

GLASS News



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Bi-lingual

APEX INDUSTRY BODY LAUNCHES CHILDREN'S VISION ON 'GLASS PROTECTS'

SCHOOL CHILDREN AND OUTSTANDING MEMBERS HONOURED

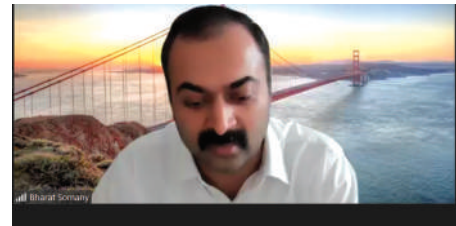
Chief Guest Prof. Alicia Durán (Research Professor CSIC-Spanish National Research Council) and **President of International Commission on Glass, Madrid, SPAIN** unveiled a touring exhibition on 'Glass Protects' at the Annual General Meeting of the AIGMF held online amidst Pandemic conditions.

The Touring Exhibition is the collection of select drawings and paintings by school children. To commemorate International Youth Day, The All India Glass Manufacturers' Federation (AIGMF) invited online entries from children between 7-16 years to participate in the 'Drawing Competition 3.0' on the theme 'Glass Protects'.



(September 15, Virtual Event)

Former Presidents, Mr. Sanjay Somany, Mr. Sanjay Ganjoo and Mr. S C Bansal were jury members who judged top 3 drawings out of 3,000 entries received from schools across India.



Dr. K Muraleedharan, Director, CSIR-Central Glass & Ceramic Research Institute (CSIR-CGCRI), Kolkata felicitated the winning students.



1st Prize (Rs. 15,000) was given to **Tanuj Samaddar** aged 15 years, 10th class student of **SERS Public School (District Kamrup), Assam;**

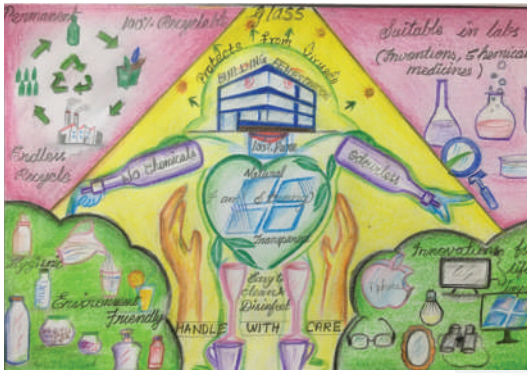
A digitized version of the exhibits may be viewed at: www.aigmf.com

2nd Prize (Rs. 10,000) was given to **Priyal Singh** aged 13 years, 8th class student of **Global City International School, Bangalore;**

3rd Prize (Rs. 5,000) was given to **S. Christy Laura** aged 14 years, 9th class student of **Sri Akilandeswari Vidyalaya, (Trichy) Tamil Nadu.**



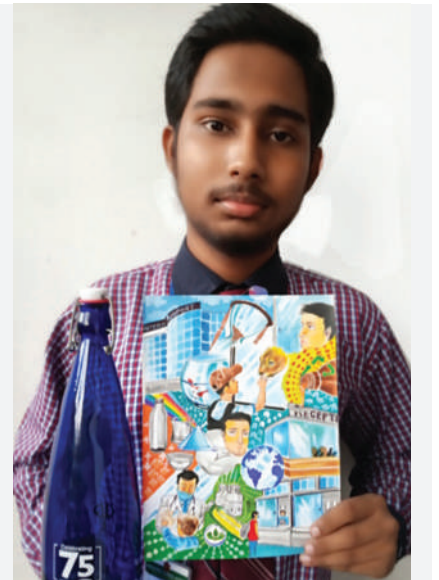
The road show will travel to other cities showcasing the vital role of Glass, being the only 100% recyclable building and packaging material.



1st winner Tanuj Samaddar says, “Through my painting I have reflected the Utility of glasses in our day to day life. Glasses are used in constructing marvellous structures, Airports, Offices and also used in our houses. They are used in the reception centres etc. Glass packaging also helps protect the environment. Glass is 100% recyclable.”

“I have also drawn Glass utensils of our daily use like Glass bottles, Glass bowls, and glasses for drinking water and for various other purposes. Glass doesn't chemically react with its contents. Glass keeps the contents healthy and safe.

I have also focused on the importance of glasses in the field of education, e.g.: I have drawn a prism made of Glass to express its importance in various science experiments involving the dispersion of light. Glass vials are going to play a very important role to get better access to COVID-19 vaccine. And remembering the current situation, I have also drawn a heart touching picture of a little boy bidding adieu to his father who is a doctor, both of them are separated by a Glass partition only to prevent getting infected. Indeed, glasses do protect. Syrups kept in glass containers remain safe. Glasses are 100% recyclable. A man envisioning a world made of glass (showing that glasses are going to replace plastics and are going to contribute to Nature's wellness) has taken the Central stage in my painting. Glasses protect the environment, glasses protect us, glasses



1st winner Tanuj Samaddar protect foodstuffs, medicines, edible liquid items and what not.” So after all these I have realised that: 'GLASS PROTECTS'.

2nd winner Priyal Singh says, “Through my drawing I have tried to depict the use of glass in the various stages of life. It protects us from viruses and it is hygienic, hence, items made of glass are a part of our day to day life. From a milk bottle of a baby to the windshield of a car we use glass in different forms. Jam, ketchup, pickle, etc., come in glass bottles, equipment used in laboratory, cosmetics like perfumes and nail polishes, screen of laptops, mobile, CFLs etc., are all made of glass. It is fully inert and recyclable, hence it is safe for our nature, Environment and us”.



2nd winner Priyal Singh

3rd winner S. Christy Laura says “One of the simple yet significant discovery which plays a huge role in today’s world is inevitable a ‘Glass’.

Glass has its own uniqueness which makes it a useful end product. When glass is coated with lens it serves as a spectacle for people when their eyes become weak.

With spectacles the power required for the weak is compensated, also glass act as a protector and a house for fishes and other aquatic pet animals from its prey. Glass is an excellent material for keeping the volatile substances in it due to its inert nature.

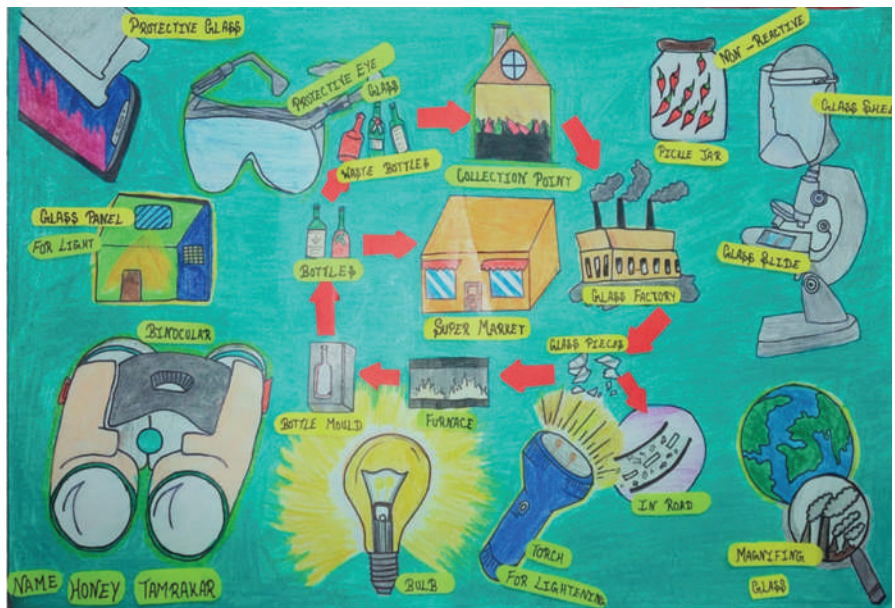


3rd winner S. Christy Laura

From using it as a shield in car from dust and other pollution to using it as a poetic metaphor glass occupies its position in all form.

As a token of appreciation, the first 200 drawing competition entrants were gifted a glass water bottle with the Swachh Bharat Abhiyaan (Clean India Campaign) Logo (manufactured by Hindustan National Glass & Industries Ltd.)

Select photos of the event can be downloaded from :
<http://www.aigmf.com/past-events.php>



3rd AIGMF GLASS AWARDS

Former Presidents; Mr. Sanjay Somany and Mr. Mukul Somany gave the prestigious annual ‘CK Somany Award for Innovation and Technology’ to Dr. Mukul Chandra Paul, Sr. Principal Scientist, Central Glass & Ceramic Research Institute, Kolkata. ‘Balkrishna Gupta Award for Exports’ was given to M/s La Opala RG Ltd., by the Former President, Mr. Pradeep Gupta.

Dr. Mukul Chandra Paul is a senior OSA member along with IEEE and life member of Materials Research Society of India (MRSI) and Indian Ceramic Society (ICS). He holds 7 U.S. patents, 4 Indian patents and published 7 book chapters, edited two books on ‘Fiber Laser’ and authored over 300 SCI papers in peer-reviewed journals and Conferences. Dr. Paul has received many awards, including BOYSCAST Fellowship from DST, IEEE Photonic Distinguished Lecture Award by Multimedia University, Malaysia, CSIR Technology Award, CSIR Technology Award for Innovation, Senior Visiting Scientist award by National Taiwan University of Technology (NTUT), Taiwan etc.

La Opala RG Ltd., introduced Opal Glass technology in India in the year 1988. Since then, it has continuously captured the lifestyle market, and today it is one of the most popular tableware

brands of India. In its endeavor to service the consumers, they have not only captured the Indian Market but have a supply chain to over 40 countries around the globe.”

The Jury for Glass awards comprised of Dr. K. Annapurna, Senior Principal Scientist, Glass Division, Central Glass & Ceramic Research Institute (CSIR-CGCRI), Kolkata; Mr. Dave Fordham, Publisher, Glass Worldwide, London (UK); Mr. Sanjay Somany, Chairman & Managing Director – HNG & Industries Ltd.; Mr. M.K. Bansal, Shri Sitaram Glass Works, Firozabad (UP) and Mr. Vinit Kapur, Secretary AIGMF.

Newly elected AIGMF President, Mr. Bharat Somany said, “The Instilling of Quality, Safety & Environmental consciousness in the minds of the next generation is a mantle the Glass Industry carries faithfully. I am grateful for the unprecedented participation and efforts of the students and congratulate them all heartily. The worthy recognition of Dr. Mukul Chandra Paul and La Opala RG Ltd., for their tremendous contribution in the fields of Technology Innovation and Exports respectively, is a matter of great pride for the Industry”.

Dr. K. Annapurna, Sr. Principal Scientist, CGCRI said, “The laudable contributions in technology and innovation by Dr. Mukul Chandra Paul is simply impressive indeed to confer



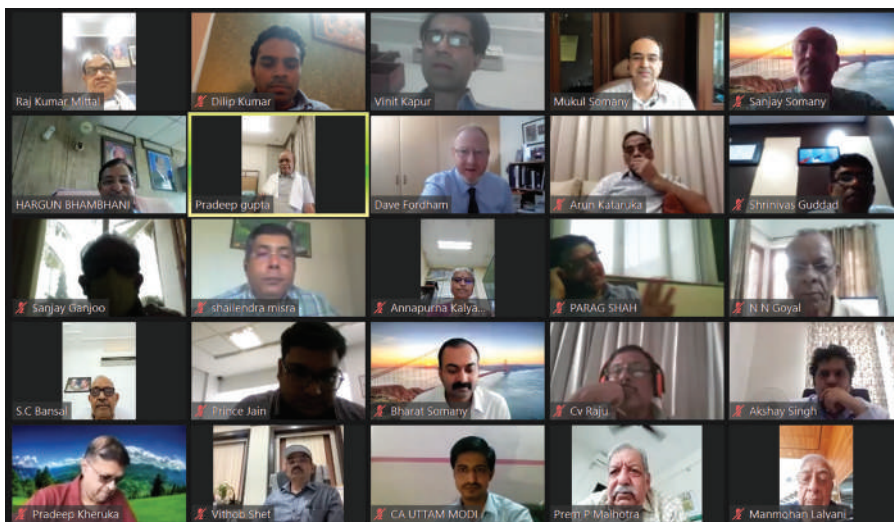
Dr. Mukul Chandra Paul, CGCRI



Mr. Ajit JhunJhunwala, La Opala

prestigious C K Somany Award. Similarly, La Opala RG Ltd., with its well accepted brand name not only nationally but also globally which is evident from its exports was a suitable choice for the esteemed Balakrishna Gupta Award. Congratulations to both Dr. Mukul Chandra Paul and La Opala RG Ltd., for this accomplishment.”

“Congratulations to Dr. Mukul Chandra Paul and La Opala RG Ltd., on their respective AIGMF awards. Dr. Mukul Chandra Paul’s tremendous achievements in the field of technology were clearly evident to the judging panel and he is a more than worthy winner of the prestigious 2020 CK Somany Award. With a brand that is appreciated globally, it is also very fitting for La Opala to receive official recognition of their exceptional international trade with this year’s Balkrishna Gupta Award for Exports.” said Mr. Dave Fordham, Publisher of Glass Worldwide, the preferred journal of AIGMF in association with Kanch (quarterly journal of the AIGMF).



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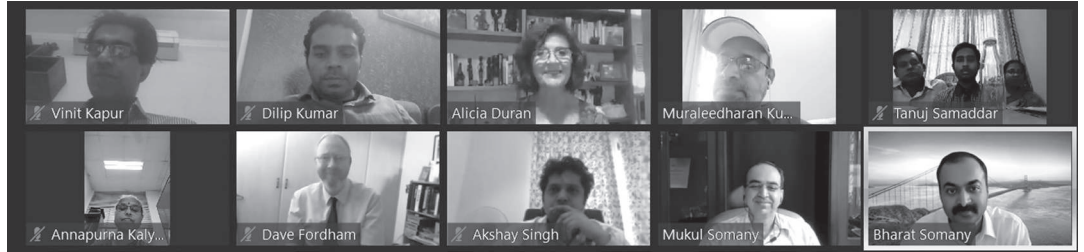
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NEW OFFICE BEARERS ELECTED AT THE 1ST EVER VIRTUAL AGM OF THE AIGMF



Following were elected as Office Bearers of the AIGMF for the Year

2020–21 at the 1st ever Annual General Body Meeting held virtually on Sept 15 under Pandemic conditions:

President - Mr. Bharat Somany, HNG & Ind. Ltd., Bahadurgarh

Sr. Vice President- Mr. Sanjay Agarwal, Kwality Glass Works, Firozabad

Vice President- Mr. Rajesh Khosla, AGI glaspac, Hyderabad

Hon. General Secretary – Mr. Hargun C. Bhambani, Sunrise Glass Ind. Pvt. Ltd., Gujarat

Hon. Treasurer – Mr. Mukesh Kumar Bansal, Sri Sitaram Glass Works, Firozabad

On the recommendations of Zonal Associations following were nominated as Members of the Executive Committee for the year 2020-21:

Eastern India Glass Manufacturers' Association (EIGMA)

1. Mr. Vinay Saran - HNG & Inds. Ltd., Kolkata

Northern India Glass Manufacturers' Association (NIGMA)

1. Mr. Gopal Ganatra - Asahi India Glass Ltd., Gurgaon (Haryana)

2. Mr. Shailendra Kumar Misra - HNG & Inds. Ltd., Bahadurgarh

South India Glass Manufacturers' Association (SIGMA)

1. Mr. Sardar Akshay Singh - SGD Pharma Ltd., Hyderabad

U.P. Glass Manufacturers' Syndicate (UPGMS)

1. Mr. Manish Bansal - G.M. Glass Works No. 2, Firozabad

2. Mr. Sanjay Mittal - Farukhi Glass Industries, Firozabad

3. Mr. Anurag Mittal - Geeta Glass Works, Firozabad

4. Mr. Anurag Gupta - Om Glass Works (P) Ltd., Firozabad

5. Mr. Nitesh Goyal - Goyal Glassware (P) Ltd., Firozabad

6. Mr. Devansh Gupta - Tigersons Glass Inds. (P) Ltd., Firozabad

Western India Glass Manufacturers' Association (WIGMA)

1. Mr. G.K. Sarda - Empire Ind. Ltd., Vitrum Glass, Mumbai

2. Mr. Ashok Jain - Borosil Ltd., Mumbai

3. Mr. Hemal Thakor - Piramal Glass (P) Ltd., Mumbai

4. Mr. Purvish Mayuresh Shah - Gopal Glass Works Ltd., Ahmedabad

The following are co-opted members of the Executive Committee for the year 2020-21:

1. Mr. Sanjay Somany - HNG & Ind. Ltd., Bahadurgarh

2. Mr. Pradeep Kumar Gupta - Om Glass Works Pvt. Ltd. Firozabad

3. Mr. P K Kheruka - Borosil Ltd., Mumbai

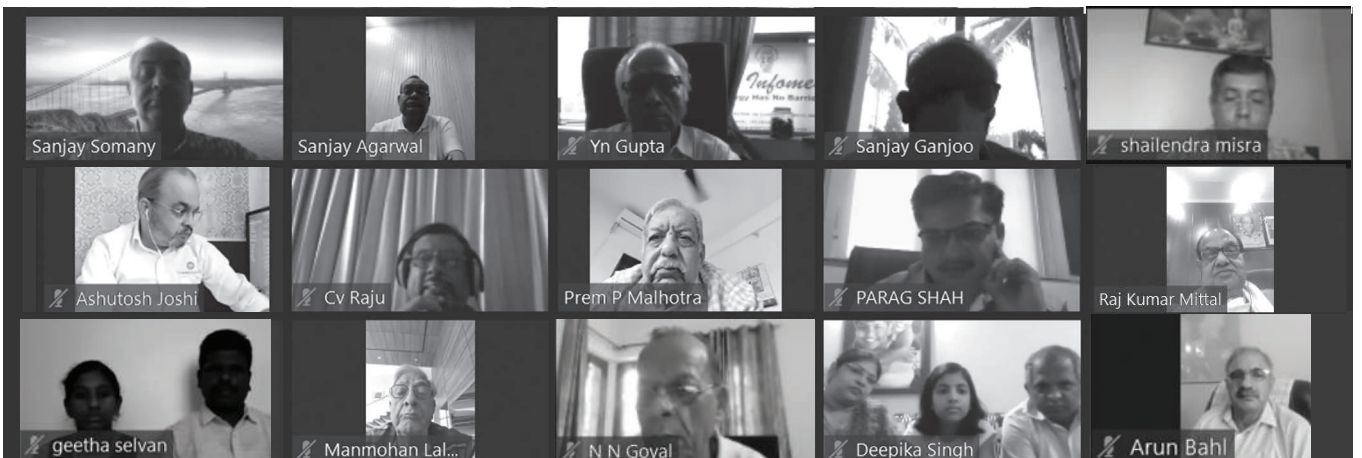
4. Mr. Mukul Somany - HNG & Ind. Ltd., Kolkata

5. Mr. SC Bansal - Adarsh Kanch Udyog, Firozabad

6. Mr. S K Jhunjhunwala - La Opala RG Ltd., Kolkata

7. Mr. Sanjay Ganjoo - Asahi India Glass Ltd., Mumbai

8. Mr. Raj Kumar Mittal - Mittal Group of Glass Industries, Firozabad



PREM MALHOTRA APPOINTED AS SPECIAL CORRESPONDENT KANCH

Mr. Prem Malhotra of Glacera Engineers was appointed as Special Correspondent for Kanch and Glass News in the Honorary position. His role was commendable especially for his contributions to the stories related to glasstec, glasspex, China Glass, IGBC and most recent virtual meetings of the AIGMF held during Pandemic.



Mr. Malhotra holds an experience of over 45 years in the glass manufacturing. His company Glacera Engineers is one of the leading consultants to the glass industry in India.

Glacera Engineers specializes in turnkey projects for glass plants producing a wide range of glass products such as bottles, tumblers, bulbs, tubes, crystal ware, sheet glass, refills, laboratory ware, etc. The company is always keeping abreast with the latest in glass technology and continuously strives towards improving the efficiency and eco-friendliness of glass plants.

AIGMF MEMBER INFORMATION

Pandemic has seen a heavy traffic of stakeholders logging onto AIGMF's website with regard to Member information, publications i.e. Indian Glass Directory, Kanch, Glass News and online library of Glass Worldwide articles in association with Kanch.

Secretariat is trying to keep Members information up-to-date, which is always in great demand. All Members are requested to check their company details at <https://aigmf.com/members.php> and revert with updates (if any).

Also, to receive regular notifications, Members may register important mobile #'s for the official WhatsApp Group at info@aigmf.com

KK SHARMA JOINS AS ADVISOR FOR EMERGE GLASS

After attaining superannuation from HNG, Mr. KK Sharma has joined M/s Emerge Glass Pvt. Ltd., as their Advisor.

Possessing two Masters Degrees and trained at OI USA, Mr. Sharma is a true Glass professional, having 40+ years' working experience in India, Gulf, European countries, Australia, New Zealand and South Africa.



Having a long association with HNG, Mr. Sharma has been privileged to work in all the Plants of the Group.

An immediate Past-President of the Northern India Glass Manufacturers' Association (NIGMA), Mr. Sharma continues to serve as Member Editorial Board of Kanch since 2012.

PAWAN KUMAR SHUKLA TAKES CHARGE AS THE NEW MD FOR SCHOTT INDIA

SCHOTT AG, has announced Mr. Pawan Kumar Shukla as the new Managing Director for SCHOTT



Glass India. Mr. Shukla brings over 25 years in the glass, lighting, pipes and electronics industry and comes with a strong background in techno-commercials. Prior to this role, he was the President Operations at Surya Roshni Ltd., an Indian multinational manufacturer for specialty glass tubing and lighting.

An alumnus of the prestigious Indian Institute of Technology, Kanpur, in ceramic engineering as well as material science and metallurgy, Mr. Shukla has also worked with Corning JV in the CRT Division as a manufacturing head for twelve years. Commenting on his new role, he said, "India is a frontrunner of the global pharma industry and primary pharma packaging is one of the most vital components in the entire production chain. I am proud to be associated with SCHOTT, being one of the oldest and most trusted manufacturers of tubular glass worldwide. While the domestic market is our key focus, our India plant also caters to the Asian market, thereby contributing to the pharmaceutical industry and the Indian government's vision of becoming a global pharmaceutical hub."

At the Jambusar facility, Mr. Shukla's main aim would be to achieve the full potential of his team by empowering them with responsibility, trust and acknowledgement. Further talking about the company's overall commitment to support the Indian

pharma industry, he added, “SCHOTT also takes awareness of the Indian Health Ministry’s initiative to provide affordable and accessible healthcare to its citizens. Moreover, this year has brought many challenges due to the Coronavirus pandemic. But we are proud to be a contributor in a sector, where everyone has stepped up to fight the novel virus. We remain committed in our support to the country’s pharmaceutical value chains, by providing high-quality glass products for pharma packaging while ensuring the highest global safety standards.”

Mr. Patrick Markschlaeger, Executive Vice-President, SCHOTT AG, Business Unit Tubing noted, “SCHOTT’s Jambusar plant is one of our most advanced tubing plants worldwide. The quality of glass produced here is at par with any other production site, including Germany.” “We are pleased that the manufacturing site is under the capable leadership of Mr. Shukla, who is an industry stalwart himself. He brings with him decades of technical and managerial expertise in the glass manufacturing space. We look forward to seeing SCHOTT India achieve even higher standards and success under his guidance”, he said.

Presently, SCHOTT is delivering its highly specialised Fiolax® glass tubes to leading pharma packaging players in India and abroad for preparing primary packaging products such as vials, syringes, etc. Supporting the world’s fight against COVID-19 with vials capable of holding up to 2 billion vaccination doses, the German leader has reached agreements and started supplying to leading pharmaceutical companies including key players in India.

Given the exponential rise in demand for quality glass for pharma packaging, SCHOTT had inaugurated a new tank facility in its Jambusar plant, following an investment of €21

million in 2018. Even before the Coronavirus pandemic, the company had forecasted a rapid growth trend, and had thus committed additional investments of €26 million for yet another tank facility last year. With a combined investment of €47 million and two new plants, SCHOTT’s India plant is well on track to double its production capacity, enabling supply of its Fiolax® glass tubing for both domestic and export demands.

GERMAN PLANT UPGRADE FEATURES ADVANCED HEYE PRODUCTION TECHNOLOGIES

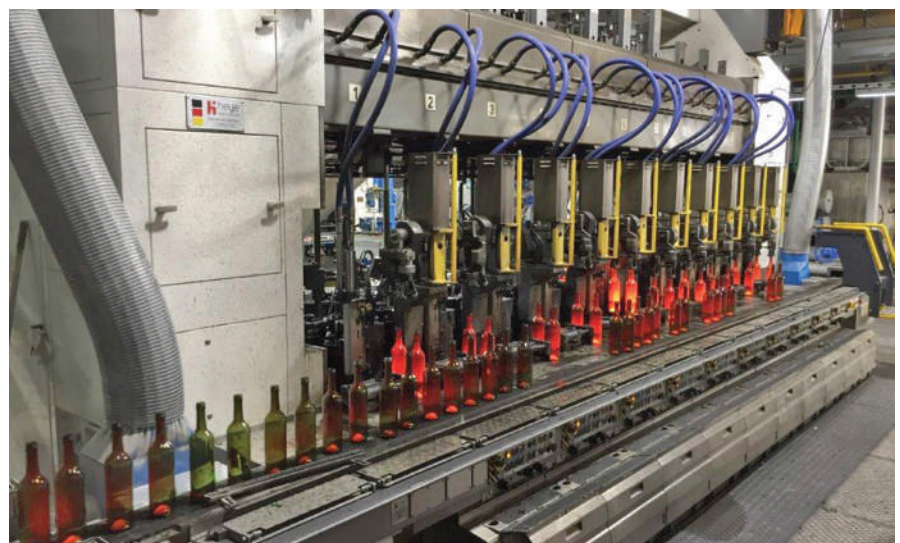
Ardagh Group’s Gernersheim glass production facility in south west Germany has been the subject of a substantial investment in recent months. One of the facility’s two melting furnaces has been completely rebuilt and as part of associated production shop investment projects, some of the glass container industry’s most advanced manufacturing technologies have been purchased. This includes specialist production machinery from Heye International GmbH, one of the facility’s longstanding partners.

Gernersheim is one of eight plants operated by Ardagh in Germany, located near Speyer, where some 280 people are employed.

An intensive 150 day repair schedule was undertaken to make production more efficient and environmentally-friendly, preparing the Gernersheim glassworks for continued successful operation in the future. As well as renewing the green furnace, the batch plant has been upgraded and new NNPB production equipment has been installed. An annealing Lehr has been replaced, as well as the basement cullet return system, while existing supply facilities for compressed air, gas, water and electricity have been either rebuilt or overhauled.

The rebuilt regenerative melting furnace serves four production lines, two of which have been equipped with the latest SpeedLine IS machines from Heye International. This equipment features the safe, user-friendly, easy-to-clean, flexible and fast Multilevel security concept. It is designed to comply with HACCP standards and employs a modular design for simplified maintenance and service. The use of standardised components reduces the number of spare parts required, while existing machine mechanisms are also reusable.

One of the new IS machines is a 12-section 6 1/4in double gob installation, while the second is a 10-section 5in double gob SpeedLine. The production shop’s other two lines



feature existing Heye IS machines. The feeders for these lines have been modernised with the latest Heye front plates and spout casings.

Commenting on the successful completion of this project, Mr. Stefan Döring, Technical Service Manager for the Germersheim facility, expressed his team's positive response to the working relationship established with Heye International engineers. "There was a very good co-operation with respect to pre-works engineering, FAT organisation, machine installation and commissioning" he confirmed.

SCHOTT AG DELIVERS PHARMA VIALS TO PACKAGE 2 BILLION DOSES OF COVID-19 VACCINES; INDIAN JV SCHOTT KAISHA LEADS THE SUPPLY OF VIALS FROM INDIA

German glass manufacturing giant SCHOTT AG is supporting the world's fight against COVID-19 with vials capable of holding up to 2 billion vaccination doses. The pharma glass and packaging specialist has reached agreements with leading pharmaceutical companies, including key players in India. The global agreements became effective in the month of July and first vials are already being delivered to companies in Asia, North America and Europe.

In India, SCHOTT's 50-50 joint venture, SCHOTT KAISHA is supplying vials for COVID-19 vaccines to Serum Institute (India) and several other players. The joint venture operates four manufacturing facilities in the country located in Jambusar and Umarsadi in Gujarat, Daman, and Baddi in Himachal Pradesh. In addition, the company produces the pharmaceutical glass tubing for the packaging itself at its global sites including one in Jambusar in Gujarat.

The specialty glass pioneer is ideally positioned to meet the challenging

demand situation since it had started an investment program into its pharma business of 1 billion USD in 2019 already. In India, this includes a three-digit million-euro number for new Borosilicate glass melting tanks, and for its packaging operations an entirely new production site as well as new modules and lines.

All of SCHOTT's 20 production sites for pharma glass and packaging are validated by regulatory bodies and pharma companies. This means that additional capacities can be used immediately without further regulatory efforts. Even before the expansions, SCHOTT already produced more than 11 billion pharma containers globally for life-saving drugs per annum, of which a nine-digit figure is manufactured locally in India.

"SCHOTT KAISHA has been known to scale up extremely fast in order to meet customer demands over the past decade, which is also evident from its two new facilities in Umarsadi and Baddi. Thanks to our strong supply chain and support from SCHOTT's global sites, we are in a very strong position to meet our customer's current and anticipated requirements. We are confident that we can quickly expand our production capabilities further, in case demand arises", shared Mr. Rishad Dadachanji, Director, SCHOTT KAISHA.

More importantly, all major pharma companies and many other players in the market have been processing the company's vials on their fill and finish lines for many years. "Hence, no time-consuming adaptations of fill and finish equipment will slow down vaccine distribution. As time is a luxury the industry doesn't have at the moment, it is common sense to rely on tried-and-true packaging solutions," said Mr. Dadachanji.

SUPPORTING PHARMACEUTICAL GLASSMAKERS TO MAXIMISE PRODUCTIVITY

The race is on around the world to produce adequate quantities of glass vials for a potential coronavirus vaccine, making high quality packaging available as soon as the vaccine has been perfected. To accommodate the vast levels of demand involved, it is anticipated that global production of pharmaceutical vials needs to be ramped up by 5-10% within two years.

IRIS Inspection machines is supporting glassmakers in their drive for additional productivity, working closely with such customers as Bormioli Pharma, Gerresheimer Group and SGD Pharma at their various manufacturing locations throughout



Europe, the Americas, India and China. Few industrial sectors have such stringent quality requirements as the pharmaceutical industry and to meet these exacting specifications, companies are increasingly utilizing intelligent inspection solutions.

The specialist inspection technologies developed in France by IRIS Inspection machines provide essential solutions for the identification of dimensional, finish and low contrast surface defects. These technologies have been perfected in close consultation with the world's leading pharmaceutical glassware manufacturers.

Evolution DIM NEO non-contact inspection equipment is designed to perform a series of critical dimensional inspection tasks, for example, measuring height, minimum and maximum diameter, roundness and barrelling. Among the defects identified are tiny body deformations, non-round sidewalls, diameter deformations and other minor geometric defects in the body, bulged or sunken sidewalls, as well as ware with an out-of-specification height.

Improved verticality inspection is provided with 3D, the Evolution DIM machine calculating the verticality of each container to measure the body or finish shifting via precise, 360° verticality detection. Verticality defects detected with this solution include lean articles, offset finish and bent neck.

A dedicated module provides a series of accurate finish measurements, identifying minimum and maximum external finish diameter, finish height and flatness, plus the height of the finish ring. The deformation defects encountered include bulged finishes and unfilled ware.

The Evolution DIM NEO equipment features a compact design, with up to three body cameras, up to two finish cameras and a dedicated light source.

Also available from IRIS Inspection machines is the Evolution 5 NEO

finish inspection module. This solution has been developed to identify such sealing surface defects as a shipped finish, LOF or an unfilled finish.

Another of the company's developments is the EVO Ultimate NEO machine for the identification of transparent surface defects, including surface blisters and small laps.

Governments and drug companies worldwide are placing huge orders worth hundreds of millions of dollars and encouraging the makers of glass vials and syringes to add manufacturing capacity. Although this initiative requires immediate preparation, the glass industry is confident that it is a surmountable challenge. IRIS Inspection machines and its innovative ware inspection technologies are available to support the world's specialist pharmaceutical glassmakers to meet these challenges.

VISY ACQUIRES GLASS MANUFACTURER OWENS ILLINOIS

Australian recycling giant Visy has entered into an agreement to acquire the Australian and New Zealand glass manufacturing business of Owens Illinois (O-I).

The deal, worth almost \$1 billion, is one of the biggest manufacturing acquisitions by an Australian-owned business in Australian business history.

Visy would employ 7200 people in manufacturing jobs post acquisition.

Visy Executive Chairman Mr. Anthony Pratt said, "*manufacturing has never been more important to Australia's future.*"

"*Importantly we will bring Visy's sustainability culture to O-I, aiming to increase recycled content of glass bottles from 1/3 to 2/3,*" he said.

O-I is the largest manufacturer of glass bottles and containers in Australia-

New Zealand with factories in Sydney, Melbourne, Brisbane, Adelaide and Auckland.

Visy, which is owned by Mr. Anthony Pratt and his two sisters is one of the world's largest privately owned recycling and packaging companies.

The addition of glass manufacturing to Visy's portfolio is in line with the company's long-term strategy of creating local manufacturing job opportunities and supporting local communities.

INDIAN RESEARCHERS DEMYSTIFY PROCESS OF TRANSFORMATION OF GLASS INTO CRYSTAL

A team of Indian researchers has demystified devitrification, which is the transformation of glass into a crystal, and visualised the process for the first time in experiments, the Indian Institute of Science said. Glass is amorphous in nature, its atomic structure does not involve the repetitive arrangement seen in crystalline materials, the Bengaluru-based IISc noted in a statement. But occasionally, it undergoes a process called devitrification, which is the transformation of glass into a crystal often an unwanted process in industries.

The dynamics of devitrification remain poorly understood because the process can be extremely slow, spanning decades or more, according to IISc.

Now, a team of researchers led by Mr. Rajesh Ganapathy, Associate Professor at the Jawaharlal Nehru Centre for Advanced Scientific Research, in collaboration with Mr. Ajay Sood, DST Year of Science Chair and Professor at the IISc, and their Ph.D. student Ms. Divya Ganapathi (IISc) has visualised devitrification for the first time in experiments, it said.

The results of this study have been published in 'Nature Physics'. The trick was to work with a glass made of colloidal particles.

Since each colloidal particle can be thought of as a substitute for a single atom but being ten thousand times bigger than the atom, its dynamics can be watched in real-time with an optical microscope, said Ms. Divya Ganapathi.

"Also, to hasten the process we tweaked the interaction between particles so that it is soft and rearrangements in the glass occurred frequently," she said.

In order to make glass, Ms. Ganapathi and the team jammed the colloids together to reach high densities.

The researchers observed different regions of the glass following two routes to crystallisation: an avalanche-mediated route involving rapid rearrangements in the structure, and a smooth growth route with rearrangements happening gradually over time.

To gain insights into these findings, the researchers then used machine learning methods to determine if there was some subtle structural feature hidden in the glass that 'apriori' decides which regions would later crystallise and through what route.

Despite the glass being disordered, the machine learning model was able to identify a structural feature called 'softness' that had earlier been found to decide which particles in the glass rearrange and which do not, the statement said.

The researchers then found that regions in the glass which had particle clusters with large 'softness' values were the ones that crystallised and that 'softness' was also sensitive to the crystallisation route.

Perhaps the most striking finding emerging from the study was that the authors fed their machine learning model pictures of a colloidal glass

and the model accurately predicted the regions that crystallised days in advance, IISc said.

"This paves the way for a powerful technique to identify and tune 'softness well in advance and avoid devitrification," said Mr. Ajay Sood.

Understanding devitrification is 'crucial' in areas like the pharmaceutical industry, which strives to produce stable amorphous drugs as they dissolve faster in the body than their crystalline counterparts, the IISc said.

Even liquid nuclear waste is vitrified as a solid in a glass matrix to safely dispose it off to deep underground and prevent hazardous materials from leaking into the environment.

The authors believe that this study is a significant step forward in understanding the connection between the underlying structure and stability of the glass.

"It is really cool that a machine learning algorithm can predict where the glass is going to crystallise and where it is going to stay glassy. This could be the initial step for designing more stable glasses like the gorilla glass on mobile phones, which is ubiquitous in modern technology," says Mr. Rajesh Ganapathy.

The ability to manipulate structural parameters could usher in new ways to realise technologically significant

long-lived glassy states, the statement added.

CHINA UNVEILS RECORD-BREAKING FULL GLASS BRIDGE IN HUANGCHUAN

A stunning new bridge, made entirely out of glass, has been opened for public in China. The glimmering piece of architecture was unveiled in Huangchuan Three Gorges Scenic area, Lianzhou. Although Chinese state media reported that there were about 2000 glass bridges across the country, this one has broken the Guinness world record for being the longest.

As per a Chinese news media outlet, the ambitious structure, built over Lianjiang river, could hold 500 people at once. In addition, to normal foot traffic, this full glass bridge could also serve as a platform for adventure sports such as bungee jumping and zip lines. In addendum, it could even be used as a ramp for fashion events.

The opening of the bridge took place on July 18 in the presence of Guinness world record representatives who awarded it the status of being the world's longest glass bridge at 526.14 mts. As per Chinese state media, the structure, which has four observation decks at the middle, is made entirely out of laminated glass which is 4.5 cm thick and said to be



99.15% transparent, eventually giving a full-fledged view of valley and river passing underneath.

As per the China News Service, the bridge took three years to build and cost nearly 300 million CNY to the authorities. The bridge which was fully completed by January this year has been credited 'AAAA' or '4A' rating, which is the second-highest grade assigned by China's Ministry of Culture and Tourism. This new bridge has smashed the record that was held by the Hongya Valley glass bridge in Hubei Province in Central China which is 488 mts. (1600 ft.) long.

EMERGE GLASS ALL SET FOR CONTAINER GLASS MANUFACTURING

In a statement issued by Emerge Glass Pvt. Ltd., the company said that since its inception in 2013, Emerge Glass has ensured to manufacture the highest standards of complete glass solutions and constantly strived to match industry practices.

Mr. Sumit Gupta, Managing Director said *"Emerge Glass has achieved many milestones along the way. We take pride as the only entity to produce Imm thin flat glass in the country. What's more, we are also the only manufacturer in India with the capability to simultaneously produce three different thicknesses of Clear Flat Glass, lending us an upper hand in market competition. Further these wonders in glass are applied across micro slides, automobile rear view mirrors, wall clocks, picture frames and many more."*

"Powered by innovative capability and engineering expertise, our customized glass solutions are done as per customer's necessity. Pioneering Ultra-thin Glass production in India, we have created value and superior benchmarks not only for the competition but also for ourselves."

"We have recently ventured into the premium glass-packaging segment by manufacturing container glass in three categories- Liquor, Beer, and Food grade, with Liquor being our largest category of production. From design to production, ornamentation of premium glass containers to customized designs, we are emerging as a significant solution provider in glass manufacturing not only in India, rather across the globe. No wonder, our glass containers adorn shelves around the world. We have procured 4 brand new advanced IS machines from Emhart Group Company, and soon would be producing 210 tons of high-quality container glass per day."

Emerge Glass is backed by a strong and meticulous parent group company network of 150 dealers/distributors and 15 sales offices across India which is managed by 1,000 skilled professionals. Emerge has state-of-the-art manufacturing facility in Rajasthan that spans across 80,000 sqm, including 35,000 sqm built-up area and 20,000 sqm green area. It's glass solutions are exported to Dubai, Sri Lanka, Brazil, Netherlands, Nepal, Bangladesh and Turkey. Emerge's expansion in container segment is in addition to their existing line of products i.e. Flat Glass, Mirror and Frosted Glass.

Mr. Gupta, an MBA, began a glorious journey with Aluminium Composite Panels which was followed by acclaimed projects and foray into WPC, Silicone Sealant, clear flat Glass etc. By successfully instituting a world-class manufacturing unit in Dubai for non-combustible Metal



Mr. Sumit Gupta, Managing Director

Composite Panel, he set a precedent for the industry. Leading from the front, he has led momentum to the brand as one of the leading manufacturers of Façade and Glass solutions.

"Being in sync with PM's visionary and bold initiative towards plastic ban and adoption of container glass, we have aligned closely with the Government of India's 'Make in India' and 'Atmanirbhar Bharat Abhiyan' (self-reliant India), aiming to completely replace imports", said Mr. Gupta.

4th GLASSPRO INDIA & 7th GLASSPEX INDIA TO BE HELD ON SEPT 23-25, 2021 IN MUMBAI

The forthcoming editions of glasspro India, the country's leading glass products and technology exhibition jointly organized by Messe Düsseldorf India and Glass Bulletin, and glasspex India, the nation's leading exhibition in glass production and processes organized by Messe Düsseldorf India, will be held from September 23-25, 2021 at Hall 4, BCEC, Mumbai.

Both events are powered by glasstec, Düsseldorf, Germany – the world's leading exhibition on glass.

glasspro INDIA 2021 will continue to showcase the latest trends and

innovations in the field of flat / processed glass products and innovations; and feature the largest display of the latest glass processing solutions, tools, auxiliary products and services.

As an additional feature, glasspro India will bring along fenestration pro INDIA, a show designed to cater to the door, window and the façade segments and unite architects, fabricators, developers, policymakers, façade consultants, engineers, and stakeholders from the Indian industry and beyond.

Synergistically, this show will drive discussions on the design trends which can be harmonized with energy efficient building technologies, bringing the widest fraternity under one roof.

The door, window and façade industry in India is emerging rapidly and the need for sustainability, comfort and aesthetics continues to drive innovation in the construction sector. This industry has given up its traditional structure and expedited to modernism. This new taste and necessity caused the manufacturers to change their production platform to manufacture new and updated products.

On the other hand, glasspex INDIA 2021 will continue to showcase the widest range of glass production technologies, glass processing and finishing, hollow glass products and applications, glass packaging technologies, automation, measurement and control engineering, tools, auxiliary equipment and fittings and many more.

Announcing the new dates for the exhibitions, Mr. Thomas Schlitt, Managing Director, Messe Düsseldorf India, said, "Health and safety of our exhibitors, sponsors and visitors has

been the biggest priority for us during past few months and it continues to be so. However, we are hopeful that the world as well as businesses will soon take a hopeful turn. As we regret the inconveniences occurred due to our plan to postpone this year's show, we are very excited to meet you in September, 2021 with even more enthusiasm and expectations."

"We have also realized that tough times give us initial challenges but present to us a great deal of opportunities. Keeping that in mind, I am sure that we can expect an array of even more advanced products, technologies and solutions. We will also be delighted to offer a potent platform for the industry stakeholders to meet, greet, share ideas and do fruitful businesses together," he said.

The last edition of the events was a huge success. There was a marked increase in the number of exhibitors, visitors and international participants compared to the year before that.

The number of exhibiting companies stood at 195. Given the growth in popularity and clientele, the exhibitions are certainly going to script yet another success next year.

The show is supported by The All India Glass Manufacturers Federation, Builders Association of India, Ludhiana Glass Dealers Association, Noida Glass and Dealers Association, The Madras Glass & Plywood Merchant Association and Rajkot Glass Merchant Association.

CORNING'S LATEST SMARTPHONE GLASS CAN SURVIVE A 6-FOOT DROP

Corning, the American technology company that specializes in specialty glass, ceramics, and related materials, has announced the next-generation

of protective glass for smartphones - Gorilla Glass Victus.

The company describes it as the "toughest glass" ever to be created for a gadget, one that can easily survive a drop from six feet of height.

Phones can tumble anytime but Victus, which is the seventh generation of Corning's protective glass, is well equipped to deal with it.

The company says it can survive a 6.5-foot drop, something that the tallest among us would surely appreciate.

To recall, the previous two versions of Gorilla Glass offered drop protection from just 5.25 feet and 3.9 feet of height, respectively.

Along with drop resistance, which has been the focus of Corning in the last few years, the new Victus glass also brings enhanced scratch resistance.

Specifically, the company claims that its new glass offers twice the resistance of Gorilla Glass 6 and four times the resistance of a competing product, making a much stronger offering to bear marks left by keys and coins.

While the new glass will protect devices, it must be noted that it doesn't make them unbreakable.

Victus just reduces the risk of a screen getting damaged after a fall. If you throw/scratch it intentionally, it will certainly break.

Gorilla Glass Scientist Mr. Jaymin Amin says, "metal/dirt particles can also stick on keys/coins and damage this glass, but the chances are fairly less."

A Samsung phone is expected to use the glass in the next few months, followed by other OEMs, with perhaps even Apple, jumping on the bandwagon.

The glass will understandably come at a premium price tag to the manufacturers.

PASSING AWAY OF HELMUT SORG

On 16th July, Mr. Helmut Sorg, the long-serving Managing Partner of Beteiligungen SORG GmbH, died unexpectedly at the age of 80. Mr. Sorg, a member of the fourth generation of the family, was still at the helm of the family business, working together with his son Mr. Alexander and his brother Mr. Karl-Heinz.



After graduating from high school, Mr. Sorg went to the renowned technical university at Aachen to study industrial furnace and heating technology. His passion for and commitment to glass furnace technology was already evident in his early years. Mr. Sorg spent most of his school and semester holidays working in the family business. He graduated from Aachen at the age of 24 and began working full-time for Nikolaus SORG in 1964.

From the start, Mr. Sorg's intent was the opening of the world market for plant engineering. He knew that the key to success lay with the application of the most modern technology, the main focus of his life as a dedicated engineer.

In 1978 he initiated the creation of a single technical department within the Company and assumed responsibility for, amongst other things, all technological and development matters. This move formed the basis for the subsequent and lasting success of SORG as one of the leading suppliers to the glass industry worldwide.

Initially he focussed on the end-fired regenerative furnace and pushed for the development of

increasingly larger furnaces of this type. At the same time, he was able to find customers who were ready to accept the accompanying technical challenges. This led to the industry-wide replacement of antiquated cross-fired furnaces by the modern end-fired technology.

Mr. Sorg's drive resulted in the successful sale of these modern furnaces in Europe. He won many new customers in the core markets of Germany, Austria, Switzerland, Italy, France, Spain, and Portugal. Furthermore, he opened markets outside Europe, for example on the American and African continents.

At the beginning of the 1980s he formed a company destined to produce tableware, the American Stemware Corp. in PA. USA. Greensville, PA. USA.

One reason for this step was to demonstrate the suitability of the VSM all-electric furnace for the production of highest quality lead crystal glass. He was also responsible for the development of the LoNOx Melter, designed to give a significant reduction in NOx emissions.

Towards the end of the 1990s, Mr. Sorg gained the contract from an important customer to build the largest oxy-fuel melter in Europe. His business acumen was evident in the development of the batch plant sector. At his instigation the company took over EME in Erkelenz in 1987. Under his management this company has become a renowned supplier to the glass industry.

Mr. Sorg initiated SORG's successful entry into the flat glass sector through a co-operation which led to the acquisition of ghs GmbH, a specialist consultant to the float industry. The Company's competence in the float industry is demonstrated by the excellent results achieved.

In recent years, Mr. Sorg focussed on the development of forward-looking, low emission melting concepts. In 2012 the first batch preheater was commissioned as part of the new "Batch3" concept. Under his aegis the Company has developed an innovative, heavily electrically heated, horizontal furnace, now being

introduced into the market under the name "CLEAN MELTER".

Mr. Helmut Sorg's successes were the result of his purposefulness, his vision and his competence. However, of equal importance were his amenable personal qualities that allowed him to establish excellent social contact with many customers. He was highly respected by the staff of the SORG Group companies, who valued his straightforwardness, fairness and generosity.

SAD DEMISE OF JAYANTILAL J SHAH

Mr. Jayantilal J Shah, Chairman of Gopal Glass Works Ltd., left for heavenly abode on Oct 9 at the age of 90.



'Jentikaka' as a nickname was a pioneer in nourishing Gopal Glass from a low key start and took the company to new heights with his great visionary.

A renowned philanthropist, Mr. Shah had served in the areas of women empowerment, education and medical support for the poor. He also supported several schools, hostels and hospitals.

Started by Mr. Jayantilal J Shah and Late Mr. Dhirajlal Sheth, Gopal Glass Works Ltd. is one of the leading players in the Figured / patterned and wired glass industry for over 40 years. It began with a production capacity of mere 50 tons per day and today it boasts of a state-of-the-art manufacturing facility spread over 30 acres with a production capacity of 350 tons per day with 4 units. Equipped with world-class technology from Germany, Gopal Glass is known for its cardinal points of innovation in design and manufacturing excellence.

क्रिकेट में प्रदीप गुप्ता ने बढ़ाया मान

फिरोज़ाबाद शहर के प्रमुख कांच उद्यमी प्रदीप गुप्ता ने क्रिकेट जगत में सुहाग नगरी का बड़ा मान बढ़ाया। उ.प्र. क्रिकेट एसोसिएशन के उपाध्यक्ष एवं फिरोज़ाबाद डिस्ट्रिक्ट एसोसिएशन के पूर्व अध्यक्ष श्री प्रदीप कुमार गुप्ता को एसोसिएशन की 26 सितंबर 2020 को कानपुर में आयोजित वार्षिक आम बैठक में सर्व सम्मति से सत्र 2020-21 के लिये कार्यवाहक अध्यक्ष चुना गया है।

आप इससे पूर्व सन् 2018 में एसोसिएशन के तीन उपाध्यक्षों में से एक उपाध्यक्ष चुने गये थे। इससे पूर्व आप सन् 2015 से उ.प्र. क्रिकेट एसोसिएशन के कार्यकारिणी समिति के सदस्य भी रहे। सन् 2015 में उन्हें यूपीसीए द्वारा संचालित गौर हरी सिंघानिया क्रिकेट एकेडमी का चेयरमैन बनाया गया था।

श्री मोहनकिशोर गुप्ता-अध्यक्ष, जिला क्रिकेट एसोसिएशन, फिरोज़ाबाद द्वारा आयोजित एक विशेष बैठक में उनके निर्वाचन पर हर्ष व्यक्त किया गया और इसे फिरोज़ाबाद जनपद का सम्मान बताया गया।

जिला क्रिकेट एसोसिएशन से अपना सफर शुरू करने वाले प्रदीप गुप्ता का क्रिकेट के प्रति प्रेम शुरू से रहा। जिला एसोसिएशन

का अध्यक्ष बनने के बाद उन्होंने फिरोज़ाबाद ऑल इंडिया क्रिकेट टूर्नामेंट की शुरूआत कराई। कई साल तक चले इस टूर्नामेंट में भारतीय टीम के क्रिकेटर मदन लाल, चेतन चौहान, रमन लांबा, मनोज प्रभाकर, अजय जडेजा जैसे खिलाड़ी खेलने आए। 25 साल तक जिला क्रिकेट एसोसिएशन के अध्यक्ष रहने के बाद प्रदीप गुप्ता यूपीसीए के सदस्य बने। उनकी इस उपलब्धि पर जिला क्रिकेट एसोसिएशन



Mr. Pradeep Gupta, Former President AIGMF

“श्री प्रदीप गुप्ता हमारी संस्था के संरक्षक एवं वरिष्ठ सदस्य हैं। उनके उ.प्र. क्रिकेट एसोसिएशन का कार्यवाहक अध्यक्ष चुने जाने पर संस्था के पदाधिकारी एवं समस्त सदस्य हर्ष व्यक्त करते हैं। उन्होंने फिरोज़ाबाद का गौरव बढ़ाया है।” - राजकुमार मित्तल, अध्यक्ष, यू.पी.जी.एम्.एस. एवं पूर्व प्रेजिडेंट दी ऑल इंडिया ग्लास मैनुफैक्चरर्स फेडरेशन।

अध्यक्ष मोहन किशोर गुप्ता, केशव लहरी, विजय अग्रवाल, विजय गोयल, शिवकांत शर्मा, नीलमणि चुतुर्वेदी, बीसीसीआई लेवल एं कोच विकास पालीवाल सहित अन्य लोगों ने बधाई दी।

प्रतिभाओं को निखारने के लिए अपना बनाया स्टेडियम, जिला क्रिकेट एसोसिएशन अध्यक्ष रहते हुए स्थानीय खेल प्रतिभाओं को निखारने

के लिए उन्होंने अपनी निजी जमीन पर ओम ग्लास क्रिकेट स्टेडियम बनाया। इस स्टेडियम में खेलने वाले खिलाड़ी प्रदेश स्तर पर खेल चुके हैं। शहर के जावेद अनवर देश की अंडर 19 टीम के सदस्य रहे।

आपको बता दें श्री प्रदीप गुप्ता सन् 2001-03 तक दी ऑल इंडिया ग्लास मैनुफैक्चरर्स फेडरेशन के प्रेजिडेंट रह चुके हैं।

फिरोज़ाबाद उद्यमियों ने किया वृक्षारोपण

ग्लास मैनुफैक्चर एण्ड एस्पॉर्ट एसो. के अध्यक्ष एवं ए.आई.जी.एम.एफ. कोषाध्यक्ष श्री मुकेश कुमार बंसल (टोनी) जी के निर्देशन में पिछले 10 वर्षों से लगातार वृक्षारोपण का कार्य कराया जा रहा है तथा वर्ष 2019 तक इनके

द्वारा 2 लाख से अधिक वृक्षों का वृक्षारोपण कराया जा चुका है।

वर्ष 2020 में भी इनके द्वारा (जुलाई से 15 सितंबर तक) लगभग 72000 वृक्षों जैसे कि सहजन, मलेशिया, सागोन, अमरूद, गूलर, टीक, पीपल, कनेर, नीम, अंजीर इत्यादि वृक्षों का वृक्षारोपण कराया जा चुका है।



देश के यशस्वी प्रधानमंत्री श्री नरेन्द्र मोदी जी के 70 वे जन्मदिन के उपलक्ष्य में सेवा सप्ताह के अन्तर्गत फिरोज़ाबाद जनपद में 1800 वृक्षों का वृक्षारोपण किया गया है। इस वृक्षारोपण कार्यक्रम में सदर विधायक श्री मनीष असीजा जी, ग्लास मैनुफैक्चर एण्ड एस्पॉर्ट एसो. के पदाधिकारीगण (गगन सचदेवा (कोषाध्यक्ष), राजेन्द्र गुप्ता (वरिष्ठ उपाध्यक्ष), सरवर हुसैन (सचिव), मुवीन अहमद (उपसचिव), विपिन अग्रवाल (संयुक्त सचिव), विनीत जैन, शरद चन्द्रा, राजीव दीक्षित (उपाध्यक्ष), शैलेश बंसल, शरद गुप्ता, नमन बंसल, अर्चित अग्रवाल, श्रेय बंसल इत्यादि लोग इस अवसर पर मौजूद थे।

एक्सपोर्ट प्रमोशन काउन्सिल फॉर हैंडिक्राफ्ट के (ईपीसीएच) के महानिदेशक श्री राकेश कुमार जी के निर्देशन में भी 10 हजार पौधों के वृक्षारोपण का कार्य चल रहा है। उन्होंने ग्लास मैनुफैक्चर एण्ड एस्पॉर्ट एसो. के पदाधिकारीगणों द्वारा कराये गये वृक्षारोपण कार्य की भूरि-भूरि प्रशंसा की।

(News Source: AIGMF Research Team / World Wide Web)

October - December 2020 - Issue

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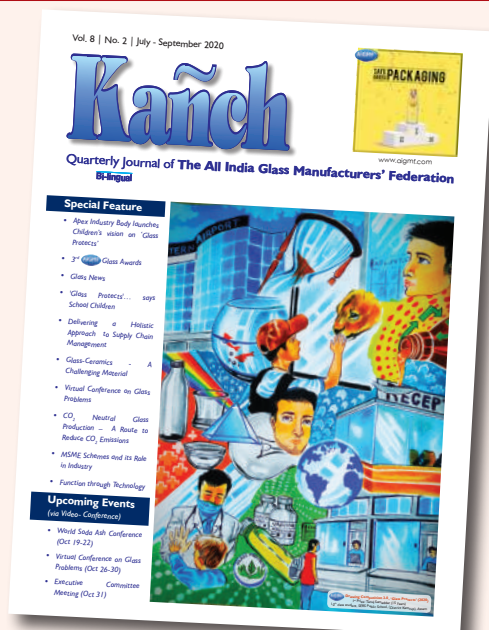
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