

#INDIA'S PREMIUM MAGAZINE FOR THE POLYMERS VALUE CHAIN

THE ECONOMIC TIMES

POLYMERS

Vol. 23, Issue 3 • August - September 2022 • Rs 75

Sustainability:

Plastics in Packaging

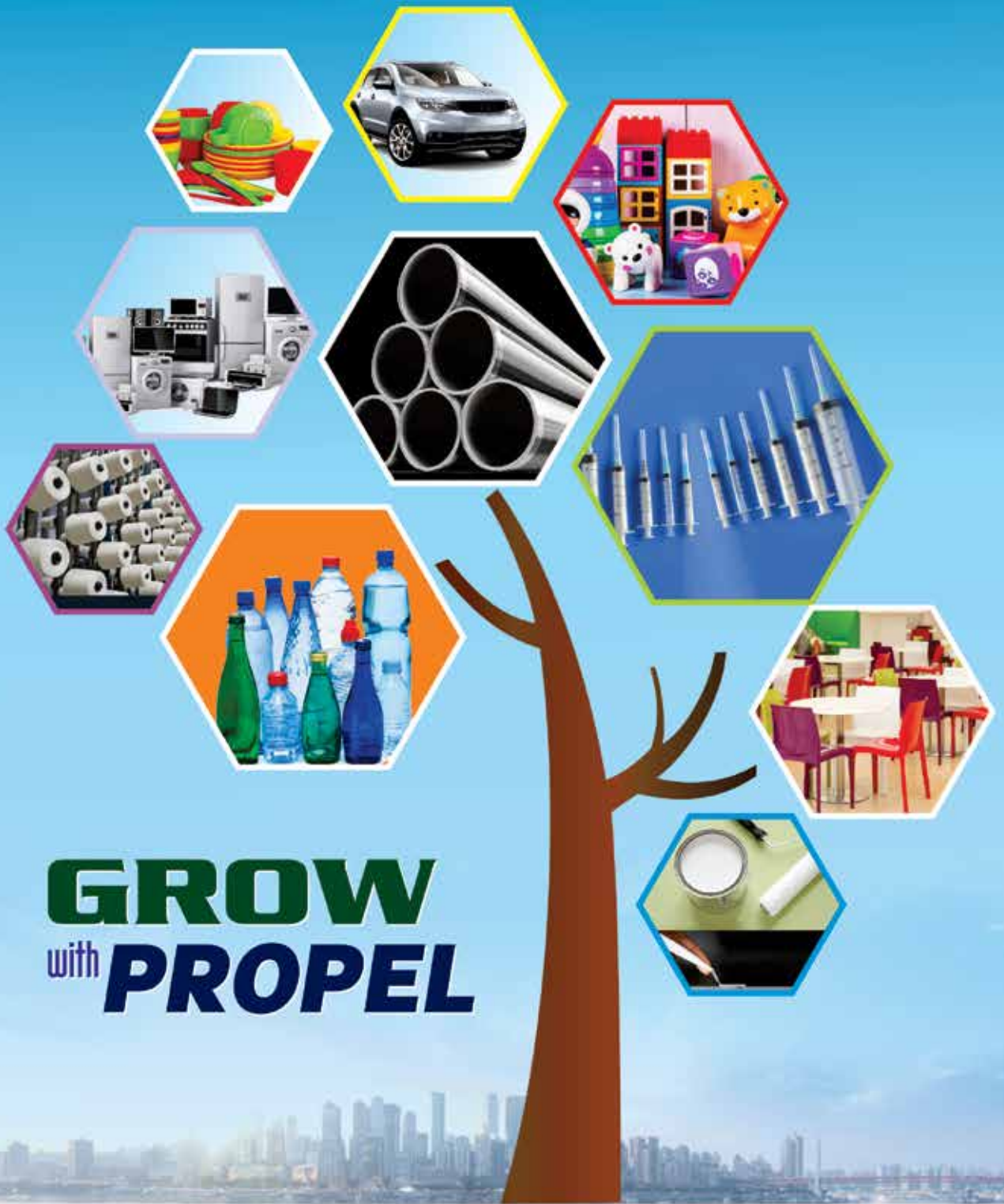
Industry Talks:

**Indian Polymer
Industry and
Employment Generation**



PIPING HOT!

Siddharth Bansal, Director, Skipper Ltd outlines the company's plans to tap the growing demand government sector and spread the plastic piping system division's geographical presence



GROW with PROPEL

IndianOil is one of the leading players in petrochemicals sector in India. Identifying petrochemicals as one of the prime drivers of future growth, IndianOil is proud to present under brand *PROPEL*, a world-class range of petrochemical products catering to applications ranging from textiles to packaging, agriculture to automobiles, furniture to paint & adhesive and healthcare to electronics etc.



100% TRUST. 100% VALUE.

A range of world-class petrochemicals

<https://propel.indianoil.in>

- LAB (Linear Alkyl Benzene) • PTA (Purified Terephthalic Acid) • HDPE (High Density Polyethylene)
- LLDPE (Linear Low Density Polyethylene) • PP (Polypropylene) • MEG (Mono Ethylene Glycol)



Protecting the Forest

YUPO is mainly made from polypropylene. It does not contain wood pulp.



Protecting the Water

Making conventional paper requires vast amounts of clean water, but YUPO requires very little water.



Becomes an Energy Resource

Used YUPO can be recycled as a refuse paper and plastic fuel (RPF) for boilers, etc.



Protecting the Air

YUPO does not use chemicals that place a strain on the environment, such as toxic heavy metals, accumulative toxins, and ozone-depleting substances.



Trim Edge are Reusable

Offcuts that are produced during the production process can be reused as raw material.



Combating Climate Change

The amount of CO₂ emitted during production is about the same as that for conventional paper, and less than film.



* If natural paper is compared with FGS 80
* Calculated based on surface area

Green Today. Greener Tomorrow.

YUPO Applications across Industries

- Advertising and Promotions
- Publications and Stationery
- Packages and Labels
- Specialty Products
- Photo Albums
- Security Labels

FEATURES

- | Water Resistant
- | Tougher – Stretching, Folding Enabled, Shock Resistant
- | Oil and Chemical Resistant
- | Clean (Low Dust)
- | Light (Cushioned)
- | Smooth Surface
- | Prints Clearly
- | Suitable for Handwriting
- | Many Variations Available

FOR MORE INFORMATION CONTACT



- Mr. Pankaj Kumar Jha** - Mobile 9717744260 Email: jha.pankaj@ma.mc-india.co.in
- Mr. Basheer Ahmed** - Mobile 8291 854027 Email: ahmed.basheer@ma.mc-india.co.in
- Mr. Sachin Phadke** - Mobile 8291 854026 Email: phadke.sachin@ma.mc-india.co.in
- Ms. Winita Dsouza** - Mobile 8291 854028 Email: dsouza.winita@ma.mc-india.co.in



Consultant - YUPO Business

- Mr. Prashant Mandewal**
- Mobile: 9987183330
- Email: mm.y@2m2.net.in
- prashant_mandewal@yahoo.com

CHIEF EXECUTIVE OFFICER
Deepak Lamba

CHIEF FINANCIAL OFFICER
Subramaniam S

HEAD HUMAN RESOURCE
Meghna Puthawala

VICE PRESIDENT MARKETING
Vidyut Patara

BRAND PUBLISHER
Rishi Sutrave

rishi.sutrave@wvm.co.in +91 9820580009

CORPORATE STRATEGY AND SUBSCRIPTIONS LEAD | **Ritika Masand**
 ritika.masand@wvm.co.in

EDITOR | **Rahul Kamat**
 rahul.kamat@wvm.co.in

ASSISTANT EDITOR | **Anvita Pillai**
 anvita.pillai@wvm.co.in

ASSOCIATE ART DIRECTOR | **Sanjay Dalvi**
 sanjay.dalvi@wvm.co.in

EXECUTIVE DELEGATE ACQUISITION | **Shruti Nair**
 shruti.nair@wvm.co.in

ADVERTISING
WEST & NORTH
Ranjan Halder

ranjan.halder@wvm.co.in +91 9167267474

SOUTH
Mahadev B

mahadev.b@wvm.co.in +91 9448483475

OVERSEAS PARTNER | **Mike Hay**
 Ringier Trade Media

China Taiwan Hongkong & South East Asia
 mchay@ringier.com.hk +852 2369 - 8788

CAREERS
 careers@wvm.co.in

SUBSCRIPTIONS
 subscriptions.wvm@wvm.co.in



Printed and published by Sunil Wuthoo for and on behalf of owners Worldwide Media Pvt Ltd (CIN:U22120MH2003PTC142239), The Times of India Building, Dr DN Road, Mumbai 400001. Printed at Print Plus Pvt Ltd, 212, Swastik Chambers, S T Road, Chembur, Mumbai- 400 071. Published for August - September 2022

Disclaimer: All rights reserved worldwide. Reproducing or transmitting in any manner without prior written permission prohibited. All photographs, unless otherwise specified, are used for illustrative purposes only. The publisher makes every effort to ensure that the magazine's contents are correct. However, we accept no responsibility for any errors or omissions and accept no responsibility for any loss or damage caused as an effect thereof. The information provided in this publication is for general use and may not be appropriate for the specific requirements and / or conditions of the reader/s. The opinions expressed by experts are their own and in no way reflect those of the publisher.



Why should men have all the fun?

It is rather unfortunate that certain industries, like manufacturing and technology, have traditionally been considered 'suitable' for a particular gender. However, with focused efforts, as an industry observer, we are witnessing a marked shift in this trend. Today, women constitute 36 per cent (~1.6 million) of the Indian tech workforce. Women's participation in the tech workforce is 1.5x overall India Inc. That said, India has come a long way in not just having more women in people-intensive industries, like tech and manufacturing, but also having them in leadership positions and driving change in their respective industries. For instance, the leadership team of the tech and trade industry body, NASSCOM, is led by Debjani Ghosh (President) and Rekha Menon (Chairperson). So, the message is loud and clear from an industry perspective. As organisations, it is now up to us how we take conscious efforts to change the narrative at scale and create more inclusive workplaces for women.

Meanwhile, the government has asked the polymer industry to explore ways to achieve its full potential and triple the sector's overall turnover to Rs 10 lakh crore by 2025. I believe the industry has a huge potential to increase the manufacturing of plastic machinery in India and reduce dependence on imports. The target is achievable for which all-round reform measures are required with policy support from the government. Today's polymer-based products are lightweight and sturdy and come with a wide range of variations to choose from. Gen-Z and the millennials are preferring products that are user-friendly, nature-friendly and aesthetically appealing to the eyes. Thus, if we look from the market perspective, the polymer industry has a huge scope to explore and expand its avenues while being innovative in its approaches.

The entire polymer industry is gearing up to enhance its production capacity with each passing day. The sole purpose of the industry is to manufacture polymer-based products on the ground, generating more employment, and adding up to the national growth of the country.

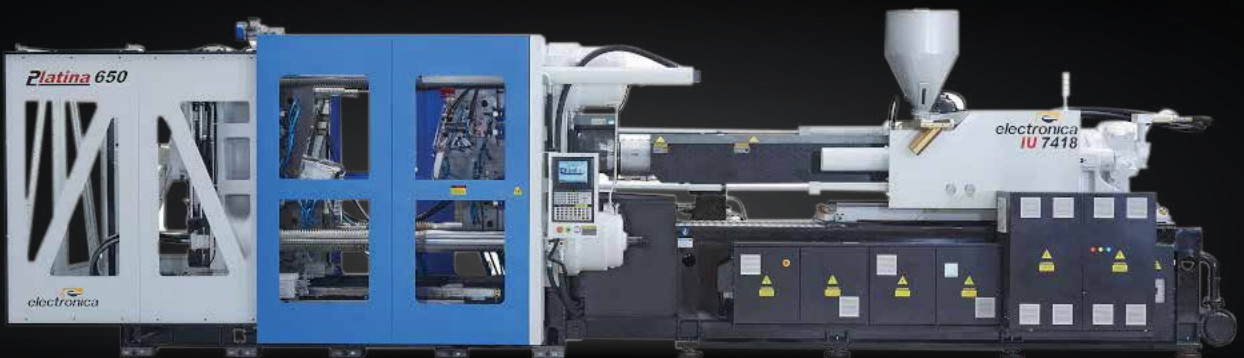
Meanwhile, I recently came across a story in The Economic Times about how inventory losses and weak margins would hamper pipe manufacturers in India. Further, the news report also suggested how the margins of these companies shrank in the first quarter, compounding the misery. But that could be one of the cases. Because, when ET Polymers exclusively interacted with Siddharth Bansal of Skipper Pipes, he outlines the company's plan to tap the growing demand from the government sector and also double up the turnover from Rs 330 crore to Rs 700 crore. This shows that despite headwinds, some companies are optimistic and want to expand their geographical presence beyond their comfort regions.

R Kamat
 Editor



A Premium Series to Help Your Production
Achieve a Minimal Footprint.

- Sturdy, Balanced & Compact Clamping Unit
- Optimized Hydraulic
- Balanced Injection Unit
- Precise Moving Platen Guide
- Tie bar Nut Locking
- Advanced & User-Friendly Control



Platina Series

Injection Molding Machine

- Servo
- Energy Efficient
- Industry 4.0 Ready



Electronica Plastic Machines Ltd.

Gat No. 399, Hissa No. 1&2, A/P Bhare, Tal. Mulshi,
Pirangut, Pune, Maharashtra - 412115

Tel: +91- 20 - 66933535 | Email: enquiry@electronicapmd.com
www.elpml.com





32 COVER STORY: PIPING HOT!



24 PLASTICS IN PACKAGING: WHY HDPE/PP PACKAGING IS GAINING PROMINENCE

8 News

Interview

14 “Sustainability shift is not a threat
but an opportunity to expand business”

Industry Talk

18 How Indian Polymer Industry Is
Boosting Youth Employment

Robotics in Manufacturing

38 Why Cobots Are A Sustainable
Alternative In Manufacturing Sector

45 Products



FEATURE

12 “Becoming a global
leader with sustainability,
innovation &
optimisation”



SUPPLY CHAIN & MANUFACTURING

28 Why Are Commodities
Cool?



RESEARCH REPORT

42 Polyglycolic Acid To
Touch \$1,700 Million
By 2030

STRAPPING LINE



PET

Cotton industry
Jute industry
Textile Industry
Wooden box packing
Aluminium industry
Fibre industry

PP/HDPE

Wooden box packing
Corrugated box packing
Textile cloth packing
Paper packing
Baggage packing
Ceramic industry



J P EXTRUSIONTECH PVT. LTD.

C1B-1034 to 1037, GIDC Industrial Estate,
Ankleshwar - 393002, Dist: Bharuch, Gujarat - INDIA
Tel: +91 2646 221134 / 222163 / 250194
Fax: +91 2646 250196
Email: info@jpet.in



Hall: H17 Stall: C71



Expansion With Stronger Results From Cosmo Ferrites

Cosmo Ferrites Limited, a leading manufacturer and exporter of soft ferrites and an emerging player in wire wound magnetic components, declared its financial results for the quarter ended June 2022.

The net revenue and EBIDTA increased on YoY basis backed by higher volumes (20 per cent), increased sale of technologically advanced ferrite cores, higher raw material prices and improved internal efficiencies. The results were impacted by non-recurring fixed cost of around 1.5 crores.

As at June 2022, the Company's

ROCE stands at 42 per cent. Net Debt at Rs. 54 crores is 1.7 times of EBITDA.

Commenting on the company's performance Ambrish Jaipuria, Chairman, Cosmo Ferrites Ltd, said, "During the end of the quarter, new Soft Ferrites manufacturing capacity has kicked off operations which will enhance company's capacity by 50 per cent. The company has also placed order for a top hat kiln to meet customers growing demand for higher permeability ferrite cores (technologically advanced ferrite cores) which is expected to start op-



erations from FY24 and will further improve sales mix towards value-add products."

igus Launches New Heavy-Duty E-Chain P4HD.56.R



If your waistline expands, you need a new pair of trousers. Something similar is happening in ports around the world. Modern container ships are enormous - take the Ever Ace, which is 400m long, 62m wide and loads almost 24,000 containers. The new trousers in our comparison are a larger ship-to-shore (STS) crane that loads and unloads the containers. This enlargement also affects the energy chains that guide the energy and data cables for the crane trolley on the crane bridge. They have to withstand unprecedented loads: travels of over 130m, cable weights of up to 10kg/m (over 20kg/m for motor-driven trolleys) and accelerations of more than 1m/sec² are standard for Triple E-class STS cranes. In other applications, travel distances of several hundred meters, cable loads of up to 50 kg/m and accelerations of 8 m/sec² and more can be achieved. "We have developed the new P4HD.56.R heavy-duty energy chain for these extreme requirements," says Theo Diehl, Industry Manager for Cranes at igus. "The energy chain is particularly ro-

bust and, thanks to its sensor technology, prepared for Industry 4.0 trends, such as predictive maintenance. This combination significantly increases STS crane reliability."

The heavy-duty energy chain is to run trouble-free for up to 15 years. The engineers have come up with special design features to achieve a long service life in STS cranes under high loads. "A special fork-tab principle ensures even greater stability at higher additional loads, while a pin/bore connection made of tribologically optimised plastic minimises wear," says Diehl. Furthermore, rollers are mounted in the inner radius of the chain links. If the e-chain folds, the upper run rolls on the lower run instead of sliding. Thanks to the low coefficient of friction, payload and acceleration can be increased without changing the push/pull force. Long-term tests in igus's in-house laboratory prove that P4HD.56.R, the heavy-duty design, achieves a 50 per cent longer service life than the normal P41.56R variant. "Our goal is for the e-chain systems to run on any STS crane for up to 15 years - trouble-free and with minimal maintenance," says Diehl. A nice side effect: the rolling movement reduces the required drive energy by 57 per cent. This is another advantage in times of rising energy prices. Since crane systems also require robust cables

that can be used to realise long travels with high dynamics, igus also offers CFCRANE. This chainflex cable range has been developed explicitly for crane applications.

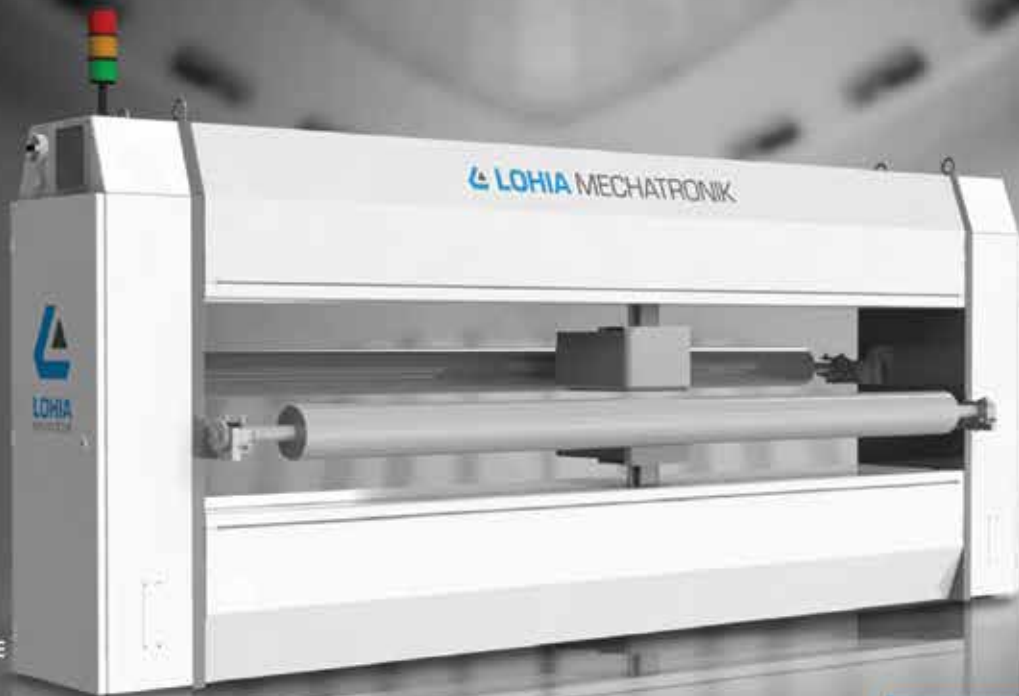
But the new P4HD.56.R is not only robust, durable and energy-saving. The heavy-duty energy chain is also suitable for Industry 4.0. For example, it allows predictive maintenance. With the help of i.Sense monitoring sensors, the chain link status can be continuously transmitted to the i.Cee:plus communication module. i.Cee allows usage-based and condition-based maintenance, extending inspection intervals. Maintenance is necessary only when the system sends a signal to that effect. Operators of STS cranes can use the i.Cee system to greatly increase system availability and extend energy chain service life. Holiday shut-downs and other planned downtimes are automatically taken into account in the i.Cee service life calculation and the forecast is constantly checked with sensors. All these advantages do not limit usable inner width because the condition sensors and their electronics are integrated into the rol e-chain links to save space. No additional cables are necessary because data is transmitted via radio. "The new P4HD.56.R-series e-chains thus meet all the requirements that apply to STS cranes of the next generation and the generation after that," says Theo Diehl.

To use as much plastic as necessary. Not a micron more, not a micron less.

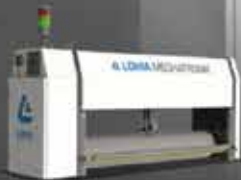
Lohia Mechatronik's Precision Measurement and Extrusion Control Systems: World Leading Technology at Great Value!

OUR PRODUCT RANGE -

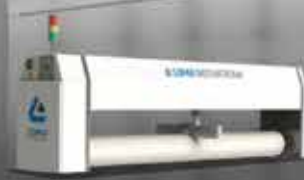
Thickness Measurement Gauge



LM GAUGE X-RAY



LM GAUGE EKO



LM GAUGE SHADOW



LM GAUGE LASER TRIANGULATION

Extrusion Die Control System



LM DIE BOLT

Group companies:

LOHIA MECHATRONIK | **SBI MECHATRONIK**

LOHIA MECHATRONIK PRIVATE LIMITED

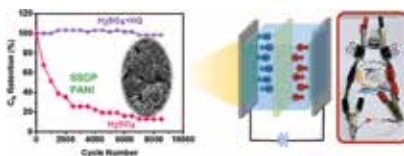
Marvel Fuego, Unit No. 2120, A-wing, Magarpatta Road, Hadapsar, Pune- 411028,
Maharashtra, INDIA. Contact: +91 7800088870, E-mail: office@lohiamk.com

Polymer-based Electrode To Increase Supercapacitor Performance In Wearable Integrated Devices

A new low-cost, pristine, conducting polymer-based electrode/redox-active electrolyte combination can give enhanced electrochemical performance and cycling stability to supercapacitors, facilitating energy storage and powering in wearable integrated devices.

Supercapacitors or ultracapacitors are one of the thrust areas in energy storage technology as they combine the characteristics of conventional capacitors and batteries to give a sudden kick-start to devices by providing a large amount of power and sustained energy release.

The electrode materials of supercapacitors play a vital role in determining the performance and stability of these energy devices. Conducting polymers, like polyaniline and polypyrrole, are excellent candidates for electrode materials owing to their flexibility, stability and tunable electrical and electrochemi-



cal properties. They are also inexpensive, lightweight and can be synthesised easily. However, supercapacitors fabricated using these electrodes fail to sustain the initial electrochemical capacitance after a few cycles of continuous operation. The poor energy density of these devices is another issue that limits the use of these devices in practical applications.

The Materials for Energy Storage and Optoelectronic Devices Group, headed by Dr Sreekanth J Varma of the Physics Department of Sanatana Dharma College, Alappuzha, has found a strategy to improve the performance of polyaniline (PANI)-based supercapacitors and has achieved very high Specific Capacitance per unit of area or areal ca-

pacitance and prolonged cycle life.

The conducting polymer-based electrode is lightweight and highly stable. The lightweight symmetric supercapacitors fabricated using these electrodes outperform many new electrode materials. The supercapacitors' enhanced performance and long cycle life are attributed to the binder-free nature, porosity, high and homogeneous molecular weight and appreciable conductivity of the electrode material and the electrode/redox-activated electrolyte combination.

The study published in the Journal 'Electrochimica Acta' recently, carried out using the instrumentation facility procured through the Fund for Improvement of S&T Infrastructure (FIST) programme of the Department of Science and Technology (DST) programme, will open new vistas for the development of energy sources for low-cost and lightweight wearable electronic devices.

Covestro Starts Two New Production Facilities In Shanghai

Materials manufacturer Covestro broke ground on two new plants in Shanghai to meet the rising demand for polyurethane dispersions (PUDs) and elastomers. These new facilities, which represent a combined investment of a mid double-digit million euro amount, will be located within the Covestro Integrated Site Shanghai.

"These projects will contribute to the high-quality and sustainable development in China and beyond," said Holly Lei, President of Covestro China. "They will also add to the scale and strength of our Shanghai site, which will be playing a key role in the quest of Covestro to becoming operational climate neutral by 2035."

The new plant for PUDs, as well as a further line for polyester resins, from which PUDs are produced, are due to be completed in 2024. PUDs are used in more environmentally compatible coatings and adhesives for a wide range of applications, in-

cluding automotive, construction, furniture, footwear and packaging. For instance, Covestro's Bayhydrol® and Bayhytherm® raw materials are used in basecoats for automotive OEM and refinish coatings, as well as in wood and furniture coatings and robust floor coatings, while adhesives formulated with Dispercoll® U are used in furniture and shoe manufacturing as well as in the automotive industry. Independent of the investment of Covestro in Shanghai, its large portfolio of waterborne polyurethane coating raw materials based on PUDs for various applications also includes products of the Baybond®, Impranol®, NeoPac® and NeoRez® series.

The new facility for polyurethane elastomers, which are widely used in industries ranging from offshore wind to solar energy as well as material handling, is expected to become operational already in 2023. The market for these flexible and



durable materials in China and the Asia-Pacific region is growing faster than both gross domestic product and downstream industries.

Since 2001, Covestro has invested EUR 3.6 billion into building the Shanghai integrated site, which comprises 11 plants and is the company's largest site in the world. In the past year, the Shanghai site obtained the ISCC PLUS mass balance certification, meaning it can supply customers with larger product volumes from renewably attributed raw materials.

Boost Your Business Growth With Impeccable Colours of Nature

Committed to enhance quality and performance through innovating various custom colour, special effects and sustainable masterbatches to provide genuine and vibrant solutions

APPLICATION AREAS FOR COLOUR MASTERBATCHES

- ◆ Caps Closures & FMCG ◆ Wires & Cables ◆ Non Woven ◆ Oil Containers
- ◆ Toys ◆ Household & Furniture
- ◆ Woven Sacks & Lamination
- ◆ Polyester Fibre ◆ PP BCF

- ◆ **Leading Manufacturer & Exporter of Masterbatches, Additives & Compounds**

- ◆ **Network spread over 60+ countries**



Visit us at :
Hall 8b / H65



Exceeding Your Expectations

BLEND COLOURS

Powered by Innovation

Hear BLEND, Think #BLENDCOLOURS

Blend Colours Pvt.Ltd. Plot No: #35, IDA Kattedan, Hyderabad - 500077 (TS) India.
Ph: +91-40-24361499. Email: info@blendcolours.com

Connect us with :



“Becoming Global Leader With Sustainability, Innovation & Optimisation”

A tete-a-tete with **Sameer Gupta**, Managing Director, Apollo Pipes Ltd, discussing the company's journey, the secret to becoming successful, the innovations in play, and more.

Please tell us about the history of the company, its heritage, and how it all began.

It all began in 1985 with the establishment of a group called Bihar Tubes, now known as the APL Apollo Group. In 2000, a plumbing-solutions company called Apollo Pipes Limited was formed as a part of the APL Apollo Group. Later, we initiated APL Apollo Plumbing Solutions in the PVC sector. Driven by growth-oriented ideas and innovative marketing strategies, we've always believed that it takes more than just zeal and innovation to establish a business and set up a successful venture. We wanted APL Apollo to achieve nothing but

the best. We established a PVC piping unit in Secunderabad, UP, at the nascent stage of the company. The values of being receptive and ambitious opened many doors for new business opportunities for the brand, and as a result, APL Apollo has become one of the fastest-growing companies in the country. Now, we have five manufacturing units in Dadri, Secunderabad, Ahmedabad, Tumkur, and Raipur. With efficient distribution and supply networks, the company is prevailing across India. It holds a very strong position in the plumbing business, with the demand increasing with time due to the high quality of its products.

APL Apollo Pipes holds pride in its client portfolio, including industry-specific giants like real estate developers, water supply & sewerage boards, construction businesses and household sectors. This ISO-certified company has an extensive record of happy and contented B2B clients, in both private and public domains, who admire the quality & durability of the products and its efficient distribution & supply networks. With over two decades of delivering state-of-the-art piping solutions, the company has established itself as a vibrant, quality-driven firm with a sturdy commitment to excellence. The hard work paid off when Apollo Pipes Limited won the award for being the best brand for building & materials by Economic Times 2021.

Can you tell us about your product portfolios and the sectors to which you cater?

The company offers a diverse product line for various utility purposes, such as agriculture, irrigation, sewerage, infrastructure, building and construction and micro-irrigation. We offer customised solutions to our clients who look forward to building beautiful houses sustainably, making APL Apollo Pipes a highly sought-after brand. We have collaborated with Bollywood superstars like Amitabh Bachchan, Tiger Shroff and Raveena Tandon to amplify our product range.

The company is currently pan-India. And when it comes to catering to our clients,

Please tell us about your manufacturing facilities spread around the country and their capacities. Have you envisaged any expansion plans?

Sure, as far as numbers go, Apollo Pipes holds a very strong position. All our five manufacturing plants in India have a strong total production capacity of 1,25,000 MTPA.

When it comes to expansion plans, we are well on our way to enhancing our presence across existing and new high-potential geographies. As we further improve our operation and capacity utilisation of the Raipur plant, we are confident of opening the untapped and high-potential markets of Central and Eastern India, supported by the expected positive trend in industrial



growth for 2022-23 and the years ahead. Various government initiatives, especially in the rural, infrastructure, and agricultural spaces, should lead to better demand and consumption of our products in the domestic market over the medium-to-long term.

How important is sustainability to the company? How is it incorporated throughout your activities?

Sustainability is one of the strongholds of Apollo Pipes (Brand APL APOLLO). We aspire to become a global leader in the piping solutions industry and a feat like that is only possible with sustainability, constant innovation and an unrelenting commitment to optimisation. We need to remain competitive and keep coming up with newer and more advanced solutions, like we have been, to have the edge over our competitors. We strongly believe that we are on the right track to becoming what we desire. Our vision is clear, and our mission is achievable.

What role does R&D/innovation play at Apollo Pipes? Please describe for us some of the new as well as upcoming innovative products.

Our R&D department is as robust as it gets. We constantly strive to have the edge over our competitors. To achieve this, we need to deliver products based on our consumers' needs. That's why we recently launched a world-class piping solution range called the PPR-C Plumbing system that comes in four variants, delivering optimum performance based on your needs.

As far as the diversity of our products is concerned, you name it, we have it. We are spread across a vast range of sectors: agricultural, industrial, household, commercial, sewerage, etc. Our range of products for plumbing includes CPVC plumbing system, uPVC plumbing system and PPR-C plumbing system.



For agriculture, it's HDPE, sprinkler systems, agri pipes and fittings, column pipes, casing pipes and so on.

How is Apollo Pipes contributing back to the Indian society?

As a company that values its country's integrity and future, we at APL Apollo, try our best to contribute to the betterment of society. When we look towards the future, health and education are the first things that come to mind. And we realised that education and good health are often regarded as existential problems in rural areas. People in such regions appear to invest little or no money and time in education and are primarily involved in labour activities. So, APL Apollo attempted to put its best foot forward by laying the groundwork today, for a better tomorrow. Elevating the vision of our CSR initiatives, we came up with PAHAL 2.0.

India is a country that has the world's largest education system. However, in some parts, the quality of educational facilities remains unaddressed. Therefore, APL Apollo's PAHAL 2.0 team distributed nearly 20,000 school bags and stationery items across India. We partnered with several NGOs like Amrit Vansha, Asha Deep Foundation, Hamari Pahchan, etc. We distributed free stationery directly to nursery schools, girls' schools, and many

more. And I'm very honoured to mention the fact that the Rajasthan Education Department appreciated this effort which humbled us. It was an initiative that everyone here is proud to be a part of.

It has been a challenging year – how has Apollo Pipes navigated it? What does the near future look like in terms of numbers and overall growth and development?

It has been a challenging year indeed. But aren't challenges a part of life? To become a successful businessman, you should always be ready for any obstacle. And we have never known Apollo Pipes as a company to waver during difficult times. Let me assure you that we are well on our way to accomplishing our goal of making Apollo Pipes a \$1 billion corporation. We have had a robust five-year CAGR of 13 per cent in sales volume and a 25 per cent growth in EBITDA. We also signed two dashing Bollywood superstars – Tiger Shroff and Raveena Tandon. And to conclude this, we launched a new plumbing system called 'PPR-C Plumbing System'.

As for the future, we are well on our way to expanding in Central and Eastern India, aiming for a 25 per cent revenue increase, and much more. As you can see, the future of Apollo Pipes (Brand APL Apollo) is as bright as a beautiful sunny day! 🌞

“Sustainability Shift Is Not A Threat But An Opportunity To Expand Business”

In talks with Manish Mehta, Managing Director, Reifenhäuser India, wherein he elaborates on building a circular business, the change in the ecosystem and more. Excerpts...

By Anvita Pillai



Creating circularity and sustaining it long-term is the present focus for all industries. What can be a good starting point for companies looking to build a circular ecosystem in their plants?

Sustainability and the pursuit of building up a functioning circular

economy are the megatrends of our times. It is a challenge that often leaves us powerless when achieving any quantifiable change. But time and again, in the past, the plastics industry has shown just how much innovative power it possesses. And the hype surrounding the circular economy is not mere utopia, it is a realistic goal. We have already developed many solutions and viable concepts - these must now be implemented. That's why our trade fair motto for K22 is “The time is now” because the theoretical basis already exists to a large

extent. The only thing often missing is the entrepreneurial courage to apply it. In this respect, I believe we are already at a good starting point.

Your organisation has worked on building a circular ecosystem. Based

on experience, what kind of challenges did you encounter? How did you work towards overcoming them?

We are machine builders, so the biggest potential for us to drive the circular economy is to improve the end products that leave our machines. At the same time, many factors are directly attributable to the production lines for plastic products - the core business of the Reifenhäuser Group - a major part of the problem is tackling present-day waste management and sorting processes. For example, even fully recyclable plastic packaging is not sorted or separated precisely enough to permit high-quality recycling. Only an inferior share of plastics from domestic waste is recycled as post-consumer recyclate (PCR) for reprocessing into equivalent new products. The major percentage is thermally disposed.

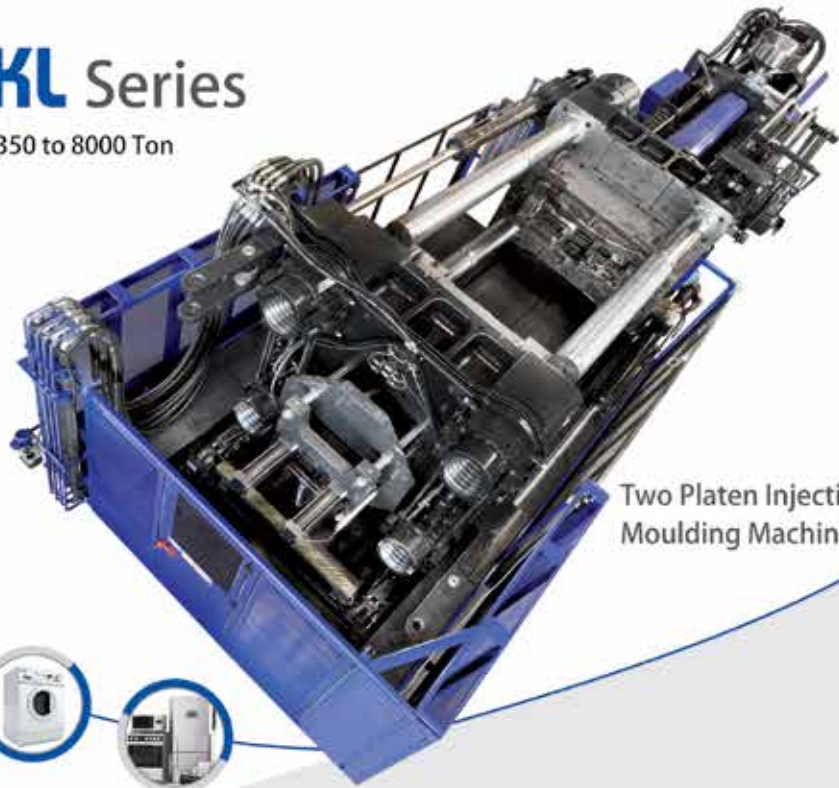
For this reason, the Reifenhäuser Group and other leading technology companies and organisations launched the R-Cycle Initiative along the entire plastic-packaging cycle. R-Cycle creates the basis for a highly developed recycling process by automatically recording recycling-related properties in a so-called digital product passport while manufacturing plastic packaging and identifying them by a marking (e.g. digital watermarks or QR codes). Based on this additional information, waste-sorting plants can identify recyclable packaging and form pure fractions that are easy to recycle. Combining fully recyclable packaging and precise waste management is the key

We have the know-how for this and great, immediately applicable solutions. Let's find out together how to apply them successfully - for a functioning circular economy and a profitable and future-proof business.



KL Series

350 to 8000 Ton

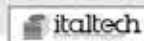


Two Platen Injection Moulding Machines



At Windsor, we stay ahead of the curve and constantly strive to be the frontrunner in enhancing the future of our customers. Our latest generation machines are a perfect blend of highest quality and superior performance. The latest generation **KL Series** machines have patented technologies, they are globally renowned for enhanced reliability and higher machine up-time, providing the most advanced 'Two-platen technology' to the world.

- Patented jaw clamping system
- Free and short tie bars
- Advanced control system with 15" touch screen
- Larger daylight
- Low energy consumption
- Lesser dry cycle time
- Smaller footprint



WINDSOR MACHINES LIMITED

Corp. Off.: Plot No. 5402 - 5403, Phase-IV, GIDC Vatva, Ahmedabad - 382 445. Gujarat, (INDIA).
Phone: +91 79 2584 1591/2/3, 3500 2700 | info@windsormachines.com | www.windsormachines.com

INJECTION MOULDING MACHINES | PIPE EXTRUSION LINES | BLOWN FILM EXTRUSION LINES

to obtaining high-quality recyclates to close the loop and turn the value chain into a value cycle.

In business, expecting a fruitful return on one's investment is obvious. How does a company ultimately benefit from building a circular ecosystem?

Of course, producing recyclable products and holistic recycling initially costs money without achieving any direct added value regarding the end product's functionality. However, a growing awareness of sustainability exists in large parts of the world's population. Customers will demand sustainable products in the future and will be willing to spend more money on them. In addition, there will also be regulatory quotas and subsidies so that investments will pay off economically. The sustainability shift is not a threat but an opportunity to expand the business. The sooner companies recognise this, the greater the growth opportunities.

The plastics & polymers sector has shifted from recycling to building a circular economy. How are organisations benefitting from it? What is the ultimate impact it brings to a company?

Recycling is an important building block for the circular economy. As already mentioned, it is not enough to manufacture recyclable products. Responsibility for one's entrepreneurial actions does not end at the factory gate, but only when one's products are reused as raw materials after use. Only companies that honestly and credibly accept and live this responsibility will be able to meet the future demands of their customers.

The biggest challenge at all levels in a developing economy like India is how we sort, wash and clean the waste we collect. What resources need to be deployed? And how can we channel them? We need to think collectively and implement accordingly.

How can organisations work on increasing the recycling content in one's product while being cost-efficient? How can Reifenhäuser help with it?

It is precisely for this challenge that we are presenting technologies for several applications at K22. For example, producers process previously unusable, lowest quality recyclates into high-performance blown films with our Evo Fusion blown film line.

PET process uses a co-rotating twin-screw extruder and a specially developed high-performance vacuum system that enables producers to process PET recycling material directly, without pre-treatment and pre-drying - as is necessary with other processes. Processors thus save the investment in an additional line component and avoid additional energy and maintenance costs, which leads to significant savings, especially

Responsibility for one's entrepreneurial actions does not end at the factory gate, but only when one's products are reused as raw materials after use. Only companies that honestly and credibly accept and live this responsibility will be able to meet the future demands of their customers.

Until now, such low-grade recyclates could only be used for simple, thick-walled injection-moulded products. Thus, producers can make higher-quality films from favourable recyclates. This is made possible by the twin-screw technology, which homogenises the melt better and thus ensures a stable process. In addition, processors can degas the system very easily and effectively, removing unwanted components in the recycle. The EVO Fusion process relies on direct extrusion, which eliminates the need for energy- and cost-intensive regranulation of the raw material. This means that fluff (film shreds) and all types of production waste and PCR material can also be processed directly.

Another great example is our particularly efficient flat film production process with which PET recycle can be processed into a food-safe film without a pre-drying process. The EFSA/FDA-compliant

in rising energy prices.

In addition, with our partner LSP, we offer technology in which we can increase the viscosity of PET using special patented technology and convert bottles into bottles that are also suitable for contact with food and the production of beverage bottles.

Being one of the spokespersons at K-2022, what is your message to the plastics and polymers sector?

The time is now! Turn challenges into opportunities.

We have the know-how for this and great, immediately applicable solutions. Let's find out together how to apply them successfully - for a functioning circular economy and a profitable and future-proof business.

Besides, Circular Economy also simultaneously address challenges related to carbon footprint and let's leave the word "better" for our next generation. 🌱



Extrusion • Winding • Weaving • Coating • Printing • Conversion • PP Yarn Spinning

End to End Solutions for **complete peace of mind.**

For over three decades, Lohia Corp, besides standing for innovation and precision has stood for maximum customer satisfaction. A company that offers end to end solutions for the raffia industry, be it extrusion, winding, weaving, coating, printing, conversion or PP yarn spinning, Lohia Corp has gone the distance and has always put customers first.

Today if the company has delivered a processing capacity of 6.8 million metric tons per annum of PP and PE for customers across 92 countries, it's only because of efficient after-sales support and optimized cost of ownership for customers. Lohia Corp continues and in future too, will be committed to customers for great value and complete peace of mind.



LohiaCorp



How Indian Polymer Industry Is Boosting Youth Employment

Being one of the fastest growing sectors in India, the plastics and polymers industry is opening avenues for the coming generation and boosting employment probability in India. Read to learn how.

By Dhanish Goyal, Founder & CEO, Grownet



India is brimming with opportunities, but with the growing population trying to fit into a narrow job market, finding jobs has been a tough task. Approximately 62 per cent of the youth fall under the age of employment today, with not nearly enough jobs to cover the rapid increase. However, the Indian plastic and polymer sector has been expanding and generating employment for decades.

In the financial year 2019, Polyethylene had the greatest demand

share of plastics in India at 33 per cent. Polypropylene came in second with a demand of 32 per cent.

A growth rate of 3.4 per cent is estimated to be between 2021 and 2028. In 2019, global polymer output had reached 36.80 crores metric tonnes, an increase of nearly 10 crores MT above 2010 production levels.

Meanwhile, India was the largest importer of PVC polymers. The plastic industry has a tremendous capacity to operate, deliver and expand constantly.

Employment In Polymer & Plastic Industry

Since its inception in 1957 with the manufacturing of Polystyrene, the Indian polymer industry has performed exceptionally well in all spheres of product development, achievement of GDP growth targets, and generating employment in the economy. In the fiscal year 2019, the industry employed over 17 lakh skilled workers and is expected to rise to around 22 lakhs by the end of the fiscal year 2023 and 80 lakhs by

TAKE THEM FOR GRANTED
TRUST



No.1 AT THE HEART OF A CO-ROTATING TWIN SCREW EXTRUDER



Currently industry faces high demand in EPZ parts supply



HIGH PERFORMANCE + EFFICIENCY | DESIGNED TO WORK IN PERFECT UNISON WITH THE EXISTING SYSTEM |

MADE WITH ADVANCED METALLURGY AT OUR VERY OWN STATE-OF-THE-ART FOUNDRY

TRUSTED BY OVER 6000 EXTRUDER LINES IN 40 COUNTRIES | OVER 1million EPZ PARTS SOLD

EXEMPLIFYING ENGINEERING EXCELLENCE

www.steerworld.com

For more information write to sanjay.shah@steerworld.com | +91 99670 49506

2028, which is a substantial degree of progress, and the industry has grown and diversified tremendously.

Polymer industry has over 2,000 export houses working in the industry, all spread out across the country. The industry has employed over 40 lakh skilled and unskilled people and has over 30,000 processing units, with 85-90 per cent of them being powered by small to medium-sized businesses.

With the introduction of Make in India, huge production facilities are being set up in various SME and MSME sectors to produce many polymer products ranging from packaging, automotive parts, white goods electronics, and other products to cater to domestic and export demands, which introduced is a wide gap between the industry requirement and delivery of unskilled, semi-skilled, skilled and multi-skilled human resources in various fields such as production, operations, sourcing, testing, tool designing and management in the industry. On the one hand, the industry is struggling to get the best-suited human resources, and, on the other hand, the workforce is struggling to gain entry into the industry.

Being major units run by SMEs and MSMEs, there is a huge scope of employment for human resources, which would be required for expansion and operation ramp-up where SMEs will grow towards becoming MSME through scaling up their infrastructure and production capacities and MSMEs would undertake expansion and production scaling targets to become a larger scale enterprise. This journey would require a massive demand for the skilled, unskilled, and other workforce categories.

Polymer Industry is best suited for the youth as there is a correlation between their age, potential, and aspiration. The Polymer industry is young, dynamic, and challenging, which is why it is best suited for the youth who want to use their tech-



nical skills, vocational training, and creative thoughts to make a pardon shift towards achieving industry targets. The polymer industry provides a gateway only to the newcomers and a massive opportunity ground for the experienced workforce in various spheres of technical and commercial engagements.

With An Increasing Demand For Polymer, The Following Sectors Of The Industry Will Employ Around 1.7 Million Skilled Labourers In The Following Industries:

- **Automotive Sector:** The automotive sector is one of the most promising sectors for polymer consumption rise. With the introduction of new EURO norms, there has been a requirement for a reduction in the weight of automobiles which has easily been possible by replacing metal parts with polymer parts due to low-weight and high-performance parts made from advanced polymer compounds, which exhibit tremendous strength and endurance. Though the automobile sector was affected by the COVID-19 pandemic, there has been some de-growth initially. Still, in re-

cent days the sector has been doing exceptionally well with the achievement of the pre-COVID period sales numbers. The auto sector not only helps in boosting domestic sales contributions but also plays a major role in export figures. With the rising demand for automobiles, many global players are entering the two- and four-wheeler market to start their production in India. This will create a huge job opportunity in various fields of assembly, testing, RND, purchase, QC., and others.

- **White Goods Sector:** This sector has been doing exceptionally well over the last few decades. Blessed by its vast geographical area, varied temperature zones, and all-season weather, India is one of the best-suited places for this sector. In summers, this sector helps the masses stay cool with an uninterrupted supply of Air conditioners and coolers, and during winters, it keeps us heated with a supply of geysers and heaters. Polymer plays a primary role in the production of various white goods products. With the rise of per capita income, there has been a very high rise in the white goods industry, and the same is expected to do a business worth Rs 16273 Crore in 2022.

Leading Manufacturer of Plastic Auxiliary Equipment



(An ISO 9001:2015 Certified Organization)

All Process All Market

Material Storage | Conveying | Drying | Blending | Heat Transfer | Granulation

Wide range of equipment manufactured with world class technology from **The Conair Group, USA**; we deliver customized solutions that will lead our customers on **Pathways to Profitability!**



Nu-Vu Conair Pvt. Ltd.

Plot No. 147, 148 & 154, Devraj Industrial Park, Piplaj-Pirana Road,
Piplaj, Ahmedabad - 382 405, Gujarat, INDIA.

E: marketingindia@conairgroup.com | W: www.conairgroup.com/india



+91 79 2970 8147

+91 97129 28201

+91 90990 76206

Huge job opportunities are coming to us in the sector—assembly, testing, RND, purchase, QC, and others.

- **Injection Moulding:** This is a large sector serving other sectors through its product segments. It makes up a wide range of SMEs for large industry setups. This sector creates employment opportunities in all fields, such as machine operator, QC, material testing, sales and marketing, and other departments.
- **Raffia Industry:** This sector is extensively labour-intensive. It is a sector that produces woven cloth and bags for various industries and products. The sector comprises 1200 industries across India, with an installed capacity of 30 Lakh tons per year. There are around 1500 tape plants, and 4200 looms across India. With the rise in raffia bag demand, there is massive job opportunity for both the skilled and unskilled workforce.
- **Film Packaging:** This is one of the most important industries and the highest consumer of polymer. It supports the safe delivery of various products. The film packaging industry in India is at Rs 96,672 Crore and is expected to grow at a whopping rate of 26 per cent. With this speed, it would require a major workforce in all fields.
- **Polymer Testing:** With rising polymer demand and new quality norms, many polymer testing facilities are being installed in India. This will provide a new avenue for technical staff and skilled workforce to showcase their ability and capability in advanced polymer testing and developing new polymer products.
- **Pipe Industry:** This is an upcoming industry. Though down for some time, it has got boosted with new infrastructure building targets of the government with major investments in the AwasYojna and NAL Se JAL scheme, which focuses on water distribution through Tap. It requires massive demand for pipes made of PVC and PPR.



A huge job opportunity is coming up in the pipe industry in pipe manufacturing, testing, fitting, and installation.

- **Electronic Industry:** Electronic industry is growing at a quick speed and is one of the biggest value-wise. With the rise in high-end polymers, polymers have increased in use in the electronic industry. Various new plants are getting installed in India to substitute the imports and fulfil the domestic demand. The electronic industry has also been a significant contributor to exports. Various job opportunities are coming in the assembly, testing, RND, purchase, QC, and others.
- **Recycling:** There have been major policy reforms at the government level to boost the industry. Many big players are coming up to set up large-scale production units to increase recycling capacities. This will help the recycling industry to get equipped with new recycling technologies and machinery. There is huge scope for employment of skilled and unskilled human resources in this sector to support the personnel requirements.

How Employment Has Sky-Rocketed Because Of The Industry

Despite India’s population of roughly 140 crore people, 46.7 crores are currently working. Several Indian polymer businesses have claimed labour shortages. As a result, more

money is being invested in production technologies, including automation and conveyor belt systems. However, there is a lack of resources to operate these machines.

Apart from a scarcity of trained workers, India’s plastics and polymer industries are also being held back by a state-wise power constraint. The electrical demand gap is estimated to be over 13 per cent. This opens many doors for companies that supply energy-saving solutions, green manufacturing technologies, and associated equipment.

Faster globalisation, fast technological progress, and rising consumption have ushered in recent shifts and possibilities for petrochemical firms in the industry to expand both locally and worldwide.

India’s polymer and plastic goods are exported to over 150 countries worldwide. The EU, the United States, China, the United Arab Emirates, Saudi Arabia, Turkey, Nigeria, Indonesia, and Egypt are the most important trade partners.

The plastic and polymer business in India is one of the fastest expanding industries, and demand for economical packaging is predicted to continue to rise. Meanwhile, because of its rapidly rising market size, major investments are projected in the industry over the next few years. This will create more job opportunities for the youth of the country and boost employment in the industry. 📍

Still facing colour variation & wastage issues?

Try JJ PlastAlloy's Fiber Masterbatches...

Masterbatch compositions and the way they are used in the textile industry are directly responsible for breakage of fibres when spinning causing more wastage.

JJ PlastAlloy's specialty black and colour masterbatches help you produce fabrics with vibrant colors, enhanced fibre properties and minimum wastage.

We rigorously test masterbatches at our speciality Research facility "Tatva". Our team of experts has the material and color expertise to determine the best solution for your unique situation.

Want assistance with your spin dyeing process?

Reach out to us.

✉ : dhirendra@jjplastalloy.com

🌐 : www.jjplastalloy.com

☎ : +91 8808 736 600

📍 : Bharuch (Gujarat) &
Chandauli (U.P), India.

Meet Us!

C20 /7.1, Dusseldorf, Germany

19-26 Oct '22



Why HDPE/PP Packaging Is Gaining Prominence

With changing times, the packaging sector has also changed. It is now opting for a more sustainable route and offering environment-friendly alternates. Learn how packaging industry is fuelling the development of the polypropylene industry.

By Asad Daud, Managing Director, Sah Polymers Limited
Murtaza Ali Moti, Chief Executive Officer, Sah Polymers Limited

Several factors are considered when companies, manufacturers and distributors think of product packaging. Companies all over the world need to take into account the durability, pricing and branding that the packaging is equipped to have. There was a time when manufacturers and distributors did not have any packaging options to meet all these needs. Although, that changed completely in 1960.

Packaging Prominence

First started in Japan, Europe and the US, the flexible intermediate bulk containers (FIBC) changed the face of packaging for the rest of the world in the coming years. In the 1960s, FIBCs were made of heavy-duty PVC-coated nylon and polyester with cut sheets welded together to form the container. The FIBCs used then were durable enough to become manufacturers' first choice. To further reduce the cost of those bags, FIBC manufacturers started producing bags made of woven polypropylene resin somewhere around the 1970s, and since it was so effective, it was immediately adopted by almost all the countries in the world and is still being used today.

Because of their durability and cost-effectiveness, these bags started becoming famous in a number of countries. Adding to this, as globalisation made the demand for cement, oil, vegetables etc., the need for polypropylene woven bags grew as well.

What has also helped these bags



pick up fame is the various types, shapes and forms they are produced in. There are laminated and non-laminated woven bags that make up for the significant demand. There are also gusseted bags, block bottom bags, valve bags, pinch bottom bags, open mouth bags, etc., used widely.

The Polypropylene Advantages

The major advantages of polypropylene bags are their durability, chemical properties, easy handling, water resistance, reusability, environmentally sustainable and yet its ability to be extremely affordable. It can transport a wide range of items from grains, fruits and vegetables to fertilisers, fodder and pesticides. Although majorly used for transport, these bags can also be used to construct dams, riverbanks, bridges and railways.

Unlike its substitutes, woven

polypropylene bags neither degrades nor deteriorates in quality over time when stored. Its material is very resistant and does not react in any way to temperature changes, chemicals, stress or organic solvents. Its UV stability allows for up to six months of storage in an open environment with no effect on the product stored inside the bag. Also, the goods packed inside the bags are safe from humidity with the help of internal PE liners or lamination on the outside.

These bags are also popular because manufacturers and distributors of all food items have - security from fungus and rotting attacks. This is possible due to their non-toxic feature.

They are also light in weight, which means they can be transported easily through any mode with the products they hold filled to full capacity. This is another big advantage for

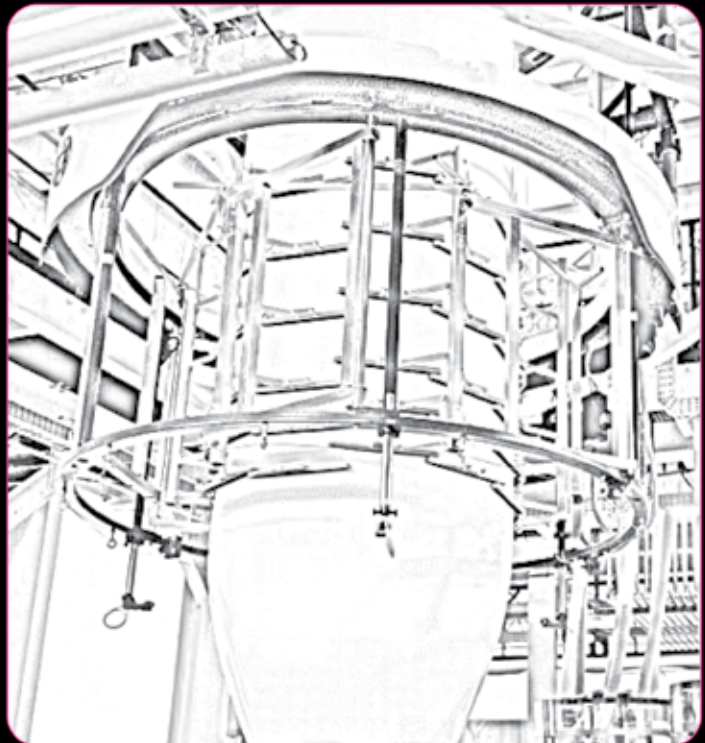


AN ISO 9001-2015
CERTIFIED COMPANY



**Want to Replace Your Expensive Metalocene and /
Or LDPE Polymer in Opaque / Coloured / Translucent
MultiLayer Blown Film Applications????**

**WE
HAVE A
COST
EFFECTIVE
SOLUTION**



TO CO-CREATE WITH US PLEASE CONTACT ON



bd@bajajpolymin.com |  7264001696
luksalesngp5@bajajpolymin.com |  9371452550
www.bajajngp.com/luk

Original
& The
Best



WHERE CONSISTENCY IS AN OUTCOME OF QUALITY & PERFECTION

LUK PLASTCON LIMITED

(A Bajaj Group Company)



the manufacturers and distributors as they often struggle with weight issues.

Revolution & Concern

In addition, one of the key concerns the manufacturers have with the packaging is the ability of the bag to have branding; Polypropylene bags are the ideal choice since they can be printed on both sides and re-used with the same branding. Manufacturers can print their logos, slogans, names and any graphic content on these bags that display their brand identity.

A path-breaking discovery in the packaging field, polypropylene bags were a blessing for manufacturers and distributors who had to deal with paper-based containers and gaylord boxes to transport their products. It was almost impossible to transport fine and heavy products like cement and grains, and liquids weren't even an option. The glass jars and containers made of tin and aluminium were impractical, so when these polypropylene woven bags were in-

troduced into the market, they got a great response. Hence, it is due to all these reasons that the market for polypropylene woven bags is expected to grow significantly over the coming years.

Reeling In Sustainability In Packaging

For many years, packaging has affected the environment drastically. Low-quality plastic, non-durable and non-reusable packaging was not only affecting manufacturers directly but also to the environment. Hence, along with all the other factors, manufacturers have a crucial consideration before selecting packaging for their products is the environmental impact caused by their packaging. They are more sensitive to the impact of low-quality and non-reusable packaging on the environment and are now trying to reduce the same usage.

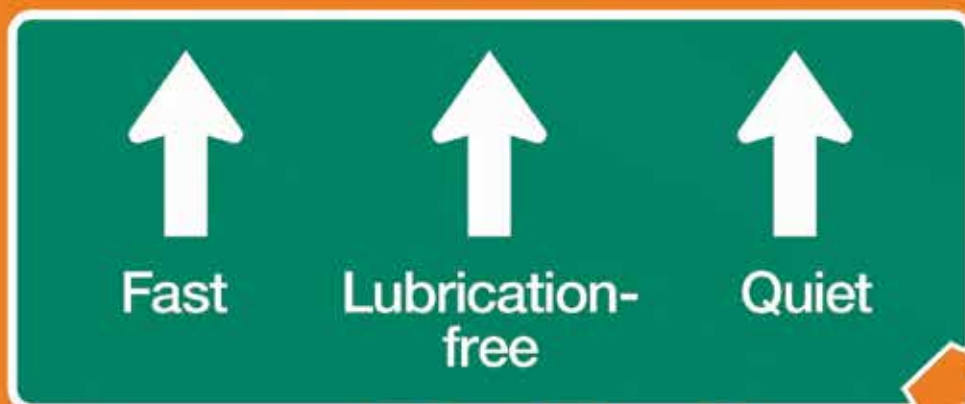
Furthermore, polypropylene is a by-product of crude oil. This means that its production does not exploit or harm natural resources in

any manner, proving it sustainable. While other resins used for packaging have high energy consumption and a higher greenhouse effect at the time of production, polypropylene bags continue to contribute the lowest of all its substitutes towards environmental pollution.

Its production process has an additional benefit - not only is it sustainable for the environment, but since it does not consume natural resources and takes less time to produce, it is also cost-effective. This makes woven polypropylene bags the most affordable packaging option on the market.

Now, as industrialisation, urbanisation, and modernisation are on the rise, the need for these economical, durable and environmentally conscious packaging is increasing. This, in turn, is fuelling the development of the polypropylene industry, which as a result, is expected to see robust growth from 2022-2032. Currently, there are no alternatives to these bags. 🌱

Corrosion free & maintenance free... drylin[®] linear guides



Moving on the **dry**way



igus[®] India Pvt. Ltd.
36/1, Sy No. 17/3, Euro School Road
Dodda Nekkundi Industrial Area
Phone +91-80-69116900 info-in@igus.net

igus[®].in
motion plastics[®]

Why Are Commodities Cool?

Commodities market presents a trillion-dollar opportunity. The article elaborates on how with the advent of technology, the sector is awaiting exponential growth.

By Arun Singhal, Founder & CEO, Source.One

Commodities mean different things to different people. For some, it relates to standardised quality, for others, it relates to the tradeability of the product itself. But two common aspects are primarily agreed upon:

- Commodities are essential inputs to manufacture another product
- Buyer's knowledge about the product >= seller's knowledge about the product

And while the commodity markets have gone through significant transformations in the last two decades, at least in the Indian context, these two

aspects have either stayed or become stronger. And these aspects make commodities uber-cool.

Let's Dive Deeper: Intermediate Raw Material


- Commodities also serve as intermediate raw materials, i.e., primary inputs into manufacturing another product. Commodity buyers are, eventually, manufacturers processing these commodities into finished products or further intermediate inputs into other products.

Being a primary raw material, commodities account for 75-80 per





KANDUI

COMPLETES
ITS HAT TRICK
AT 
WITH ITS
PRESENCE AT



2022
19-26 October
Düsseldorf
Germany

Hall-7, Level-1, D01

MASTERBATCHES AND COMPOUNDS: WHITE | BLACK | COLOUR | ADDITIVE | SPECIAL EFFECT | FILLER | COMPOSTABLE

KANDUI INDUSTRIES PVT. LTD.

Manufacturer of Masterbatches

Plot No.112, Minerva Industrial Estate, Mulund (West), Near Hercules Hoist, Mumbai, Maharashtra 400060.

www.kandui.in masterbatchinfo@kandui.in +91-22-6267 3500



cent of the total cost of production. Naturally, it occupies the top-most mindshare of manufacturers, i.e., commodity buyers, whether an MSME or a large MNC, commodity procurement or the raw material is eventually managed by senior management, with suppliers given the due weightage.

Buyer's Knowledge >= Seller's Knowledge

This is the interesting part. In most industries, the seller knows more: about the product, the industry, and the recent trends. The knowledge itself serves as one of the selling points. To assist sales, the knowledge delta is transmitted to the buyer, partially or fully, plain or sugar-coated, across industry and organisation. But transmitting knowledge is a key step in the sales process.

In Commodities, This Is Rare. Let's Dive Into Why:

- **Chemistry:** Commodities in any particular category, e.g., energy, metals or agri, have much lower differentiation aspects concerning chemical properties compared to non-commodities. Most of these differentials are application-specific or specific to the technology used to process the commodity, i.e., the chemical property comes to the fore only at the time of application. The selling aspects are

fewer, however, limited to the finished product or technology used to process the commodity. E.g., most petrochemicals are sold against their respective applications, e.g., injection moulding, blow moulding, etc. or against their finished product, e.g., HDPE Pipes.

- **Low Margins:** Commodities are a high-volume game by design. E.g. in polymers alone, India consumes 18mn metric tonnes of polymers annually. High volume attracts an increased number of entrants, bringing the margins to one of the lowest across industries. Low margins demand high sales TATs, obviating any investment or time spent on product or market awareness.
- **SKUs:** Commodities across industries have a low number of SKUs, varying across application, process or end-usage, with little innovation. This design ensures that buyers have deep knowledge about all aspects of the product or its ecosystem. Naturally, any given SKU is used by a manufacturer for a long time, running into decades.

Both these aspects of commodities, i.e., the raw material aspect and the respective knowledge delta between buyers vis-a-vis sellers, make it very interesting. Being a raw material input, commodities command top-of-the-mind importance from both buy-

ers and sellers, who invest a large part of their time procuring or liquidating the same. On the other hand, buyers knowing more ensures that commodities cannot be 'sold' in a conventional sense. They are primarily pre-sold products. This needs to be repeated. Commodities command the highest mindshare from buyers and sellers and are given the highest selection and procurement time. Further, the transactions can't be closed in a conventional method only, via relationship, vintage, or word-of-mouth alone: three classic reasons. These things help but only at the margins.

So How Is It That Commodities Are Transacted?

3X3 Stack Supply-Chain

The first thing commodity transactions require is a 3X3 stack supply chain. First, there are three major participants: supply, distribution and demand. Each function is a huge ecosystem, and hence, there is a clear demarcation of roles and functions each performs. Very rarely does one ecosystem gets into the other. There are inherent challenges in each of them. E.g., the supply-side (viz. producers, dealers, etc.) don't get into distribution, as each function has huge working capital requirements.

Next, commodities primarily flow through a 3-stack flow, viz. transaction, logistics and payments, in that order.



Let's Dive Deeper Into Each:

- **Transaction:**

This layer interacts with the suppliers on one side and demand, viz. manufacturers on the other. There is an information flow, followed by the transactional flow on either side, i.e., supply, distribution and demand. The distribution side, though, largely controls the information and transaction flow.

The smooth flow of information is a necessity here, which leads to the flow of transactions. The product being commodities, this sequence of information and transactions is fast, sometimes in hours or even minutes.

- **Logistics:**

Commodities are bulky products that need safe, efficient and fast movement from A to B. Each of these elements is critical and differentiates the experience of the transactions:

- Safe-** Given the nature of the products themselves. E.g., water seepage can alter the chemical property of a chemical.
- Efficient-** Given the price sensitivity, re-transportation or double transportation of a product

can make it expensive, for example.

- Fast-** Given the price volatility and its raw material nature (just-in-time requirements), ultra-fast movement and deliveries are expected.

- **Payments:**

The financial aspect of commodities can't be emphasised enough. Being a raw material, the share of commodities in the total cost of inputs is very high, 70-90 per cent. Add to this its voluminous nature. An efficient and fast commodity transaction requires a low-cost source of funds and a no-frills process to finance these transactions. This is one reason why a good part of Indian commodity transactions have been financed via trade credit, even in 2022, when fintech companies have evolved to compete with banks.

- **Liquidity**

The network effects of high liquidity across any industry are not a hidden truth. The more players on the demand and supply side, the higher the value provided to each user, be it stock markets or matrimonial sites.

In commodities, this is espe-

cially nuanced as the price expectations change in a jiffy. Add to this the reality that the demand-supply nature is so volatile that a supply-scarce situation can quickly convert to excess supply in a matter of days. These changes are not organic, nor can they be predicted. They are only explained in hindsight when it's already too late. But high liquidity of demand and supply help in a smooth flow of transactions in commodities. High liquidity in commodity markets also encourages easy entry and exit, creating a virtuous cycle.

The network effects from this liquidity help smooth the conversion of information to transactions. The smoothness also depends on the liquidity on either supply & demand side. The network effect also plays a huge role in converting information into transactions. Both 3X3 stack supply chain and high liquidity ensure a smooth-flowing trillion-dollar space, i.e., commodities. While the industry hasn't been given the attention it deserves, the times ahead are interesting as the role of technology takes its shape. A separate piece on technology awaits. 🔄

PIPING HOT!

The polymer pipes and fittings division of the Rs 1,700 crore Skipper Ltd, Skipper Pipes, is looking to double its turnover to Rs 700 crore by the end of this fiscal, backed by geographical diversification and focusing on the plumbing and B2B businesses. It has a turnover of close to Rs 330 crore at present and accounts for around 19 per cent of Skipper's total revenues. **Siddharth Bansal, Director, Skipper Ltd**, in an exclusive interaction with ET Polymers, outlines his plans to tap the growing demand from the government sector under the JJM and spread the plastic piping system division's geographical presence beyond the north and eastern part of India. Edited excerpts...

By Rahul Kamat





Building any sort of loyalty in a competitive market is extremely difficult, and even more so when it comes to a commodity business.

That said, built on a strong foundation of loyalty, with total retailer touchpoints over 25,000 plus (nos) and monthly billed retailers of 5,000 plus, Skipper Pipes, the polymer pipes and fittings division of the Rs 1,700 crore Skipper Ltd, is all set to tap into the growing demand from the government sector under the Jal Jeevan Mission (JJM). The JJM aims to provide safe and adequate drinking water to all households in rural India through individual household tap connection by 2024; apart from tying up with private residential complexes, and projects for plumbing needs.

Speaking on the piping business, **Siddharth Bansal, Director, Skipper Ltd**, said, “the company has a total installed capacity of close to 52,000 tonnes per annum for polymer pipes and fittings, and it caters to agriculture, plumbing and sewage, borewell and bathroom fittings.”

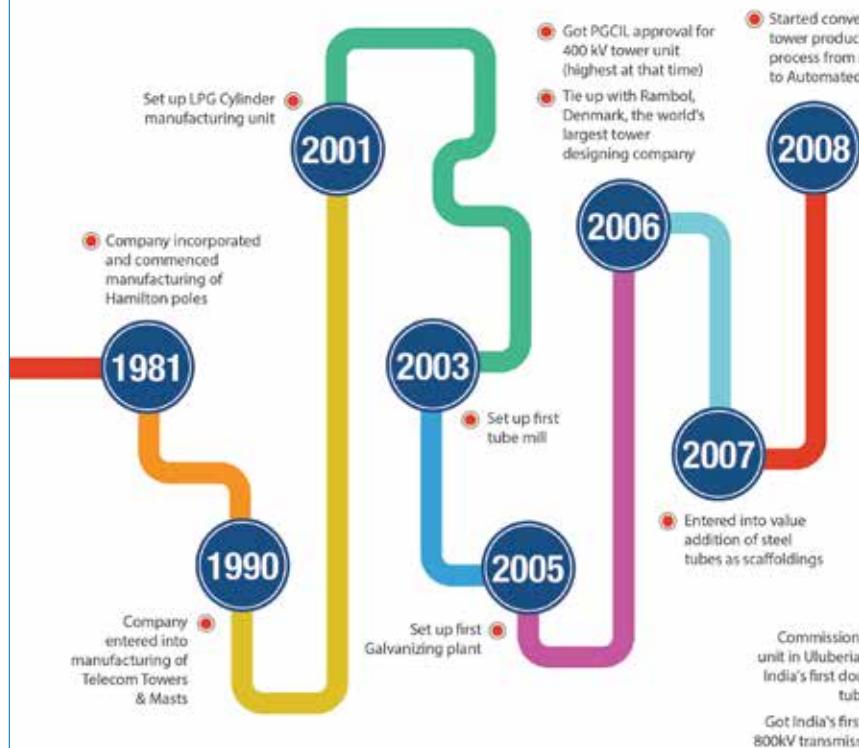
According to Bansal, plans are afoot to tie up with private residential complexes and projects for plumbing needs and is looking to double its (Skipper Pipes) turnover to Rs 700 crore by the end of this fiscal, backed by geographical diversification and focusing on the plumbing and B2B businesses. It has a turnover of close to Rs 330 crore at present and accounts for around 19 per cent of Skipper’s total revenues.

The company has an installed capacity of around 52,000 tonnes in Uluberia, West Bengal and in Guwahati, Assam, however, Bansal suggests the company is yet to utilise the full capacity. Going ahead, the company is building a strong team and trying to get empanelled in the government’s JJM programme.

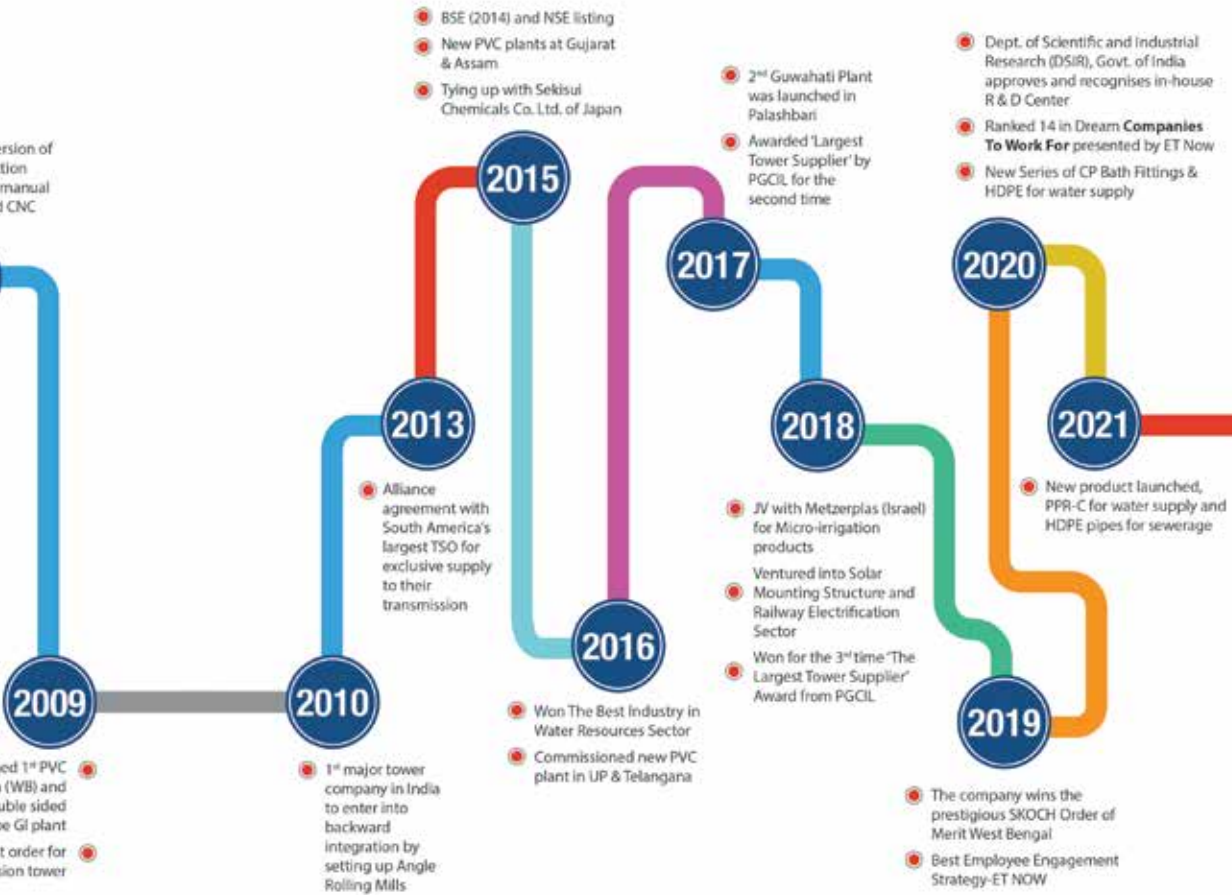
Geographical Diversification

Skipper Pipes, which kicked off its

MILESTONES



WHEN ONE STRIVES FOR PERFECTION, THE RESULTS AREN'T FAR BEHIND.



operations in 2009-10, was primarily focused on the eastern and north eastern markets till 2015-16. It gradually started making inroads into other markets in 2017. "East and northeast currently account for nearly 55 per cent of our total sales and the remaining 45 per cent comes from South and central India," divulged the Bansal clan. "South is currently a small market for us. We are present in a few markets including Andhra Pradesh and Telangana. We have started focusing on markets in Karnataka and Tamil Nadu, and we want to create our presence in these regions as well including the west," he said.

With an installed capacity of 52,000 MTPA, Skipper differentiates itself by offering high-quality but cost-effective piping solutions. That said, Skipper is the only polymer pipe company in India to implement TOC in the product of its operation portfolio.

- UPVC Pipes
- CPVC Pipes
- SWR Pipes
- Agriculture Pipes
- Borewell Pipes
- CPVC Solvent Cement
- Fitting accessories (for all the above types of pipe)

According to Bansal, the market for polymer pipes and fittings is esti-

mated to be close to Rs 35,000 crore and is projected to surpass Rs 50,000 crore by FY 2024-25, clocking a CAGR of 10.8 per cent for the FY 2020-2025 period. Of this, nearly 50 per cent comes from the unorganised sector. Agriculture pipes account for the biggest chunk of the market followed by the residential segment.

For Bansal, one of the reasons

to get into the PVC pipe business was the growing demand from agriculture, automotive, building & construction, electrical, and other end-use industries. Also, the government's initiatives like 'Housing for All', 'Nal se Jal', Atal Mission for Rejuvenation and Urban Transformation (AMRUT) project, and Swachh Bharat Mission.



Key Differentiators

- The largest manufacturer of PVC pipes in West Bengal and possesses one of the largest polymer pipe capacities in Eastern India.
- Only polymer product manufacturing companies that implement Theory of Constraints (TOC) in an organised manner, currently deriving 75 per cent of overall revenue through TOC channel network
- Leverages technology alliances with international majors to produce better quality. Currently engaging with more than 25,000 retail sales touchpoints and planning to double the same in the next two years.
- Retailer touchpoint increased manifold (up to 10 times) in the last two fiscals
- Collaborated with Sekisui (Japan) for the production of CPVC compounds for advanced plumbing solutions.

Growth Drivers

Bansal told ET Polymers that the mounting need for clean water in all residential and commercial projects will drive the growth of plumbing pipe and fittings products. Further, the amplified demand for housing which is attributable to the ever-increasing population as well as the rise in personal disposable income will also drive the overall growth of this segment.

When asked about the shift in demand for CPVC pipes, Bansal explained, "there has been a drastic shift in demand from metal to polymer-based pipes, especially in

plumbing and piping application in the construction industry. This has led to an increase in the usage of plastic pipes and the emergence of CPVC pipes for hot and cold-water plumbing.”

Also, to encourage the sector, the Government of India (GOI) has been placing orders for sewage, water supplies, and plumbing pipes. A continuous increase in the allocation of irrigation and housing by the Government of India is going to give momentum to the piping industry. With the rapid population growth, there has been an increase in demand for residential applications of pipes also.

The Government at the centre and states has put the priority focus on Jal Jeevan Mission, Swachh Bharat Abhiyan, sanitation and affordable houses for all and the development of 100 smart cities in all India basis. NITI Aayog has declared the following as growth drivers across the country:

Highlights For The Year 2021-22

- The company achieved the highest ever Annual revenue performance in Polymer Business in FY 2021-22 at Rs 330 crore, registering a staggering growth of 48 per cent over the last year same period
- Total retailer touchpoints over 25,000 plus (nos) in March '22 and monthly billed retailers of 5,000 plus (nos)
- Added new products in the polymer pipe segment - Launched “Marina” Water Tanks under the Skipper Pipes brand.
- Focus on plumbing portfolio post a good response from recently launched new products like CP bath fittings and accessories as well as water storage tanks

- Government infrastructure spending
- Increasing construction
- Increasing Industrial production
- Rising demand from the irrigation sector
- Replacement of ageing pipes
- Providing affordable houses to all
- Heavy investment by Government in irrigation, housing, and sanitation

“Almost all the above growth drivers will boost the business of the plastic piping system division,” said Bansal.

Going forward, Bansal foresees the stress brought about by the second wave of Covid-19 will cause further consolidation within the unorganised sector within the industry, in which smaller players with weaker balance sheets will be severely challenged. According to company estimates, this consolidation will add Rs 10,000 crores to the addressable market size for organised players in general. At Skipper, the company is already seeing the traces of this shift through the surge in demand for their products.

Business Revenues

According to Bansal, in FY 2021-22, the Skipper Pipes clocked Rs 330 crore in revenue. The polymer business comprises a portfolio of products finding applications in plumbing and agriculture. The segment accounts for 19 per cent of revenues of the company, of which the plumbing sector contributes 70 per cent of polymer revenues and the remaining 30 per cent contributed by the agriculture segment. The polymer business is consistently growing each quarter over the four quarters of FY 2020-21. In Q4 of FY 2021-22, the company reported its highest ever quarterly revenue of Rs 117 crore. 📈



Why Cobots Are A Sustainable Alternative In Manufacturing Sector

A peek into how cobots can transform the manufacturing world sustainably.

By Sougandh KM, Country Manager - India, Universal Robots

Over a period of time, the manufacturing sector has seen tremendous growth in various industries. From the industrial revolution to the current Industry 4.0, manufacturing technology has changed drastically. We are currently living in the era of smart and innovative technologies, giving rise to smart manufacturing. The trends in smart manufacturing have led to automation, machine learning, and artificial intelligence setting new standards for the manufacturing sector. According to a report by Forbes, hyperautomation technology and tools can empower you to advance sustainability by reducing operational costs and increasing revenues.

Organisations and companies around the world are adopting auto-

mation. Automation in manufacturing has reaped tremendous benefits for manufacturers such as reduction in costs, increased efficiency, enhanced productivity and improved quality. Automation is not only beneficial for manufacturers but is very crucial for the environment too. Companies are moving towards environment-friendly manufacturing or sustainable manufacturing.

Sustainable manufacturing is gaining momentum. The manufacturing industry across the globe has taken an initiative to save the environment through sustainability goals. Industries are opting for machines which emit the least carbon into the environment. They are opting for digitisation, artificial intelligence and smart robots to fulfil sustainable goals.



A large number of manufacturers are realising the substantial benefits of sustainable business practices. Not only large but small enterprises are also looking for financial and environmentally sustainable business practices. Sus-



6TH EDITION

THE ECONOMIC TIMES
**Global
Conference on
Plastics in
Automotive**



Powered By



In Association With



**“FUTURE OF SUSTAINABLE
MOBILITY”**

COMING SOON

OUR LAST YEAR PARTNERS

Lubricant Partner



Platinum Partners



Gold Partners



Silver Partner



Supporting Partner



Magazine Partners



For Sponsorship, contact

Ranjan Haldar | M: 9167267474 | ranjan.haldar@wmm.co.in

For Registration, contact

Shruti Nair | M: 9769621841 | shruti.nair@wmm.co.in

For Editorial and Panel Discussion Participation, contact

Anvita Pillai | M: 98201373510 | anvita.pillai@wmm.co.in

tainable manufacturing is the production of manufactured goods using economically sensible procedures that reduce their harmful effects on the environment while preserving energy and other resources. Increased worker, community, and product safety is another benefit of sustainable production.

Manufacturers around the globe are looking for technological solutions to fulfil sustainability goals. Automation through robotics is one such solution for sustainable manufacturing. Collaborative robots or “cobots” have helped manufacturers in various ways like reducing wastage, space-saving production, improving workers’ safety, and increasing productivity and efficiency. Additionally, cobots are also economical and safe to be used alongside humans without safety cages (subjected to risk assessment).

Cobots provide manufacturers with a competitive edge over the others in the global market. Cobots provide more flexibility and scalability to the operations. Also, cobots are capable of working 24/7 without breaks, ensuring that manufacturing processes continue to operate round

the clock. There are many reasons why companies opt for cobots to attain sustainability goals:

- **Waste Reduction**

The product-making time in the production of the goods has to be speedy and should have the least wastage with minimal error to meet the target production. Defective products and product wastage not only increase the cost of production but is also harmful to the environment. Cobots ensure quality as well as the cost reduction of the products. Cobots are one of the most efficient ways which can benefit manufacturers in improving the quality of their products.

Cobots are designed to perform repetitive tasks with precision. Their accuracy and repeatability ensure they only use what is needed, preventing material waste. This minimises the production of faulty goods and lowers waste in sectors like welding, dispensing, and material removal. With cobots, the production time becomes more predictable and so is the output, allowing for more effective and optimised logistical arrangements.

- **Reduced Energy Consumption**

Optimisation of manufacturing processes has helped in reducing the usage of energy and fuel in the production processes. Cobots can be controlled and monitored from any place via digital devices like tablets, computers or smartphones, saving employees from operating the machines on site. Cobots help in reducing travel costs and optimising energy consumption. Digitisation has helped cobots in increasing production efficiency as well as reducing the electricity consumption in the manufacturing processes.

Remote access tools enable manufacturers to program their cobot(s) remotely, saving on travel costs and reducing the environmental impact of the automation deployment. Additionally, cobots are designed to consume less energy if operated at 70-80 per cent of their maximum speed and payload. This significantly reduces the energy used during production.

- **Space Saving**

Manufacturing automation requires robots in the production processes. Typically, the robots that





were big and bulky in size required safety fencing for their operation, further adding to the amount of space used on the factory floor. Advanced robots or cobots are used alongside humans without risk of injury and they can easily move between applications without costly facility redesigns.

- **Reducing Emissions From Transportation**

In order to improve the environment and minimise carbon emissions, supply chain distances should be kept to a minimum. Due to the pandemic's exposure to the weaknesses in the world's supply chain, more businesses are reviewing their manufacturing procedures. Supply chains and business strategies need to become more self-sufficient, economical, and environmentally friendly. Reshoring, or returning production home, is becoming more popular as a means of achieving these objectives.

Manufacturing companies are now bringing manufacturing processes closer to their locations, increasing their resilience in the process, thanks to robotic technologies like cobots.

- **Versatile & Long-Lasting**

Collaborative robots are long-lasting and versatile. They can work in a manufacturing line for years if maintained properly. As cobots have a long shelf life, producers will not need to replace their machinery frequently. By doing this, fewer machines are needed and existing heavy industrial equipment is not thrown away.

In contrast to fixed devices, cobots may be reused if production processes alter. Cobots' versatility allows producers to utilise fewer pieces of equipment and keeps them in operation for a longer period of time rather than discarding them when adjustments are required.

- **Cost Saving**

Deployment of cobots in the production lines is very rewarding for the manufacturers in terms of cost reduction as waste is reduced and the chances of human errors decline. Cobots allow for a reduction in operational costs while maintaining productivity. Moreover, chances of possible labour injuries are reduced leading to employee retention, and further driving cost savings.

The demand for sustainable

manufacturing has risen in recent times as consumers have become more aware of the environment and are going forward with products manufactured by sustainable companies. Also, the need and urgency of adopting sustainable objectives are well recognised among the manufacturers as well.

The adoption of sustainable practices has many benefits for manufacturers. These practices help in increasing efficiency, increasing productivity and providing a competitive edge in the market. Reduction of carbon footprints and adoption of robotic technology gives companies a direct financial benefit over traditional manufacturing practices.

The wheels have turned, and the world is now moving towards the attainment of sustainable goals and practices. The Gen Z generation has reaped the rewards brought by sustainable practices and is more inclined toward making the world more sustainable. Also, the pandemic, political tensions and economic uncertainties have surged the adoption of sustainability goals. In the coming years, we foresee more companies leveraging collaborative automation to achieve these goals. 📌

Polyglycolic Acid To Touch \$1,700 Million By 2030

According to Market Research Future, with rapid industrialisation and urbanisation in Asia, the energy demand has increased at a significant rate. China and India are the major industrial economies in Asia. This, in turn, is likely to result in increased investment in the oil and gas exploration activities in the region, primarily in China, India, and Australia.



Polyglycolic acid is widely preferred in numerous applications owing to its superior properties such as biodegradability, high strength, and toughness is expected to reach \$ 1,784 million by the end of 2030, up from \$ 666 million in 2019, registering a CAGR of 10.01 per cent. According to Market Research Future, a global research company, the growth of the global market is driven by the increasing use of frac plugs and frac balls in oil and gas extraction activities, particularly in the US.

Frac plugs made using PGA are being increasingly used instead of metal plugs due to lower operating

costs as they do not need to be salvaged from wellbores after use. Additionally, the expanding medical device industry owing to increased expenditure on healthcare coupled with a rising geriatric population is expected to fuel the demand for PGA during the review period.

With the rapid industrialisation and urbanisation in Asia, the energy demand has increased at a significant rate. China and India are the major industrial economies in Asia. This, in turn, is likely to result in increased investment in the oil and gas exploration activities in the region, primarily in China, India, and Australia. Furthermore, the use of PGA is increasing in the packaging

industry, mainly for packaged beverages and food products due to its biodegradability. Thus, the robust growth prospect of the shale gas industry in Asia-Pacific and expanding packaging industry worldwide are projected to create significant opportunities for the players operating in the polyglycolic acid market during the forecast period.

However, the availability of substitutes, such as PLA, polyhydroxyalkanoate (PHA), and polybutyrate adipate terephthalate (PBAT), and the high cost and complex manufacturing process of PGA are likely to hamper the market growth during the review period.

In terms of form, the fibre seg-

ment accounted for more than 80 per cent of the global polyglycolic acid market in 2019. The growth is attributed to the increasing use of fibre in the manufacturing of products used in the oil & gas and medical industry, such as PGA bars for frac plugs, frac balls, and medical sutures to reinforce biodegradable composites, weave fabrics, meshes, and scaffolds for tissue engineering.

Based on application, the market has been segmented into medical, oil & gas extraction, packaging, and others. Among these, the medical segment accounted for the largest share of the global polyglycolic acid market in terms of value, while the oil & gas extraction application segment accounted for the largest market share in terms of volume. The growth of the medical application segment is attributed to the increasing demand for biodegradable sutures, and that of oil and gas extraction can be attributed to the increase in oil and gas extraction activities, primarily shale gas, to meet the global energy demand, which has resulted in increased demand for frac plugs and thus, PGA.

Based on North America accounted for the largest share of the global polyglycolic acid (PGA) market in 2019. The growth of the market is attributed to the signifi-

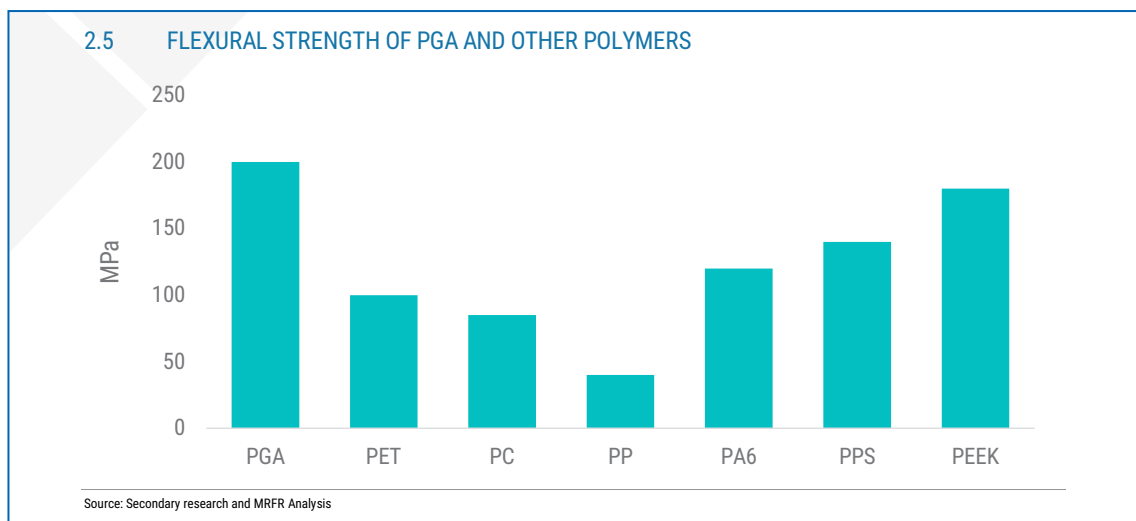


cant increase in shale gas extraction, primarily in the US. Additionally, the prevalence of a large number of medical devices and equipment companies in the US is expected to contribute significantly to the growth of the global polyglycolic acid (PGA) market.

The European market accounted for the second-largest market share on account of the expanding

medical device industry, mainly in Germany, France, the UK, and the Netherlands. Furthermore, the rapidly increasing demand for biodegradable materials in the packaging industry, mainly for beverages and packaged food products, is expected to support market growth.

The market in Asia pacific was valued at \$ 85 million in 2019 and is expected to register a 7.70 per





cent CAGR during the forecast period. The market growth can be attributed to the commercialisation of shale gas extraction in China and an increase in exploration activities in countries such as India and Australia. The growing medical industry in the region is another important factor supporting the market growth. Additionally, growing medical tourism in the region, especially in Thailand, India, and China, and high-quality treatment at low costs and expected to drive market growth. Furthermore, increased consumption of packaged food products and beverages on account of convenience and improved shelf life of products is expected to offer lucrative opportunities for the players in the regional market during the forecast period.

Shale Gas Exploration

Over the past few years, natural gas production and extraction from shale formations have increased in the oil and gas industry. Polyglycolic acid has benefited from the evolution of the game-changing shale gas technology, as it enhances oil recovery and natural gas explora-

tion. Shale gas and oil are generally extracted using hydraulic fracturing, which involves drilling horizontal wells with several sections/stages of fracturing. Isolation tools are used to separate each segment in the horizontal well to enhance the efficiency of fracturing and prevent fluid and pressure loss during drilling.

Polyglycolic acid is an effective tool to be used as temporary plugging for isolation in the well. The high level of candidature can be attributed to its eco-friendly characteristic and biodegradability. Thus, with the increase in the production of shale gas across the US, the demand for PGA is expected to increase significantly.

The share of shale gas in total natural gas withdrawal was about 22 per cent in 2010 and increased to around 60 per cent by the end of 2019. With technological advancements and the development of unconventional natural gas resources in the US, the landscape of the gas sector in recent years has changed significantly, and the trend is expected to continue in the future. This shift in natural gas production from traditional resources to uncon-

ventional reserves (shale reserves) is expected to boost the growth of the global market during the forecast period.

High-Cost Of Production

Polyglycolic acid is an expensive, value-added biodegradable resin that exhibits high mechanical strength and acts as an excellent gas barrier. With these properties, PGA is the perfect solution for application in the packaging and medical industries. However, PGA faces stiff competition from polymer materials, such as polylactic acid (PLA) and polyethylene. For instance, PLA developed using a technology that involves the use of an extruder as a reactor to produce PLA from lactide is likely to replace PGA in injected packages. Furthermore, PGA is an extremely expensive and high-value-added product, which further limits the utilisation of PGA for low-cost applications. Thus, the cost of production and availability of low-cost alternatives are expected to be the key restraining factors in the growth of the global polyglycolic acid market. 📌

Windsor's KL Series Enabling Future Requirements Of Mould Operations



KL's success story dates back to 2015 when WINDSOR launched the first real Two Platen technology in India after the acquisition of the Italian giant ITALTECH. Ever since this, with an installation base of more than 300 machines, KL series machines add value to businesses.

KL has been synonymous with serving privileged customers in the automotive and white goods industry. KL is also preferred in other plastic applications like furniture, material handling, industrial, household & city civic, PVC fittings, etc. due to its smaller footprint, cost-effectiveness and efficiency with minimal resource consumption.

The KL Two Platen machine series (available from 350T - 8,000T) has the most advanced specifications in the world relating to the clamp and injection area. This immensely helps the customer reduce capital expenditure for their moulding requirements. The KL Two Platen

machine series provide immense value-added features and flexibility to customers. A plethora of innovations embellishes the KL machines.

- The free, suspended and short tie bars help in a smaller footprint
- The tie bar regulation mechanism holds the tie bars straight and ensures a longer service life
- Use of the same casting for stationary and moving platen doubles the mould life
- The use of special materials eliminates the demand for lubricants resulting in a lubrication-less clamp area thus enabling the machine to be always maintained clean
- Efficient servo hydraulics used ensures lower demand on energy for effective part production

To elaborate on a crucial point, the patented synchronised movement of nuts significantly increases the machine's reliability. Larger moulds can be used due to longer mould supports. The moving platen

offers flexible movement for adjustment of mould parallelism as per mould requirements.

'Speed' is another industry demand! With the KL series, faster machine operations are possible due to close loop clamp hydraulics and proportional valves. An advanced control system with a 15" touch panel offers flexibility for smooth and convenient machine operation and production control. With the R&D team closely monitoring the changing market dynamics, all these innovations are developed keeping in mind the current and future requirements of customers to run their moulding operations effectively and efficiently.

Attributes highlighted above significantly add to the low ROI, a parameter best used to truly assess the 'cost impact' of the KL machines. Increased productivity to the tune of 15 – 20 per cent on one side and reduced energy consumption by another 15 -20 per cent (in comparison to available solutions), only made the deal sweeter!

Thus, the best-in-class technology globally that the KL Series offers, has raised the bar of performance for injection moulding machines.

KL series was honoured with the seventh National Award for Technology Innovation in Plastic Processing Equipment by the Department of Chemicals & Petrochemicals, Govt. of India in 2017.

'Speed' is another industry demand! With the KL series, faster machine operations are possible due to close loop clamp hydraulics and proportional valves. An advanced control system with a 15" touch panel offers flexibility for smooth and convenient machine operation and production control.

BESPOKE FIRE RESISTANT POLYMERS



As We get future ready for Electric Vehicles fire resistance for plastic components is gaining more attention.

We at APPL have just the right solution with Bespoke Fire-resistant Grades of Engineering Plastics and Thermoplastics Compounds.

Our High-performance FR Grades are made as per UL94 Flammability Ratings and Halogen free for certain applications.

Asia's No. 1 Promising Brand

Rotational Moulding Machinery & Moulds Manufacturer



Visit us



Hall-12, ST-D81



REAL WATERLESS PLASTIC DRYER

*Savings up to 40% of energy cost,
yet delivers (-)40°C constantly*



Green DrySmart™ GDS Series

Head and Shoulder above the Rest
Eliminates the need for Chiller or
Heat Exchanger and its Pipelines

Bry-Air Knows Drying Best

BRY-AIR (ASIA) PVT. LTD.



21C, Sector-18, Gurugram - 122015, Haryana, India
bryairmarketing@pahwa.com



Toll Free
1800 102 7620

Social Connect

