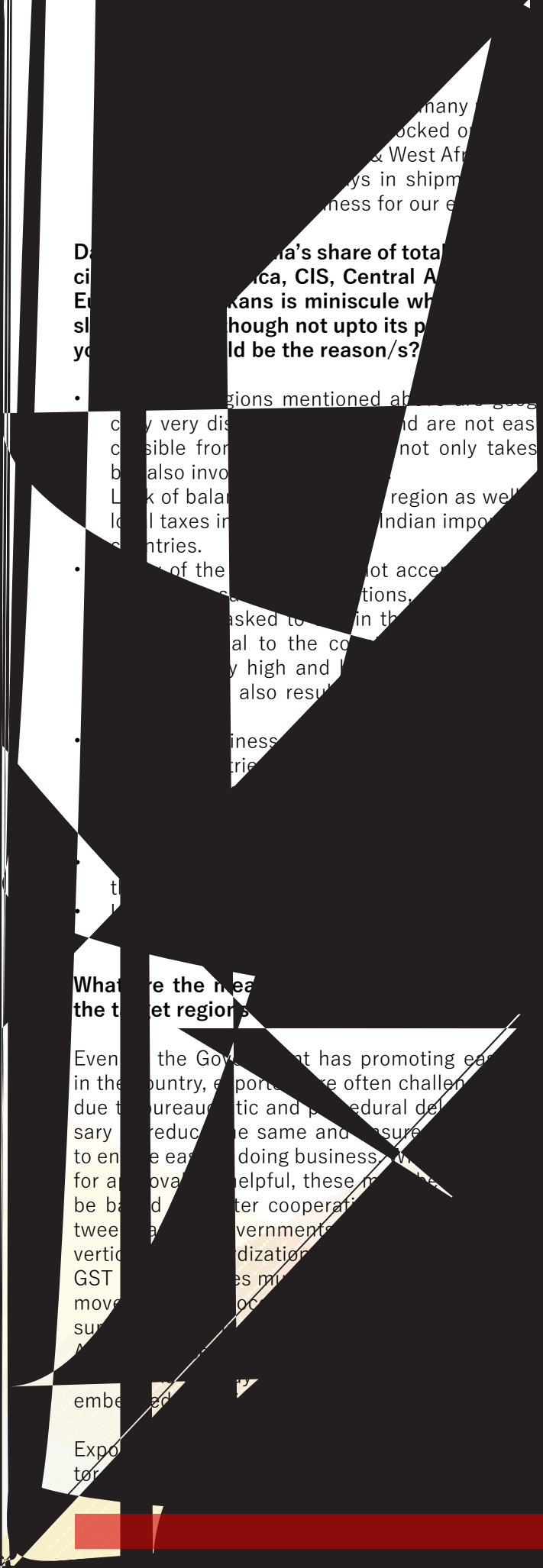
- Increase exports to the regions.
- Reach our target of USD 25 billion in plastics exports by 2025. Plastics exports currently stand at nearly USD 11 billion and has been growing at a CAGR of 24% annually. Such growth has been encouraging and with the right strategies, we are confident that we will achieve our goals.
- Attracting FDIs in the sector is another very significant goal that we have. With the current impasse in trade between USA and China as well as growing recognition of Indian manufactured products globally, the time is right for Indian manufacturers, with some support, to seek our foreign investments and collaboration for technology transfer, etc.

I would like to add that with the Government's focus on ease of doing business in India, time is right for manufacturers to not only gain from the huge domestic demand, but also cater to the voluminous global orders. India is now placed 63rd among 190 countries in World Bank's Ease of Doing Business Ranking. We have an immense pool of skilled human resource, technology, capacities and capabilities to become a significant contributor, and sourcing hub on an international scale. Favourable policies, reduction in corporate taxes, etc make the climate ripe for foreign investors to set up in India.

What are the types of challenges typically faced by the exporters?

Some of the major challenges that exporters have been facing include:

- Unfavorable FTAs. While India has FTAs with a number of countries, in many cases, these have proven unfavourable for exports. The entire structure of FTAs, as we have now been witnessing in cases such as ASEAN, needs to be reviewed and restructured to avoid greater trade imbalance as well as avoid dumping of cheaper goods in the country. The Department of Commerce is currently in the process of renegotiating ASEAN FTA.
- Furthermore, there is a lack of awareness of FTA terms and rules amongst exporters. This is significant as many exporters, especially from SME lack awareness of whether their product categories are covered under FTA, applicable taxes structures, etc.
- The present Government dispensation on GST refund is a major deterrent to especially MSME sectors. This needs to be streamlined as delays in refund severely hamper working capital of MSME industries who are in many cases working with limited capitals and have to incur huge associated costs. This impact is felt by manufacturers as well as exporters.
- In line with WTO compliance, the MEIS (Merchandise Exports from India Scheme), has been withdrawn. This has come as a huge setback for exports as the industry has gained much from the scheme in boosting global trade. A similar scheme to help exports gain reprieve from embedded taxes is the need of the hour if the Indian exports are to grow. While the Government has made its announcement to introduce a new structure, the industry awaits further clarity on the matter. Plastics exports is a humongous in terms of the product categories that it includes and hence concerns vary from segment to segment.
- Logistics form a huge cost component in exports and is an area that is immensely challenging to exporters. Plastics products are usually voluminous and cost of freight is usually high. Lack of proper roads in the country and connectivity not only results in high cost of inland transportation but also delays in reaching nearest ports. Various shipping lines have different cost structures and the DG Shipping has no control over the same. This aspect needs to be se-



Masterbatches Panel

Masterbatches is a concentrated mixture of pigments and additives encapsulated during a heat process into a carrier resin, which is then cooled and cut into a granular shape. It is used for colouring plastics and / or imparting other properties to plastics.

Masterbatches cater to different industry segments such as automotive, consumer goods, electrical & electronics, packaging, pharma & healthcare. Masterbatches typically include – Black Masterbatches, White Masterbatches, Color Masterbatches, and Additive Masterbatches – and come in various forms of concentrates including pellets, liquid, paste, or powder. Some of the leading global players in the Masterbatches business are LyondellBasell (A. Schulman), Ampacet, Clariant and PolyOne.

Based on industry inputs, world-wide import of Masterbatches is approx. USD 5 billion.

- In 2018, top-3 exporting countries of Masterbatches were: China (17.8%), Germany (13.1%), and United States of America (12.5%).
- Likewise, top-3 importing countries of these products were: Germany (8.0%), China (6.8%), and United States of America (6.8%).

India was the fifth largest exporter and the eighth largest importer of Masterbatches in the world. During 2018, major destination countries for export of Masterbatches from India were: United States (12.9%), Netherlands (6.0%), China (5.3%), Indonesia (4.3%) and Germany (4.2%).

India's export of Masterbatches was valued at above USD 200 million in 2018.

HS Code	Product Description	2015	2016	2017	2018
		USD Mn	USD Mn	USD Mn	USD Mn
32041790	Other pigments and preparations based thereon nes	19.9	21.9	19.0	14.6
32041990	Other, including mixtures of colouring matter of two or more of subheadings 320411 to 320419 nes	29.8	34.9	36.2	31.0
32049000	Other synthetic organic colouring matter or preparations based thereon	19.4	22.5	18.6	19.3
32061190	Other pearlsent pigment	13.5	12.6	15.0	21.3
32061900	Other coating matter containing <80% titanium dioxide	71.1	60.1	58.1	52.5
32064990	Other preparations	34.6	42.8	54.9	63.1

Source: Ministry of Commerce & Industry

While India exported Masterbatches worth USD 200 million to the world, it also imported this product worth approx. USD 500 million in 2018 from the world. China was the major supplier of Masterbatches to India. The country supplied one-third of all Masterbatches imported by India in 2018.

HS Code	Product Description	2015	2016	2017	2018
		USD Mn	USD Mn	USD Mn	USD Mn
32041790	Other pigments and preparations based thereon nes	16.8	16.3	17.5	21.1
32041990	Other, including mixtures of colouring matter of two or more of subheadings 320411 to 320419 nes	7.1	6.7	6.9	7.7
32049000	Other synthetic organic colouring matter or preparations based thereon	16.6	15.2	11.0	9.3
32061190	Other pearlsent pigment	128.1	210.4	320.1	347.6
32061900	Other coating matter containing <80% titanium dioxide	171.8	79.1	61.7	57.5
32064990	Other preparations	42.2	38.0	43.5	56.9

Source: Ministry of Commerce & Industry

Our internal research indicates that India's Masterbatches exports has immense potential for growth in destinations like Germany, China, United States of America, Belgium, South Korea, France, Italy, Mexico, Turkey, and Japan.

Some of the large players in Masterbatches export business in India include: Alok Masterbatches, JJ Plastalloy, Plastiblends, Poddar Pigments, and Rajiv Plastics. Below are excerpts from our interview with some of the top exporters of Masterbatches.

Industry Speak

Hemant Minocha, Director, Rajiv Plastics Pvt. Ltd., Panel Chairman – Raw Materials & Polymers

What are the major developments impacting the market for masterbatches?

There is a major push towards sustainability. People are understanding the responsibility of saving the environment. So there is a lot of interest in bioplastics, biopolymers, biodegradeable masterbatches and masterbatches which can help in recycling.

Where would all these developments take the industry in the mid- to long-term?

Masterbatches have always contributed towards improvement of plastics whether it is property enhancement or improving the appeal of the product by colour. In the mid and long term with all the developments happening masterbatches will help making them sustainable. Whether it is same polymer family multilayer films with enhance barrier properties achieved through masterbatches or better recyclability of dissimilar polymers by better planning of the layers and their compatibilization. Plastics have off-late been shown as the villain, but with the right communication and corrective steps they can be brought back to the superheroes they have always been.

What is the significance of innovation on the industry?

Like any industry innovation is paramount even in masterbatches. We have a saying in our industry that we are constant innovators since we develop thousands of colours a day. Every colour is an innovation because of the importance it carries in terms of corporate or brand significance, shelf life, food contact and many other things. Masterbatches always need to stay ahead of the curve with respect to the customers expectations. With increasing outputs and speeds of production, the same product needs to perform to the customers exacting needs and consistently over perform so that the final product brings a smile on the end users face. All this wont be possible without constant innovation in materials, processing, testing and machinery.

What are the upcoming types of masterbatch?

The biggest interest we have seen recently are in 2 exact opposite ends of the spectrum. One which wants to end the life of the plastic, that is, make it biodegradeable while the other wants to give it as much usable life as possible through UV stabilization. Whether it is to make the plastic part on the car last longer or a crop cover or greenhouse which can be used multiple times.

Masterbatches typically find much application in the packaging, automotive and construction industries. Considering the slow down in the automotive sector and growing emphasis on finding alternate methods for packaging, what are the major factors that will impact market growth?

Plastic packaging per se will not go away, due to the lack of any viable alternative. The demand will always be there and keep increasing. The packaging solutions will become more sustainable like same family polymers being used to create a packaging to make recycling easier and prevent land fill and pollution of water bodies. The automotive industry is moving towards lower emissions, light weighting and E-vehicles so the demand will actually grow since all these are heavily dependent on innovations in plastics. The other factors affecting growth are cheap imports. Materials coming from countries with FTA's with India. These are really harming the industry since they are being subsidized by their government while the Indian manufacturer has to work with negligible infrastructure, higher duties and higher power and utilities costs. In the exports markets we compete with these same players, there too we face stiff competition.

The slowdown is there and is effecting not only automotive but all industries. Masterbatch manufacturers are the worst hit because they serve the entire range of industries. But this is a good time innovate, improve product quality, improve efficiencies and make the products more economical so when the good times come we are ready to take them with both hands.

What are the emerging applications of masterbatch in the future?

Medical plastics, Automotive, Agriculture, Defense and Electronics are the emerging applications for masterbatches. Besides this, applications like Bioplastics, biodegradeability and recycling seem to be the flavor of the upcoming decade. E- Vehicles will need a lot more plastics and that's where masterbatches will have a big role to play.

Masterbatches/ raw materials forms a major part of Indian Plastics exports. Which countries are major competition to the segment? Why?

China, Vietnam, Turkey, USA, Germany, Brasil, Middle East. Cheaper raw material, huge raw material resources, developed infrastructure and export friendly government policies.

Which are the leading export destinations for the product segment? Which are the emerging markets for the segment?

Africa and Middle East are the biggest export markets currently for most Masterbatch manufacturers. Americas, Europe and CIS countries could be the emerging markets.

What are the typical challenges faced by the export segment?

Tedious documentation by the GST department for obtaining permission for procuring locally available polymers from companies such as Reliance, IOCL, etc. The department requires unnecessary certificates, declarations and paperwork which change as per the requirement of each officer. Similarly, paperwork for GST refund for deemed export and SEZ supplies is still done manually. There is too much bureaucracy still involved in these processes. Finally, in the plastic raw materials segment, India has not been very successful in 100% re-export of material. The costs are just way too high to conduct a re-export exercise.

What are the measures that need to be taken to promote it's growth while ensuring that we move towards reduced dependency and encourage conservation of non-renewable resources?

Better segregation and sorting after use of plastics can reduce the overall impact on non-renewable sources so that more and more recycled material of better quality can be brought back into the stream. Doing a blanket ban on plastic bags without offering a viable alternative has made the ban itself an act without teeth besides taking away the livelihood of millions. Biopolymer Polyethylene and other polymers are now being made by using renewable plant based resources. This can be implemented, although at the moment the cost of production would be higher, but with higher yields this could be overcome.

Vikram Bhadauria, Managing Director, ALOK
Regional Chairman - North, PLEXCONCIL

What are the major developments impacting the market for masterbatches?

India has been emerging as a global manufacturing powerhouse across a wide array of sectors. With increasing impetus on innovation, the Indian masterbatch industry has been striving to develop specialty value-based solutions that address the current and future needs of the plastics industry.

But at the same time, the Indian plastics industry has been facing some challenges, pertaining to the ban of single-use plastics, recyclability and bio-degradability related conundrums.

To address such concerns and introduce future-ready solutions in the market, the Indian masterbatch industry has been investing heavily in R&D to introduce technologically advanced, ecologically safe, high quality solutions, to foster a conducive and socially responsible ecosystem for the manufacturing industry to thrive.

Where would all these developments take the industry in the mid-to long-term?

In the coming time, both demand and challenges in the sector will be addressed by 3 focus areas – innovation, sustainability and safety.

The industry's approach to people and planet friendly solutions will continue to drive innovation for sectors, including Flexible & Rigid Packaging, Agricultural Films, Recycling, among others. This will also reform consumption patterns and perceptions around plastic usage, with increased responsibility both from the producer and consumer ends.

The Indian masterbatch industry's conscious approach to introduce innovative and cost-competitive, quality solutions, is anticipated to augment demand in the long-term, thereby placing the Indian plastics industry on a global pedestal.

As the industry fuels its manufacturing capabilities, it is imperative that we build a culture of safety. At ALOK, we strongly believe that safety is sacrosanct and must be imbibed by every worker. In fact, we have been recently conferred the prestigious FICCI Chemicals & Petrochemicals Award 2019 for exhibiting global standard safety processes and cutting-edge technologies, deployed at our manufacturing facility in Ranipet.

What is the significance of innovation on the industry?

To put this question in context, I will elucidate about the research lab we set up in 2015, known as the ALOK Technology Incubation Centre (ATIC). With the objective of making customized, future-ready solutions for the evolving needs of the plastics industry, ATIC has witnessed co-creation of several specialty solutions, which find diverse use in day-to-day applications.

Earlier this year, ALOK won the Golden Peacock Eco-Innovation Award 2019, for UvNox Mulch, a solution developed at ATIC for the agriculture sector. This indigenously developed solution, created in line with the Prime Minister's vision of Doubling Farmer's Income, makes mulch films 40% more affordable and significantly more durable, which in turn, help farmers' increase their yield. Given the focus on value-based, sustainable solutions, innovation will be key in resolving the most pertinent issues across sectors. It will serve as a catalyst to enable business growth, both in the long and short term.

What are the upcoming types of masterbatch?

ATIC is working on several new products including masterbatches for Bio-Polymers applications, Anti-Microbial masterbatches (in collaboration with Microban), Permanent Antistatic masterbatches, masterbatches for upgrading recycled polymers. We are also working on technologies to recycle Multi-Layer structures in packaging. In addition to these speciality solutions, we continue to upgrade our range of commodities including Color, White, Black, Mineral and Additive masterbatches.

Masterbatches typically find much application in the packaging, automotive and construction industries. Considering the slowdown in the automotive sector and growing emphasis on finding alternate methods for packaging, what are the major factors that will impact market growth?

As we delve deeper into the 21st century, masterbatches are finding more varied uses in plastics. Constant innovation in the masterbatch sector, has led to creation and designing of highly specialized solutions, which not only find practical uses in day-to-day activities, but also impart special properties, that make plastics safer, sustainable and affordable.

Few of the latest areas of usage are water, agriculture and technical textiles. ALOK, partnered with leading American antimicrobial additive provider, Microban, at K Show 2019. Our co-created antimicrobial products with Microban have been gaining a lot of momentum among companies who manufacture water tanks. It has proven to inhibit the proliferation of microbes on a treated surface by up to 99.99% and actively reduces the risk of premature product degradation for its expected lifetime. Similarly, Single Pigment Masterbatches (SPCs), are used in textile processes including textile, home furnishing and upholstery.

Hence, it is safe to say, that despite a slight slowdown, masterbatches will continue to witness growth in the coming years.

What are the emerging applications of masterbatch in the future?

While the Indian masterbatch industry has been growing steadily, offering a strong, extensive portfolio of commodity masterbatches, it is now time for us to strengthen the line of specialty products.

To advance our know-how and technology to provide our customers the best quality specialty masterbatches, innovation and R&D need to become the new norm of the industry.

Masterbatches/ raw materials forms a major part of Indian Plastics exports. Which countries are major competition to the segment? Why?

Germany and other European Union countries have been globally recognized as leaders in color and additive solutions, because of their diverse portfolio, manufacturing prowess, continuous technical innovation, and in-depth market knowledge and expertise. Such countries not just raise the benchmark but also propel Indian masterbatch producers to continuously enhance their global market appeal, products and services.

Which are the leading export destinations for the product segment? Which are the emerging markets for the segment?

Several markets, including Africa, North America and Latin America continue to be leading countries for exports. However, since China has stopped importing plastics and other plastic wastes in 2017, countries such as Bangladesh, Japan and Malaysia have shown high import prospects.

What are the typical challenges faced by the export segment?

India had exported USD 8 billion worth of plastics during in FY19, making it the 17th largest plastic exporter in the world and exported out of a global market of USD 600 billion, according to a report by US-based trade finance company Drip Capital. Exports were hampered due to issues such as removal of GSP by the US and increas-

ing global concerns about the environmental impact of plastic. But also, it is an opportune time for India to step in and seize the opportunity amidst this US-China trade lock.

What are the measures that need to be taken to promote its growth while ensuring that we move towards reduced dependency and encourage conservation of non-renewable resources?

Looking ahead, it is sacrosanct that we put innovation and sustainability at the heart of our business. Operational excellence, renewed focus on resource optimization, use of alternate resources, and a policy of reduce, reuse and recycle, added to core competencies, should be the base for the manufacturing industry, to ensure a brighter and better future!

Engineering Plastics

Engineering plastics and high performance plastics offer a whole array of benefits and in many cases can effectively replace metals or ceramics. Moreover, engineered plastic components often provide the only alternative when it comes to the implementation of unusual technical applications - which makes them a true pacemaker for innovation in key industries.

A wide variety of engineering plastic and thermoplastic polymers possess better mechanical and/or thermal properties than the more widely used standard plastics such as polystyrene, PVC and Polyethylene and hence are widely used in comparison to commodity plastics for packaging as PE, PP, PVC, especially in case of higher requirements in mechanical strength or thermal resistance, despite being not as sophisticated and expensive as high temperature plastics. Material blends and modifications permit product characteristics to be optimised across a broad range to suit different applications as engineering plastics cover a wide spectrum of different properties.

Engineering plastics can be used permanently at temperatures between 100° C and 150° C. In general, this product group is also referred to as technical thermoplastics.

Engineering plastics offer:

- Good mechanical & performance characteristics like heat resistance exceeding 100°C/212°F, chemical resistance that spans a variety of substances, and enhanced fire retardancy.
- Excellent machinability and dimensional stability.
- Malleability when the thermoplastic reaches a specified temperature, which enables moldability and solidification upon cooling that holds tight tolerances and geometries. Further, engineered plastics offer the unique ability to be remelted and formed again — a time and cost saver in the event of revisions.
- Ease in manufacturing as compared to wood or metal, typically providing similar weight and strength as these substances but with the added benefit of being able to be molded into complicated shapes.
- Good wear resistance

Engineering Plastics Applications

Engineered plastics have unique characteristics which are appealing to both medical and heavy industrial manufacturers, especially as it relates to strength, chemical/heat/fire resistance and durability of plastic injection molded parts. These benefits outweigh the comparatively higher material costs, and should be carefully considered for any critical-use application.

Some of the key industries that include engineered plastics include:

- Automotive
- Electronics
- Electrical

- Aerospace
- Renewable Energy
- Building & Construction
- Consumer Goods
- Industrial Equipment
- Transportation
- Medical and more

Market Segmentation

The market is Segmented by Product Type [Fluoropolymers, Polycarbonate (PC), Polyethylene Terephthalate (PET), Polybutylene Terephthalate (PBT), Polyacetal/ Polyoxymethylene (POM), Polymethyl Methacrylate (PMMA), Polyphenylene Oxide, Polyphenylene Sulfide (PPS), Styrene Copolymers, Liquid Crystal Polymers (LCP), Polyether Ether Ketone (PEEK), Polyimides (PI), and Polyamides(PA)],

Market Overview

A growing use of engineering plastics by end user industries, especially automotive, transportation, and medical industries is expected to drive global demand in the coming years. Rapid urbanisation, infrastructure development, and increased income levels across various end-user segments are other factors likely to boost the growth of the global engineering plastics market. However, high costs of engineering plastics, increasing use of alternative substitutes, and fluctuations in the cost of raw materials could hamper the growth of the global engineering plastics market.

Global sales revenue of engineering plastics is expected to witness steady incremental growth. In the product type category, the high performance plastics segment is anticipated to register a healthy CAGR of 9.6% between 2016 and 2026, attributed to an increasing application in the medical industry. In the application category, the electrical and electronics segment is estimated to account for 36% value share of the global engineering plastics market by 2016, followed by the automotive and transportation segment (32.1%) and the construction segment (11.1%).

By product type, Polyethylene Terephthalate (PET) is the most used engineering plastic around the world. However, Polyether Ether Ketone (PEEK) is projected to register the highest CAGR.

The growing applications in the aerospace industry and the adaptation of green vehicles are also expected to provide numerous opportunities for the manufacturers in the market. Asia-Pacific dominated the market with the largest consumption. It is also likely to register the highest CAGR during the forecast period.

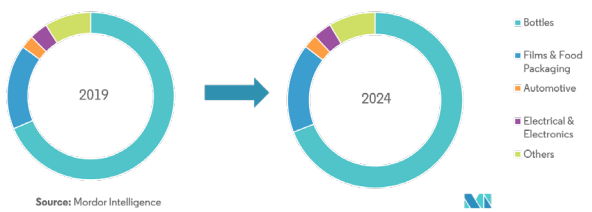
Key Market Trends

Polyethylene Terephthalate (PET): The Most Used Engineering Plastic

Polyethylene terephthalate (PET) is a thermoplastic polyester engineering resin. PET resins are known for their excellent melt flow characteristics, close molding tolerances, and high productivity from multi-cavity molds. Due to its broad mechanical and electrical properties, PET is often used to replace metals in motor housings, switches, sensors, and other electrical applications.

PET and polyolefins are the most widely used materials in the plastic packaging industry. Some of the major properties of PET as a packaging material are recyclability, strength, and versatility, which drive the demand for these products.

Engineering Plastics Market: Revenue (%), by Application, PET, Global, 2019 and 2024



These products mainly include take-out containers, frozen foods, carbonated drinks and juices, ketchup, bottled water, jars, and baked good containers. They are also used in the food industry for clamshells, deli containers, as well as microwave food trays.

PET also has great barrier properties that protect and preserve the contents of the product. PET maintains the fizz in carbonated soft drinks, the vitamins in juices, and the color in ketchup. In other words, it protects products and keeps them on the shelves and out of the rubbish bin, for a longer period.

With an increasing demand for beverage packaging and a lack of better substitute for PET resin for this application, the demand for PET is projected to increase over the forecast period.

Asia-Pacific to Dominate the Market

Asia-Pacific accounted for the largest share of the market, with China alone consuming a share of around 35% of the overall market (more than double the entire North American region).

China is the largest producer and consumer of engineering plastics in the region. The abundant availability of raw materials and low cost of production have been supporting the production growth of the engineering

plastics market in the country, since the past few years. The consumption of engineering plastics has increased drastically in the recent past, due to the growing population, increasing urbanization, and substitution of many metals by suitable engineering plastics in various industries, such as packaging and automotive.

Furthermore, owing to the increasing automotive production in major economies of the region, the market for engineering plastics has benefitted to a great extent. Competitive Landscape

The engineering plastics market is fragmented in nature, with the top five players accounting for less than 15% (in terms of revenue generated) of the global market. Most market leaders are vertically integrated, i.e., they produce their own raw materials required for the manufacturing of engineering plastics, and are also engaged in the manufacturing of various engineering plastic products. The prominent players in the market include BASF SE, DuPont de Nemours, Inc., SABIC, Solvay, Royal DSM, Covestro, and Mitshubishi Corporation, among others.

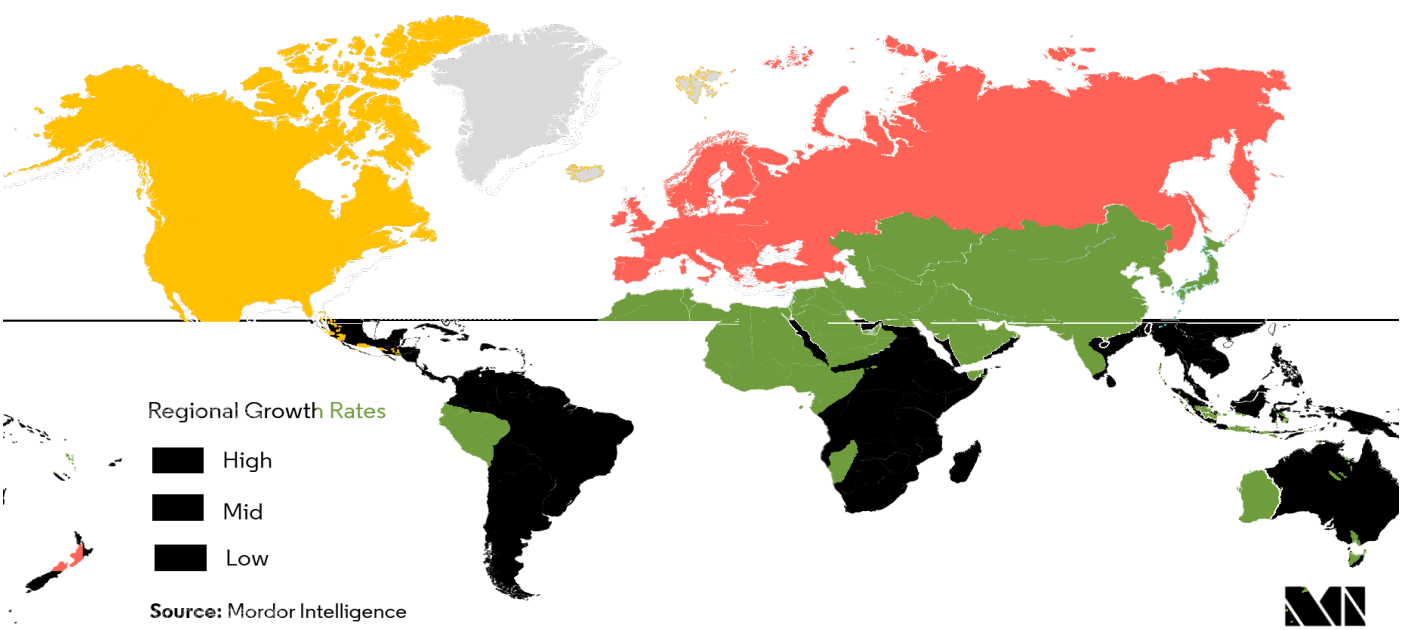
The India Scenario

According to TechSci Research report, "India Engineering Plastics Market, By Polymer Type, By End Use Industry, Competition Forecast & Opportunities, 2012 – 2022", India engineering plastics market is projected to reach $ 5.48 billion by 2022. Policy changes in the electrical and electronics industry coupled with government initiatives to support the revival of the electronics industry in the country are expected to boost demand for engineering plastics in the country during the forecast period. Moreover, bolstering consumer goods sector, owing to increasing disposable income and shifting international automotive production base to Asian countries, including India, is anticipated to thrive engineering plastics market in the country during the next five years.

Increasing Foreign Direct Investment (FDI) in end use industries, such as automotive, consumer goods and electrical & electronics, favorable government regulatory environment in the electronics sector, increasing population and robustly growing national GDP are the other factors expected to positively influence India engineering plastics market through 2022. Additionally, impact resistance, heat resistance, high strength and dimensional stability are some of the properties of engineering plastics anticipated to contribute towards increasing demand for ABS, SAN and Polyamide, etc., from different end use industries in the country.

"Emergence of engineering plastics as a substitute to traditionally used materials such as metals and wood, coupled with its extensive application in automotive sector offers high growth potential for engineering plastic products market in India. Also, recyclability of engineering plastics, growing trend of developing bio-based plastics and development of metal detecting engineering plastics are expected to provide growth prospects to companies engaged in engineering plastics business in India over the course of next five years.", said Mr. Karan Chechi, Research Director with TechSci Research, a research based global management consulting.

Engineering Plastics Market - Growth Rate by Region, 2019-2024



Industry Speak

Devang Sheth
Managing Partner
Polycromax Compounds

What are the distinct advantages offered by engineering plastics versus other materials such as wood, metal, etc?

Engineering plastics offer a wide range of advantages over other materials, especially metals and wood in certain application.

I'd definitely start with the weight. EP, and even filled EP, are on an average 50% lighter than metals. With new generation of EP's and their stabilization, we now get materials that offer a better strength-to-weight ratio in certain applications than their metal counterparts.

Under the right type of reinforcement, these EP's also offer a better stiffness to weight ratio.

Both these are very important requirements for designing a product; especially one which requires a lower weight and hence a smaller carbon footprint, be it in their manufacture or transport.

EP's are also very versatile and cost effective with regard to what is called "complexity scalable". The more complex a part is, EP's will be more economical to both design and manufacture.

These attributes give EP's a distinct advantage in such industries such as automobiles, electrical, switchgear and even in the construction industry.

Which are the most common applications for engineering plastics? What is the potential for growth for the product segment?

Some of the most common applications for EP's are the automotive industry, the electrical industry and the medical devices industry.

Since these are just gradually replacing legacy metals, the scope to grow is tremendous.

For example, with growing demand for next generation railway carriages, most of the internal panels that were of sheet metal are being replaced with composites. There are many such examples across industries.

Which are the top export destinations for the product segment? What are the global market opportunities?

While India is not a significant exporter of engineering plastic compounds, it exports many intermediate and finished products made out of engineering plastics. Indian made medical devices, electrical equipment and automobiles are some of the key products where international acceptability is high.

Who is the biggest competitor of engineering plastics, besides China? How do Indian manufactured products fare against global competitors?

Besides China, USA and Germany are big manufacturers of EP's. In Asia, Thailand is a big producer as well. Indian capacities, compared to these nations, are low and hence there is a great potential for growth.

How have manufacturing technologies in the product segment evolved? What are the technical advancements/ developments or innovation that the industry has seen recently in India/ globally?

Over the years, manufacturing technologies have seen both evolutionary and revolutionary steps. Even though the basic template remains same, the means to achieve them have undergrown many iterations.

Newer feeding techniques, newer and tighter process control, advances in extruder design which give better properties are some of the advancements the industry has seen.

PET is the most commonly used thermoplastic given its major advantages in especially the burgeoning F&B industry. In the light of the negative perception towards SUP, what, in your opinion, could be the impact on the growth of this segment?

PET, especially in single use plastic bottles, has been under tremendous pressure. This problem, in my opinion, is more of littering than of recyclability. Even now, if you see, PET bottles are the most easily recyclable containers around. Municipalities and countries have shown an interest in their recycling, as well as upcycling – you now have sports shoes and sportswear made out of PET bottles.

Coming to the problem of other forms of SUP used by the F&B industry, new and easily recyclable materials and structures will help mitigate the problem. A lot of FMCG and petrochemical companies have joined hands to develop end-to-end systems that help in the circular economy.

To conclude, while there remain challenges, we as plastics producers are also provided ample opportunities to

be a part of the change in direction.

Automotive segment globally, and in India has been seeing a major slump and yet, it is one of the major applications for the product segment. What has been the impact on the industry? What measures are being taken to meet the challenges?

This question can be answered in two parts.

The first is the slump in the automotive industry globally – and in my opinion, it looks like a secular slump. Automobiles around the world are experiencing a slowdown in demand; they are losing their once-prevalent aspirational value with the younger generation.

The industry is still studying whether this is a protracted phase, or merely a dip before widespread use of new technologies like electric and autonomous vehicles rekindles demand.

It is undeniable that the industry has been affected in the near-term; but the excess capacity has given us an opportunity to develop solutions for other industries as well.

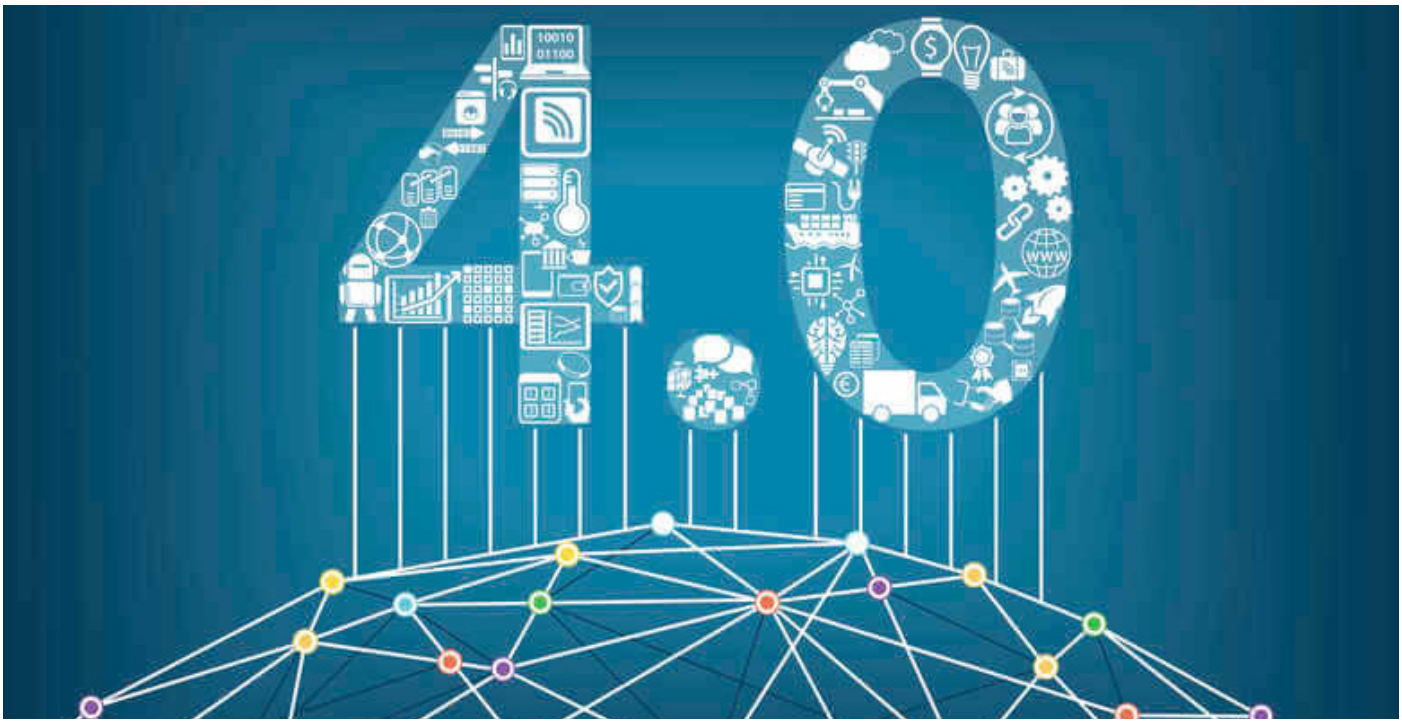
The Defence Ministry has just announced Rs. 500 crore to finance start-ups to boost manufacturing. Defence and Aerospace industries find much application for engineering plastics. How can the industry benefit from such initiatives?

The iDex – Innovations through defence excellence - initiative of the MoD, strives to provide easy finance to innovations for the armed forces. This is an excellent opportunity for those companies who can provide breakthrough materials, be it for the aerospace sector, or reinforced high strength materials for body armour. The possibilities are endless for local innovation in this sector.

What are the policy measures, technology support, etc that you believe are needed to promote the growth of the industry?

The Indian EP industry can be given a fillip with a consistent and uniform policy pan-India. Currently, packaging laws and their implementation vary from state to state, and from time to time. A consistent framework will remove uncertainty, and spur innovation.

Secondly, there exists an inverted duty structure in certain products. Removing these will help mitigate imports, and will further aid in local manufacturing and exports. Also, a government sponsored technology incubator pool of finance and resources, much like the MoD initiative but applicable to non-defence usage as well, will foster competition in innovation.



Industry 4.0 in Plastics Processing

The next step into the future

The development of industry 4.0 in the plastics industry. The fourth industrial revolution is constantly on the minds of industry leaders in Germany, Europe and the rest of the world under the buzzword “Industry 4.0”. In this subject area – also termed “Internet of Things” – the integration of industrial production with state-of-the-art information and communication technologies is being researched and developed. Its objective is to enable full communication between man, machine and product.

The key factors are horizontal integration to interlink not only different process steps, but also different companies along the entire value chain, and vertical integration to connect individual part-systems of the production cells to form a single, holistically controllable production system.

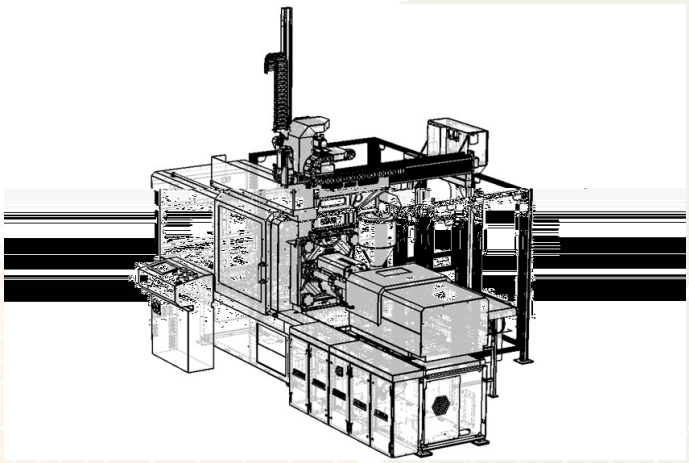
What does 4.0 mean for the plastics industry?

Applied to plastics processing processes, the fourth industrial revolution means the integration of supplier and customers but also the much closer interlinking of internal departments and processes.

Industry 4.0 offers the opportunity to manufacture “batch size 1” at the same cost as mass production.

Major opportunities for plastics processing lie in the production of individualised, customised parts and the shortening of development, start-up and set-up times, new approaches for the enhancement of production efficiency and cutting edge developments in digitised production. This will enable even small batch sizes to be produced economically.

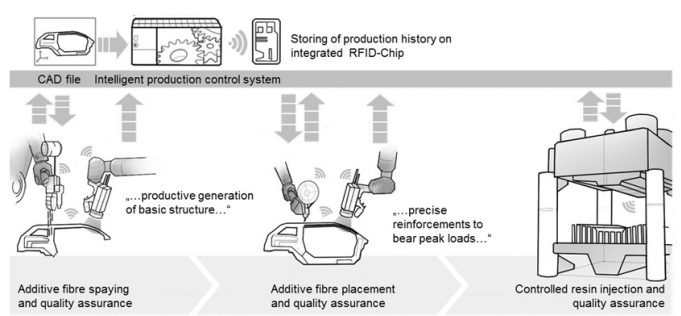
Mass production of individualised parts



Injection moulding machine for customised part manufacture based on networked production

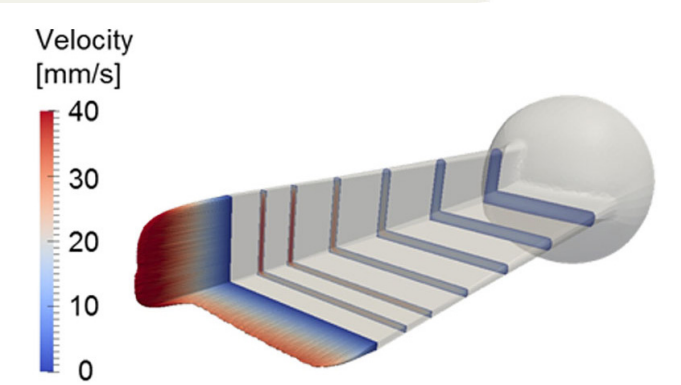
Horizontal integration allows the economical manufacture of individual, customised parts. For this, all elements involved in the value chain are designed for maximum adaptability and versatility, and interlinked on the information side.

Efficient and flexible production



The forwarding and use of all relevant information in the sense of vertical integration enables autonomous optimisation of existing production processes. In the Cluster of Excellence “Integrative production technology for high-wage countries”, core aspects of Industry 4.0 have been tackled at RWTH Aachen University over the last 10 years.

Prediction of process and product quality



Flow simulation in the extrusion die

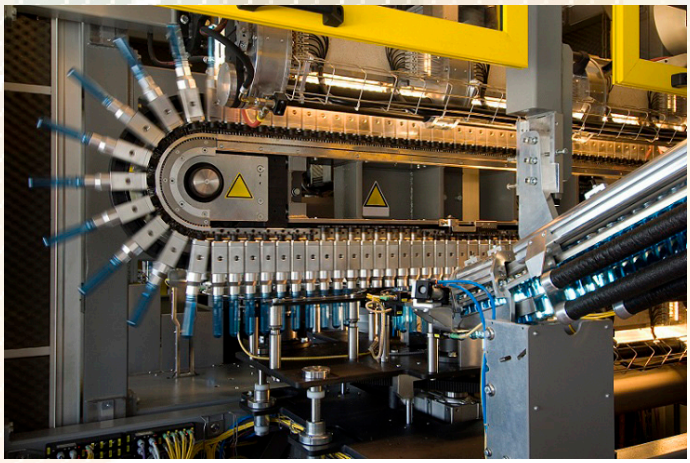
The importance of the digital shadow of processing processes for the prediction and optimisation of part quality and process flow is constantly increasing. Software tools developed at IKV improve the prediction accuracy of quality forecasts and thus enable optimisation of the entire product life cycle.

Source: IKV Institute for Plastics Processing

Trends driving the future of Plastics

Sustainability, efficiency and the conservation of resources are some of the key topics driving social and political debate today and the spotlight has increasingly turned toward plastics. Yet daily life would be unthinkable without plastics. Likewise, it is a material that is set to play a key role in future manufacturing and industry while technological innovation are being designed to help make tomorrow’s plastics industry more sustainable and more efficient in terms of both energy and resources.

Reducing the use of resources in production



The aim of modern production methods should be to reduce consumption of resources while preserving a high level of product functionality. This not only increases the profitability of the product in question; it also makes a decisive contribution toward boosting the sustainability of industrial production and thereby increasing its acceptance.

From recycling to upcycling

Of all materials, there is perhaps none better suited for recycling and reuse than plastic. The options here are highly varied and range from a simple recycling of plastic as a material, to its reuse in some form of upcycling, to a thermal recovery of energy by means of combustion.

Increased efficiency from innovative processes

In order to make the plastics industry more sustainable and efficient in terms of energy and resources, various other key issues must be addressed. These include an enhancement of existing processing methods and the development of new ones.

Industry Speak

Mr. Kailas P.
Vice Chairman & Managing Director (Executive Officer – Toshiba Machine, Japan)
Toshiba Machine Chennai Pvt. Ltd.

The buzzword in today's manufacturing and production is Industry 4.0 adaptability. How are the Indian plastics processing units gearing up for the same?

All machinery manufacturers in India and abroad are already in it. We at Toshiba Machine has launched in Japan machine complying to Industry 4.0 and is called "IoT+M". This package is for networking of machines and condition monitoring of machines for predictive maintenance purpose and for analysis of data.

Industry 4.0 is driven by the need to create a highly efficient production process as well as vertical and horizontal integration across value chains? What are the kinds of policy measures, awareness and support that need to be sought to create such a system in India?

We agree that Industry 4.0 is for production efficiency improvement across all value chains. In India, there is need for a common web-based communication protocol for easy exchange of data between different machineries of various manufacturers. After creating this common protocol, training of all team members is important and proper support system to be worked out.

Which segments within plastics manufacturing stand to gain most by upgrading to Industry 4.0?

All kinds of Plastics Machinery manufacturers and Users of these machinery would be the beneficiary with Industry 4.0. As regards machinery, it will be more appropriate for Injection Molding machinery and Extrusion Machinery.

3D Printing is the most ideally suited to Industry 4.0 considering it relies on AI, ML and complete machine automation. How can the process be emulated in injection molding/ extrusion based manufacturing?

We do not see any specific advantage for 3D printing as far as Industry 4.0 is concerned. However, we feel it can substitute in future, some of the Injection molded products where quantity is less. AI, ML and automation will be more useful for machinery makers and Users for improving the production process and maintenance.

What are the implications in terms on capital investments, for manufacturing units intending to upgrade to Industry 4.0?

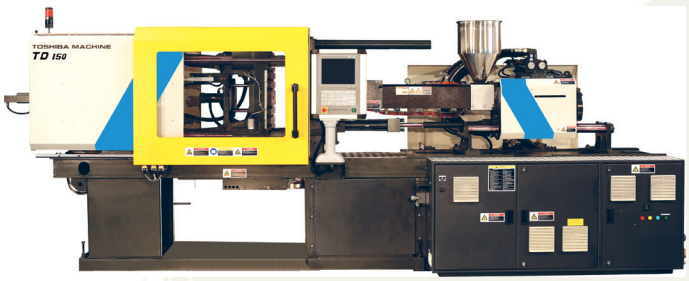
Capital investment for Industry 4.0 is not that significant and can be recovered within short period of time by machinery makers and Users.

What is the kind of assistance, guidance or expertise that manufacturers need to seek to implement Industry 4.0?

We need experts from abroad who have implemented such system and who have the required domain knowledge. If a consultant can be identified, it would be much useful for makers of machinery and users.

Sustainability, conservation of resources and improved efficiencies are the key topics of debate amongst economists, conservationists and Governments across the world. What is the impact of adapting to Industry 4.0 on these issues?

We need to upgrade the process in the industry for efficiency improvement and Industry 4.0 can contribute more towards conservation of resources and sustainability.



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Understanding WTO

Agreements on Anti-dumping, subsidies, safeguards, contingencies, etc.

Binding tariffs, and applying them equally to all trading partners (most-favoured-nation treatment, or MFN) are key to the smooth flow of trade in goods. The WTO agreements uphold the principles, but they also allow exceptions — in some circumstances. This article takes a look at the three of important issues in a bid to understand the same and its impact on exports:

- Actions taken against dumping (selling at an unfairly low price)
- Subsidies and special "countervailing" duties to offset the subsidies
- Emergency measures to limit imports temporarily, designed to "safeguard" domestic industries.

Anti-dumping Actions

If a company exports a product at a price lower than the price it normally charges on its own home market, it is said to be "dumping" the product. Is this unfair competition? Opinions differ, but many governments take action against dumping in order to defend their domestic industries. The WTO agreement does not pass judgement. Its focus is on how governments can or cannot react to dumping — it disciplines anti-dumping actions, and it is often called the "Anti-Dumping Agreement". (This focus only on the reaction to dumping contrasts with the approach of the Subsidies and Countervailing Measures Agreement.)

The legal definitions are more precise, but broadly speaking the WTO agreement allows governments to act against dumping where there is genuine ("material") injury to the competing domestic industry. In order to do that the government has to be able to show that dumping is taking place, calculate the extent of dumping (how much lower the export price is compared to the exporter's home market price), and show that the dumping is causing injury or threatening to do so.

GATT (Article 6) allows countries to take action against dumping. The Anti-Dumping Agreement clarifies and expands Article 6, and the two operate together. They allow countries to act in a way that would normally break the GATT principles of binding a tariff and not discriminating between trading partners — typically anti-dumping action means charging extra import duty on the particular product from the particular exporting country in order to bring its price closer to the "normal value" or to remove the injury to domestic industry in the importing country.

There are many different ways of calculating whether a particular product is being dumped heavily or only lightly. The agreement narrows down the range of possible options. It provides three methods to calculate a product's "normal value". The main one is based on the price in the exporter's domestic market. When this cannot be used, two alternatives are available — the price charged by the exporter in another country, or a calculation based on the combination of the exporter's production costs, other expenses and normal profit margins. And the agreement also specifies how a fair comparison can be made between the export price and what would be a normal price.

Calculating the extent of dumping on a product is not enough. Anti-dumping measures can only be applied if the dumping is hurting the industry in the importing country. Therefore, a detailed investigation has to be conducted according to specified rules first. The investigation must evaluate all relevant economic factors that have a bearing on the state of the industry in question. If the investigation shows dumping is taking place and domestic industry is being hurt, the exporting company can undertake to raise its price to an agreed level in order to avoid anti-dumping import duty.

Detailed procedures are set out on how anti-dumping cases are to be initiated, how the investigations are to be conducted, and the conditions for ensuring that all interested parties are given an opportunity to present evidence. Anti-dumping measures must expire five years after the date of imposition, unless an investigation shows that ending the measure would lead to injury. Anti-dumping investigations are to end immediately in cases where the authorities determine that the margin of dumping is insignificantly small (defined as less than 2% of the export price of the product). Other conditions are also set. For example, the investigations also have to end if the volume of dumped imports is negligible (i.e. if the volume from one country is less than 3% of total imports of that product — although investigations can proceed if several countries, each supplying less than 3% of the imports, together account for 7% or more of total imports).

The agreement says member countries must inform the Committee on Anti-Dumping Practices about all preliminary and final anti-dumping actions, promptly and in detail. They must also report on all investigations twice a year. When differences arise, members are encouraged to consult each other. They can also use the WTO's dispute settlement procedure.

Subsidies and Countervailing Measures

This agreement does two things: it disciplines the use of subsidies, and it regulates the actions countries can take to counter the effects of subsidies. It says a country can use the WTO's dispute settlement procedure to seek the withdrawal of the subsidy or the removal of its adverse effects. Or the country can launch its own investigation and ultimately charge extra duty (known as "countervailing duty") on subsidized imports that are found to be hurting domestic producers.

The agreement contains a definition of subsidy. It also introduces the concept of a "specific" subsidy — i.e. a subsidy available only to an enterprise, industry, group of enterprises, or group of industries in the country (or state, etc) that gives the subsidy. The disciplines set out in the agreement only apply to specific subsidies. They can be domestic or export subsidies.

The agreement defines two categories of subsidies: prohibited and actionable. It originally contained a third category: non-actionable subsidies. This category existed for five years, ending on 31 December 1999, and was not extended. The agreement applies to agricultural goods as well as industrial products, except when the subsidies are exempt under the Agriculture Agreement's "peace clause", due to expire at the end of 2003.

Prohibited subsidies: subsidies that require recipients to meet certain export targets, or to use domestic goods instead of imported goods. They are prohibited because they are specifically designed to distort international trade, and are therefore likely to hurt other countries' trade. They can be challenged in the WTO dispute settlement procedure where they are handled under an accelerated timetable. If the dispute settlement procedure confirms that the subsidy is prohibited, it must be withdrawn immediately. Otherwise, the complaining country can take counter measures. If domestic producers are hurt by imports of subsidized products, countervailing duty can be imposed.

Actionable subsidies: in this category the complaining country has to show that the subsidy has an adverse effect on its interests. Otherwise the subsidy is permitted. The agreement defines three types of damage they can cause. One country's subsidies can hurt a domestic industry in an importing country. They can hurt rival exporters from another country when the two compete in third markets. And domestic subsidies in one country can hurt exporters trying to compete in the subsidizing country's domestic market. If the Dispute Settlement Body rules that the subsidy does have an adverse effect, the subsidy must be withdrawn or its adverse effect must be removed. Again, if domestic producers are hurt by imports of subsidized products, countervailing duty can be imposed.

Some of the disciplines are similar to those of the Anti-Dumping Agreement. Countervailing duty (the parallel of anti-dumping duty) can only be charged after the importing country has conducted a detailed investigation similar to that required for anti-dumping action. There are detailed rules for deciding whether a product is being subsidized (not always an easy calculation), criteria for determining whether imports of subsidized products are hurting ("causing injury to") domestic industry, procedures for initiating and conducting investigations, and rules on the implementation and duration (normally five years) of countervailing measures. The subsidized exporter can also agree to raise its export prices as an alternative to its exports being charged countervailing duty.

Subsidies may play an important role in developing countries and in the transformation of centrally-planned economies to market economies. Least-developed

countries and developing countries with less than $1,000 per capita GNP are exempted from disciplines on prohibited export subsidies. Other developing countries are given until 2003 to get rid of their export subsidies. Least-developed countries must eliminate import-substitution subsidies (i.e. subsidies designed to help domestic production and avoid importing) by 2003 — for other developing countries the deadline was 2000. Developing countries also receive preferential treatment if their exports are subject to countervailing duty investigations. For transition economies, prohibited subsidies had to be phased out by 2002.

Safeguards: Emergency Protection from Imports

A WTO member may restrict imports of a product temporarily (take "safeguard" actions) if its domestic industry is injured or threatened with injury caused by a surge in imports. Here, the injury has to be serious. Safeguard measures were always available under GATT (Article 19). However, they were infrequently used, some governments preferring to protect their domestic industries through "grey area" measures — using bilateral negotiations outside GATT's auspices, they persuaded exporting countries to restrain exports "voluntarily" or to agree to other means of sharing markets. Agreements of this kind were reached for a wide range of products: automobiles, steel, and semiconductors, for example.

The WTO agreement broke new ground. It prohibits "grey-area" measures, and it sets time limits (a "sunset clause") on all safeguard actions. The agreement says members must not seek, take or maintain any voluntary export restraints, orderly marketing arrangements or any other similar measures on the export or the import side. The bilateral measures that were not modified to conform with the agreement were phased out at the end of 1998. Countries were allowed to keep one of these measures an extra year (until the end of 1999), but only the European Union — for restrictions on imports of cars from Japan — made use of this provision.
An import "surge" justifying safeguard action can be a real increase in imports (an absolute increase); or it can be an increase in the imports' share of a shrinking market, even if the import quantity has not increased (relative increase).

Industries or companies may request safeguard action by their government. The WTO agreement sets out requirements for safeguard investigations by national authorities. The emphasis is on transparency and on following established rules and practices — avoiding arbitrary methods. The authorities conducting investigations have to announce publicly when hearings are to take place and provide other appropriate means for interested parties to present evidence. The evidence must include arguments on whether a measure is in the public interest.

The agreement sets out criteria for assessing whether "serious injury" is being caused or threatened, and the factors which must be considered in determining the impact of imports on the domestic industry. When imposed, a safeguard measure should be applied only to the extent necessary to prevent or remedy serious injury and to help the industry concerned to adjust. Where quantitative restrictions (quotas) are imposed, they normally should not reduce the quantities of imports below the annual average for the last three representative years for which statistics are available, unless clear justification is given that a different level is necessary to prevent or remedy serious injury.

In principle, safeguard measures cannot be targeted at imports from a particular country. However, the agreement does describe how quotas can be allocated among supplying countries, including in the exceptional circumstance where imports from certain countries have increased disproportionately quickly. A safeguard measure should not last more than four years, although this can be extended up to eight years, subject to a determination by competent national authorities that the measure is needed and that there is evidence the industry is adjusting. Measures imposed for more than a year must be progressively liberalized.

When a country restricts imports in order to safeguard its domestic producers, in principle it must give something in return. The agreement says the exporting country (or exporting countries) can seek compensation through consultations. If no agreement is reached the exporting country can retaliate by taking equivalent action — for instance, it can raise tariffs on exports from the country that is enforcing the safeguard measure. In some circumstances, the exporting country has to wait for three years after the safeguard measure was introduced before it can retaliate in this way — i.e. if the measure conforms with the provisions of the agreement and if it is taken as a result of an increase in the quantity of imports from the exporting country.

To some extent developing countries' exports are shielded from safeguard actions. An importing country can only apply a safeguard measure to a product from a developing country if the developing country is supplying more than 3% of the imports of that product, or if developing country members with less than 3% import share collectively account for more than 9% of total imports of the product concerned. The WTO's Safeguards Committee oversees the operation of the agreement and is responsible for the surveillance of members' commitments. Governments have to report each phase of a safeguard investigation and related decision-making, and the committee reviews these reports.

Source: World Trade Organization

Know Your COA Member

Interview with Nemish Sayani, Managing Director, Crystal Plastics & Metallizing Pvt Ltd., Regional Chairman (Western Region), Plexconcil

The House of Crystal was established in 1970 with a commitment to ensuring impeccable quality, personalised service and exclusive craftsmanship. Today, Crystal Plastics and Metallizing Pvt. Ltd is a market leader in the plastics products segment and manufactures a wide range of products which includes Combs, Plastic Combs, Hair Brushes and Hair accessories. The company has a growing clientele across the globe including in the United States, the African continent, Gulf countries, European Union, Far East Asia and other parts of the world.

As a leading and renowned brand in hair care products, Crystal reflects superior quality exemplified by the design and advanced manufacturing of a variety of hair care products such as combs & brushes.

Over the years, Crystal has earned the title of being a global leader in hair style accessories given its focus on quality, customer-centric design and a fabulous range of product options. The company believes in continuous improvement through innovation and hence, stands committed to exploring new horizons through new product ideas and extensions.

Helming affairs at the company since 1976, Nemish Sayani, an industry veteran and an astute business leader, has led the company to become an award-winning exporter and among the most recognized brands in hair care products globally. Crystal Comb has been the Top Export Award Winner at Plexconcil since 1991! Having been a part of Plexconcil's COA since 1982, he served as the Vice Chairman from 2007 – 2009 and Chairman from 2009 – 2011. Nemish Sayani brings a wealth of knowledge and experience, playing a significant part in the growth of the Council and the industry at large.

Crystal Plastics & Metallizing Pvt. Ltd is a nearly 50-year old company today. What was your vision when you first started out?

The company was established in 1970 and when I joined the company in 1976, we were manufacturing an array of products, but these were generic in nature and catered to the local market. In those days, awareness of brands and branded products in the local market was very low. It is then that I realized that if we were to expand to the international market, it was necessary to establish a Brand that could be marketed internationally and that which would be recognized globally. My endeavor thus was to consolidate our business and create a brand. That is how Crystal came about. Today, Brand Crystal is the most recognized in the hair care product segment worldwide. As they say imitation a form of flattery and while, it can be a nuisance at times, Crystal does not lack imitators even from countries such as China! Today, we have over 450 varieties of combs and brushes and we cater to 52 countries worldwide.

How has the industry evolved or changed since you first started?

One of the major differences between then and now is that there was a significant lack of awareness about exports. Businesses had no knowledge about potential export destinations and how to go about bulk exports. This is especially important in product categories such as ours. When we established Crystal, we began to explore exports across destinations and today, it is the most recognized brand in hair care products. But with success has come challenges such as imitation and duplicate brands. And hence, to safeguard our name and brand, we have had our brand registered across countries. This is time consuming and expensive. However, since there has not been much done to safeguard our brand in terms of Government policies, we have had to do it ourselves. But for many exporters, this might be challenging. Our Government needs to address such issues or quality brands such as ours can be seriously impacted.

Also, what has been a game changer is that earlier, hair care products were generic. Today, Crystal has turned a generic product into a branded one. This assures customers of quality in an otherwise what may be considered a non-specific product segment.

In your opinion, what is the potential for the growth of the hair grooming products segment globally? Which countries or regions enjoy a high demand or offer great potential for your products?

As a consumable, the product has immense potential for growth. Our domestic demand itself is huge as is the export potential. However, the impact of changing environmental policies, Governmental policies and a general economic slowdown globally has had its impact on this product segment as well. To make a case in point, earlier, we exported in bulk to Dubai, from where several other buyers in turn bought our products. However, since Dubai has restricted visa issuance to some of the these buying countries, our shipments to Dubai has been impacted. A similar situation was faced in Iraq. Turmoil in the region affected our exports there too. Introduction of VAT in Dubai has impacted pricing. Packaging is another area that has affected our growth. For example, EU requires brushes to be sold in sets. This is a laborious and expensive process currently. We need to have better technologies not just in manufacturing, but also in packaging. That is one area that countries such as China excel in. Even if their products are not high quality, their packaging is attractive.

Having said that, if we can overcome these hurdles, opportunities are immense. African countries have high demand for combs while EU has high demand for brushes.

In your opinion how do Indian manufactured plastics compare in terms of quality, price, design to their global counterparts? Who is your biggest competitor?

Globally, as in perhaps most product categories, China is our biggest competitor. They are able to supply cheaper products that are attractively packaged. However, consumers today have changed and have become increasingly quality conscious when it comes to hair care products. Hence there is an increased demand for quality products. I believe that Indian products boast of good quality and are competitive. Hence our products have wide acceptance across the world and there is good potential for growth.

In your opinion, what is the level of technological advancement in manufacturing that we have achieved so far? What measures need to be taken to improve production efficiencies and maintain competitiveness globally?

As mentioned earlier, application and advancement of technology is critical to any manufacturing industry as it has a direct impact on production efficiency, quality and price. Hence there is a need to upgrade systems so that we may be able to grow bigger and better. However, in India, the industry still remains labour oriented to a vast degree. This is especially more visible in the packaging aspect where countries such as China are far ahead. Also, our industry can be resistant or slow in adapting to new practices, ideas, systems. This is not the case with many other developed countries who embrace new technologies and practices faster and hence are far ahead in their game as compared to us. This needs to change. We need to move from having a vast pool of labour to a vast but skilled workforce.

We also need support from the Government for technology upgrade. Not just on paper but actual ground support. We need to become more customer-centric and dynamic in our practice.

What are the typical challenges faced by Indian Plastics exporters? What is your opinion of prevalent policies/ schemes, tax structures for the boosting of the export segment?

There are 2 key issues that our industry has been pursuing with the Government today and that has significant impact on exports.

- Removal of pre-import condition from Advance Authorization with retrospective effect.
- Insist upon DRI to withdraw all the notices issued on account of non-adherence of pre-import condition and return IGST paid if any to the exporter.

Relaxation of some of the terms applicable for imports under Advance Authorization effective from Jan 2019 has not come as a huge relief to many exporters as this is not applicable to exporters who have imported material between 2017-19 despite having paid IGST & Compensation Cess. As many exporters have already paid IGST with interest, this has had a huge impact on their working capital. Clarity regarding refund of this ITC as input tax credit has also not yet been provided by the authorities, thus raising further fears amongst exporters on their cash flows.

Exporters who have procured raw material from domestic and from international sources by paying duties like customs and GST before 13-10-2017 stand to be deeply

impacted as there was no exemption from IGST on imports then. Since imported material takes 2-3 months to arrive, if exporters were to operate as per the pre-import condition, they are sure to lose out on business opportunities. This will directly impact total exports, foreign earnings and render us uncompetitive. Such policies are counterproductive to our Government's vision and our industry's prospects for export growth.

We have taken up the matter with the Government and are hopeful of due resolution in the matter.

What are the opportunities for the MSME industries in the segment?

MSME has immense opportunities in exports and require greater support from the Banking community to help extend their outreach to international markets through exports. Export earnings for MSME should perhaps be made tax free initially to boost the segment. This will provide greater impetus for more and more MSME business to enter into the export segment and undoubtedly add to our growth and of course, foreign earnings.

Where do you see the industry go in the coming years? What are your plans for future expansions or exploring new areas for growth?

There is immense scope for the industry in the coming years as the Indian Economy has gone through a correction with demonetization and the new tax reforms implemented in a period of last 3 years. With the new regulations and the government initiatives to promote Indian products and manufacturing in India, we foresee good growth for the plastic sector across all product lines.

Crystal Combs has been consistently awarded for Excellence in Exports and Top Exporter since 1991. To what do you attribute this unchallenged success?

We, as a company are committed to delivering nothing less than the best. The success for the same goes to our team who work tirelessly in producing utmost quality products and our R&D that is focused on customization to suit the needs of the various countries that we export to. I attribute our success to all our employees who have made this record possible and to our consistent effort to deliver new innovation and technology with these changing times.

What is your mantra for your personal success? What would you like to convey to the new age entrepreneurs?

My personal mantra is to be engaged across all departments of work. I take keen interest till date to understand the challenges of the production floor, understand the needs of our clients and communicate across all lines so that problem solving can be more prompt and any challenges can be directly addressed for the betterment of the business. Well, to the new age entrepreneurs I can only convey one key message, follow your passion. It is important to be passionate about your work and believe in it as success can only be achieved if you give more than your 100% to your venture.

Injection Molding Design Tips to Get Defect-Free Products to Market Fast

By Al Timm

Source: kaysun.com

When it comes to remaining competitive in the global marketplace, speed matters. Manufacturers want injection molded parts that deliver the most product functionality at the lowest cost — and they want the parts quickly to get to market first and fastest. Injection molders understand the pressure manufacturers are under. They're also attuned to how injection molding design, engineering, and production expertise can greatly speed up development time.

Custom injection molders must be sensitive to their customers' plastic injection molding needs, but responsiveness must be balanced with their own business need to operate cost-effectively and keep pace with the competition. These competing priorities can, at times, make it tempting to rush decisions or make assumptions in order to meet production deadlines or save costs.

Giving in to temptation, though, can easily lead to defective injection-molded parts and field failures — paving the way for rework, recalls, disappointed customers, and ultimately higher costs.

Identifying Design-Related Failures

Experienced custom injection molders are aware of the impact defective injection molded parts can have on OEMs, end-users, and their own bottom lines and business reputations. Paying strict attention to — and preventing — four common design-related failures substantially mitigates risk:

- **Environmental Stress Cracking (ESC)**

This cracking phenomenon occurs when the threshold concentration of a particular chemical and a threshold stress are applied to plastic. While ESC susceptibility varies based on the type of plastic used (amorphous materials are more likely candidates for cracking than crystalline materials), the triggers are somewhat universal, manifesting as molded-in stress, stress due to press fits, high stress in very sharp corners, or stress that results from how the part is used.

- **Ultraviolet (UV) Light Degradation**

Ultraviolet (UV) light can degrade the physical structure of plastic over time, weakening the electrochemical bonds through both photochemical processes and oxidation. Typical UV degradation starts as a surface defect because photons can't penetrate too deeply into the plastic, creating a chalky surface appearance. Once a crack gets started on the surface, however, it will propagate rapidly into the interior, causing weakness and eventual failure.

- **Cycle Fatigue**

Cycle failure typically results from bending plastic back and forth. Consider a living hinge. When properly designed, the plastic molecules lay across the hinge area. In a poor design, the molecules are side-by-side across the joint and the motion is only resisted by the strength of the molecules' Van der Waal bonds, which are much weaker than the inter-atomic bonds. Another example is high-frequency bending. The hysteretic heat created by the bending can't be dissipated quickly by the thermally "insulating" plastic. Heat builds up, eventually reaching a point where the plastic simply fails due to the high temperature.

- **Viscous-Related Creep**

Creep (and related stress relaxation) occurs when plastic molecules are subjected to long-term sustained loads and slowly start to flow. Thermoplastics are viscoelastic, meaning they are both viscous and elastic. The elastic property allows the plastic to spring back to its original shape after deforming (short-term load), whereas the viscous portion allows the material to flow when a very long-term load is applied. The latter, viscous-related creep can never be recovered.

Ask timely, specific questions

Knowing what plastic injection molding design-related shortcomings to look for is not a solution to preventing field failures. The key is proactivity early on during the design phase, asking pointed questions about the project, including:

- What is the real-world application — how and where will the product be used?
- Will there be long-term UV exposure?
- What chemicals will the injection molded parts come into contact with (e.g., household/hospital cleaners, oils, gasoline, automotive fluid, and ammonia), and how will they be affected?
- What type of loads/forces will the part or product experience when it is being used? Constant (a plastic part bolted to an assembly that creeps over time and diminishes bolt torque)? Intermittent (a valve body in a washing machine that must withstand sporadic loads over time)? Impact (shatterproof handheld tool housings)?

Align materials and applications

One of the greatest advantages of plastic injectionmolding is the availability of more than 25,000 engineering-grade resins for wide-ranging industrial applications. However, having so many plastics to choose from doesn't mean that one is as good as the next for producing injection molded parts.

Working with an experienced custom injection molder is the best way to ensure the materials selected are appropriate for the application, but having a bit of insight into plastics' composition and representative types — specifically amorphous and crystalline — may help you eliminate incompatible materials faster and narrow your choices:

Amorphous plastics are comprised of random polymer chain orientations, giving the plastic a formless structure with good impact strength and toughness. Acrylonitrile-butadiene-styrene (ABS), styrene-acrylonitrile-copolymer (SAN), polyvinyl chloride (PVC), polycarbonate (PC) and polystyrene (PS) are good examples of amorphous plastics.

Crystalline plastics are comprised of orderly, densely packed polymer chains. They have lower elongation and flexibility than amorphous plastics, but better chemical resistance. Acetal, polyamide (PA), polyethylene (PE), polypropylene (PP), polyester (PET/PBT) and polyphenylene sulfide (PPS) are good examples of crystalline plastics.

Depending on use, environmental conditions, and manufacturability, a blend of amorphous and crystalline plastics (with or without additive modifications) is the best solution.

Refine Design

Sound plastic part design is the final piece to success. For the highest quality plastic injection molding outcomes and minimal cracking risks, part and product designs should incorporate:

- Even wall thickness to control shrink rate.
- Radii/fillets to eliminate sharp corners and redistribute the stress load between adjoining walls and surfaces.
- Design for Manufacturability analysis to evaluate manufacturing process efficiencies, control costs, and optimize production.

Speed matters when competing in the global marketplace, but getting faulty products out fast is counterproductive. An experienced injection molder that has a deep knowledge of plastic behavior and follows scientific molding principles will be sure to eliminate potential design and production risks and help you stay ahead of the competition.

How On-Time Delivery (OTD) Effects Manufacturer - Supplier Relationships

By Al Timm

Source: kaysun.com

According to a recent study, about half of industrial buyers make decisions about adding suppliers in less than 30 days. In that time they vet an average of five suppliers, evaluating each on criteria including market presence, brand strength, and reputation. The most heavily weighted criterion, however, is delivery performance.

Why the focus on On-Time Delivery (OTD)?

How well or how poorly a supplier is measured by this key performance indicator usually reflects their grasp on materials handling and production processes. Inefficiencies have ripple effects within the supply chain and manufacturer relationships. Instead of being known for delivering what's needed when it's needed, manufacturers dealing with poor supplier OTD could be routinely navigating delays, absorbing otherwise unnecessary costs like expedited shipping, losing time to market, and inevitably managing customer complaints. Poor OTD could ultimately mean losing customers.

Building Strategic Relationships

Viewed from that perspective, it's easy to understand why industrial buyers seek out suppliers — including injection molders — with excellent, established OTD track records with which to build strategic supply chain relationships that:

- **Consistently measure up:** Manufacturers have largely adopted the use of supplier scorecards to better understand supplier OTD and how they measure up against expectations. This apples-to-apples comparison gives industrial buyers objective insight into which suppliers consistently score well and earn business, as well as those supplier relationships that may require reevaluation.
- **Minimize unpredictability:** Suppliers that regularly and clearly communicate, and have proven processes in place for reliable outcomes reinforce trustworthiness. Manufacturers that are in the loop with suppliers can confidently commit to delivery schedules.
- **Add value:** OTD is just one facet of a trusted supplier relationship. Suppliers that can engage in larger conversations about high-productivity solutions — such as Design for Manufacturability (DfM) in the case of injection molders — do more than instill confidence in manufacturers. These suppliers add true value to the relationship that strengthens trust, grows business, and drives profits.

IEMs signed in the Plastics segment during July 2019

IEM No.	Company Name	State	Item of manufacture
1463	U M Cables Limited	Andhra Pradesh	FRP products
1448	Parikh Flexibles Private Limited	Gujarat	Flexible printed & laminated plastic film
1416	Nayara Energy Limited	Gujarat	Polypropylene
1443	Huhtamaki PPL Limited	Himachal Pradesh	Packaging material
1591	Jabalpur Polytex Private Limited	Madhya Pradesh	HDPE/PP woven bags
1562	Kohinoor Ropes Private Limited	Maharashtra	Cordage and nets
1486	GMLR Techno Industries Private Limited	Odisha	PVC water storage tanks
1561	Frystal PET Private Limited	Rajasthan	PET preforms
1482	Merino Industries Limited	Uttar Pradesh	Decorative laminates
1549	Prakash Pipes Limited	Uttarakhand	PVC pipes and fittings
1485	Jyothy Labs Limited	Dadra & Nagar Haveli	Plastic containers, caps and closures
1442	Huhtamaki PPL Limited	Daman & Diu	Packaging material

Business Inquiries

Name	: Julia Pichugina
Company	: Polyform Group
Address	: Komsomolskaya str., 116l, 601900, Kovrov, Russia
Email	: pichuginays@gk-gw.ru
Contact	: +7 9101739952
Enquiry	: Buyer is interested in importing Polypropylene and polyethylene from India.

Name	: Trevor C Day
Company	: Michael Day Enterprises, LLC
Address	: 9774 Trease Rd, Wadsworth, Ohio, 44281, United States
Email	: tday@mday-llc.com
Contact	: +1 3303313129
Enquiry	: Buyer is interested in importing plastics raw materials from India.

Name	: Ing. Michele Busato
Company	: Arcopolimeri SRL
Address	: Via Galileo Galilei, 10/12 35012 Camposampiero, Padova, Italy
Email	: michelebusato@arcopolimeri.com
Contact	: +39 3346646893
Enquiry	: Buyer is interested in importing plastics raw materials from India.

Name	: Shunsuke Kobayashi
Company	: Daisaku Co. Ltd
Address	: 1-39-6, Ayase, Adachi-Ku, Tokyo, Japan
Email	: export@daisakutrading.com
Contact	: +81 356296768
Enquiry	: Buyer is interested in importing FIBC (HS code 630532) from India.

Name	: Hidenori Onodera
Company	: Honda Trading
Address	: Tang 8, Toa nha Mat troi song Hong, So 23 Phan Chu Trinh, Hanoi, Viet Nam
Email	: hidenori-onodera@hondatrading.com.vn
Contact	: +84 936567780
Enquiry	: Buyer is interested in importing plastics raw materials from India.

Name	: Nguyen Tan Thong
Company	: Namdan Ever Growing
Address	: 11 Le Binh St, W.4, D.Tan Binh, HCMC, Viet Nam
Email	: tanthong@namdan.com.vn
Contact	: +84 977778177
Enquiry	: Buyer is interested in importing masterbatches from India.

Name	: Duong Thi Thanh Thuy
Company	: Trieu Du Bon Plastics Production Co. Ltd
Address	: Lot 15-17, No. 1 Street, Tan Tao Industrial Zone, Binh Tan, Ho Chi Minh City, Viet Nam
Email	: thuygl1202@gmail.com
Contact	: +84 961666638
Enquiry	: Buyer is interested in importing plastics raw materials and plastic pipes.

Name	: Cindy
Company	: Perchem Vietnam Co. Ltd
Address	: 75/5 Nguyen Cuu Van Street, Ward 17, Binh Thanh District, Ho Chi Minh City, Viet Nam
Email	: pcsupervisor@perchemvn.com
Contact	: +84 909803849
Enquiry	: Buyer is interested in importing Black Masterbatches from India.

Name	: Simon Boakye
Company	: Simb Fabrics Designing & Trading Enterprise
Address	: PO Box 9226, Kumasi, Ghana
Email	: simbgh80@yahoo.com
Contact	: +233 272114352
Enquiry	: Buyer is interested in importing PVC floorcoverings from India.

Name	: Benjamin Osei Tutu
Company	: Standard Logistics Solutions Company Limited
Address	: PO Box 112, Accra, Ghana
Email	: standardlogscoltd@gmail.com
Contact	: +233 244816344
Enquiry	: Buyer is interested in importing kitchenware items of plastics from India.

Name	: Michael Asare Asiedu
Company	: KS Tech Solutions Limited
Address	: PO Box 87, Akropong, Koforidua, Ghana
Email	: kstechsolutionsltd@gmail.com
Contact	: +233 544064797
Enquiry	: Buyer is interested in importing writing pens from India.

Name	: Bridget Prempeh
Company	: Freddy Bebeto Enterprise
Address	: PO Box 158, Adum, Kumasi, Ghana
Email	: freddybebetoent@gmail.com
Contact	: +233 242703943
Enquiry	: Buyer is interested in importing floorcoverings from India.

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
- Listing in PLEXCONCIL member's directory

The Plastics Export Promotion Council added the following companies/firms as new members during September 2019. We would like to welcome them aboard!

S. No.	Company Name	Communication Address	Director	Email
1	GOLDCOIN POLYPLAST	SURVEY NO.37, 8-B NATIONAL HIGHWAY BEHIND GANGA FORGING, SHAPAR - VERAVAL RAJKOT360024	LALITBHAI G PANSURIYA	info@goldcoin-polyplast.com
2	VIKRANT EX-TRUSIONS	UNIT 1-2, 4TH FLOOR, TRADE WORLD, B WING, KAMLA MILLS COM-POUND, SENAPATI BAPAT MARG, LOWER PAREL MUMBAI 400013	VIJAY KUMAR SARAOGI	ravi@shalimar-pack.com
3	MARUTI ROPES INDIA PRIVATE LIMITED	3870, BHAVANI PETH, BARSHI, SOLAPUR 413401	SHREYAS M CHANDAK	shreyas@marutiropes.com
4	SS MACHIN-ERIES	PLOT NO 54 MELDI ESTATE NEAR GOTA RAILWAY CROSSING GOTA AHMEDABAD - 382421	SANJAY KUMAR VERMA	sanjayverma36@hotmail.com
5	SWASTIK ENTERPRISE (PARTNERSHIP)	PLOT NO-46, ROAD NO-02 GIDC,KATHWADA, AHMEDABAD - 382430	JIMESHKUMAR P SUTHAR	svastik@yahoo.com
6	BALAJI PLASTIC FINISHING AND TRADING	S.NO. 39/1 PAIKI 1, P NO 27 TO 31 & 67, LAXMI NARAYAN NGR AT-LAKHDHIRGADH TAL TANKARA ,MORBI363650	RAVI N BODA	balajiplastic44@gmail.com
7	MD PACKAGING INDUSTRIES	6/61, WEST PUNJABI BAGH, NEW DELHI 110026	NIKHIL GUPTA	sahil@mdenter-prises.co
8	HAIR CARE CENTRE	"14/1, 1ST FLOOR, RUDRAPPA COMPOUND, H.SIDDAIAH ROAD,BAN-GLORE,560002	N. KHALLELUR REHMAN	haircareimpo-exp@yahoo.co.in
9	SHYAMALI EXPORT	"OLD NO.2. NEW NO.3. RAJARAM MEHTA NAGAR MAIN RD, METHA NAGAR,AMANJIKARAI, "CHENNAI-600029	S.SELLADURAI	shyamali_erp@shyamaliexport.in
10	FILMTEC VEN-TURES LLP	1841, KHADKI DUNGRI ROAD, TAL.-PARDI, DUNGARI, VALSAD 396185	RAJAN R DESAI	HRD@FILMTEC.IN
11	FOXTURF IN-DUSTRIES PRI-VATE LIMITED	PADMAVATHI COMPLEX, NO. 74, SULTANPET MAIN ROAD, BANGALORE - 560053	KUTTAY MALANG IM-TIYAZ IMRAN SALEEN	royal.plas@gmail.com
12	SILVER FILTRA-TION	SURVEY NO.211,PLOT NO.6, NR RAVI TECHNO FORG, ESSEN ROAD, SHAPAR VERAVAL, RAJKOT - 360024	SHARAD K ANTALA	accounts@silverfiltration.com
13	MAHESH MATS	PLOT E-87, MIDC AREA, WALUJ, AURANGABAD 431136	PAWAN BAN-SODE	maheshmats@gmail.com
14	PACHISIA MUL-TITECH PVT LIMITED	"LANGALPOTA, P.O. BISHNUPUR,RAJARHAT ROAD, RAJARHAT,24-PAR-GANAS(N), RAJARHAT - 700135	MANISH MA-HESHWARI	pachisia@ymail.com
15	HPCL MITTAL ENERGY LIM-ITED	VILLAGE PHULOKHARI TALUKA TALWANDI SABOO DISSTT. BHATINDA 151301	Mukesh Kumar Surana	partha.sanyal@hmel.in
16	WELSPUN FLOORING LIMITED	D NO.6-3-609/147/A, OPP. SRI CHAKRA APARTMENT, ANAND NAGAR COLONY KHAIRATHABAD, HYDERABAD 500004	DEVENDRA PATIL	Santhosh_Jeya-seelan@wel-spun.com
17	C.R.I PUMPS PRIVATE LIM-ITED	"7/46-1, KEERANATHAM ROAD, SARAVANAMPATTY "COIMBATORE 641035	G. SOUNDAR-ARAJAN	cri@crifluidsys-tems.com
18	SANIDHYA POLYTECH PVT LTD	PLOT NO 11-12, R.K. IND. ZONE, VILLAGE-RANPAR, TALUKA-RA-JKOT,RAJKOT360003	RAJAN R DHOL-ARIYA	sanidhyapoly-tech@gmail.com
19	EIGHTY EIGHT ENTERPRISE	"19/B, TIRRETA BAZAR STREET, KOLKATA 700073	YUNG SHEE HSIAO	yung.maxout@gmail.com

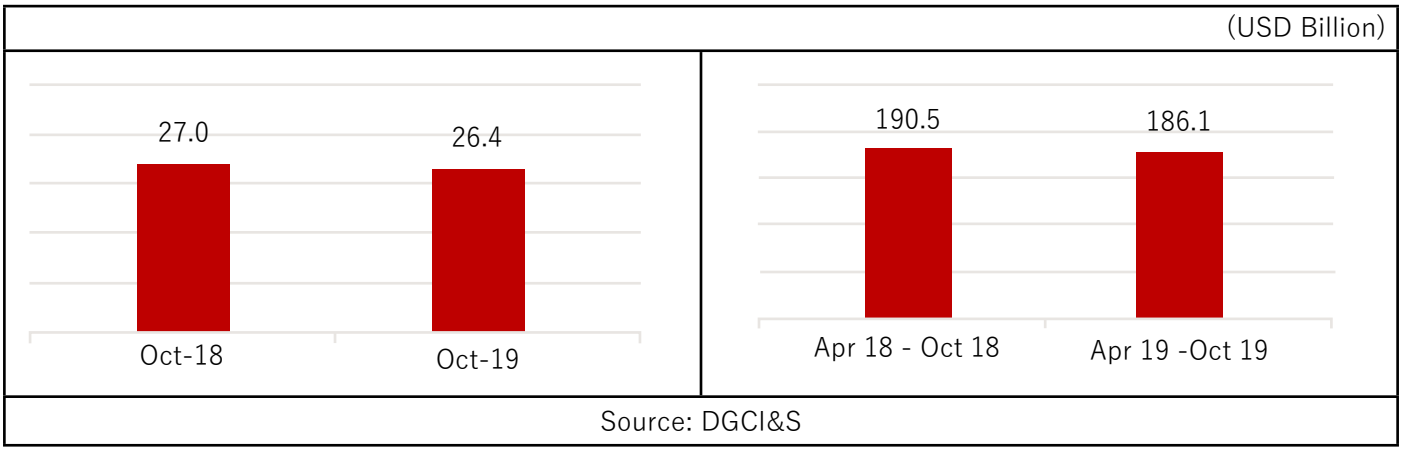
New Members

20	VIVACIOUS CONSULTANTS	D-001,STELLAR JEEVAN, GH03M SECTOR 1, NOIDA GAUTAM BUDDHA NAGAR, 201309	GAURI KEYUR SAMPAT	GAURI_SAMPAT@YAHOO.CO.IN
21	K N INDUSTRIES	PLOT NO.1 OPP. SITARAM WEIGH BRIDGE, MAMSA, TAL- GHOGHA, BHAVNAGAR 364004	DHARIT A SHAH	er.dharitshah@gmail.com
22	AMITY RESINS	206 KHARADE PREMISES CHS LTD, STATION ROAD, GOREGAON EAST, MUMBAI 400063	Jayantilal J CHHEDA	info@amityresins.com
23	KIZHAKKEVILA FISHNETS INDUSTRIES	TRA-210, WARD NO.VIII, KIZHAKKEVILA, THEVALLY ,KOLLAM (QUILON) 691009	G. BALAKRISHNA PILLAI	kizhakkevilafishnets@rediffmail.com
24	JAI SHREE STATIONERS PVT. LTD.	405, KRISHNA APRA BUSINESS SQUARE, NETAJI SUBHASH PLACE, PITAMPURA 110034	DEEPA GUPTA	del1@jsstationers.com
25	AMBAJI IMPORT PRIVATE LIMITED	PLOT NO. 220, SECTOR NO. 1A, AKSHAT HOUSE,GANDHIDHAM 370201	RAMESHCHANDRA TOSHNIWAL	ambaji.import@gmail.com
26	MANAN POLYMERS PRIVATE LIMITED	SHREESH- 80, STREET NO. 1, ADARSH NAGAR, AJMER ROAD, BEAWAR 305901	DEEPAK KUMAR JHAWAR	mananpolymers@rediffmail.com

TREND IN OVERALL EXPORTS

India reported merchandise exports of USD 26.4 billion in October 2019, down 2.1% from USD 27.0 billion in October 2018. Cumulative value of merchandise exports during April 2019 – October 2019 was USD 186.1 billion as against USD 190.5 billion during the same period last year, reflecting a decline of 2.3%.

Exhibit 1: Trend in overall merchandise exports from India

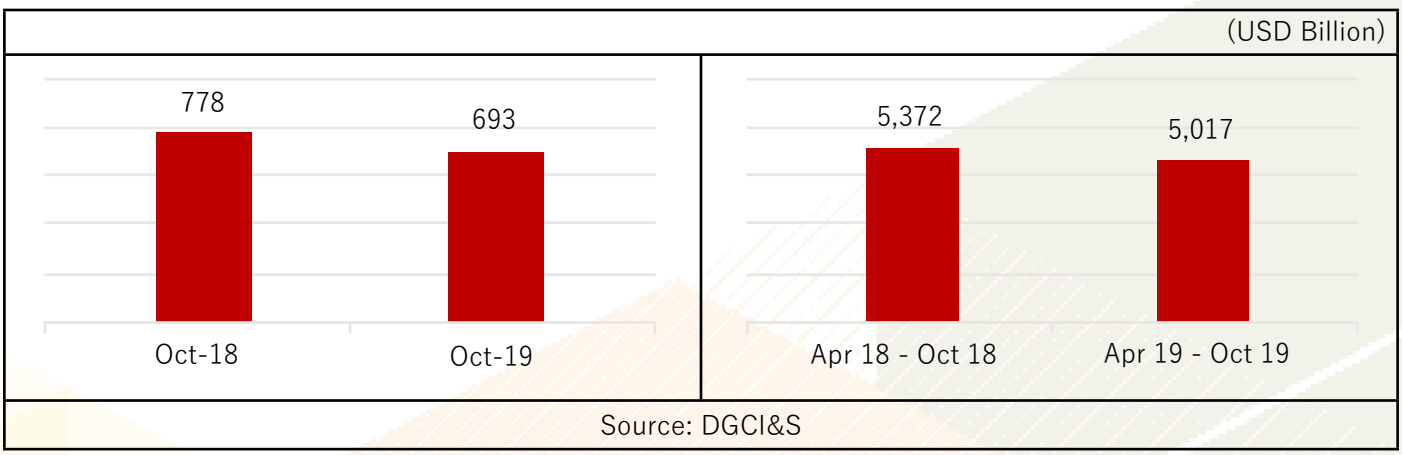


Source: DGCI&S

TREND IN PLASTICS EXPORT

During October 2019, India exported plastics worth USD 693 million, down 10.9% from USD 778 million in October 2018. Cumulative value of plastics export during April 2019 – October 2019 was USD 5,017 million as against USD 5,372 million during the same period last year, registering a negative growth of 6.6%.

Exhibit 2: Trend in plastics export by India



Source: DGCI&S

- Plastics formed 2.70% of India's overall merchandise exports in April 2019 – October 2019
- India exported plastics to 210 countries in April 2019 – October 2019
- United States, China and United Arab Emirates were the top three buyers of plastics from India in April 2019 – October 2019

Export Performance

PLASTICS EXPORT, BY PANEL

In October 2019, packaging materials witnessed year-on-year growth of 11.8%; followed by moulded & extruded goods (+8.2%); human hair, products thereof (+6.3%); stationery/office/school supply (+3.9%); and plastic sheet, film, plates (+1.3%). Product categories that reported negative growth include plastic raw materials (-26.7%); and optical items (-21.9%).

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

Panel	Oct-18	Oct-19	Growth	Apr 18-Oct 18	Apr 19-Oct 19	Growth
	(USD Mn)	(USD Mn)	(%)	(USD Mn)	(USD Mn)	(%)
Plastic raw materials	388.57	284.69	-26.7%	2,624.04	2,088.96	-20.4%
Plastic sheet, film, plates etc	122.40	124.02	1.3%	855.46	879.44	2.8%
Moulded & extruded goods	92.22	99.82	8.2%	644.10	734.44	14.0%
Packaging materials	70.28	78.59	11.8%	489.14	504.88	3.2%
Optical items (incl. lens etc)	37.73	29.48	-21.9%	276.94	261.20	-5.7%
Other plastic items	29.14	36.98	26.9%	212.57	258.75	21.7%
Stationery/Office/School Supply	18.26	18.98	3.9%	143.55	136.70	-4.8%
Human hair, products thereof	19.43	20.65	6.3%	126.49	152.38	20.5%
	778.02	693.21	-10.9%	5,372.28	5,016.76	-6.6%

Note: Plastics are segregated under eight panels by DGCI&S
Source: DGCI&S

PLASTICS EXPORT, BY REGION

India's plastics export in October 2019 was positive in three territories including Commonwealth of Independent States (+42.7%); North America (+4.5%); and Africa (+1.6%). Export growth was negative in Latin America & Caribbean (-29.5%); European Union (-22.5%); North-East Asia (-15.3%); South Asia (-14.3%); Middle East (-11.3%) and ASEAN + 2 (-4.4%).

Exhibit 4: Region-wise trend in plastics export by India

Region	Oct-18	Oct-19	Growth	Apr 18-Oct 18	Apr 19-Oct 19	Growth
	(USD Mn)	(USD Mn)	(%)	(USD Mn)	(USD Mn)	(%)
European Union (EU)	156.16	121.00	-22.5%	1,074.56	968.68	-9.9%
Middle East	115.40	102.34	-11.3%	826.69	782.13	-5.4%
North-East Asia	131.55	111.39	-15.3%	789.88	762.79	-3.4%
North America	102.00	106.56	4.5%	720.56	793.98	10.2%
Africa	87.18	88.61	1.6%	656.37	613.63	-6.5%
South Asia	70.34	60.25	-14.3%	497.31	445.47	-10.4%
ASEAN + 2	62.84	60.07	-4.4%	431.46	358.30	-17.0%
Latin America & Caribbean (LAC)	42.16	29.70	-29.5%	296.20	208.90	-29.5%
CIS	7.26	10.36	42.7%	53.49	64.56	20.7%
Others	3.14	2.94	-6.4%	25.75	18.31	-28.9%
	778.02	693.21	-10.9%	5,372.28	5,016.76	-6.6%

Source: DGCI&S

PLASTICS EXPORT, BY DESTINATION COUNTRY

During October 2019, six out of the top 25 destination countries recorded year-on-year growth in plastics export from India. Exports to Saudi Arabia witnessed a high growth rate of 58.3% during the period.

On a cumulative basis, during April 2019 – October 2019, seven out of the top 25 destination countries recorded year-on-year growth in plastics export from India. Exports to Saudi Arabia and South Africa, witnessed high growth rates ranging between 30-35%, during the above period.

Exhibit 5: Top 25 destinations of plastics exported by India

Country	Oct-18	Oct-19	Growth	Apr 18-Oct 18	Apr 19-Oct 19	Growth
	(USD Mn)	(USD Mn)	(%)	(USD Mn)	(USD Mn)	(%)
China	109.81	91.91	-16.3%	647.59	624.61	-3.5%
United States	79.45	88.54	11.4%	579.61	657.60	13.5%
United Arab Emirates	36.34	34.58	-4.9%	259.48	269.53	3.9%
Italy	38.15	21.72	-43.1%	225.67	166.49	-26.2%
Germany	24.98	20.28	-18.8%	187.52	173.75	-7.3%
Bangladesh	28.74	26.02	-9.4%	198.22	165.68	-16.4%
Turkey	20.53	13.64	-33.6%	167.46	123.18	-26.4%
United Kingdom	23.61	21.15	-10.4%	151.89	155.53	2.4%
Nepal	18.78	16.33	-13.1%	135.76	147.33	8.5%
Vietnam	15.41	14.86	-3.6%	120.86	83.80	-30.7%
France	16.82	9.37	-44.3%	108.85	98.46	-9.5%
Indonesia	20.40	10.25	-49.8%	107.76	61.14	-43.3%
Egypt	18.01	7.28	-59.6%	101.22	58.82	-41.9%
Belgium	10.29	7.92	-23.0%	77.09	66.28	-14.0%
Japan	13.51	9.92	-26.6%	81.62	65.66	-19.6%
Nigeria	11.77	13.62	15.7%	94.56	70.06	-25.9%
Pakistan	8.86	0.09	-98.9%	70.43	41.18	-41.5%
South Africa	9.37	8.95	-4.5%	65.79	86.43	31.4%
Israel	11.14	11.93	7.0%	75.13	67.73	-9.8%
Mexico	11.73	6.32	-46.1%	78.23	63.15	-19.3%
Kenya	8.30	8.36	0.7%	73.62	73.19	-0.6%
Spain	8.54	7.67	-10.3%	70.77	63.77	-9.9%
Sri Lanka	11.43	9.98	-12.7%	70.13	59.50	-15.2%
Canada	10.82	11.70	8.2%	62.73	73.22	16.7%
Saudi Arabia	6.39	10.12	58.3%	52.56	70.16	33.5%

Note: Top 25 destinations based on 2018-19 plastic exports by India
Source: DGCI&S

India exported plastics to 186 countries in September 2019 as compared to 184 countries in September 2018.

Exhibit 6: Panels with details of % growth seen in top 10 export destinations

Panel	Country	Apr 18-Oct 18 (USD Mn)	Apr 19-Oct 19 (USD Mn)	Growth (%)
Plastic raw materials	China	533.46	475.87	-10.8%
	Italy	158.90	96.94	-39.0%
	Turkey	144.13	105.94	-26.5%
	Bangladesh	140.74	108.93	-22.6%
	United Arab Emirates	123.73	100.24	-19.0%
	United States	103.65	80.23	-22.6%
	Vietnam	106.29	70.55	-33.6%
	Nepal	82.85	91.05	9.9%
	Indonesia	86.63	39.56	-54.3%
	Pakistan	64.70	37.93	-41.4%
Plastic sheet, film, plates etc	United States	131.32	159.64	21.6%
	United Arab Emirates	35.28	37.87	7.3%
	Germany	43.02	40.83	-5.1%
	South Africa	38.72	40.75	5.3%
	Nigeria	41.38	21.18	-48.8%
	Italy	30.86	28.28	-8.4%
	United Kingdom	28.41	34.03	19.8%
	Bangladesh	27.71	20.53	-25.9%
	Mexico	28.16	22.19	-21.2%
	Spain	21.47	22.19	3.3%
Moulded & extruded goods	United States	145.32	207.41	42.7%
	United Arab Emirates	39.83	58.15	46.0%
	United Kingdom	32.95	34.00	3.2%
	Germany	31.72	29.04	-8.4%
	Canada	28.39	37.96	33.7%
	Sri Lanka	15.25	8.01	-47.5%
	Spain	13.55	11.46	-15.5%
	Nigeria	11.29	12.50	10.7%
	Saudi Arabia	8.85	13.64	54.2%
	Brazil	10.72	14.46	34.8%
Packaging materials	United States	91.99	107.96	17.4%
	United Kingdom	41.35	37.55	-9.2%
	United Arab Emirates	24.79	29.21	17.8%
	Netherland	19.02	17.27	-9.2%
	Germany	14.83	11.72	-21.0%
	Belgium	13.52	5.55	-59.0%
	France	11.91	10.59	-11.1%
	Spain	10.63	10.59	-0.5%
	Djibouti	9.27	9.01	-2.8%
	Nepal	9.05	7.98	-11.8%

Note: Top 10 destinations based on India's 2018-19 exports under the eight plastic product panels
Source: DGCI&S

Panel	Country	Apr 18-Oct 18 (USD Mn)	Apr 19-Oct 19 (USD Mn)	Growth (%)
Optical items (incl. lens etc)	France	68.20	65.87	-3.4%
	Germany	29.37	27.38	-6.8%
	United Kingdom	24.56	23.83	-3.0%
	United States	16.93	6.48	-61.7%
	United Arab Emirates	7.34	11.70	59.4%
	Netherland	11.72	13.20	12.6%
	Poland	10.14	11.85	16.8%
	Italy	7.42	14.02	88.9%
	Russia	6.54	5.91	-9.5%
	Israel	4.98	4.92	-1.2%
Other plastic items	United States	48.63	53.25	9.5%
	Belgium	20.77	14.88	-28.3%
	United Arab Emirates	17.54	23.24	32.5%
	South Africa	5.72	19.64	243.1%
	United Kingdom	6.49	10.02	54.4%
	Italy	7.86	9.40	19.5%
	Germany	6.91	9.35	35.3%
	Poland	4.60	5.31	15.4%
	Nepal	5.69	5.55	-2.5%
	Saudi Arabia	4.80	5.78	20.3%
Human hair, products thereof	China	69.24	101.92	47.2%
	Myanmar	14.16	5.41	-61.8%
	United States	8.91	9.15	2.7%
	Tunisia	6.15	8.25	34.2%
	Hong Kong	5.25	7.16	36.5%
	Bangladesh	3.36	4.33	28.8%
	United Arab Emirates	3.25	2.19	-32.8%
	Vietnam	1.87	2.23	19.1%
	Indonesia	2.23	1.45	-34.8%
	Italy	2.24	1.59	-29.2%
Stationery/Office/School Supply	United States	32.87	33.48	1.9%
	United Arab Emirates	7.71	6.93	-10.0%
	United Kingdom	8.65	6.71	-22.4%
	Thailand	6.92	5.88	-15.1%
	Algeria	3.49	4.51	29.2%
	Bangladesh	3.43	4.18	22.0%
	Germany	3.74	3.15	-15.6%
	Mexico	2.96	1.97	-33.3%
	Latvia	3.14	1.57	-50.1%
	Nepal	3.23	2.86	-11.6%

Note: Top 10 destinations based on India's 2018-19 exports under the eight plastic product panels
Source: DGCI&S

Export Performance

ANNEXURE-I

Trend in overall exports by India

Month	2018-19	2019-20	Growth
	(USD Bn)	(USD Bn)	(%)
April	25.95	26.07	0.5%
May	28.78	30.01	4.3%
June	27.15	25.01	-7.9%
July	25.89	26.32	1.7%
August	27.87	26.13	-6.3%
September	27.90	26.11	-6.4%
October	26.98	26.43	-2.1%
	190.52	186.08	-2.3%

Source: DGCI&S

ANNEXURE-II

Trend in plastics export by India

Month	2018-19	2019-20	Growth
	(USD Mn)	(USD Mn)	(%)
April	742.66	702.53	-5.4%
May	741.65	830.55	12.0%
June	769.08	732.57	-4.7%
July	730.46	709.33	-2.9%
August	830.05	699.40	-15.7%
September	780.35	649.17	-16.8%
October	778.02	693.21	-10.9%
	5,372.28	5,016.76	-6.6%

Source: DGCI&S

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Chinaplas® 2020 国际橡塑展

The 34th International Exhibition on Plastics and Rubber Industries

Smart Manufacturing · Innovative Materials · Green & Circular Solutions

@ The World's Leading Plastics & Rubber Trade Fair

2020.4.21-24

National Exhibition and Convention Center, Hongqiao, Shanghai, PR China

www.ChinaplasOnline.com

ORGANIZER

ADSALE 雅式®

ufi Member

CO-ORGANIZER

Messe Düsseldorf China

India participation at Chinaplas by PLEXCONCIL-
The Plastics Export Promotion Council (since 2013)

PLEXCONCIL

Grand Event for the Industry

Estimated Figures

- Exhibition Area (square metres) **340,000**
- No. of Visitors **180,000+** from 150 countries and regions
- **3,800+** Machine Exhibits
- No. of Exhibitors **3,900+** from 40 countries and regions
- **1,100+** Material Suppliers
- **180+** First-launched Technologies

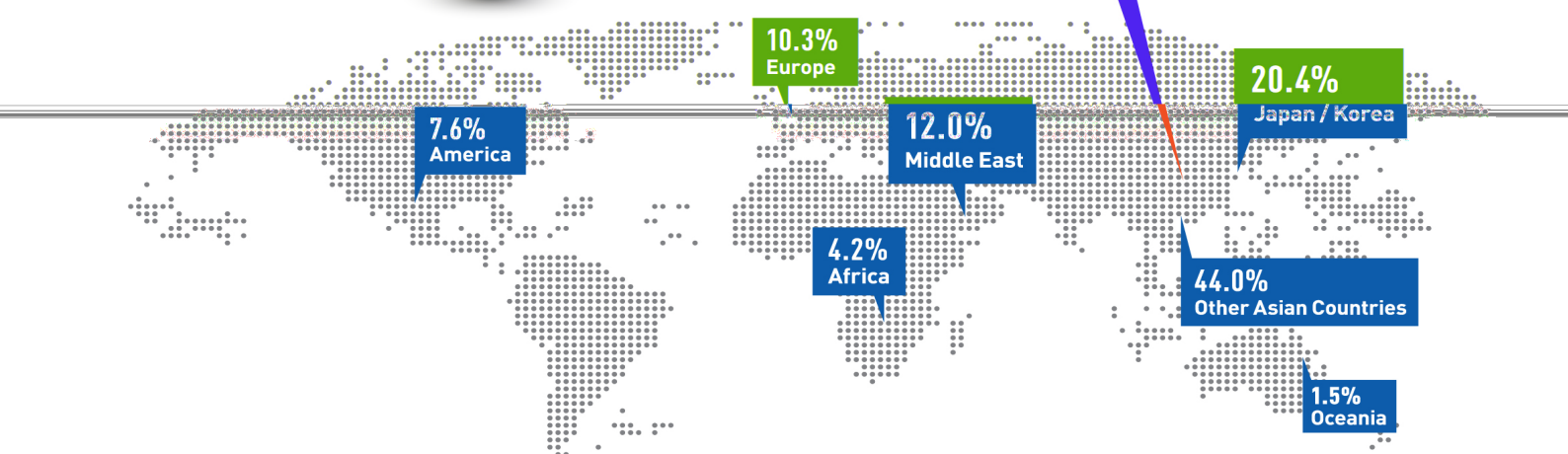
Your Potential Clients

CHINAPLAS 2018 (Shanghai) Show Figures

24% OVERSEAS

76% CHINA

- 41.6% Eastern China
- 12.6% Southern China
- 9.3% Central China / Southwest China / Northwest China
- 10.0% Northern China / Northeast China
- 2.5% Hong Kong SAR / Macau SAR / Taiwan



For stall booking please contact at bharti@plexconcil.org or call **+91 22 26833951/52**