



GLASS
PERFORMANCE
DAYS TAMPERE
FINLAND

POCKET GUIDE

#GPD2019

ALL EYES ON SMARTER GLASS
GLASS PERFORMANCE DAYS 2019

JUNE 26–28, 2019, TAMPERE, FINLAND

GPD.FI



DEAR COLLEAGUES

The international glass community has at times been labeled traditional. In perusing the structure of this program, things come into a totally different light. This is true particularly compared with the status of the industry at the beginning of the conference series 27 years and 16 GPDs ago.

We can truly say that we have become global. Sourcing must consider the best practices and applications world-wide. Glass is no longer just a sheet of glass but rather a specialized and at times very hi-tech product. Today we talk about electronics embedded in the glass, glass with special characteristics from coating, glass as a structural element and as a safe and intelligent building module. Glass is transparent, provides day-lighting, energy-efficiency and it communicates. It is fair to say that glass today serves building-owners, users and occupants better than ever before. In addition, the material offers designers and architects options unheard of in the old times.

From this perspective the expanded glass family, served by dedicated GPD supporters, is more important than ever. We need to make sure that our tradition of renewal, innovation and bold application continues. To do that, we must involve both seasoned specialists who know the game and engage newcomers who have yet to learn more about this special industry. Such newcomers bring new thinking without prejudice – a commitment to continuous development. Start-up companies and their innovations are our future.

This final program is special for personal reasons also. It is my final as Chairman of the GPD. An appropriate and very personal pledge from my part is to continue to stand by the GPD and the glass industry with initiatives, ideas and experiences – and most importantly to contribute to the transferring of my career-long network and the noble idea of information sharing to new generations.

Yours truly,

Jorma Vitkala

*Chairman of the Organizing Committee
of the Glass Performance Days*





OPENING CEREMONY JUNE 26, 16:30

– TAMPERE EXHIBITION AND SPORTS CENTRE (PIRKKAHALLI)

- 16:30** Opening Ceremony starts
- 16:40** **Jorma Vitkala**, Chairman of the Organizing Committee
- 16:55** **Arto Metsänen**, CEO & President, Glaston
- 17:10** **Stefan Blach**, Partner-in-Charge, Studio Libeskind
- 17:45** **Mike Pilliod**, Director of Manufacturing Innovation, Tesla
- 18:20** **Sener Oktik**, CTO, SISECAM
- 18:55** Jorma Vitkala Award of Merit, announcing the winner
- 19:15** Welcome words, City of Tampere
- 19:20** Get Together Party

The opening ceremony is moderated by Jussi Heikelä

OPENING AND KEYNOTE SPEAKERS

Stefan Blach



Partner-in-Charge, Studio Libeskind

Stefan Blach is a Partner in Studio Daniel Libeskind with nearly 30 years of experience. He manages many of the Studio's most complex large-scale projects around the globe, coordinating design teams and consultants in a wide range of cultural, residential and commercial developments.

Mike Pilliod



Director of Manufacturing Innovation, Tesla

Mike Pilliod, one of the highly anticipated Opening Speakers at GPD 2019, will challenge the audience to question technology, push the limits and build to visions rather than take the easy way out – things he and his team are already doing through their work. As Director of Manufacturing Innovation at Tesla for the past six years, Pilliod has made major contributions to product design and engineering for all of its vehicle, energy and solar products. He is on a mission to expand the designer toolbox and use glass in ways previously considered unthinkable.

Şener Oktik



CTO, SISECAM

Prof. Dr. Şener Oktik is an applied physicist with academic/ industrial research technological development (RTD) and teaching expertise in material science and coating technologies. He obtained a Ph.D. from Durham University (UK) in 1982 and has worked at each level of academic, industrial RTD and their management. He has been the CTO at Şişecam Group since January, 2012 and is author/co-author of over 100 publications and inventor/co-inventor of several world patents.

Arto Metsänen



CEO & President, Glaston

Arto Metsänen joined Glaston in 2009 and is celebrating his 10th year as CEO of the company. During these years the company has experienced a big transformation, the latest one being the acquisition of Bystronic glass.

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 emerging technologies integrating intelligence to glass. As of April 2019, Bystronic glass is part of Glaston Group. The Group operates globally with manufacturing, services and sales offices in 12 countries, with the purpose of building a better tomorrow through safer, smarter, and more energy efficient glass solutions.

Since the inception of GPD, Glaston has been the organizer of the event. Glaston is a platinum sponsor of the 2019 conference.

8:00	REGISTRATION	
	Complex Geometry & Curved Glass	Laminated Glass
	Session Chairs: Benjamin Beer, Ramboll Martien Teich, Seele	Session Chairs: Julia Schimmelpenninck, Eastman Chemical BV Vaughn Schaus, Kuraray
9:00	Durability of Structural Silicone Sealant in Cold Bent Glazing Design Jon Kimberlain, Dow Performance Silicones	Design and Validation of Large Format Self supporting Laminated Glass Robert Moisy, Surface Design Consulting
9:25	Mistral Tower: Solutions for SSG Joints Optimization in Cold Bent Units Viviana Nardini, Sika Services AG	Metal-to-glass Bond Strength of Structural PVB Christian Louter, TU Delft
9:50	Options for Complex Geometry Facades – Single Corner vs. Free Form Cold-Bending Benjamin Beer, Ramboll	Interlayer modulus properties in contemporary European standards Wim Stevels, Eastman Chemical Company
10:15	COFFEE BREAK, ONE-ON-ONE MEETINGS	
11:00	Cold Warped Glass Engineering and Durability Robert Moisy, Surface Design Consulting	Next Generation Ionoplast for Improved Glass Lamination Jennifer Schneider, Kuraray America Inc
11:25	Enhancing the Light – Curved Insulated Glass Unit Design Study Adam Nizich, Walter P. Moore and Associates, Inc.	Experimental and Methodical Investigations on the Hyperelasticity of Standard PVB Alexander Pauli, Universität der Bundeswehr München
11:50	Curved and 3D Glass – the New Hype in Top End Architecture Helmuth Hohenstein, Dr. Hohenstein Consultancy	Investigations on the Visco- and Hyperelastic Behaviour of Poly-vinylbutyral Interlayers at Different Temperatures Miriam Schuster, Technische Universität Darmstadt
12:15	LUNCH, ONE-ON-ONE MEETINGS	
13:20		
13:45	Curved Glass: Reshaping Architectural Glass with New Possibilities and Frontiers Javier Sanchez-Gil, Cristacurva	Automating Flat Glass Lamination Process Riku Färm, Glaston
14:10	We can Dream it, Can We Deliver it... Curved Unitized Glazing William R. Halter, Elkus Manfredi Architects	A Comparison of Various Deairing Methods for Windshields, Sidelites and Sunroofs Serhat Oran, OLBRIGHT AUTOMATION GMBH
14:35	The Hot & Cold of Free-form Glass Facades Walter Hartnett, Thornton Tomasetti	Controlling Lamination Result of EVA Laminating Films for Several Lamination Processes Steffen Bornemann, Folienwerk Wolfen GmbH
15:00	COFFEE BREAK, ONE-ON-ONE MEETINGS	
15:45	Glass Quality and Specification of Curved Panels Naomi Schlösser, Eckersley O'Callaghan	RESERVED
16:10	Innovative Glass Bending Technology for Manufacturing Expressive Shaped Glasses with Sharp Curves Tobias Rist, Fraunhofer Institute for Mechanics of Materials IWM	Many Glass Plies Do Really Increase Safety of Laminated Glass? Gabriele Pisano, Construction Technologies Institute - National Research Council of Italy (ITC - CNR)
16:35	High Performance Coated Bent Tempered Glass Dirk Schulte, Roschmann Steel & Glass Constructions, Inc..	Modified ASTM Methodology for Insulating Glass Units with Two-Sided Support Mark Schmidt, Wiss, Janney, Elstner Associates, Inc.
17:00	BREAK, ONE TO ONES, HAPPY HOUR	
19:30 23:00	CONFERENCE DINNER @ TAMPERE-TALO	

8:00	REGISTRATION	
	Arch Challenges & Solutions	Research & Development
	Session Chair: Werner Wagner, Sika	Session Chairs: Jens Schneider, TU Darmstadt Jan Belis, Ghent University Christian Louter, TU Dresden
9:00	Glass Creep of Unsupported Lites in Laminated Glass Julia Schimmelpenninck, Eastman Chemical Company	Parametric Thermal Transmittance Numerical Modeling of a Curtain Wall Fenestration Olivier Brouard, Skidmore Owings and Merrill
9:25	"The Tallest, Heaviest Sliding Glass Door of All": A Case Study Pedro Borges de Araújo, Jofebar s.a. / panoramah!®	Edge Strength: Crack System and Possibilities of Increasing the Strength Steffen Müller-Braun, Technische Universität Darmstadt
9:50	Structural Glass Challenges: Hudson Yards Observation Deck Eoin Casserly, schlaich bergemann partner	Impact on Glass Panes and the Fracture Energy Equilibrium Sagar Vanapalli, Anhalt University of Applied Sciences

10:15 COFFEE BREAK, ONE-ON-ONE MEETINGS

11:00	Laminated glass panels; understanding a new failure mechanism Graham Coult, Eckersley O'Callaghan	Extension of Pseudo-Elastic Cavitation Model for Cyclic Loading for TSSA Michael Drass, Technische Universität Darmstadt
11:25	HIGH TEC Achievable for Everyone Miguel A. Núñez Díaz, Enar, Envolvertes Arquitectónicas	Post-breakage In-plane Stiffness of Laminated Glass. An engineering Approach Laura Galuppi, University of Parma
11:50	Inspection of Glass Facades Barbara Siebert, Dr. Siebert Consulting Engineers	Health Monitoring of Adhesively bonded Glass Elements by Microcapsules Martin Kahlmeyer, University of Kassel

12:15	IGU & Window technology	LUNCH, ONE-ON-ONE MEETINGS
	Session Chairs: Bystronic / Hannes Spiss, Isolair	
13:20	Thermoplastic spacer (TPS) – increasing productivity in IG production AND product performance Dietmar Walz from Bystronic Maschinen AG (CH)	
13:45	The Evolution of Windows and Insert Elements has been Driven by Trends and Enabled by Technology – Where are the Limits? Karl Stefan Dewald, Schüco International KG	The KLEBTECH-network – SMEs Join Forces on Quality Management and Damage-tolerance of Adhesive bonding for Glass Constructions Silke Tasche, Technische Universität Dresden
14:10	Maximizing Façade Transparency with Crystal Clear Silicone Spacers Valérie Hayez, Dow Silicones Belgium	A UV-cured Functional Coating to Prevent Glass Stress Corrosion Mauro Corrado, Politecnico di Torino
14:35	Large Cavities between Glass Panes by Pressure-equalised Insulating IGU Ansgar Rose, ift Rosenheim	Optically Tunable Dynamic Windows Based on Reversible Metal Electrodeposition Tyler Hernandez, Stanford University

15:00 COFFEE BREAK, ONE-ON-ONE MEETINGS	
15:45	Climatic Load Design Parameters for the United States James Griffith, Arup
16:10	Load Sharing of Insulating Glass Unit with Laminated Glass Stephen Morse, Michigan Tech University
16:35	A Window for Today Carlos Machado e Moura, Jofebar s.a. / panoramah!®
17:00	BREAK, ONE TO ONES, HAPPY HOUR
19:30 23:00	CONFERENCE DINNER @ TAMPERE-TALO

8:00

REGISTRATION

Facade Engineering

Session Chairs:
Saverio Passetto, Skanska,
Jon Kimberlain, DOW

Glass Technology Applications

Session Chairs:
John de Baere
TBA, O'Callaghan

9:00

Hybrid Façade Elements Made of FRP and Glass Alina Joachim, Technische Universität Dresden

Glass Igloos and Large Scale Architectural Case Studies Timo Saukko, Finnglass Oy

9:25

Total Transparency: All-glass Designs and its Features Christoph Bauchinger, seele / se-austria GmbH & Co. KG

Visual Quality of Glass – Anisotropic Effects - Status of the Guideline Stefan Goeddertz & Michael Elstner, Herzog & de Meuron, AGC Interpane

9:50

RESERVED

Thin Facades with Sustainable Environmental Depth Stig Mikkelsen, Mikkelsen Arkitekter AS

10:15

COFFEE BREAK, ONE-ON-ONE MEETINGS

Coatings Technology and Applications

Session Chair: Steffen Bornemann, Folienwerk Witten

11:00

Innovative Façade Types – The Closed Cavity Façade Valentin Balog, Drees & Sommer

Trends in Offline and Inline Monitoring of Coatings along the Value Chain of Architecture, Automotive, Solar and Smart Glass Marcus Klein, SURAGUS GmbH

11:25

Building Sky View Agnes Koltay, Koltay Facades

Laser – a Tool for Glass Processing Thomas Rainer, HEGLA boradent GmbH & Co. KG

11:50

Structural Silicone Joint Dimensioning: ETAG002 and Beyond Valérie Hayez, Dow Silicones Belgium

Digitalization of Industrial Coating Production Harald Hagenström, VON ARDENNE GmbH

12:15

LUNCH, ONE-ON-ONE MEETINGS

13:20

13:45

Advanced Calculation Method for Design of SSG Joints Viviana Nardini, Sika Services AG

Glass Coatings that Recycle Sunlight Instead of Throwing it Away Joe Kao, PHYSEE

14:10

Development of a Novel CCF Glass Tube Façade in Hong Kong Martien Teich, seele GmbH

Glass Coatings Useful for the Prevention of Bird Collisions Enos "Andy" Axtell, Ferro Corporation

14:35

Next Step in Structural Glass – Digital Design and Fabrication Peter Lenk, Arup

Functionality and Performance Tests for Coatings on Glass for Solar Application Elisabeth Klimm, Fraunhofer Institute for Solar Energy Systems

15:00

COFFEE BREAK, ONE-ON-ONE MEETINGS

15:45

Complex Geometry Glass Balustrade: Eleftheria Square, Design and Construction Frederico Figueiredo, Pentagonal Lda

Phosphorescent Paint in Glass Laminates Stefan Reich, Anhalt University of Applied Sciences

16:10

Nike Flagship Façade – From Design to Realization Georgia Ewen-Campen, Heintges Consulting Architects & Engineers, P.C

The True Colour of Glass in a Façade, Technology versus Reality and how to Overcome the Misunderstanding Hannes Spiss, Isolair Glas

16:35

BPC® WorkFlow for Coupled Day-light and Energy Simulations Helle Foldbjerg Rasmussen, Microshade

Design Coatings – a Game with Colours and Patterns Stefan Goebel, Arnold Glas

17:00

BREAK, ONE TO ONES, HAPPY HOUR

19:30

CONFERENCE DINNER @ TAMPERE-TALO

23:00

8:00	REGISTRATION	
	Tempering / Preprocessing	Future Opportunities in Business
	Session Chairs: Francis Serruys, Saint-Gobain BU Miika Appelqvist, Glaston Finland Oy	
9:00	A Micro-mechanical Model to Calculate the Optimal HST Holding Time Gabriele Pisano, Construction Technologies Institute - National Research Council of Italy (ITC-CNR)	
9:25	Checking if Heat Soak Testing was carried out Ignatius Calderone, Calderone and Associates	
9:50	Spontaneous Breakages of Toughened Glass: The H.S.T. is better than Presumed Andreas M Kasper, Saint-Gobain	
10:15 COFFEE BREAK, ONE-ON-ONE MEETINGS		
11:00	RESERVED	11:00–12:15 Reverse Pitching
11:25	Influence of Cooling Jets on Stress Pattern and Anisotropy in Tempered Glass Reijo Karvinen & Antti Aronen, Tampere University of Technology, Glaston Finland Oy	
11:50	Anisotropy Measurement for Architectural Glass Louis Moreau, AGNORA	
12:15 LUNCH, ONE-ON-ONE MEETINGS		
13:20		12:30–12:50 Why You Should Work with Startups? Maroane Abdallaoui, Mind the Bridge
13:45	Thermal radiation and forced convection in glass tempering furnaces Mikko Rantala, Glaston Finland Oy	13:00–13:10 VS-A "On façade innovation" Robert Van Santen
14:10	New Trends in ERP software for the flat glass industry Horst Mertes, Fenetech EUROPE SARL	
14:35	RESERVED	
15:00 COFFEE BREAK, ONE-ON-ONE MEETINGS		
15:45	Load-Bearing Behaviour of Laminated Tempered Glass with Reground Edges Maximilian Möckel, Technische Universität Dresden	
16:10	Counting of fragments in tempered glass fragmentation test Antti Aronen & Juho Ruusunen, Glaston Finland Oy	
16:35		
17:00 BREAK, ONE TO ONES, HAPPY HOUR		
19:30	CONFERENCE DINNER @ TAMPERE-TALO	
23:00		

Program • June 28, FRIDAY

8:00	REGISTRATION	
	Smart Technology	Glass & Sustainability
	Session Chairs: TBA, Merck Glaston	Session Chairs: Stanley Yee, DOW TBA, Siemens
9:00	Wireless Powering for Glass Laminated Functionalities Kimmo Keränen, VTT	Energy Efficient Glazing to Reduce CO2 Emissions and Energy Consumption Cédric Janssens, Glass for Europe
9:25	A Smart Glazing Technology addressing Color, Tint Uniformity and, Cost Challenges Guillermo Garcia, Heliotrope Technologies	RESERVED
9:50	Developing Active Windows and Façades through Innovation and Collaboration Rory Back, NSG Pilkington Glass	Why Fenestration U-factor is Important in Hot Climates Helen Sanders, Technoform
10:15 COFFEE BREAK, ONE-ON-ONE MEETINGS		
11:00	Buildings Deserve a Skin that Positively Impacts their Energy and Comfort Levels Ferdinand Grapperhaus Jr., PHYSEE	Re-thinking the Life-cycle of Architectural Glass Graeme DeBrincat, Eva Babic, Arup
11:25	RESERVED	Unlocking the Re-use Potential of Glass Façade Systems Rebecca Hartwell, University of Cambridge
11:50	User-centred Control of Automated Shading for Intelligent Glass Facades Rebecca Hartwell, University of Cambridge	The Use of High Performance Glass in Renovation while Maintaining the Building's Identity Michael Elstner, AGC Interpane
12:15 LUNCH, ONE-ON-ONE MEETINGS		
13:45	Mobile-friendly Glass – comparing Solutions from the End User Viewpoint Juha Lilja, Stealthcase Oy	Truly Transparent Solar for Electricity Generating Facades Miles Barr, Ubiquitous Energy
14:10	Investigation of 5G Radio Frequency Signal Losses of Glazing, Structures Katsuyuki Haneda, Aalto University	Printed Perotech – New Architectural BIPV Solution Technology Vesa Jääskö, Aalto University
14:35	Physically Accurate Visual Representation of Advanced Glass Facades Nebojsa Jakica, University of Southern Denmark	Analysis of Natural Dust for Soiling Tests and Qualification of Solar Glass with a Soiling Sensor Elisabeth Klümm, Fraunhofer Institute for Solar Energy Systems
15:00 COFFEE BREAK, ONE-ON-ONE MEETINGS		
15:45	Track and Trace Using State of the Art IoT Technology Sarah Kugler, A+W Software GmbH	Solution Processed Thermochromic Coatings for Energy Efficient Glazing Pascal Buskens, Brightlands Materials Center / TNO
16:10	Impact of Novel Glass and Insulation Technology on Future Transportation Fabio Favoino, Politecnico di Torino	ISOshade – Latest Development in Double Skin Facades René Schneider, iconic skin GmbH
17:00	HAPPY HOUR	
18:00		
19:30 DAWN	19:30 FAREWELL PARTY @ RUSTHOLLI	

8:00	REGISTRATION	
	IGU & Window technology	Research & Development
	Session Chairs: Bystronic Hannes Spiss, Isolar	Session Chairs: Jens Schneider, TU Darmstadt Jan Belis, Ghent University Christian Louter, TU Dresden
9:00	The Past, Present, and Future of the Vacuum Insulated Glazing Technology Cenk Kocer, University of Sydney	Lower Tail Fit of the Weibull Distribution for Edge-line Glass Strength for Structural Use of Glass Stephen Morse, Michigan Tech University
9:25	The Application and Development Trend of Vacuum Insulated Glass Liang Zhang, LandGlass	SBREAK – Calibrating Stochastic Tessellations for the Prediction of Fracture Patterns of Thermally Pre-stressed Glass Michael Kraus, Universität der Bundeswehr München
9:50	The Thermo-Mechanical Performance of a Vacuum Insulated Glazing Window Franz Paschke, University of Sydney	Testing Artificially Aged Silicone Sealants for Advanced Applications Florian Gast, Dr. Siebert Consulting Engineers
10:15	Thin Glass and Applications Session Chairs: TBA, Glaston / Juergen Neugebauer, FH JOANNEUM Gesellschaft mbH	COFFEE BREAK, ONE-ON-ONE MEETINGS
11:00	Advances in Prototyping with Ultra-Thin Glass Sophie Pennetier, Enclos	Transparent Epoxy Resin Adhesives for Glass to Metal Joints Christian Kothe, Technische Universität Dresden
11:25	Load bearing Behaviour of Innovative Lightweight Glass-Plastic-Composite Panels Julian Hänig, Technische Universität Dresden	An Engineered Tool for the Soft-body Impact on Glazed Surfaces Gianni Royer Carfagni, Maffei Engineering
11:50	Adaptive Façades Systems made from Thin Glass Jürgen Neugebauer, University of Applied Science FH-Joanneum	Structural Silicone Performance after 31 Years in Service in Japan, Fumihiko Chiba, YKK AP Inc
12:15	LUNCH, ONE-ON-ONE MEETINGS	Facades from Concept to Realization Session Chairs: Peter Smithson, BGE Facades
13:45	The Gravity Project: "Innovative Use of Thin Glass and Adhesives, Structurally" Vladimir Marinov, Define Engineers Ltd	High Rise Facades: Managing Risk for Architects Peter Smithson, Smithson Associates
14:10	Structural Behaviour of Thin Glass-Polycarbonate Composite Panels Sebastián Andrés López, Universität Siegen	171, A Three Part Exploration of Daylight and Glass Tim Leslie, Batessmart
14:35	RESERVED	Specific Solution for a Specific Opportunity Keith Boswell, Skidmore Owings and Merrill
15:00	COFFEE BREAK, ONE-ON-ONE MEETINGS	
15:45	Scaling Thin Glass Use to the Architectural World Marco Zaccaria, AGC Glass Europe	Just Meeting the Specified Standards is not Good Enough Andreas Hiersemenzel, HS&A Ltd
16:10	Thin Glass for Architectural Applications Christian Louter, TU Delft	Façade Performance – Real Time Sensor Based Data Collection Oliver Ng, BG&E Facades (Facade Consultants)
17:00	HAPPY HOUR	
18:00	HAPPY HOUR	
19:30 DAWN	19:30 FAREWELL PARTY @ RUSTHOLLI	

Program • June 28, FRIDAY

8:00	REGISTRATION	
	Market Trends in the Glass Industry	Quality Management
	Session Chairs: TBA, Fenetech TBA, Siemens	Session Chairs: A+W
9:00	Does Safety Glass Manufactured Abroad Meet US Building Code? Vicente Montes-Amoros, CDC	Take your Tempering Process to the Next Level with Data Analysis, & Automatic Quality Measurement Riku Färm, Glaston & Tarun Bhatia, Viridian
9:25	Transformational Use of 3D Printing in Facade Construction Stanley Yee, DOW Silicones Corporation	Optimized Furnace Settings with New Anisotropy and Haze Measurement Methods Kai Vogel, Viprotron GmbH
9:50	The Global Float Glass Industry in the 21st Century Bernard Savaète, BJS.Différences	Overlooked NYC Construction & Post Occupancy Considerations for Limit Devices in Large Size Awning Type Windows Frank Seta, Frank Seta & Associates
10:15	COFFEE BREAK, ONE-ON-ONE MEETINGS	
11:00	Looking Beyond Industry 4.0 – The Digital Factory AJ Piscitelli, FeneTech Inc.	Surface Compression Comparative Measurements on Tempered Glass, with Different Instruments Ennio Mognato, Stazione Sperimentale del Vetro
11:25	How Can Glass Manufacturers Successfully Manage their Digital, Transformation Journey? Philippe Thiel, Siemens AG	RESERVED
		Extreme Conditions Session Chairs: Valerie Hayez, DOW / TBA, Luc Moyersons, Everlam
11:50	The Future of Software in Glass Processing Hans Kull, Inmatic	Seismic Testing Results of a Decorative Glass Wall Mounting System James Gutnick, McGrory Glass, Inc.
12:15	LUNCH, ONE-ON-ONE MEETINGS	
13:45	High Efficient processing of Display Glass for Automotive, Applications Robert Prange, Bystronic Maschinen AG (CH)	Technical Considerations and Performance of Structural Glazing Glass Façade of High-Rise Building in Extreme Climate Valérie Hayez, Dow Silicones Belgium
14:10	Standardization of Machine Interfaces Gesine Bergman, VDMA	The effects of high strain-rate and in-plane restraint on the quasi-static blast response of laminated glass: a theoretical study Socrates Angelides, University of Cambridge
14:35	North American Market Trends and Drivers Urmilla Sowell, NGA	An Engineering Approach for the Basic Design of Glazed Surfaces under Blast Waves Gianni Royer Carfagni, Maffei Engineering
15:00	COFFEE BREAK, ONE-ON-ONE MEETINGS	
15:45	HEAL Lab Develops New Digital Services around Healthy and, Affordable Living Julia Ahvenainen, Stora Enso	Adhesives for Blast Scenarios – Extreme Conditions for Structural Sealant Glazing Viviana Nardini, Sika Services AG
16:10		The Effects of Aerodynamic Damping on Cable-Net Glass Walls Eoin Casserly, schlaich bergmann partner
17:00 18:00	HAPPY HOUR	
19:30 DAWN	19:30 FAREWELL PARTY @ RUSTHOLLI	

Program • June 28, FRIDAY

8:00	REGISTRATION	
	Structural Glass Applications	Future Opportunities in Business
	Session Chairs: Wim Stevels, Eastman Chemical BV Ingo Stelzer, Kuraray	
9:00	Enhanced Effective Thickness Method for Cantilevered Laminated Glass Balustrades	
	Adam Nizich, Walter P. Moore and Associates, Inc.	
9:25	Stiff PVB and Annealed Laminated Glass for Balustrades fixed on One lower Side: Experimental and Numerical Analysis in Regards to Local European Legislation	
	Hugues Lefèvre, AGC Glass Europe	
9:50	Comparative Study of Cantilevered Laminated Glass Balustrades using Full-scale Testing, FEM, and ASTM E1300 Formulas	
	Vaughn Schauss, Kuraray	
10:15 COFFEE BREAK, ONE-ON-ONE MEETINGS		
11:00	Modelling Laminated Glass based on Multi-layer Interlayers: Effective Modulus Approach	
	Pol D'Haene, Eastman Chemical Company	10:20–10:35 Lightglass
11:25	Determination of Interlayer Mechanical Properties for Use in Laminated Glass Design	
	Michael Härth, Kuraray Europe GmbH	
11:50	One Single Model: Structural Glazing Analysis for Complex Shape Structures	
	Massimo Maffei, Maffei Engineering	
12:15 ONE-ON-ONE MEETINGS		
13:45	Transparency Revisited – a Structural Glass Approach to Pei's Louvre Entrance	
	Gregor Horstmeyer & Lisa Rammig, Eckersley O'Callaghan	12:30–12:50 How to Fall out of Love with your Own Idea Mirkka Lämsä, Futurice
14:10	The Glass Swing of the University of Delft	
	Rob Nijse, University of Delft	13:00–13:15 Wakeone – "XR in the glass industry" Kari Peltola
14:35	Challenging Laminated Glass Projects in Russia	
	Stanislav Chesnokov, Glass Research Institute	
15:00 COFFEE BREAK, ONE-ON-ONE MEETINGS		
15:45	Structural Glass walls – Gravity and Stability Elements	
	Peter Lenk & Graham Dodd, Arup	
16:10	Modular Safe Glass Beam System: Experiments and Design Aspects	
	Kenny Martens, Vitroplena	
17:00 18:00 HAPPY HOUR		
19:30 DAWN FAREWELL PARTY @ RUSTHOLLI		

POSTER PRESENTATIONS

- **Development of a Hybrid Glass-Hpl Balustrade,**
Johannes Giese-Hinz, Technische Universität Dresden
- **Going Beyond a Design Guide – the ASTM Glass Structures Standard,** *Richard Green, Front Inc.*
- **Seattle Space Needle – Opening the Aperture on an Icon,**
Richard Green, Front Inc.
- **Growing Market Indoor Farming – Led or Daylight?**
Stefan Lück, vacustruct®
- **Physical and Thermal Transfer at Roll Interface,**
Jean-Denis Nicolas, Vesuvius France
- **Rational Hyperelastic Constitutive Model Based on the Nelder Function,** *Michael Drass, Technische Universität Darmstadt*
- **Stress-Whitening Effects in Transparent Structural Silicone Adhesives,** *Michael Drass, Technische Universität Darmstadt*
- **Structural Use of Thin Glass. Design of a Transformable Curved Greenhouse,** *Laura Galuppi, University of Parma*
- **The Psychology that Drives Emotion in Interior Glass Design,**
James Gulnick, McGrory Glass, Inc.
- **Turning Crystal Rainbows into reality – Prismatic Glass Facades,** *Dirk Schulte, Roschmann Steel & Glass Constructions, Inc.*
- **What do Adaptive Glazing Systems Offer? – Perspectives for the Industry,** *Helmut Hohenstein, Dr. Hohenstein Consultancy*



STEP CHANGE

STEP CHANGE IS THE PART OF THE GPD WHERE WE FOCUS ON FUTURE BUSINESS OPPORTUNITIES, STARTUPS AND THE COMMERCIALIZATION OF NEW TECH.

COME SEE US IN THE STEP CHANGE AREA AND ENJOY A GLASS OF KOMBUCHA AND CHECK OUT THE PROGRAM ON THE ROCKET STAGE!

STEP CHANGE REVERSE PITCHING! FIRST TIME EVER! ONE DAY ONLY! COME SEE INDUSTRY PITCH HOW THEY WORK AND COLLABORATE WITH STARTUPS !

THURSDAY 11.00-12:15!

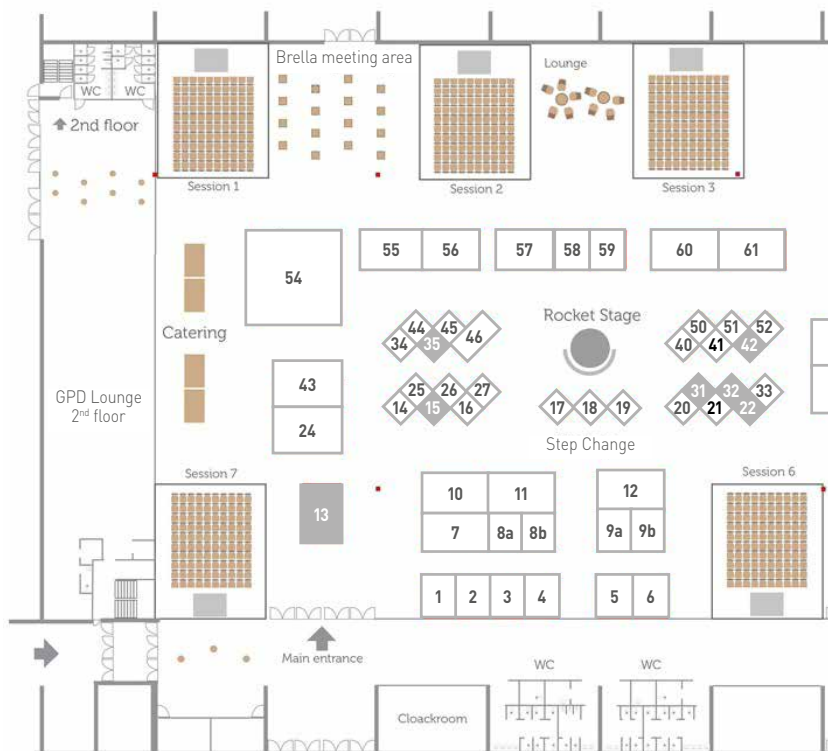


WHO'S HERE IN 2019?

AALTO UNIVERSITY	FI	SOLAR
AMBILIGHT	CN	ELECTROCHROMICS
BERLINGUETTE GROUP	CA	MATERIAL SCIENCES
BRITE SOLAR GLASS	US/GR	SOLAR
CITY NOMADI	FI	IOT - DATA, BUILDING INFO
COTLATA	FI	BIG DATA, AI
CUTWORK STUDIO	FR	ARCHITECTURE
DELTA CYGNI LABS	FI	REMOTE SUPPORT
EEX GLOBAL	FI	COLLABORATIVE INNOVATION
FUTURICE	FI	INNOVATION CONSULTANCY
GAUZY	IL	SMART GLASS
GEMIT SOLUTIONS	SE	ANALYSIS FOR INDUSTRY
GLASS INSPIRATION GMBH	AT	CUSTOM LAMINATION
GLASS TECHNOLOGY	AT	LIGHTING UP FACADES
G-SMATT EUROPE	UK/SG	MEDIA FACADES
HEAL-LABS	FI	HEALTHY AFFORDABLE LIVING
HELIOTROPE TECHNOLOGIES	US	SWITCHABLE GLAZING
HYPERMEMO	FI	LASER CUTTING
INMATIC	NZ	GLASS INDUSTRY SOFTWARE
MIMSI MATERIALS AB	SE	MATERIAL INNOVATORS
MIND THE BRIDGE	IT	OPEN INNOVATION
NEXT ENERGY	US	ENERGY GENERATING WINDOWS
PHYSEE	NL	INTELLIGENT FACADES
P.E.T. INC	US	FLEXIBLE SPACERS
SEEN GMBH	CH	AWESOME LAMINATION
STANDFORD UNIVERSITY	US	REVERSIBLE METAL DEPOSITION
STEALTHCASE	FI	SIGNAL ENHANCEMENT
TOP DATA SCIENCE	FI	AI SOLUTIONS
TRÄ GROUP	FI	HEALTHY AFFORDABLE HOUSING
TU DARMSTADT	DE	3D PRINTED GLASS
TU BERLIN	DE	SMART GLAZING
UBIQUITOUS ENERGY	US	INVISIBLE SOLAR
UBLO	KR	FACADE HACKING
UFO	KR	GLASS ON CONCRETE
VACUSTRUCT	DE	VACUUM INSULATED GLASS
VERTICAL	FI	INNOVATION MANAGEMENT
VISUON	FI	AR SOLUTIONS
VITROPLENA	BE	ENGINEERING & REALIZATION
VOCONAUT	FI	AUGMENTED AUDIO
WAKEONE	FI	XR

HUSTLE
MODE 

EXHIBITION MAP



SESSIONS

Stage 1

- Complex Geometry & Curved Glass
- Smart Technology

Stage 2

- Laminated Glass
- Glass & Sustainability

Stage 3

- Architectural Challenges & Solutions
- IGU & Window Technology
- Thin Glass & Applications

Stage 4

- Research and Development
- Facades from Concept to Realization

Stage 5

- Façade Engineering
- Market Trends in the Glass Industry

Stage 6

- Glass Technology Applications
- Coatings Technology and Applications
- Quality Management
- Extreme Conditions

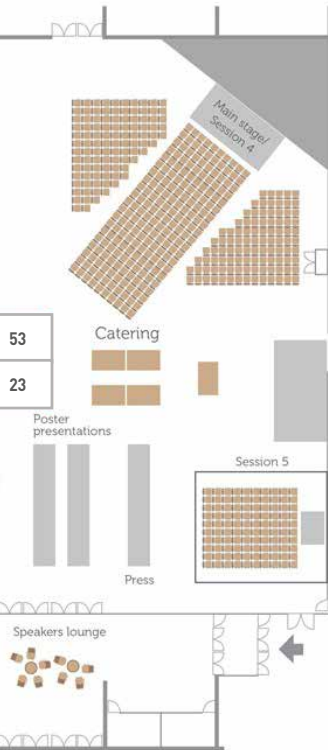
Stage 7

- Tempering/ Pre-processing
- Structural Glass Applications

Rocket Stage:

"Future Opportunities in Business"

EXHIBITORS



Stand no.

1. Bohle AG
2. Swisspacer
3. Gauzy Ltd
4. LPKF SolarQuipment GmbH
5. Softsolution GmbH
6. GlasStress
7. Bühler
- 8a. Isolar
- 8b. VTT
- 9a. TIGER Coatings GmbH & Co KG
- 9b. Synergx
10. AGC Interpane
11. Sedak GmbH & Co. KG
12. Softeco / Ayrox
13. Microshade
23. DOW
24. Sparklike
43. Finnglass
53. Eastman Chemical Company
54. Glaston
55. Sika Services AG
56. Tecnoglass
57. Pentagonal
58. Viprotron GmbH
59. A+W Software GmbH
60. Beijing Jeffoptics Company Limited
61. Kuraray Europe GmbH

COMPANY DESCRIPTIONS

– EXHIBITORS 2019

AGC Interpane

Booth 10

Our product range includes float glass and low-iron float glass for photovoltaic and solar thermal applications, high-quality coated insulating glass, sound-proofing glass, solar-control glass, safety glass and all-glass doors and panels.

Ayrox

Booth 12

We provide complete solutions by combining the knowledge of normative and specific customer requirements.

A+W Software GmbH

Booth 59

A+W is the market leader for software in the flat glass industry as well as the windows and doors business. We develop ERP-, PPS- and optimization software in order to make glass and window manufacturers even more efficient.

Beijing Jeffoptics Company Limited

Booth 60

Beijing Jeffoptics Co.,Ltd. is a company dedicated to R&D glass surface stress measurement instruments. The instruments are applied for chemical tempered glass surface stress measurement and thermal tempered glass surface stress measurement.

Bohle AG

Booth 1

The Bohle Group is one of Europe's leading manufacturers and wholesalers of tools, machinery and accessories for glass processing and glass finishing. Divided into Hardware, Handling, Glass Cutting (manual and automatic), Glass Bonding, Surface Protection, and Tools and Machinery product divisions, the total product range is precisely tailored to the respective customer groups from trade, industry and retail.

Bühler

Booth 7

DOW

Booth 23

Dow combines the power of science and technology to passionately innovate what is essential to human progress. The Company is driving innovations that extract value from material, polymer, chemical and biological science to help address many of the world's most challenging problems, such as the need for fresh food, safer and more sustainable transportation, clean water, energy efficiency, more durable infrastructure, and increasing agricultural productivity.

Eastman Chemical Company

Booth 53

Eastman manufactures chemicals, fibers and plastics materials which are used by our customers as key ingredients to make the products that you use every day.

Finnglass

Booth 43

Finnglass is known as a technically advanced supplier of various glass products in construction business. Finnglass has developed an electrically heated glass that has been successfully manufactured for over 25 years. Clients are both customers in Finland as well as the leading glass/metal contractors in the world. Finnglass has exported heated glass panes for more than 20 years to Scandinavia, Russia and Europe. In Finnglass all the key processes are under the same roof; Design, glass strength calculations, electrical design of glass, cutting, grinding, tempering, lamination, manufacturing of electrically heated glass and production of insulating glass units.

Gauzy Ltd

Booth 3

Gauzy's vision is to embed technology into raw materials facilitating the development and implementation of effective, efficient, applicative and smart products. Our entire team is committed to the continuous development and improvement of today, and the futures, most cutting-edge technologies.

GlasStress

Booth 6

GLASSTRESS is the contemporary art exhibition in which important stars on the international scene match their talents with the use of glass.

Glaston

Booth 54

Our mission is to make your glass outstanding by providing you with machinery, technology and expertise so you can truly stand out.

Isolar

Booth 8a

Kuraray Europe GmbH

Booth 61

The Kuraray Group is committed to developing new fields of business using pioneering technology that improves the environment and enhances the quality of life throughout the world.

LPKF SolarQuipment GmbH

Booth 4

As a leading provider of laser manufacturing solutions, LPKF Laser & Electronics helps to create more powerful electronic systems and increase functionality and efficiency for a broad range of applications and industries.

Microshade

Booth 13

MicroShade is a Danish cleantech company founded in 2003 as a spin-off from the Danish Technological Institute. At MicroShade we have developed a passive membrane that, when put in between a 2- or 3-layer glass, provides optimal solar shading. At the same time it ensures the best possible view out and pleasant daylight conditions. Together, these parameters raise the quality of the indoor climate significantly.

Pentagonal

Booth 57

PENTAGONAL is a commercial company, with over 20 years experience, operating on large building constructions in the areas of glazing and glass façade, BMU's and access systems.

Pentagonal works in the development of new products, providing solutions adjusted to the clients needs and giving support to innovative projects, creating a unique relationship between architecture and technology to achieve its goal... FREEDOM TO CREATE.

Sedak GmbH & Co.

Booth 11

Sedak is a premium manufacturer of insulating and safety glass of exceptional quality. The world's leading glass fabricator produces glass units in dimensions up to 3.51m x 20m: processed, tempered, laminated, printed, coated, cold and hot bent.

Sika Services AG

Booth 55

Founded in Switzerland by visionary inventor Kaspar Winkler over 100 years ago, Sika has developed into a successful global company with a leading position in the development and production of systems and products for bonding, sealing, damping, reinforcing and protecting in the building sector and the motor vehicle industry.

SOFTECO

Booth 12

Softeco was founded in 1984, and since 1988 it has been active in the safety glass industry. Strong with over 30 years' experience, Softeco provides machinery and instruments for safety glass production and quality control.

Softsolution GmbH

Booth 5

Sparklike

Booth 24

Industry leader in insulating glass measurement with devices that are developed and made in Helsinki, Finland. Since year 2000 we have sold over 1800 devices worldwide. Our devices are used daily by world leading insulating glass manufacturers, testing laboratories and window manufacturers.

Suragus GmbH

SURAGUS GmbH is a German metrology specialist who develops and markets contact-free testing systems for inline and offline characterization of functional conductive thin-films such as Ag, TCO, Nanowires, metal meshes and other conductive materials. The contactless eddy current measuring systems allow the real-time emissivity and sheet resistance monitoring for architectural glass, electrode glass and mirror coatings.

Swisspacer

Booth 2

SWISSPACER is at the heart of energy saving windows. Warm edge spacer bars insulate the edges of an energy efficient sealed unit. They keep the panes of glass apart and maintain the integrity of the air gap that insulates a building from heat loss through windows.

Synergx

Booth 9b

SYNERGX Technologies is a global supplier, for the glass processing industry, of unique, high precision, inline, non-contact inspection systems designed to provide consistent quality, measurable payback and continuous production process improvements for its customers, who are the world's leading glass manufacturers.

Tecnoglass

Booth 56

Since 1984 we have been improving our glass and windows' optical quality, strength and durability. Our brands – Tecnoglass, ESWindows and Alutions – are fully integrated in a 2.6 million-square-foot facility, allowing us to offer single-source responsibility on all of our products.

Tecnoglass is the destination for customers who want high-quality glass that meets custom needs, is offered at competitive prices and comes with timely delivery. Our record-breaking technology has made us a one-stop-shop for all glass needs, including tempered, laminated and insulating glass, as well as glass with screen printing, impact-resistant glazing and curved glass.

We want to help make your vision a reality. That's why we combine our selection of pioneering architectural glazing with one-on-one guidance from our industry and project experts. We strive to fulfill our customers' quality and service expectations while maintaining our competitiveness through empowerment ... and this is what makes us unique. It is not only about the glass, but also about what it can transform into.

Meeting the Demand for Better Quality.

TIGER Coatings GmbH & Co KG

Booth 9a

You have the surface, we have the finishing solution. We manufacture powder coatings & digital printing solutions that add value to our customer's products – protection, function, color, effect, gloss and texture. Every day.
A BETTER FINISH. A BETTER PRINT. FOR A BETTER WORLD.

Viprotron GmbH

Booth 58

During university the two founders of Viprotron GmbH were fascinated by modern image processing, and already then they began to investigate the possible applications of this digital technology. After successfully finishing their studies, Kai Vogel (B.Sc. robotics/automation) and Andreas Sandner (B.Sc. mechanical engineering) spent many years in a specialized company that dealt with surface inspection, where they both discovered their passion for glass inspection.

Together they developed their business idea of developing a high quality glass scanner for architectural glass that was to; have a long lifespan, function reliably and provide a good price-quality ratio. In 2004 their vision became a business and the Viprotron GmbH was founded.

VTT

Booth 8b

VTT is a visionary research, development and innovation partner. We drive sustainable growth and tackle the biggest global challenges of our time and turn them into growth opportunities. We go beyond the obvious to help the society and companies to grow through technological innovations.
VTT is at the sweet spot where innovation and business come together.
VTT – beyond the obvious.

MEDIA SUPPORTERS

- The World of Glass (Swiat Szkla)
- Glass Magazine, NGA
- Glas in Beeld
- Glass Processing Magazine
- Glass WorldWide
- Interempresas
- GLAS Magazine Sweden
- IGS Magazine
- Glass on Web
- GFF
- Glaswelt
- US Glass
- Verre & Protections
- GGF
- Glass Global
- Glass online
- DETAIL
- Asian Glass
- Abravidro
- Glass Canada

GPD FINLAND 2019 NETWORKING ACTIVITIES

The new venue concept will play a key role in making the event more interactive, participatory and fun in engaging all attendees to create an effective learning, sharing and networking environment. In addition, we list, on this page, some of the key activities that will be going on during the conference days.

DAY TIME ACTIVITIES

GPD Golf Tournament

Tuesday, June 25

- Participation Fee: **Complimentary tournament for participants**
- Venue: Linna Golf, Hämeenlinna

Timetable

07:30 Transportation from Tampere to the Linna Golf

08:30 Practice, breakfast and game info

09:30 Tournament starts. Max 4h 40min

13:40 Sauna + refreshments

14:50 Lunch at the club

16:15 Transportation to hotels

Golf equipment will be available for rent, **30€**/person (golf bag, with full set of clubs as well as balls and tees).

This year we will compete in the following categories:

- GPD Championship (scratch)
- GPD Golf (HCP)
- Best Lady (HCP)

Also competitions for Closest-to-pin and Longest Drive are waiting for a winner!

One on One meetings

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



EVENING ACTIVITIES

Get Together Party

Wednesday, June 26, 19:00–22:00

- Venue: Tähtiareena
- Included in the conference fee. All registered delegates and accompanying persons are invited. This event provides an excellent opportunity to meet old as well as new colleagues. Buffet style dinner will be served on complimentary basis.
- Dress code: Casual attire

Conference Dinner

Thursday, June 27, 19:30

- Venue: Tampere-talo
- Charges: **100€** + VAT 14%
- Food, drink and entertainment will be on offer in a unique and an impressive setting.
- Please contact the registration desk at Tähtiareena if you still wish to register for this.
- Dress code: Business attire



FAREWELL PARTY

Friday, June 28, 19:30 – until sunrise

- Venue: Rustholli, Rusthollinkatu 1, 33610 Tampere, transportation is organized from the hotels at 19:00.
- Farewell Party – Jorma's Retirement Party
- As expected, the party is always something unforgettable. This time the Farewell Party is also Jorma's retirement party, so it will be once in a lifetime event! The set up is very informal and the theme is Wild West.
- Included in the conference fee.
- Please contact the registration desk at Tähtiareena if you still wish to register for this.
- Dress code: Jeans, boots/ sneakers. GPD will provide t-shirts, SUNGLASSES and cowboy hats. These will work as your "ticket" for Farewell. Event is held PARTLY outside. Please note that we don't recommend high heels, event is held outside. Please bring a cardigan or a light jacket as during the night it might get chilly.

DIRECTIONS

Tähtiareena is a part of Tampere Exhibition and Sports Centre (Pirkkahalli)

How to get there

There will be bus transportation from the official GPD hotels (Scandic Koskipuisto, Holiday Inn Central Station, Lapland Hotels Tampere, Sokos Hotel Ilves, Sokos Hotel Torni, Sokos Hotel Villa, Radisson Blu Grand Hotel Tammer) to the event venue. Participants staying in other hotels can join the bus transportation from any bus stop mentioned in the bus schedule. The average travel time is around 15 minutes.

The bus routes can be found on the Brella – conference app and at the registration desk at Tähtiareena..

INFO

Post Office Address

Tullintori Shopping Center
Tel. +358 20 071 000
Open until 20:00

Visit Tampere tourist information

is at your service all year round on social media and by e-mail and telephone.
visittampere@visittampere.fi
Tel: +358 3 5656 6800

Taxis in Tampere

The number of Tampere taxi service is:
Tel. +358 100 4131

Stockmann – department store, Hämeenkatu 4,
33100 Tampere
Mon-Fri: 9–20
Sat: 9–19
Sun: 11–18

Forex Bank

Stockmann 3. krs,
Hämeenkatu 4
33100 Tampere
Tel: +358 3 532 0106
Mon–Fri: 9–20
Sat: 9–19
Sun: 11–18

Emergency Number: 112

The Speaker Room:

Located after the cloakroom at the end of the corridor.

Media Lounge:

Located at the second floor.

Organized by

glaston

www.glaston.net



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