

PLEXCONCIL - The Plastics Export Promotion Council

PLEXCONNECT[®]

Edition 21, March 2021

Finance Bill 2021

**Special Focus –
PCPIR, Barmer**

**FRP in Infrastructure –
Present & Future Utilization**

Countryside – Qatar



THE PLASTICS EXPORT
PROMOTION COUNCIL



THE PLASTICS EXPORT
PROMOTION COUNCIL



1955-2020
Empowering Lives through Plastics

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PLEXCONCIL - The Plastics Export Promotion Council

PLEXCONNECTION[®] 2021
VIRTUAL BSM

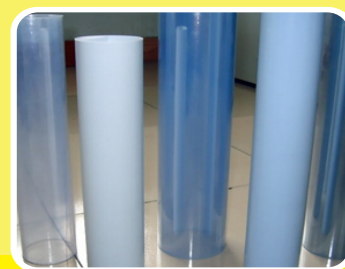


EMBASSY OF INDIA
SEOUL, REPUBLIC OF KOREA



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TO MEET INDIAN EXPORTERS VIRTUALLY



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- Flexible Intermediate Bulk Containers (FIBC)
- Human Hair & Hair Products
- Rigid Packaging & PET Preforms
- Polyester Films
- Consumer & Houseware
- FRP Products
- Other articles of plastics and articles of other materials, not elsewhere specified
- Other footwear with outer soles and uppers of rubber or plastics

Great opportunity to meet reputed and dependable manufacturers virtually to expand your suppliers for these products from India.

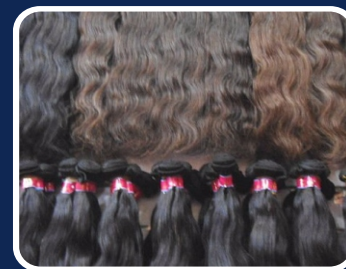
PLEXCONCIL supported by the Embassy of India, Seoul, Republic of Korea is organizing the first of its kind Virtual BSM to promote the Plastics & Polymer Industry in Korea on

26th MARCH 2021

REGISTER



Please register in the link for have one-to-one meeting with the Indian Companies.



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"If exports are the lifeline of an economy, shipping containers are the lifeline of exports". The pandemic induced stuttering economies of the past months has prompted not just a steep reduction in both imports and exports but moreover, the resultant huge imbalance that has majorly hit the availability of containers for exports. This global phenomenon has impacted India more simply because the Indian economy has rebounded on the path to recovery faster. More than 90 percent of India's trade by volume and 75 percent by value of India's trade moves by sea; a large percentage by containers. Containerised imports have seen a sharp decline since July-August 2021. Scheduled vessels have been cancelled because of the shortage of container freight.

Exporters saw at least 3-fold increase in not just costs but shipping timelines as well which is a burden that the industry can ill-afford. Post a meeting between industry bodies and the Govt in December, while problems at Western ports have been eased, the Eastern coast continues to face severe shortage. Our Hon'ble CIM Shri Piyush Goyal ji very proactively decided during a video conferencing meeting with EPC's for free movement of empties from ports to LCD's and vice versa. A few months ago, all councils also raised the issue and a request was made for ports to reduce port handling charges for empties.

Having said that, while the problem relating to container shortage should ease only by mid-2021 with the balancing of trade, the larger issue of support to exporters needs to be addressed. More so since the MEIS has been terminated and the Remission of Duties & other Taxes on Exported Products (RoDTEP) rates yet to be announced. At a recently held stakeholder's consultation meeting on the new Foreign Trade Policy that was attended by Shri. Hardeep S Puri, Hon'ble MoS Commerce & Industry, along with CS, DGFT, MoC and other EPCs and trade bodies, Plexconcil addressed these issues and made numerous suggestions for consideration in the framing of the new FTP, especially regarding simplifying of procedures under Advance Authorisation scheme. We hope that our suggestions are considered and accommodated as in the long run, our FTPs need to

be more export oriented than import focused if we are to reach our export target of USD 1 Trillion by 2025.

As we enter the end of FY 2020-21, we bring you some updates on the Finance Bill 2021 as well as interesting read on various topics concerning the industry. In this issue we have also highlighted the Rajasthan's Govt Petroleum, Chemicals & Petro-chemicals Investment Region (PCPIR) in the vicinity of the upcoming Refinery cum Petrochemical Complex in the Barmer District. The project is being set up by HPCL Rajasthan Refinery Limited (HRRL) and is integral to efforts towards resolving the long-standing demand for enhanced raw material manufacturing to meet the increased demand and bring some reprieve to the constant price volatility faced by the industry.

FIBC Exports hit an all time high in January 2021 with USD 78.0 million in Exports! Nine panels have registered positive growth. During January 2021, India exported plastics worth USD 880 million, up 12.2% from USD 784 million in January 2020. However, cumulative value of plastics export during April 2020 – January 2021 was USD 7,987 million as against USD 8,514 million during the same period last year, registering a negative growth of 6.2%.

As always, we bring you a selection of news, updates, information, perspectives and more in this issue. We do hope you enjoy the read and look forward to receiving your valuable feedback.

Until then, stay safe and healthy.

Warm regards,

Arvind Goenka
Chairman

Date: 04-01-2021

Region: South

Meeting with General Manager's of all District Industries Centre (DIC)-Govt. of TN in Tamil Nadu with regard to Plastic Exports and its procedures jointly organised by Zonal DGFT-Chennai and M-TIPB, Govt. of Tamil Nadu on 04th January 2021, Chennai (VC Meeting):

Plexconcil, Southern Region on invitation from Zonal Additional Directorate General of Foreign Trade (ZADG-FT), Chennai and M-TIPB (MSME Trade and Investment Promotion Bureau), Department of MSME, Govt. of Tamil Nadu made a detailed presentation on Export Procedures with regard to Plastic Exports from Tamil Nadu to the General Managers/ Assistant Engineers of all the District Industries Centre's (DIC) in Tamil Nadu.

The aim of the meeting is to make the Nodal Officers in each DIC (District Industries Centre) aware of the following:

- Documentation procedures involved in export/ import
- Schemes/ Incentives/ Support offered by various departments for export/import
- Important rules and regulations or Global Standards/ Certifications involved in the process of imports/ exports

The presentation was made by Mr. Ruban Hobday, Regional Director-SR which was well received by the DIC officials, Govt. of TN.

Date: 05-01-2021

Region: South

Meeting with the High Commission of India, Singapore, and Singapore Chinese Chamber of Commerce & Industry on 5th January 2021 at 12.30 IST through VC:

A meeting was organized by Plexconcil through the High Commission of India, Singapore with the Singapore Chinese Chamber of Commerce & Industry to seek the support of the Chamber in organizing the PLEXCONNECT 2021 – VIRTUAL BSM during March 2021.

Chairman Mr. Arvind Goenka, Plexconcil proposed the Welcome Remarks mentioning India's closer tie-up with Singapore in many ways. He emphasized the need for the Chamber to find out the buyers/traders from the Plastic Industry for the proposed event.

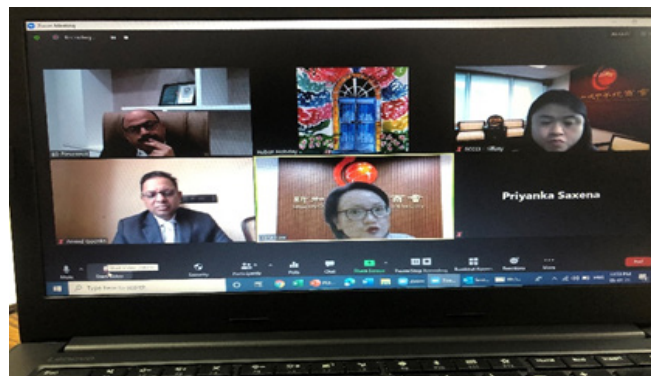
Mr. Sribash Mahapatra, Executive Director, Plexconcil made a brief presentation on the Indian Plastics Industry which was well appreciated by the Chamber Officials that it covered all the areas of the Industry. **Mr. Ruban Hobday, Regional Director, South** proposed the vote of thanks. **Ms. Priyanaka Saxena, Executive, the High Commission of India, Singapore** was present during the meeting.

The Chamber was represented by **Mr. Irene Low, Assistant General Secretary, and Ms. Tiffany Shai, Sr. Manager, International Relations.**

Ms. Low said that India has always been a good partner for Singapore and that the Chamber was very glad to partner with Plexconcil and would provide all the support for the proposed PLEXCONNECT 2021 – VIRTUAL BSM. She believed that, though the export from India of plastics and plastics products are less the industry in Singapore may not be aware of the opportunities available from India. She said that the Singapore companies should look for a wider base of sourcing and that India would be their perfect choice. She mentioned that the Indian manufacturers should be consistent in their quality which would be an important factor to work with companies in Singapore.

The following points were finalized which needs to be followed up:

1. Plexconcil to send a list of potential products which may be whetted with the Plastic Industry at Singapore and then to decide on the date to hold the event.
2. Plexconcil to send out top companies CEO/Managing Director so that they might be invited by the SCCCI to their virtual events for more linkage between the Indian Businessmen and their counterparts in Singapore.
3. SCCCI to come back with more details on the potential products after discussion with other stakeholders through their contacts especially the Singapore Plastics Associations.
4. SCCCI to send a proposal on hosting the Virtual BSM through their portal/chat rooms and the commercials for it.



Date: 05-01-2021

Region: North

Meeting organised by MEA for an interaction with senior officers from States/Union Territories dealing with trade and industry:

The interaction was as part of a training programme for these senior officers, with a view to make them familiar with the role and functioning of EPCs. Senior officers from the States of Kerala, Assam, Haryana, Himachal Pradesh, Maharashtra, J&K, Madhya Pradesh, Odisha and Telengana, participated in the meeting, held at the Sushma Swaraj Institute of Foreign Service (SSIFS), New Delhi. While briefing the senior officers about the role and functioning of Plexconcil, a request was made to them to share their database of plastic processors in their States, so we could reach out to them and encourage them to enter exports. The senior officers were also requested to partner with our Council for webinars which could be held to highlight the export promotion policies of each State and also to inform about the plans to promote various districts in their State as an export hub, as per the policy of the Government in this regard. J&K was particularly requested to inform about plastic processors in their State, so we could involve them in our export promotion activities, keeping in mind the recent emphasis by the Government in this regard.

Date: 06-01-2021

Region: West (Ahmedabad)

Gujarat Regional Committee - 2nd Meeting

The 2nd Meeting of Regional Committee of Gujarat was held virtually on 6th January, 2021 (Wednesday). Export promotion activities being undertaken by council were discussed during the meeting. Export related concerns from Gujarat region were also discussed during the meeting. Deliberations were also made regarding increasing engagement with various plastic associations, area wise association and non-members from Gujarat region.

Date: 22-01-2021

Region: North

Regional Committee Meeting (Northern Region) and meeting with the Youth Committee members (Northern region) held through Video Conference, to discuss issues related to exports:

1. Review of Export Performance of the major product categories exported from North India.
2. Discussion on issues faced by plastic processing units in the Northern Region
3. Discussion on issues to be taken up with State Governments in the Northern Region.
4. Discussion on increasing the Membership base of the Council in the Northern Region.
5. Suggestions on any other suitable activity that could be taken up for the benefit of members in the Northern region under the current circumstances.

6. Members Present:

Mr. Vikram Bhadauria, Regional Chairman (North).
Mr. Manoj Agarwal, M/s Kanpur Plastipack Ltd., Kanpur
Mr. Pranay Kumar, M/s Vasudha Ecofriends, New Delhi
Mr. Shivam Bansal, M/s JJ Plastalloy, Varanasi.

Youth Committee Members Present:

Mr. Anil Bansal, M/s Rama sacks N Bags, Panipat
Mr. Sushant Gupta, M/s Azuka Ropes, Panchkula, Haryana
Mr. Mayank Goenka, M/s RMG Polyvinyl India Ltd., Ghaziabad, U.P.
Mr. Manoj Verma, M/s Royal Plastocraft, Bahadurgarh, Haryana

Date: 22-01-2021

Region: R.O. Kolkata

Meeting / Event Particulars: Visit to the O/o Kolkata Customs(SIB), (Kolkata Airport)

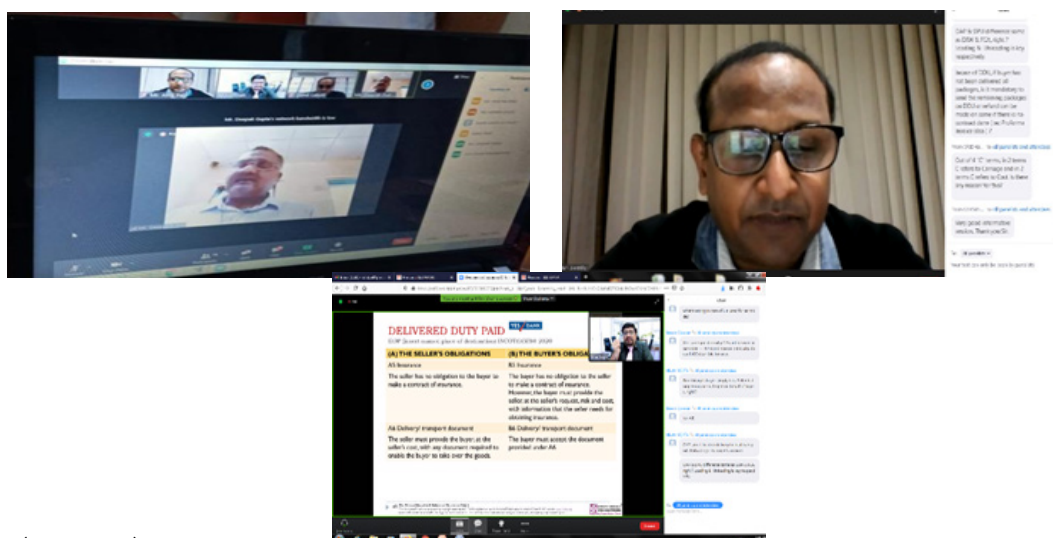
The Council have been pursuing with the Government to restrict Raw Human hair export in order to save the future of the Industry. In this connection, RD visited O/o Kolkata Customs(SIB), Kolkata Airport in order to facilitate value added Human Hair Exports through Kolkata Airport.

Date: 29-1-2021

Region: R.O. Kolkata

Meeting / Event Particulars: WEBINR on Incoterms(R) Rules and Update on Incoterms(R) 2020

PLEXCONCIL jointly with CHEMEXCIL & Yes Bank organised the above webinr. Mr Amit Pal, COA Member moderated the session. Mr Mihir Shah a trainer on International Trade made a detail presentation on Incoterms rules and updates. Mr Sumit Lahoti, Regional Business Head(Eastern Region), Yes Bank made a presentation on YES MSME Scheme.



Region: H.O. (Mumbai)

Sr. No.	Date	Name of Event	Associated	Type	Region
1	13th January 2021	Webinar on Future of International Trade 2021 Challenges, Opportunities & Transformation	Mr. Sudhakar Kasture	Webinar	HO
2.	19th January 2021	Webinar on Boosting Exports of Indian Plastics Industry	AIPMA	Webinar	HO
3.	19 – 23 Janaury 2021	Stall at Plastiworld 2021 – Virtual Exhibition	AIPMA	Virtual Expo	HO

WEST

- Representation to Chairman of Central Board of Indirect Taxes and Customs, New Delhi regarding exporters grievances with regard to Remission of Duties or Taxes on Export Product (RoDTEP) scheme.
- Representation to Icegate regarding non receipt of GST refund of M/s. Anjani Closures Private Limited., Gujarat.
- Representation to GSTIN regarding non receipt of GST of M/s. Sangir Plastics Pvt. Ltd., Maharashtra.
- Submission of RoDTEP data of members of The Plastics Export Promotion Council to RoDTEP committee.
- Representation to Icegate regarding non receipt of IGST refund of M/s. Dhvani Polyprints Pvt. Ltd., Maharashtra.
- Representation to Embassy of India, Jakarta regarding request for calling goods back to India by Exporter M/s. Unik Polypack, Maharashtra.
- Representation to Chairman of Central Board of Indirect Taxes and Customs, New Delhi regarding Polyester Film industry Association grievances with regard to Remission of Duties or Taxes on Export Product (RoDTEP) scheme.

EAST

- Representation made to the Principal Commissioner, Kolkata Customs (Airport) regarding export shipment of M/s SONALI INTERNATIONAL TRADING PVT LTD., Kolkata. (a member of our Council)
- Representation made to the AC, Kolkata Customs (Airport) regarding export shipment of human hair of M/s MM Enterprises, Kolkata (a member of our Council) through Kolkata airport.



Finance Bill 2021- Implications on Plastics Exports

The Finance Bill, 2021 announced in the Lok Sabha on 1st February, 2021 proposed many changes in Customs, Central Excise, GST law and rates. A number of proposals for amendment in certain GST rules were also proposed by the Finance Ministry with the aim to make the GST regime simpler and more beneficial for taxpayers and also to increase the GST revenue of the government. Changes have also been made to the Customs Act mainly for enhanced trade facilitation.

To prescribe effective rates of duty, following notifications were issued:

	Notification Nos.	Date
Customs (Tariff)	02/2021-Customs to 15/2021-Customs https://www.cbic.gov.in/Customs-Notifications	1st February, 2021
Customs (Non-Tariff)	10/2021-Customs (N.T) to 12/2021-Customs (N.T) https://www.cbic.gov.in/Customs-Notifications	1st February, 2021
Customs (ADD)	05/2021-Customs (ADD) to 07/2021-Customs (ADD) https://www.cbic.gov.in/Customs-Notifications	1st February, 2021
Customs (CVD)	01/2021-Customs (CVD) to 02/2021-Customs (CVD) https://www.cbic.gov.in/Customs-Notifications	1st February, 2021

A Few Important changes in respect of Customs and Central Excise duty (including cesses) are as detailed below.

Chapter 39

1. BCD on all goods falling under tariff heading 3925 (Builder's ware of plastics, not elsewhere specified or included) is being increased from 10% to 15% by increasing the tariff rate [Clause 95 (i) of the Finance Bill, 2021 refers]. By virtue of declaration under the Provisional Collection of Taxes Act, 1931, this increase will come into force with immediate effect.
2. The entry at S. No. 257 of notification No. 50/2017-Customs dated 30th June, 2017 (import of certain items by a bonafide exporter) is being modified to increase the scope of this exemption. A new condition No. 108 is being prescribed for this entry. Simultaneously, notification No. 34/2017-Customs, being in overlap with said S. No. 257, is being rescinded. [S. No. 26 of notification No. 02/2021-Customs dated 1st February, 2021 and notification No. 07/2021-Customs dated 1st February, 2021 refer] 257. 39, 48 or any other Chapter Tags, labels, stickers, belts, buttons or hangers, imported by bonafide exporters - Nil

1	2	3	4	5	6
"257.	39, 48 or any other	Tags, labels, stickers, belts, buttons, hangers or printed bags (whether made of polythene, polypropylene,	Nil	–	108";
	Chapter	PVC, high molecular or high density polyethylene), imported by bonafide exporters			

For S. No. 257 and the entries relating thereto, the following S. No. and entries shall be substituted, namely,

3. S. No. 272 of notification No. 50/2017-Customs is being omitted. Consequently, Polycarbonates will now attract 7.5% BCD vide S. No. 262 of the said notification refers. [S. No. 27 of notification No. 02/2021-Customs dated 1st February, 2021 refers]
4. BCD on Nylon chips is being reduced from 7.5% to 5% by amending the entry at S. No. 273 of notification No. 50/2017-Customs dated 30th June, 2017. [S. No. 28 of notification No. 02/2021-Customs dated 1st February, 2021 refers]
5. S. No. 10 of notification No. 57/2017-Customs is being omitted. This entry provided effective BCD rate of 10% on items of plastics falling under tariff item

3920 99 99 except specified parts of cellular mobile phones like back cover, battery cover etc. The specified parts of mobile under the said tariff item were attracting 15% BCD by tariff. Consequently, with this omission, these goods will now attract 15% BCD. [S. No. (viii) of the notification No. 03/2021-Customs dated 1st February, 2021 refers].

Amendments in Customs Act, 1962

1. Section 25 of the Customs Act is being amended to prescribe that all conditional exemptions, unless otherwise specified or varied or rescinded, given under Customs Act shall come to an end on 31st March falling immediately two years after the date of such grant or variation. Further, all existing conditional exemptions in force as on the date on which the Finance Bill 2021 receives the assent of the President unless having a prescribed end date, shall come to an end on 31st March, 2023 (if not specifically extended/ rescinded earlier) on review.



2. A new section 28BB is being introduced prescribing a two-year time-limit, further extendable by one year by the Commissioner, for completion of any proceedings under this act which would culminate in issuance of a notice under section 28 of the Customs Act, 1962.
3. Sub section (3) of section 46 is being amended so as to-
 - mandate filing of bill of entry before the end of the day preceding the day (including holidays) of arrival of goods.
 - A new proviso is being introduced therein, to enable the Board to notify the time period for presenting bill of entry in certain cases as it may deem fit.
4. Section 110 of the Customs Act is being amended so as to revise the procedure for pre-trial disposal of seized gold, in any form as notified. Commissioner (Appeals) having jurisdiction, to certify the correctness of inventory of the seized goods and carry out other procedures as prescribed, before the disposal of the gold in a manner as may be determined by the Central Government. Other consequential amendments to give effect to this provision are also being carried out.

5. Sub-section (ja) is being added to section 113 to provide for the confiscation of any goods entered for exportation under claim of remission or refund of any duty or tax or levy, so as to make a wrongful claim in contravention of the provisions of the Customs Act, 1962 or any other law for the time being in force.
6. A new section 114AC is being inserted in Customs Act to prescribe penalty in specific case where any person has obtained any invoice by fraud, collusion, willful misstatement or suppression of facts to utilize Input Tax Credit on the basis of such invoice for discharging any duty or tax on goods that are entered for exportation under claim of refund of any duty or tax.
7. Explanation to section 139 of Customs Act is being amended so as to include inventories, photographs and lists certified by the Commissioner (Appeals) under the new sub-section (1D) to the documents within the meaning of that section to give evidentiary value to such documents.
8. Section 149 is being amended so as to-
 - introduce a second proviso which would allow amendments to be done through the customs automated system on the basis of risk evaluation through appropriate selection criteria.
 - introduce a third proviso so that certain amendments, as may be specified by the Board, may be done by the importer or exporter on the common portal.
9. Section 153 is being amended so as to insert a new clause '(ca)' under sub section (1) thereof so as to enable service of order, summons, notice, etc. by making it available on the common portal.
10. Chapter XVII is being amended so as to insert a new section 154C for notification of a common portal for facilitating registration, filing of bills of entry, shipping bills, any other document or form prescribed under this act or under any other law for the time being in force or the rules and regulations made thereunder, payment of duty and for carrying out such other functions and for such purposes as may be specified.

Amendments in Customs Tariff Act, 1975

1. First Schedule to the Customs Tariff Act, 1975 is being amended to create specific tariff lines for certain items.
2. Changes to the first schedule to the Customs Tariff Act are being proposed that are to come into effect from 01.01.2022. This is in accordance with HSN 2022, which proposes 351 amendments to the existing harmonized nomenclature, covering a wide range of goods moving across borders. The amendments are necessary to adapt to the current trade through the recognition of new product streams, the changing nature of commodities being traded,

advent of new technologies and addressing the environmental and social issues of global concern- all with a prime focus on the larger goal of ease of doing business and trade facilitation.

3. It is being proposed to make the following amendments in the provision relating to ADD, CVD, Safeguard measures [sections 8B, 9 and 9A of the Customs Tariff Act and respective Rules] to provide for:
 - imposition of duty from the date of initiation of anti-circumvention investigation;
 - anti-absorption provisions to counter situation where, by reduction of export prices or otherwise, the ADD/CVD levied is sought to be absorbed, diluting the intended impact of such ADD/CVD.
 - imposition of these duties on review for period upto 5 years at a time;
 - uniform provisions for imposition ADD/CVD on account of inputs (attracting ADD or CVD) used by EoUs and SEZs for manufacture of goods that are cleared to Domestic Tariff Area;
 - whenever any particular ADD or CVD is temporarily revoked, such temporary revocation shall not exceed one year at a time;
 - final findings are to be issued in ADD/CVD, in investigation in review proceedings, by the designated authority, at least three months prior to expiry of the ADD under review (with effect from the 1st Jul, 2021);
 - provisional assessment in anti-circumvention investigation and make some other technical changes in ADD/CVD Rules;
 - manner of application of safeguard measure, including tariff-rate quota in the Safeguard Duty (name changed to Safeguard Measures) Rules.

Amendments in CGST, IGST and UTGST Acts, 2017

Amendments carried out in the Finance Bill, 2021 will come into effect from the date when the same will be notified, as far as possible, concurrently with the corresponding amendments to the similar Acts passed by the States and Union territories with Legislature.



Amendments in the CGST Act, 2017

1. A new clause (aa) in sub-section (1) of Section 7 of the CGST Act is being inserted, retrospectively with effect from the 1st July, 2017, so as to ensure levy of tax on activities or transactions involving supply of goods or services by any person, other than an individual, to its members or constituents or vice-versa, for cash, deferred payment or other valuable consideration.
2. A new clause (aa) to sub-section (2) of the section 16 of the CGST Act is being inserted to provide that input tax credit on invoice or debit note may be availed only when the details of such invoice or debit note have been furnished by the supplier in the statement of outward supplies and such details have been communicated to the recipient of such invoice or debit note.
3. Sub-section (5) of section 35 of the CGST Act is being omitted so as to remove the mandatory requirement of getting annual accounts audited and reconciliation statement submitted by specified professional.
4. Section 44 of the CGST Act is being substituted so as to remove the mandatory requirement of furnishing a reconciliation statement duly audited by specified professional and to provide for filing of the annual return on self-certification basis. It further provides for the Commissioner to exempt a class of taxpayers from the requirement of filing the annual return.
5. Section 50 of the CGST Act is being amended, retrospectively, to substitute the proviso to sub-section (1) so as to charge interest on net cash liability with effect from the 1st July, 2017.
6. Section 74 of the CGST Act is being amended so as to make seizure and confiscation of goods and conveyances in transit a separate proceeding from recovery of tax.
7. An explanation to sub-section (12) of section 75 of the CGST Act is being inserted to clarify that "self-assessed tax" shall include the tax payable in respect of outward supplies, the details of which have been furnished under section 37, but not included in the return furnished under section 39.
8. Section 83 of the CGST Act is being amended so as to provide that provisional attachment shall remain valid for the entire period starting from the initiation of any proceeding under Chapter XII, Chapter XIV or Chapter XV till the expiry of a period of one year from the date of order made thereunder.
9. Section 129 of the CGST Act is being amended to delink the proceedings under that section relating to detention, seizure and release of goods and conveyances in transit, from the proceedings under section 130 relating to confiscation of goods or conveyances and levy of penalty.

10. Section 130 of the CGST Act is being amended to delink the proceedings under that section relating to confiscation of goods or conveyances and levy of penalty from the proceedings under section 129 relating to detention, seizure and release of goods and conveyances in transit.
11. Section 151 of the CGST Act is being substituted to empower the jurisdictional commissioner to call for information from any person relating to any matter dealt with in connection with the Act.
12. Section 152 of the CGST Act is being amended so as to provide that no information obtained under sections 150 and 151 shall be used for the purposes of any proceedings under the Act without giving an opportunity of being heard to the person concerned.
13. Section 168 of the CGST Act is being amended to enable the jurisdictional commissioner to exercise powers under section 151 to call for information.
14. Consequent to the amendment in section 7 of the CGST Act paragraph 7 of Schedule II to the CGST Act is being omitted retrospectively, with effect from the 1st July, 2017.

Amendments in the CGST Act, 2017

Section 16 of the IGST Act is being amended so as to:

1. zero rate the supply of goods or services to a Special Economic Zone developer or a Special Economic Zone unit only when the said supply is for authorised operations;
2. restrict the zero-rated supply on payment of integrated tax only to a notified class of taxpayers or notified supplies of goods or services; and
3. link the foreign exchange remittance in case of export of goods with refund.



Barmer – Oil Refinery Hub of India

Rajasthan Petroleum, Chemicals & Petro-chemicals Investment Region (PCPIR)

A 9 MMTPA Petroleum Refinery cum Petrochemical Complex at a cost of an approximate Rs. 43,129 crores approx is being set up at Pachpadra in Barmer District by HPCL Rajasthan Refinery Limited (HRRL), a Joint Sector company of Government of Rajasthan (GoR) and Hindustan Petroleum Corporation Limited (HPCL) to promote business opportunities in the Petroleum, Chemicals and Petrochemicals Sector.

GoR (through Rajasthan State Industrial & Investment Corporation Limited, RIICO) has decided to develop a Petroleum, Chemicals & Petro-chemicals Investment Region (PCPIR) in the vicinity of the upcoming Refinery cum Petrochemical Complex in the Barmer District. Once complete, this complex will manufacture a range of polymers including PP and PE (LLDPE and HDPE) for downstream plastic processors.

RIICO has identified 422 hectares of land in village Ramnagar of District Barmer, which is about 35 km from the Refinery cum Petrochemical Complex, for allocation to various downstream companies.

The Hon'ble Chief Minister of Rajasthan, Shri. Ashok Gehlot in the last Budget Session made an announcement for developing PCPIR in the vicinity of Pachpadra. The Government of India (GoI) has issued guidelines regarding PCPIR under which support is being provided by GoI for external linkages infrastructure such as highways, railways, airport, telecom etc. As per PCPIR guidelines, PCPIR will have minimum 250 sq.km. area of which 100 sq.km. would be processing area for setting up of industrial units.



Shri. Prasadi Lal Meena, Hon'ble Cabinet Minister of Industries and State Enterprises, GoR

Rajasthan is one of the leading states in terms of availability of natural resources. GoR has always stressed on value addition to these natural resources within the state to enable employment generation and strengthening of states economy and the construction of the Petroleum Refinery cum Petrochemical Complex in Barmer is a result of our commitment in this direction. GoR is making the required efforts to ensure adequate availability of land that can be offered to such upcoming industrial players and RIICO has identified the land for the upcoming PCPIR on a large scale. The allotment of land in one such area, the Borawas Kalawa industrial area, located within 9 – 13 Km from the refinery will commence from July 2021.

GoR is committed towards comprehensive development of PCPIR which will entail availability of the required and enabling infrastructure and facilities. To ensure this, GoR is taking adequate measures by establishing coordination amongst different departments of the Centre and State Government.

About RIICO



RIICO has played a catalytic role in the industrial development of Rajasthan. Services provided by RIICO to investors and entrepreneurs include site selection and acquisition of land, financial assistance to small medium and large scale projects, equity participation in large projects on merit, technical consultancy for project identification and technical tie-up, facilitation of government clearances, merchant banking and financial tie-ups, extending incentives and concessions according to the policy of Department of Industries, GoR.

RIICO has already submitted a concept plan of PCPIR to GoI and has engaged Deloitte Touche Tohmatsu India LLP for providing assistance in preparation of detailed proposal for development of PCPIR for submission to GoI. RIICO is planning to bring synergy amongst upstream & downstream units by specifically inviting the relevant players and providing an ecosystem with special incentives and enabling infrastructure.

The HRRL Complex in Barmer

- The feedstock output from HRRL complex provides high potential for development of downstream industries. The petrochemical product slate of the upcoming complex includes:
- Polypropylene – 1014 KTPA
- LLDPE/ HDPE – 976 KTPA
- Butadiene – 147 KTPA
- Benzene – 178 KTPA
- Toulene – 55 KTPA

- In addition to HRRL's investment of Rs. 43,129 Crs. for refinery cum petrochemical complex, around Rs. 15,000 Crores investment is expected by 2030 in industries such as PE/PP Convertors, Paints, Dyes, Packaging, Synthetic rubber, plastics & engineering plastics, etc. Expected employment creation can touch 1.5 lakh jobs by 2030.
- The Refinery cum Petrochemical Complex is scheduled to commence trial run in October 2022.
- Keeping in view the scheduled trial run, RIICO is working on the following:

i. Investment Promotion for populating PCPIR.

ii. Ensuring availability of land in industrial areas covered in the proposed PCPIR, prior to availability of feedstock produced by the Refinery cum Petrochemicals Complex, so that downstream industries can be immediately set up by entrepreneurs.

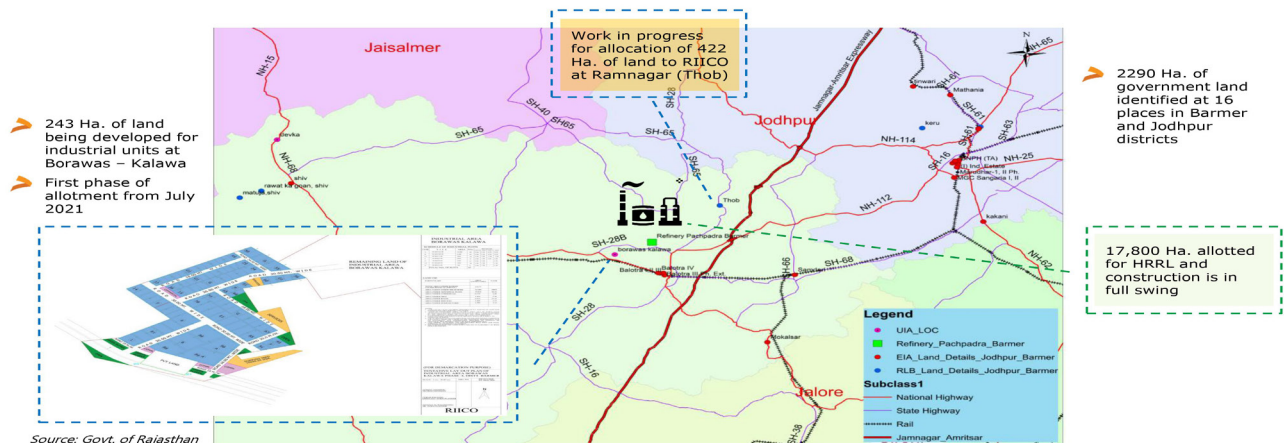
Ensuring Availability of Land

Facilitating the availability of land in industrial areas -

- RIICO's first industrial area in upcoming PCPIR is developed at Borawas Kalawa (9-13 km from Refinery). Out of 243.46 hectare land, first phase is being developed on 32.49 hectare land. Here, land allotment is likely to commence from July, 2021.
- 422.34 hectare land at Ramnagar-Thob (about 35 kms. from Refinery) has been identified and is under process of allocation from GoR.
- Around, 16 government land parcels of about 2290 Ha have been identified in Barmer & Jodhpur Districts. Further, additional land parcels are being identified in these districts.

PCPIR Planning in Progress – We are open for business!

An immediate opportunity of US\$ 2 Bn with red carpet for potential investors...



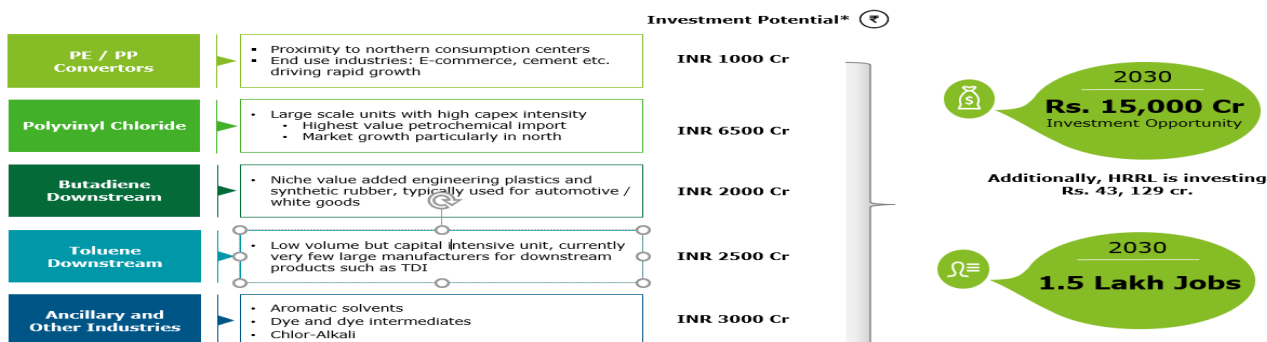
Ease of Connectivity

The upcoming PCPIR region is well-connected to cater to markets in Northern and Western India. The PCPIR proposes to get feedstock from refinery through roads as well as through pipelines to the industrial units. Furthermore, to enable the industrial units to supply their

- The region is well connected to Jodhpur, Jodhpur Pali Marwar Industrial Area (JPMIA) and Pali via NH 25 and NH 62 and state highways to establish supply chains with major industrial areas in the region. Apart from high quality national and state highways, the upcoming Amritsar-Jamnagar six-lane expressway will run adjoining to the HRRL complex

Plethora Of Opportunities for Investment

Investors have tremendous opportunity to invest across the downstream value chain...



Traction in setting up of above industries and associated infrastructure under PCPIR will pave way for opportunities in other industries (cement etc.) and non-processing enablers such as institutions, research facilities etc.

* High level estimation based on broad assumptions on price, volume, capex etc.

products to the relevant markets, the region will have a host of infrastructure interventions, which would include multi-modal transport facilities:

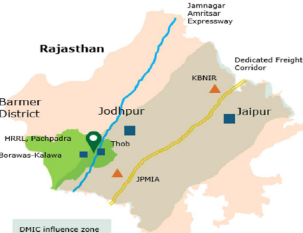
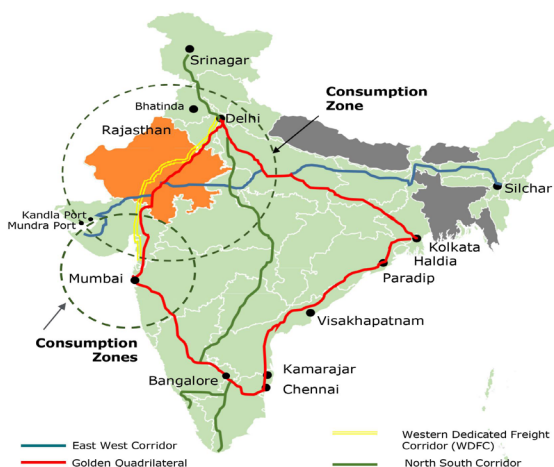
- The proposed PCPIR falls within the influence region of Delhi Mumbai Industrial Corridor (DMIC) which offers multiple modes of connectivity as well as access to other industrial nodes. The region will have access to the Western Dedicated Freight Corridor (WDFC) at Marwar junction through associated feeder at Luni and Jodhpur through existing line connecting Balotra, Jodhpur and Pali. As already tested, the WDFC corridor has capacity to transport goods through the 'double stack long hauls' containers and with increased capacity of freight trains.

and offers unhindered connectivity to Bhatinda and Jamnagar refineries for feedstock requirements and northern and western regions and ports for product evacuation.

- The region will have road access to major ports – Kandla, Mundra, JNPT and numerous other ports along west coast.
- Jodhpur airport located at ~ 115 km from the refinery and further an Inland Container Depot (ICDs) in the vicinity can be planned.
- We are promoting development of Multi-modal logistic hubs with a new logistics policy which will be announced shortly.

State of Rajasthan

Located in the Northwestern part of India with excellent connectivity to major cities and proximity to key consumption regions



LOCATION ADVANTAGE

Largest state in India situated mid-way between the key markets in Northern and Western India

RESOURCE ADVANTAGE

1st in mineral production – produces 16 minerals along with minor minerals

~1/4th of the total crude oil production in India

Excellent solar and wind resources

CONNECTIVITY ADVANTAGE

2nd largest rail network

3rd largest network of high quality roads

8 Economic Corridors pass through the state

Ensuring Ease of Doing Business

GoR launched its Guaranteed Delivery Of Public Services Act in 2011. It came into force with an aim to provide public services in a time-bound manner and has clearly prescribed time limits for all approvals. A single point contact at Bureau of Investment Promotion (BIP), GoR operates as a Single Window Clearance Mechanism to monitor all approvals on real time basis through an online review mechanism.

To further strengthen the system of single point of contact, the State has launched the One Stop Shop system, whereby nodal officers of all major departments are stationed within the BIP office with delegated powers to accord approvals at a single nodal point. The Commissioner for Investments and NRIs, GoR is in-charge of this One Stop Shop and Senior Officers of all major Departments of GoR for according approvals have been deputed under the said office.

GoR has included Chemicals, Petrochemicals and Petroleum Ancillary among the thrust areas in the Rajasthan Investment Promotion Scheme (RIPS), as announced in 2019. The scheme extends additional subsidy of 25 percent capital subsidy on plant and machinery up to Rs 0.5 crore or 5 percent interest subsidy for 5 years up to Rs 0.25 crore per year. The projects of more than Rs 100 Cr and employing more than 200 persons would also be eligible to apply for customised package of benefit.

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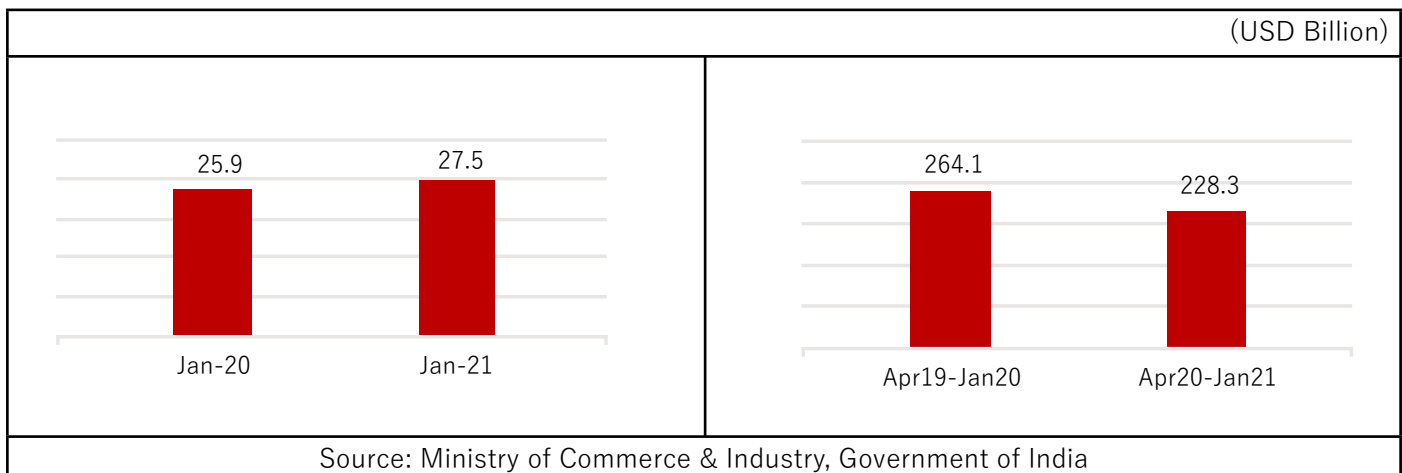


ANALYSIS OF INDIA'S PLASTICS EXPORT JANUARY 2021

TREND IN OVERALL EXPORTS

India reported merchandise exports of USD 27.5 billion in January 2021, up 6.2% from USD 25.9 billion in January 2020. Cumulative value of merchandise exports during April 2020 – January 2021 was USD 228.3 billion as against USD 264.1 billion during the same period last year, reflecting a decline of 13.6%.

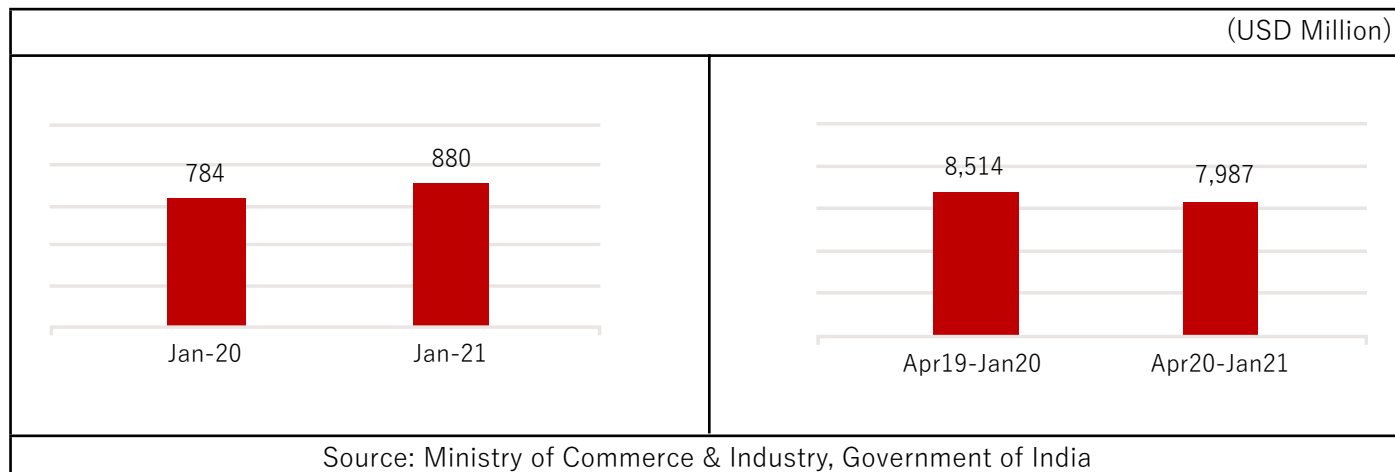
Exhibit 1: Trend in overall merchandise exports from India



TREND IN PLASTICS EXPORT

During January 2021, India exported plastics worth USD 880 million, up 12.2% from USD 784 million in January 2020. Cumulative value of plastics export during April 2020 – January 2021 was USD 7,987 million as against USD 8,514 million during the same period last year, registering a negative growth of 6.2%.

Exhibit 2: Trend in plastics export by India



PLASTICS EXPORT, BY PANEL

In January 2021, nine of the product panels, namely, Composites / FRP products; Floor Coverings, leathercloth & laminates; Human hair; Pipes & fittings; Polyester films; Plastics raw materials; Rigid packaging & PET preforms; Woven sacks / FIBCs and Miscellaneous products witnessed a positive growth in exports.

The remaining panels, Consumer & houseware; Cordage & fishnets; and Writing instruments, reported lower exports.

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

Panel	Jan-20	Jan -21	Growth	Apr 19-Jan 20	Apr 20-Jan 21	Growth
	(USD Mn)	(USD Mn)	(%)	(USD Mn)	(USD Mn)	(%)
Consumer & House ware	52.6	51.5	-2.1%	500.4	411.7	-17.7%
Cordage & Fishnets	17.4	16.4	-5.2%	143.6	138.9	-3.3%
Composites / FRP products	26.3	32.9	+25.1%	277.7	243.1	-12.5%
Floor Coverings, Leather cloth & Laminates	38.9	51.1	+31.4%	364.3	383.8	+5.4%
Human Hair & Related Products	15.3	37.9	+148.5%	228.8	302.5	+32.2%
Miscellaneous Products	131.2	156.5	+19.3%	1,322.0	1,221.1	-7.6%
Pipes & Fittings	12.7	16.7	+31.9%	153.1	145.6	-4.9%
Polyester Films	113.7	133.1	+17.0%	1,225.7	1,259.2	+2.7%
Plastics Raw Materials	237.7	242.2	+1.9%	2,959.0	2,807.5	-5.1%
Rigid Packaging & PET Preforms	28.8	31.2	+8.3%	279.7	265.4	-5.1%
Woven Sacks / FIBCs	93.3	96.8	+3.8%	887.2	689.1	-22.3%
Writing Instruments	16.7	13.9	-16.9%	172.5	119.0	-31.0%
	784.4	880.2	+12.2%	8,513.9	7,986.8	-6.2%

Source: Ministry of Commerce & Industry, Government of India

Export of Consumer & house ware products fell by 2.1% in January 2021 as an increase in shipment of Tableware and kitchenware of plastics (HS code 39241090), Other household articles and toilet articles, of plastics (HS code 39249090), Electrical switches, of plastics (HS code 85365020), and Box with outer surface of sheeting of plastics (HS code 42029200) was more than offset by a decline in sales of Plastic moulded suit cases (HS code 42021220). Cordage & fishnets export witnessed a decline of 5.2% in January 2021 on account of lower sales of Other made-up fishing nets (HS code 56081190); Other nets of man-made textile material (HS code 56081900) and Other cordage (HS code 56079090).

Export of Composites was up by 25.1% due to increased sales of Articles of plastics and articles of other materials of heading 3901 to 3914, n.e.s (HS code 39269099).

In case of Floor coverings, leather cloth & laminates, exports in January 2021 were up 31.4% due to increased sales of Textile fabrics impregnated, coated, covered or laminated with plastics other than PVC or PU: Other (HS code 59039090); Decorative laminates (HS code 48239019); and Other coverings of PVC (HS code 39181090).

Export of Human hair & related products clocked an impressive 148.5% growth due to strong sales of Human hair, dressed, thinned, bleached or otherwise worked (HS code 67030010) to China. During January 2021, India also exported more of Human hair, unworked (HS code 05010010) to Myanmar.

Miscellaneous products export increased by 19.3% in January 2021 due to higher sales of Optical fibres, optical fibres bundles and cables (HS code 90011000); Other sacks and bags of plastics (HS code 39232990); Polypropylene articles, nes (HS code 39269080); along with Sacks and bags of polymers of ethylene (HS code 39232100).

Export of Pipes & fittings witnessed a growth of 31.9% due to improved sales of Flexible tubes, pipes and hoses, and fittings, of plastics, reinforced or otherwise combined with other materials (HS code 39173990); Flexible tubes, pipes and hoses, and fittings thereof, of plastics (HS code 39173100); and Joints, elbows, flanges, of plastics (HS code 39174000).

Polyester films witnessed an increase of 17.0% in exports in January 2021 due to higher shipments of a variety of products including Other plates and sheets of PET (HS code 39206290); Other self-adhesive plates and sheets of plastics (HS code 39199090); Other sun and dust control films (HS code 39206929); Other plates and sheets of vinyl plastics (HS code 39209929); and Flexible plates and sheets of polypropylene (HS code 39202020).

Plastics raw materials export were higher by 1.9% in January 2021 due to increased sales of Other acrylic polymers in primary forms (HS code 39069090).

Rigid packaging & PET performs export was higher by 8.3% due to improved sales of Caps and closures of plastics for bottles (HS code 39235010).

Export of Woven sacks and FIBCs gained 3.8% during January 2021 on account of higher sales of Flexible Intermediate Bulk Containers or FIBCs (HS code 63053200). Export of FIBCs from India hit a record high of USD 78.0 million in January 2021.

Export of Writing instruments slipped 16.9% in January 2021, mainly on account of a decline in sales of Ball-point pens with liquid ink (HS code 96081019) across the major export destinations.

HS Code	Description	Apr 19- Jan 20	Apr 20- Jan 21	Growth
		(USD Mn)	(USD Mn)	(%)
39076100	Polyethylene terephthalate: having a viscosity number of 78 ml/g or higher	615.8	-	NM
63053200	Flexible intermediate bulk containers	578.3	554.8	-4.1%
39021000	Polypropylene, in primary forms	431.0	586.4	+36.1%
39012000	Polyethylene with a specific gravity of ≥ 0.94	367.8	271.7	-26.1%
39232990	Sacks and bags, incl. cones, of plastics (excl. those of polymers of ethylene): Other	315.9	303.5	-3.9%
39011010	Linear low-density polyethylene (LLDPE)	295.0	100.0	-66.1%
39269099	Articles of plastics and articles of other materials of heading 3901 to 3914, n.e.s: Other	273.6	239.5	-12.5%
67030010	Human hair, dressed, thinned, bleached or otherwise worked	220.1	286.9	+30.4%
90011000	Optical fibres, optical fibre bundles and cables (excl. made-up of individually sheathed fibres of heading 8544)	198.7	178.2	-10.4%
48239019	Decorative laminates	173.0	166.1	-3.9%
39206220	Plates, sheets, film, foil and strip, of non-cellular polyethylene terephthalate, not reinforced, laminated, supported or similarly combined with other materials, without backing, unworked or merely surface-worked or merely cut into squares or rectangles (excl. those of polymethyl methacrylate, self-adhesive products, and floor, wall and ceiling coverings of heading 3918): Flexible, plain	176.8	170.7	-3.4%
54072090	Woven fabrics of strip or the like, of synthetic filament, incl. monofilament of ≥ 67 decitex and with a cross sectional dimension of ≤ 1 mm: Other	135.6	80.8	-40.4%
39269080	Polypropylene articles, not elsewhere	146.2	154.4	+5.6%
39232100	Sacks and bags, incl. cones, of polymers of ethylene	133.8	129.4	-3.3%
39076990	Other, polyethylene terephthalate	129.0	115.9	-10.2%
39239090	Articles for the conveyance or packaging of goods, of plastics (excl. boxes, cases, crates and similar articles; sacks and bags, incl. cones; carboys, bottles, flasks and similar articles; spools, spindles, bobbins and similar supports; stoppers, lids, caps and other closures): Other	131.0	117.0	-10.7%
39219099	Plates, sheets, film, foil and strip, of plastics, reinforced, laminated, supported or similarly combined with other materials, unworked or merely surface-worked or merely cut into squares or rectangles (excl. of cellular plastic; self-adhesive products, floor, wall and ceiling coverings of heading 3918): Other	135.4	82.6	-39.0%
39202020	Plates, sheets, film, foil and strip, of non-cellular polymers of ethylene, not reinforced, laminated, supported or similarly combined with other materials, without backing, unworked or merely surface-worked or merely cut into squares or rectangles (excl. self-adhesive products, and floor, wall and ceiling coverings of heading 3918): Flexible, plain	125.6	155.5	+23.9%
39011090	Polyethylene with a specific gravity of < 0.94 : Other	124.6	40.0	-67.9%
54072030	Woven fabrics of strip or the like, of synthetic filament, incl. monofilament of ≥ 67 decitex and with a cross sectional dimension of ≤ 1 mm: Dyed	115.9	35.4	-69.4%

90015000	Spectacle lenses of materials other than glass	114.0	95.4	-16.3%
96081019	Ball-point pens	103.3	69.9	-32.4%
39202090	Plates, sheets, film, foil and strip, of non-cellular polymers of ethylene, not reinforced, laminated, supported or similarly combined with other materials, without backing, unworked or merely surface-worked or merely cut into squares or rectangles (excl. self-adhesive products, and floor, wall and ceiling coverings of heading 3918): Other	100.6	95.6	-5.0%
39046100	Polytetrafluoroethylene, in primary forms	89.1	80.0	-10.2%
90183930	Cannulae	79.6	81.3	+2.2%
39241090	Tableware and kitchenware, of plastics: Other	77.0	67.3	-12.6%
96032100	Tooth brushes, incl. dental-plate brushes	72.0	55.3	-23.1%
39069090	Acrylic polymers, in primary forms (excl. polymethyl methacrylate): Other	70.6	91.9	+30.3%
39206290	Plates, sheets, film, foil and strip, of non-cellular polyethylene terephthalate, not reinforced, laminated, supported or similarly combined with other materials, without backing, unworked or merely surface-worked or merely cut into squares or rectangles (excl. those of polymethyl methacrylate, self-adhesive products, and floor, wall and ceiling coverings of heading 3918): Other	68.2	85.5	+25.3%
95030030	Tricycles, scooters, pedal cars and similar wheeled toys; dolls' carriages; dolls; other toys; reduced-size ("scale") models and similar recreational models, working or not; puzzles of all kinds: tricycles, scooters, pedal cars and similar wheeled toys; dolls' carriages; dolls; other toys; reduced-size ("scale") models and similar recreational models, working or not; puzzles of all kinds: of plastics	70.1	65.3	-6.9%
56074900	Twine, cordage, ropes and cables of polyethylene or polypropylene, whether or not plaited or braided and whether or not impregnated, coated, covered or sheathed with rubber or plastics	65.0	62.6	-3.6%
59031090	Textile fabrics impregnated, coated, covered or laminated with polyvinyl chloride (excl. wall coverings of textile materials impregnated or covered with polyvinyl chloride; floor coverings consisting of a textile backing and a top layer or covering of polyvinyl chloride): Other	62.7	54.6	-12.9%
39206919	Plates, sheets, film, foil and strip, of non-cellular polyesters, not reinforced, laminated, supported or similarly combined with other materials, not worked or only surface-worked, or only cut to rectangular, incl. square, shapes (excl. polycarbonates, polyethylene terephthalate and other unsaturated polyesters, self-adhesive products, and floor, wall and ceiling coverings in heading 3918): Other	65.3	59.8	-8.4%
59039090	Textile fabrics impregnated, coated, covered or laminated with plastics other than polyvinyl chloride or polyurethane (excl. tyre cord fabric of high tenacity yarn of nylon or other polyamides, polyesters or viscose rayon; wall coverings of textile materials impregnated or covered with plastic; floor coverings consisting of a textile backing and a top layer or covering of plastics): Other	55.1	117.5	+113.2%

39204900	Plates, sheets, film, foil and strip, of non-cellular polymers of vinyl chloride, containing by weight < 6% of plasticisers, not reinforced, laminated, supported or similarly combined with other materials, without backing, unworked or merely surface-worked or merely cut into squares or rectangles (excl. self-adhesive products, and floor, wall and ceiling coverings of heading 3918)	58.1	47.9	-17.5%
39140020	Ion-exchangers based on polymers of heading 3901 to 3913, in primary forms: Ion exchangers of polymerisation	57.6	53.0	-7.9%
39219094	Plates, sheets, film, foil and strip, of plastics, reinforced, laminated, supported or similarly combined with other materials, unworked or merely surface-worked or merely cut into squares or rectangles (excl. of cellular plastic; self-adhesive products, floor, wall and ceiling coverings of heading 3918): Flexible, metallised	55.9	64.0	+14.5%
39219096	Plates, sheets, film, foil and strip, of plastics, reinforced, laminated, supported or similarly combined with other materials, unworked or merely surface-worked or merely cut into squares or rectangles (excl. of cellular plastic; self-adhesive products, floor, wall and ceiling coverings of heading 3918): Flexible, laminated	53.4	75.6	+41.6%
39199090	Self-adhesive plates, sheets, film, foil, tape, strip and other flat shapes, of plastics, whether or not in rolls > 20 cm wide (excl. floor, wall and ceiling coverings of heading 3918): Other	55.2	64.2	+16.3%
39072090	Polyethers, in primary forms (excl. polyacetals): Other	51.0	73.0	+43.2%
39241010	Insulated ware of plastics	48.4	43.8	-9.5%
39073010	Epoxy resins	51.0	36.3	-28.9%
39259090	Building elements for the manufacture of floors, walls, partition walls, ceilings, roofs, etc., of plastic; gutters and accessories of plastic; railings, fences and similar barriers, of plastic; large shelves, for assembly and permanent installation in shops, workshops, etc., of plastic; architectural ornaments, e.g. friezes, of plastic; fittings and similar products for permanent mounting on buildings, of plastic: Other	52.3	20.7	-60.4%
39095000	Polyurethanes, in primary forms	45.9	46.8	+1.9%
39100090	Silicones in primary forms: Other	45.1	31.1	-31.1%
39235010	Stoppers, lids, caps and other closures, of plastics: Caps and closures for bottles	41.0	44.9	+9.5%
39129090	Cellulose and chemical derivatives thereof, n.e.s., in primary forms (excl. cellulose acetates, cellulose nitrates and cellulose ethers): Other	43.6	47.4	+8.9%
39119090	Polysulphides, polysulphones and other polymers and prepolymers produced by chemical synthesis, n.e.s., in primary forms: Other	40.5	47.7	+17.6%
39031990	Polystyrene, in primary forms (excl. expansible): Other	44.2	23.6	-46.6%
39269069	Articles of plastics and articles of other materials of heading 3901 to 3914, n.e.s: Other	39.8	28.4	-28.7%



QATAR

Economic overview

Qatar is located on the northeast coast of the Arabian Peninsula. It has an area of 11,586 square kilometres and a population of 2.8 million.

Qatar's economy relies primarily on oil and natural gas. However, initiatives to strengthen the non-oil sectors, particularly manufacturing, construction, and financial services, are expected to drive the future growth. In the immediate term, the country's economy is likely to do

well on the back of global LNG demand, as well as the diplomatic breakthrough in the 3.5-year-old blockade. Qatar had faced economic and diplomatic boycott from Bahrain, Saudi Arabia, the United Arab Emirates and Egypt, which has recently been resolved.

As of February 8, 2021, the S&P's rating for Qatar is AA- (stable); Moody's rating stands at Aa3 (stable); and Fitch has a reported rating of AA- (negative).

Economic indicators		2017	2018	2019
Nominal GDP	USD Billion	161.1	183.3	175.8
Nominal GDP per capita	USD	59,127	66,422	62,919
Real GDP growth	%	-1.5	1.2	0.8
Total population	Million	2.7	2.8	2.8
Average inflation	%	0.5	0.2	-0.6
Total merchandise exports	USD Billion	67.5	84.9	72.9
Total merchandise imports	USD Billion	29.9	31.7	29.2

Source: IMF, TradeMap

Qatar has trade agreements with Bahrain, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Saudi Arabia, Singapore, Sudan, Syria, Tunisia, United Arab Emirates, and Yemen.

Trade overview

Qatar is a significant trade partner of India in the Gulf Cooperation Council. In 2019, India and Qatar engaged in bilateral trade worth USD 10.81 billion. During the year, India's exports to Qatar were valued at USD 1.29 billion in comparison to India's imports worth USD 9.52 billion resulting in a trade surplus of USD 8.22 billion to Qatar.

The major items of export from India to Qatar are rice; jewellery; organic chemicals; articles of iron and steel; motor vehicles; and frozen meat. Likewise, major items of export from Qatar to India are liquified natural gas and other petroleum products. In fact, Qatar is the largest supplier of LNG to India.

Within plastics, the trade is in favour of Qatar with exports worth USD 216.3 million to India and a trade surplus of USD 153.3 million. India's plastics exports to Qatar primarily comprise of the following:

- Plastic raw materials (30.5%)
- Plastic sheets, films, plates etc (14.5%)
- Packaging items (13.1%)
- Other moulded and extruded items (8.1%)
- Laminates (5.8%)



Prasan Lohia, Director, Merino Industries Ltd.

Qatar is largely an end-user market and hence the country has immense potential for value added or finished goods and not so much for semi-processed products or commodities. In light of the upcoming FIFA World Cup 2022, we anticipate that the demand for finished goods is likely to see an upward trend as there is a lot of ongoing infrastructure activity that is targeted towards this mega global event for services and products is however expected to rise for both upstream and downstream natural gas related industries as Qatar would be investing a further 40 billion USD in ramping up its capacity.

As market leaders in the Laminate segment, our business experience in Qatar, on the whole, has been good and we have not come across any major challenges. Minor challenges related to banks being able to raise LC's during the time of the blockade (largely due to currency fluctuation issues) prevailed, but these have been resolved as have issues with regard to logistics have also been resolved.

India is the third largest exporter of goods into Qatar, after the US and China, and hence by improving on our domestic manufacturing and making it more competitive versus China we could certainly improve our export market share further. In a nutshell, there are no roadblock/issues to export to Qatar. It is a good market for the value-added players mostly.

Qatar's annual plastics imports are valued between USD 900 million to 1.1 billion. Its plastic imports are largely catered to, by China (22.3%) and the United States (9.5%). However, despite this, India has a good standing in some of the plastic product imports by Qatar:

- Laminates – Market share of 43.8% share (Rank 2)
- Packaging items – Market share of 17.1% share (Rank 2)
- Stoppers, closures, lids etc – Market share of 15.9% share (Rank 3)
- Plastic sheets, films, plates etc – Market share of 12.7% share (Rank 2)
- Houseware – Market share of 8.2% share (Rank 2)



Trade potential

Our internal research indicates that India's export of value-added plastics to Qatar has the potential to grow by nearly USD 670 million. Product categories, within value-added plastics, that have immense export potential for export to Qatar include

Sandeep Marwaha, Head – EXIM, ALKON PLASTICS Pvt. Ltd.

Qatar has been a good market and so far, we have not faced any problems for exporting our products to the country or received any negative reports from our clients. So, it is presumed that there are no problems faced by our clients. We mainly export to our Channel Partners and in our experience, there are no challenges from the documentation point of view or shipping point of view. The products which we regularly export include Plastic Storage Bins that fall under HS Code 39231090 & Floor Gratings falling under HS Code 73089090. Qatar as a market has good potential for Indian exporters and in order to boost exports to the country, the Council could assist by generating awareness of the products which are regularly being exported by India to Qatar through the Embassy or other export promotion agencies in Qatar.

Product Category	Qatar's import from India	Qatar's import from world	India's export to world	Trade potential for India
	USD Million	USD Million	USD Million	USD Million
Medical disposables	0.5	102.9	660.9	102.4
Other moulded and extruded items	5.2	102.5	716.7	93.3
Plastic sheets, films, plates etc	9.2	75.3	1,371.0	54.0
Houseware	3.5	64.1	206.7	60.6
Pipes, tubes, hoses etc	3.6	63.9	191.5	57.5
Travel ware	0.8	51.9	390.2	51.0
Packaging items	8.3	37.7	790.7	29.5
All types of optical items	1.6	37.6	445.1	20.2
Writing instruments	1.1	14.0	210.6	12.3
Floorcoverings	1.2	12.2	92.2	10.8

Source: TradeMap, Plexconcil Research

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International News

Unilever Japan Adopts PET-Based Mono-Material Flexible Packaging

With the problem of plastic waste receiving significant attention, demand for more eco-friendly packaging continues to increase, and companies around the world are taking various measures focused on targets for better circulation of plastic resources used for packaging and containers.

In one example, Toppan Printing has successfully collaborated with Unilever Japan on quality tests resulting in the adoption of mono-material flexible packaging for “Lux Luminique Sachet Set Limited Design,” which is due to go on sale in Japan starting in April.



Unilever has announced global commitments for a waste-free world, aiming to halve its use of virgin plastic; help collect and process more plastic than it sells; and ensure that 100% of plastic packaging is designed to be fully reusable, recyclable or compostable. Unilever is transforming its approach to plastic packing through its “Less plastic. Better plastic. No plastic.” framework and making progress around the world.

Toppan provides solutions to global companies addressing environmental issues such as global warming and plastic waste. “Sustainable-Value Packaging” was recently launched as part of the “Toppan S-Value Packaging” brand, which targets added value for society and fulfilling living. The Sustainable-Value Packaging range includes more readily recyclable polyethylene terephthalate (PET) mono-material flexible packaging for individual packages. By fully leveraging vapor deposition and coating technologies accumulated over 30 years as a global leader in the manufacture of transparent barrier films, Toppan has now worked with Unilever Japan to achieve a switch to mono-material composition for individual packages for liquid toiletry products.

Conventional individual packages combine a PET substrate with materials such as aluminum and polyethylene. Toppan’s mono-material packaging uses a PET-based grade of GL Film a vapor-deposited transparent barrier film from the GL Barrier range and combines it with PET sealant. These films are used for wide range of items in the food, medical, pharmaceutical, and industrial materials sectors.

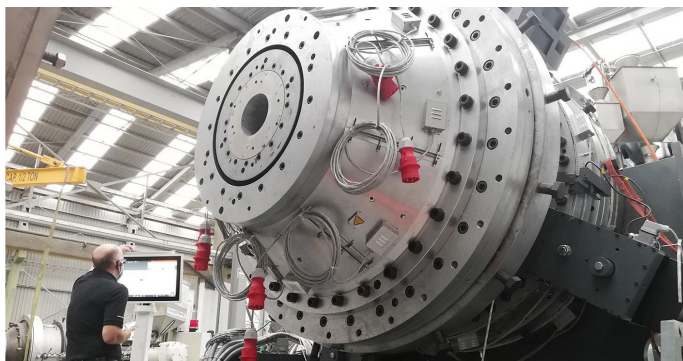
The manufacturing method and material composition ensure superior oxygen and water vapor barrier performance, provide low adsorption to prevent loss of aroma and quality, and make it possible to prevent reduction of product weight during storage over long periods. The use of a single material improves recyclability, and the absence of aluminum film enables a reduction of roughly 25% in CO2 emissions during packaging manufacture. “We’re delighted that Unilever Japan has chosen Toppan’s mono-material flexible packaging for these new

products,” said Yoshimitsu Anamizu, managing executive officer of Toppan’s Living & Industry Division. “We continue to work on developing more readily recyclable and eco-friendly solutions for diverse packaging [applications].”

Source: Plastics Today

Pipe Extrusion Line in Mexico Has World’s Largest Adjustable Melt Gap

Extrusion technology company battenfeld-cincinnati developed the fast dimension change (FDC) system several years ago and has successfully marketed it for pipe diameters ranging from 160 to 250 mm (6.3 to 9.8 in.), 200 to 355 mm (7.9 to 14 in.), and 400 to 630 mm (15.7 to 24.8 in.). The system has now been implemented for the extrusion of pipes measuring up to 1,600 mm in diameter by Policonductos SA de CV, based in San Luis Potosí, Mexico. The large-diameter pipe extrusion line contains a die with the largest melt gap ever produced, enabling the production of pipes in a range of diameters without conversion. There are no comparable systems on the market, claims battenfeld-cincinnati.



Battenfeld-cincinnati introduced the world’s largest adjustable melt gap for pipe dies at K 2019 in Düsseldorf, Germany. The die was developed for Policonductos, which was impressed by the dimensional flexibility provided by the adjustable melt gap. “We are absolutely enthusiastic about the range of options offered by this new line,” said Homero Garza, General Manager, Policonductos. “We have not only been able to expand our product range to include large-diameter pipes, but we can now also produce pipe dimensions to individual customers’ specifications without any problems.”

In addition to the new die, the line is equipped with a solEX 120 NG extruder and upstream and downstream components. Policonductos extrudes high-density polyethylene pipes for fresh water supply, sewage disposal, and mining applications in dimensions ranging from 406 x 12.5 mm to 97.1 x 1.651 mm (16 x 0.5 in. and 3.8 x 0.06 in.)

An adjustable melt gap allows the pipe manufacturer to produce varying pipe dimensions on its line and to respond fast and flexibly to market trends, explained battenfeld-cincinnati. It takes little more than the push of a button to switch the die to a new pipe dimension. A major advantage is safe handling. Conventional extrusion lines require die changes when there is a size change, which increases production time but also is a safety hazard because of the large pipes being processed. These drawbacks are completely eliminated with the FDC system, said battenfeld-cincinnati.

Source: Plastics Today

OEM Automates Plastic Syringe Production Process Just in Time to Meet Surging Demand

A pharmaceutical OEM that began an automation project in 2018 reaped unexpected rewards as demand for syringes surged in the wake of the COVID-19 pandemic. Specifically, the company engaged the services of custom automation specialist NuTec Tooling Systems to automate syringe manufacturing, which involves a proprietary coating process that imparts plastic syringes with properties similar to glass syringes. The system employs four cleanroom SCARA robots from Epson Robots, a global leader in PC-controlled precision factory automation.



The concept phase of the project started in 2018, and the machine was ready for operation in November 2020, reports Epson in a news release. The serendipitous timing enabled the OEM to work with government agencies at a critical time to develop a cost-effective process for manufacturing mass quantities of syringes to use in the fight against COVID-19. Plastic syringes are less expensive to manufacture than their glass counterparts, and automating the process allowed the OEM to further reduce costs and rapidly ramp up mass production.

“Epson’s high-speed G6-Series SCARA robots with Epson RC+ software enable precision processes with exceptional repeatability and assembly pick-and-place

capabilities,” said Brent Martz, Director of Sales and Marketing, NuTec Tooling. “The ease of use and application versatility within the Epson RC+ development environment, plus an ISO-3 rating and compliance with cleanroom standards, makes them ideal for this project and the medical sector in general, where speed and precision are vital to the manufacturing process.”

Within the machine, the first Epson G6 robot removes syringes from a tub in preparation for the coating process. The syringes are coated at a rate of 38 parts per minute and then pass through various inspection stations. Next, the syringes are siliconized, temporary caps are changed to final caps, and they are x-ray inspected before being added back into a container by a second SCARA robot. A third SCARA robot picks up a full container of syringes, applies an inner and outer cover, and seals it before releasing it to the fourth and final Epson SCARA robot that applies a label with a laser marker. NuTec chose to synchronize the third and fourth Epson SCARA robots within the same envelope, reducing a production step and creating greater production efficiency. “At Epson, we innovate to solve today’s challenging automation needs, and our partners play an instrumental role,” said Scott Marsic, Group Product Manager, Epson Robots. “NuTec’s breadth of experience and talented staff help provide customers with a clear vision of custom automation projects. Together, we deliver the perfect blend of innovative, high-performance solutions and design expertise for complex assembly applications in the medical sector, including COVID-19.”

Source: Plastics Today

Enval Partners with Kraft Heinz and Sonoco to Explore Recycling of Flexible Film Packaging

UK-based Enval has entered into a partnership with Kraft Heinz Co. and Sonoco in the United States with the goal of accelerating deployment of novel plastic recycling solutions. Enval claims to make “previously unrecyclable packaging valuable and environmentally responsible.” The company said that it has developed the “world’s only technology capable of recycling aluminum from plastic aluminum laminates.” It uses a proprietary pyrolysis solution to produce oil feedstock for the production of new plastic, as shown in the video.



The Project Touchdown partnership has begun with a two-month feasibility study to explore options for recycling hard-to-recycle flexible-film packaging using Enval’s technology. The project’s aim is to realize the first US plants using the company’s technology for treating low-density packaging waste.

The first phase of the project will involve Enval assessing current disposal methods for materials used by Sonoco and Kraft Heinz during the production and use of flexible plastic packaging. At the end of the first phase, Enval will produce a feasibility study with input from its partners that will include potential locations for future recycling plants. The site selection process will strive to minimize the financial and environmental costs associated with transporting packaging to the recycling plants. This approach is possible because Enval’s technology was conceived in a modular way to ensure that economic viability of the process starts at a small scale, thanks to its low CAPEX, said the company.

Founded in 2006, Enval will continue the project by building these plants, which would initially target the treatment of scrap generated by Sonoco and Kraft Heinz, and possibly incorporate post-consumer waste in the future.

Sonoco was founded in 1899 and is a global provider of consumer packaging, industrial products, protective packaging, and displays and packaging supply chain services. Jeff Schuetz, Staff Vice President, Global Technology, Consumer Packaging, at Sonoco, commented: “While flexible packaging has a low environmental footprint, we recognize that innovation is needed in recycling technologies to improve its end-of-life options. Sonoco believes the combination of product and recycling innovation will provide a compelling solution, and we are happy to partner with Enval on this exciting project.”

Source: Plastics Today

ULMA Packaging UK Recognised as Service Provider of the Year

ULMA Packaging UK’s ability to adapt its packaging machinery service offering to meet 2020’s pandemic-influenced working conditions has seen the company honoured for its support by a leading biscuit brand.

Chosen from 22 companies, ULMA was named ‘Engineering Service Provider 2020’ by Border Biscuits’ engineering department. A competitive award bestowed annually for excellent and consistent service levels, ULMA’s combining of remote support with its existing service offering saw it recognised in a competitive category. Craig Penman, Engineering Manager at Border Biscuits commented: “During a time when it would have been

quite understandable to cut back on support, ULMA did the opposite and made a huge commitment to service provision, and we hugely appreciate this. Whilst navigating the additional challenges posed by the pandemic, they provided extensive support in rapidly changing circumstances, which continually evolved to new forms such as online analysis and diagnostics.

ULMA's focus on remote support also included the implementation of video into packaging lines, which could be streamed to service teams. By providing video guidance and training that enabled on-site company staff to perform future maintenance work, Borders Biscuits could better protect against unplanned downtime without the need for in-person visits from ULMA technicians.



Alongside this remote support provision, ULMA's services were judged against multiple award criteria. This included availability, effectiveness of service, added-value, professionalism and the company's willingness to collaborate and innovate.

Iain Rae, Service Manager at ULMA Packaging UK said: "Typically, we would have a full, service team on a customer's site twice per year with smaller teams available to commission equipment at other points. However, in 2020 we saw that more support was required due to renewed demand and unique circumstances, so the fact Borders Biscuits have thanked our efforts to adapt to this with an award is very welcome news."

Border Biscuits have five ULMA packaging machines operating in their factory: the FR500 flow wrapper, four Atlanta flow wrappers and automatic case packing solutions. These are used to package the entirety of the biscuit providers' retail offering, including their mini packs and range of chocolate bars. The machines offer a complete end-of-line solution with the use of innovative design solutions including multiple robot systems.

"Since we started working with ULMA in 2014, they have become much more than a machine supplier and we now see them as a great business partner," Craig concludes. "Over the last six years, this working rela-

tionship has only got stronger and ULMA have contributed greatly to our growth, even adapting their support to suit our COVID-19 protocols during this unprecedented year."

Source: British Plastics

New International Event for the Composites Industry announced

The International Composites Summit, co-organised by Composites UK and Fluency Marketing, has just been launched and will take place on 8th-9th September in London, UK. The event, which focuses on reinventing the global supply chain for composites, will bring together companies concentrating on worldwide opportunities for sales and growth.

Primarily an exhibition for the composites industry, there will also be open forum sessions to showcase speakers, who are invited to share success stories and discuss the ever-expanding market and its supply chain.

After its first year in the UK, the event will move around the world. It will tie up with global trade associations to bring in their members in order to network and share knowledge with the best from across different countries. Claire Whysall, Marketing & Communications Manager at Composites UK said: "The International Composites Summit is our response to industry asking for a composite focussed show to support their growth as we move out of the COVID-19 pandemic, and for those based in the UK, the effects of Brexit. We are pleased to be able to work with one of our member companies – Fluency Marketing – to deliver this event."

Source: British Plastics

Biodegradable PHA Polymers in Single-use Packaging Applications

Milliken will bring to GO!PHA its expertise in polymer chemistry to help improve the processing, performance, aesthetics and other important attributes of PHA. The goal is to expand the application range of this family of materials into more packaging applications.



GO!PHA is a coalition of industry and academic stakeholders dedicated to advancing the development, commercialization and adoption of PHA polymers through advocacy and knowledge sharing. Milliken will collaborate with other GO!PHA members to prioritize technical issues and explore ways to solve them by adapting existing high-performance Milliken additives or developing new technologies.

“Milliken’s participation in GO!PHA supports our corporate sustainability goals by giving us a collaborative platform to tackle the challenges of ocean plastics and natural resource conservation,” noted Allen Jacoby, senior vice president, plastics additives, for Milliken’s Chemical Division.

“Replacing traditional materials with bio-based, biodegradable PHA polymers can provide lower impact options for food service and flexible packaging. We look forward to working with other GO!PHA members on enhancements that can make PHA polymers more appealing to product designers, converters and consumers.”

“We are delighted to welcome Milliken to GO!PHA,” said Rick Passenier, executive board member, GO!PHA. “Milliken’s polymer additives expertise and extensive development capabilities add tremendous value to our efforts in optimizing PHA properties and processability, and expanding the use of the material in single-use packaging applications.”

Source: packaging360.in

UltraGuard™ Solutions enabling more recyclable, mono-material packaging

Milliken’s line of tailored masterbatches called UltraGuard™ Solutions helps to address the recyclability challenge of many current multilayer flexible packaging constructions. By significantly enhancing the barrier properties of high-density polyethylene (HDPE), UltraGuard helps to enable the use of more mono-material structures, with reduced use of materials that have an adverse impact on the film’s recyclability.

This improved barrier performance also serves to increase a product’s shelf life.

Source: packaging360.in

The first totally biodegradable Made in Italy food film is born

Developed and produced by Crocco from Vicenza, it comes from an all-Italian supply chain, the raw material is bioplastic from Novamont from Novara, and has already been marketed by excellent food producers

such as Melinda who chose it for 100% packaging compostable.

It is developed and produced by Crocco from Vicenza, comes from an all-Italian supply chain, the raw material is bioplastic from Novamont from Novara, and has already been marketed by excellent food producers such as Melinda who chose it for packaging 100 % compostable of organic Melinda apples.

It’s called Leaf and it’s the first food film produced by a completely made in Italy supply chain that can be thrown into the wet fraction of household waste, making this plastic packaging an integral part of the circular economy process.



“This is an innovation that significantly changes the impact of this material which is used every day in millions of homes for the preservation of our food – explains the CEO of Crocco, Renato Zelcher -. This new transparent food film is biodegradable, compostable and partially derived from renewable sources. It is evident that these characteristics have been studied in order to reduce the environmental impact compared to other traditional solutions “.

The film is biodegradable and compostable according to the UNI EN 13432 standard, guaranteed by the OK Compost Industrial mark issued by TÜV Austria, and can therefore be disposed of in the organic fraction of domestic waste and therefore enter the process intended for industrial composting, without impacting on other waste treatment chains.

The new compostable film for food can be used both for manual packaging, such as home packaging in neighborhood shops or in large-scale distribution counters; but also for automatic packaging, or for large-scale industrial production.

“With regard to the industrial production, also adds the ability to neutralize the, albeit reduced, remaining emissions carbon dioxide film through an eco-design process that Crocco called Greenside. We are in fact able – explains Zelcher – of measure the Carbon Footprint (i.e. the greenhouse gas emissions throughout its

life cycle) of the packaging, possibly redefine its design from the point of view of the thickness and of the material used which may come from recycled or biobased material and, finally, guarantee that the remaining emissions are offset through the purchase of carbon credits, or supporting sustainable projects such as reforestation or production of energy from renewable sources, as required by international agreements”.

Source: packaging360.in

Ineos Styrolution Hooks Up with Polystyvert to Bring Polystyrene into Circular Economy

Global styrenics specialist Ineos Styrolution and Polystyvert, an innovator in dissolution technology based in Montreal, QC, are collaborating to convert post-consumer polystyrene (PS) into a new, high-quality PS resin.

Polystyvert uses a patented technology to dissolve polystyrene waste in a solvent. The process mechanically and chemically separates contaminants and additives before finally separating the original polymer from the solvent. The end product is a “clean” polymer that may be used as a new raw material resin again.



“Dissolution is an efficient, low-energy technology that offers a cost-effective solution to recycle polystyrene in a closed loop,” said Solenne Brouard, CEO of Polystyvert. Using this method, “recycled polystyrene is produced at a competitive price, thus opening up the full potential for a circular economy.”

Polystyvert said that its in-depth purification technology offers the ability to treat all types of feedstock, from industrial waste to post-consumer streams. The technology can eliminate a range of hard-to-remove contaminants such as pigments and brominated flame retardants. Recycled PS pellets can then be used to manufacture various categories, including food-grade applications, of PS-based products.

The joint development agreement reinforces Ineos Styrolution’s commitment to explore continued research into advanced recycling technologies. “The purification capacity of Polystyvert’s technology is unique,” said Ri-

cardo Cuetos, Vice President, Ineos Styrolution Americas, Standard Products. “The high quality of the final recycled polystyrene resin is essential to achieving a truly circular economy in key markets like foodservice packaging.”

Brouard added that Polystyvert is “pleased to work with Ineos Styrolution to set up a truly circular economy for polystyrene. Our common goal is to recycle as much polystyrene as possible in a partnership, as such, will make a difference.”

Source: Plastics Today



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India News

Garware Polyester becomes a 'carbon-negative' company, Consumes more polymer waste than it produces

Mumbai Headquartered Garware Polyester Ltd. (GPL), India's largest manufacturer of Sun Control films and the only company to make Paint Protection Films (PPF) for vehicles, has become a carbon negative company in its high-tech integrated polyester film plants at Waluj and Chikalthana in Aurangabad. Fully aligned to UN's Sustainable Development Goals 2030 of Climate Action (SDG #13). GPL has created many sophisticated and well-designed programs that enable technology to blend in with various innovations to achieve zero waste. GPL is among the few companies in the world which is vertically integrated facility starting with a R&D and manufacturing facility from PET resin to finished Laminate giving it a high control over its product range. GPL is fully compliant with product testing and certifications requirements for supporting sustainable and green movements for various global applications. GPL exports 67% of its output to 80+ countries across the world.

GARWARE  **SUNCONTROL**
WINDOW FILM

Mr. S. B. Garware, Chairman of Garware Polyester Limited (GPL) observed, "Sustainability is core to our vision of making our planet healthier. As a responsible Hi-Tech performance film manufacturing company, we seek to deliver long-term economic value to our stakeholders, while continuing to contribute to the environmental and social well-being of our communities. A Circular Economy approach is not only beneficial to the environment, but also helps increase our profitability." The company has also introduced new product variants which uses

post-consumer recycled PET (PCR) and that is certified by approved agencies. This will help to reduce carbon foot prints and a step towards circular economy. The company is also a member of APR (Association of Plastic Recyclers), USA.

GPL plants have a continual thrust to recycle, reuse and reduce, enabling the use of waste as raw material. Other than recycling polymer waste generated in its process, GPL also buys post-consumer waste (PCR) to reprocess and make effective use in the manufacturing of some of the products ensuring product performance, quality, application, and regulatory requirements. The use of PCR helps in diverting plastic from landfills which are a threat to environment. The company also focuses on solid wastes management, waste-water recycling, and rain-water harvesting.

Mr. C.J. Pathak, CEO, Garware Polyester Ltd (GPL) added, "By sustainably lowering energy consumption, using renewable resources, maximizing post-consumer recycled usage, reducing production waste, using 100% recyclable production waste, and reducing all non-recyclable waste generation, we have been able to improve our profitability. The company is constantly looking for avenues to improve on its process and capabilities to develop more sustainable solutions."

Additionally, the GPL has been innovating on 'Green Fuel' Biomass briquettes used for steam generation to further reduce environmental impact. The company has enhanced its reproducibility, safety and sustainability through installations of advanced technologies. GPL's screw press technology is one such example that eliminates use of sludge drying beds in the Effluent Treatment Plant (ETP) reducing the ground water contam-

ination and air pollution due to its vaporization. GPL uses processes like blowdowns to convert liquid to solid wastes with reduced efforts in handling and disposal of wastes. Using environment friendly films used in consumer product packing, has also made post-consumer recycling much easier.

The chemical processes at GPL factories are highly optimized to eliminate any atmospheric discharges. Installation of gas drying systems, scrubbers, solid separation filters ensure a green atmosphere. The closed-loop processes from PET resin as raw material to laminated films as final products ensures unpolluted products with zero environmental impact. To add, the company also manages a large plantation of more than 17,000 trees in and around the manufacturing location. In 2020-21 GPL was awarded Gold Medal by IRIM for the Indian Green Manufacturing Challenge and Sustainability.



GPL also helps its consumers become more environment friendly, for instance, in the packaging industry, GPL films protects products from harmful UV rays of light. GPL's low-oligomer content films used in the hermetically sealed compressors increases the efficiency and reliability of the compressor which has significant enhanced the overall performance of the compressor, safeguard against premature product failures, lowering energy consumption and allowing safe usage by consumers. The Sun Control window films manufactured by GPL for auto and architectural applications result in reduction of 3% to 5% fuel and equal amount of carbon emission reduction, collectively making a significant impact on the environment.

GPL is also the first company in India to introduce an alternate product that is PETG to replace hazardous PVC shrink label films by development of a new technology and achieved international quality standards.

Petrochemicals will be a sector to reckon with by 2025: Experts

At the E-conference on "India's Petrochemical Industry Outlook 2021" hosted by Indian Chemical News (ICN), there was a consensus among industry leaders that the future survival of the oil refining industry will depend on petrochemical products. The virtual event moderated by Pravin Prashant, Editor, ICN brought to fore the key growth drivers such as government incentives, shift towards biofuels and electric vehicles, better profit margins and even climate change.



In the longer run, demand for petrochemical might go up, says K. K. Jain, Executive Director, Center For High Technology who feels refining is facing the biggest brunt while there is a big opportunity for petrochemical products, particularly packaging industry that flourished during the pandemic.

Jain is highly pragmatic about the success of biofuels which he says will make the oil and gas industry players shift their priorities. He explains, "There are 12 bio-refineries under a scheme PM Jeevan Yojna. Out of that one is being built by HPCL, two by BPCL and one bamboo-based biofuel refinery by NRL in North East India. Another 8 refineries are yet to come as PSUs are giving priority to biofuels and 2021 onwards, we expect much more aggressive inputs and applications which will come from the transport sector."

Petrochemicals and plastics had a very bad press in the last year, says Chandan Sengupta, Senior Vice President, Haldia Petrochemicals, who wonders what would have happened to the whole packaging industry that made contactless delivery possible. Yet he agrees that sustainability is a responsibility.

"Petrochemical sector is a huge employment enabler and thus the government needs to relax the stringent regulatory bottlenecks and unrealistic tax regime. He also cautions against the lack of enough groundwork to meet the set targets. "The crude to chemicals or C2C is going to be a buzzword. The lesser of fuel oil and more of chemicals," comments Sengupta.

Calling for the integration of refineries with petrochemicals, P. V. Ravitej, Executive Director - Refineries, BPCL talks about the need for tapping product imports worth Rs. 95,000 crore. "Since the priority of Indian PSUs was to ensure the fuel to common man, it ensured that we stay in refining than petrochemicals. However, now after meeting our fuel requirements, we need to rise to the occasion to meet the demand. With decrease in growth of gasoline and diesel by 2020, the focus will be more on petrochemicals. We are expecting the petrochemical will reach 15% from 5% by 2030, resulting in a decrease in import dependency. Going forward, we need to develop new polymers through R&D."

Petrochemicals have outgrown the other basic chemicals, mentions Prasad Panicker, Director & Head of Refinery, Nayara Energy who feels that it has not got the attention due to complexities of the fuel market.

"The refineries are looking back at petrochemicals, the key driver being profitability. Yet despite the fact polypropylene and ethylene offer more profits than fuels and lakh crore of imports trigger huge demand, Indian refineries have to be extra careful in terms of investing as prices of crude oil is a key factor. There should be clarity in terms identifying relevant petrochemicals whether niche or bulk, depending on growth in next 10-20 years," added Panicker.

Panicker agrees with other experts on the integration of refining and petrochemicals to get a feed advantage but points out the need for consciousness about competition. "It is a globally competitive market and that will decide the future. For blending of oil up to 15% by 2030 and beyond that, we have to develop new technologies. In the next 10 to 20 years, support from the government, correction in custom duties and huge infra projects will pip the growth. With irrigation projects worth Rs. 180 million, PVC pipes are in high demand. Climate change too will play a huge role in growth," adds Panicker.

Ethanol has huge savings in terms of energy, says Milind S. Patke, Executive Director – Biofuels, BPCL, "While the government was aiming 20% blending by 2030, it has advanced this target to 2025. From the current 325 crore liter capacity in ethanol, there will be a demand for 925 million liters, resulting in a gap of 600 million liters. Traditionally ethanol is produced from sugarcane molasses route but with the government fixing remuneration for different sources including food grains as enablers. There is quite an exciting opportunity for entrepreneurs to expand the market in the next 3 to 4 years. There is huge export potential and we need revamping of existing distilleries for boosting the production. Oil companies are themselves looking at setting up refining plants. IOCL, HPCL and BPCL are looking at producing 150 million litres of Ethanol in Chhattisgarh, Telangana

and Orissa with 500-kilo litre per day capacity by 2025." "Government is working towards creating self-reliance and transformation towards a circular economy," says Samir Somaiya, CMD, Godavari Biorefineries who highlights the growing focus on hydrogen fuels. "To reach the target of 15% Ethanol blending from 8.5%, the government is encouraging the industry to produce additional 5-6 million tonnes of sugarcane to produce 6,000 liters of ethanol per day. Ethanol production from sugar beet, molasses, maize, sorghum and even damaged rice will lead to 12 billion liters from current 5 billion litres." When you grow crops, you are reducing the CO2. We are not only intercropping but also working with farmers for low carbon farming and work towards a circular economy, adds Somaiya.

Outlining the future strategy, Sudeep Maheshwari, Senior Principal, Kearney stresses the need for one cracker plant each year to keep pace with demand be it polypropylene or polyethylene, the nature of certain derivatives may increase and others may decrease and market factors will play a decisive role in this. "Maheshwari who bats for partnerships and push marketing also points out the need for more efficient feedstock sharing rather than just incentives and duties.

"With western markets saturating fast, India has a big opportunity to tap the potential but global players are a bit reluctant as they fear inconsistency in partners and uncertainties in rules here. Therefore, we must start doing things differently and increase their confidence," added Maheshwari.

Source: Indianchemicalnews.com

Siegwerk, Idealliance join hands to offer G7 certification to printing converters and brands in India

Leading suppliers of printing inks for packaging applications and labels, Siegwerk has partnered with Idealliance to offer G7 Certification for the printing community globally – including India.

Idealliance is a transformational industry association providing global standardization, training, and certification programs for the printing and packaging supply chain. Their specifications, G7, BrandQ, GRACoL and many more, have transformed the industry by creating a state-of-the-art architecture for production workflows. Aimed at bringing uniform standardization and best practices, Siegwerk is the global partner of Idealliance under a Memorandum of Understanding (MOU) entered between the organizations to offer this renowned programme in India. Under this agreement, Siegwerk G7 Experts can submit G7 Master Qualifications for its customers in India.



“Brand owners care about print quality more than ever before and are asking print partners to utilize standards to achieve visual brand continuity across entire global packaging supply chains,” said Mike Grady, Vice President of Global Partnerships at Idealliance. “G7 Experts and the team at Siegwark India play a critical role helping print suppliers simplify workflow processes, save time and meet the needs of global print quality programs through G7 Master Qualification.”

This collaboration is part of Siegwark’s wider global color management strategy called “COLORWERK” led by Kiran Deshpande, Global Senior Expert Color Management. COLORWERK covers comprehensive color management across the packaging value chain. Siegwark will offer two sets of G7 Certification programmes targeting individuals and manufacturing plants in India. Speaking on this collaboration, Ashish Pradhan, President Asia, Siegwark said, “This appointment by Idealliance reinforces Siegwark’s expertise and capabilities in the printing industry to provide cost efficient implementation of G7® methodology and G7® Master certification in India. Siegwark will provide ongoing support for G7® to realize the tangible benefits and cost savings for the long term as we work across multiple presses, plants, and locations. We ensure color quality monitoring and continuous improvement for the printing converters who are looking for adopting global best practices to set up uniform standards in printing”.

Source: indiachemicalnews.com

PM Modi inaugurates oil and gas sector projects in Tamil Nadu

Prime Minister Narendra Modi on Wednesday laid the foundation stone for key oil and gas sector projects in Tamil Nadu via video conferencing. The Prime Minister began his address saying that the projects are important not just for the growth of Tamil Nadu, but also the entire country.

Modi started his speech saying that India imported over 85 percent of oil and 53 per cent of gas to meet the demand in 2019-20. “Our Government is sensitive to the concerns of the middle class. That is why India is now increasing the focus on ethanol to help farmers and consumers. Furthering usage of solar power to become

a leader in the sector. Encouraging public transport to make people’s lives productive and easy. Embracing alternative sources like LED Bulbs to enable huge savings for middle class households,” Modi said.



India is working to meet the growing energy demand. India is also reducing our energy import dependence. At the same time, we are also diversifying our import sources. “ In 2019-20, we were 4th in the world in refining capacity. About 65.2 million tonnes of petroleum products have been exported. This number is expected to rise even further. Our companies have ventured overseas in acquisition of quality oil and gas assets. Today, Indian Oil and Gas companies are present in 27 countries with investments worth approximately Rupees two lakh seventy thousand crore,” the Prime Minister added. Modi further said that India is developing a gas pipeline network to achieve ‘One Nation One Gas Grid’. “We have planned to spend seven and a half lakh crores in creating oil and gas infrastructure over five years. A strong emphasis has been laid on the expansion of city gas distribution networks by covering 407 districts,” he added. Indian Oil’s 143 Km long natural gas pipeline from Ramanathapuram to Tuticorin being launched today will monetise the gas from ONGC gas fields. This is a part of a larger natural gas pipeline project being developed at a cost of Rs. 4,500 crore. “It will benefit: Ennore, Thiruvallur, Bengaluru, Puducherry, Nagapattinam, Madurai, Tuticorin. These gas pipeline projects would also enable the development of City Gas projects which are being developed at 10 districts in Tamil Nadu at an investment of Rs.5,000 crore.

“These projects will make available: Clean cooking fuel to households, PNG, Alternate transport fuel as CNG to vehicles and local industries.

“The gas from ONGC field will now be delivered to Southern Petrochemical Industries Corp. Limited Tuticorin. This pipeline is going to supply of natural gas as feedstock at a cheaper cost to SPIC for manufacturing fertiliser.

"Feedstock will now be continuously available with no storage requirements. This is expected to result in saving in the range of Rs.70 to Rs.95 crores in cost of production annually. This will also bring down the final cost of production of fertiliser. We are eager to increase gas share in our energy basket from 6.3 percent currently to 15 per cent.

"Development projects bring with it several benefits. The CPCL's new refinery at Nagapattinam anticipates about 80% indigenous sourcing of materials and services. The refinery is going to boost development of transport facilities, downstream petrochemical industries, ancillary and small scale industries in the region. This new refinery will produce MS and Diesel meeting BS-VI specifications and Polypropylene as a value-added product," Modi said.

Today, India is increasing the share of energy from renewable sources. By 2030, 40% of all energy will be generated from green energy sources. CPCL's new Gasoline desulphurisation Unit at its refinery in Manali inaugurated today is another effort for a greener future. The refinery will now produce low sulphur environment friendly fuel of BS VI specification.

Since 2014 we have brought in various reforms across the Oil and Gas sector covering exploration and production, natural gas, marketing and distribution. "We are working on attracting domestic and international investment through investor friendly measures. We are trying to eliminate the cascading effect of different taxes on natural gas across different states. Uniformity of tax will lead to reduction of cost of natural gas and increase in its usage across industries. We are committed to bringing natural gas under the GST regime," the PM said.

Source: indiachemicalnews.com

Paradip Port achieves 100 MT-mark in cargo handling for 4th year in a row

Paradip Port, one of the 12 major ports in the country, achieved 100 million tonne (MT) cargo handling for the fourth year in a row, the government said on Monday. Last week, Deendayal Port also crossed the 100 MT-mark in cargo handling. "Paradip Port achieved the handling of 100 Million Metric Tonnes (MMT) of cargo fourth year in a row. Despite COVID-19 crisis, it once again repeated the feat by crossing the 100 MMT mark in succession and achieved cargo throughput of 100.30 MMT till 21.02.2021 in the current fiscal," Ministry of Ports, Shipping and Waterways said in a statement.

It said the feat was achieved despite two of the port's existing berths not available for handling of cargo as these are under mechanization process. Vinit Kumar,

Chairman, Paradip Port congratulated stakeholders for the achievement.

Source: Business Standard

China back as India's top trade partner, despite govt's 'atmanirbhar' push

China regained its position as India's top trade partner in 2020, as New Delhi's reliance on imported machines outweighed its efforts to curb commerce with Beijing after a bloody border conflict.

Two-way trade between the longstanding economic and strategic rivals stood at \$77.7 billion last year, according to provisional data from India's commerce ministry. Although that was lower than the previous year's \$85.5 billion total, it was enough to make China the largest commercial partner displacing the U.S. -- bilateral trade with whom came in at \$75.9 billion amid muted demand for goods in the middle of a pandemic.

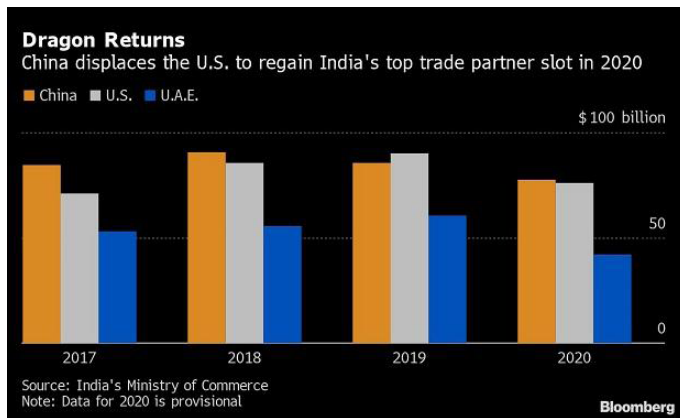


While Prime Minister Narendra Modi banned hundreds of Chinese apps, slowed approvals for investments from the neighbor and called for self-reliance after a deadly clash along their disputed Himalayan border, India continues to rely heavily on Chinese-made heavy machinery, telecom equipment and home appliances. As a result, the bilateral trade gap with China was at almost \$40 billion in 2020, making it India's largest.

Total imports from China at \$58.7 billion were more than India's combined purchases from the U.S. and the U.A.E, which are its second- and third-largest trade partners, respectively.

That said, India did manage to lower imports from its Asian neighbor amid demand disruptions caused by the coronavirus pandemic. The South Asian nation also managed to increase its exports to China by about 11 per cent from a year ago to \$19 billion last year, which makes any further worsening of ties with Beijing a threat to New Delhi's export revenue.

The tense relations are already weighing on India's ambitions to bolster its manufacturing capabilities. New Delhi has been slow to issue visas to Chinese engineers needed to help Taiwanese companies set up factories under a so-called production-linked incentive program, or PLI, to promote local manufacturing.



"Still a very long way to go" is how Amitendu Palit, an economist specializing in international trade and investment at the National University of Singapore, described New Delhi's efforts to wean itself away from Beijing. "The PLI schemes will take at least four-five years to create fresh capacities in specific sectors. Till then reliance on China would continue."

Source: Business Standard

PM Narendra Modi launches Rs 3,222-crore petro, gas projects in Assam

Opening the coffers of his government for poll-bound Assam, Prime Minister Narendra Modi on Monday slammed the successive Congress dispensations that ruled the country since Independence for the "neglect" of the state and the northeast for decades.

On his third visit to Assam in a month, Modi, who dedicated to the nation three major projects in the petroleum sector worth over Rs 3,222 crore, enumerated steps taken by the state government led by Sarbananda Sonowal and the centre over the past few years for its balanced growth.

Source: Business Standard

India, Mauritius ink landmark economic cooperation agreement

India recently signed a landmark Comprehensive Economic Cooperation and Partnership Agreement (CECPA) with Mauritius, the first of its kind with an African nation, making the strategically-located country a launch-pad for business expansion into the huge African continent. "Today is indeed a special day in our special relationship," External Affairs Minister S Jaishankar said while

jointly addressing the media with Prime Minister Pravin Jugnauth here after calling on him. "India is privileged to have entered into a Comprehensive Economic Cooperation and Partnership Agreement (CECPA) with Mauritius. This agreement is India's first such agreement with an African country," Jaishankar said.



He said it will provide a timely boost for the revival of the post-COVID economies and also enable Indian investors to use Mauritius as a launch-pad for business expansion into continental Africa helping the prospect of Mauritius emerging as a 'hub of Africa'.

Prime Minister Jugnauth also noted that the CECPA is the first of its kind signed by India with an African country. "This landmark agreement is far-reaching and will unleash new and expanded opportunities in trade in goods and services, investment, economic cooperation and technical assistance," he said.

The CECPA will encourage Indian entrepreneurs to invest both in Mauritius and across the region, thus helping the ambition of the country to become a strategic regional economic hub and a centre of excellence, Jugnauth said in his remarks.

The CECPA provides preferential access to Mauritius for bulk of the trade and also for many aspirational items for the future into the Indian market of over a billion people. These include frozen fish, speciality sugar, biscuits, fresh fruits, juices, mineral water, soaps, bags, medical and surgical equipment, and apparel.

The current global imports of India on these products is well over USD 15 billion. "This is therefore a significant opportunity for Mauritius to benefit from access to the Indian market," Jaishankar said.

He said Mauritius will get preferential access for export of 40,000 tonnes of sugar into India at an early time frame. Similarly, there will also be access for the export of 7.5 million pieces of apparel.

Jaishankar said that in the trade in services sector, India has offered 95 sub-sectors from 11 broad services

sectors. "Services contribute, I believe, 76 per cent of the GDP of Mauritius, and CECPA will surely boost the dynamism of the services sector in Mauritius.

The CECPA could also facilitate Indian investment in the Services sector in Mauritius, especially in the Information and Communication Technologies sector as Indian companies could benefit by leveraging the bilingual prowess of Mauritius for investments in Francophone Africa, the minister said. Jaishankar noted that during his meeting with Prime Minister Jugnauth, they held a lengthy review of the comprehensive and important bilateral relationship. "Our discussions, I believe, were very productive and forward looking, and we really reviewed all aspects of the relationship as well as status of implementation of various projects," Jaishankar added.

Source: Business Standard

Launch of Post-Consumer Recycled (PCR) Polyethylene Film Solution in India

Dow Packaging and Specialty Plastics (P&SP) and Lucro Plastecycle, a homegrown Indian recycling company, have signed a memorandum of understanding (MoU) to develop and launch polyethylene (PE) film solutions using post-consumer recycled (PCR) plastics in India. This agreement introduces a close-the-loop packaging solution to help enable a circular economy in India and expanding overall circularity portfolio in the Asia Pacific region.

This collaboration is aligned with company's new sustainability target of stopping the waste by collecting 1 MMT of plastics to be collected, reused or recycled by 2030. Under the MoU, Dow P&SP will provide its material science and application development expertise to Lucro, a specialist in recycling flexible plastic film waste, who will develop and manufacture the film structures. These film structures are made by processing plastic waste collected through various recycled streams in combination with Dow P&SP's virgin resins. This approach could also reduce carbon emissions when compared to virgin PE resins and as a result could contribute to helping converters and brands to meet their sustainability goals. The first application of the product is in collation shrink films, a form of secondary packaging commonly used for bottles, cans, and liquid cartons, and is expected to be available in the India market later this year.

"We are delighted to work with sustainability-focused partners like Lucro, who is at the forefront of plastic recycling in India. Scrap packaging is one of the country's highest contributors of plastic waste and we look forward to this collaboration helping to promote the adoption of sustainable solutions amongst brand owners and manufacturers, and contribute to a reduction in

plastics entering the environment as waste," said Bambang Candra, Asia Pacific commercial vice president, Dow P&SP. "Finding value in flexible waste is key for the circular economy to set new standards for the flexible packaging industry and create a viable circular system for flexible plastics."

Lucro's trademark Plast-E-Cycle™ process, which converts plastic waste into granules for recyclable and compostable products, helps to solve a fundamental challenge in India – the complexity of recycling flexible plastic waste. This specialty solution has made the company the first one in India to be backed by Circulate Capital's Ocean Fund (CCOF), a Singapore-based investment fund dedicated to preventing plastic waste entering the ocean and advancing the circular economy in South and Southeast Asia. With Circulate Capital's support, Lucro will further grow and scale its business and step up post-consumer plastic sourcing with new collection centres.



"Circulate Capital invests in and supports pioneering companies across the waste management and recycling industry. Lucro's work is integral to closing the loop on difficult to recycle plastic waste in India, giving a second life to post-consumer flexible plastic waste. We believe the Dow P&SP-Lucro partnership is a great example of how, with catalytic financing, the plastic eco-system can connect and collaborate on market solutions for the benefit of the environment," said Rob Kaplan, founder and CEO, Circulate Capital.

"Lucro was founded on the belief that there is value to be found in mismanaged plastic waste through recycling. With intent, effort and collaboration across the entire value chain, we can define and build a new plastic value chain that ensures the material is reused and does not end up in the environment," said Ujwal Desai, co-founder and managing director of Lucro. "Our partnership with Dow provides us additional expertise to develop high quality, innovative and recycled-content flexible film for businesses."

Under the MoU, Dow P&SP will utilize its industry leading team of packaging experts, material scientists, recycling equipment, blown film manufacturing and testing capabilities at Pack Studios Shanghai and Mumbai to help Lucro develop recycled film. Following the initial application in collation shrink films, the partners will explore additional applications including shipping sacks, e-commerce bags and non-food packaging.

Source: packaging360.in



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Hemant Minocha, Vice Chairman, Plexconcil & Director, Rajiv Plastic Industries, Mumbai



Hemant Minocha, Vice Chairman, Plexconcil & Director, Rajiv Plastic Industries, Mumbai

Rajiv Plastic Industries (RPI) is one of Asia's leading Color & Additive Masterbatch & Polymer Compound manufacturers. Incorporated in 1978, the company has been providing an advanced level of solutions to the plastic processing industry's ever changing and challenging needs. The company has grown from one small unit to three large manufacturing locations with alliances with leading polymer processors in several locations around the world. Having received the status of Star Export House from Government of India, today, 45% of the company's products are exported catering to over 1200 customers globally. RPI is a certified Tier 2 vendor to leading automotive companies such as Tata, Mahindra, Volkswagen, Renault, etc.

Plexconnect interviews Hemant Minocha, Vice Chairman, Plexconcil and Director of Rajiv Plastic Industries.

When and how did you first start your journey with Rajiv Plastic Industries (RPI)? What have your been your key learnings over the years?

My journey at RPI started in September 2001. With the influx of MNCs in Electrical, Electronics and Automotive fields in India, Engineering Plastic Masterbatch requirements in India grew manifold and we have been growing with leaps and bounds year on year since then. Over the years, RPI has consistently invested in technology, R&D, Quality Control, infrastructure and advanced equipment that has afforded us a leadership position in the business.

I believe there is no substitute to hard work. Furthermore, ethics, transparency and honesty are also integral to progress & success. Always keeping an eye on upcoming technologies and being innovative goes a long way in building a success story.

What were your biggest challenges and how did you overcome them?

The biggest challenge perhaps, when I first started out were absence of proper systems and thus following them. In 1997, after investing heavily in our lab and R&D, RPI received the ISO 9002 certification. With the markets opening up new opportunities, we further built on our company policy framework and received the ISO 9001:2000 in 2003 which was recertified for the latest ISO standard i.e. ISO 9001:2008 and later ISO9001:2015. We established the Product Application and Research Laboratory in 2014 to serve the Plastics Industry with solutions for product improvement, reverse engineering, problem solving and process enhancement. The Pune facility is IATF 16949 certified and both Pune and Mumbai labs are NABL accredited. We continue to be a leading solution provider for pre-colored compounds, commodity and engineering plastic masterbatches receiving widespread recognition through various participations at trade shows, seminars and lectures.

While the implementation of the ISO systems started as part of the company policy, we have also consistently worked on our core values and helped build a team that resonated those. Today, we are proud to state that our team, from bottom to top share these values and that is key to our company's success.

What are significant or major achievements of RPI under your stewardship? What would be RPI's biggest strengths right now?

We have moved from being a product manufacturer to a solution provider. Yes, we still have a lot of commodity products, but we pride ourselves in solving our customers critical problems. We serve the entire plastics industry from bags to bumpers and understand the needs of each sector whether it is food packaging or automotive interiors. All the market leaders in injection molding, blow molding, rotomolding, extrusion & thermoforming depend on us to give them the good night's sleep that

they deserve when it comes to raw materials. We export to over 50 countries worldwide – from developed countries to 3rd world by understanding their needs. Whether it is understanding the performance or cost requirement, it is very critical to know what the customer requires. We provide value for money and do it on a daily basis. These are our strengths.

What are the new innovations/ developments/ advancements in the product segment recently? How have these impacted the growth of the segment?

Biodegradable polymers, recycling additives, shelf life enhancement and also increasing the life of plastics are where we are seeing more and more innovations. Liquid carriers are also seeing some level of interest. In-coloured materials are fast replacing painted parts and we see a good potential in this. The global industry is growing relatively better than the plastics industry in India and a large part of it is because of the interest that foreign buyers see in Indian suppliers – consistent quality at an acceptable price.

What in your opinion is the future of the Masterbatches industry? What can one look forward to?

The future is bright, but we have seen some consolidation also in the last few years. Those who supply quality products have nothing to worry about but those who do not keep up with the times will need to up their game since the customers are now more aware about quality and performance requirements. They are willing to pay the price of an imported input if nothing that matches their requirement is available locally. That being said, there is a big push by the industry to move away from imports and move towards an Atmanirbhar India. The industry is growing very fast and we feel that market will only see an upward trend. With the recent issues, customers all over the world are also looking at India as a reliable source for materials, semifinished and finished plastics goods and we see a significant potential there too.

In your view, what should be the main focus areas of the Government to promote the growth of the plastics export industry?

More polymer manufacturing needs to come up in India. Currently the range of polymers being manufactured in India is limited to Polyolefins, Nylons, some Styrenics and PVC. India is a net importer of all other materials like PC, PBT, POM etc. We are severely under capacity in materials like ABS and PVC. Another important input that needs mention is titanium dioxide. India is the largest source for the ore but does not have enough production capacity nor the quality needed for plastics. Improved infrastructure, cheaper power, cheaper and

easily available land, conducive labour laws, speedy duty refunds/ set offs will help push India's exports forward. The list is long but these are the easy ones.

Price volatility in raw material prices is always a huge concern for the plastic industry? What measures do you believe should be taken by business owners against such phenomenon?

Price volatility for any industry is a concern. Prices in India largely remain volatile because of many reasons whether it is crude oil prices, duty structures and also due to materials shortages which could be due to polymer plant shut downs or even something as simple as maintenance issues. Most of the plastics industry in India belongs to the medium or small sector and there is very little they can do but to grin and bear the price increase and hope the customers will be willing to bear the hike. The larger companies have the reserves and can afford to keep long term and strategic stocks to overcome short term volatility. Ideally a good balance of short term and strategic stocks should help tide most short term volatilities.

As Vice Chairman of Plexconcil, what is your vision for the growth of plastics exports?

My vision is aligned with the vision of our Chairman, Industry leaders and our Prime Minister of making Indian Plastics Industry a major component of our foreign exchange earnings. We hope to fulfil the goal of our country to push up the exports to 25 Billion USD by 2025.

What are would you say are your Top 3 priorities to progress the Council's goals?

The top 3 priorities would be 1. Increase India's plastics exports 2. Increase awareness about exports among plastics processors by introducing them to Plexconcil and its benefits and 3. Increase Indian Plastics Industry's presence in the world by whatever means whether it is exhibitions, buyer seller meets or joint meetings with the help of the various government agencies/offices abroad.

As a leader, what are your values and how do you ensure your team shares the same?

Quality focus, Customer orientation, Growth, Teamwork, Leadership, Process orientation and Cost effectiveness – these are our company core values and in this order. These are the values that the directors, partners and the entire team of RPI lives by in every decision at every level from directors to operators. This is done by regular training, dialogue and our very successful Performance Management Systems that we implemented almost a decade ago.

Who would you say has been your inspiration or has had the most impact on you as a leader?

I have drawn inspiration from various people through my life. The two come very distinctly – my grandfather Mr. RL Minocha who after migrating in 1947 to Delhi during partition was courageous enough to get into Plastics in 1952 which was a new field at the time. He built a reputation for his honesty, ethics and kind heartedness and is still remembered by the plastics fraternity of his time. The second being my father who although being a second generation entrepreneur took the bold decision to move away from the family business and carve a niche in the engineering plastics colouring business when he moved to Mumbai 1978 and started RPI. Needless to say, he has always followed what his father taught him. I hope that I can take this legacy forward.

What would your message be to young entrepreneurs and new exporters?

My message to young entrepreneurs is to be innovative, be aggressive if need be, be quality conscious, be punctual in your deliveries and most of all be honest and ethical in your dealings. This helps build trust and any business not only international is finally done on trust. There is an opportunity cost and there is value pricing. However, do not price yourself out of the market. Finally what you do not only represents you and your company, it also represents your country, so tread the waters carefully.

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FRP in Infrastructure Present and Future Utilization

Overview

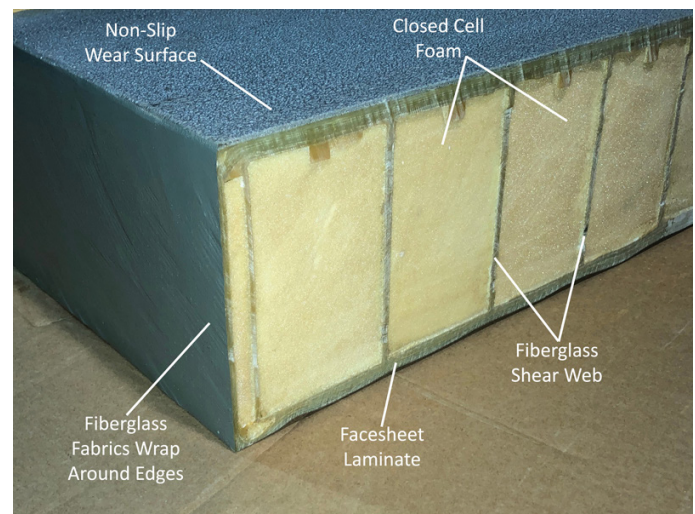
The advanced composite materials have demonstrated great potential in civil applications, especially in the highway infrastructure. Fiber reinforced polymer (FRP) construction materials are lightweight, easy to install, and offer high strength-to-weight ratio with durability. These materials can be customized in accordance with the required properties: size, strength, stiffness, and overall structure.

The deterioration of highway infrastructure is not new, however, a pressing issue. There are a number of factors that damage the integrity of highways and bridges, for instance, the use of substandard concrete reinforcement, heavy loads, short-term maintenance practices, rebar corrosion, and severe environment. The conventional materials such as steel bars cannot withstand the severe environment exposure and high traffic volumes and the concrete deterioration simply becomes unavoidable. Growing deterioration cost governments billions of dollars in rehabilitation cost.

Significance of Construction Material

Taking into account the need for more sustainable construction materials, the significance of FRP construction materials rises sharply since FRP is the ideal material for the rehabilitation of degraded and underperforming

concrete infrastructure. Fiberglass composites enhance the strength and performance of the existing highway infrastructure situated in the harsh environment that could be the top reason why the original structures deteriorated.



Despite the promising properties and in-practice results, the construction industry is still not fully utilizing the power of FRP in rehabilitating the degraded reinforced concrete. However, this exceptional material is all set to dominate the rebar market in future. The availability of adequate in-practice data and design codes have already encouraged a large portion of the civil engineering community to employ composite materials for rehabilitation and new applications.

Here are some of the factors that undermine the real potential of FRP construction products for highway infrastructure in the past:

- Inadequate knowledge of FRP composites
- Lack of bridge-specific material specification

- No dependable rehabilitation procedures
- Lack of encouragement from governments

An extensive research intending to develop a precise and strategic plan for providing a comprehensive guide on the application of FRP materials in the highway infrastructure is still in process.

Advantages

Following are some of the advantages of using FRP in building/rehabilitating highways and other concrete infrastructures:

- High strength-to-weight ratio
- Excellent fatigue resistance
- Corrosion-resistance
- Reduced overall cycle-costs
- Ease of installation
- Time-effective repair and construction process

The Application of FRP Composites

Because FRP composites are lightweight, the reduced deck dead loads enable a bridge to carry increased live loads. Similarly, the environmental durability of FRPs allows bridges to remain corrosion-free and in good shape for a long period of time. One of the most prominent qualities of composite or fiberglass bars is that they do not corrode and successfully resist all the corrosive agents present in an environment, and this is what we need today to build sustainable concrete infrastructure that can offer significant savings in costs for both the governments and taxpayers.



The widespread application of fiberglass rebar and other FRP composite materials can help eliminate the deterioration problems in highways and other concrete structures. FRP composites can be fabricated with the desired structural properties by making a considerate selection of fibers and resins and using appropriate manufacturing techniques. It is time to replace conventional construction materials with the FRP composites so that durable concrete structures can be built.

Global Opportunities*

The building and construction industry is expected to dominate the global fiber-reinforced polymer (FRP) composites market.

FRP bars are used as internal reinforcement for concrete structures. FRP bars, sheets, and strips are used to strengthen various structures constructed from concrete, masonry, timber, and steel. Fiber-reinforced polymers are used in the construction of special structures requiring electrical neutrality.

The Indian government announced an investment worth USD 31,650 billion for the construction of 100 cities, under the smart cities plan. The 100 smart cities and 500 cities are likely to invite investments worth INR 2 trillion (~USD 28.18 billion) over the next five years, creating scope for the application of fiber-reinforced polymer (FRP) composites.



The Union Budget 2021-22 proposes to increase infrastructure allocation to Rs 5.54 lakh crore as against Rs 4.39 lakh crore in the revised estimates for FY21. There is also an additional support to states of Rs 2 lakh crore for capital expenditure and related programmes.#

The Chinese government rolled out massive construction plans, including making provisions for 250 million people to its new megacities over the next ten years, creating a significant scope for construction activity, thus, increasing the market for fiber-reinforced polymer (FRP) composites in the future.

Hence, owing to the growing applications in the construction sector, especially in the Asia-Pacific region, the demand for fiber-reinforced polymer (FRP) composites are expected to increase over the forecast period.

Source: *Mordor Intelligence Global Outlook 2021-2026/ #Economic Times

Industry Speak

Interview with Piya Thakkar, Director Mechemco & Dr, Chaitanya Shah, Technical Director Mechemco

With the growing focus on Infrastructure developed, especially roads and highways, in India, what are the new opportunities for FRP in the country?

Infrastructures spend/ growth will create numerous opportunities for composites applications. Besides building of roads and highways there is going to be simultaneous spend in other infrastructure areas such as Rail Transport, Marine Transport and Air Transport in addition to Communication & Telecom Network, Power Generation, water supply and waste-water management. The industry stands to benefit in a big way and is likely to see double digit growths.

Composites with their uniquely diverse properties find numerous applications in each of the above sectors. Some of the properties of composites include:



- high specific strength,
- weather and water resistance
- light weight
- electrical resistance
- good aesthetics
- voluminous shapes
- possibility to enhance strength in specific direction
- long life etc.



India has a vast coastline and many of the areas face corrosion due to the saline environment. This presents tremendous scope for composites usage as it counters corrosion. Apart from this, India also has an extensive network of inland waterways. The product's unique light weighting properties combined with extraordinary strength have numerous existing and potential applications in our hilly regions and terrain for bridges and modular housing, defense posts / camps / bunkers, and roadside sanitation.



With improvement in roads and highways, road transport will witness phenomenal growth. Automotive and Mass transport are big applications. Besides the highways and roadways require signages, lighting, electricity, water and sewage network. New opportunities for FRP in the country have been increasing considering the characteristic performance properties – especially due to its Anti Corrosive, Weather Resistant behaviour coupled with high strength to weight ratio (light weight). Replacement of Steel, Aluminium, Wood and Concrete in general is possible with suitably designed composite material for a really long, maintenance free service life; creating opportunities that range from Repair and Maintenance of Existing Products, Structures etc., to partial / full use of composites in new products.



Apart from these, there would also be opportunity for road side food plazas, kiosks, temporary or permanent installation of Cabins and Offices during and after the construction activities, Equipment Shelters made using Modular Composite Structures, etc. Construction Equipment and Earthmovers, also use Canopy, Engine Covers etc. also need corrosion resistance and weather resistance and maintenance free structures.

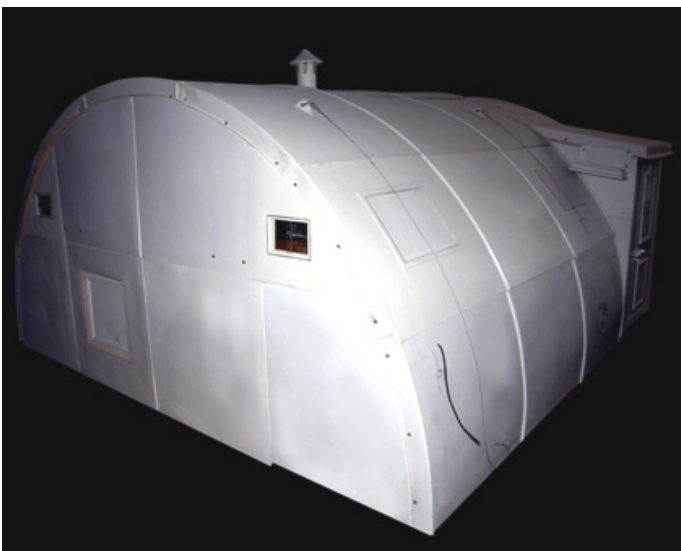


What is the significance of FRP in the rehabilitation of degenerated and/ or underperforming concrete infrastructure?

It is really important to rehabilitate degenerated / deteriorated and / or underperforming concrete infrastructure by different means. Composites can play a particularly important role in doing this. In fact, composites can not only repair and rehabilitate structures damaged due to environmental impact or natural disasters, but also make them strong enough and long lasting, literally extending them a second lease of life of up to say 30 – 40 years without a need for maintenance. Thus, at a fraction of extra cost, the site can be made fully operational and functional and this has been demonstrated world-wide by many such rehabilitation projects since the past 20+ years. We believe this would be very crucial in India due to our vast and extended shorelines.

What are the benefits of using FRP in the construction of roads and highways? What are measures needed to create greater awareness for the category?

Roads and Highways construction would be benefited if FRP Re-bars and Bent Elements, Mesh Elements are used as reinforcement for Concrete as this would make it corrosion free and thereby provide a very long-lasting life once installed. It would eliminate the root cause of deterioration of Concrete Roads which is mainly due to the corrosion of steel reinforcement being conventionally used. It is possible to make pre-stressed concrete casting for Girders, Beams using the FRP Re-bars – which would also be much lower in weight due to differential density between steel reinforcement and FRP Re-bars; thus, providing direct benefit in material



as well as cost savings. Also, the Columns can be re-designed considering the lower weight and this would result in further cost reduction while providing long lasting and reliable solutions for infra projects. This would be extremely beneficial for projects especially near the shoreline as well as over the water bodies.

Due to the material's intrinsic properties being light-weight, high strength and weather resistance, these are especially beneficial when used in hilly, snowcapped terrains and the coastal belt. While being light weight is useful in hilly terrains, weather resistance is critical in coastal belt construction.

Creating end to end specifications across the entire value chain – i.e. Raw Material Production to End Product Installation as well as timely maintenance would yield more confidence in the user industry and allow this material to provide its best to the world.

What is the environmental impact of FRP over the use of traditional material?

The environmental impact of use of FRP is enormous as it has smallest carbon footprint to produce as well as maintain during its service life. Furthermore, it is possible to re-purpose composites once the end of pre-determined service life is reached by suitably using the parts / products that still retain their performance properties. There is also a way to consume the last bit of material as a feed to Cement Clinker production where in the organic parts having calorific value contributes as fuel and the rest of the material gets converted to clinker that is suitable for use in concrete. This helps in creating a circular Economy and completion of the product life cycle. Conventional materials like Steel and Aluminium would have a larger carbon footprint per kg of material used and though they have recycling capabilities, in every cycle, the scrap has to go through the melt refining and shaping cycle. By using composites, a substantial amount of carbon footprint for a given project can be brought down.

What are the latest advancements/ new developments in the product segment vis-à-vis infra development ?

There is an explosion of technological development in the field of materials, processes and finish product design and use that is continuously evolving and keeping pace with emerging demands. Composites materials are no different. With the demand for light weight, conservation of energy, conservation of resources (like water and food etc.), newer materials are being designed and developed. To name a few, there are nano reinforcements to provide very high fatigue life and high strength to composites; new processes like 3D printing to not make only scale models but also the full size parts and products. This brings designer products and services to

the forefront. Design analysis and optimization has also evolved to ensure well-defined and reliable performance of the products in service. These are extremely crucial especially when used in Infra Projects. Any enhancement of the product service life would lead to reduced life cycle cost per unit. Any incremental change in the strength and performance would help reduce the overall material requirement for the same performance – thus allowing larger output / spread for the same resources utilization.

What is India's export potential in the segment? What are the emerging opportunities?

Export of Composites from India has immense potential. We have quality production capabilities with potential availability of required manpower for designing, manufacturing and servicing across the entire value chain of Composite Production. Raw materials are indigenous and technology upgrades and induction of available know-how accessed from around the world ensures that entire spectrum of the composite business remains state-of-the-art and current. The industry, academia and government are collaborating at various levels to provide the needful working. Composites Production processes are well understood, and the country is now recognized as supplier of quality products which is evident from the slow but steady growth that has been seen for the past decade. Avenues for Exports are mainly Chemical Process Industries, Electrical Industry, Automotive, Railways and Mass Transit as well as Renewable Resources to name a few. Marine and Leisure industry are also gaining momentum in terms of developing new market reach.

Which countries are the market leaders in terms of product development, technology, market share, etc? What is their competitive advantage?

USA, Germany, UK, France, China, Japan, Korea and Russia are the key players in terms of new product development, technology and market shares. Their research programmes integrated with the national programmes in Defence, Civilian and Environment give them an edge over the others as they share development resources between Government, Academia and Industry partners. Access to information, availability of materials and state-of-art technology as well as funds are major factors to a faster development. Furthermore, there is a cohesive effort by the industry through their association and forums to create awareness about the utility and capabilities of the composites across the entire spectrum of user industry. They have made sustained efforts to penetrate into much broader area of applications.

What are the challenges faced by the industry and what are the measures needed to mitigate these?

One of the most significant measures required is to create a knowledge base/ record of long term performance properties of composites, create designing capabilities etc. The main focus in this direction should be to educate and encourage designers, specifiers and end users to use these materials over conventional materials. Not only will all industries gain in a big way, but growth can be ramped up to double digits as the product application is wider than one can imagine.

The industry would also benefit from a Government Mandate for:

- Public Private Partnership to Setup Skill Development Centres and Testing Centres
- Facilitate the Technology Sourcing and Upgrades from Around the World
- Encourage Local Manufacturing and Support Across the Value Chain
- Tariff rationalization across the value chain for Composites Material Production
- Fast Track to Create National Standards for FRP / Composite Materials in line with the International Norms
- Provide Promotion for Exports of Locally Produced FRP / Composite Materials
- Set up Special Funds for Development of Composite Research Facilities and Key Sectors R & D Programs in different locations of India
- Incentivise the Home Grown Technologies and encourage and recognize to create IPR by creating meaning partnership between Industry, Academia and Government
- Provide Incentives to Exporters for Upgrades and Modernization of Production Setup
- Organize Regular Events to Promote the awareness of Composite Materials to End User Groups across the nation



Epoxy Resin

Epoxy resin is a thermosetting polymer in which the primary cross linking occurs through the reaction of an epoxy group. Considering the product's versatile properties, it finds use in a variety of applications including paints, coatings, adhesives, sealants composites etc.

Epoxy resins are also widely adopted in water-based coatings while electrodepositing primers, solvent-dipped coatings which are used on substrates, and powder coating applications in automotive sector. It is to be noted that the product offers exceptional heat, mechanical, and electrical resistance as well as high resistivity, mechanical strength and thermal stability.

The product also offers weight reduction properties as well as high chemical resistance, which in turn has propelled its demand in high-performance applications such as aircrafts, marine vehicles and race cars, which in turn is favoring global epoxy resin market outlook.

Apart from this, factors such as rapid urbanization, booming electronics industry, and growing demand for epoxy resins for producing insulators, jewelry, and laminates are also positively impacting the overall industry remuneration.

Epoxy resin is classified as 390730 under Harmonized System (HS) of Coding.

Global Overview

The global Epoxy Resin market size was valued at USD 7,592.35 million in 2019 and is anticipated to grow at a CAGR of 5.85% during the forecast period 2020-2026*

- In 2019, top-5 exporting countries of Epoxy resin were: Germany (17.2%), South Korea (13.7%), United States (11.9%), Taiwan (10.5%), and Japan (7.7%).
 - Likewise, top-5 importing countries of Epoxy resin were: China (16.0%), Germany (9.1%), United States (7.2%), Mexico (3.5%), and United Kingdom (3.4%).
1. Over 40% of the total epoxy resins is consumed by the paints & coatings segment. Drivers to growth of epoxy resin market include increasing demand in construction and automotive industries indicating that this trend is expected to continue over the forecast period.*



2. Growing end-use industries including transportation, marine coatings, aerospace, electrical & electronic laminates, composites, and decorative powder coatings particularly in the Asia Pacific is also expected to impact the global market positively.*
3. Increasing R&D initiatives by key participants coupled with technology innovation in the field of modified resins is expected to create new avenues for industrial applications. The global demand is fueled

by rapidly expanding wind energy capacity installation on account of a shift towards the development of renewable energy.*



4. Electrical & electronics is also expected to have remarkable penetration on account of increasing use of epoxy-based electronic adhesives. Growing electrical & electronics industry is expected to have a positive influence on the epoxy resin demand in this application segment.*
5. Epoxy resin-based adhesives are most extensively used on account of their superior adhesion properties. They are mainly used in automotive, construction and aerospace industries to join different parts together. Increasing acceptance of epoxy-based adhesives is expected to augment epoxy resin demand from this application segment.*
6. Epoxy resins also find application in various other end-use industries such as powder coating, industrial tooling, flooring and consumer applications. These segments are expected to exhibit moderate growth over the forecast period.*

The availability of polyurethane and phenolic resins as alternatives in various applications coupled with volatility in raw material (bisphenol-A & epichlorohydrin) prices are expected to restrict market growth over the forecast period.

*Source: Polarismarketresearch

Regional Analysis#

North American Region To Be In The Forefront Of Global Market Progress

The U.S. epoxy resin market volume by application is the principal epoxy resin market for second-hand cars, which is estimated to play a vital role in promoting the North American region's dominance. Thus, the need for epoxy resin in automotive refinish coatings is estimated to accelerate the forecast period's regional market growth.

Automotive Industry To Fortify APAC Epoxy Resin Market Position

The requirement for epoxy resin in the manufacture of paints consumed in the automotive industry is anticipated to upsurge the Asia Pacific due to growth in automobiles and individual disposable revenue in the region.

Space Race To Promote European Epoxy Resin Demand

The European Epoxy resin market's development is motivated by infrastructure expansion and the increasing aerospace industry that is projected to lift architectural coatings requirements in the region.

Infrastructure Boom To Stabilize Epoxy Resin Market Demand

In the Middle Eastern & African regional epoxy resin markets, the number of infrastructure projects is driving the demand for epoxy resin in construction applications. Moreover, the high production of electronic components, automobile parts, and aircraft drives epoxy resin requirement in making composite materials that are weightless in weight.

India Overview

India is a net importer of Epoxy resin. In 2019, India imported 55.2 KT of Epoxy resin valued at USD 170.93 million from the world. South Korea and Thailand were the major source for India's imports of Epoxy resin.

Source Country	Value (USD Mn)	Source Country	Qty. (Tonnes)
South Korea	42.58	South Korea	20,322
Thailand	27.94	Thailand	8,744
China	12.29	Taiwan	3,736
Germany	11.40	China	3,677
Japan	11.13	Germany	3,056
United States	10.11	Netherlands	2,517
Taiwan	9.98	Switzerland	2,152
Netherlands	8.40	Japan	1,831
Switzerland	7.07	Spain	1,765
Italy	5.18	United States	1,573

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

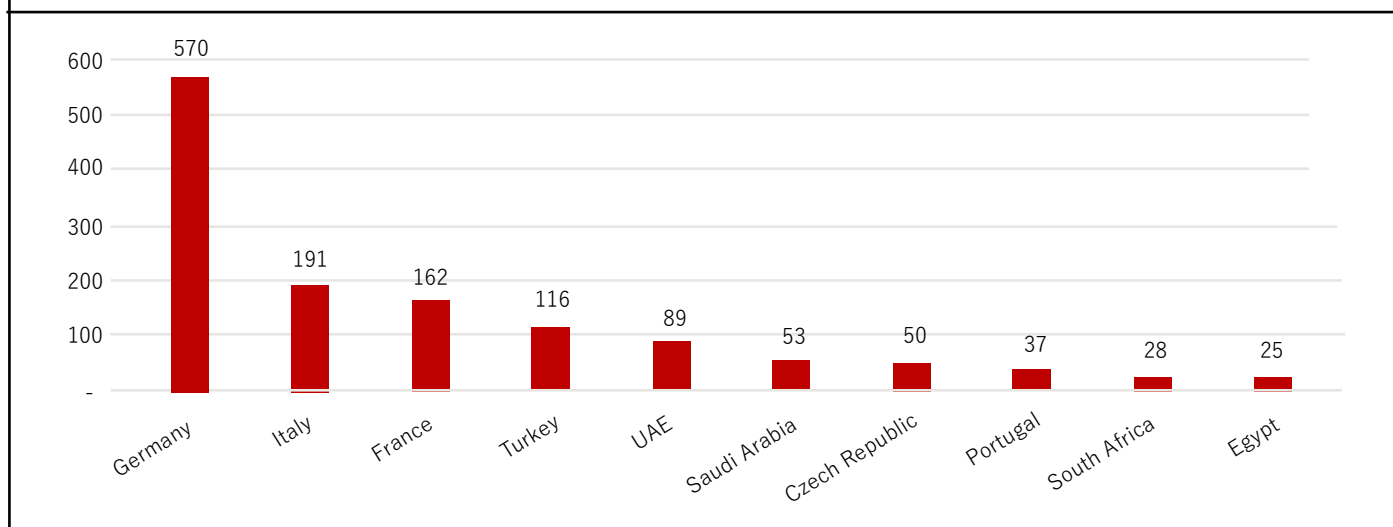
In 2019, India exported 29.9 KT of Epoxy resin valued at USD 72.9 million to the world. Italy, Germany and the United Arab Emirates were the major destinations for exports.

Destination Country	Value (USD Mn)	Destination Country	Qty. (Tonnes)
Italy	17.27	Italy	8,032
Germany	13.80	Germany	6,249
United Arab Emirates	9.08	United Arab Emirates	3,808
Saudi Arabia	2.98	Saudi Arabia	1,321
Bangladesh	2.72	Spain	1,042
Thailand	2.61	Thailand	1,024
Turkey	2.56	Bangladesh	1,004
Spain	2.37	Turkey	926
United States	2.03	China	538
China	1.48	France	431

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

Our internal research indicates that India's Epoxy resin producers have immense export potential to destinations like Germany, Italy, France, Turkey, UAE, Saudi Arabia, Czech Republic, Portugal, South Africa, and Egypt.

Import of Epoxy resin in USD Million – 2019



Source: Trade Map, Plexconcil Research

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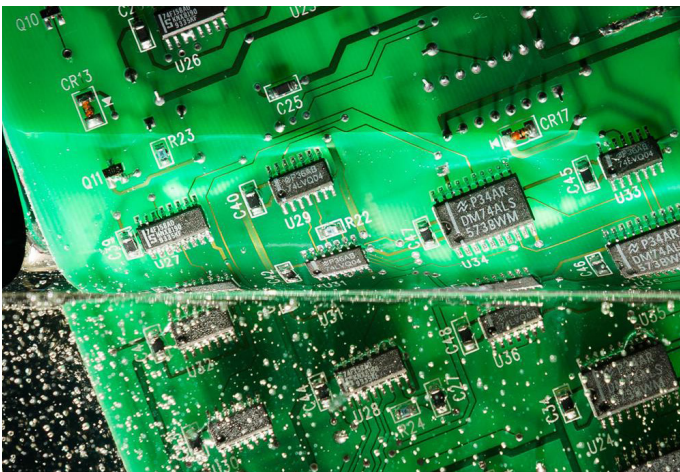
Recent Developments#

Dec 2020



Sicom Epoxy Systems has stated new marine collaboration and is creating a novel bio foaming epoxy. The firm's epoxy resins have been nominated for ENATA's high-performance Foiler motor yacht draft. The ENATA Foiler boasts an exclusive hydro-foiling system capable of hovering the yacht 1.5m above the surface of the water. The yacht is built of permeated carbon fibre and epoxy resin.

Dec 2020



Researchers have contained essential technology for epoxy sealing resources that are used to protect electronic parts, particularly semiconductors, from external ecological factors such as moisture, heat, and shock. The technology will aid South Korean chipmakers to end their dependency on Japanese products.

Nov 2020



Sika AG has further expanded its manufacturing capacity in the United Arab Emirates by contracting a novel manufacturing facility in Dubai. Sika is determined to enlarge its manufacturing facilities at the Dubai site to curtail delivery times, upsurge tractability in production, enhance cost structures, and decrease inventories. The locally manufactured epoxy resins are estimated to be an important component of Sika's flooring solutions. The location in Dubai was created in 2018 as a tactical distribution and sales center for the region. In addition to concrete admixtures, the epoxy resins will now be manufactured locally for the Target Market Flooring.

#marketresearchfuture.com

Interview with Canara Plastics Manufacturers & Traders Association (CPMTA)



Mr. B A Nazeer, President, CPMTA

Tell us about your association. What is the association's key role and function?

Canara Plastic Manufacturers & Traders Association (CPMTA) is a non profit organization established for the development of Plastic Industry & Trade, safeguarding the interest of Polymer Industry and for addressing Waste Management & environmental issues related to plastics. Our Association regularly remains in touch with the District Administration and Corporation administration with regard to Waste Management and participates in Meetings on Plastic Waste Management. Our Association represents more than 100 Plastic Manufacturing and trading firms in Mangalore and Udupi Districts.

MANGALORE PLASTIC PARK

In a recent announcement, the Union Government granted an in-principle approval for setting up a plastic park at Ganjimutt in Mangaluru. The Union Ministry of Chemicals and Fertilizers in a January 22 letter to the State government said that the Scheme Steering Committee in its 21st meeting held on January 20 under the chairmanship of Secretary, Chemicals and Fertilizers, decided to grant the in-principle approval. The approval given is valid for six months. The State government will have to submit a detailed project report to the Union government within that period for obtaining the final approval.

Recognizing the potential for the plastics industry sector in Karnataka and considering the obvious advantages that the industry enjoys in the district especially, CPMTA had proposed the setting up of The Plastic In-

dustries Park Mangalore way back in 2015 to the Ministry of DCPC, Govt. of India. The DCPC had immediately responded to our proposal and advised Govt. of Karnataka vide their letter dated 27th July 2015 to send the Proposal to Govt. of India. The developments soon after our initial proposal was sent and until the recent announcement has been summarized below:

- 25-06-2015: CPMTA Request letter sent to Sri Ananth Kumarji, Hon'ble Minister of Chemicals & Petrochemicals, Govt. of India
- 27-07-2015: Ministry of DCPC-GOI wrote letter to GOK to send proposal
- 18-12-2015: Ministry of C & I Govt of Karnataka initiated action
- 05-01-2016: CPMTA team visited TIDCO, Chennai and collected information about Chennai Plastic Park
- 16-08-2017: CPMTA called for expression of Interest from its members
- 22-09-2017: CPMTA submitted list of Members interested in acquiring land in the proposed Plastic Park.
- 01-01-2018 to 31-12-2018: Meetings held at DIC Mangalore, C&I, Bangalore and entrusted M/s. Intaglio technical & Business Services Bangalore for preparing proposal.
- 26-03-2019: KCTU writes to CIPET offering KIADB Land for setting up Skill Development Centre in the Plastic Park
- 19-07-2019: M/s. Intaglio technical & Business Services Bangalore submitted draft proposal
- 15-12-2020: The Govt. Of Karnataka submitted revised proposal to DCPC as per revised guidelines for setting up of Plastic Park.
- 22-01-2021: DCPC accorded in Principle approval.

Plastic parks are very important for realising the goals of Make in India programme and the proposed park in Mangalore will play a pivotal role in making Make in India programme of the Hon'ble Prime Minister, Shri. Na-

rendra Modi a success. We are grateful to the Union Minister for Chemicals and Fertilizers D.V. Sadananda Gowda and Chief Minister B.S. Yediyurappa for their role in getting the park for Mangaluru. We also express sincere gratitude to our Hon'ble MP, Shri. Nalin Kumar Kateel for his determined and tireless pursuit of our cause with the Central Govt. for getting this project sanctioned.

What are the key objectives of your associations vis-à-vis promoting the plastics processors of India?

Our association represents the interests of the not only the domestic processors, but also the plastics exporting community from the region. Considering the presence of ports and petrochemicals facilities in close proximity, the plastics industry in our region enjoys the unique advantage of having a great infrastructure. As a representative body for the industry in the region, one of our main tasks is to also approach various Govt departments collectively like State Pollution Control Board, Mangalore City Corporation, District Administration for getting various approvals like Consent, Plastic Bag Registration certificate under PWM rules and Plastic waste disposal action plan endorsement from City corporation etc., thus saving time and energy for domestic processors. We also collaborate with industry bodies such as Plexconcil to highlight and address the challenges and concerns of the exporters. We routinely organize seminars, roadshows and participate at several leading plastics fairs in the country to highlight the investment and export potential in the region. We have been regularly active in promoting environmental sustainability by setting up waste collection and management centres in Mangalore city. The land for the same was provided by Mangalore City Corporation in Kadri and plans are underway to create numerous such collection centres that are aimed at reducing pollution caused by irresponsible disposal of plastic waste.

CPMTA has played a key role in requesting for a Plastic Park in Mangalore that has now received the Govt's nod. What are the advantages that the said plastic park will offer processors in Mangalore?

With the commissioning of Polypropylene Petrochemical Complex and the proposed Polyethylene Project in Mangalore by MRPL, we are confident that the opportunities for Plastic Industries will grow exponentially. An amount of Rs. 40 crore will be provided by the Central Govt. as Grant in aid for this project. This Plastic Park will be implemented through KIADB and will be initially spread over an area of 96.05 acres. Entrepreneurs have already shown their expression of interest to invest in the Mangalore Plastic park. This will create more employment opportunities for the people of this region.

This Plastic Park will consist of Administration & Park Management offices, Service Providers' offices, Investor services' centre, Warehousing facilities/ Raw material depot, R&D Facility for Additive Manufacturing, R&D Facility for Sustainable Plastics, Social Infrastructure, Dormitories for Workers, etc.

The park will also boast top of the line Infrastructural facilities like Road network & Storm Water, Drainage, Footpaths & Utility Corridors, Domestic & Industrial Water Supply System, Sewerage Collection System, Sewerage Treatment Plant, Solid waste Management & Plastic Waste Recycling, Street Lighting System, Electrical Distribution System, Telecommunications etc.

From which manufacturing / export clusters or regions do your members chiefly belong to?

Presently most of our industries are from Dakshin Kananada and Udupi districts. Our members are some of the leading companies engaged in Packaging, Woven Sacks, Plastic furniture, Marine products, Plastic Masterbatches, raw materials, Compounds, Toys, Roto & Flexographic Printing activities, PET Bottles, Multi-layer film etc.,

What are the main categories of products that are typically exported from your region? What are the global opportunities for your exporters/ manufacturers from your region?

Plastic raw materials, Compounds, Plastic furniture, Plastic waste, woven sacks, Jumbo bags, Packaging bags etc., are some of our major exports. In the Woven sacks/ FIBC, India is already a world leader and with the establishing of the park, our region has excellent opportunities to grow exports in the other categories as well. The packaging industry is expected to achieve significant growth and with the Govt's emphasis on R&D and manufacturing, value added plastics are likely to receive the much-needed impetus for growth as well.

What are the challenges faced by exporters from your region?

Considering the easy access that our region has to the port and raw material, our exporters are not majorly challenged by these issues. The Mangalore Port authorities and Customs department are very cooperative and processes for exports are quite streamlined. However, due to the global pandemic situation, in the past few months especially, the non-availability of empty containers has been a problem in Mangalore. Many a times, exporters have been compelled to ship from Colombo port which adds to the already high cost of logistics.

What are the kinds of measures that you believe are needed to ease or improve export growth from your region?

In logistics terms, perhaps one of the most significant need of the exporting community is the introduction of direct calling vessels to help export growth. On the other hand, since MEIS has been replaced with RoDTEP, exporters from especially the FIBC sector have been facing challenges in receiving their dues. The bottlenecks must be cleared as finance is the lifeline for exporters and this has been heightened in current times. RoDTEP should be simplified and the rates must be fixed liberally to make Indian exports more competitive internationally. Free trade agreements for plastic products need to be renegotiated, in particular with major export destinations such as Europe (which accounts for 24% of India's plastic exports), North America (16%) and the WANA zone (14%).

The plastic processing industry is a huge employment generator and has immense scope for entrepreneurship. What measures are being taken by your association to highlight the same?

At present the plastic industry in our region provides employment opportunities to the locals as well as migrant workers from north. Local women are widely employed in Packaging Industry in Mangalore. After completion of Plastic Park Project, we expect that more employment will be generated. Our association constantly works towards opportunities for entrepreneurship as well as employment generation in the industry through our numerous workshops and seminars that are held in the various clusters in the region.

What are the measures being taken by your association for upskilling, reskilling and skill development in the industry considering the widespread integration of newer technologies in manufacturing?

We have requested DCPC to set up a CIPET training and skill development centre in the proposed Plastic Park and land has been reserved for this purpose. We also conduct workshops with various other associations to highlight technological developments in the industry and stress upon the need for upskilling as well as acquiring of advanced/ new skills and opportunities in the industry considering the growing use of automation in the industry.

How can Plexconcil support your association in achieving your association's goals and objectives?

One of the key areas where PLEXCONCIL can assist the industry in the region is by setting up a Plastic Export Facilitation Centre in the proposed plastic park to provide facilities that can enhance the potential for the export of Plastic finished goods from Mangalore. We hope that the Council would be able to create such a centre as that would be especially helpful for the micro and small industries who could benefit from smaller capital investments or financing cost. Setting up of such centres will encourage more players into the segment and that would eventually not only help in creating a stronger manufacturing and exporting community, but also promote entrepreneurship in the country.



Are Manufacturers an Easy Ransomware Target?

While manufacturers are not necessarily easier targets than peers in other industry sectors, it is clear that today's hackers recognize the growing value associated with attacking industrial organizations. Unfortunately, the stats show it. According to a recent Digital Shadows report that examined ransomware attacks in 2020, the industrial good sector accounted for 29%.

And, unfortunately, the list of industrial companies publicly acknowledging attacks or data leaks continues to grow including Palfinger, Foxconn, Steelcase, Nissan, Solarwinds, KYB Corp., CMA CGM, Tesla and Honda. Admittedly, the growing number of organizations suffering from cyber concerns is mind boggling.

"Unfortunately, this is a trend we've been tracking for a while. OT Systems are the crown jewels for organizations and threat actors are going after them. Making matters worse – more OT-related common vulnerabilities and exposures (CVEs) were reported last year than ever before. The days when threats to industrial networks were few and far between and often attributed to nation-state actors are clearly behind us," says Andrea Carcano, co-founder of Nozomi Networks. "As IT, OT and IoT worlds converge, threat actors of all types are setting their sights on higher value targets, leaving security organizations scrambling to keep up. The good news is security professionals are no longer taking these threats lightly."

According to Carcano, a recent Gartner survey found operational risk management is now the top priority for security risk managers, and industrial organizations are stepping up their security. "It's a challenging task, but not impossible," he says. "We know from working with thousands of industrial installations that you can monitor and mitigate these risks, and a new generation of IoT and cloud-scale solutions are making it easier than ever to scale quickly while minimizing complexity and cost."

Turning the tide

It's not too late for manufacturers to take action. Industrial manufacturers, including chemical, pharma, food and beverage, and automotive sectors, need to transform their approach to network security in order to stay one step ahead of the ransomware curve, Carcano tells IndustryWeek, while also providing three steps to help improve operational resiliency and defend operations against attack:

1. Adopt a cybersecurity framework.

Armed with cybersecurity best practices and the right technology, companies can protect their production, people, and reputation, while preserving the bottom line. Top manufacturers are researching and selecting a cybersecurity framework to follow, such as IEC 62443, NIST, or NIS. These frameworks offer guidelines for cybersecurity best practices and tools for facilitating their implementation. From an accurate asset inventory to identifying potential threats, manufacturers can follow industry guidelines and best practices to attain next-level cybersecurity resiliency.

2. Improve Network and Operational Visibility

If the IT/OT team doesn't know what devices they have on their network, they can't protect their assets or segment the network for better resiliency. It's not uncommon for manufacturers to think that they have 5,000 devices, when the number is more like 10,000. By inventorying all assets on your network, you can achieve real-time visibility into your devices, connections, communications, and protocols. This allows you to continuously monitor, spot and troubleshoot networking and communication issues that threaten reliability. System deviations are often the first sign of a network attack.

3. Integrate Your OT and IT network security

IOT knows how to meet production targets and keep the plant running. IT has the expertise to address networking and cybersecurity issues that are unfamiliar to ICS staff. When IT and OT work together, we see stronger operational resiliency. Unfortunately, oversight of OT security is still often quite fragmented. Collaboration between IT and OT is critical to reducing the blind spots and security risks surrounding highly connected industrial control systems.

"By adopting a cybersecurity framework, improving asset visibility, and driving IT/OT convergence, the industrial sector can greatly improve operational resiliency and better defend against today's sophisticated ransomware attacks," says Carcano.

Supply Chain AI: Getting the Most Bang for Your Buck



The widespread scale of the coronavirus pandemic, and the need to distribute a vaccine the moment it's ready, has introduced new complexities to the global supply chain. These include the number of parties and jurisdictions involved, varying maturity levels in data analytics, and transportation and communication issues, among others.

Artificial intelligence (AI) and data analytics may present opportunities to more accurately predict challenges and plan an efficient rapid response while minimizing future disruptions.

The COVID-19 pandemic highlighted new and existing issues in many industries' supply chains. Consumer goods, manufacturing and healthcare supply chain disruptions have made headlines since the beginning of the year. In addition, some logistics organizations are struggling to gather and analyze quality data while bottlenecks at any link in the chain threaten to cause cascading disruptions.

This is where AI – and specifically machine learning – can help.

AI may refer to many implementations of technology, but machine learning is the most prominent implementation of AI. It uses algorithms and applications to automate data analysis and create models of knowledge. Machine learning solutions may be used to perform predictive analysis, such as regression analysis and classification, which can be particularly helpful in predicting business issues relating to the supply chain.

Transportation Applications

Transportation issues are frequently a significant component of supply chain disruption. AI solutions may help to solve these challenges by automating data collection from various points in the route and then using anticipatory shipping to a satellite location to meet consumers' needs – sometimes even before the need is reported.

Another way to increase efficiencies in transportation could be to enable rescheduling of deliveries and trucking route modifications based on latest traffic and weather patterns. Including this data in predictive models can make those predictions more relevant and the process more efficient.

Other helpful uses include predicting inventory outages. Take the example of the eventual distribution of a COVID-19 vaccine: it would be crucial to predict not only the stock availability of vaccines themselves, but also of the peripheral supplies – such as syringes, diluent, and refrigeration supplies. All these factors could ultimately impact millions of lives. Even patient care-related predictions such as staffing needs and appointment time per patient for immunization could become important.

A Huge Supply Chain Challenge

Distribution of a COVID-19 vaccine will soon be the biggest supply chain challenge facing the world. To successfully deploy a vaccine, organizations may need to

predict several aspects related to the supply chain, including:

Timing of consumption by country, region, city, and perhaps immunization locations. Learning where vaccines will come from and where they will be distributed at their final destination can help to streamline logistics.

Sourcing, availability and cost of materials. Predicting shortages will be especially important to manufacturers so they can mitigate potential risks.

Production locations, lot scheduling and sizing. Distributors will need to account for size and availability of storage facilities along the distribution route.

Potential for strain on quality control resources. Several quality control points will likely be necessary to guarantee the viability of the vaccine. Overloading these “checkpoints” would create bottlenecks in the chain.

Spoilage probability and cascading effect. COVID-19 vaccines need to be stored in controlled cold temperatures and are susceptible to spoilage if deviations occur. Modeling space allocation and anticipating problems with stocking may reduce potential for wasted inventory. The nature and scale of COVID-19 introduce long-tail risk scenarios that include more uncertainty than prior immunization deployment information could help solve. Many more simulations may be necessary to provide examples of alignment of multiple low-probability events and scenarios.

Automating data collection and data transformation through the use of robotic process automation (RPA) from as many sources and organizations as can be involved in the manufacturing and distribution of the vaccine may help diminish manual errors, speed up the process, and enable analysts to make more accurate predictions.

It's All in the Data

While there are many complexities involved at every junction of a supply chain, organizations can drive significant value by making incremental efforts toward data analytics maturity – without necessarily adopting a robust machine learning solution. The value from AI capabilities and improving data analytics ultimately comes in the form of better decision-making in the face of uncertainty. An organization's data may contain indicators of risk and opportunities for new value. Most organizations can start by improving their processes around data governance, unlocking the data's true potential.

Data for modeling may come from many sources: past and present supply and demand patterns, real-time traffic and weather updates, inventory data, market predictions, etc. As with any input-output process, more accurate data input yields more accurate predictions. Improving version control and change management practices around data management can help protect the quality of data. Furthermore, the assumptions gathered from this data and incorporated into predictive models need to be well-documented to explain the rationale and to allow ongoing monitoring of model performance and adjustment.

In addition to the data used for establishing models, data for updating and adapting models is critical. The faster that reliable data can be received back through the supply chain, the faster that other parties can respond. In the coronavirus immunization example, data from immunization sites (such as hospitals and clinics) should be shared as efficiently and accurately as possible to enable manufacturers and logistics companies to respond accordingly.

Implementing AI Solutions

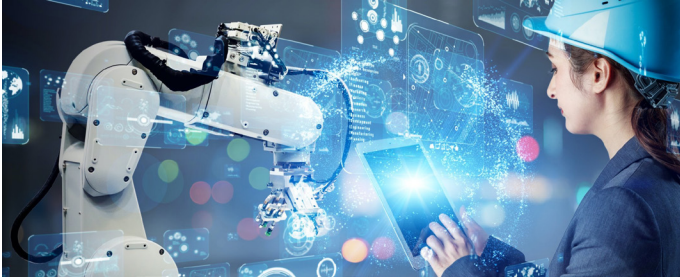
An automation specialist with experience implementing RPA solutions can help organizations identify and refine data sources from across various business functions. Once the relevant data and processes are identified, automation can improve the collection process and data quality.

In addition, there are automation solutions out there to help organizations establish standardized business logic, enabling improved identification and monitoring of key performance indicators (KPIs) with the use of management dashboards, and mitigating risks more quickly and competently.

The COVID-19 pandemic may continue to have disruptive impact on industries for years to come, and some of the long-term implications are not yet obvious. Nonetheless, good data analytics practices are available to organizations of all sizes and levels of sophistication.

Artificial intelligence, specifically machine learning and automation, may assist some organizations to predict events and take anticipatory action. Organizations that haven't already done so should plan now how they will use these new technologies and the power of data to unlock potential opportunities and value, while addressing the supply chain challenges facing the world today. Source: Industry Week

14 Manufacturing Trends in 2021



Advances in technology are changing the way nearly every industry operates. As manufacturers look to stay competitive in the marketplace, they are constantly searching for the latest and greatest inventions, strategies, and systems. As you research what's next for your facility, you might want to consider the following trends that we think are influencing manufacturing.

1. Accessible Automation

Automation in the manufacturing world is not entirely new, but widespread adoption of the practice is. New technologies have made automation more accessible to more manufacturers and are changing the way companies operate. "Automation for all" is the next step in the industry.

Automation is made possible with easy-to-use robotics solutions, user-friendly Manufacturing Process Management (MPM) systems, and human-robot collaboration. With manufacturing automation, organizations are reducing costs, optimizing workflows, and increasing their bottom line.

2. Mobile Robotics

According to the Robotic Industries Association, robotics shipments were up 41% over 2018, especially in non-automotive workplaces.

One of the primary drivers of this manufacturing trend is autonomous mobile robots (AMRs). While robots used to mean ultra-sophisticated technology that required trained roboticists, new robotics technology is making automation attainable for companies of all sizes.

3. Internet of Things (IoT)

The Internet of Things (IoT) is helping manufacturers connect and monitor the various components of their operations, gaining insight never before possible. This connectedness gives manufacturers valuable data that enable them to change, optimize, and improve every facet of their manufacturing process.

Using smart sensors and cloud connectivity powered by the internet, IoT is propelling the advancement of the industry. Companies are improving safety, saving money, streamlining manufacturing, and even creating new products with IoT capabilities.

Just how valuable is IoT for manufacturers? Forbes projects that globally, more than \$267 billion will be invested in IoT by 2020, with 50% of that focused on manufacturing, transportation, and logistics.

4. Enterprise Resource Planning

Enterprise resource planning (ERP) technology has been in the manufacturing industry for years but is now getting widespread usage with the availability of cloud-based SaaS options that are easier to deploy and more affordable for small businesses. ERP systems help manufacturers automate different areas of operations under one comprehensive system. This universal touchpoint then gives manufacturers the insight they need to oversee the entire manufacturing operation and make improvements and adjustments where needed.

5. Universal Connectivity

Technologies and innovations in the manufacturing space were traditionally billed as a one-size-fits-all solution. Your operations had to fit the mold of the technology, which limited manufacturers' options and made certain capabilities unavailable to them. New manufacturing trends are seeing that balance flip.

What we are calling "universal connectivity" is the idea that technologies are now being made to connect with any device or system. Essentially, technology and manufacturing advancements can now be tailor-made to your operations, without the cost of a fully custom solution.

6. Industry 4.0

A term created to describe the current trend in manufacturing toward "smart factories," Industry 4.0 is shorthand for the fourth industrial revolution. Many of the trends on this list contribute to and make Industry 4.0 possible.

The widespread adoption and understanding of the latest manufacturing tech – IoT, the cloud, advanced computers, robotics, and the human workforce – all work together to empower Industry 4.0. Companies looking to stay relevant, competitive, and thrive in the marketplace must take advantage of the technological advancements that have sparked the fourth revolution in the manufacturing industry.

7. Artificial Intelligence & Machine Learning

Because companies have access to more data than ever before, tools that enable them to make the most of that data, like artificial intelligence (AI) and machine learning, are having a major impact on manufacturing. AI doesn't mean walking, talking robots, but instead refers to a computer system's ability to recognize trends and infer logical conclusions that can help manufacturers make data-driven decisions.

AI and machine learning can help improve many aspects of a manufacturing operation, such as:

- Inventory Management
- Supply Chain Visibility
- Warehousing Cost Reduction
- Asset Tracking
- Forecasting Accuracy
- Transportation Cost Reduction
- And more

8. Predictive Maintenance

Made possible by IoT, AI, and machine learning, predictive maintenance is helping manufacturers avoid downtime by catching issues before they arise.

Adding predictive maintenance technology to a manufacturing operation can save on both maintenance costs and downtime while extending the expected life of machinery. McKinsey & Company projects that predictive maintenance programs will reduce costs by about 20% for maintenance and cut unplanned machine outage by 50%.

9. Supply Chain Technology

Overall supply chain operation is being impacted by advances in high mix, low volume (HMLV) manufacturing. Effectively managing the supply chain is vital for manufacturers looking to save on costs, while delivering products to customers when they want it, how they want it. Manufacturing trends are seeing companies invest in technologies that touch every step of the manufacturing process; procurement, inventory, assembly, logistics, transportation, and sales are all impacted by new technologies. For example, adding sensors or barcodes to items allows companies to scan and track parts throughout the process, helping companies quickly see where improvement can be made.

10. Mobile Manipulators

Think of mobile manipulators as the marriage of a robotic arm and an AMR, essentially a fully mobile, self-navigating robot arm that can perform a variety of operations. Robotic arms were traditionally stationary automation tools, helping manufacturers in just one step of the assembly process. But with new-found mobility, they are being used to automate other key areas of manufacturing and can be optimized for collaboration with the human workforce (more on this later). Mobile manipulation is an area where Waypoint is developing collaborative robots for the workforce.

11. Additive Manufacturing

This is the official industry term for what is better known as 3D printing. Using computer-aided-design (CAD) software, manufacturers can now custom build parts and products one layer at a time for their customers. Don't just assume that additive manufacturing is making entire, complete products – this process is also ideal for creating models, prototypes, molds, lost-wax castings, or components of final, finished products.

Additive manufacturing is a fast-growing trend in the industry as it is first and foremost a significant time and cost-saving tool. We are seeing this manufacturing trend growing at an accelerating rate, especially in the metal fabrication industry and among manufacturers who build with metal components. New selective laser sintering (SLS) technology for 3D printing metals enables companies to build metal products in-house and realize significant cost savings by eliminating toolings costs and dramatically shortening product development time. Most exciting is that 3D printing enables cost effective mass production of metal parts that were previously impossible to make.

12. Collaborative Robots (Cobots)

The addition of robotics and automation to the manufacturing industry has sparked concerns about possible negative impact on the workforce. What manufacturing trends are showing is just the opposite – robots and people working together, collaboratively, in factories and warehouses can get more work done, faster and more safely.

Known as cobots, robots are now being built for the human workforce to use as a valuable tool that helps improve overall efficiency in the workplace. AMRs are uniquely tailored to this working partnership, as they can be programmed to consistently perform non-value-added work, like moving heavy products, while people focus on skilled labor.

13. Automated Picking

Speaking of cobots, one of the most common uses of cobot systems in a logistics setting is for picking. In traditional order fulfillment roles, the physical act of walking to pick product accounts for 50% of the entire process, eating up valuable time and money.

Automated picking is achieved when a robot is used to travel throughout the warehouse grabbing the correct product, leaving people to do more skillful work in the fulfillment process. These advances in manufacturing and logistics are improving efficiency – where a human worker could pick between 60 and 80 orders an hour, an automated system can pick up to 300 in the same time frame, according to Westernacher Consulting.

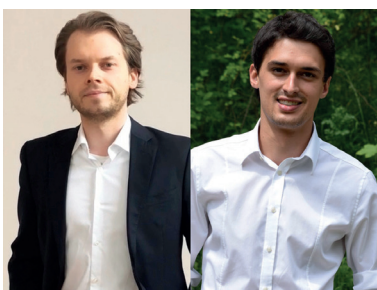
14. Workforce Attraction, Retention, & Training

It is no secret in manufacturing that companies struggle to find skilled, qualified employees. There is even a workforce shortage in the industry, and Deloitte has projected that nearly half of the 4.6 million manufacturing jobs that will be needed over the next 10 years will not be filled. That's 2.3 million open positions.

Manufacturing should focus on empowering the workforce to attract good talent and keep them on the job. How do you achieve that? You empower them to do valuable work and minimize the physically and mentally demanding tasks. One way to do this is to have workers currently on the floor put automation tools like robots to work. When workers can easily master the technology, they will expand their skill set and work collaboratively with the technology to streamline processes and reduce backbreaking, repetitive tasks.

Source: waypointrobotics.com

INTERVIEW: The challenge of integrating recycle in flexible packaging



**Florian Riedl (left)
and Jakob Settele
(right)**

The inclusion of recycled plastics into diverse packaging formats is a challenge for the plastics and packaging value chains. Huhtamaki recently succeeded in integrating the first quantities of recycled plastics into one of its standard plastic barrier laminate for tubes. The polyethylene (PE) recycle that enabled this is APK's Mersalen®. APK's solvent-based Newcycling® technology generates Mersalen® from complex polyethylene / polyamide multilayer film waste that is difficult for most conventional recycling processes to recycle.

Victoria Hattersley spoke with Florian Riedl, Business Development Director APK, and Jakob Settele, Sales Manager Personal Care & Tube Laminates Huhtamaki Flexible Packaging Europe, about how their companies' recent collaboration in flexible laminate tubes represents a step forward.

VH: Can you begin by explaining briefly why this collaboration is so significant for both your companies and the wider packaging industry?

FR: Over the last three or four years we have been seeing increasing demand from the flexible packaging market for high-quality recycle. But it's much more difficult to find good quality recycle for flexibles than for rigids; that's how we came into contact with Huhtamaki, who are experts in tube laminates. With our Newcycling technology, we can produce high-quality recycles to replace virgin material in flexible packaging.

VH: Why is it so challenging to integrate recycled content into tube applications, and how are you tackling this challenge?

FR: If we look back a little, over the last 20 years the majority of recycle did not go back into packaging but was instead used for furniture, landscaping etc. Now, of course, the requirement is that more and more packaging should be in a closed loop and this requires different technologies.

In rigid packaging, as opposed to flexible, polymers used are typically of higher quality with less contamination so they can be recycled easily using standard mechanical processes. This is why we already have a closed loop with things like PET bottles. With flexible, there is much more contamination involved and that's why the amount of good quality LDPE recycle on the market is much lower and why it's trickier to replace virgin in flexibles. Jakob can explain why tubes present particular challenges!

JS: When it comes to flexible packs and tube laminate applications there are currently two approaches on the market: the first is reducing materials and the second is using recycled content. The problem until now was that the available resins on the market either did not meet requirements from a quality point of view or a regulatory point of view and didn't downgauge enough. You could have implemented the resins available on the market if you increased the total thickness of the tube laminate but of course that is not the target at all. So the biggest challenge we are facing is still the availability of suitable resins.

VH: While we are seeing increased use of recycled content and recyclable materials, there are still packaging applications for which these are not suitable. Are you hopeful that the use of these materials will extend into more challenging applications in the future?

FR: When you look at the end application of such tubes, in many cases they were for cosmetics and personal care products. For these sectors there are very high requirements which further limits the availability of recyclates. Our materials prevent migration and are therefore suitable for many cosmetic applications.

The Newcycling process itself is not mechanical but also not chemical. We call it solvent-based, or also sometimes a dissolution process. In the end it's a process where you don't destroy the polymer, unlike with chemical recycling. On the other hand, in traditional mechanical recycling you keep the structure of the polymer but the possibilities for separating the material are of course limited. With our approach we can select the parts of the polymer we want so we can get very pure polymers from a mix of plastics – even multilayers – and that is how we reach these very low migration limits. The next logical step would be for food applications but of course that requires even higher purity.

JS: Yes – in terms of regulatory requirements it has been standard to have full food contact compliance for all packaging materials. Now, the industry is beginning to question whether all packaging needs 100% food compliance or not. End customers and brand owners are rethinking their ways of working and considering whether they need such high barrier solutions for all products. These are things that need to be discussed and in my opinion there needs to be a joint cooperation between all parties on the market – resin suppliers, film suppliers, flexible packaging producers, tube makers and so on.

I should add that it's also a case of aesthetics to some extent: end users compare recycled material with standard virgin based, and it obviously looks different. If end users would accept a different kind of standard material then the percentage of recycled content could be increased much further. It's a combination of what is possible from a technical side and what will the customers accept on the shelf.

Source: Packaging Europe



Is Digitalising Shipping Processes Enough to Improve India's Ease of Doing Business Ranking?

India has managed to break into the top 100 countries in World Bank's Ease of Doing Business ranking. In the latest rankings published by the World Bank's Ease of Doing Business 2020, India was ranked 63rd. The country was 77th among 190 countries in the previous ranking last year, an improvement by 23 places.

Importing and exporting became easier for companies for the fourth consecutive year. With the latest reforms, India now ranks 68th globally on this indicator and performs significantly better than the regional average. The time necessary for the logistical processes of exporting and importing goods has been significantly reduced.

According to the report, India's rank jumped 12 places from 80th to 68th in the category of trading across borders. India made trading across borders easier by enabling post-clearance audits, integrating trade stakeholders in a single electronic platform, upgrading port infrastructures, and enhancing the electronic submission of documents. This reform applies to both Delhi and Mumbai.

TOPIC	SCORE IN 2019	SCORE IN 2020	RANK IN 2019	RANK IN 2020
Starting a business	81.0	81.6	137	136
Dealing with construction permits	72.1	78.7	52	27
Getting electricity	89.2	89.4	24	22
Registering property	47.9	47.6	166	154
Getting Credit	80.0	80.0	22	25
Protecting Minority Investors	80.0	80.0	7	13
Paying Taxes	65.4	67.6	121	115
Trading across Borders	77.5	82.5	80	68
Enforcing Contracts	41.2	41.2	163	163
Resolving Insolvency	40.8	62.0	108	52
Overall	67.5	71.0	77	63

Source: Doing Business, World Bank

What is Trading across Borders ranking

The Trading across Borders parameter is important as it measures the efficiency with which certain compliances associated with the import-export procedure are carried out.

For rating performance on Trading across Borders, the World Bank looks at the time and the cost attached with the logistical process involved in export-import trade of a country.

To arrive at a ranking, World Bank studies the time and the cost (excluding tariff) attached with 3 sets of procedures namely – documentary compliance, border compliance, and domestic transport involved in the entire export-import procedure.

The digitalisation drive by Ministry of Shipping

To improve upon this facet of international trade, the Ministry of Shipping has made it mandatory to exchange/transfer trade documents - e-invoice, e-payment, and e-Delivery Order - in digital form via the Port Community System (PCS). Earlier this facility was available only for DPD container clearance at JNPT Port, but now with the latest notification (link given below), the PCS facility has been extended to all stakeholders like terminals, CFSs, ICDs, and other Major Ports where the Port Community System is available.

The Port Community System (PCS) is the integrated web-based message exchange platform for the entire maritime community operated by Indian Ports Association (IPA). The main goal was to improve India's EODB rankings, reduce health risks, and avoid bottlenecks caused during the handling of a hitherto paper-intensive process for export-import (EXIM) cargo at their ports by digitalizing the processes.

The PCS is directly linked to ICEGate, a portal operated by the Customs to digitalise trade processes such as filing of import and export documentation, payment, and document status tracking. This will help in easy transfer of information from one system to another. (Source: Ministry of Shipping Notification)

Is it enough?

While digitizing these processes will definitely help in improving the turnaround time of the listed processes, at the same time, it is also important to note that these are not the only issues at Indian Ports that affect the turnaround time of the shipments.

According to the report, Port Logistics: Issues and Challenges in India, authorized by the Niti Aayog, published by Dun & Bradstreet (DNB) in February 2018, port congestion, shipping line issues and charges, regulatory clearances, customs clearances, documentation and paperwork are the major issues that result in detention and demurrage charges incurred by importers. In other words, these issues are responsible for causing a delay in processing shipments.

Among the points listed in the DNB report, port congestion is the main pain point. If our ports can work on improving infrastructure issues, it would be easier to implement and execute the new initiatives.

Instead of looking at these parameters separately, it would probably be better if the policy framers looked at the entire trade activity holistically – which includes documentation, shipping lines, port operations, traders, policies and laws of trade, and service providers like CFS, stevedores, rail and road transporters, and terminal operators.

A holistic approach would ensure that in an attempt to fix one problem, we would not give rise to or disrupt another sector of the trade. The loss of business and employment suffered by CFS operators providing service when the DPD model was extended to all importers at JNPT is a case in point.

Source: Cogoport/ Ease of Doing Business Ranking, World Bank

Direct Port Delivery: India's Move To Cut Import Delivery Time, Costs Worked?



In 2016, India introduced Direct Port Delivery (DPD), a system that allows a select group of importers to clear cargo directly from the port within 48 hours of arrival. It is an alternative to the CFS (container freight station) model, where import cargo is routed to an off-site CFS and delivery takes roughly three times longer. The objective behind DPD is to reduce time and cost for importers, decongest ports and, in the process, facilitate trade and improve India's Ease of Doing Business ranking.

The DPD model was first introduced at the Jawaharlal Nehru Port Trust (JNPT) – India's busiest container gateway – and has since been extended to ports across India. This piece takes an in-depth look at this key government initiative and how it has performed in the last four years.

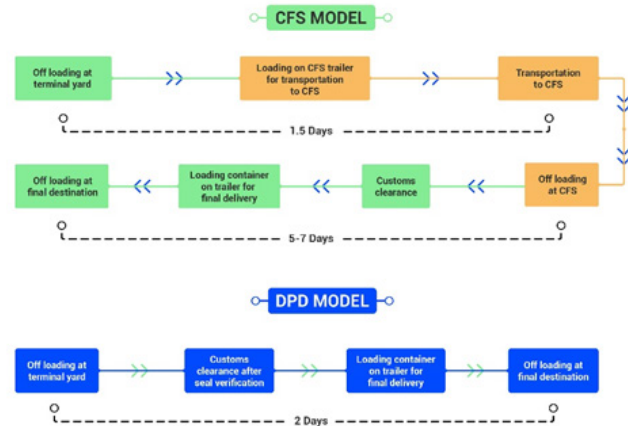
What is Direct Port Delivery?

Under the DPD model, importers can complete customs clearance of their shipment and take delivery of it at the port within a stipulated time frame (usually 48 hours) of the shipment being offloaded. If the importer fails to take delivery within this time, the shipment is transferred en-bloc (as a whole) to a pre-designated CFS. The importer then has to follow the CFS model, under which cargo delivery takes roughly seven to nine days.

These flow charts show the stages in both models and how DPD eliminates three stages in the CFS model: Under the DPD model, there are two modes of delivery: DPD/DPD: Here, the importer arranges for their own transport and takes delivery at the terminal.

DPD/CFS: The importer arranges CFS transport and takes delivery at the terminal.

CFS MODEL V/S DPD MODEL



What are the Benefits of DPD?

It cuts the delivery time of import cargo by five to seven days.

Importers save on storage, ground rent, CFS handling and terminal-to-CFS transport charges as well as detention fees payable to the carrier. The JNPT estimates savings of Rs 10,000-20,000 per container.

The DPD clearance and delivery facility is open 24x7. Quicker delivery means faster turnaround of containers for shipping lines.

Who is Eligible for DPD?

Only importers who fulfil these government-prescribed guidelines can avail of this facility:

Importers with Authorised Economic Operator (AEO) status. The World Customs Organisation (WCO) defines an AEO as “a party involved in the international movement of goods in whatever function that has been approved by or on behalf of a national customs administration as complying with WCO or equivalent supply chain security standards”. They include “manufacturers, importers, exporters, brokers, carriers, consolidators, intermediaries, ports, airports, terminal operators, integrated operators, warehouses and distributors”. India's AEO programme is implemented by the Central Board of Indirect Taxes and Customs (CBIC).

Importers with a clear track record of compliance and import volume of 25 Full Container Load (FCL) TEUs through a particular port or otherwise in the preceding financial year.

Importers who don't fulfil the first two conditions can still be eligible for DPD if their “imports have enjoyed a consistent pattern of customs risk facilitation” and/or if they “provide an assurance that they would be in a po-

sition to pick up containers directly from the terminal". This relaxation is aimed at micro, small and medium enterprises (MSMEs). The discretion of accepting such an application lies with the chief customs commissioner. Additionally, DPD is open to shipments only if they fulfil these conditions:

- If the consignment is FCL.
- If it is covered by an RMS-facilitated Bill of Entry on a "no assessment no examination" or "assessment but no examination" basis (RMS being Indian Customs' Risk Management System).
- If the importer has a pre-deposit account (PDA) with the terminal. The account should hold sufficient funds to pay terminal handling charges.
- If the importer has made their own transport arrangement to take delivery of cargo.
- If the importer has fulfilled any other procedural formality prescribed by the relevant customs zone.

Who isn't eligible?

Importers against whom a case of misdeclaration of description of goods or of concealment/diversion of imported goods/evasion of duty has been made in the preceding five years.

Importers facing prosecution proceedings under the Customs Act, 1962.

Those importing goods subjected to 100% examination. Those importing Less-than Container Load (LCL) consignments.

How do you Apply for DPD?

Step 1: Submit a request letter – in the form of an application called Annexure-A (see copy below) – to the deputy commissioner, port customs house. This application must be on the importer's letterhead and accompanied by these documents:

- List of authorised signatories of the importer
- Self-attested copies of PAN (permanent account number)
- Letter of authorisation for customs broker acting on the importer's behalf
- Details of company official with photograph and signature in case self-clearance

Step 2: The customs house will respond either with a permission letter or a rejection.

Step 3: If you receive a permission letter, this and your documents will then be forwarded to the terminal.

Step 4: Your registration is complete once you receive a unique DPD code from the terminal

Step 5: Using this DPD code, you will need to open a PDA with the terminal.

What are your Responsibilities as an Importer/Customs Broker?

Advance intimation: You must submit the Bill of Lading (BL) number, consignment details, a copy of the letter of permission and your preferred CFS to the shipping line 72 hours before vessel arrival. Specify the DPD mode as well. If not, the carrier will by default mark the consignment as DPD/DPD.

Advance BL submission: Once the shipping line/customs agent receives advance intimation, they will generate an advance invoice. You must pay the shipping line/customs agent as per the invoice and submit the BL, both in advance. The shipping line/customs agent will then issue an advance electronic Delivery Order (e-DO).

Advance Bill of Entry: Your next step is to file an advance Bill of Entry and approach the terminal's DPD-RMS Facilitation Centre for an out of charge (OOC) order.

Clearance and delivery: You must pay the customs duty, submit the e-DO and take delivery of the consignment within 48 hours of vessel berthing.

Four years on, how is DPD faring?

Despite its shortcomings, Direct Port Delivery is gaining in popularity and has made improvements:

India's DPD percentage stands at 56%. At JNPT, this has steadily risen from 30% in August 2017 to 40.67% in July 2018 to 57.9% in October 2020.

In January, a CBIC directive allowed DPD importers to pay handling charges directly to terminals instead of through shipping lines. It was acting on complaints by shippers that shipping lines overcharge customers. The CBIC estimates this would save importers at least Rs 5,000 per container.

As of September 15, DPD customers at PSA Mumbai, one of the terminals at JNPT, can pay terminal handling charges digitally through the online shipping documentation platform ODeX.

At a time when port congestion and high logistics costs continue to challenge importers and exporters, the DPD model holds out hope for more reforms in India's international trade and shipping industry.

IEMs signed in the Plastics segment during January 2021.

IEM No.	Company Name	State / UT	Item of manufacture
75	Shaily Engineering Plastics Limited	Gujarat	Other articles of plastics
89	Bhavin Industries	Gujarat	Master batches
94	Paharpur 3P Private Limited	Andhra Pradesh	Plastic packaging products
122	Polycab India Limited	Tamil Nadu	Pipes and fittings

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 January 2021. We would like to welcome them abroad!

Sr. No	Name of the Company	Address	City	Pin	Director Name	Email
1	ALL SKY FOOTWEAR PRIVATE LIMITED	ROOM NO. 416, 4TH FLOOR, MIDDLE BLOCK, 29B, RABINDRA SARANI	KOLKATA	700073	SHITAL KUMAR SAHA	allskyfootwear416@gmail.com
2	BHAVITHA ASSOCIATES	Plot No.9, Raghava Enclave, Venture II, Transport Road, Sikh Village,	Secunderabad	500009	SINGAM VEN-KATRAM	bhavithaas-sociates2020@gmail.com
3	BLUE TYGA SHOES PRIVATE LIMITED	Plot No.97,98,111,112 & 113 SIDCO INDUSTRIAL ESTATE MALUMIC-HAMPATTY	COIMBATORE	641050	VELUTHEDATH JAMSHAD	jamshad@vkcgroupp.com
4	ECO-CARE BUILDING INNOVATIONS PRIVATE LIMITED	4TH FLOOR, VEDAS PRIME HOUSE, PLOT NO.19, JAYABHERI ENCLAVE	HYDERABAD	500032	vijay@ecocarebp.com	vijay@ecocarebp.com
5	ELATE POLY-TEX PRIVATE LIMITED	H.NO.B-27/70,FLAT NO.1, 4TH FLOOR, BARHAR KOTHI DURGAKUND, BHELUPUR	VARANASI	221010	BIPIN KUMAR AGARWAL	ba.ecoplus@gmail.com
6	IVORY POLYMERS PVT LTD	SHOP NO. F.F. 108, III-EYE, NR. PANCHVATI CIRCLE, C.G. ROAD, ELLIS BRIDGE,	AHMEDABAD	380006	BHATT KARNA SANJAYBHAI	karna.bhatt@vishaltravels.in
7	MERCHANT ALLEY	GROUND FLOOR, B & B, GENESIS A-12 AND 13, SECTOR-16, NOIDA	GAUTAM BUDHHA NAGAR	201301	Ravi Kumar	info@merchan-talley.net
8	MOKSH TARPAULINS INDIA PRIVATE LIMITED	1st Floor, B-4, Revenue Appt., Godhra Road, Halol	Panch Mahals,	389350	Rusabh Shah	mokshtarpaulinindia@gmail.com
9	NAGPUR MOULDERS & PROCESSORS PVT LTD	D-103, MIDC INDUSTRIAL AREA, HINGNA ROAD,	NAGPUR	440016	SUNIL SARIYA	nmp.ngp@gmail.com
10	RISHI POLY-TECH INDUSTRIES LLP	SECTOR NO. 10, PLOT NO. 46, PCNTDA, BHOSARI,	PUNE	411026	AJAY SHIVNARAYAN GUPTA	accounts@rishi-polymers.com
11	SHREE PRAGYA TECH-PACK PRIVATE LIMITED	807, Samanvay Silver, Nr. Mujmahuda Circle,	Vadodara	390020	Kiran Khandavi	info@pvcclling-film.com
12	STAR MULTI-PLAST	11-6-53/2/5, 2nd Floor, Beside HMR Steel, Opp IDPL Factory, Balanagar	Hyderabad	500037	K V S R Vengala Rao	ABHISHEK.VENKATA@GMAIL.COM

13	TRANS POLYFAB INDUSTRIES LLP	A6001 OLIVE SHAL- LOTS, SECTOR 16A, PLOT NO 17, SANPA- DA,	NAVI MUM- BAI, THANE	400705	CHAITALI P GA- DIA	transpolyfab@ gmail.com
14	VIDAS IN- DUSTRIES	PLOT NO.13, SR NO. 132/P1, 8-A, NATIONAL HIGHWAY, LALPAR, MORBI,	MORBI	363642	DISHABEN HI- MANSHUKUMAR SHEKHALIYA	jsbexports7@ gmail.com

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Name:	Handi Mulya
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Contact:	+62 21 65834670
Enquiry:	Trade lead received from Embassy of India, Jakarta, for those interested in exporting polypropylene to Indonesia

Name:	Handoko Widjaja
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Enquiry:	Trade lead received from Embassy of India, Jakarta, for those interested in exporting polypropylene to Indonesia.

Name:	Hendrikus H. Poerwodarmodjo ZZ
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Contact:	+62 21 55778370
Enquiry:	Trade lead received from Embassy of India, Jakarta, for those interested in exporting polypropylene to Indonesia.

Name:	Lie Kiong
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Email:	corsec@eterindo.com
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Name:	Martin Tan
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Name:	Meninda Indra
Company:	Polymer Applications Indonesia, PT
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Enquiry:	Trade lead received from Embassy of India, Jakarta, for those interested in exporting polypropylene to Indonesia.

Name:	Tjandra Martaniardjo
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Email:	general_jsr@justus.co.id
Contact:	+62 21 6515188
Enquiry:	Trade lead received from Embassy of India, Jakarta, for those interested in exporting polypropylene to Indonesia.