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Bi-lingual

INTERNATIONAL WOMEN'S DAY CELEBRATED BY INDIAN GLASS INDUSTRY

The last FY 2024-25 meeting of the AIGMF Executive Committee was hosted by NES Refractories, Guwahati at Royale de Casa Resort, Kaziranga (ASSAM), a UNESCO World Heritage site from March 7-9.

AIGMF members were offered a complimentary two nights' stay sponsored by NES Refractories. In addition to the normal industry agenda, visits to the Kaziranga National Park, bonding/technical sessions were also organised.

The main theme of the program centred around Women in Glass Manufacturing followed by presentations, Executive Committee meeting and other sessions celebrating International Women's Day on March 8.

Members arrived on March 7 who were received at Guwahati and then transferred to Kaziranga by taxis. A welcome dinner was hosted in the evening by M/s NES Refractories.

On March 8, a morning safari on elephant and jeeps were organised, followed by breakfast and a tour of the Biodiversity and Orchid Park.

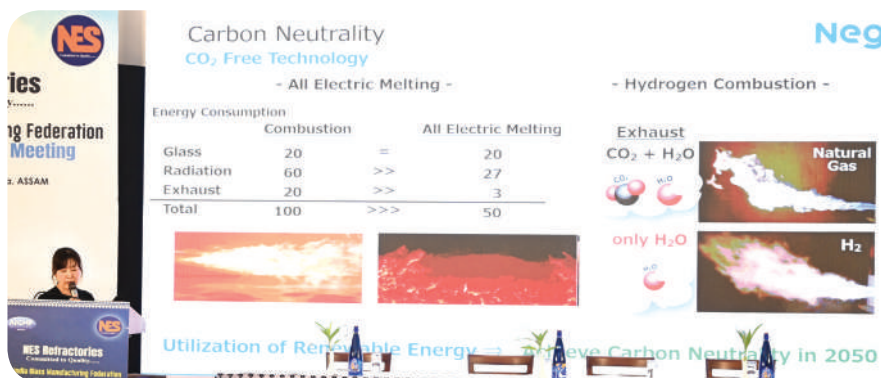




After lunch, the technical meeting started with the Opening Address by Mr. Rajesh Khosla, President AIGMF and CEO/President AGI Greenpac, followed by a welcome speech by Mr. Aman Gupta, Managing Director, NES Refractories and host of the event.

Kick-off presentation on 'Glass Bottle Manufacturing- The Path to Optimal Sustainability through Automation and Digitalization' was given by Ms. Sudha C Jebadurai, President, AGR International Inc., USA. AGR International offers a broad line of products and testing/research services specifically designed to help bottle manufacturers produce high-quality containers while improving efficiencies, reducing costs and contributing to the responsible management of resources. AGR's products include testing and measurement of dimensions, burst-pressure, thickness, vertical load, volume, fill height, impact and more.





Another technical presentation on 'Towards Sustainable Glass Manufacturing' was given by Ms. Yuki Uno, Sales Manager, Nippon Electric Glass (NEG) Co., Ltd., JAPAN offering oxy-fuel combustion technology; H₂ fuel technology, electric melting technology and carbon-neutral glass melting furnace technology. Ms. Uno was joined by her colleagues Mr. Hitoshi Kanaya, Senior Vice President and Mr. Yoshio Iwatsubo, Sales Engineer & Furnace Consultant with NEG from Japan.

Ms. Sheetal Khanna, General Manager, Gold Plus Glass Industry Ltd., presented, 'Flat Glass for Green Building and CSR initiatives'. She discussed topics such as dynamic shading system controlled by electrochromic and thermochromic coatings. Thermochromic coatings are interesting in that the glass shading changes automatically with temperature.

Ms. Sangeetha Shenvi, Vice President





– Sales, Schott Poonawala Pvt. Ltd presented a personalized experience of leadership in the workplace, ‘The Power of Diversity: Women Leaders Transforming Growth’. She indicated that many women had “fear to lead” out of the belief that they would be ‘swimming with sharks’. These should be addressed by the glass industry at some point.

Finally, Dr. K Annapurna, Chief Scientist, CSIR-Central Glass and Ceramic Research Institute, presented ‘Role of Science in Glass Manufacturing’. She briefly reviewed science behind glass batch calculation, glass melting in large tanks, the heat requirements and forming of the products; the volume-temperature diagram of a glassmaking substance, viscosity control and avoiding crystallization paths being the more important science behind glass manufacturing.

A Guest lecture on ‘Glass Education’ was delivered by Dr. Atima Sharma Dwivedi, Principal of Kanya Maha





Dr. Arun Varshneya President of Society of Glass Technology (UK) along with his wife Mrs. Darshana Varshneya, Chief Financial Officer of the Saxon Glass Technologies, USA; the winner of the prestigious C K Somany Award for Excellence 2024, Dr. Manoj Choudhary and Former President of International Commission on Glass was among the online participants who joined in the early morning hours from the USA.




Vidyalaya (KMV), Jalandhar (Punjab) over a short video on KMV and a report on the present status. KMV, a not-for-profit, heritage women's educational institution was established in 1886, with a mission to support community development and particularly help the less privileged students.

Glass Research at KMV has been going on since 2007 with challenges in terms of support for students for their academic fellowships, internships, R&D equipment and raising funds significantly to improve education at KMV. Dr. Sharma indicated that Dr. Arun and Mrs. Darshana Varshneya from USA had visited the KMV and pledged several tuition assistance scholarships and professional travel support for the students.

She sought further support from the glass industry in terms of 3-6 month internships and employment for the senior class women students and graduates.



Kaziranga from the Lens of
Mr. Yoshio Iwatsubo
Sales Engineer & Furnace Consultant
Nippon Electric Glass Co. Ltd., JAPAN
( Member Company)





A presentation on North East Sillimanite 'NES Refractories offering industry solutions' was given by the host represented by Dr. A K Misra, Director Technical of the NES Refractories. Dr. Misra emphasized on refractory being a 'partner' in glass manufacturing. He discussed the range of refractories available from NES for the various components of a glass-melting tank, and the extensive testing laboratories to assure the quality. Dr. Misra reiterated the NES commitment to high quality refractories for the glass industry, zero-defects, and on-time delivery. He further indicated future directions at the NES to be developing fusion-cast refractories, super duty silica bricks, silica insulation bricks for the tank crown, high-strength insulation blocks and feeder expendables soon.

A presentation on 'Indonesia- A Business and Tourist Destination' was given by Ms. Erny Wahyuni, Second Secretary (Social and Cultural Affairs), Embassy of The Republic of Indonesia



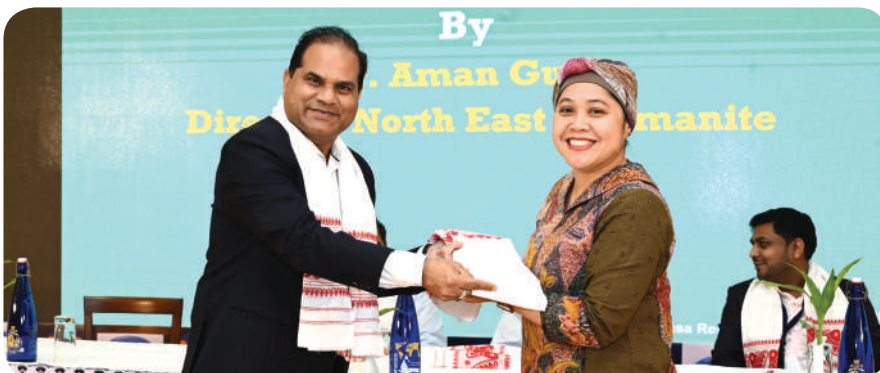


in India. Her presentation started with a video on Tourism opportunities in Indonesia followed by a video on Glasstech Asia Fenestration Asia 2025 to be hosted from Nov 6-9, 2025 at Jakarta, Indonesia, thereby inviting all to visit Indonesia at that time.

The last women's presentation on 'UNESCO Heritage sites in Uganda' highlighting the sanctuary for the nearly-extinct mountain gorilla in the wild and safaris was given by the Honourable Amb. Margaret L. Kyogire, Deputy High Commissioner, High Commission of the Republic of Uganda in India, who was joined by the Financial Attaché Mr. Michael Agaba of the Ugandan Mission in India.

Concluding Remarks on technical sessions were given by Dr. Arun K. Varshneya, PhD HonFSGT President of Society of Glass Technology (UK); Professor of Glass Science & Engineering Emeritus, Alfred University, USA and President Saxon Glass Technologies, Inc., USA, who joined online in the early hours from





the USA along with his wife Mrs. Darshana Varshneya, Chief Financial Officer of Saxon Glass Technologies, Inc.

Dr. Varshneya noted that the current meeting focused on two of the 17 sustainable development goals in the UN 2030 resolution: Goal 5.5 “Gender Equality” and Goal 13 “Climate Action”. Glass industry picked up momentum towards meeting these goals following the UN declaration of 2022 as the “International Year of Glass”. Prof. Varshneya noted that the glass industry appeared to have been marching ahead of Goal 13. However, Goal 5.5 needed attention. He mentioned that for a long time, women engineers worldwide have faced male-driven prejudice in their career paths. There should be no place for such bias in a civilized society. Man or woman, they should each receive opportunity and encouragement to excel themselves, to reach the highest for their intellectual abilities, and to





be as much a productive member of the society as possible.

Having daughters only, both Dr. and Mrs. Varshneya made an appeal to the glass industry to help build the glass program at the KMV College by strengthening the foundation. They asked the Indian glass industry to review their employment needs by making investment in engineering schools ('One school at a time') to upgrade their glass characterization laboratories in order to strengthen their curriculum; institute more tuition assistance for engineering students based upon merit and need; provide enhanced internship opportunities with focused training to the women engineering students such that they can develop their career paths to match their skills, and be not afraid to lead, and by sending senior industry staff to present lectures at such institutions to encourage networking.

The meeting was organized in a hybrid mode which was attended by over 80 participants in both





PROFESSOR ARUN VARSHNEYA SEEKS YOUR HELP IN LOCATING INTERNSHIPS FOR KMV STUDENTS

During participation at the AIGMF's International Women's Day event on March 8, Dr. Arun Varshneya, Emeritus Professor at Alfred University USA pledged to act as an outside-India guide to the women glass engineering students of the Kanya Maha Vidyalaya, Jalandhar (Punjab) INDIA (KMV- a not-for profit, heritage women's educational institution established in 1886, with a mission to support community development and particularly help the less privileged students).

One important component of improving instructional standards is for all junior/senior Glass Engineering class students to receive approximately 6 weeks of internship beginning the middle of June 2025 in a domestic glass (or refractory) industry or R&D location. **Please help !**

CONTACT's: Dr. Gopi Sharma of the KMV at sharmagopi28@yahoo.com or Dr. Arun Varshneya at varshneya@alfred.edu or Mr. Vinit Kapur, Secretary AIGMF at info@aigmf.com

physical (60) and online (20) mode from various parts of the world. The winner of the prestigious C K Somany Award for Excellence 2024, Dr. Manoj Choudhary and Former President of International Commission on Glass was among the online participants who joined in the early morning hours from the USA.

A vote of thanks was given by Mr. Shreevar Kheruka, Sr. Vice President AIGMF and Vice Chairman & MD Borosil Ltd., to conclude the International Women's Day event which ended on a high note with eight women speakers participating from India, Indonesia, Japan, USA and Uganda.

Secretary, AIGMF and the Office Bearers thanked Mr. Aman Gupta of the NES for the very kind hospitality extended to AIGMF Members which was truly appreciated by one and all.

A group photo was captured after cake cutting by all women speakers and other ladies who participated. In the last session of the event,





Remembering Former President Mr. C A Tatkawala in the Executive Committee Meeting of the AIGMF who left for heavenly abode on Feb 24, 2025



Tiger was spotted on March 8 by Ambassador Margaret L. Kyogire, Deputy High Commissioner, High Commission of the Republic of Uganda, AGI Greenpac representative Mr. Indranil Ranu and AIGMF Team (Mr. Dilip/Monu/Kailash)



meeting of the Executive Committee discussed industry issues with a view to promote 100% eco-friendly packaging and building material glass under the natural and beautiful backdrop of Kaziranga.

At the end of the day, a cultural program was organised for the delegation at Bio-diversity and Orchid park, followed by a pool side dinner at Royale de Casa Resort.

All presentations, select photos, safari videos and press coverage of the event are available under past events at www.aigmf.com

Before the departure of all guests on March 9, a final round of morning safaris on both jeeps and elephants were organised.

All women speakers and overseas guests were felicitated by gifting a traditional Assamese scarf and 80 Years AIGMF Glass Mementoes specially made by La-Opala RG Ltd., market leaders in opalware and crystalware, an AIGMF Member company ■

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CARLO PIRRONE APPOINTED AS NEW FEVE SECRETARY GENERAL



FEVE, the European Container Glass Federation has appointed Mr. Carlo Pirrone as its new Secretary General. Mr. Pirrone succeeds Ms. Adeline Farrelly, who has held the role with distinction, championing the industry's sustainability and circular economy agenda since 2008.

A seasoned government affairs expert with a deep understanding of the packaging sector, European policy, and trade, Mr. Pirrone brings a wealth of experience to this pivotal role. His appointment comes at a critical time for the container glass industry as it navigates challenges linked to competitiveness, innovation, and sustainability within the EU's evolving policy landscape.

"I am honoured to take on this role at such a transformative moment for Europe's container glass industry," said Mr. Pirrone. "I am committed to ensuring our industry's concerns and ambitions are heard at the highest levels. We need EU policymakers to put sustainability and industrial competitiveness at the heart of Europe's agenda, making it a global

hub for innovation and a magnet for investment. This means reducing bureaucracy, enabling the timely scale-up of technologies, and fostering demand for sustainable packaging, including through public procurement policies."

Mr. Martin Petersson, President of FEVE, commented: "We warmly welcome Carlo Pirrone as the new Secretary General of FEVE. His extensive background in European policy, trade, and the packaging sector, combined with his strategic vision and leadership, will be invaluable as we address the challenges and opportunities ahead for the glass packaging industry. At a time when the EU's policy agenda is shaping the future of industrial competitiveness and sustainability, Carlo is well-placed to lead FEVE in strengthening its role as the voice of the container glass industry in Brussels. We also extend our sincere gratitude to Adeline Farrelly for her exceptional service and dedication to the federation over many years. Her leadership has been instrumental in driving the industry's priorities forward, and her impact on our organization has been truly invaluable. We warmly wish her every success in her future endeavours."

Mr. Pirrone joins FEVE from his role as Director of the Brussels office for Seda International Packaging Group, where he was also a member of the Board of Directors of EUROPEN as well as Chair of Business Europe's Environment Working Group. His previous experience includes serving as Senior Adviser at Confindustria and as a founding member and leader of AEGIS Europe, further highlighting his

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strategic vision and expertise in policy advocacy.

He holds a master's degree in economics and management of public administration and international institutions from Bocconi University and is fluent in Italian, English, French, and Spanish.

Outgoing Secretary General Ms. Adeline Farrelly expressed confidence in the leadership transition: "It has been a privilege to serve this industry and its members over the years. I am reassured to leave FEVE in such capable hands. Carlo's experience, energy, and enthusiasm will undoubtedly help him navigate the challenges ahead while ensuring a seamless transition for the organization with the support of the excellent and highly competent team in FEVE."

SISECAM JOINS GLOBAL NETWORK OF SUSTAINABILITY PIONEERS

In a significant boost to the Turkish and UK sectors as well as the wider international glass communities committed to decarbonisation, Şişecam has become a strategic member of the research and technology membership organisation Glass Futures.

As the only global company operating in all core areas of glass manufacturing, Şişecam joins Glass Futures' collaborative membership of international flat glass, hollow glass and fibre glass producers working



Mr. Görkem Elverici, Şişecam CEO and Mr. Justin Kelly, Glass Futures CEO at the signing ceremony

alongside major brands, technology suppliers, associations, academia and leading users of glass towards the common goal of achieving sustainable and zero carbon glass production.

A prestigious signing ceremony was held at Şişecam's headquarters on February 13 attended by Mr. Görkem Elverici, Şişecam Chief Executive Officer, Mr. Burak Büyükkırat, Şişecam's Chief Research and Technological Development Officer, Mr. Carl Spychal, Head of Economics and Prosperity at British Consulate General Istanbul, Mr. Pinar Celikcan, Head of Science and Innovation Network at the British Embassy Ankara, Mr. Justin Kelly, Glass Futures' CEO and Mr. Aston Fuller, Glass Futures' General Manager alongside other senior members of the Şişecam and Glass Futures management teams.

Mr. Görkem Elverici commented: "We are proud to become a strategic member of Glass Futures. The collaborative technologies we will develop together will further enhance our environmentally friendly and sustainable production capabilities. These collective efforts will serve as a driving force in achieving our 2050 carbon-neutral commitment."

In partnership with the worldwide

60,000 wine bottles and 4 km of flat glass daily, the 15,000 sqm plant features trailblazing technology including an experimental 30 tpd pilot furnace, cold end inspection, lehr and roll plate line and a revolutionary IS machine.

"As one of the world's leading producers of glass packaging, flat glass and glassware, we look forward to welcoming Şişecam to Glass Futures' industrial scale pilot plant where key industry stakeholders will experiment with alternative low carbon fuels," enthused Mr. Justin Kelly. "Şişecam's strategic membership provides a significant boost to the UK industry by means of overseas R&D investment, as well as advancing the common sustainability and decarbonisation goals of Glass Futures' wider international membership".

Ahead of the furnace going live this spring, 24/7 activity at the Global Centre of Glass Excellence alongside extensive research projects and external trials with industrial partners is already enabling Glass Futures to lead the way with groundbreaking developments in fields such as biofuels, hydrogen, carbon capture, alternative raw materials and technologies around supporting and enabling circularity.

glass industry, Glass Futures is delivering the Global Centre of Glass Excellence in St Helens, UK, the world's first openly accessible, commercially available and unique glass melting facility for R&D, innovation and training. With capacity to produce the equivalent of

Mr. Jill Morris CMG, British Ambassador to Türkiye, added: "I am very happy to see that Şişecam, one of the world's largest glass manufacturers, is becoming a strategic member of research and technology initiative Glass Futures. Building on our shared knowledge, innovation, and determination and uniting our efforts through joint initiatives such as these, we can drive forward sustainable solutions that will benefit future generations and ensure a resilient planet for all."

PROFESSOR A S RAO APPOINTED AS VICE CHANCELLOR TO VIKRAMA SIMHAPURI UNIVERSITY

Prof. Allam Srinivasa Rao, Luminescent Materials in the Department of Applied Physics, Delhi Technological University, Delhi has been appointed as Vice Chancellor to Vikrama Simhapuri University, Nellore (Andhra Pradesh).



Prof. Rao has completed B.Sc and M.Sc in Sri Venkateswara University (SVU) and Sri Krishnadevaraya University (SKU) respectively. He also completed a Ph.D in SVU. Between March 1996 and December 1997, he worked as Research Scientist in Indian Space Research Organisation (ISRO) and Council of Scientific and Industrial Research (CSIR), Government of India.

Prof. Rao is also Member Editorial Board of Kanch.

FORMULATING STANDARDS FOR SCREEN PROTECTOR TEMPERED GLASSES

The Bureau of Indian Standards (BIS) held the second meeting of CHD 10: WG 3 Working Group on February 6, 2025 hosted by Optiplus Electronics Limited, Noida in the convenership of Dr. K Annapurna (Chief Scientist & Head-Specialty Glass Division, CGCRI, Kolkata) to develop an Indian Standard for Screen Protector Tempered Glasses.

In India, the demand for chemically tempered screen protectors is rising due to their durability, scratch resistance, and screen clarity. While initially popular for smartphones, these protectors are now widely used for other electronic displays, including tablets, laptops, smart watches, fitness trackers, and gaming consoles like the Nintendo Switch. With tablets and laptops increasingly featuring touch screens, tempered glass protectors help prevent wear and damage from daily use. Smart watches and fitness trackers, often exposed to active environments benefit from added durability. As portable electronics become more prevalent, tempered screen protectors are valued for maintaining screen integrity across various devices.

The working group brought together the key stakeholders, including industry experts (Corning India Pvt. Ltd., Optiplus Electronics Ltd., Ace Mobile Manufacturers Pvt. Ltd., Federation of Safety Glass (FOSG), The All India Glass Manufacturers' Federation (AIGMF), regulators (Ministry of Electronics and Information Technology), R&D Institute (CSIR-Central Glass & Ceramic Research Institute) and users (Consumer Electronics and Appliances Manufacturers Association, India Cellular & Electronics Association), to ensure a comprehensive and inclusive approach.



Following the discussions, the WG visited one of the leading manufacturers of screen protectors in the country, i.e. Ace Mobile Manufacturers Pvt. Ltd., Noida, for a firsthand understanding of the manufacturing and testing processes of these glasses. The industry visit provided valuable insights into quality parameters, durability assessments, and advanced technologies used in production.

This initiative aims to enhance consumer safety, promote high-quality standards, and support Make in India by fostering innovation in the sector.

GROUNDBREAKING ALTERNATIVE FUEL TRIALS ACHIEVE MAJOR MILESTONE TOWARDS INDUSTRIAL DECARBONISATION

The successful completion of major industrial fuel switching trials mark a significant step towards improving energy efficiency and reducing carbon emissions within energy-intensive industries, supporting the UK's goal to transition towards net zero while ensuring alternative energy solutions are viable long-term.

Three £6 million government funded Industrial Fuel Switching (IFS) projects each focus on transitioning high temperature industrial manufacturing processes away from fossil fuels. Glass Futures is leading this effort for the glass and foundation industries

by exploring alternative fuels such as waste-derived biofuels, electrical boosting, and hydrogen.

These projects form part of the UK's Industrial Fuel Switching (IFS) Programme, supported by the government's £1 billion Net Zero Innovation Portfolio managed by the Department for Energy Security & Net Zero (DESNZ).

Industrial trials conducted at the end of 2024 and the start of 2025 utilised five different types of liquid biofuels in glass and ceramics production. The trials involved four of the UK's largest glass manufacturers — Ardagh Glass Packaging, Encirc (part of Vidrala), Pilkington UK Ltd., (part of NSG Group), and O-I — as well as the UK's largest shaped refractory producer, DSF Refractories & Minerals, who also supply refractory products into the glass sector.

The trials included modification and adoption of the existing liquid fuel systems in a number of the plants taking part in the project. The successful biofuel demonstrations will help Glass Futures to develop an economic model for switching to biofuels, providing insights into the feasibility of this low-carbon alternative fuel as an option to help rapidly decarbonise industry.

Electric boosting technology involves heating the molten glass via electrodes that are inserted into the molten glass within the furnace. E-boosting enhances furnace efficiency and is

an enabler to heat the glass using electricity, thus reducing reliance on natural gas and other fuels.

Glass Futures' members and one of the world's largest manufacturers of float glass, Guardian Glass successfully implemented and trialled a new e-boosting system at Guardian's plant in Goole. Another prominent glass container manufacturer, Encirc also carried out e-boost trials on its existing production line.

Glass Futures is currently developing its 30T/day oxy-fired pilot furnace to reach a higher percentage of electrical boosting. Further pilot trials are planned for later this year, and will assess the maximum levels of e-boost that can be achieved (potentially >60%). The trials will also assess the rate at which the boost system can be turned up or down, to respond to supply/demand constraints on local electricity grids.

In a project led by Ceramics UK, Glass Futures and its member, Ryze Power (a supplier of hydrogen and hydrogen infrastructure), have successfully demonstrated hydrogen and hydrogen-natural gas blend firing in a custom-designed ceramics pilot-kiln at the Glass Futures pilot facility in St Helens, part of the Liverpool City Region.

The successful operation of the pilot kiln firing on 100% hydrogen and other blends has provided valuable insights into the impact of hydrogen on ceramic products including bricks, tiles, refractories, pipes, sanitaryware, tableware and specialty ceramics. These findings further support the case for hydrogen as a viable alternative for direct combustion processes where electrification is currently not an option.

Mr. Justin Kelly, CEO of Glass Futures said: *"The successful completion of these trials is a crucial milestone in the UK's journey to net zero. It not only*

demonstrates the technical feasibility of low-carbon fuel alternatives but also opens up new opportunities for economic growth through sustainable energy supply chains. Glass Futures' continued commitment to decarbonisation is reflected in its collaborative approach, working closely with international industry leaders, government agencies, and research partners."

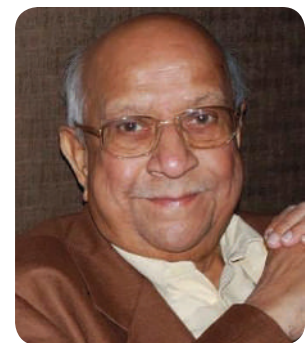
Mr. Habib Khosroshahi, Projects Team Manager at Glass Futures added: *"The involvement of key supply chain partners such as Argent Energy and Watson Fuels highlights the potential for waste-derived fuels to play a critical role in industrial decarbonisation without disrupting food supply resources. Collaborating with organisations such as Supergen Bioenergy Hub at Aston University helps us to transition towards more sustainable energy solutions by prioritising the most sustainable fuel choices."*

"As the glass and foundation industries continue to embrace these transformative technologies, Glass Futures work to ensure that sustainability does not come at the cost of efficiency or economic viability. By

working collaboratively with industry, we have demonstrated the technical viability, but now we need help from wider stakeholders throughout the supply chain to make it a reality."

SAD DEMISE OF C A TAKTAWALA

Mr. C A Taktawala (85 years old) Former President AIGMF and founder of Shree Vallabh Glass Works Ltd., in the 1960s left for heavenly abode on February 24 at Mumbai.



Mr. Taktawala is survived by wife Mrs. Urmila and two daughters Ms. Neelima and Ms. Mamta.

A prayer meeting was kept at the Executive Committee Meeting of the AIGMF at Kaziranga (ASSAM) on March 8.



AIGMF Member company 'Nirmal Glasstech Industries' participated at MIR STEKLA, the 26th International Exhibition for Glass Products, Manufacturing, Processing and Finishing Technology from March 11-14, 2025, at Expo Centre Fairgrounds, Moscow, RUSSIA. Under the auspices of the Russian Chamber of Commerce and Industry, the show was supported by the Russian Ministry of Industry and Trade, the Glass Union, the Russian Union of Designers, the National Association of Manufacturers of Building Materials, Products and Structures.

RELEASE OF “GUIDELINES FOR THE USE OF FIRE RESISTANT GLAZING IN BUILDINGS”

The Guidelines on the use of Fire Resistant Glazing in buildings by IIT Tirupati and Glazing Society of India was released by Mr. Ajay K Lal, Head - Chemical Department, Bureau of Indian Standards in the presence of Mr. Gopal Ganatra, Chairman, GSI, Prof. Dr. Anil Kumar E, Dean - Sponsored Research and Consultation, IITT, Dr. Jashnav Pancheti, Assistant Professor, IITT and Mr. Gohul Deepak G N, Executive Director, GSI in the “National conference on Fire Resistant Glazing: Building design, standards and testing” jointly organised by Bureau of Indian Standards, IIT Tirupati and Glazing Society of India at IIT Tirupati on March 10, 2025.

Fire-resistant glazing plays a critical role in modern architecture, offering vital protection to people and infrastructure against fire hazards, while maintaining transparency, energy efficiency, structural integrity, safety, aesthetic appeal and other functional benefits. Fire-resistant



glazing is commonly used in various building components, such as doors, windows, partitions, facades, and more, aligning with construction standards that mandate its use to contain fire. In India, the use of fire-resistant glazing has surged, particularly in densely populated metropolitan areas such as Mumbai, Delhi, and Bangalore in both residential and commercial buildings. It is therefore essential to build a complete technical infrastructure in

India including mandatory standards, policies, codes, third party testing and capacity building. It is also equally important to educate the builders and key decision makers to ensure understanding of applicable building and fire codes. This technical document of “Guidelines on use of Fire-Resistant Glazing in buildings” covers the design and location of FRG, Selection of materials, Fabrication and Installation, Testing, Maintenance and Inspection of FRG in buildings.

HIGHLIGHTS OF THE UNION BUDGET OF INDIA 2025-26

The Union Minister for Finance and Corporate Affairs Mrs. Nirmala Sitharaman presented the Interim Union Budget 2025-26 in Parliament on Feb 1, 2025. The key highlights of the Budget are as follows:

- Customised Credit Cards with a ₹ 5 lakh limit for micro enterprises registered on Udyam portal. In the first year, 10 lakh such cards will be issued.
- For 5 lakh first-time entrepreneurs, including women, Scheduled Castes and Scheduled Tribes, a new scheme, to be launched, to provide term loans up to ₹ 2 crore during the next 5 years.
- Establishment of a National Institute of Food Technology in Bihar, enhanced income for the farmers and skilling, entrepreneurship and employment opportunities for the youth.
- 5 National Centres of Excellence for skilling to be set up with global expertise and partnerships.
- Centre of Excellence in Artificial Intelligence for education with a total outlay of ₹ 500 crore.
- Intensive skill-development programmes for the youth.
- Allocating ₹ 20,000 crore to implement private sector driven Research, Development and Innovation initiative.
- Gig workers to get identity cards, registration on e-shram portal and healthcare under PM Jan Arogya Yojana.
- With sectoral and ministerial targets to facilitate easy access to export credit, cross-border factoring support, and support to MSMEs to tackle non-tariff measures in overseas markets.
- Significant enhancement of credit with guarantee cover to MSMEs from ₹ 5 to 10 crore.
- Revamped Central KYC registry to be rolled out in 2025.
- Rationalisation of requirements and procedures for speedy approval of company mergers.

- FDI limit for the insurance sector will be raised from 74 to 100%.
- Make in India- Exemption to open cell for LED/LCD TV, looms for textiles, capital goods for lithium ion battery of mobile phones and EVs.
- Time limit fixed for finalisation of provisional assessment; new provision for voluntary declaration of material facts post clearance and duty payment with interest but without penalty; IGCR Rules amended to extend time limit to 1 year and file quarterly statement instead of monthly.
- 36 lifesaving drugs/medicines in exempted list; 6 medicines in 5% duty list; 37 medicines and 13 new patient assistance programmes in exempt list.
- Expansion of scope of safe harbour rules to reduce litigation and provide certainty in international taxation.
- Tax deduction limit for senior citizens doubled from ₹ 50,000 to 1 lakh.
- The annual limit of ₹ 2.40 lakh for TDS on rent increased to ₹ 6 lakh.
- Extension of time-limit to file updated returns, from the current limit of two years, to four years.
- No income tax on average monthly income of upto ₹ 1 lakh; to boost middle class household savings and consumption.
- Salaried class to pay nil income tax upto ₹ 12.75 lakh per annum in new tax regime.
- Reduced compliance for small charitable trusts/institutions by increasing their period of registration from 5 to 10 years.
- Tax payers to be allowed to claim the annual value of 2 self occupied properties (previously 1) without any conditions.
- Tonnage Tax Scheme for Inland Vessels.
- Extension for incorporation by 5 years of Start-Ups.
- Certainty of taxation to category I and category II AIFs, undertaking investments in infrastructure and other such sectors, on the gains from securities.
- Jan Vishwas Bill 2.0 to be introduced for decriminalising more than 100 provisions in various laws.

भारत सरकार का केंद्रीय बजट: 2025-26

केन्द्रीय वित्त और कॉर्पोरेट मामलों की मंत्री श्रीमती निर्मला सीतारमण ने 1 फरवरी, 2025 को संसद में अंतरिम केंद्रीय बजट 2025-26 पेश किया। बजट की मुख्य बातें इस प्रकार से हैं:

- एक लाख रुपए तक प्रति माह की औसत आय पर कोई आय कर नहीं; इससे मध्यमवर्ग परिवारों की आय व खपत में वृद्धि होगी।
- वेतनभोगी करदाताओं को नई कर व्यवस्था में 12.75 लाख रुपए तक कोई आयकर नहीं देना होगा।
- एमएसएमई को गारंटी के साथ दिए जाने वाले ऋण को 5 करोड़ से बढ़ाकर 10 करोड़ किया गया।
- मेक इन इंडिया को निरंतरता देने के लिए लघु, मध्यम व वृहद उद्योग को शामिल कर राष्ट्रीय विनिर्माण मिशन का शुभारंभ।
- 500 करोड़ रुपए के कुल परिव्यय के साथ शिक्षा के लिए आर्टिफिशियल इंटेलिजेंस में उत्कृष्टा केन्द्र।
- बैंको से ऋण में वृद्धि सहित पीएम स्वनिधि, 30 हजार रुपए की सीमा के साथ यूपीआई लिंकड क्रेडिट कार्ड।
- गिग वर्करों को पहचान पत्र दिया जाएगा, पीएम जन आरोग्य योजना के तहत ई-श्रम पोर्टल और स्वास्थ्य देखभाल में पंजीकरण।
- विकास केन्द्र के रूप में शहरों को एक लाख करोड़ रुपए का शहरी चुनौती निधि 20 हजार करोड़ रुपए परिव्यय के साथ लघु मॉड्यूलर रिएक्टरों के आरएंडडी के लिए अणु ऊर्जा मिशन।
- बीमा क्षेत्र में एफडीआई की सीमा 74 से बढ़ाकर 100 प्रतिशत किया गया।
- विभिन्न कानूनों में 100 से ज्यादा प्रावधानों को गैर-अपराधीकरण रूप देते हुए जन विश्वास विधेयक 2.0 लाया जाएगा।
- संशोधित आयकर रिटर्न की समय-सीमा दो से बढ़ाकर चार साल किया गया।
- टीसीएस भुगतान में देरी अब अपराध नहीं।
- किराया पर टीडीएस 2.4 लाख रुपए से बढ़ाकर 6 लाख रुपए किया गया।
- कैंसर, आसाधारण रोगों और अन्य गंभीर जीर्ण रोगों के उपचार के लिए 36 जीवनरक्षक औषधियों को बुनियादी सीमा-शुल्क (बीसीडी) से छूट।
- बैटरी उत्पादन को बढ़ावा देने के लिए विद्युतीय वाहन और मोबाइल बैटरी उत्पादन के लिए अतिरिक्त पूंजीगत वस्तु में छूट।

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

27th International Congress on Glass

(Jan 20-24, 2025)



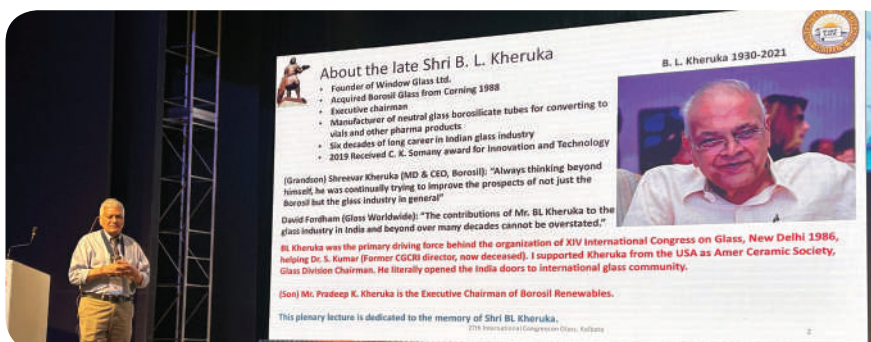
(L to R:) Mr. Sitendu Mandal (ICG 2025 President), Prof. Hiroyuki Inoue (ICG President), Prof. Reinhard Conradt (Past President ICG), Dr. Bikramjit Basu (Director, CGCRI), Honorable Dr. Jitendra Singh (Union Minister of State for Science & Technology and Earth Sciences), Prof. Arun Varshneya (President, Society of Glass Technology), Dr. Manoj Choudhary (Past President ICG), Dr. K. Annapurna (ICG 2025 Program Chair), and Dr. Atiar Rahaman Molla (ICG 2025 Organising Secretary)

After a gap of 39 years in India, the 27th International Congress on Glass 2025 was held from Jan 20-24 at Biswa Bangla Convention Center in Kolkata INDIA.

The theme of the Congress was “Glass: A Smart and Indispensable Material for Sustainable Society” and the focus of the ICG 2025 event was on emerging technologies that can catalyze transformations in the use of glass products in various fields.

The Congress was organised by CGCRI and supported by the AIGMF, Indian Ceramic Society and Glazing Society of India.

Dr. Jitendra Singh, Union Minister of State for Science & Technology and Earth Sciences, graced the inauguration ceremony on Jan 20th. Dr. Singh praised the significance of the Glass industry in driving India's future economic growth, while highlighting the need for enhanced collaboration and awareness among





academics, R&D centres, and the private sector.

Addressing the International Congress on Glass organised by CSIR-Central Glass and Ceramic Research Institute, the Union Minister of State for Science and Technology and Earth Sciences stressed the growing importance of the recycling industry alongside manufacturing for sustainability.



The event brought together eminent figures from the global glass community. The Congress included several plenary talks, industry presentations, and round table discussions devoted to the theme of the congress, focusing on the contribution of glass in creating a Green World.





Prof. Bikramjit Basu, Director of CSIR-CGCRI, emphasized multiple aims of the Congress significantly benefitting the Indian glass community, encompassing faculty, researchers, students, and industry professionals; Cultivate fruitful collaborations with institutions and Universities globally, focusing on cutting-edge research, development, and futuristic applications.



In conjunction with the main Congress, the 3rd ICG-CGCRI Tutorial on Glass was conducted from Jan 17- 19, 2025, facilitating knowledge exchange and skill enhancement.

The Glass Congress, a triennial event organized by the International Commission on Glass (ICG), serves as a pivotal platform for the global





Dr. K Annapurna, Chief Scientist CSIR-CGCRI and Member Editorial Board of KANCH formally handed over the AIGMF's C K Somany Award for Excellence 2024 to Dr. Manoj Choudhary at the ICG 2025 Meet at Kolkata where he also delivered the 1st C K Somany Memorial Lecture as part of the overall ICG proceedings. The prestigious annual award was originally conferred to Dr. Manoj Choudhary, Former President of the International Commission on Glass at the Hybrid Annual General Meeting of the AIGMF held on Sept 30, 2024. Dr. Choudhary is a fellow of the American Ceramic Society and the Society of Glass Technology and an Academician of the World Academy of Ceramics. His close and friendly association with India is certainly a boost for the Indian Glass Industry to benefit the most in forms of latest technology knowhow, expertise; and in the fields of research, innovation, etc.



glass community to exchange ideas, knowledge, and experiences.

Hosted by member countries, this prestigious event aims to address critical challenges and explore promising opportunities within the field of glass technology; Provide invaluable benefits to India's glass community, including faculty,

researchers, students, and industry professionals; Foster collaborations with renowned institutions and universities worldwide, focusing on cutting-edge research, development, and futuristic applications.

The conference featured 12 symposia covering a diverse range of topics within glass science and technology.



Archives

Dr. K Annapurna (right) of CGCRI receiving C K Somany Award for Excellence 2024 from the Former President AIGMF Mr. Sanjay Somany (left) on behalf of Dr. Manoj Choudhary which will be presented to Dr. Choudhary at the ICG 2025 meet in Jan at Kolkata



A major highlight of the event was a mega exposition showcasing innovative products and technologies from leading glass companies, research institutions and professional societies worldwide. Approximately 15 exhibitors participated.

The Congress hosted over 500 delegates, including 150 international participants from 20 countries. The distinguished attendees included





eminent researchers, academicians, industry leaders, young faculty members, and students. The event featured 11 Plenary Speakers, 22 Keynote Speakers, and 94 Invited Speakers, who contributed through insightful presentations and discussions. Furthermore, there were around 140 poster presentations and 111 contributory presentations.

Glass is widely regarded as a transformative material, contributing to approximately 11 of the 17 Sustainable Development Goals (SDGs) set by the United Nations. Recognizing its critical role in human progress, the United Nations General Assembly declared 2022 as the International Year of Glass,



marking the first time in UN history that a material has been honoured in this way. Glass's potential to address pressing global issues, including climate change, highlights its importance in sustainable development.



A large degree of success of the ICG 2025 Kolkata could be ascribed to an incredible number of conference sponsorships received. Each sponsor was thanked for the same. The Conference Banquet January 20 aboard cruise boat the Ganges Queen was sponsored by Türkiye Sisecam. *The fundraising Chair, Prof. Arun Varshneya thanked Dr. Ilkay*





Sokmen of Sisecam for this generous sponsorship and sang a song to her from the 1951 movie "Aawara" marking the birth centennial of late Mr. Raj Kapoor (an Indian actor, film director and producer, who worked in Hindi cinema).

Conference dinner on January 21st evening was sponsored by AGC. Dr. Akio Koike of AGC USA congratulated Prof. Arun & Mrs. Darshana Varshneya on their 51st wedding anniversary. The Bengali classical cultural program in the memory of Ustad Zakir Hussain, a highlight, January 21st featuring Pandit Kaushal Das, Pandit Samar Saha, and Mr. Vishal Krishna was sponsored by Saxon Glass Technologies, Alfred NY.

Lunches (all 5) were sponsored by Saint-Gobain, Borosil Renewables, Horn Glass Industries, Furnotherm, and Gold Plus Glass Industry Ltd.

Sponsors of other events were: Hindalco, Asahi India Glass Ltd, Corning India, Hindustan Platinum, Nippon Electric Glass (NEG), Planet Ceramica Pvt. Ltd., Schott India, AGI Greenpac, Glass Power Group, Anton Paar, LabIndia Instruments Pvt. Ltd., SD Logistics Pvt. Ltd., Tempsens Instruments Pvt. Ltd., ThermoFisher Scientific, Glass Service Company (Czech Republic), F-I-C UK Ltd.,

Refsol Marketing Pvt. Ltd., the American Ceramic Society, and the Society of Glass Technology.

The support of Dr. Bikramjit Basu, the CGCRI Director, Mr. Sitendu Mandal, the Congress President, Dr. K Annapurna, the Program Chair, and Dr. Atiar Rahaman Molla, Organising Secretary was commendable in the overall success of the Congress.



AIGMF was allocated a stall that provided an ideal platform to interact with stakeholders, students, research scholars, glass technologists and participants from various glass



related institutions and companies. The students in particular were welcomed with open arms and were even gifted calendar glass bottles and literature on the glass industry news and developments. They were even invited to share ideas on glass promotion by also participating in the annual Youth contests organised by the AIGMF, which offer cash prizes as a direct motivation seeking Youth



participation. Several student groups requested for arranging special talks at their institutes which would be planned in future in tie up with the International Commission on Glass and The All India Glass Manufacturers' Federation ■

Select photos of the event are available at <https://aigmf.com/past-events.php>





Society of Glass Technology



2025

Annual Conference

Murray Edwards
College

UNIVERSITY OF
CAMBRIDGE

United Kingdom

1st – 3rd September 2025

The conference is a forum for the discussion of all aspects of glass, including industrial, scientific, artistic, and historical.

Cambridge is an old English university city, world famous for academic study – a total of 90 Nobel prizes have been awarded to scholars of the University.

Cambridge is about one hour from central London by train.

The conference theme is
GLASS, EAST & WEST

Glass, in all its aspects, is a unique material, of interest all over the world, from the East to the West.



The conference will have four strands, Glass Science, Glass Industry, Sustainability, and History & Heritage:

Science co-chair: Alex Hannon
alex.hannon@stfc.ac.uk

Industry co-chair: Owen McGann
o.mcgann@glass-ts.com

Sustainability: Collin Wilkinson
WilkinsonC@alfred.edu

H&H co-chair: John Parker
j.m.parker@sheffield.ac.uk

Conference website: <http://sgt.org/SGTAnnualConference2025>

April - June 2025 Issue

will carry coverage of the AIGMF supported events, Technical Articles, Glass News and more.

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