

20th Advanced Building Skins Conference & Expo

03 - 04 November 2025, Bern, Switzerland



Sponsors of Advanced Building Skins Conference 2025



**Kanton Bern
Canton de Berne**



Schweizer

SOLAXESS ⁺
white solar technology



SolarLab

 H.B. Fuller |  **KÖMMERLING**



FIBROBETON



AZIZI



Conference Day 1 - 03 November 2025

- 14:00** **Opening**
Michael Garrison, University of Texas, Austin, USA; Member of the Committee, Advanced Building Skins Conference
- 14:10** **Keynote**
James Timberlake, KieranTimberlake, Philadelphia, USA: **Is façade innovation a thing of the past?**
- 15:00** **A1** Responsive and Adaptive Building Skins **B1** New Forms of Concrete for the Building Envelope
- 15:45** COFFEE BREAK
- 16:30** **A2** Design Methods for Sustainable, High-Performance Building Façades **B2** Revitalization of the Lufthansa Cargo Headquarters, Frankfurt
- 19:00-22:00** **Evening Reception**

Conference Day 2 - 04 November 2025

- 08:30** **A3** Next Generation Skyscraper Design Performance Strategies of Burj Azizi **B3** Advanced Building Skin Design for Optimized Daylighting
- 10:00** COFFEE BREAK
- 10:45** **A4** Designing and Planning of Photovoltaic Façades **B4** Innovative Products and Technologies for Building Skins
- 12:30** LUNCH
- 14:00** **A5** Integrating Photovoltaics: Products and Performance **B5** Performance of the Building Envelope
- 15:30** COFFEE BREAK
- 16:15** **A6** Energy Transition and Sustainable Architecture with BIPV **B6** Scaling up Sustainable Renovations
- 17:30** **End of the Conference**

Conference Day 1 - 03 November 2025

14:10

Keynote

James Timberlake, KieranTimberlake, Philadelphia, USA

IS FAÇADE INNOVATION A THING OF THE PAST?

- Collaborative research and investment in innovation
- Material exploration and sustainable practices
- The future of building envelopes



The Cellophane House by KieranTimberlake demonstrates a holistic approach to off-site fabrication. It is first and foremost a matrix for holding materials together to create an inhabitable enclosure. An aluminum frame provides the structure and the means to attach factory made elements together.

The house is enclosed with a lightweight, energy-gathering building envelope made of recyclable plastic film. The south facade features glazing with integrated photovoltaic cells, promising further energy independence.



15:00

Responsive and Adaptive Building Skins

Session A1

ADAPTIVE FAÇADES IN HIGH-RISE RESIDENTIAL BUILDINGS

- Performance-driven evaluation
- Criteria-based assessment of facade systems
- Defining adaptive facades in a residential context

Ahmed Alsaedi, University of Strathclyde, Glasgow, United Kingdom

INTEGRATING BIODIVERSITY INTO URBAN DEVELOPMENT: ADAPTIVE FAÇADES FOR CLIMATE RESILIENCE

- AI-driven manufacturing and 4D printing
- Circular adaptive façade model using multi-criteria design methods
- Material research, additive manufacturing, and surface design optimization

Katia Gasparini, University of Sassari, Italy

DESIGN AND TESTING OF A MOVABLE PCM WALL

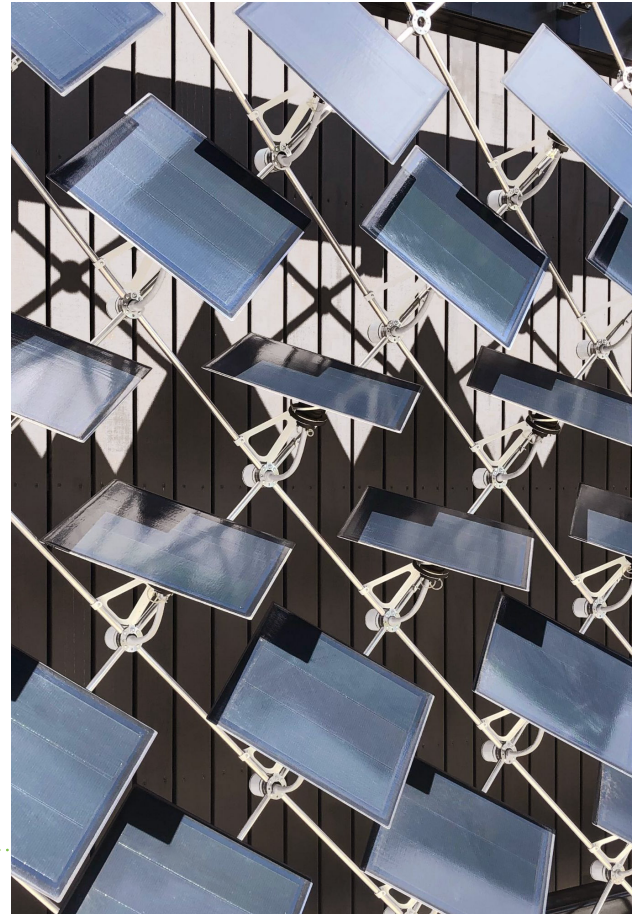
- Dynamic controllable wall with phase-change material (PCM)
- Reduction of heating load by storing solar energy and night free cooling
- Use of PCM for thermal storage enhancement

Amir Zabihisheshpoli, University of Lleida, Spain

Brief Presentation

> ADAPTIVE FAÇADES IN DIFFERENT CLIMATIC REGIONS

André Badura, KTH Royal Institute of Technology, Stockholm, Sweden



15:45



Coffee Break

15:00

New Forms of Concrete for the Building Envelope

Session B1

DIFFERENTIATED DEPLOYMENT OF MODULAR GRC PANEL TYPES AT THE ARENA, DIRIYAH

- Parametric panelization and pattern nesting for GRC cladding
- Maximizing visual differentiation with limited modularity
- Data structures for at-scale documentation and delivery
- Interoperability workflows for Rhino/Grasshopper and Revit

James Warton, HKS Architects, Los Angeles, United States

HYBRID STRUCTURAL SYSTEM: PVC-PES MEMBRANE AND PRESTRESSED CONCRETE

- New hybrid structural concept
- Limitations and challenges of the implemented hybrid system
- (Dis-) Advantages: prestressed concrete vs steel

Aleksandar Vučur, Artech Engineering, Belgrade, Serbia

Isidora Zimović, Artech Engineering, Belgrade, Serbia

Brief Presentations

> SECONDARY FACADE MADE OF REINFORCED CONCRETE 3D PRINTED RODS

Adam Rujbr, Adam Rujbr Architects, Prague, Czech Republic

> DESIGNING AND MANUFACTURING COMPLEX AND NON-STANDARD BUILDING SKINS

Beni Kohen, Fibrobeton, Istanbul, Turkey



15:45



Coffee Break

Conference Day 1 - 03 November 2025

16:30

Design Methods for Sustainable, High-Performance Building Façades

Session A2

Chair: Matthew Fineout, AE7, Dubai, United Arab Emirates

EMERGING PERFORMANCE-BASED DESIGN GUIDELINES FOR MODERN FAÇADES

- Façade operability at elevation responding to wind
- Materials prone to wind noise, fatigue and solar glare
- Performance-based design and quality assurance manual

Matthew Glanville, CPP Wind Engineering, Sydney, Australia

FROM INTUITION TO OPTIMIZATION: DATA-DRIVEN DECISION-MAKING FOR SUSTAINABLE BUILDING SKINS

- Data-driven decision-making for façade optioneering
- Hidden costs and carbon payback in façade design
- Optimizing energy efficiency through façade system selection

Amaldev Premkumar, Ramboll, London, United Kingdom

Harshad Shitolé, Ramboll, London, United Kingdom

BALANCING AESTHETICS AND FUNCTIONALITY: DIGITAL DESIGN OF AN EXHIBITION PAVILION FAÇADE

- Digital design from massing to fabrication
- Balancing aesthetics, modularity and structural safety
- Rapid iteration with parametric CAD and BIM integration

Chau Nguyen, Foster and Partners, Singapore

Marcin Kosicki, Foster and Partners, London, United Kingdom

ERODED EARTHEN MASS: MULTI-AXIS WATERJET CARVING OF WET CLAY FAÇADE ASSEMBLIES

- Automating production of extruded terracotta assemblies
- Creating deep digital textures using waterjet technology
- Exploring extreme material and weight reduction in ceramics

Christopher Romano, University at Buffalo, United States

OPTIMISING FAÇADE DESIGN FOR A SUSTAINABLE SUPERSTRUCTURE OF HIGH-RISE BUILDINGS

- Embodied carbon savings on optimising superstructure design
- Incorporating higher degrees of flexibility in façade systems
- Evaluating impact of façade on embodied carbon of structures

Rhea Ishani, Ramboll, London, United Kingdom

Brief Presentations

> CONSIDERATIONS WHEN DESIGNING FAÇADES

Mario Pirwitz, JSWD, Cologne / Berlin, Germany

> LOSS-FREE DATA PROCESSING FOR FAÇADE DESIGN

Stefano Rossi, idpartners, Zürich, Switzerland

19:00-22:00



Evening Reception

Conference Day 1 - 03 November 2025

16:30

Revitalization of the Lufthansa Cargo Headquarters, Frankfurt

Session B2

Chair: Sanne Reinaerts, Architekten K2, Aachen, Germany

SHOWCASING CORPORATE IDENTITY IN THE FAÇADE

- Re-imagining logistics: Constructing a second skin
- Envelope design for building revitalization
- Transforming and optimizing internal workflows

Sanne Reinaerts, Architekten K2, Aachen, Germany

INNOVATIVE CANTILEVERED ENGINEERING SOLUTION

- “Support forbidden” up to 54 m cantilevered framework
- Thermal effects of uninsulated external components
- Trusses in motion versus permanently installed cubes

Joachim Vorbrüggen, VSI-Engineering, Aachen, Germany

TRANSFORMING AIRPORTS WITH VERTICAL GARDENS

- Incorporating sustainability and greenery at an airport
- Benefits of green facades for airport buildings
- Enhancing thermal comfort using green façades

Maximilian Stetzkowsky, Architekten K2, Aachen, Germany

ESTABLISHING BASELINE PERFORMANCE FOR BUILDING ENVELOPE SYSTEMS

- Thermal and moisture performance of the existing façade
- Measurement of aircraft noise
- Interaction of steel construction and curtain wall

Pia Trilling, VSI-Engineering, Aachen, Germany

Martin Schulze Icking, VSI-Engineering, Aachen, Germany

NITROGEN OXIDE REDUCTION BY ANTI-NOX TEXTILE FAÇADE

- Sampling, prototyping and testing solutions from the ITA
- Binding of air pollutants and improvement of air quality
- Noise control and energy generation

Maximilian Stetzkowsky, Architekten K2, Aachen, Germany

19:00-22:00



Evening Reception

Conference Day 2 - 04 November 2025

08:30

Next Generation Skyscraper Design - Performance Strategies of Burj Azizi

Session A3

Chair: Matthew Fineout, AE7, Dubai, United Arab Emirates

THE ARCHITECTURE BEHIND THE SKIN OF THE WORLD'S 2ND TALLEST TOWER

- Defining attributes of the Burj Azizi skin
- Design aspirations and performance criteria
- Design vision, performance and sustainability

Matthew Fineout, AE7, Dubai, United Arab Emirates

FAÇADE PERFORMATIVE OPTIMIZATION OF THE BURJ AZIZI

- Unitized panel series to adapt to varying & diverse criteria
- Coatings to unite an aggregated series of glazing types
- Shaped glass panels to facilitate air movement

Paul Grove, Meinhardt Façade Technology, Dubai, UAE

Celeste Gariando, Meinhardt Façade Technology, Dubai, UAE

AZIZI TOWER SPECIAL FACADES

SYNERGY BETWEEN ENGINEERING AND ARCHITECTURE

- Maximizing transparency and detailing
- Glass treatments to achieve aesthetics and thermal performance
- Structural behaviour and movement accommodation

Ian Langham, Eckersley O'Callaghan, London, United Kingdom

MAPPING THE SOLAR IMPACT ON HIGH-RISE DESIGN OF THE BURJ AZIZI

- Solar radiation mapping on the building envelope
- Mitigating solar impact through building envelope studies
- CFD analysis of double-skin building envelope design

Stellios Plainiotis, Neapoli, Kuala Lumpur, Malaysia

IMPACT OF WIND ON MEGA-TALL HIGH-RISE DESIGN - THE BURJ AZIZI

- Shaping the tower for wind
- Measuring building movement and acceleration
- Successive stages of wind studies: HFFB, HFPI and aeroelastic studies

Suresh Kumar, RWDI, Dubai, UAE



10:00



Coffee Break

Conference Day 2 - 04 November 2025

08:30

Advanced Building Skin Design for Optimized Daylighting

Session B3

THE TRANSFORMATIVE POWER OF DAYLIGHTING

- Innovative policies and material integration
- Nature-inspired and adaptive solutions
- Impact-driven design and employee wellbeing

Nitin Dani, M Moser Associates, Paris, France

CULTURAL INTEGRATION WITH HIGH-PERFORMANCE DESIGN

- Diplomatic architectural design
- Façade shading as cultural expression
- Shading to enhance building performance

Brian Court, Miller Hull, Seattle, United States

Mathew Albores, Miller Hull, Seattle, United States

INVESTIGATING USER PREFERENCES FOR PIXELATED SHADING

- Evaluation of a user-centered, adaptive shading concept
- Impact of system parametrization on user acceptance
- VR-based approach to assess the spatial experience

Johannes Wening, Bartenbach, Austria

PERFORMANCE OF ELECTRO-CHROMIC WINDOWS THROUGH ENERGY SAVINGS AND COMFORT

- Improve the energy efficiency of a building
- Improve indoor comfort conditions
- Promote overall wellbeing within healthcare environments

Aris Manolitsis, National Technical University, Athens, Greece

HOLISTIC ASSESSMENT OF DYNAMIC GLASS FAÇADE SYSTEMS' PERFORMANCE

- Combining the right glazing with the right shading
- Thermal and carbon performance
- Access to daylight and views
- Economic efficiency

Eloïse Sok-Paupardin, Saint-Gobain, France

Brief Presentation

> HOW HIGH-PERFORMANCE TEXTILES HELP TO LOWER A FAÇADE'S CARBON FOOTPRINT

Jan-Henk Dekker, Kvadrat Shade, Netherlands

10:00



Coffee Break

Conference Day 2 - 04 November 2025

10:45

Designing and Planning of Photovoltaic Façades

Session A4

Chair: Laure-Emmanuelle Perret, LMNT Consultancy, Neuchâtel, Switzerland

ENHANCING BIPV DESIGNS THROUGH ARTIFICIAL INTELLIGENCE

- BIPV design through user-friendly AI chatbot for architects
- BIPV techno-economic optimization using AI agent's framework
- Comparison of GPT models for BIPV design scenarios

Alvaro De Grujter Eguiluz, Eurac Research, Bolzano, Italy

HOW TO SIMPLIFY FAÇADE ELECTRIFICATION?

- Technical solutions
- Economic calculation
- Architectural integration

Kai Babetzki, Drees & Sommer, Stuttgart, Germany

Christian Luft, Drees & Sommer, Stuttgart, Germany

PERFORMANCE-DRIVEN BIPV DESIGN: A CASE STUDY

- Aesthetical integration of photovoltaics in building facades
- Performance-driven design requirements for native BIPV
- Thermal, daylight and aesthetic performance of IGU-based PV

Claudio Castellan, Glass to Power, Italy

VIRTUAL REALITY FOR BIPV PROJECT PLANNING AND OPTIMIZATION

- Aesthetic integration of PV to increase real estate value
- VR technology and integrated PV design tools
- Case studies

Vipluv Aga, Solextron, Switzerland

Renato Minamisawa, Solextron, Switzerland

Brief Presentations

> SEAMLESS AND COLORFUL INTEGRATION OF PV INTO ROOF TILES

Laura Stevens, Fraunhofer Institute for Solar Energy Systems, Germany

> COLORED AND ANTI-GLARE COATINGS FOR BUILDING-INTEGRATED PHOTOVOLTAICS

Marie Courtant, EPFL, Neuchâtel, Switzerland

> HAIL RESISTANCE OF GLASS-FREE PV-ACTIVATED FAÇADES FROM THIN METAL SHEETS

Michael Rienäcker, Solar Energy Research Institute Hamelin, Germany

> ENHANCING BUILDING EFFICIENCY AND AESTHETICS THROUGH AN INNOVATIVE PHOTOVOLTAIC SKYLIGHT

Rosario Carbone, Università "Mediterranea" di Reggio Calabria, Italy

> MONITORING OF COLORED BIPV FAÇADES IN SWEDEN

Laure-Emmanuelle Perret, LMNT consultancy, Neuchâtel, Switzerland

12:30



Lunch

Conference Day 2 - 04 November 2025

10:45

Innovative Products and Technologies for Building Skins

Session B4

Chair: Amin Nayyar, ANA Design Studio, New Delhi, India

PIONEERING GLASS INNOVATION

- Breakthrough in flatness and transparency
- 3D curved glass
- Improved curvature and tempering

Nancy Wang, Northglass, Tianjin, China

EFFICIENT FAÇADE DESIGN FOR MANUFACTURE AND ASSEMBLY

- 90% recyclable content
- Control devices powered by embedded PV
- Oxygenation by inherent plantation

Amin Nayyar, ANA Design Studio, New Delhi, India

INNOVATIVE FAÇADE MATERIAL FROM WILLOW WOOD AND POLYMER

- Willow wood textiles in façade reinforcement
- Process chain development from cultivation to construction
- Opacity control as a key design feature

Lena Hellmann, Bau Kunst Erfinden, Germany

ADVANCED BUILDING ENVELOPE MATERIALS FOR RESIDENTIAL RETROFITS

- Synergistic gains with advanced materials
- Focus on efficiency and climate adaptations
- Comparative data on PCMs, aerogels, and coatings

Khalid Ghazwani, Cardiff University, United Kingdom

A FAÇADE-INTEGRATED COOLING SYSTEM BASED ON ADSORPTION

- Innovative, decentral cooling system
- Potential of CoolSKIN in different locations
- Potential of CoolSKIN for different building types

Andreas Schedler, University of Stuttgart, Germany

FROM WASTE TO WONDER - CIRCULAR ECONOMY IN FAÇADE ENGINEERING

- Transferable insights from existing circular systems
- Circularity framework
- Façade case studies that demonstrate circularity strategies

Serenella Mauri, WSP, London, United Kingdom

Brief Presentations

> NEW ENVELOPE MATERIALS NOT DESCRIBED IN THE CODE AND CERTIFICATIONS

James Buckner, CBUCK Engineering, United States

> INNOVATING WINDOW TECHNOLOGY

Urs Uehlinger, Bern University of Applied Sciences, Switzerland

> FIBRE-REINFORCED COMPOSITE MATERIALS IN VENTILATED FAÇADE COMPONENTS

Paolo Giussani, Politecnico di Milano, Italy

12:30



Lunch

Conference Day 2 - 04 November 2025

14:00

Integrating Photovoltaics: Products and Performance

Session A5

Chair: Roland Valckenborg, TNO, Netherlands

METAL FAÇADE CLADDING SYSTEM WITH SEMI-FABRICATED PV MODULES

- Lightweight BIPV facade cladding system
- Mass customisation manufacturing
- Regulatory and certification challenges

Livio Vasella, Ernst Schweizer AG, Switzerland

BEAUTY AND SAFETY OF SOLAR FAÇADES

- Design freedom in layout and material expression
- Typologies and engineering for all use cases
- Testing and certification for a global market

Anders Smith, SolarLab, Denmark

ARTIFICIAL INTELLIGENCE IN BUILDING INTEGRATED PV SYSTEMS

- Adaptive façades controlled by artificial intelligence
- AI-driven material innovations
- Critical barriers of AI application in BIPV

Lisa Duan, University of Alabama, United States

CHALLENGES IN A MATURING BIPV MARKET

- PV as integral part of a building skin with multiple functions
- The triad of aesthetics, performance and cost
- Fire safety as one of the dominant technical details

Jochen Weick, Pixasolar, Rotterdam, Netherlands

FIRE PROTECTION FOR PV FAÇADES

- Principles of fire protection for PV façades
- Fire protection of ventilated PV façades
- Outlook

Samuel Summermatter, Plan-E, Lucerne, Switzerland

Brief Presentation

> MULTIFUNCTIONAL MODULAR FAÇADE PANELS FOR BUILDING RENOVATION

Emmanouil Katsigiannis, National Technical University, Athens, Greece

15:30



Coffee Break

Conference Day 2 - 04 November 2025

14:00

Performance of the Building Envelope

Session B5

Chair: Carlo Miconi, AI Engineering, Italy

BUILDING ON A LEGACY OF WIND HARNESSING IN HIGH-RISE DESIGN

- Aerodynamic Skin: Optimizes airflow for wind energy capture
- Energy-Generating: PV glass/carbon-absorbing wind turbines
- Passive Ventilation: Inspired by traditional wind towers

Ralph Roesling, Roesling Nakamura Terada Architects, San Diego, United States

BIOPHILIC DESIGN AND BUILDING ENVELOPE PERFORMANCE

- Coordination between building physics and plant biology
- Surface ratio, opening size and material properties influence plant growth
- Daylight simulation and CFD to assess illuminance, temperature, airflow

Carlo Micono, Ai Engineering, Turin, Italy

DESIGNING FIRE-SAFE FAÇADES: FROM RISK ASSESSMENT TO CERTIFICATION

- Potential fire hazards specific to façade materials
- Design strategies and materials that prevent fire spread
- Costs and benefits

Giovanni Cosma, Jensen Hughes, Milan, Italy

THERMAL PERFORMANCE OF WINDOWS AND CURTAIN WALLS

- Thermal performance of windows and glazed facades
- Comparison of European and American standards
- Review of modeling methodologies

Jelle Langmans, Physibel, Ghent, Belgium

DYNAMIC MODELING TO ESTABLISH THE EFFECTIVE SERVICE LIFE OF INSULATING GLASS

- IGU thermal performance
- Impact of gas loss and coating degradation on the life of an IGU
- Driving changes that will deliver an extended service life

Chris Davis, H B Fuller, Germany

Brief Presentations

> OPTICAL MEASUREMENT EQUIPMENT FOR SMART GLASS COATINGS

Stefan Hiller, Zuyd Hogeschool, Heerlen, Netherlands

> PERFORMANCE OF VENTILATED WINDOWS WITH LOW-COST MONITORING

Behnam Rosti, NTNU, Trondheim, Norway

> LIFE-CYCLE TOOL FOR SUSTAINABLE BUILDING RENOVATION

Ioannis Lampropoulos, Centre for Research & Technology, Athens, Greece

> STRUCTURAL PERFORMANCE OF THERMALLY BROKEN ALUMINIUM PROFILES

Jacopo Montali, Algorixon, Parma, Italy

15:30



Coffee Break

Conference Day 2 - 04 November 2025

16:15

Energy Transition and Sustainable Architecture with BIPV

Session A6

Chair: Francesco Frontini, SUPSI, Canobbio, Switzerland

CHALLENGES AND OPPORTUNITIES FOR THE DEPLOYMENT OF BIPV

- Technological innovation system analysis
- BIPV in energy labeling
- Contribution to zero-energy buildings

Momir Tabakovic, FH Technikum, Vienna, Austria

MARKET POTENTIAL OF BIPV IN EUROPE

- Estimation of the technical potential of PV in buildings
- Market potential under two different growth scenarios
- Total addressable market and serviceable addressable market

Juan Ignacio Martinez, Becquerel Institute, San Sebastian, Spain

COLORED BIPV FAÇADE AND SYSTEMS: EXPERIENCES AND LESSONS LEARNED

- How to better integrate BIPV in façades
- Opportunities of colored systems
- Case studies

Thomas Friesen, International Energy Agency

BIPV CHARACTERIZATION, PERFORMANCE AND RELIABILITY

- Pre-normative international research
- Toward harmonized BIPV testing and certification
- Mechanical and electrical behavior of BIPV modules

Fabio Parolini, SUPSI, Switzerland

BIM FOR DESIGN, SIMULATION AND OPTIMIZATION OF BIPV

- Multifunctionality of BIPV systems
- Impact of BIPV on building envelope performance
- Case studies

Philippe Alamy, EnerBIM, France

Astrid Schneider, Technische Universität, Vienna, Austria

17:30

End of the Conference



Conference Day 2 - 04 November 2025

16:15

Scaling up Sustainable Renovations

Session B6

Chair: Julen Astudillo Larraz, Tecnalía, Spain

SUSTAINABLE RENOVATIONS

BASED ON SOLUTIONS COMING FROM THE AEGIR PROJECT

- Sustainable refurbishing with physical and digital solutions
- Main objectives and achievements
- Implementation of the system in four demo sites

Julen Astudillo Larraz, *Tecnalía, Spain*

INTEGRATION OF ACTIVE TECHNOLOGIES IN THE BUILDING ENVELOPE

- Heat recovery ventilation for improved indoor air quality
- Integration of fresh-air ducts in the retrofitted facades
- Integration of solar (PV and hybrid) panels

Arnaud Jay, *CEA, France*

INTEGRATING DIGITAL TECHNOLOGIES

AND A CONSTELLATION OF SERVICES

- BIM to streamline renovation process
- Innovative renovation process based on Aegir tooling system
- Aegir tools

Nicolas Pastorelly, *CSTB, France*

MODULAR AND DIGITAL INNOVATIONS IN SUSTAINABLE RENOVATIONS

- Integrating energy simulations, digital modeling, prefabrication
- Automated façade and ventilation configurators
- Standardization and industrialization of renovation process

Tom Minderhoud, *UNStudio, Amsterdam, Netherlands*

INTEGRATING URBAN MINING AND REUSE STRATEGIES

IN FAÇADE RENOVATION

- Use of low-embodied-energy materials
- Integration of urban mining strategies
- Dismantlable and reusable building components and systems

Thaleia Konstantinou, *TU Delft, Netherlands*

SCALING UP SUSTAINABLE RENOVATIONS WITH AEGIR SOLUTIONS

- Collaboration with SMEs, policymakers, financial institutions
- Real-life demonstration projects
- Overcoming barriers to scaling up sustainable renovations

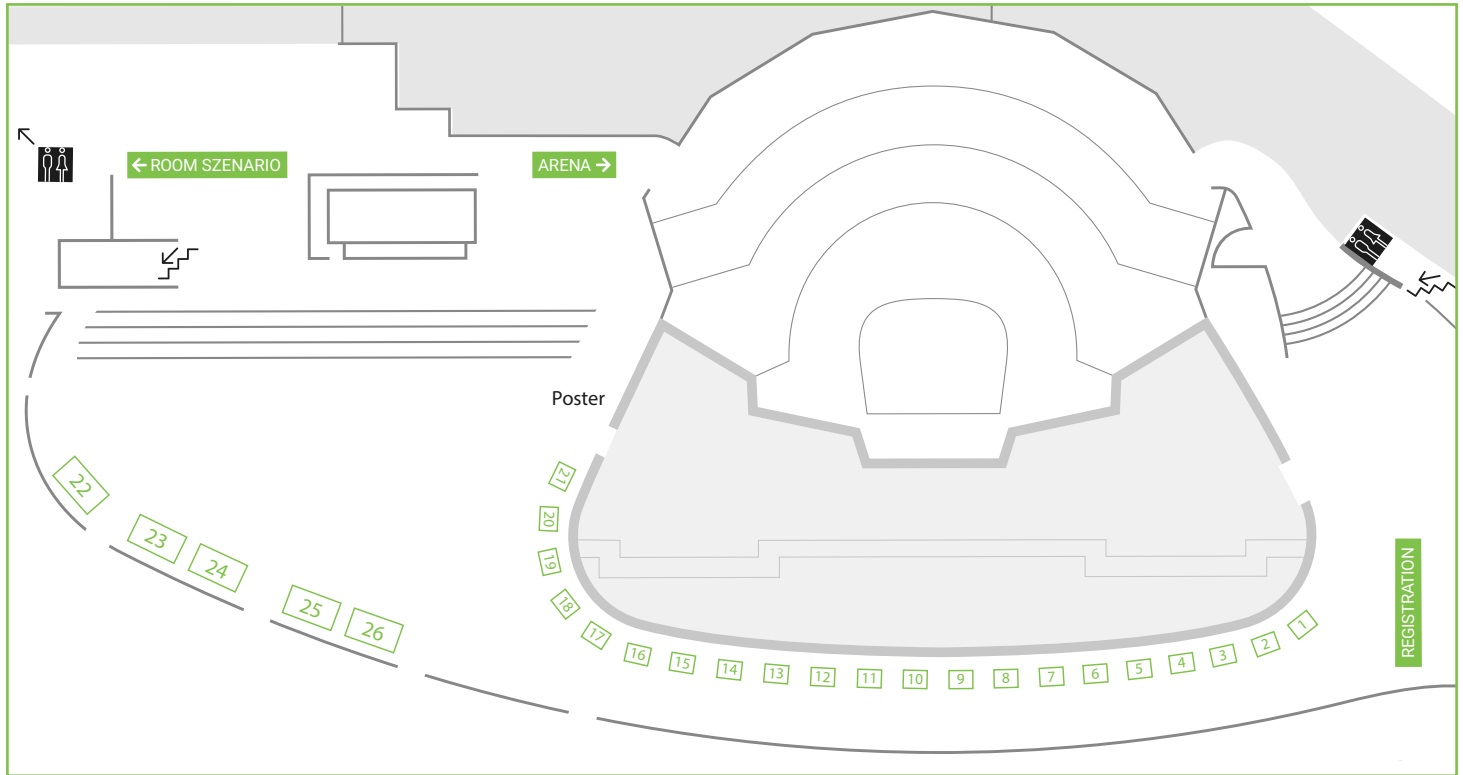
Bard Rama, *ICLEI, Bonn, Germany*

17:30



End of the Conference

Exhibition Plan 2025



1. Jensen Hughes

2. Azizi & AE7

3. Fibrobeton

4. CS Construction Specialties

5. Physibel

6. Greenteg AG

7. Kvadrat Shade

8. Saint-Gobain Glass

9. NorthGlass

10. Sefar

11. Kömmerling

12. Supsi

13. Metsolar

14. Intelligent Solar

15. SolarLab

16. Ernst Schweizer

17. Pixasolar

18. Glass to Power

20. Carl Stahl ARC

21. Media

22. Domico

23. GEZE

24. Solextron - Novis

25. Solaxess

26. Megasol