

Glass Performance Days 2023 June 13-16, 2023, Tampere Finland

Workshops June 13–14

Exhibition & Step Change June 14-16

Conference Sessions June 15-16



## **GPD 2023 WORKSHOPS**



GPD workshops are 4–8-hour intensive courses that focus on techniques and skills in specific fields. The main emphasis is on interaction and exchange of information among small groups. For practical workshops number of participants will be limited to 5–15 persons and 20–50 persons for theoretical workshops.

#### Workshops June 13

9:00-17:00 Float Glass processing: storage, transport, washing, corrosion protection Michael Emonds, Chemetall/BASF & Reinhold Senft, Grafotec Spray Systems GmbH

#### 9:00–17:00 Optimizing productivity, energy consumption & quality in the glass tempering process Taneli Ylinen, Pekka Lyytikäinen

- Glaston Finland Oy

#### Workshops June 14

- 9:00-13:00 Water-filled glass(WFG) façades: Construction aspects, structural and energy performance Matyas Gutai, Water-filled Glass Ltd
- 9:00-13:00 Glass surface temperature vs. interlayer temperatures in glass lamination process Kalle Kaijanen, Glaston Finland Oy



## **GPD 2023 WORKSHOPS**



#### Workshops June 14

9:00–13:00 All-glass structure – cantilevered viewing platform Christoph Bauchinger, se-austria GmbH, Peter Eckardt, seele GmbH

9:00-17:00 Sustainable Float Glass processing: Chemicals in glass cutting, grinding, and water treatment Michael Emonds, Chemetall & Josep Sais, VITROSEP

9:00–17:00 Opportunities in a circular economy approach to the glazing industry Graeme DeBrincat, Arup Lisa Rammig, Eckersley O'Callaghan

9:00-17:00 An introduction to and advanced instruction to the vacuum insulated glazing Cenk Kocer, University of Sydney

9:00-13:00 Thermal stress analysis of IGU windows and façade glazing Gregor Schwind, Technical University of Darmstadt, Institute of Structural Mechanics and Design, Glass Competence Center



## **GPD 2023 WORKSHOPS**



#### **Workshops June 14**

9:00-13:00 Sending glazing to North America? A standards overview Urmilla Jokhu-Sowell, National Glass Association Julia Schimmelpenningh, Eastman Chemical Company Tom Culp, Birch Point Consulting 9:00-13:00 Reduction of grinding process cost

under consideration of perfect edge quality and highest process stability Robert Kraus, Glaston Corporation

13:00–17:00 Industrial Glass Cutting – Choosing the right cutting wheels and cutting parameters for perfect cutting results Dennis Kampmann, Bohle AG



# OPENING CEREMONY & GET TOGETHER PARTY

#### WEDNESDAY 14 JUNE, 17.30

#### 17:30 Doors open

#### 18:00 **Opening Ceremony starts**

Welcoming words and keynote presentations complemented with artistic program.

Announcement of the winner

of Jorma Vitkala Award of Merit 2023.

The Opening Ceremony is moderated by Alf Rehn.

20.30 Get Together Party

22.30 Doors close





# **OPENING CEREMONY &** GET TOGETHER PARTY WEDNESDAY 14 JUNE, 17.30

The upcoming conference will address the new challenges shaping our lives and businesses as we grow and we have the pleasure of introducing the following distinguished opening keynote speakers:



**Bertrand Cazes** 

#### Secretary General, Glass for Europe



#### Alf Rehn

Professor of Innovation, Design & Management at the University of Southern Denmark



#### **Yasmin Al-Ani Spence**

Director, WilkinsonEyre Architects



#### **Christoph Timm**

Principal, Skidmore, Owings & Merrill (SOM) Architects



#### **THURSDAY JUNE 15**

8:00	Onsite registration		
	STAGE 1	STAGE 2	STAGE 3
	Research & Development	Laminated Glass	Architectural Challenges & Solutions
	Session Chairs: Jens Schneider, TU Darmstadt Jan Belis, Ghent, University Christian Louter, TU Dresden	Session Chairs: Julia Schimmelpenningh, Eastman Ingo Stelzer, Kuraray	Session Chair: Wim Stevels, Eastman Valerie Hayez, DOW
9:00	A guide to assessing the fire resistance of load-bearing laminated safety glass Maximilian Möckel, TU Dresden, Institute of Building Construction	Review of Security Glazing Standards and Testing Vaughn Schauss, Kuraray	Combining bird protection with functional glass coatings in laminated safety glass Wim Stevels, Alex Caestecker, Eastman
9:25	Numerical heat transfer model for predicting temperature gradients and fracture in glass panes Evelien Symoens, Ghent University	Contribution of the interlayer films to the safety properties of the laminated safety glass at different temperature conditions Steffen Bornemann, Folienwerk Wolfen GmbH	Patterned Architectural Coatings for Large Area Glass Façades and Potential Applications Marcus Frank, Bühler Leybold Optics GmbH, Alzenau, Germany
9:50	Towards practically stronger glass – recent advances and outlook Stefan Karlsson, RISE Research Institutes of Sweden	<b>Play Safe With Stiff Interlayers</b> Louis Moreau, MOGLEX Corp	SOUND LAB AI Tool - Machine learning for sound insulation value predictions Ingo Stelzer, Michael Kraus, Kuraray Europe GmbH

10:15

#### Coffee break (45 mins) · one-to-ones · meeting with sponsors etc

	Research & Development	Laminated Glass	Architectural Challenges & Solutions
11:00	Effective Thickness – Informed Use in Laminated Glass Analysis Adam Nizich, Eckersley O'Callaghan, New York, USA	Natural weathering study of the resistance of various glass types against UV-induced color fading Stefan Reich, Anhalt University of Applied Sciences	Playground at height-designing and building the Skyslide in Dubai Agnes Koltay, Koltay Facades
11:25	Pre-stressing Glass by Elastic Deformation: A New Twist on Reducing Deflection Austin Bensend, Enclos	Glass Timber Panel–A new hygiene material for health care and hospitality Sagar Vanapalli, Anhalt University of Applied Sciences, Dessau, Germany	Broken glass ceiling around Fearless Girl Sophie Pennetier, Enclos
11:50	Adaptive Passive Cooling Cellulose-based Films for Smart Windows Aayush Jaiswal, VTT Technical Research Centre of Finland	Determination of relationship between chemical properties of different interlayers and mechanical resistance in laminated glass structures exposed to different loads Milica Baric, Universität Bundeswehr	Dome-shaped gridshell over monumental courtyard Iris Rombouts, Octatube Koos Fritzsche, Delft

12:15

#### Lunch break (1,5hrs) $\cdot$ one-to-ones $\cdot$ other meetings

	Research & Development	Laminated Glass	Architectural Challenges & Solutions
13:45	Analytical solution and exact effective thickness for multilayered laminated glass beams of arbitrary composition. Application to cantilevered balustrades	Session Chairs: Wim Stevels, Eastman Ingo Stelzer, Kuraray	Session Chair: Julia Schimmelpenningh, Eastman Jon Kimberlain, DOW
	Gianni Royer-Carfagni, University of Parma	Predicting interlayer and glass temperatures in automated glass lamination process Mikko Rantala, Glaston Finland Oy	25m x 2.55m Cantilevered structural glass canopy Mateo Marcos, ENAR Architectural Envelopes SLP
14:10	Evaluation of the suitability of UV-curing acrylate adhesives in structural glass applications by DMTA Dominik Offereins, University of the Bundeswehr	Large area atmospheric plasma surface processing of PVB and lonoplast interlayers for performance improvement of laminated glass Dušan Kováčik, Masaryk University, Brno, Czech Republic	Structure-property correlations in borosilicate in comparison to soda-lime glass Juliane Brandt-Slowik, Helmut Kugelmann, Schott AG
14:35	Glass Bottle Columns - Experiments and Design Concepts for Reuse Hoessein Alkisaei, Christian Louter, Delft University of Technology	Fractional viscoelastic modelling of polymeric interlayers in laminated glass. Comparisons with Prony series approach Lorenzo Santi, University of Parma, Parma, Italy	The history of development of the glass pane size of historical glass and glass structures from 1880 to 1970 Franziska Rehde, Technische Universität Dresden

15:00

Coffee break (45 mins)  $\cdot$  one-to-ones  $\cdot$  other meetings

	Research & Development	Laminated Glass	Architectural Challenges & Solutions
15:45	The reuse of post-consumer flat glass: a study of its environmental benefits, quality and mechanical properties Angelica Rota, Politecnico of Bari, Bari, Italy in partnership with AGC Glass Europe, Charleroi, Belgium	Quantification of the linear viscoelastic behavior of multilayer interlayers Miriam Schuster, TU Darmstadt	Glass in buildings – Renovation, Rehabilitation or Restoration? Peter Lenk, Arup, London
16:10	Investigation of the joining area of additive manufactured glass structures on float glass Philipp Amir Chhadeh, Technical University Darmstadt		High Transparency RETRO-fitted - New Lobby Glass Enclosures beyond the Cutting Edge Dirk Schulte, Roschmann Group
16:35			Glass Marking – Material Passport with Quality Control functionality Graham Coult, <mark>Eckersley O'Callaghan</mark>









#### **THURSDAY JUNE 15**

8:00	Onsite registration		
	STAGE 4	STAGE 5	STAGE 6
	Facade Engineering	Industry Trends	Glass and Sustainability inBuildings
	Session Chairs: Jon Kimberlain, DOW Saverio Pasetto, Skanska	Session Chairs: Urmilla Sowell, NGA	Session Chairs: Sophie Pennetier, Enclos Graham Coult, Eckersley O'Callaghan
9:00	Tiffany and Puma flagship stores. Design, logistics and installation of oversized pre- fabricated glazed facade elements in central Manhattan Peter Eckardt, seele GmbH	New carbon pricing system and new carbon border tax at EU level: what impacts for the glass and glazing sector Iva Ganev, Glass for Europe	Transparent Solar Facades for Building Energy Generation and Smart Features Miles Barr, Ubiquitous Energy
9:25	<b>The Woolbeding Kinetic Glasshouse</b> Carles-Hug Bitlloch, Bellapart, Les Preses	Flat glass recycling in Europe and the US: state of play and challenges for enhanced circularity Bertrand Cazes, Glass for Europe Urmilla Sowell, National Glass Association	High-transparency clear window-integrated PV and agrivoltaics Clifton Smyth, Jeroen ter Schiphorst Clearvue Technologies, Perth
9:50	<b>Double skin structural glass</b> Miguel Ángel Núñez Díaz, ENAR	North American Glass and Glazing Market Trends Urmilla Sowell, National Glass Association	ColorQuant – customized, bright colored solar modules with 95% efficiency enabling a colorful, sustainable future Sebastian Barth, Holger Geisler, Merck KgaA
10:15	Coffee break (4	45 mins) • one-to-ones • meeting wi	th sponsors etc
	Facade Engineering	Product & Process Case Studies	Glass and Sustainability inBuildings
11:00	Advanced engineering methods unlock higher permitted stresses for structural glazing designs Jon Kimberlain, DOW Silicones Corporation	Session Chairs: Luciano Mattiuzzo, Maffeis Klaus Muelhans, A+W Edge strength of annealed float glass: Identification and optimisation of cutting process parameters Matthias Seel, Institute of Structural Mechanics and Design   Glass Competence Center	<b>Dynamic Glass – What is needed?</b> Romaric Massard, eLstar-Dynamics, Eindhoven, Netherlands
11:25	Resource-optimised pavilion glazing through the interplay of structure and façade Jona Vetterli, Dr. Luechinger+ Meyer Bauingenieure AG, Zürich	Heat Soaked Glass-Requirements, Implications, and Case Studies in the US Vicente Montes-Amoros, Curtain Wall Design & Consulting, Inc.	SunSmart – Thermochromic Smart Window for Optimized Solar Heat Management: From Lab to Pilot-Scale Production and Test Buildings Daniel Mann, TNO, Eindhoven
11:50	'Reimagine' thrill with structural glass: Levitation Ledges at the Summit of the One Vanderbilt Tower (NYC) Timo Bühlmeier, Josef Gartner GmbH	Investigations on defective glass components to identify critical manufacturing conditions Martin Krappitz, Fraunhofer Institute for Mechanics of Materials IWM	Water-filled glass (WFG) as a Heat Displacement System for saving energy in buildings Matyas Gutai, Fazel Ganji Kheybari, Water-filled Glass Ltd

12:15

Lunch break (1,5hrs) · one-to-ones · other meetings

	Facade Engineering	Product & Process Case Studies	Glass and Sustainability inBuildings
13:45	Session Chairs: Valerie Hayez, DOW Saverio Pasetto, Skanska	Laser cutting technology for automotive and architectural glass products Anton Krumm, Corning Laser Technologies GmbH	Sustainable growth by optimized production organization Klaus Mühlhans, A+W Software GmbH
	Grand Hall, Montreal. Design, engineering and installation of an all glass roof structure Peter Eckardt, seele GmbH		
14:10	New model for performance of silicone bonded facades during seismic events Valerie Hayez, DOW Silicones	Increased production yields during glass cutting and in downstream processes by selecting cutting wheels with proper surface finish and microstructure Thorsten Böllinghaus, Bohle AG	Closing the loop on glass recycling Graham Coult, Eckersley O'Callaghan
14:35	<b>Use of cast glass in buildings</b> Gennady Vasilchenko-Malishev, Bath, Bath, United Kingdom	Fast and effective large-area cleaning and activation of float glass with improved microuniformity by atmospheric plasma surface processing Richard Krumpolec, Masaryk University, Brno, Czech Republic	Silicones – an important enabler of sustainable design Enrico Cutri, Philippe Willareth, DOW Europe GmbH
15:00	Coffee break (45 mins) · one-to-ones · other meetings		
	Facade Engineering		Glass and Sustainability inBuildings

15:45	New Glass Screen System with slender tempered glass stiffeners Shoji Maebashi, Total Co., Ltd, Chino, Japan	The holistic approach to the recovery of glazing materials Graeme DeBrincat, Florence Wu, Ove Arup & Partners Limited
16:10	N-AM   Design to Manufacture of Complex Building Envelopes   Single-layer Envelopes, Standard Profile Systems, and 3D-printed Metal Nodes Alamir Mohsen, Lithium Designers GmbH	Developing a more sustainable glass recycling system Steve Whettingsteel, Krysteline Technologies Ltd
16.35	NEERO-Façade – A new concept of façade design with lightweight thin glass-plastic-	



#### composite panels

Julian Hänig, TU Dresden









## **STEP CHANGE THURSDAY JUNE 15**

#### **Coffee break 10.15 - 11.00**

10:25-10:40

#### **Glaston X VELUX**

Sasu Koivumäki, Chief Sales Officer and Deputy CEO, Glaston Corporation Tyler Leighton Moersch, Ph.D. Lead Specialist in Advanced Material Technology, VELUX Group

10:40-10:55 **Peafowl Plasmonics AB** Per Edström, CEO

#### Lunch break 12.15 - 13.45

12:55-13:10 Hypermemo Oy Erik Raita, Dr., Chief Operations Officer

- 13:10-13:25 Volframi Oy Jukka Vuoristo, CTO
- Tynt Technologies, Inc. 13:25-13:40 Tyler Hernandez, Co-Founder/ Director of Technology

#### **Coffee break 15.00 - 15.45**

- 15:10-15:25 **MIMSI** Materials AB Tabea Schroth, CMO
- 15:25-15:40 Miru Smart Technologies Lesel Radage, VP of Product





#### **FRIDAY JUNE 16**

8:00

11:25

	STAGE 1	STAGE 2	STAGE 3
	Research & Development	Tempering / Pre-Processing	Structural Glass Applications
	Session Chairs: Jan Belis, Ghent, University Christian Louter, TU Dresden	Session Chairs: Miika Äppelqvist, Glaston Francis Serruys, St. Gobain	Session Chair: Telesilla Bristogianni, TU Delft
9:00	Effects of wind loads on the mechanical performance of vacuum glazing and its influence on the VIG design parameters Isabell Schulz, TU Darmstadt	Lasers vs. lasers: a comprehensive review over various laser-based glass processing technologies and their applications Erik Raita, Hypermemo Oy	Pattern profile induced stress concentration in patterned glass Marco Zaccaria, AGC Glass Europe
9:25	Thermal loads on Vacuum Insulated Glazing (VIG)-Hybrids - Experimental and numerical Investigation Franz Paschke, TU Darmstadt	Automated white haze detection in the tempering process Riku Färm, Glaston Finland Oy Peter Pfannenstill, Soft Solution	A Proposed Method for Predicting the Load Resistance of a Particular Type of Ceramic Enamel Glass Michael Brackin, Beason Brackin & Associates
9:50	Innovative FEM for the thermal analysis of architectural glazing exposed to solar radiation. Proposal for a simplified engineering approach Gianni Royer-Carfagni, University of Parma	Investigation of Breaking Stresses on Cut- Edge Quality Adrian Lareida, IWF ETH, Zürich	Potential of thin glass-polycarbonate composite panels Sebastián Andrés López, Universität Siegen, Siegen, Germany
10:15	Coffee break (	45 mins) ・ one-to-ones ・ meeting w	vith sponsors etc
	Research & Development	Tempering / Pre-Processing	Structural Glass Applications
11:00	Numerical Modelling of UV-curing acrylate adhesives Alexander Pauli, University of the Bundeswehr	Investigation of cooling systems in a glass grinding process Adrian Lareida, IWF ETH, Zürich	Structural Performance of Glass to Iron-based Shape Memory Alloy Adhesive Shear Joints Considering the Effect of Temperature Zhikang Deng, ETH Zurich
11:25	Assessment of different concepts for pre- stressing glass beams with iron-based shape memory alloy elements	Partial processing and method imports from other industries	Laminated Glass vs. Laminated Safety Glass - influence of coatings, PV or fire resistance Geralt Siebert University of the Bundeswehr

Geralt Siebert, University of the Bundeswehr

Jukka Vuoristo, Volframi Oy Ltd Vlad-Alexandru Silvestru, Institute of Structural Engineering, ETH Zurich

11:50	Application of Effective Thickness for Finite Element Analysis of Laminated Glass Fins Adam Nizich, Eckersley O'Callaghan, New York, USA	How to change the tempering process control from settings to specifications Antti Aronen, Glaston Finland Oy	Safety concept for the assessment of different failure scenarios on load-bearing glass structures Nathalie Nießer, Universität der Bundeswehr
12:15	Lunch b	reak (1,5hrs) • one-to-ones • other n	neetings
	Research & Development	Tempering / Pre-Processing	Structural Glass Applications
13:45	Characterization of polymeric interlayer materials in the laminated state using fibre optic sensors Christian Hammer, Thorsten Weimar, Universität Siegen	Probabilistic assessment of tempered glass failure based on high fidelity process and in- service modelling techniques Asier Iglesias, Mondragon Unibertsitatea	Wide span glass roofs: Design - Structural analysis - Errors Barbara Siebert, Dr. Siebert and Partner Consulting Engineers PartGmbB
14:10	Appearance, properties and prevalence of small glass inclusions Timon Peters, Technische Universität Darmstadt	Breakage probability of nickel sulphide inclusions in heat strengthened glass Francis Serruys, Saint-Gobain	Finite element analysis of a glass structure in a superyacht superstructure Danie Wium, Ghent University
14:35	Energy Embodiment and Carbon Footprint of the process of thermally toughening glass Cenk Kocer, University of Sydney	Temper Scanner 5D: the new complete metrology scanner after furnace exit and its capabilities for furnace optimization and quality control Sandra Kugler, Viprotron GmbH	The BAM approach for the calculation of double and triple Insulating Glass Units Laura Galuppi, University of Parma
15:00	Coffee br	eak (45 mins) • one-to-ones • other	meetings
	Research & Development	Tempering / Pre-Processing	
15:45	From WASTE via RECYCLE to REUSE: First valid steps on the pathway to better re- utilization of glass elements Marco Zaccaria, AGC Interpane	Correct temperature measurement during tempering process of different types of coated glass Ingo Stahlkopf, Optris GmbH	
16:10		Controlling Glass Quality During Heat Treatment Eric Hegstrom, LiteSentry	
16:35			









#### FRIDAY JUNE 16

8:00	Onsite registration		
	STAGE 4	STAGE 5	STAGE 6
	Complex Geometry	Automotive and Display Units	IGU & Window Technology
	Session Chairs: Steffen Bornemann, Evguard	Session Chairs: Robert Prange, Glaston Switzerland AG Juliane Brandt-Slowik , Schott AG	Session Chairs: Cenk Kocer, University of Sydney
9:00	Methodology of multicriterial optimization of different models of geometrically complex glass façade Tatjana Kosić, University of Belgrade	Processing strategies for future automotive glazing and displays Matthias Loppacher, Glaston Switzerland	Thermoplastic spacer (TPS) - process requirements for optimal application Uwe Risle, Gennadi Schadrin, Glaston Germany
9:25	Curved Glass: Modernizing Form and Function in Convex and Concave Applications Javier Sanchez-Gil, Cristacurva	Benefits of low weight and durable borosilicate glasses in transportation Hubert Wieseke, SCHOTT Technical Glass Solutions GmbH	Sustainable glass architecture through intelligent adhesive and sealant solutions Chris Davis, H.B. Fuller   Kömmerling Christian Scherer, H.B. Fuller   Kömmerling
9:50	Influence of Poisson's effect on the determination of the bending tensile stress of thin glass Daniel Pfarr, TU Dresden	Main benefits from convection preheating in Automotive WS/SR production Antti Aronen, Glaston Finland Oy	The Extent of Condensation: How much does Condensation Resistance (CR) Rating actually tell us? Alexandra Blakeslee, Technoform North America
10:15	Coffee break (	45 mins) • one-to-ones • meeting w	vith sponsors etc

	Complex Geometry	Automotive and Display Units	IGU & Window Technology
11:00	Optimizing methodologies for cold bending of glass Valerie hayez, DOW Silicones	Application of ultrathin glass in cars – A feasibility study Wilma Dewald, Volkswagen AG	An enhanced model of thermo-mechanical loading on a Vacuum Insulated Glazing Antti Aronen, Glaston Finland Oy, University of Sydney
11:25	(Stop) Pushing the Envelope: Achieving the World's Largest Cold Bent Façade with Computation and 3 -Dimensional Framing Keyan Rahimzadeh, Front, Inc., London	Business Case Studies	<b>Vacuum insulated glazing - manufactured in vacuum</b> Zheng DU, LEADUS Glass
		Session Chairs: Klaus Muelhans, A+W Hugues Lefevre, AGC	
		Optical Distortion in tempered glass – a claim or a feature and how to visualize it Michael Elstner, AGC Glass Europe, Eclat Digital	

	<b>Coatings Technology &amp; Applications</b>	Insights to emissivity changes during tempering processes and its potentialls for	Glass and Sustainability in Buildings
11:50	Session Chairs: Tom Culp, Birch Point Consulting	utilization Jorma Vitkala, SURAGUS	Session Chairs: Enrico Cutri, DOW Graham Coult, Eckersley O'Callaghan
			Façade futures: Unplanned obsolescence and the looming threat posed by the facade to
	Roll-to-roll deposition of thermochromic		future building performance
	Jolanta Szelwicka, Fraunhofer FEP		Laboratory

12:15

#### Lunch break (1,5hrs) $\cdot$ one-to-ones $\cdot$ other meetings

	<b>Coatings Technology &amp; Applications</b>	Business Case Studies	Glass and Sustainability in Buildings
13:45	Selective alloying of thin silver films: a strategy for next generation energy-saving windows Kostas Sarakinos, MIMSI Materials AB	Making glass flatness a standard Juan Pablo Martinez, Tecnoglass	How a holistic approach enables the production of Low-Carbon float glass, with an embodied C02 footprint reduced by 40%? Hugues Lefevre, AGC Glass Europe
14:10	Multilayer Optical Films for Glazing Applications Raghu Padiyath, 3M Company	<b>Mobile digitizing at ease</b> Klaus Mühlhans, <mark>A+W Software GmbH</mark> Kai Vogel, Viprotron	The Performance of Glass as Cladding Material in Long-Span Biome Structures Eoin Casserly, VOLUTA, Sligo
14:35	Quality Control for Conductive Coatings in Architecture, Automotive, Smart and Solar Glass Applications Across the Value Chain Marcus Klein, SURAGUS	OPC 40301: Standardization of machine interfaces for flat glass processing Klaus Mühlhans, A+W Software GmbH	STRATO: structural and carbon-free interlayers shake up the safety-glass industry Marco Bresciani, Satinal s.p.a.

#### Coffee break (45 mins) $\cdot$ one-to-ones $\cdot$ other meetings

	<b>Coatings Technology &amp; Applications</b>	Business Case Studies	Glass and Sustainability in Buildings
15:45	What are Protective Coatings for glass and what role do they play? Lukasz Pajdak, EnduroShield Europe	Retrofitting of additional functions in the building cover through the use of mobile laser technology Thomas Rainer, HEGLA boraident GmbH & Co. KG	Sustainable products in float glass (with special focus on ECHA microplastics guideline – Annex XV) Michael Emonds, BASF/Chemetall
16:10		Sustainable and digital - on the way to a circular economy for glass and facades - creating a REAL digital twin Andreas Bittis, Saint-Gobain Glass	In situ detection of product age and argon concentration as measure of the re-use potential of insulation glass in buildings Elke Van Nieuwenhuijzen, Amsterdam University of Applied Sciences





15:00







## **STEP CHANGE** | FRIDAY JUNE 16

#### **Coffee break 10.15 - 11.00**

- **VideowindoW** 10:25-10:40 Remco Veenbrink, Founder and CEO
- 2MH Glas GmbH 10:40-10:55 Michael Heidan, CEO

#### Lunch break 12.15 - 13.45

- **Ubiquitous Energy, Inc.** 12:55-13:10 Miles Barr, Co-Founder & CTO
- 13:10-13:25 IR Dynamics, Inc. Rich Engstrom, CEO

**Lithium Designers GmbH** 13:25-13:40

Alamir Mohsen, CEO

#### Coffee break 15.00 - 15.45

15:10-15:25 eLstar-Dynamics

Romaric Massard, CTO

15:25–15:40 AeroShield Materials, Inc. Aaron Baskerville-Bridges, Co-Founder & **VP** Operations





## **EXHIBITION MAP**





#### **EXHIBITORS**

- DOW
- GLASTON
- OPTRIS
- TECNOGLASS
- SWISSPACER
- SEDAK
- SPARKLIKE
- KÖMMERLING
- AGC INTERPANE

- BRIGHTLANDS MATERIALS CENTER
- FILTRAGLASS
- SATINAL
- KURARAY
- HEGLA-BORAIDENT
- SCHOTT
- VIPROTRON
- SEEN

- EASTMAN
- AYROX
- EVGUARD
- SYNERGX
- VTT
- BOHLE
- Charging point provided by BUSINESS TAMPERE
- Charging point provided by CIMEC

#### **STEP CHANGE COMPANIES**

- VOLFRAMI
- LITHIUM DESIGNERS
- MIMSI MATERIALS
- ELSTAR
- PEAFOWL PLASMONICS
- TYNT TECHNOLOGIES
- 2MH GLAS
- MIRU
- HYPERMEMO
- IR DYNAMICS
- VIDEOWINDOW
- AEROSHIELD





#### STAGE 1

Research & Development

#### **STAGE 2**

Laminated Glass Tempering & Pre-Processing

#### **STAGE 3**

Architectural Challenges & Solutions Structural Glass Applications

#### **STAGE 4**

Façade engineering Complex Geometry Coatings Technology & Applications

#### STAGE 5

Industry Trends Product & Process Case Studies Automotive and Display Units Business Case Studies

#### STAGE 6

Glass and Sustainability in Buildings IGU & Window Technology



#### **Dow Building & Infrastructure**

Dow Building & Infrastructure, part of Dow Consumer Solutions, collaborates with industry professionals around the world to develop solutions to enhance design and aesthetics, increase durability, advance the energy efficiency of buildings, and improve the health and safety of building occupants. Taking a holistic approach, Dow brings together expertise from across the company to help customers find solutions to a wide range of high-performance building challenges. Featuring DOWSIL™ Brand Products Dow's high-performance building solutions include proven materials for structural and protective glazing, weatherproofing, insulating glass, window and door fabrication, and building materials protection, as well as innovations for high efficiency insulation, lighting, and the incorporation of photovoltaic cells and solar panels into building design. Visit

www.dow.com/buildingscience to learn more.

#### **Glaston Corporation**

Glaston is the glass processing industry's innovative technology leader supplying equipment, services and solutions to the architectural, automotive, solar and appliance industries. The company also supports the development of new technologies integrating intelligence to glass.

Glaston is committed to providing its clients with both the best know-how and the latest technologies in glass processing, with the purpose of building a better tomorrow through safer, smarter, and more energy efficient glass solutions. Glaston operates globally with manufacturing, services and sales offices in 9 countries and its shares (GLA1V) are listed on NASDAQ Helsinki Ltd.





#### **Optris GmbH**

Optris was founded in 2003 and has since established itself as one of the leading innovative manufacturers of non-contact temperature measurement devices. The product portfolio comprises stationary infrared thermometers, online infrared cameras and glass inspection systems for glass tempering plants as well as accompanying accessories and software for industrial applications and research and development. "German engineering" - Thanks to an extensive know-how and innovative concepts, our experienced engineers and physicists continuously inspire new productdevelopments and outstanding solutions. "Made in Germany" - We are developing and producing in Germany to ensure the highest standard in quality as a key component of our company policy.

## Filtraglass

Filtraglass is a dynamic company with more than fifteen years' experience in the research and manufacturing of water filtration systems with solid glass particles.

#### **Brightlands Materials Center**

Brightlands Materials Center is a Dutch Innovation Center established by TNO and the Province of Limburg. We develop innovative Coatings for solar Control Glass (thermochromic smart glass) and innovative Nanoparticles, which can be integrated in films and foils for use in (laminated) solar control glass and BIPV.





#### SYNERGX Technologies Inc

Founded in 2004, SYNERGX Technologies is a high-tech company and world leader in optics photonics applications dedicated to the manufacturing sector. Since 2008, we have continued to expand our product line and customer base of OEM automotive glass manufacturers. In order to better serve our global customers, we have set up permanent offices in China (2013), Europe (France 2019), Michigan (USA 2020) and South Korea (2021). We are now focused on even more growth through new market expansions and M&A opportunities. We are proud to count on our expert team to help the company develop even more innovative solutions that can carry our customers into the future and beyond.

#### **SEEN AG**

SEEN is a Swiss company with a branch in Frastanz/Austria. We are the developer and manufacturer of Eastman's Saflex(R) FlySafeTM 3D bird protection interlayer. Our SEEN Elements are also used as a design element for clear glass and photovoltaic modules. For all our applications we combine technologies from the production of banknotes and passports with the lamination of glass. This allows new, threedimensional effects in combination with flat and curved glass, which enable a completely new appearance. At the GPD we will be presenting new products, both in terms of design and as a bird protection solution.

## Softeco Oy

Softeco was founded in 1984, and since 1988 it has been active in the safety glass industry. Strong with over 30 years'



#### Eastman

Founded in 1920, Eastman is a global specialty materials company that produces a broad range of products found in items people use every day. With the purpose of enhancing the quality of life in a material way, Eastman works with customers to deliver innovative products and solutions while maintaining a commitment to safety and sustainability. The company's innovation-driven growth model takes advantage of world-class technology platforms, deep customer engagement, and differentiated application development to grow its leading positions in attractive end-markets such as transportation, building and construction, and consumables. As a globally inclusive and diverse company, Eastman employs approximately 14,500 people around the world and serves customers in more than 100 countries. The company had 2022 revenues of approximately \$10.6 billion and is headquartered in Kingsport, Tennessee, USA. For more information, visit www.eastman.com.

#### sedak gmbh & co. kg

sedak is a premium manufacturer of optimum quality insulated and safety glass. As a market leader and specialist in oversized glass formats and special glass, sedak supplies single-pane glass, multi-layer glass and functional IGUs in formats up to 3.6m × 20m – flat and curved. Since its





founding in 2007, Germany-based company sedak has used its pioneering spirit to establish itself as a specialist in large-format insulated and safety glass. sedak has evolved their glass as a construction material for all-glass facades and roofs. Iconic facades and buildings are created with an unprecedented degree of transparency thanks to superior quality of innovative products. Raw glass is treated, tempered, laminated, printed, bent (thermally & cold), laminated and assembled into IGUs with a unique set of machinery.

#### **Kuraray Europe GmbH**

The Advanced Interlayer Solutions Division of the Kuraray Group is a leading global specialist in the development, manufacturing, and supply of Trosifol® PVB and SentryGlas® Ionoplast interlayers for laminated glass applications in the architectural, automotive, and photovoltaic industries. We offer the world's broadest portfolio of innovative glasslaminating solutions, including structural and functional interlayers for safety & security applications, sound insulation, UV protection and Bird Friendly Glazing. Trosifol® products give applications an expression of strength, clarity, and unique character, delivering advanced capabilities that enable engineers, designers, and architects to save energy, increase safety and conceptualize with greater design freedom.

#### Hegla boraident GmbH & Co. KG

Since HEGLA boraident was founded in 2000, the company has specialised in the laser marking, structuring and functionalisation of glass, ceramics and other transparent or flat materials. Our product range also includes technical applications and products for identifying machine-readable





codes, as well as the laser-assisted production of glass diaphragms and test systems in the glass sensors division. Machines and Solutions for smooth and gentle edge deletion or to refine a glass, for example, as mobile phone permeable or bird protective extends the portfolio and increases the added value of products produced by our customers. We develop these solutions in different business segments and turn them into high-performance products. As part of the HEGLA group which is specialised in solutions for cutting and processing flat, automotive and functional glass, we benefit from the experience and expertise in glass processing and process automation. Popular solutions like the laser marking of glass with a QR or data-matrix code can be fully integrated

in processing lines.

#### **Satinal spa**

Satinal SpA is an innovation-driven Italian Company, operating worldwide to deliver advanced solutions for safety glass manufacture. The Company includes three brands in its portfolio: SATINAL, historic brand of chemical products and machinery for hollow glass satin finishing; STRATO®, the first line of EVA (Ethylene Vinyl Acetate) interlayers, Made in Italy, for laminated glass; TK, design and construction of ovens and furnaces for lamination, thermal tempering, chemical tempering and the Heat Soak Test of glass.

#### **Bohle AG**

The Bohle Group is one of Europe's leading developer, manufacturer and supplier of hardware, tools, machines and accessories for glass processing and finishing. Bohle AG has steadily expanded its competences in recent years and has thus developed from a supplier to a manufacturer



GP

for high-quality product solutions in the field of interior fitting with glass. The family business, founded in 1923, is now represented by over 400 employees at fifteen locations in Germany and abroad. Divided into the product divisions fittings, vacuum technology / handling, industrial glass processing, and glass workshop supplies the product range is precisely tailored to the respective customer groups from trade, industry and retail. Quality is the leading principle at Bohle – in every area. To live up to this standard, the company develops and manufactures many products themselves. A modern logistics centre quickly dispatches the ordered goods to the customer.

#### **Viprotron GmbH**

Viprotron is a German based glass inspection company serving our international glass fabricators with high end industrial in line glass inspection machines since almost 20 years. More than 500 Quality Scanners we have in operation worldwide. New is our innovative Temper Scanner 5D with its unique and high precise Rollerwave measurement, plus Anisotropy and White Haze! Furthermore with our 3D Quality Scanner and our standardizes cost efficient Eco Scanner Pro inspection technology, we already set the standards since 15 years in automized detection of all kind of optical glass defects after glass washing in IG or glass processing (Glass scratches, seeds, coating defects, dirt, smear, Haze, ... ). Beside its headquarter close to Frankfort/Germany, Viprotron has a sales and service location in Denver/Colorado and 12 service engineers taking care of installation, service and training of all our glass inspection equipment worldwide.





## Saint-Gobain Innovative Materials Polska sp. z o.o.

Swisspacer jest firma Szwajcarska , produkcja jest w Polsce i w Szwajcarii. Swisspacer należy do Grupy Saint Gobain. Swisspacer jest liderem w produkcji ciepłych ramek dystansowych do produkcji szyb zespolonych. Nasza ramka ma jedne z najlepszych parametrów cieplnych i jest stosowana w oknach i fasadach.

#### **SCHOTT Technical Glass Solutions GmbH**

As a leading global manufacturer of specialty glass, glassceramics, and other advanced materials, SCHOTT employs around 17,200 in 33 countries around the world. Our success comes from our expertise and experience that creates lifechanging innovations using the world's most fascinating material.

#### **AGC Interpane**

AGC Glass Europe produces, processes and markets flat glass for the building sector (exterior glazing and interior decoration), the automotive industry and solar energy applications. As the European subsidiary of AGC, the world leader in flat glass, AGC Glass Europe has more than 100 sites throughout Europe, including AGC Interpane, one of the main processors in international building projects. As part of its roadmap towards carbon neutrality, AGC continues to focus on innovation with SunEwat, its range of energy-generating products, FINEO, the first vacuum-insulated glazing, and the recently launched Low Carbon Glass range.





#### Tecnoglass

Tecnoglass specializes in the transformation and commercialization of architectural glass. Our record-breaking technologies, quality control process, and commitment to growth as an industry leader allow us to provide glass for every use, including tempered, laminated, insulating, screenprinted, and curved glass.

# H.B. Fuller | KÖMMERLING

H.B. Fuller | KÖMMERLING offers the worlds most comprehensive product range for the glass industry and all from a single source. As green building is now the norm and we are committed to improving lives and protecting our planet. Through a wide selection of trusted solutions, we are helping manufacturers create long-lasting, energyefficient and outstanding glass solutions for any design or application. Whether we're creating new sealant formulations, manufacturing products, or providing responsive customer support, we always offer premium solutions and innovations. Modern architecture often places extreme demands on the long-term energy efficiency and gas-tightness of insulating glass units – for example, when insulating glass is cold bent. Our high performance warm edge system KÖDISPACE 4SG compensates occurring deformations in the edge seal. The warm edge system therefore guarantees permanent gas tightness even with curved insulating glass units. Learn more on www.hbfuller.com





#### Folienwerk Wolfen GmbH

Folienwerk Wolfen is an innovative film manufacturer with 110 years of rich tradition, specialized expertise, insight & solutions for your glass needs. Originating from the ORWO film plant and with more than 30 years of experience in the co-extrusion of eco-friendly plastic materials such as PET, PLA, BIO-PET and other specialties, Folienwerk Wolfen drives the industry with sustainable plastic solutions. As one of the first processors of plastics, the properties of various polymers were combined in one film using multi-layer technology. Today we produce individual 'made in Germany' films which are efficient and reliable. Using high value raw materials we designed an innovative product, which is not only tailored to the high demands of architectural glazing, but is also multifunctional, extensively tested and highly adaptable to varying conditions. A masterpiece of ongoing research and development evguard® laminating film is an ethylene-vinyl-acetate (EVA) based thermoset interlayer for the manufacturing of laminated safety glass. evguard® laminating film is purposefully designed for numerous glass building facades and extreme heavy impact applications worldwide, including external facades, overhead glazing and balustrades. Folienwerk Wolfen also provides evguard® MPE, a special high performance multi-layer polyester film for heavy impacts and printed laminated safety glass applications.

## Sparklike Oy

Sparklike is the world's leading expert for measuring gas content of insulating glass. Its story began in 2000, when Niklas Törnkvist and Mats Therman started to pursue their idea, since the challenge of the insulating glass industry was confirming the correct filling degree and ensuring that the initial gas concentration will remain inside the insulating



#### Cimec

Cimec is a glass handling device manufacturer with the largest selection of glass lifters on the market.

#### **Business Tampere**

The economic development agency of the Tampere region, promotes investments and creates an attractive environment for sustainable business in the region.

Charging points available at this booth.



Networking in relaxed atmospheres is the essence of the GPD spirit. In 2023, our networking activities are designed foster networking and team building among the participants. The new venue and revised event activities will play a key role in achieving this objective.

The following are our key networking activities for 2023.

## Pre-Event Networking on Tuesday, June 13 at 17:30

Th event is for people with VIP tickets and will include the following activities.

- Sports for everyone at Kaleva Sports Park (17:30 20:00). The sports to include a city walk, city run and street hockey. All the activities in designed in easy format to allow anyone participate in.
- Chilling at Stefan's Restaurant in Nokia Arena (20:00 22.30). A relaxing activity for easy networking while having some food and drink.







## **Get Together Party on Wednesday** on June 14 at 20:00

The venue is Nokia Arena, and the activity is included in the conference registration fee. All registered delegates and accompanying persons are invited. This activity provides an excellent opportunity to meet old and new colleagues. Buffet style dinner will be served, and a casual dress code is recommended. The activity happens immediately after the opening ceremony.



## **One on One meetings on** Thursday & Friday, June 15 & 16

You can book one-on-one meetings through our conference app Eventos. You can download Eventos from App Store or Play Store. The meetings will be held during breaks in the program such as coffee & lunch breaks.

#### GPD.FI #GPD2023



# **Conference Dinner on Wednesday June 15 at 19:30**

The venue is Tampere-Talo. This dinner is not included in the conference ticket. However, it is included in VIP ticket. This activity provides an excellent opportunity to strengthen relationships with old and new colleagues. Food, drink, and entertainment will be on offer in a unique and an impressive setting. For the dress code, smart casual is recommended.

## Farewell Party on Friday June 16 at 19:30

Venue is in Hiedanranta area of Tampere. Transportation to and from the venue to be organized.

As expected, the party is always something unique in a very informal set up and is included in the conference registration fee. The recommended dress code very casual (e.g., jeans & t-shirt). Event is held PARTLY outside so bring a cardigan or a light jacket since the night it might get chilly.





## GPD Pub at O'Connell's (Irish Pub)

Located between Nokia Arena and the railway station on Rautatienkatu 24, this is a good spot for you to meet and have informal engagements with others e.g., in the evenings on your way to and from a GPD activity.



As a GPD participant, you will get a discount on all pints on tap and 16cl wine by showing your GPD nametag! These rates are available for GPD participants from Tuesday (June 13) to Friday (June 16).

**OPENING HOURS: 4PM - 2AM DAILY** 



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Glass Performance Days 2023

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