

# SNAP

ARCHITECTURAL NEWS + PRODUCTS

VOLUME 10, ISSUE 6

## THE BEST AND BRIGHTEST

**SELUX OUTDOOR LIGHTING COLUMNS, A  
WINNER IN RECORD'S PRODUCTS OF THE  
YEAR COMPETITION**

**PAGE 15**

### **CIVIC DUTY**

State-of-the-art finishes,  
hardware, and building  
systems for more inspired  
public spaces.

**PAGE 14**

### **EAST COAST EARNINGS**

Expansion is a trend  
among Connecticut, New  
Jersey, and New York  
manufacturers reporting  
strong sales activity.

**PAGE 42**

**bnp**  
media

NOVEMBER/DECEMBER 2018

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**FOCUS ON  
CULTURAL  
SPACES**

**SNØHETTA'S OMAN  
FISH MARKET**  
PAGE 26

**STANLEY  
SAITOWITZ'S  
KENYAN LIBRARY**  
PAGE 20



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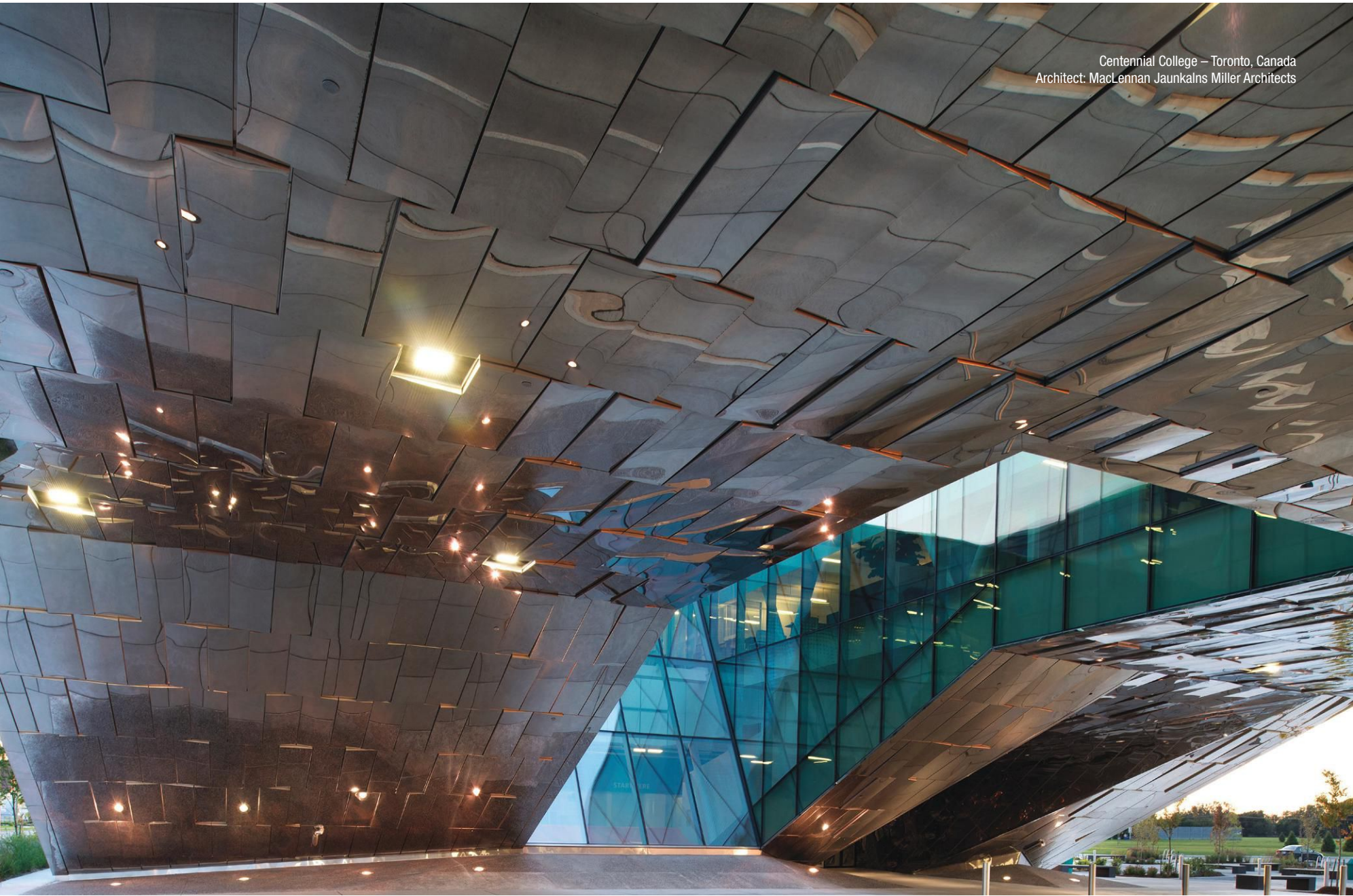


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# REIMAGINING EXTERIORS.

Centennial College – Toronto, Canada  
Architect: MacLennan Jaunkalns Miller Architects

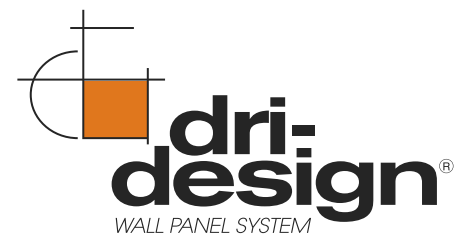


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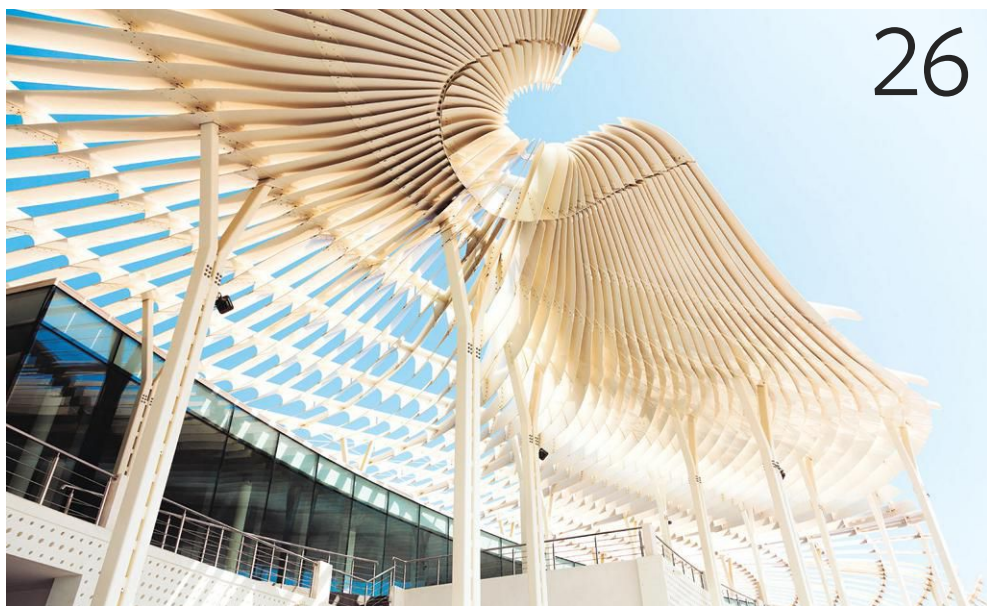
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NOVEMBER/DECEMBER 2018



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## CULTURE AND COMMERCE

Clockwise from top right: Unilock's U-Cara wall system, a Record Best Products award winner; RISD's Lothar Windels (seated) with founders of O&G Studio, the manufacturer of his new chair. An interactive installation in Cape Town, South Africa; and a Snøhetta-designed fish market in Oman.

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## Help from Our Friends



### RECORD'S BEST PRODUCTS JURY

Standing, left to right: Maxwell W. Pau; Priya Patel, Irena Savakova, and Yolande Daniels (next to me). Seated from left: Faith Baum, Sarah Randell, and Ghislaine Viñas.

**I'VE JUST SIFTED THROUGH** more than 320 new product descriptions, and eavesdropped for eight hours while a seven-member jury of architects and designers (those accomplished pros shown with me in the photo, left) selected **ARCHITECTURAL RECORD'S 2018 Best Products** (RECORD, December, page 93). And after tabulating the results, I'm impressed by the technological breakthroughs among their favorites—a self-cleaning cladding system, wood-framed upholstered flooring, a collection of outdoor lighting columns standing 18' tall with cameras and speakers built in, to name a few.

All of the winning submissions were inspiring! I'm eager to share additional details on some of them in this issue of *SNAP*. Of course, we always feature innovative materials, but comments from Record's jury, your peers, clearly add value.

To that end, you'll find the thoughts of three of the judges highlighted on page 16 in a special takeover of the *SNAP* Asks column, complete with a look at the products that piqued their interests most. Then on pages 14 and 15 we round up six more versatile winning products especially suited to outdoor applications.

Our main focus this issue considers culturally charged community spaces such as a **Stanley Saitowitz | Natoma Architects**-designed Kenyan library built from a disused water tank, which is steeped in historic meaning for the children of one farm community (page 20). A similar marriage of function and culture is evident in **Snøhetta's** thoughtful and heroic design of a hardworking Oman fish market (on page 26) that is also a social meeting place along the Muttrah Corniche.

Of course, a project is only as good as the materials used to build it, which is why you shouldn't miss this issue's product specs for the latest innovations in the acoustic, building envelope, roofing and siding, lighting, and site furnishings categories. For every project, you'll find a winner in these pages.

**KELLY L. BEAMON** *Editor*

# SNAP

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ARCHITECT: RLF/US Army Corps of Engineers  
GLAZING CONTRACTOR: Sashco  
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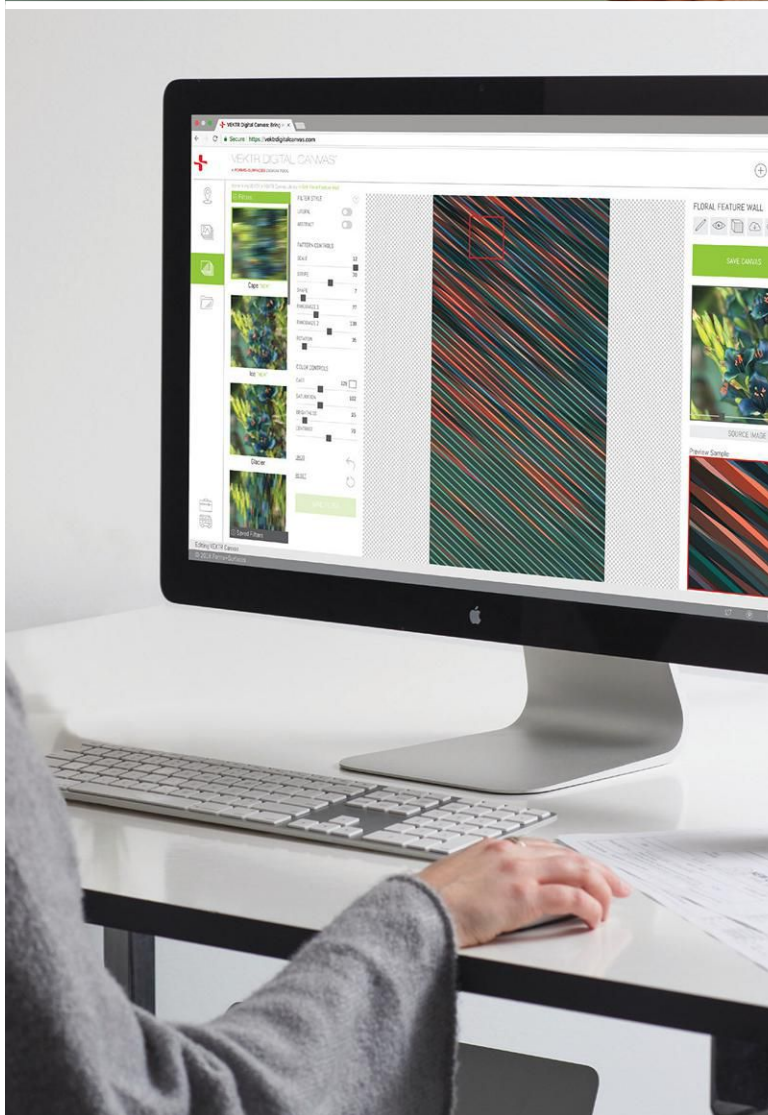
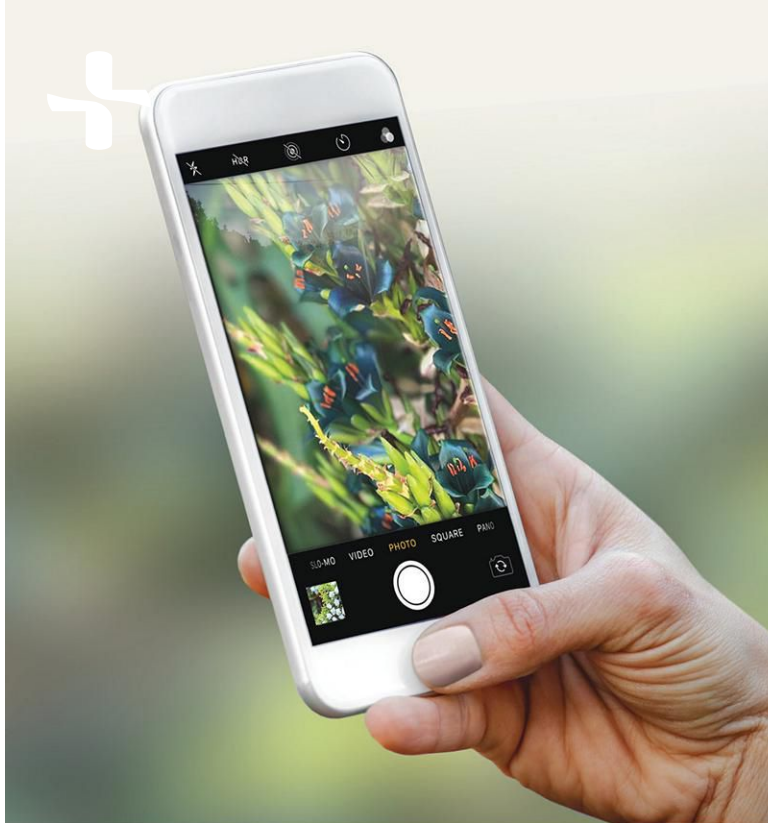


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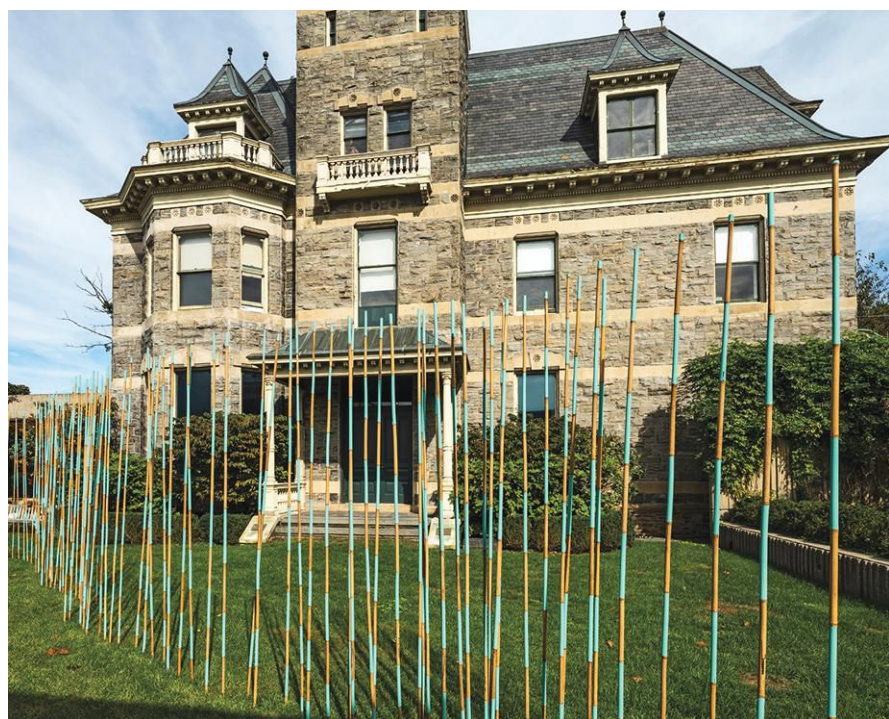
## Going with the Flow

**IN HER PARTNERSHIP** with New York's Hudson River Museum renowned artist **Maya Lin** has launched the show *Maya Lin: A River is a Drawing*, which runs through January 20, 2019, and includes 12 of her works, including whole-room installations and site-specific outdoor pieces.

In each work, she casts the river—presented as silver paint poured into cracks in concrete, and as green marbles glued to walls and floors in the shapes of tributaries—as “positive space,” encouraging visitors to interact with it.

Lin began her career as a senior at Yale, when she was selected to design the Vietnam Veterans Memorial in Washington, D.C. She received the National Medal of Arts in 2009 and the Presidential Medal of Freedom in 2016.

The Hudson River Museum exhibit also features elements of Lin's ongoing project, titled *What is Missing*, which focuses on the loss of certain habitats and species due to climate change.— *Vittoria Elliott*



**ARTISTIC SHAPE**  
Lin's work uses a variety of materials to represent the Hudson River, including green marbles (above) and a series of bamboo reeds (left).





## Stories in Light

**ZOETROPE** is a new interactive exhibit housed in a concrete disk at the foot of the Thomas Heatherwick-designed Zeitz Museum of Contemporary Art Africa in Cape Town, South Africa.

The installation by artist **Es Devlin** invites visitors to watch videos that interpret the experience of electric-powered travel. Mercedes-Benz South Africa and **Design Indaba** commissioned the work by Devlin, an award-winning designer known for using kinetic structures and light.

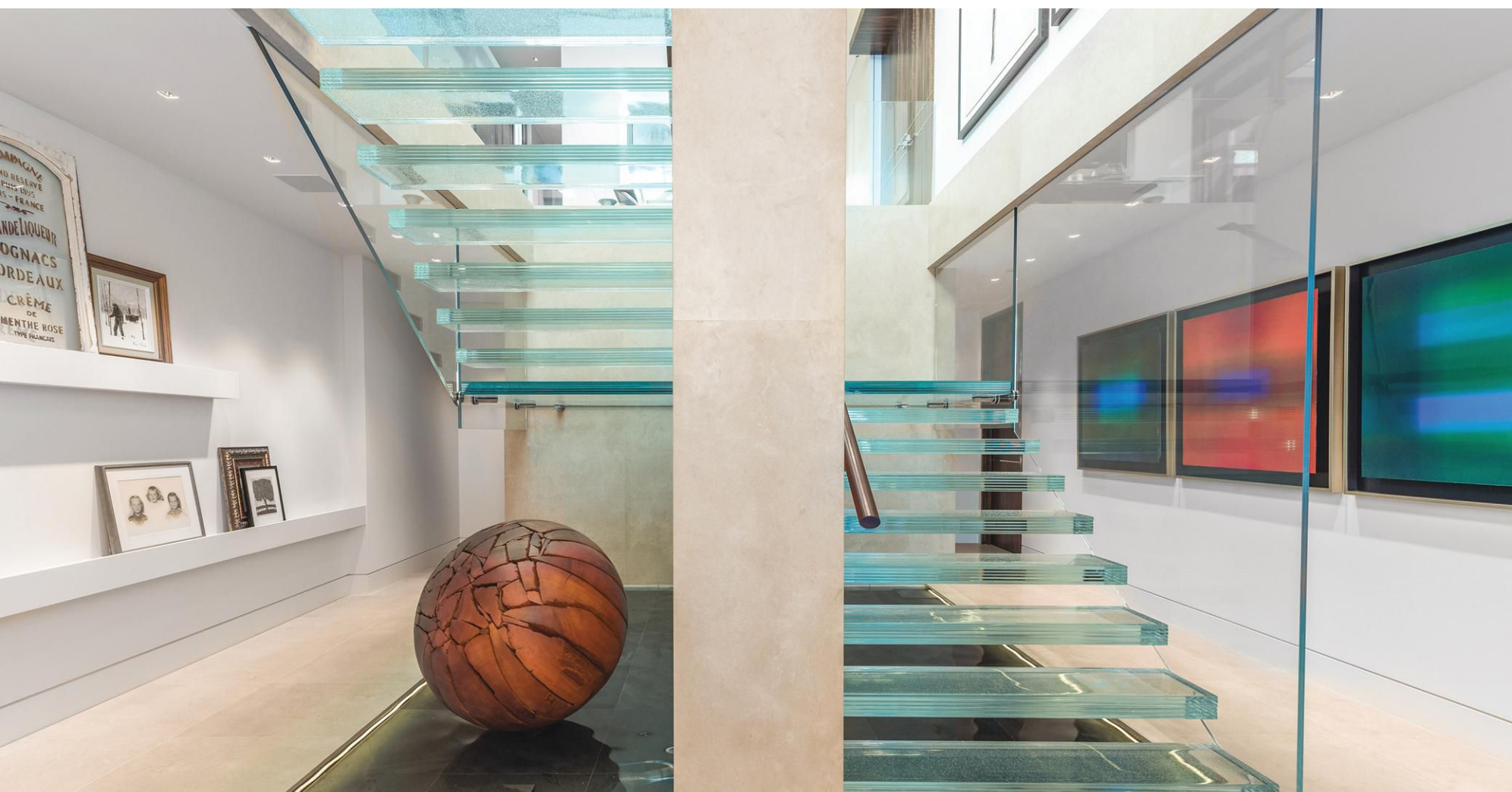
The physical pavilion is comprised of 72 concrete slabs arranged in a circle and its indoor show is powered by solar roof panels. Upon entering, visitors take an immersive journey through 12 one-minute films showing locations around Cape Town.

The concrete was made with sand from each of the sites shown in the short films.

ZOETROPE will be open for a year. — V.E.

### UNIFYING VISION

ZOETROPE (left) is powered entirely off-grid by solar energy, and unifies stories from 12 different locations around Cape Town.







## Cultural Crossroads

As China's market for luxury goods expands, it's little wonder that Italian furniture designers are turning their eyes eastward. Now in its third year, **Salone del Mobile.Milano Shanghai** featured 123 Italian brands as well as bringing top designers from Italy and China to teach master classes. The four winners of the SaloneSatellite Award will show their work at next year's event. — V.E.

### BLENDING PAST AND FUTURE

Salone del Mobile.Milano Shanghai brought together 39 Chinese designers for an exhibit on the relationship between heritage and modern craftsmanship.



### A WARM EMBRACE

Designer Cadena hopes that the piece will "carve out a small and more positive space in the city."

## Get Happy

Just in time for the holidays, Brooklyn-based **Studio Cadena**, founded by designer **Benjamin Cadena**, has unveiled *Happy*. The bright, sunny-yellow translucent vinyl screens create a warm light as they move in the breeze. *Happy* echoes the triangular footprint of the iconic Flatiron Building just across the street. — V.E.

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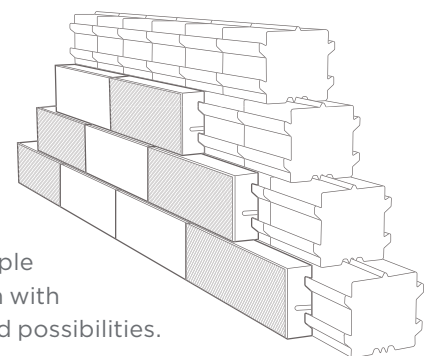
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**SNAP 01**



Innovative materials build drama into civic spaces.



**1.**  
**U-CARA**

**MANUFACTURER:** Unilock

**PERFORMANCE:** The innovation of this multiface wall system is that its fascia panels attach so easily to the 6" x 8" x 6" backer blocks.

**PRICE RANGE:** \$\$\$

**APPLICATIONS:** U-Cara is ideal for building retaining walls, steps, fire pits, and other landscape features.

**UNILOCK.COM**  
(SNAP #210)



**2.**  
**TRACKING MAGNET EVO**

**MANUFACTURER:** FLOS Architectural

**PERFORMANCE:** The system uses magnets as an attachment mechanism in which each light strip or fixture can be easily re-positioned without tools, connecting automatically by touch to allow for a sleek design and no exposed hardware. Can be incorporated in the architecture of any space. Recommended for retail displays and other environments where frequent changes are typical.

**PRICE RANGE:** \$\$\$

**APPLICATIONS:** Increased offerings of light fixtures, with options for a Spot120 and a Super HE Spot150, that use a high-efficiency borosilicate glass reflector. In addition, the suspended track option is now available in a new finish: chrome, alongside the original black and white finishes.

**ARCHITECTURAL.FLOSUSA.COM**  
(SNAP #211)

**3.**  
**DEKTON STONIKA COLLECTION**

**MANUFACTURER:** Cosentino

**PERFORMANCE:** Created from a blend of raw materials—including glass, quartz, and porcelain—the solid surfacing material has a high resistance to UV rays, scratches, stains, and thermal shock. Recommended for both residential and commercial projects.

**PRICE RANGE:** \$\$

**APPLICATIONS:** Slabs are available in six new shades. Can be used for flooring, façades, wall cladding, worktops, and stairs. Available in large format and a variety of thickness which allows a variety of possibilities.

**COSENTINO.COM**  
(SNAP #212)







#### 4. **SUPER METAL FUTURE**

**MANUFACTURER:** Pure + Free Form  
**PERFORMANCE:** This line of cladding comes in 12 natural-looking patterns and colors.  
**PRICE RANGE:** \$\$  
**APPLICATIONS:** Available in 4' x 15' sheets, Super Metal Future panels enable architects to control the aluminum panel's finish.  
**PUREFREEFORM.COM**  
 (SNAP #213)

#### 6. **MODULAR COLUMNS**

**MANUFACTURER:** Selux  
**PERFORMANCE:** A wide variety of optical systems, camera, and speaker options can be integrated into this line of outdoor lighting columns.  
**PRICE RANGE:** \$\$\$  
**APPLICATIONS:** These versatile columns are available in heights of up to 18' and provide site planners and architects with a kit of parts that helps leave surrounding landscapes free of additional equipment to maintain uncluttered sight lines.  
**SELUX.US**  
 (SNAP #215)



#### 5. **ARC3D**

**MANUFACTURER:** DoorWall Systems Corporation  
**PERFORMANCE:** Patent-pending design eschews tracks, springs, belts, etc., allowing the wall to take up less space and blend into the building's design.  
**PRICE RANGE:** \$-\$\$\$  
**APPLICATIONS:** Available in custom colors and materials to complement a building's design. Recommended for both indoor and outdoor applications.  
**DOORWALLSYSTEMS.COM**  
 (SNAP #214)



**KEY** \$ = VALUE, \$\$ = MID-RANGE, \$\$\$ = HIGH-END





KROWNLAB'S LOKI SLIDING DOOR HARDWARE

## I REALLY LIKED...

The use of gunmetal for kitchen cabinets; simple, lightweight barn-door hardware (left); and self-cleaning, pollution-fighting, sustainable stone cladding.

Priya Patel

Founder 4Mativ, Brooklyn, NY



NATHAN ALLAN GLASS STUDIOS' CONVEX CIRCLE



ELECTRICITY TOGGLE SWITCHES  
BY BUSTER + PUNCH

## I WAS IMPRESSED BY...

A collection of switches and outlets that are not just functional but beautiful (above); privacy technology that's integrated with an operable wall system; and a pergola that can adapt to changing weather conditions.

Maxwell W. Pau, AIA

Partner Beyer Blinder Belle



## I WAS MOST EXCITED BY...

Playful linear LEDs in shapes; a contemporary take on Pierre Chareau's glass blocks (above); and a solution that allows designers to easily set linear floor drains along walls.

Yolande Daniels

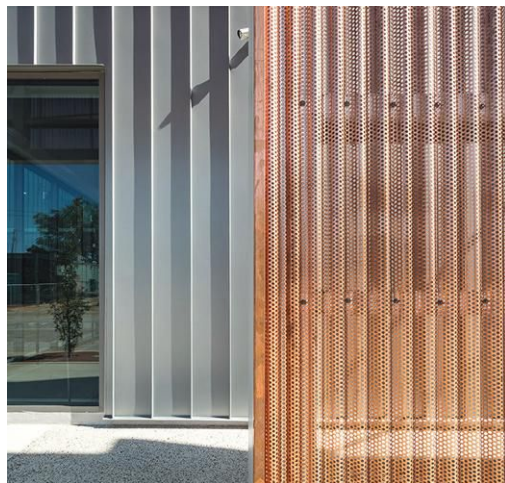
Founder Studio Sumo,  
Long Island City, NY







Ballet Memphis, Memphis, TN Architect: archimania General contractor: Grinder, Taber & Grinder, Inc. Installing contractor: Ralph Jones Sheet Metal  
Profile : Snap-Clad, perforated Snap-Clad, perforated Corrugated Color: Zinc, natural copper material Photo: courtesy of archimania



# Perfect Performance

"We wanted to make the project dynamic and energized. The copper screen looks more solid during the day and perforated at night when lights are on behind it—enhancing the urban experience within the entertainment district."

-Todd Walker, FAIA, Principal, archimania



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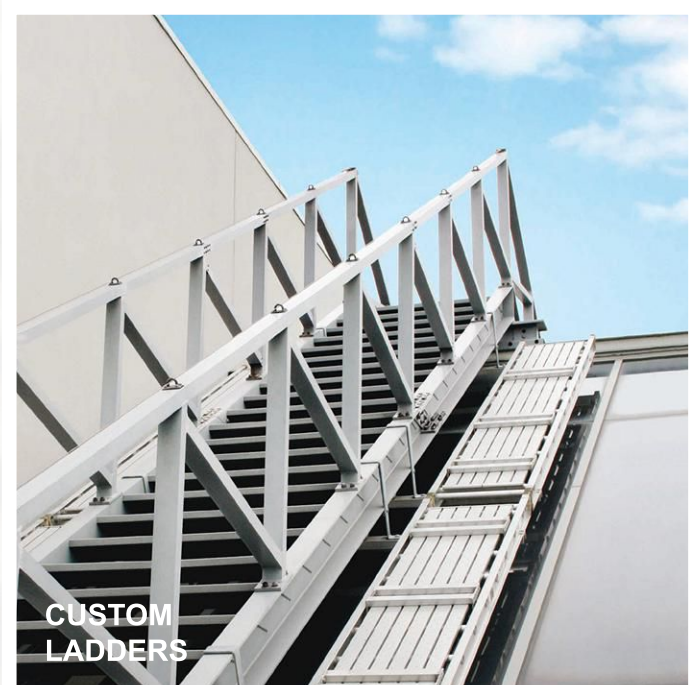
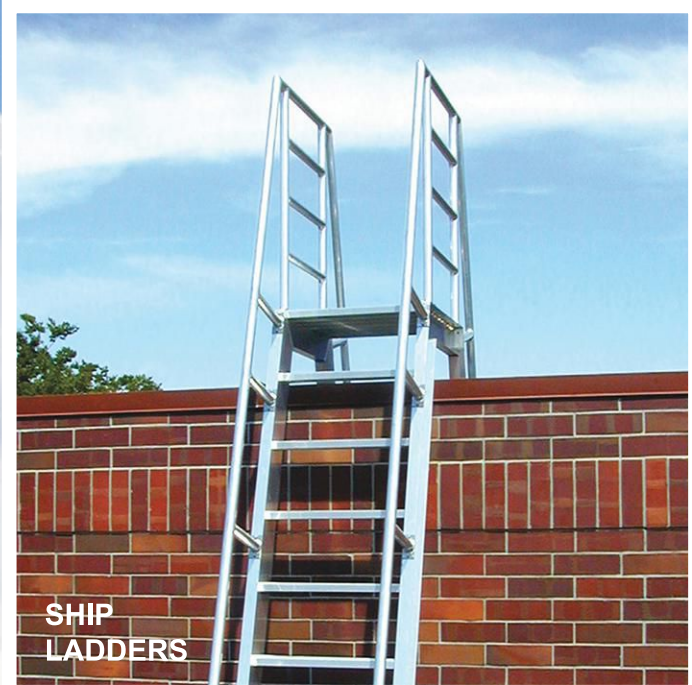
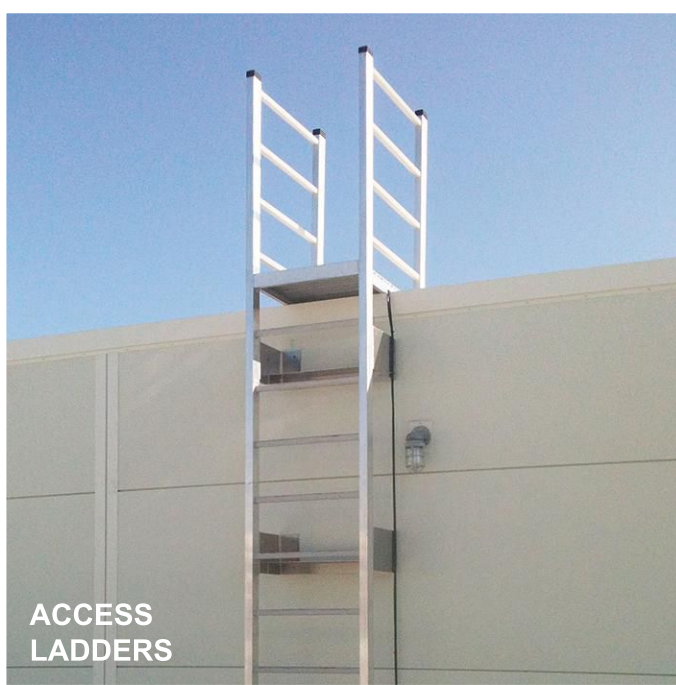
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# Fount of Knowledge



### CHILDREN'S LIBRARY NYERI WEST REGION, KENYA

**PROBLEM:** Transforming a circular water tank into a library

**SOLUTION:** Add a square-shaped story on top and embrace the circular structure below

**CONVERTING A DISUSED** rainwater collection tank into a children's library could not, under any circumstances, be called an obvious design solution. But that's exactly what one nonprofit asked San Francisco-based **Stanley Saitowitz | Natoma Architects** to do, in a small farming community in the Nyeri West region of Kenya, a four-hour drive north of Nairobi.

**The Nobility Project**, an Austin, Texas-based group that builds critically needed school infrastructure, is known for looking beyond easy answers to meet a community's needs. While undertaking the

Nyeri West school renovation some years back, the organization's cofounder, Turk Pipkin, saw the nearby cistern and, noting its unusually large size, saw the potential of its robust, curved form for housing books. The 70-year-old tank had a diameter of 25 feet inside its thick, plastered brick walls, which rose 9 feet high. It was conveniently situated behind the property's cattle sheds-turned-classrooms. It even had a prominent site on a hillside—with views out to Mount Kenya—and could be seen from the road leading up to the school. And, for locals, who were given the tank (and the rest of the formerly British-





owned dairy farm on which it sits) when Kenya declared its independence from the United Kingdom in 1963, it also had sentimental value.

Pipkin was convinced that recreating this agricultural artifact for adaptation as a library would be an encouraging reminder of how far the community had come—if he could find an architect capable of making it work. A friend in whom Pipkin had confided had studied architecture with someone who could help. He introduced Pipkin to Natoma principal Stanley Saitowitz, who was born in South Africa, knew the continent’s colonial history, and was struck by the potent symbolism of preserving the existing structure. “I grew up in Johannesburg,” says the



#### **SPEAKING VOLUMES**

About 350 students (opposite) now use the library. The new 950-square-foot building (top) sits 40 yards from classrooms. Shelves welded to its framework (left) can eventually hold up to 10,000 books.

PHOTOGRAPHY: COURTESY STANLEY SAITOWITZ | NATOMA ARCHITECTS





## CASE STUDY: COMMUNITY SPACE



### A GOOD GRADE

On the ground level (top), the framework fits inside the cistern's old wall, supporting the new volume and serving as shelving (bottom, left). The original curved wall (bottom, right) forms reading nooks.

architect. "I understand that water has always been a precious resource in Africa."

The square-on-circle form the architect designed is a nod to Africa's colonial legacy: it merges the rectilinear geometry common to Europe with the rounded forms of traditional African architecture. His choice of building materials underscores the formal combination: corrugated-steel sheeting (a British import) clads the square part of the building, complementing the original indigenous brick structure below. "Growing up in South Africa, I was able to see how, when you go into the countryside, this other architectural language will emerge," Saitowitz says, referring to the familiar sight of buildings composed of both imported and local components. Insisting that the new library should still collect water, the architect topped it with a roof that has an inverted pitch, which feeds a small receptacle behind the structure.

"The entire design essentially arose from dealing with the constraints of the tank," says Saitowitz, who was determined to leave the cistern untouched. As if out of deference to the relic, he avoided cutting through the circular wall to create an entry and, instead, designed a stair leading into the square volume above. "It is an elevating experience to go up to the books and then down a stair to the main gathering space back at grade," he says. On the top level, a wraparound corrugated-steel landing is lined with bookshelves that are built into its perimeter walls. To admit daylight and breezes, Saitowitz used louvered glass behind wire mesh at the room's corners.

From this mezzanine, a steel stair spirals down to the circular room below—the heart of the library, which has a new concrete slab, covered in tile. Here, the steel bookshelves define the space, creating small reading nooks at the edges, while at the same time, supporting the load of the new volume above. Saitowitz's only intervention with the historic walls, beyond applying a fresh coat of plaster, was to install half-moon slivers of bent steel on its surfaces to create child-height reading seats in the nooks. "The kids use them more as desks," he says.

The diminutive library's scrappy elegance is well suited to the spirit of the people who use it. When Nobility embarked on building the property's new preschool, parents eagerly volunteered to dig the foundation trenches. Later, when a truck loaded with donated books bound for the library became mired in mud just yards from the door, young students resolutely carried the large boxes the rest of the way. "For this community," says Pipkin, "the library says that good things can happen here." ■



# CONCEPTION CONSTRUCTION COMPLETION



Sculpture Studio Facility for the University of Arkansas | Fayetteville, AR | Architects: Modus Studio & El Dorado | Distributor: Alliance Steel, Inc. | General Contractor: Nabholz Construction

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Above: Perforated Belvedere™ 6" Short Rib in Ascot White



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SNAP 03





# EVOLUTION®

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U.S. Patent No. 9,181,692

**APPLICATIONS** EVOLUTION is a custom architectural metal wall and roof system without raised battens for a smooth contemporary design. It features concealed fasteners and a continuous internal drain channel. It can be used on straight and both concave and convex curved surfaces as well as complex surfaces with unique geometry.

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**INSTALLATION** Overly provides a “complete” system package to include hardware, flashings, closures, etc. Custom shop drawings are standard and “Overly On-Site” mechanics assist with initial layout and start-up.

- Install starter base materials and continuous internal drain channels to a suitable substrate.
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- Install the panels between drain channel extrusions and anchor to substrate as required.
- Install the gasket to the compression cover and secure the assembly to the drain channel.
- Install & seal the cover cap securely over the compression plate to complete standard installation.
- Complete installation by installing perimeter covers and flashings.
- Can anchor to 3/4 plywood and a minimum 18GA metal substrate.

**TEST DATA**

- UL-580 Class 90 (Uplift Resistance)
- ASTM E 330 (Structural Performance)
- ASTM E 283 (Air Infiltration)
- ASTM E 331 (Water Penetration)

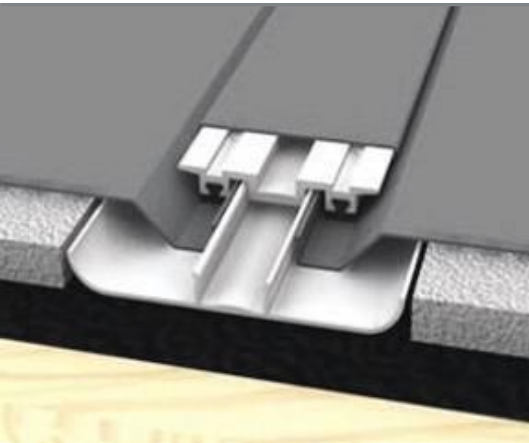
Testing is not applicable to all substrates, materials, and dimensions. Additional testing and analysis is available upon request.

**COVER CAP** The width of the cover cap is 2 ¾ inches.

**PANEL SIZE** Width: Maximum extrusion center is 4 feet in select materials and gauges  
Length: Maximum panel length is 30 feet in select materials and gauges

MATERIALS & FINISHES	MATERIAL	PANEL THICKNESS / WEIGHT	FINISHES
	Aluminum	18 GA (0.040”) / 16 GA (.050”)	Painted (PVDF) finishes include: Standard, Custom Metallic, Mica, Exotic, Weathered Patina Prints, Woodgrain Prints, Embossed
	Stainless	24 GA (0.024”) / 22 GA (0.029”) 20 GA (0.036”)	2B, 2D, Matte, Custom Directional & Non-directional
	Titanium	26 GA (.018”) / 24 GA (.024”)	(Grade 1) Mill and Matte
	Zinc	0.7 mm / 0.8 mm / 1.0 mm	Back Coated Natural, Pre-Weathered, Colored

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SNAP 39



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## CASE STUDY: COMMUNITY SPACE

BY VITTORIA ELLIOTT

# Transforming Tradition



### MUTTRAH FISH MARKET, MUSCAT, OMAN

**PROBLEM:** Constructing a relevant new building for an old fish market.

**SOLUTION:** Build a modern structure that showcases the traditional.

**WHILE SOARING SKYSCRAPERS** have come to punctuate many skylines in the Middle East, the Sultanate of Oman is using another building type to celebrate the region's culture. The low-rise Muttrah fish market completed earlier this year by **Snøhetta** marries the functions of a marketplace with theater-like seating areas that put the richness of the market's activity on display.

The signature architectural element of the 43,000-square-foot market is a sweeping winged canopy that gives it an unlikely sculptural profile evocative of a gallery or event space. The canopy curves to echo the shape of the adjacent harbor where fish-

ermen haul in their catch; passengers on the cruise ships which dock there regularly are immersed in the region's rhythms and social traditions.

Compared with the old market, which was a collection of open-air stalls and crates, the new building's 71,041-square-foot slatted aluminum canopy stands as a landmark. In keeping with traditional markets, or *souks*, the Muttrah is the center of a rich mix of commerce, culture, and community, drawing in locals and curious travelers.

The fish market and the traditional souk bookend the Muttrah Corniche, a popular tourist spot and lively cultural hub.

#### FLOWING LINES

The fish market's flowing lines are evocative both of fish bones and Arabic calligraphy.



PHOTOGRAPHY: COURTESY OF SNØHETTA





“We wanted to build in a manner that complemented the urban fabric of the city,” said Snøhetta in a statement. To do that, the team referenced cultural elements. The canopy’s ribbed design and curving lines were inspired by Arabic calligraphy and by fish bones.

They also needed the materials to work with Oman’s hot, dry climate. So Snøhetta partnered with Dutch firm **Central Industry Group** to develop the 2,400 aluminum lamellae used in the roof of the gill-shaped pavilion. They provide shade and ventilation throughout the market, while preserving the open-air feel. Opting for a perforated façade of glass-reinforced concrete also adds natural cooling that allows sea air to pass through the building’s skin.

All of the market’s components from stalls to the façade walls were designed and manufactured specifically for this project.

That includes the ground-floor stalls of stainless steel. They were fabricated by **Areen Enterprises** to create hygienic, well-lit spaces for fish and vegetable vendors’ wares.

As the city welcomes more tourists, the market has begun including modern offerings such as cafés and a rooftop garden.

A second-floor seafood restaurant features a view of the market below. From nearby seating areas tourists can enjoy the market while it’s open, then linger to soak in the harbor view after the market has closed. ■

#### ALL NATURAL

The market’s perforated concrete walls and aluminum canopy provide integrated shading and passive ventilation.

## IN THIS PROJECT



### ALUMINUM CANOPY

**MANUFACTURER:** Central Industry Group Architecture

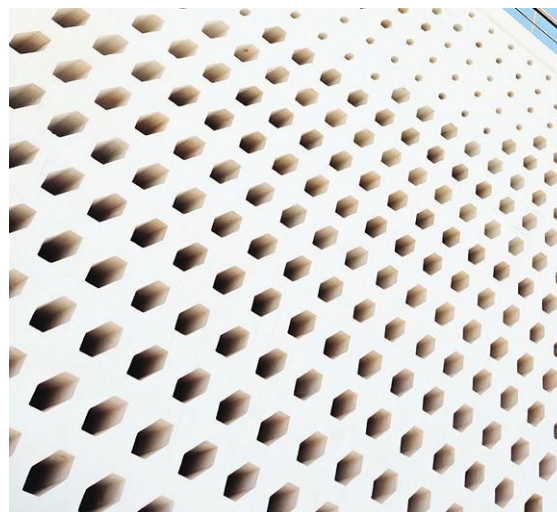
**PERFORMANCE:** In hot, dry climates, provides shade and facilitates airflow within the structure itself and in surrounding areas.

**PRICE RANGE:** Custom

**APPLICATIONS:** For open-air, non-air-conditioned space; aluminum lamellae form a canopy that is lightweight and allows for the creation of flowing lines.

**CENTRALINDUSTRYGROUP.COM**

(SNAP #216)



### PERFORATED WALLS

**MANUFACTURER:** National Fibre Glass Factory

**PERFORMANCE:** The perforated walls allow for airflow throughout the structure, cooling it naturally.

**PRICE RANGE:** Custom

**APPLICATIONS:** Glass-reinforced concrete façade panels include custom perforation designs.

**NFFGLASS.COM**

(SNAP #217)



### MARKET STALLS

**MANUFACTURER:** Areen Enterprises

**PERFORMANCE:** Update of traditional market stalls; includes integrated lighting fixtures and storage drawers.

**PRICE RANGE:** Custom

**APPLICATIONS:** Stainless steel stands are easy to clean and hygienic.

**AREENENT.COM**

(SNAP #218)



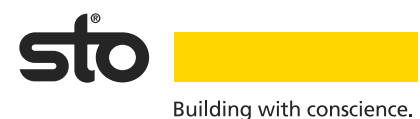


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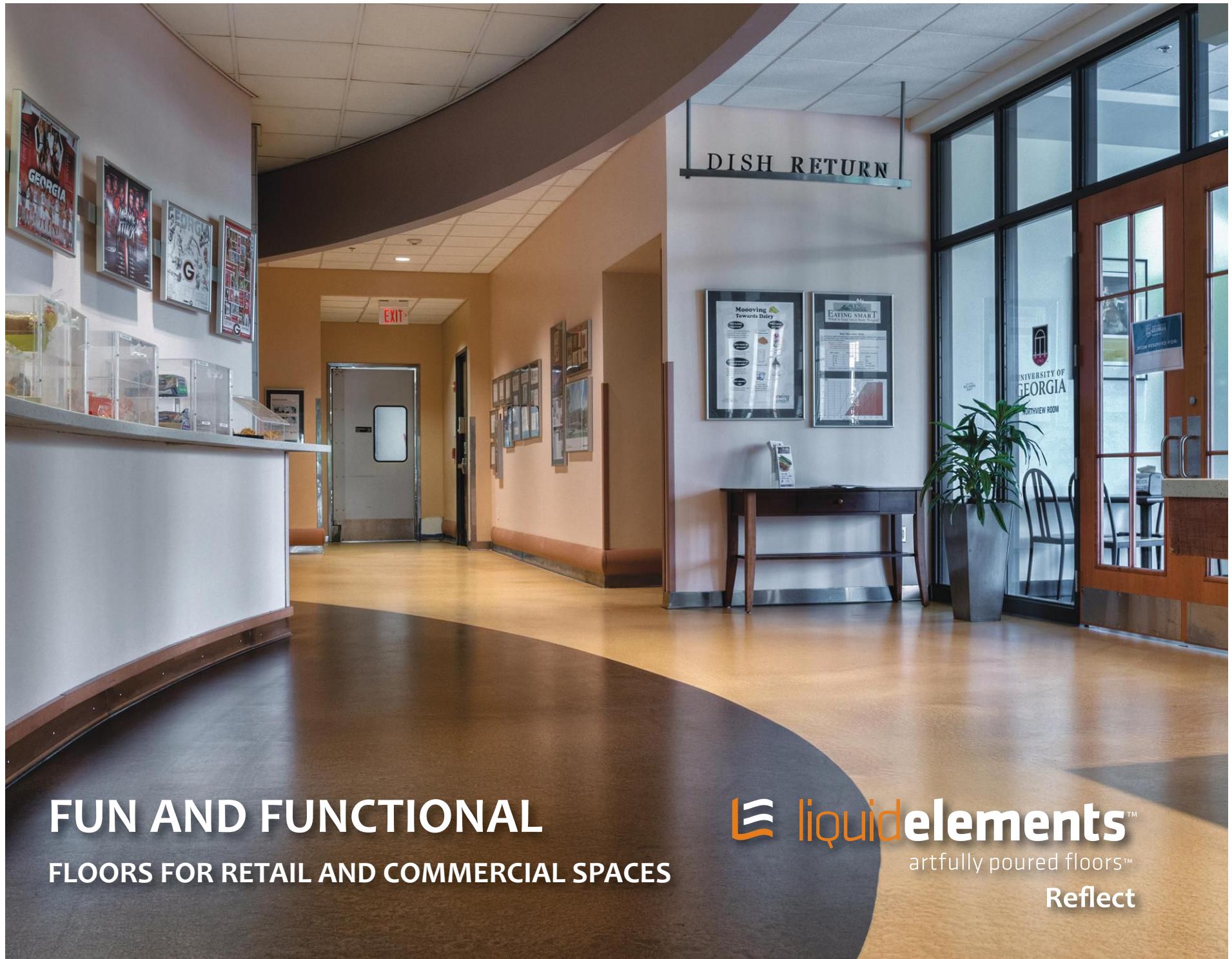
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**SNAP 201**





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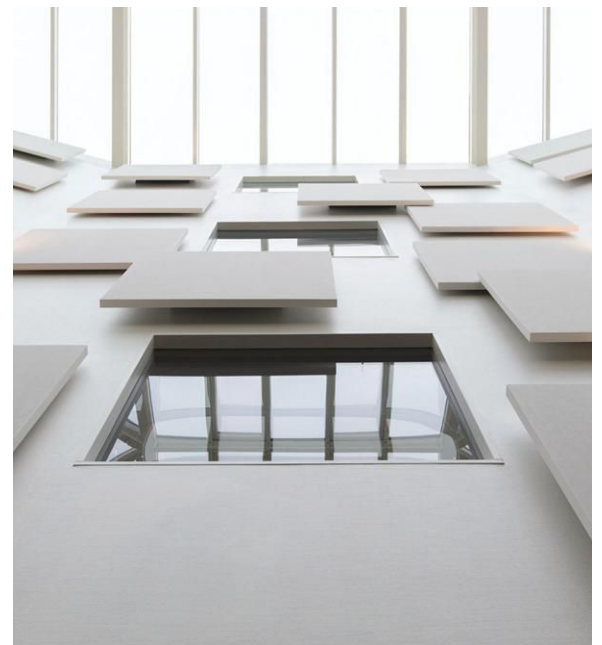
## A Quiet Canteen

**WHEN Rowayton Elementary School** in Norwalk, Connecticut, asked interior design firm **Antinozzi Associates** to convert a former multipurpose room into a cafeteria, noise control was high on the list of priorities. The trick, here as in many projects nowadays, was making the elements blend into the overall design.

For that, the team chose EchoPanels from **Kirei**. Inspired by the nearby Connecticut shoreline, they developed an ocean motif for the room and designed panels to fit the theme. Large acoustical clouds on the ceiling are used to mimic the sky, and pieces of EchoPanel were cut to mimic ocean waves, but the real standout is a whale. At approximately 40 feet long and 11 feet tall, it consists of seven

individual pieces of EchoPanel installed to appear as one on the upper half of the back wall. The solution is as effective as it is welcoming. The low-VOC panels are made from 60 percent recycled PET plastic bottles and achieve a Noise Reduction Coefficient (NRC) of up to 0.75.

For an additional layer of noise control, the team also installed the **Rockfon** Island Wall System. The system boasts an NRC as high as 1.15 and is made from durable and water-resistant stone wool. The Island Wall System may be installed at various angles and distances from the wall to produce custom patterns for each room. Not only durable, the system is recyclable: ideal for open-plan offices, atriums, banquet halls, and kid-friendly cafeterias. —*Ashleigh Van Houten*



### SOUND DECISIONS

For acoustics that could blend into the overall design, architects opted for Kirei's fun, colorful panels and Rockfon's Island Wall system.





### SMART CHAIR

**MANUFACTURER:** Samuelson Furniture

**PERFORMANCE:** Crafted in antiqued leather with top-stitched seams, it features a USB charging port located in the chair's arm.

**PRICE RANGE:** \$\$\$

**APPLICATIONS:** Sometimes acoustic design isn't about removing sound, but rather directing it. Programmed with Bluetooth technology where sound is transmitted upward using directional sound resonance, users can discreetly listen to music or a podcast while spending time in public spaces.

**SAMUELSONFURNITURE.COM**

(SNAP #220)



### ARCHITECTURAL CLOUDS

**MANUFACTURER:** MDC

**PERFORMANCE:** Available in six standard silhouettes that evoke cumulus, cirrus, and stratus clouds in eight colorways.

**PRICE RANGE:** \$\$

**APPLICATIONS:** Manufactured with an advanced 3D freeform tube-bending technology and covered in stretchy, sound-absorbing material that allows for custom shapes, the 12' clouds have a noise reduction coefficient (NRC) rating of 0.45.

**MDCWALL.COM**

(SNAP #221)



### SOUNDWAVE ENNIS

**MANUFACTURER:** Offecct

**PERFORMANCE:** Available in off-white with a panel size of 23" h x 23" w x 23.6" d.

**PRICE RANGE:** \$\$\$

**APPLICATIONS:** Offecct applied Frank Lloyd Wright's concrete block pattern used on the textile-block Ennis House to their Soundwave acoustic panels; made of recyclable molded polyester felt, the result is a high-performing sound absorptive product.

**OFFECCT.COM**

(SNAP #222)



### INVISACOUSTICS BASICS

**MANUFACTURER:** Armstrong

**PERFORMANCE:** Standard panel dimensions are 24" h x 48" w x 3/4" d, available in white, tech black, and field paintable (the latter can be painted to match the deck while still maintaining acoustical and fire performance properties).

**PRICE RANGE:** \$\$

**APPLICATIONS:** Many contemporary spaces that feature an exposed structure design lack acoustical absorption. With an NRC of 0.75, these panels attach to the deck, providing acoustical absorption while virtually disappearing into the ceiling.

**ARMSTRONGCEILINGS.COM**

(SNAP #223)

**KEY** \$=VALUE, \$\$=MID-RANGE, \$\$\$=HIGH-END

## Divide and Conquer

**WHEN LAYERING SOUND-ABSORBING** elements is important, dividers and modules can provide more than privacy. The latest offerings feature significant sound-control capabilities, making these flexible furnishings more versatile than ever. For example, BuzziBracks, a system of modular units by **Alain Gilles** for **BuzziSpace**, fits all these criteria and can be mixed and matched to create flexible quiet zones or micro-environments in larger open spaces. The system features stand-alone frames finished with two- and three-piece curtains available in an array of transparent and opaque fabrics and colors, and in a range of heights with optional shelving and worktop add-ons. They can even be specified with noise-reducing acoustic curtains from **Kvadrat**.

**3form's** Divy is another acoustic divider that works as a suspended ceiling panel and as a partition. The dual-sided screen made from Sola felt (using 40 percent recycled PET) uses the absorptive properties of felt combined with the diffusive properties of a textured surface to control a room's horizontal sound dispersion. It is available in 15 felt options and six patterns. —AVH



### BLURRED LINES

Privacy screens can perform double duty as acoustic elements, such as Alain Gilles' BuzziBracks (left) and 3form's Divy (right).







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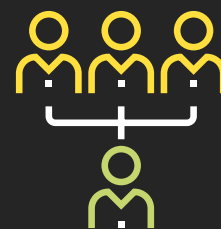
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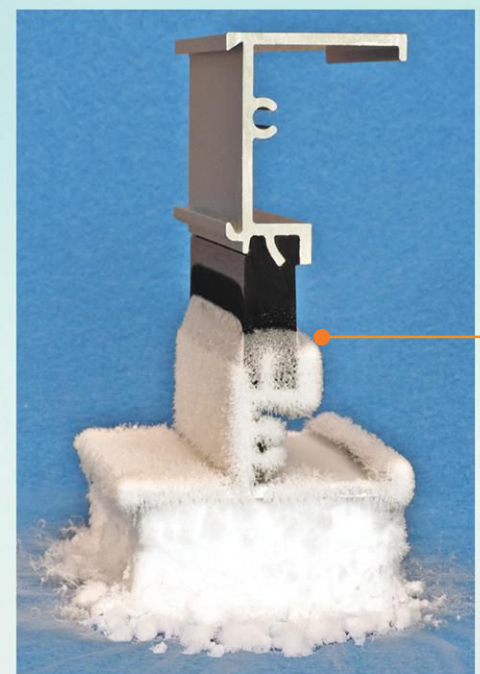




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## On The Sidelines

**A WELCOMING APPROACH** is a standard requirement for important buildings. The recently opened Entertainment and Sports Arena (ESA) in Washington, D.C.'s Congress Heights neighborhood needed a profile suited not only to the major-league teams it serves, but also to a complex mix of other buildings that will surround it.

The 118,000-square-foot arena—the home court of the WNBA's Washington Mystics, the main training facility for the NBA Wizards and the site of concerts and events—is also part of a larger 2 million-square-foot redevelopment that includes thousands of housing units, offices, and retail spaces.

To help it blend into its neighborhood, the project's owner and developer Events D.C. turned to the design team of **Rosetti Architects** and **Marshall Moya Design**.

Initially, the plan called for terracotta panels to mirror nearby brick buildings, but due to high cost, the architects changed the design to insulated metal panels in terracotta-like colors. Working with **Kingspan** and their Optimo metal wall panel system, the team chose Colonial Red, Redwood, Sandstone, and Bone White (all standard Kingspan colors) and Audubon Russet, a custom color from **Valspar**. To allow faster panel installation for the project, Kingspan provided multiple panel sizes, utilizing 24-inch, 30-inch, 36-inch, and 40-inch panels as wider options.

Another goal for the exterior was a full wall envelope with no exposed fasteners—a challenge, as the arena has more than 53,000 square feet of panels. Kingspan provided a concealed fastener solution for a smooth, flat appearance without the need for exposed trim



### BRICK BY BRICK

For Washington, D.C.'s Entertainment and Sports Arena, designers used a metal wall system with color-matched panels to blend seamlessly with surrounding brick buildings.

at the base, corners, or openings. The ESA has more than 4,000 linear feet of extrusions, all painted to match the panel colors, and there are also 1,500 trimless ends on the building. Kingspan used factory folded corners to provide a clean 90-degree bend without the need for formed trim or corner extrusions.  
—Ashleigh Van Houten





## WOOD GRAIN FINISH

**MANUFACTURER:** Linetic

**PERFORMANCE:** This powdercoat-finished aluminum is termite and insect proof, UV and corrosion resistant, and fire retardant.

**PRICE RANGE:** \$\$

**APPLICATIONS:** This exterior aluminum system is finished to resemble the look and texture of real wood but is less costly, provides superior performance and durability, and does not swell, rot, or warp.

**LINETEC.COM**

(SNAP #224)



## JUMBO GLASS

**MANUFACTURER:** Guardian Glass

**PERFORMANCE:** Offered in standard 130" x 204" size as well as special orders at 130" x 240" with coatings available on clear, tinted, and low-iron float glass substrates.

**PRICE RANGE:** \$\$-\$\$\$

**APPLICATIONS:** Insulating glass curtain walls made from low-iron SunGuard Jumbo Glass deliver uninterrupted views and a high degree of clarity.

**GUARDIANGLASS.COM**

(SNAP #225)



## PERFORATED CORRUGATED METAL SIDING

**MANUFACTURER:** Móz Designs

**PERFORMANCE:** Made from domestically sourced and manufactured aluminum, panels are available in two sizes and offered in 12 standard powder-coated finishes.

**PRICE RANGE:** \$-\$\$

**APPLICATIONS:** A new version of their original corrugated product, this durable siding with an attractive wave design is available in solid core or perforated aluminum and is ideal for large-scale public spaces like airports, shopping malls, and corporate buildings.

**MOZDESIGNS.COM**

(SNAP #226)



## KINETICWALL

**MANUFACTURER:** Extech

**PERFORMANCE:** Ideal for large and small-scale façades like parking facilities or artistic installations, architects can specify panels in polycarbonate, glass, aluminum, or steel, straight or curved, and in a variety of finishes and colors.

**PRICE RANGE:** \$\$

**APPLICATIONS:** These dynamic façade systems feature 6" flapper panels that react to wind, creating wave-like movement that is built to withstand severe weather while still allowing building occupants a view.

**EXTECHINC.COM**

(SNAP #227)

**KEY** \$=VALUE, \$\$=MID-RANGE, \$\$\$=HIGH-END

# Sky Light

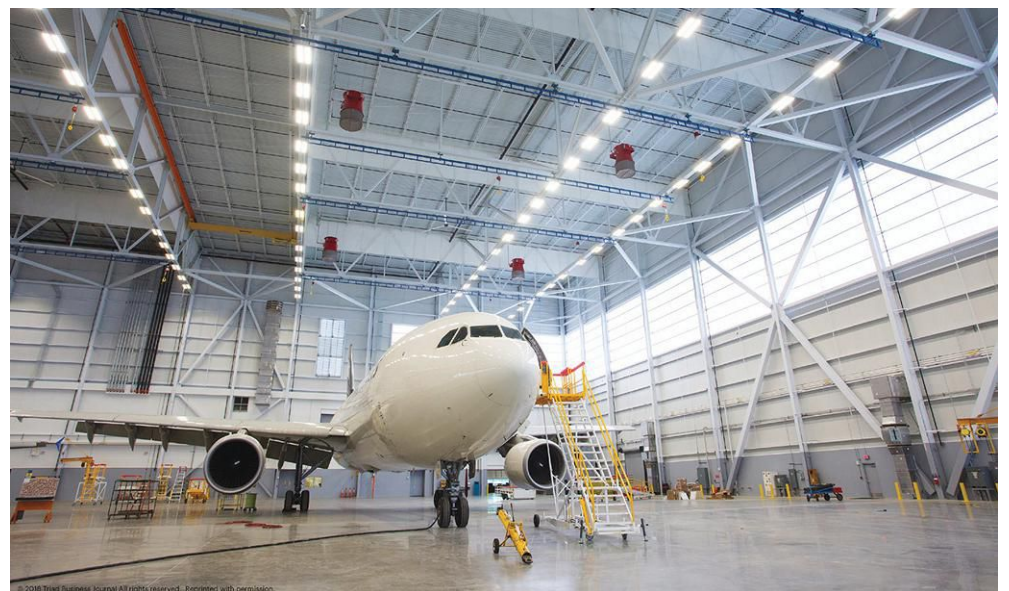
**FOR A** 250,000-square-foot airplane hangar at Piedmont Triad International (PTI) Airport in Greensboro, North Carolina, HAECO Americas, an aircraft repair and maintenance company, needed a building where walls don't block out the sun.

The company chose **Ghafari Associates** to help with design and contractor selection, **BRPH** to serve as its architect of record, and **BE&K Building Group** to be the design-build contractor. The latter chose to collaborate with manufacturer **Extech** on the shelter's energy-efficient daylighting solution.

Because the facility supports up to 500 technicians, the client wanted to provide as much light as possible without adding obstructing fixtures. A solution was to incorporate Extech's LIGHTWALL 3440 interlocking polycarbonate translucent wall system as part of the building envelope's upper portion. Extech engineered, fabricated, and

installed the more than 26,600 square feet of the opal-color cellular-polycarbonate, aluminum-framed panels. The team created clerestory sections at its corners and in three doors to reduce energy use and heat gain. Best of all, the windows' placement overhead allows HAECO workers to really maximize daylighting as they work on Boeing 777s and Airbus A-350s. A bonus is the fact that the insulating glazing cuts solar heat gain for better indoor temperature control.

Outside, the panels' diffusing characteristics also reduce light pollution from the building itself, and can resist 99 percent of UV radiation. "This grows our footprint in the Triad as a player in the rising aerospace sector," said HAECO Americas' CEO Richard Kendall. Given that the hangar can hold eight narrow-body aircraft simultaneously, few would disagree with him. —AVH



## PLANE SMART

A hangar at the Piedmont Triad International Airport gets much of its light from more than 26,600 square feet of interlocking translucent polycarbonate panels (above). Invisible from the exterior (left), the panels also help reduce the building's contribution to light pollution.





## Rad Clad

**FOR YEARS**, one building that was a prominent part of the gateway to (SUNY) Binghamton University left a less-than-positive impression upon visitors; school officials bluntly characterized the appearance of the Science IV building as “forbidding.” The cast-in-place concrete construction needed significant restoration. In some areas of the façade, the brick veneer infills had deteriorated masonry ties that would have required replacement.

The issues were more than just skin deep. There was little insulation, and the exposed frame facilitated significant transfer of cold to the interior, which resulted in serious thermal comfort problems for students and faculty.

Still, **Ashley McGraw Architects** recognized potential among the problems. The building’s forms and proportions were strong, and while the interiors were dated and poorly utilized, the layout and footprint were well suited to support the proposed new program, the psychology department. And as an integral component within a larger complex of buildings, Science IV had an established role in the landscape

of the campus.

“We decided to completely reclad the building,” said Matt Broderick, president of Ashley McGraw. The entire structure was enclosed in a continuous blanket of **Foam-Lok** spray-foam insulation, with R-values ranging from 20 to 27. New windows by **EFCO** and an

**Alucobond** metal rainscreen were installed. Beyond a significant increase in thermal performance, the recladding gave a completely new look to the building, while respecting the design of the original.

“The original building was introverted, with no defined entrance and little reason for people to interact with it unless they had business there,” said Broderick. “Now, with dynamic cladding, large expanses of glazing, and a new grand entrance, the entire community is invited inside.” —*Leslie Claggett*



**THE FACELIFT**  
Compounding its deteriorating façade, the original building had insufficient insulation and poor thermal performance. New metal cladding transforms its appearance and its functionality.





## QUADCORE TECHNOLOGY

**MANUFACTURER:** Kingspan

**PERFORMANCE:** Greenguard certified and Red List Free

**PRICE RANGE:** \$\$

**APPLICATIONS:** Developed for use in insulated metal panels (ISP), this closed-microcell foam is exceptionally thermally efficient, performing at least 11% better than standard polyisocyanurate products and twice as efficient as mineral wool in ISP applications.

**KINGSPANPANELS.COM**  
(SNAP #228)



## CL-TALON CLADDING SUPPORT SYSTEMS

**MANUFACTURER:** CL Talon

**PERFORMANCE:** When used with external insulation, the system's aluminum and polyamide components achieve a 91.4% thermal effectiveness.

**PRICE RANGE:** \$\$

**APPLICATIONS:** Because of its extensive adjustability, this flexible system of clips, tracks, and supports facilitates and standardizes the efficient installation of a variety of cladding. The system accommodates continuous insulation while minimizing thermal bridging.

**CL-TALON.COM**  
(SNAP #229)



## NEOLITH SKYLINE + PURETI

**MANUFACTURER:** TheSize

**PERFORMANCE:** NSF-certified and LEED eligible.

**PRICE RANGE:** \$\$

**APPLICATIONS:** These sintered stone slabs are coated with a water-based photocatalytic solution that reacts with moisture in the air to dissolve exterior surface grime and reduce outdoor air contaminants when exposed to sunlight. Available in 3,200mm x 1,500mm; 3,200mm x 1,600mm; 3,600mm x 1,200mm; 2,600mm x 1,200mm; and 2,600mm x 1,500mm sizes.

**NEOLITH.COM/EN**  
(SNAP #230)



## SEGMENTED AUTONOMOUS TILES

**MANUFACTURER:** E Ink

**PERFORMANCE:** Solar- or battery-powered units require no hard wiring.

**PRICE RANGE:** \$\$

**APPLICATIONS:** Using electronic ink, these tiles can be programmed to display images and text, animating walls. Available in customized sizes on a per-project basis, they feature a peel-and-stick backing for easy installation.

**EINK.COM**  
(SNAP #231)

**KEY** \$=VALUE, \$\$=MID-RANGE, \$\$\$=HIGH-END

# A Materials World

**AS AN ALUMNA** of Buro Happold and Thornton Tomasetti, engineer and architect **Erleen Hatfield** has worked on some of the most complex structures in the world. At Mercedes Benz Stadium in Atlanta, she managed a significant innovation: it was the first building in the United States to use ethylene tetrafluoroethylene (**ETFE**) on the building envelope.

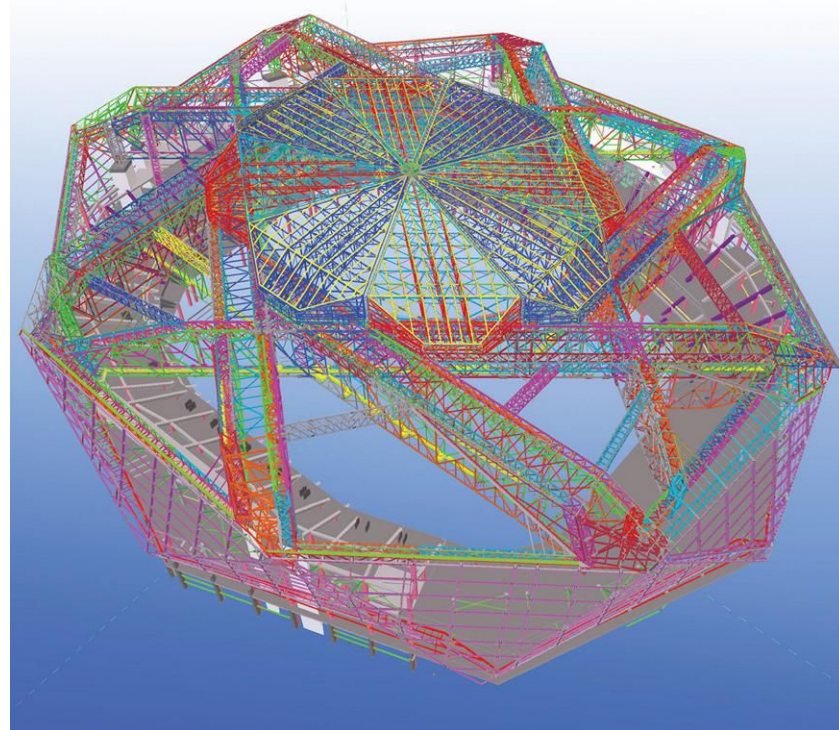
“Because the building industry is slow to adopt new materials, incorporating ETFE was not an easy process,” Hatfield said.

The architects wanted a window at the east side of the stadium, which has a clear vertical span of over 100 feet with no stadium in that area to push back on. The use of glass—a material that is ten times heavier than ETFE—would have required more structure to support the additional weight. Using ETFE instead of glass allowed the supporting structure to be smaller and maximize the views.

Now the head of her own structural engineering firm, New York City-based **Hatfield Group**, Hatfield is currently working on a **Woods Bagot**-designed residential project

in Brooklyn, 510 Driggs. It has green walls, another envelope feature that is gradually gaining traction in the industry.

Hatfield explains the challenges from a systems point of view. “Green walls typically have a sprinkler system to water them, with a dedicated plumbing line. Drainage is a concern that needs to be addressed. Getting water down to the ground can be tricky, as we don’t want dripping water or ugly pipes to show on the exterior. So we typically pipe drainage water back inside the wall cavity—a tactic we avoid in other places—which requires extra care in the design.” —LC



## FACING CHALLENGES

New materials and technologies—including the glass-alternative ETFE and vertical planting walls—are revolutionizing building-envelope design, enhancing both aesthetics and performance.





## An Ace Design

**WHEN THE US OPEN**—one of four Grand Slam tournaments of the tennis world—took place this summer in Queens, New York, all eyes were on the game of course, but some spectators may have also spotted the players' sleek new courtside digs. Conceived for the 50th anniversary of the tournament, the new furniture was designed by **Michael Graves Architect & Design** and manufactured by **Landscape Forms**.

Gone are the flimsy and impractical director's chairs players used in tournaments past: They weren't made for accommodating player gear; the canvas seats accumulated sweat; and they were just plain uncomfortable. MGA&D's solution pairs a streamlined blue bench with demountable seats that have cascading fronts for comfort. "The final design is at once a nod to the ubiquitous Central Park bench and an expression of the fluid athleticism

of the players," explains Donald Strum, principal of product design at MGA&D.

Constructed of steel and aluminum—powder-coated in US Open blue and white—the bench elements comprise the seats, perforated to help the player cool down; ample surface areas at either side of the seats to hold bags, water bottles, and accessories; and an integrated towel bar cut right into the seat back. Seats and benches also sport branding for sponsors, in this case Polo Ralph Lauren, as does the floor-protection mat underneath.

Ensuring a clean, cohesive design for every match at the USTA stadiums, MGA&D designed the other courtside furnishings such as secondary seating for line judges or other relevant participants. These are in a complementary blue powder-coated perforated metal and sit beside the coolers, which were also revamped to make them



### FRONT ROW SEAT

At Arthur Ashe Stadium, the main venue for the US Open finals, new court-side furniture includes multifunctional player seating that doubles as a tournament sponsor billboard. Designed by Michael Graves Architect & Design and manufactured by Landscape Forms, the furnishings also include coordinating side chairs, coolers, and umpire perch.

uniform in size, shape, and color. Naturally, the umpire stand was part of the package too, and for this the design team looked to the New York City building landscape as inspiration. MGA&D devised a matching blue cantilevered design to keep the space below it unobstructed for the spectators. —Sheila Kim





### PIVOT XL

**MANUFACTURER:** Arcadia

**PERFORMANCE:** This pergola implements app- or remote-controllable louvers that pivot a full 170° to shade or protect from rain. Additionally, the louvers interlock when closed, funneling rainwater to extruded aluminum gutters that in turn drain out through the weight-bearing posts.

**PRICE RANGE:** \$\$-\$\$\$

**APPLICATIONS:** Suitable for both residential and commercial projects, particularly hospitality.

**ARCADIAROOF.COM**

(SNAP #232)



### VENTIQUATTRORE.H24 CHAISE LONGUE

**MANUFACTURER:** Diemmebi

**PERFORMANCE:** The chaise's hot-dip galvanized steel frame holds aluminum slats that can either be powder-coated in color or covered with a heat-transfer film to give it a natural ash wood grain look. Each chaise measures 30" x 67" x 35"; multiples can be pushed together to create wider seating.

**PRICE RANGE:** \$\$\$

**APPLICATIONS:** Designed for hospitality and wellness centers, its frame can fasten to the ground via bolts. It's also well-suited to residential applications.

**DIEMMEBI.COM**

(SNAP #233)



### BISTRÒ

**MANUFACTURER:** Paola Lenti

**PERFORMANCE:** The designer has added new palettes to her parasol to offer a total of 50 colorways including solids or checkered variations. The domed version measures 114" in diameter by 98" high while the flat model measures 118" in diameter by 94" high.

**PRICE RANGE:** \$\$\$

**APPLICATIONS:** Suitable for outdoor settings, whether patio or poolside, the massive umbrella closes as needed and its polyester fabrics are waterproof, sun proof, and color fast.

**PAOLALENTI.IT**

(SNAP #234)



### QUADRADO

**MANUFACTURER:** Minotti

**PERFORMANCE:** Designed by Brazilian architect Marcio Kogan and his Studio MK27 team, this outdoor collection is based around 40"-square teak-lattice modules that act as platforms for either seating or tables. A coordinating round armchair is also available.

**PRICE RANGE:** \$\$\$

**APPLICATIONS:** Suitable for outdoor environments, the modules can be stand-alone units or grouped and rearranged as needed. Seating modules feature a woven synthetic rubber and polypropylene fiber in two colors.

**MINOTTI.COM**

(SNAP #235)

## Conversation Piece

**SPRINGFIELD MIGHT BE** only the third largest city in Massachusetts, but it is also home to some prominent figures, including children's book author and illustrator Theodor Seuss Geisel (aka Dr. Seuss), who grew up there. It was the Dr. Seuss connection that inspired an inventive hybrid play structure/park bench at the city's recently opened MGM Springfield Resort and Casino.

Having been hired to develop the resort's art program, **RAREculture**, a hospitality-art curator, took its ideas outside into the courtyard, commissioning a sculptural bench by Danish artist **Jeppe Hein**, which encourages guests to engage with each other. "The client wanted a piece that had movement, by an artist who understood community," says RAREculture CEO Susan Kroll. "We've been following Jeppe and love all the iterations of his work. It's ever evolving and seems to always be at the forefront of what people are hoping to see in the art world."

Hein handled the fabrication of the so-called "Bench of Expectations," evoking Seuss' whimsical illustrations in its vibrant color and elongated, looping, continuous ribbon shape. Made of aluminum, the seat spans approximately 26 feet, offering both flat functional surfaces and undulating segments that encourage reclining and play. Hein used the element of play as a way to create ease between strangers, Kroll explains.

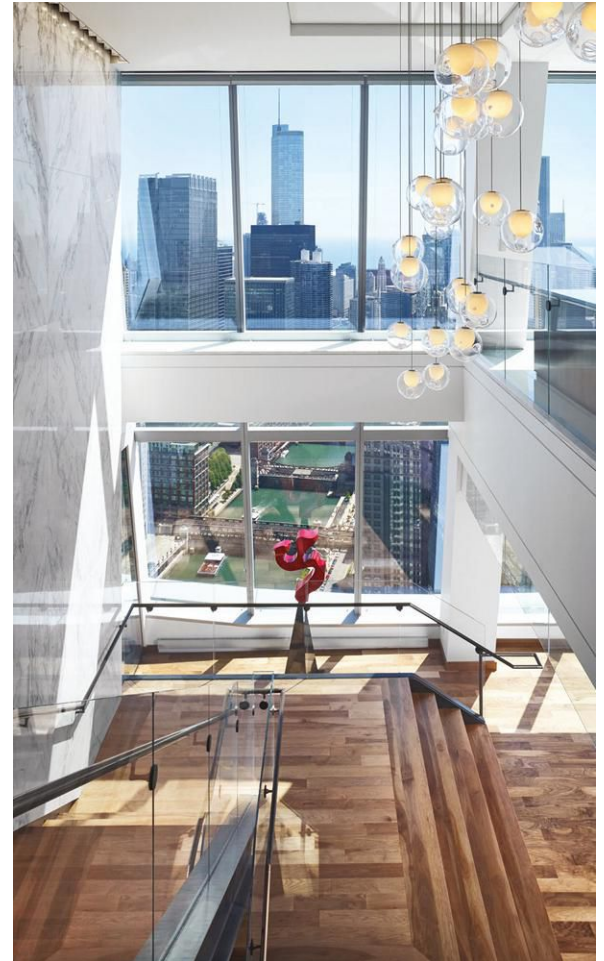
In a resort that spans 760,000 square feet, the roughly 650-square-foot permanent installation (Hein's first in the U.S.) is viewed as one of its most memorable features—a landmark of sorts. "The bench is a visual anchor as well as an interactive focal point and meeting place that merges all areas of the sprawling hotel property," says RAREculture vice president Elle Lachow. —SK



### INVENTIVE PLAYSCAPE

In a courtyard of the MGM Springfield Resort and Casino in Massachusetts, the "Bench of Expectations" by artist Jeppe Hein is seating as well as an interactive sculpture. The design was inspired by Springfield-born Dr. Seuss.





## A Balancing Act

**LIGHTING**—natural and artificial—was key to creating an inviting office for Balyasny Asset Management in Chicago. The design by **Valerio Dewalt Train Associates (VDT)** needed to exude an elegant gravitas and take advantage of the location's sweeping 49th and 50th floor views.

To thoughtfully balance the daylight from the floor-to-ceiling glazing with the office lighting system, VDT worked with lighting consultant **Quentin Thomas Associates**.

The result is a seamlessly crisp, modern aesthetic with intriguing focal points from reception to the staff kitchen. Adjacent to the reception desk, a dramatic installation of spherical glass pendants highlights an internal staircase connecting the space's two levels.

The droplet-like profiles soften the transition into the work spaces, compared with the rigor of linear LEDs installed on the ceiling above. These mingle with metal baffles and ceiling tiles, installed to control sound.

Above an in-house juice bar, the linear fixtures shift to form a striking grid on the bias, subtly branding the space with the shape of the company logo, a diamond. Another hub, the café, repeats the motif in diamond-shaped pendants and a ceiling arrangement of custom walnut-veneered triangular slats, mirroring a latticework pattern in the café floor. Beyond decoration, the ceiling's triangles conceal embedded LED strips, producing an ambient glow, just enough light for sipping coffee, chatting with a client, or meditating on the view. —*Sheila Kim*

### PAINTING WITH LIGHT

Consultants Quentin Thomas Associates relied on a combination of linear LEDs, strip lights, globe pendants, and daylight to achieve beautifully balanced illumination.





### BUZZIPROP

**MANUFACTURER:** BuzziSpace

**PERFORMANCE:** Combining illumination with acoustical foam, this pendant is technically designed to absorb high-frequency sounds. The lamp within is the manufacturer's own BuzziSol LED pendant.

**PRICE RANGE:** \$\$\$

**APPLICATIONS:** Evoking the cylindrical forms found on airplanes for housing turbines or mounting propellers, the shade can be customized in a wide range of the manufacturer's fabrics, and is minimal yet stylish for a variety of spaces including hotels, lounges, and offices.

**BUZZI.SPACE**

(SNAP #236)

**KEY** \$=VALUE, \$\$=MID-RANGE, \$\$\$=HIGH-END



### ARTIMA/5 VNSP BLUETOOTH

**MANUFACTURER:** Edison Price Lighting

**PERFORMANCE:** Wirelessly controlled via Bluetooth, this track or surface-mount lighting series features a ring baffle that narrows the beam to a crisp 5°, eliminating spillage. The light source is a Cree chip-on-board dimmable LED that delivers 1,200 to 2,700 lumens in temperatures of 2,700 to 5,000K.

**PRICE RANGE:** \$\$

**APPLICATIONS:** Ideal especially for double-height commercial or residential ceilings, the fixture can be controlled from a mobile phone or connected switches and sensors.

**EPL.COM**

(SNAP #237)



### GLOWSTX

**MANUFACTURER:** LF Illumination

**PERFORMANCE:** This linear suspension series consists of up to 8'-long modules that can be used as stand-alone fixtures or grouped together using connectors that bend up to 60°. This feature allows the designer to create a variety of shapes and grids of light. An accent spotlight is also available and attaches at module connection points.

**PRICE RANGE:** \$-\$\$

**APPLICATIONS:** With its sleek and slim (just ¾" wide) aluminum housing, the system is well suited to any contract interior. Customize the channels in black, white, or silver powder coat.

**LFILLUMINATION.COM**

(SNAP #238)



### CONSTELLATION

**MANUFACTURER:** Sonneman—A Way of Light

**PERFORMANCE:** These preconfigured and joined chandeliers are composed of nickel arms with star-like LED diodes. Four arrangements are available and correspond to actual recognizable night-sky constellations: Ursa Major, Ursa Minor, Aquila Major, and Aquila Minor. The lenses are specifiable in white optical acrylic or clear faceted acrylic.

**PRICE RANGE:** \$\$

**APPLICATIONS:** These sculptural chandeliers are dramatic, especially when grouped in multiples, making them ideal for high-ceiling hospitality and other commercial spaces.

**SONNEMANAWAYOFLIGHT.COM**

(SNAP #239)

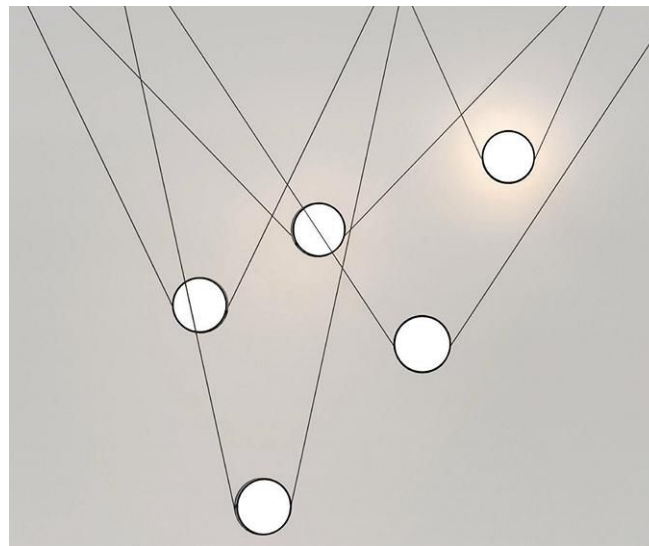
## Luminaires as Art

**IN ITS FIFTH YEAR,** the Vancouver Lighting Architecture Movement Project competition (LAMP) attracted established and emerging designers and a world-class jury, including Munich-based designer **Ingo Maurer** and Design Milk founder and executive editor **Jaime Derringer**. The two were among nine professionals this year who judged the entries' adherence to this year's theme of balance, and selected winners in three categories: Established, Emerging, and Student.

For the Established group, **Tom Fereday's** sculptural, modular luminaire Mito, manufactured by **Rakumba Lighting**, snagged first place. **Christian Lo** and **ANONY Studio's** Highwire, which features a weighted aluminum LED disk at the center of the pendant's tautly mounted electrical cable, earned the top spot in the Emerging category.

The Student winner was **Nathan Sui's** Driftwood, a nature-inspired lamp with a stone-like base and wood piece floating above to evoke light illuminating driftwood.

"Balance was a clever subject and we were impressed by the diversity of lights," says Maurer. "LED is certainly a big improvement in our daily technical life, but it is important not to miss the essence of light." —SK



### THE WINNER'S CIRCLE

Vancouver's juried LAMP prize was awarded to three innovative fixtures: Highwire (above), in the Emerging category, Mito (top right) in the Established group, and Driftwood (right), the winning Student entry.

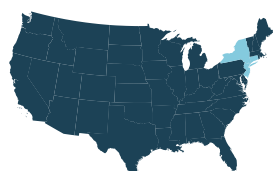




# Full Speed Ahead

*Manufacturing is booming in Connecticut, New Jersey, and New York.*

BY J. MICHAEL WELTON



**IN THE NORTHEAST,** expansions are a sign of the manufacturing industry's robust improvement. For example, at **Bendheim Architectural Glass**,

headquartered in Passaic, New Jersey, sales of exterior glazing have doubled in line with management's decision to purchase additional space—a former Toshiba headquarters in Wayne, New Jersey, spanning 140,000 square feet on 12 acres. “We expect to double in size in three to five years,” says owner and vice president Donald Jayson.

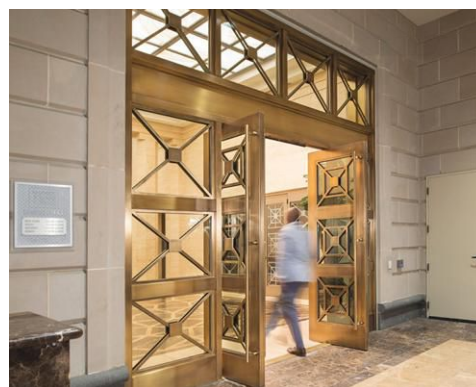
There's similar momentum statewide, reports Brian Sabina, senior vice president of economic transformation for the New Jersey Economic Development Authority. “New Jersey's manufacturing activity is up 3.3 percent through September, and overall output is up 4.3 percent,” says Sabina.

At **Infinity Drain** in Amityville, New York, sales are also up. That strength is viewed as signaling long-term growth because linear drain systems (a significant chunk of the company's business) have only gained traction in the U.S. in the last decade. “We haven't reached full market potential yet,” says sales and marketing director Barbara Kratus.

**Laticrete** in Bethany, Connecticut, a manufacturer of tile and stone installation products reports it must deliver products quicker than it did five years ago. So expanding in areas that are closer to customers has helped them “add value,” says Sean Boyle, vice president of marketing.

Roughly 47 miles south in Stamford, Connecticut, **Accurate Lock & Hardware** has also stepped up investments in staffing, facilities, and equipment on the heels of a 17 to 18 percent sales increase. Meanwhile, in Farmington, **Stanley Access Technologies** anticipates year-over-year sales climbing through 2019. For that reason, the company is maintaining “a strong backlog of inventory,” says director of manufacturing Costas Drakatos. Onward and upward.

## Connecticut, New Jersey + New York



**1** **MANUFACTURER:** Ellison Bronze  
**LOCATION:** Falconer, NY  
**PRODUCTS:** Custom balanced doors  
**FOUNDED:** 1911  
**EMPLOYEES:** 60  
**PRICE RANGE:** \$\$\$  
**ELLISONBRONZE.COM**



**2** **MANUFACTURER:** Architectural Grille  
**LOCATION:** Brooklyn, NY  
**PRODUCTS:** Decorative HVAC grille covers, custom metalwork  
**FOUNDED:** 1945  
**EMPLOYEES:** 58  
**PRICE RANGE:** \$-\$\$\$  
**ARCHGRILLE.COM**

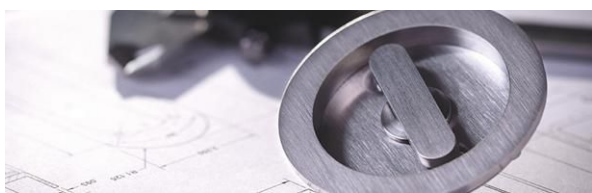


**3** **MANUFACTURER:** Infinity Drain  
**LOCATION:** Amityville, NY  
**PRODUCTS:** Linear drain systems and decorative shower drains  
**FOUNDED:** 2007  
**EMPLOYEES:** 80  
**PRICE RANGE:** \$\$-\$\$\$  
**INFINITYDRAIN.COM**



**4** **MANUFACTURER:** Bendheim  
**LOCATION:** Passaic, NJ  
**PRODUCTS:** Decorative architectural glass and glass wall systems for exterior and interior applications  
**FOUNDED:** 1927  
**EMPLOYEES:** 100+  
**PRICE RANGE:** \$\$  
**BENDHEIM.COM**





**5** **MANUFACTURER:** Accurate Lock & Hardware  
**LOCATION:** Stamford, CT  
**PRODUCTS:** Mortise locks, pocket door locks, pivot and Harmon hinges, ADA-compliant hardware, ligature-resistant hardware, historical restoration and custom architectural hardware  
**FOUNDED:** 1972 **EMPLOYEES:** 110  
**PRICE RANGE:** \$\$\$  
**ACCURATELOCKANDHARDWARE.COM**

**6** **MANUFACTURER:** LATICRETE  
**LOCATION:** Bethany, CT  
**PRODUCTS:** Green flooring and façade materials for residential, commercial, and industrial applications  
**FOUNDED:** 1956  
**EMPLOYEES:** 1,600  
**PRICE RANGE:** \$-\$\$\$  
**LATICRETE.COM**



**7** **MANUFACTURER:** Electrix Illumination  
**LOCATION:** New Haven, CT  
**PRODUCTS:** Cove, pocket, and slot LED lighting systems; linear indoor and outdoor solutions  
**FOUNDED:** 1963 **EMPLOYEES:** 40  
**PRICE RANGE:** \$-\$\$  
**ELECTRIXILLUMINATION.COM**

**8** **MANUFACTURER:** STANLEY Access Technologies  
**LOCATION:** Farmington, CT  
**PRODUCTS:** Automatic sliding doors, automatic swing door operators, intensive care unit doors, platform screen transit doors and gates  
**FOUNDED:** 1931  
**EMPLOYEES:** 1,300 throughout North America  
**PRICE RANGE:** \$-\$\$\$  
**STANLEYACCESS.COM**




## SNAPSHOTS

### CONNECTICUT

The state's manufacturers export  
**\$15 BILLION**  
 in products every year.

Average annual compensation for manufacturing workers is roughly  
**\$95,000**  
**SOURCE:** THE CONNECTICUT BUSINESS AND INDUSTRY ASSOCIATION

### NEW JERSEY

 The Garden State is home to nearly **10,000 manufacturers** from large pharmaceutical companies to small machine shops.

Those companies directly employ close to 250,000 workers and contribute more than  
**\$30.9 BILLION**  
 to the state's GDP.  
**SOURCE:** CHOOSE: NEW JERSEY

### NEW YORK

New York State produces  
**\$5 BILLION**  
 in advanced materials.

New York State ranks **Number 2** in the nation for residents who are scientists and engineers.



New York State has more than  
**100,000**  
 jobs in the advanced manufacturing sector.  
**SOURCE:** EMPIRE STATE DEVELOPMENT









# Adapt for an Uncertain Future

*New guidelines and rating systems help architects design buildings that can respond to a broad range of threats.*

BY KATHARINE LOGAN

**EACH FRESH DISASTER**, whether hurricane, wildfire, flood, or tornado, and each sign of global warming, whether rising seas, recurring drought, melting permafrost, or new disease, makes the urgency of resilient design more emphatic. Resilience is sustainability for an unstable world—the capacity to adapt to changing conditions, to maintain or regain functionality in the face of stress and disturbance, and to continue to thrive. As growing public awareness increasingly prioritizes resilience, a slew of new guidelines and rating systems are emerging to help.

“As with sustainable building, where the LEED rating system—most prominently—provided an easy way for a building owner to specify green, a rating system can do the same for resilience,” says Alex Wilson, president of the Resilient Design Institute. Some frameworks target a single hazard. The Resilience-based Earthquake Design Initiative (REDi) and the U.S. Resiliency Council rating systems, for example, address seismic events—although the latter plans to expand its scope. Others, such as the Insurance Institute for Business and Home Safety’s Fortified programs, focus on weather. But, here, *RECORD* investigates a handful of systems that are more broadly based, helping users address a gamut of acute shocks and chronic stresses, including RELi, a comprehensive resilience rating system the U.S. Green Building Council (USGBC) is poised to launch.

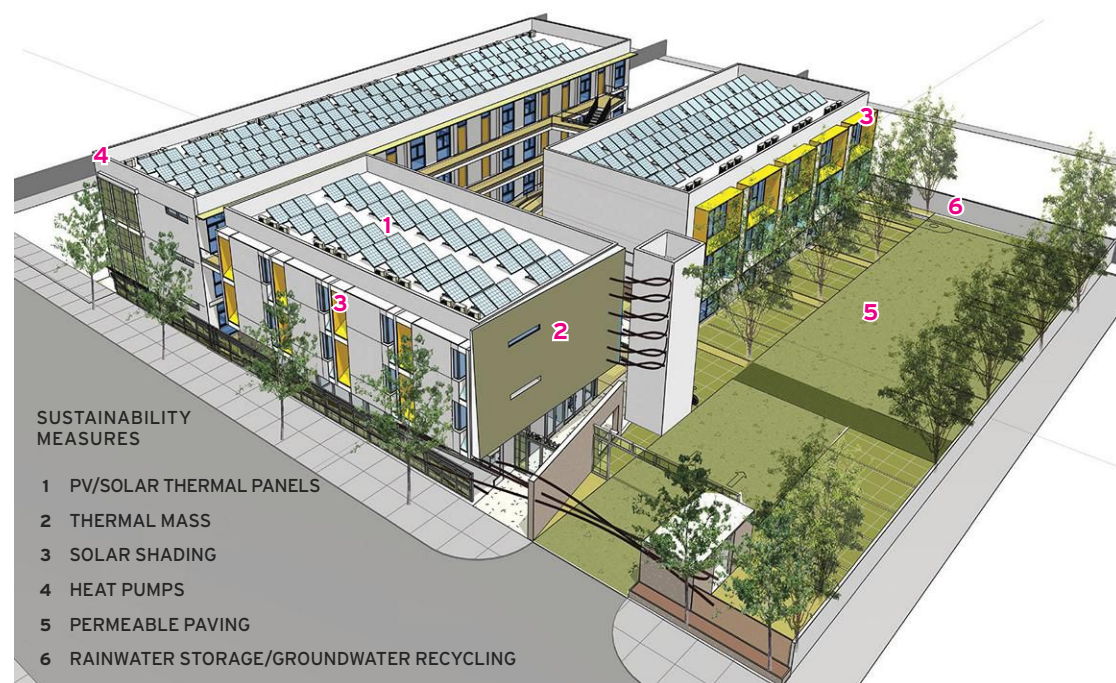
“Many of the strategies that improve sustainability under LEED inherently improve resilience as well,” says Jennifer Druliner, vice president of governance at the USGBC. A project illustrating her point is Silver Star Apartments, a 49-unit LEED Platinum-certified housing development for formerly homeless veterans, completed in 2017. Designed by Los Angeles-based FSY Architects, Silver Star is the first zero net energy (ZNE) affordable housing project in L.A. and is on track to achieve Living Building Challenge Zero Energy certification from the International Living Future Institute (ILFI).

Beyond being designed to withstand earthquakes in accordance with the city’s strict seismic regulations, the three-story wood structure’s strategies for sustainability will help its tenants to weather a range of disruptions. For instance, in the aftermath of a disaster that results in power outages, Silver Star will be able to draw on solar-generated electricity from its ILFI-mandated battery storage system to power essential functions in a common area. Residents will be able to charge communication devices, for example, and refrigerate medicines and food.

Complementing the emergency power provision are a variety of strategies familiar from LEED and LBC that will help the building remain habitable even without power. These include a courtyard configuration to facilitate cooling and natural ventilation, shading devices appropriate to facade orientations,

## ENERGY INDEPENDENCE

FSY’s Silver Star Apartments, housing for formerly homeless veterans in Los Angeles, incorporates a variety of strategies that should help it weather disruptive events. The measures include orientation-specific window shading, rooftop PVs with battery storage, and a configuration that promotes natural ventilation.

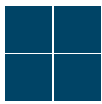


### SUSTAINABILITY MEASURES

- 1 PV/SOLAR THERMAL PANELS
- 2 THERMAL MASS
- 3 SOLAR SHADING
- 4 HEAT PUMPS
- 5 PERMEABLE PAVING
- 6 RAINWATER STORAGE/GROUNDWATER RECYCLING

IMAGES: © NATALIA KNEZEVIC PHOTOGRAPHY (LEFT); COURTESY FSY (RIGHT)





# CONTINUING EDUCATION: RESILIENCE RATING SYSTEMS

FROM ARCHITECTURAL RECORD



## BRACED FOR CHANGE

The buckling-restrained braced frame structure (left) at the Mahlum-designed middle school for Oregon's Beaverton School District should enhance its seismic performance. The commons (above) has a backup power supply so that it can serve as an emergency shelter for local residents.

and daylighting. A less familiar passive strategy is the use of phase change material (PCM), a compound, installed in quiltlike plastic sheets in the building envelope, that hardens as it cools overnight and absorbs heat as it melts during the day. Intended to bring cooling loads within the capacity of the photovoltaics that fit on Silver Star's roof, the PCM will also help the building to remain habitable even if the air-conditioning stops working.

One significant contributor to the development's resilience is a design that fosters social connectivity. Besides being essential to the well-being of the veterans who live here, many of whom struggle with mental-health issues, the patterns of social interaction and mutual support encouraged by the building's plan can

help provide a foundation for cooperation after a disruption. So laundry facilities are located to attract people to the building's courtyard and its central, open-air lounge. Staircases are offset at each level to require a short walk along floors other than a tenant's own. And a community garden is in the works. "If sustainability is truly done well," says Anuj Dua, an associate at FSJ, "then you only have to do a little bit more so that, in an emergency, people can continue to function."

Projects certifying under the LEED system for new construction will soon have a framework for thinking explicitly about what that little bit more entails. Three resilience pilot credits, which were available for a period following their launch in late 2015, are now in the process of being refined to harmonize with RELi prior to being rereleased, according to sources on the USGBC's Resilience Steering Committee. The pilot credits provide practical ways for project teams to begin to integrate resilience into their designs, requiring risk assessment and planning, remedies to mitigate impacts, and pro-

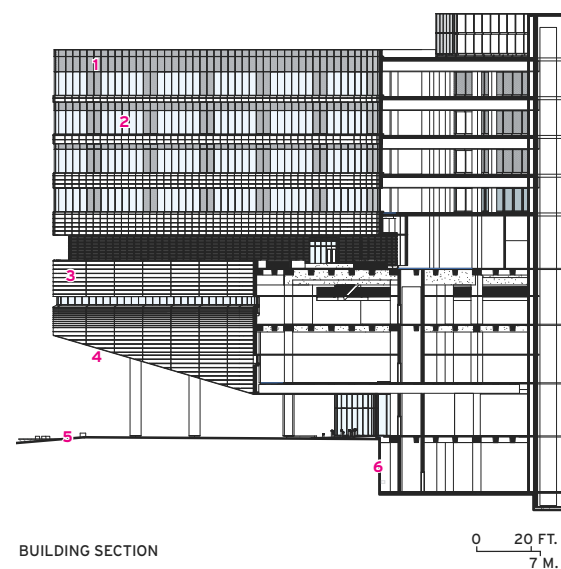
PHOTOGRAPHY: © JOSH PARTEE





#### SHELTER FROM THE STORM

Perkins+Will's schemes for a pair of hospitals, one in Corpus Christi, Texas (above), and another in Oklahoma City (left), respond to threats specific to their locations, including hurricanes and tornadoes.



BUILDING SECTION

- 1 TERRA-COTTA RAINSCREEN
- 2 IMPACT-RESISTANT GLAZING
- 3 FIBERGLASS REINFORCING MESH
- 4 SHELTERED ENTRY
- 5 RADIANT HEATING
- 6 BASEMENT DEWATERING SYSTEM

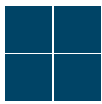
vision for passive survivability (the ability to maintain a minimum level of habitability during an extended loss of services such as power, heating fuel, or water).

Whether or not a project is pursuing certification, a growing number of frameworks developed by states and municipalities, such as the Oregon Resilience Plan, New York's Climate Resiliency Design Guidelines, and Resilient New Orleans, support resilience planning. To varying degrees these guides have done the legwork of identifying the risks pertinent to their region, and offer

resources and recommendations to design for them at a range of scales. The Oregon Resilience Plan (ORP), for example, the product of a public-private collaboration, released in 2013, addresses the impacts of earthquakes and tsunamis. It has inspired revisions to the state land-use plan that will restrict development within a tsunami-inundation zone, the development of a Resilient Transportation Plan, and increased funding for the seismic upgrade of schools and essential facilities.

To meet and exceed ORP's goal for shelters to





## CONTINUING EDUCATION: RESILIENCE RATING SYSTEMS

FROM ARCHITECTURAL RECORD



open almost immediately and schools to reopen within 30 days, the state's Beaverton School District established three goals for its disaster-resilient new middle school, by the Portland office of Mahlum Architects. The first requires that staff and students are able to shelter in place for 96 hours; the second, that the building and grounds be able to function as a public shelter, distribution center, and campground for 30 days; and the third, that classes have capacity to resume while the school continues to act as a refuge.

In response, the 165,000-square-foot school, completed in 2016, includes several resilience-specific measures as well as providing for overall flexibility of use. The steel buckling-restrained braced frame (BRBF) structure is designed so that the entire building, rather than just designated areas, performs seismically as an essential facility that can be occupied immediately, rather than meeting only the lesser and more common life-safety standard. The school is daylit throughout, including interior stairwells and locker rooms, so that operations can continue without electric light. Provisions for water and waste include piping connections strengthened to resist ruptures, and a bladder (an empty tank) with 96-hour capacity, which can be filled in response to an earthquake-warning system or by an emergency-response water truck afterward. The gymnasium and commons would shelter displaced community members, with a backup generator providing power for emergency needs, such as heating, ventilation, pumping water, and cooking.

During normal operations, a 138-kilowatt photovoltaic array on the school roof generates renewable electricity, with shortfalls taken from the grid and surpluses returned to it. If the grid fails, a switch allows the PV system to be disconnected from it so solar energy can continue to power the building without risk of sending electricity into a system under repair. For now, however, this is only hypothetical; the building code does not permit the PVs to power the building during a utility failure, even if the array is disconnected from the grid. "That's why it would be better if the ORP became code," says Rene Berndt, associate principal at Mahlum. Berndt cites the gap between measures that engineering makes possible and measures that jurisdictions will accept as one of the biggest challenges resilience initiatives

face. That, and the rising costs of construction.

Ultimately, resilience encompasses more than passive survivability, as RELi, a preexisting rating system adopted by the USGBC for rerelease this year, makes clear. Similar in structure to LEED, with categories, requisites, and a menu of credits leading toward four certification levels, RELi takes a comprehensive approach to resilience across a range of scales. "Besides being a narrow-scope response to weather extremes or the specific elements of climate adaptation, the goal is for it to be more holistic," says Douglas Pierce, principal investigator for the RELi standard and a senior associate at Perkins+Will. The firm helped develop the rating system with a host of collaborators, including the University of Minnesota School of Architecture. "The aim is to expand the dialogue of what sustainability is," he says.

RELi's eight categories provide guidance to a Panoramic Approach (planning, discovery, and systems thinking); Hazard Preparedness; Hazard Adaptation; Community Vitality; Productivity, Health + Diversity; Energy, Water + Food; Materials + Artifacts; and Applied Creativity (innovation). In addition to developing new measures, RELi incorporates the relevant strategies from other standards so as not to reinvent—or to lose sight of—what they already do well.

A handful of Perkins+Will projects that have piloted RELi, or aspects of it, demonstrate its utility. Christus Spohn Shoreline Hospital in Corpus Christi, Texas (a 400,000-square-foot tower supporting the consolidation of two hospitals), and a new 10-story tower at the University of Oklahoma Medical Center in Oklahoma City, both under construction, are the standard's first two full projects. They share some strategies, including redundancy in the central plant, provision for a shelter-in-place period, and a command and communication center. Yet each facility's resilience provisions are different, in anticipation of local threats.

Christus Spohn is built above the 500-year flood plain, with hurricane-resistant structure and cladding and oversize roof drains. The area under the ambulance canopy converts into a mass-decontamination facility in case of an oil-rig or other industrial disaster. And in recognition that not all disruption is environmental, its emergency department provides for two flows of traffic, so that patients injured in





civil unrest, such as gang-related violence, can wait in a separate area from patients in an opposing faction.

At OUMC, where tornadoes are a central worry, the building's skin is hardened by steel-stud spacing reduced to 9 inches, a fiberglass reinforcing mesh under the terra-cotta rainscreen, impact-resistant glazing, and a green roof to protect from penetration by wind-driven objects (in addition to that feature's more familiar advantages). Radiant-heating systems under exterior walkways and driveways reduce the hazards of winter storms. And the building's foundation and steel frame are designed with moment and braced frames to mitigate seismic risk.

The main challenge in using RELi on these pilots, says Julie Frazier, a Perkins+Will senior medical planner who worked on both projects, was "not so much the technical aspects as the paradigm shift." Frazier observed signs of rating-system fatigue among members of the project team: "another checklist, more due diligence—it can be overwhelming." But by the end of the design process, she says, "I think everybody realized the payoff—we've done something good and it's going to perform."

It's clear why health-care facilities would push the frontiers of resilient design. A museum is a more surprising advocate. But the Bell Museum of Natural History at the University of Minnesota's Twin Cities campus is very much aware of the United Nations' finding that the loss of biodiversity poses as great a threat to our society as climate change: only with a diversity of species can ecosystems adapt. For a natural history museum, this issue is a logical fit, so the 90,000-square-foot building, designed by Perkins+Will's Minneapolis studio and completed in 2017,

makes biodiversity a priority, deploying strategies that Pierce expects will inform RELi's next iteration.

To prevent bird strikes on glass that reflects sky or habitat (a significant factor in bird population decline), all of the museum's glazing is fritted with tightly spaced narrow gray lines. Surprisingly unobtrusive, the frit has to be pointed out to visitors. The building envelope also engages with the issue of diminished forest diversity, expressed by Forest Stewardship Council-certified thermally modified wood. On the grounds, the landscape design features a hybrid irrigation-bioswale-cum-vertebrate-pond, designed to accommodate a 1,000-year rainfall and at the same time to ensure that water levels never fall below the minimum required for habitat. The project's low carbon footprint—which meets the 2030 Challenge (a program of phased targets toward a goal of all carbon-neutral building by the year 2030)—also does its bit to mitigate climate-change-caused habitat loss and species migration.

"The revolution here is in seeing the world as a whole system," says Pierce. "It's really about systems thinking." In the five years since work on RELi began, scientists' understanding of climate change has evolved. While we might all have hoped to avert it with carbon mitigation, says Pierce, the emerging consensus seems to be that abrupt climate change is now under way. As architects are increasingly called on to design for adaptation, resilience rating systems, both familiar and new, can help. ■

KATHARINE LOGAN IS A DESIGNER AND WRITER FOCUSING ON ARCHITECTURE, SUSTAINABILITY, AND WELL-BEING.

#### ECOSYSTEMS THINKING

The Bell Museum of Natural History, in St. Paul, Minnesota, by Perkins+Will, has features aimed at preserving biodiversity, including bird-safe glass incorporating a subtle horizontal frit (opposite page), and a pond that fosters wildlife habitat (above).

#### Continuing Education

To earn one AIA learning unit (LU), including one hour of health, safety, and welfare (HSW) credit, read "Adapt for an Uncertain Future," review the supplemental material found at [architecturalrecord.com](http://architecturalrecord.com), and complete the quiz at [continuingeducation.com](http://continuingeducation.com).

or by using the Architectural Record CE Center app available in the iTunes Store. Upon passing the test, you will receive a certificate of completion, and your credit will be automatically reported to the AIA. Additional information regarding credit-reporting and continuing-education requirements can be found at [continuingeducation.bnppmedia.com](http://continuingeducation.bnppmedia.com).

#### Learning Objectives

- 1 Describe the different types of resilience standards, including those directed at specific threats, those addressing a broad range of disruptive events, and those devised for particular regions.
- 2 Discuss the relationship between green building measures and resilience strategies.
- 3 Explain the importance of biodiversity preservation to resilience.
- 4 Explain concepts and terms relevant to resilient design, such as "passive survivability."

AIA/CES COURSE #K1810A



# MANUFACTURERS' SPOTLIGHT SECTION

In these pages are products brought to you directly from manufacturers. You'll find price, application, performance data, and contact information—the facts needed to make the right decisions. Use the reader service card in the issue or go online at [architecturalrecord.com](http://architecturalrecord.com) to request further details.



Atlas Plan is Atlas Concorde's brand of large-size porcelain slabs designed for backsplashes, counters, sinks, and other surfaces both indoors and outside that look like natural stone and real marble, but are more durable. (SNAP #240)

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SNAP 241



## DOORS, WINDOWS

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SNAP 242

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SNAP 243

## DOORS, WINDOWS

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SNAP 244

## DOORS, WINDOWS

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SNAP 245

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SNAP 246

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SNAP 247

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SNAP 248

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SNAP 249

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SNAP 250

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SNAP 251

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SNAP 252

## ROOFING, SIDING, THERMAL &amp; MOISTURE PROTECTION

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SNAP 253

## ROOFING, SIDING, THERMAL &amp; MOISTURE PROTECTION

## RAINSCREEN SYSTEMS/WALL PANEL SYSTEMS

WR | GREEN

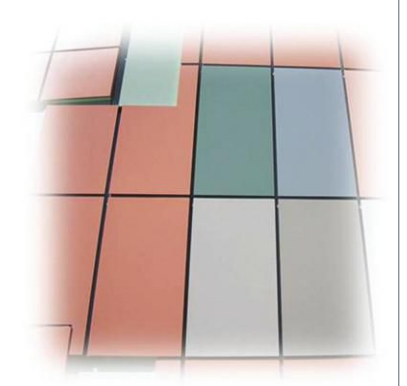
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SNAP 254

## ROOFING, SIDING, THERMAL &amp; MOISTURE PROTECTION

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SNAP 255

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SNAP 256





#### A TALE OF TILES

At this year's annual tradeshow in Bologna, Italy, manufacturers punctuated collections with all-over, textile-inspired patterns and textures, like *Operae* by Ornamenta (left), available in large-format slabs that dwarf traditionally sized tiles.

## Trend Report: CERSAIE

### COLOR, PATTERN, AND TEXTURE ARE BACK

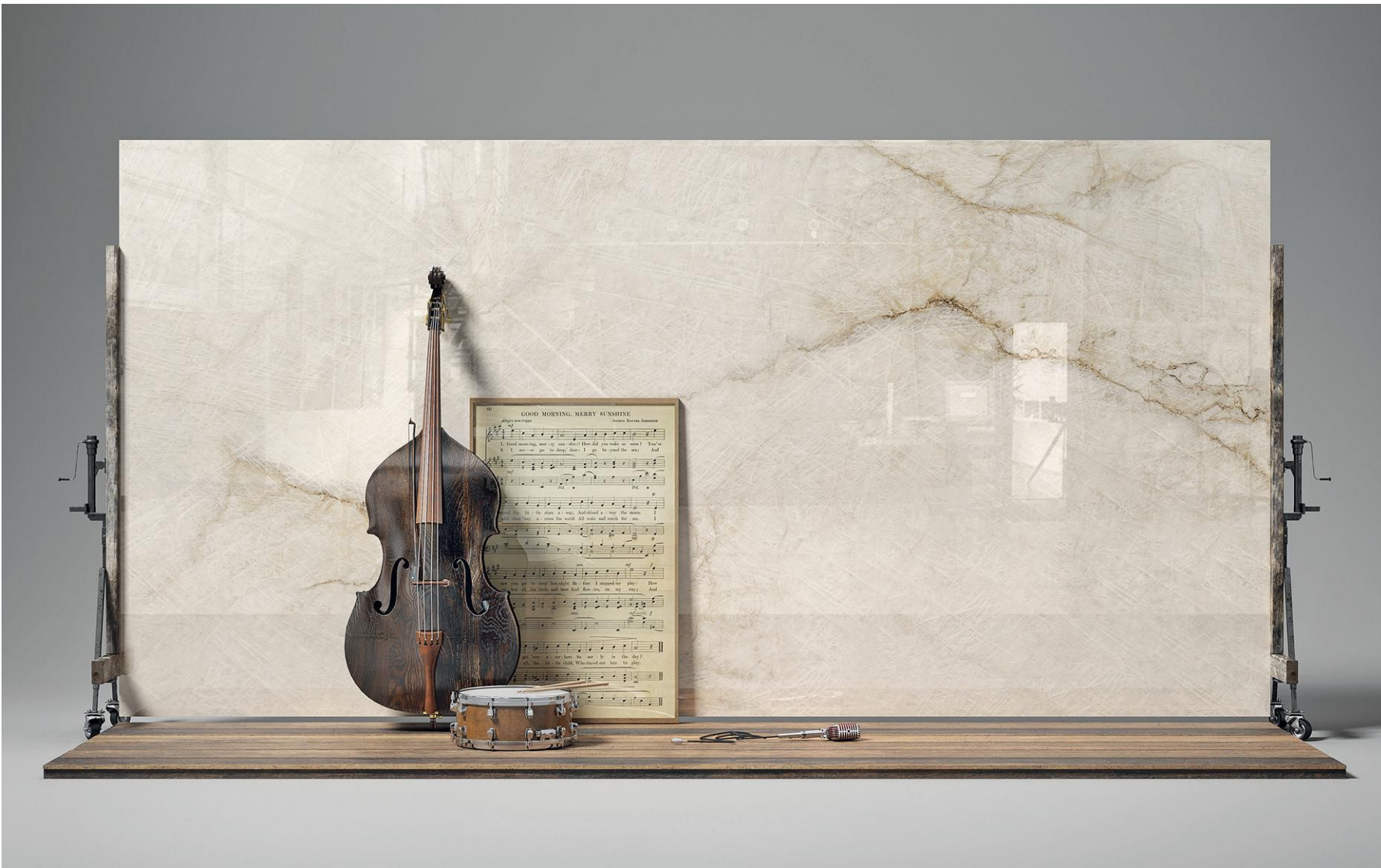
Cersaie, Italy's annual ceramic industry trade show held in Bologna, this year from September 23 to 27, showcased the state-of-the-art surface innovations of more than 800 manufacturers. The 36th edition of this event also featured a range of professional seminars and presentations, including a keynote by Pritzker Architecture Prize Laureate **Lord Richard Rogers**. Attendance was up from 111,000 a year ago to 112,000, with 8,000 architects among them (an increase of 500 professionals from 2017). Exhibiting companies, many of them members of Ceramic Tiles of Italy, collectively touted sustainable practices, noting that they recycle 99 percent of their ceramic material waste and 100 percent of their water.





**FLOWER POWER**  
Clockwise, from above:  
Granny-inspired  
wallpaper looks by  
such companies as  
Unica, 41Zero42, and  
Mirage, mingled with  
dramatic relief styles  
such as Florim's Rilievi  
(top, left).





Despite those advancements, technology-enabled trends continue to be the event's chief commodity. And this year three big aesthetic shifts stood out: textile-like patterns, texture, and increasingly large formats—including slab-like sizes.

#### PATTERNS

While ceramic surface manufacturers can mimic a range of materials—from leather to wood and concrete—vintage wallpaper looks with all-over floral pattern repeats was a pleasant surprise that bloomed everywhere in the trade show. The Wide&Style collection from **ABK**, Garden by **Unica Ceramiche**, Tahiti from **14 Oraltaliana**, and Bottega 225 by **Mirage** were among the best of the trend.

#### TEXTURE

Relief tiles also competed for attention. For example, Milan-based designer Gordon Guillaumier captured watercolor effects and textures in digitally printed Shades for **Ceramiche Piemme**. **Atlas Concorde** debuted 3D Wall Design, a range of ceramic wall reliefs that includes 3D Twist, a pattern that evokes braided rope, and **FAP**

**Ceramiche** released Lumina, a collection of white-body wall tiles with touchable ridges, ripples, and bumps.

#### LARGE-FORMAT SIZES

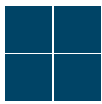
Perhaps the most prominent innovation was that of sheer size. **Emilgroup's** LEVEL-Fioranese Ceramica collaborated with architect Andrea Maffei on a porcelain interpretation of reinforced concrete that's available in 2' x 4' panels for use on walls and floors. **Fincibec** rolled out Titan, which is a stoneware slab that imitates metal and concrete and comes as large as 5½' x 10½' formats for installation indoors and outside. **Lea Ceramiche** debuted Slimtech Delight, a range of ¼"-thick slabs in veined patterns that imitate marble, measuring up to 4' square or 4' x 8½'.

#### WALLCOVERINGS

**Emilgroup's** oversized LEVEL Marmi in quarzo (above) exemplifies the trend in stone-style slabs, while 14 Oraltaliana's Tahiti (right) is among the florals that bloomed everywhere at the show.







## NEW AND UPCOMING EXHIBITIONS

### Backstage: Menis Arquitectos

BERLIN

Through January 17, 2019

This extensive retrospective uncovers the creative working processes of the Spanish firm. Models of planned and realized projects, including the CKK Jordanki concert hall in Poland and the Bürchen Mystik hotel in Switzerland, are presented at the Aedes Architecture Forum. For more information, visit [aedes-arc.de](http://aedes-arc.de).

### The Sea Ranch: Architecture, Environment, and Idealism

SAN FRANCISCO

December 22, 2018–April 28, 2019

The exhibition will bring together original sketches and drawings from the designers of this Modernist development on the Northern California coast. Archival images, current photographs, and a full-scale architectural replica will also be on display. At the San Francisco Museum of Modern Art. For more information, visit [sfmoma.org](http://sfmoma.org).

## ONGOING EXHIBITIONS

### Ando and Le Corbusier: Masters of Architecture

CHICAGO

Through December 15, 2018

The inaugural exhibition at Wrightwood 659, a new space designed by Pritzker Prize–winner Tadao Ando, explores Le Corbusier’s influence on the Japanese architect. It includes more than 100 Le Corbusier drawings, photographs, and models, as well as 106 small models of Corbu works made by Ando’s students. More at [wrightwood659.org](http://wrightwood659.org).

### Denise Scott Brown: Photographs, 1956–1966

NEW YORK

Through December 22, 2018

The exhibit presents the architect’s photographs and shows her focus on the relationship between Pop Art and the urban environment. The photographs are exhibited alongside reproductions of research material and films that were first produced as part of her work on *Learning From Las Vegas*, a book she wrote with Steven Izenour and her late partner Robert Venturi. At Carriage Trade. For more, see [carriagetrade.org](http://carriagetrade.org).



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SNAP 48

### Investigating Where We Live

WASHINGTON, D.C.

Through December 31, 2018

The annual exhibit is the product of a five-week program in which teenagers explore and document their interpretation of the city’s residents and built environment through photographs, artwork, and writing. The young participants also design and install the exhibit. At the National Building Museum. More at [nbm.org](http://nbm.org).

### Contemporary Muslim Fashions

SAN FRANCISCO

Through January 6, 2019

Designed by Hariri & Hariri Architecture, the exhibition explores the diversity of Muslim dress codes worldwide and examines how Muslim women have become arbiters of style within and beyond their communities. At the de Young Museum. Visit [deyoung.famsf.org](http://deyoung.famsf.org).

### Serious Play: Design in Midcentury America

MILWAUKEE

Through January 6, 2019

The exhibition explores the projects of over 40 designers who advocated for playfulness and whimsy within their creations for corporations, domestic interiors, and children. It presents play as a serious form of inspiration, experimentation, and problem-solving, through furniture, toys, textiles, films, posters, and ceramics. At the Milwaukee Art Museum. Visit [mam.org](http://mam.org).

### Treasures from the White City: Chicago World’s Fair of 1893

CHICAGO

Through January 6, 2019

Held within a gallery that once hosted a reception for the World’s Fair of 1893, this exhibit showcases original objects and memorabilia that were designed for and displayed at that international event. Highlighted objects include items from the respective pavilions of Tiffany & Company and Gorham Manufacturing Company, which were seen as groundbreaking in their use of silver production at the time of the fair. At the Richard H. Driehaus Museum. For more information, visit [driehausmuseum.org](http://driehausmuseum.org).

### Close to the Edge: The Birth of Hip-Hop Architecture

NEW YORK

Through January 12, 2019

The exhibit showcases the work of students, academics, and practitioners at the center of an architectural movement whose works embody the creative energy evident in other expressions of hip-hop. At the Center for Architecture. For more information, visit [centerforarchitecture.org](http://centerforarchitecture.org).

### Charlotte Perriand

NEW YORK

Through January 15, 2019

Dedicated to this major 20th-century furniture and interior designer, the exhibition introduces visitors to 37 works that Perriand created over the course of an eight-decade career. At Venus Over Manhattan. For more information, visit [venusovermanhattan.com](http://venusovermanhattan.com).

### Renzo Piano: The Art of Making Buildings

LONDON

Through January 20, 2019

This exhibit examines the design process of the Pritzker Prize–winner and his firm, Renzo Piano Building Workshop, through 16 projects. Each building case study consists of drawings, models, photography, and full-scale maquettes, as well as a new film by Thomas Riedelsheimer. At the Royal Academy of Arts. For more, visit [royalacademy.org.uk](http://royalacademy.org.uk).

### Maya Lin: A River Is a Drawing

NEW YORK

Through January 20, 2019

Demonstrating the acclaimed artist’s passion for the environment, the exhibition presents site-specific installations that are mostly focused on bodies of water, particularly the Hudson River. Using materials such as pins, glass marbles, wire, bamboo, and silver, Lin explores how the river flows and shapes—and is shaped by—the land. At the Hudson River Museum. Visit [hrm.org](http://hrm.org).

### Chippendale’s Director: The Designs and Legacy of a Furniture Maker

NEW YORK

Through January 27, 2019

The exhibition combines original preparatory drawings from Thomas Chippendale’s London workshop with a selection of British and American furniture inspired by his designs and aesthetic. The artist’s legacy is presented through pieces shown in paintings and by revivals from the 19th and 20th centuries. At the Metropolitan Museum of Art. For more, visit [metmuseum.org](http://metmuseum.org).

### Tutto Ponti: Gio Ponti, Archi-Designer

PARIS

Through February 10, 2019

The first exhibit of its kind in France, the exposition showcases the prolific Italian designer’s work across four decades, from 1921 to 1978. Over 500 products, including architectural designs, furniture, ceramics, lamps, and glass sculptures, are on display. At the Musée des Arts Décoratifs. Visit [madparis.fr/en](http://madparis.fr/en).





## Edward Burne-Jones

LONDON

Through February 24, 2019

The exhibition charts the rise of the Pre-Raphaelite artist's path from outside the British art world to leading figure of fin de siècle Europe. More than 150 works in different media, including painting, stained glass, and tapestry, are on display. Two rooms are dedicated to Burne-Jones's most famous narrative cycles, shown together for the first time. At Tate Britain. Visit [tate.org.uk](http://tate.org.uk).

## Elemental: Alejandro Aravena So Far

HUMLEBÆK, DENMARK

Through February 28, 2019

The second in a series devoted to a single architect or firm, this show offers a closer look at the working process of Pritzker Prize-winner Alejandro Aravena's firm Elemental Studio. At the Louisiana Museum of Modern Art. Information at [louisiana.dk/en](http://louisiana.dk/en).

## Ai Weiwei: Life Cycle

LOS ANGELES

Through March 3, 2019

Chinese artist Ai Weiwei's first major institutional solo show in this city features new and previously unseen sculptural work made in response to the global refugee crisis. The title installation, Life Cycle, using the traditional Chinese medium of kite-making, depicts the inflatable boats refugees use to cross the Mediterranean Sea. At the Marciano Art Foundation. Visit [marcianoartfoundation.org](http://marcianoartfoundation.org).

## Dior: From Paris to the World

DENVER

Through March 3, 2019

This exhibit surveys 70 years of the House of Dior's legacy and its global influence. A selection of more than 200 couture dresses (along with accessories, costume jewelry, photographs, and drawings) traces the history of the haute couture fashion house, its founder, and the subsequent artistic directors who carried Dior's vision into the 21st century. At the Denver Art Museum. For more information, visit [denverartmuseum.org](http://denverartmuseum.org).

## Paul Rudolph: The Hong Kong Journey

NEW YORK

Through March 2, 2019

Through a series of drawings, sketches, and renderings not previously shown to the public, this exhibition at the Center for Architecture focuses on the American architect's three significant projects in Hong Kong. See [paulrudolphheritagefoundation.org](http://paulrudolphheritagefoundation.org).

## LECTURES, CONFERENCES, AND SYMPOSIA

### Robert Venturi in Rome: An American Grand Tour

NEW YORK

January 22, 2019

Martino Stierli will discuss Robert Venturi's two-year stay at the American Academy in Rome of 1954–56 and how this experience shaped his architectural thinking. Stierli will talk about Venturi's interest in (then) contemporary Italian architecture as shown in the architect's landmark 1966 book, *Complexity and Contradiction in Architecture*, published by the Museum of Modern Art, where Stierli is currently the Philip Johnson Chief Curator of Architecture and Design. At a private club; tickets through [soanefoundation.com](http://soanefoundation.com).

### Daniel Libeskind: Edge of Order

LOS ANGELES

January 23, 2019

The internationally acclaimed architect, whose designs include the Jewish Museum in Berlin and the extension of the Denver Art Museum, will discuss how phenomena from Greek mythology and medieval manuscripts to Emily Dickinson and the Marx Brothers influence the way he thinks about buildings and cities. At the Getty Center. More information at [getty.edu](http://getty.edu).

### Stockholm Design Week

STOCKHOLM

February 4–10, 2019

Architects, designers, buyers, and influencers will come together for a week of events centered on Scandinavian design at various venues across Sweden's capital. More information at [stockholmdesignweek.com](http://stockholmdesignweek.com).

### Kitchen & Bath Industry Show

LAS VEGAS

February 19–21, 2019

The kitchen-and-bath trade show will feature new designs from over 600 leading brands. It will also give attendees and exhibitors the opportunity to network, exchange ideas, and build their businesses. At the Las Vegas Convention Center. For more information, go to [kbis.com](http://kbis.com).

## Coverings 2019

ORLANDO

April 9–12, 2019

This tile and stone exposition will include more than 1,100 exhibitors from over 40 countries and feature the most current innovations and trends. Education sessions with planned topics include installation demonstrations, project case studies, economic forecasts, industry trends, labor shortages and solutions, and cross-segment collaboration. At the Orange County Convention Center. More at [registration.experientevent.com/ShowTIL191](http://registration.experientevent.com/ShowTIL191).

## COMPETITIONS

### FORM Student Innovation Competition

Deadline: December 10, 2018

Architecture and interior-design students are asked to design, for residential and commercial spaces, items of furniture that showcase Formica products. Cash prizes will be awarded to the top three projects. More information at [formica.com](http://formica.com).

### Re-Imagining the Garden City

Registration deadline: December 11, 2018

The competition seeks master-planning concepts for a proposed residential development of a site that is north of Letchworth Garden City in England. For more information, go to [ribacompetitions.com/letchworthgardencity](http://ribacompetitions.com/letchworthgardencity).

### 2019 Rudy Bruner Awards for Urban Excellence

Deadline: December 12, 2018

This awards program celebrates urban places that are distinguished by quality design within the 48 contiguous United States. One Gold Medal of \$50,000 and four Silver Medals of \$10,000 are awarded biennially. More information at [rudybruneraward.org](http://rudybruneraward.org).

### Waste: Multipurpose Stadium

Registration deadline: December 16, 2018

This competition challenges entrants to design a new multipurpose stadium to be sited at the former Olusosun landfill in Nigeria. Designers are encouraged to consider how the stadium might serve as both a world-class sporting facility and a local commodity. More information at [archoutloud.com](http://archoutloud.com).

### Call for Proposals: 20th Anniversary of the International Garden Festival

Deadline: December 20, 2018

Landscape architects, architects, and artists are invited to submit proposals for new, temporary gardens for the International Garden Festival, which will celebrate its 20th anniversary at the Reford Gardens in Québec. More at [projects.internationalgardenfestival.ca](http://projects.internationalgardenfestival.ca).

### Architecture at Zero

Deadline: January 10, 2019

The eighth annual competition for zero net energy building designs will be for a site on the California State University Monterey Bay campus. See more at [architectureatzero.com](http://architectureatzero.com).

### 2019 Wheelwright Prize

Deadline: January 27, 2019

This open international competition awards \$100,000 to a talented early-career architect to support travel-based research. Applicants must have received a degree from a professionally accredited architecture program in the past 15 years. They are asked to submit a portfolio, a research proposal, and a travel itinerary that takes them outside their country of residence. For more information, go to [wheelwrightprize.org](http://wheelwrightprize.org).

### 2019 Lumen Awards

Deadline: January 27, 2019

Hosted by the New York chapter of the Illuminating Engineering Society, the program celebrates excellence in lighting design and honors exemplary projects, lighting designers, their design teams, and project owners. New York-based designers are encouraged to submit projects located anywhere in the world, and designers based outside the city are invited to enter work located in New York. More information at [iesnyc.org/Lumen\\_Awards](http://iesnyc.org/Lumen_Awards).

### 2019 Ceramics of Italy Tile Competition

Deadline: February 1, 2019

This competition awards North American architects, designers, and students for outstanding work on projects that incorporate Italian ceramic and porcelain tile. The selected winners will receive an all-expenses-paid trip to Coverings 2019, in Orlando, along with cash prizes. For more information, see [tilecompetition.com](http://tilecompetition.com).

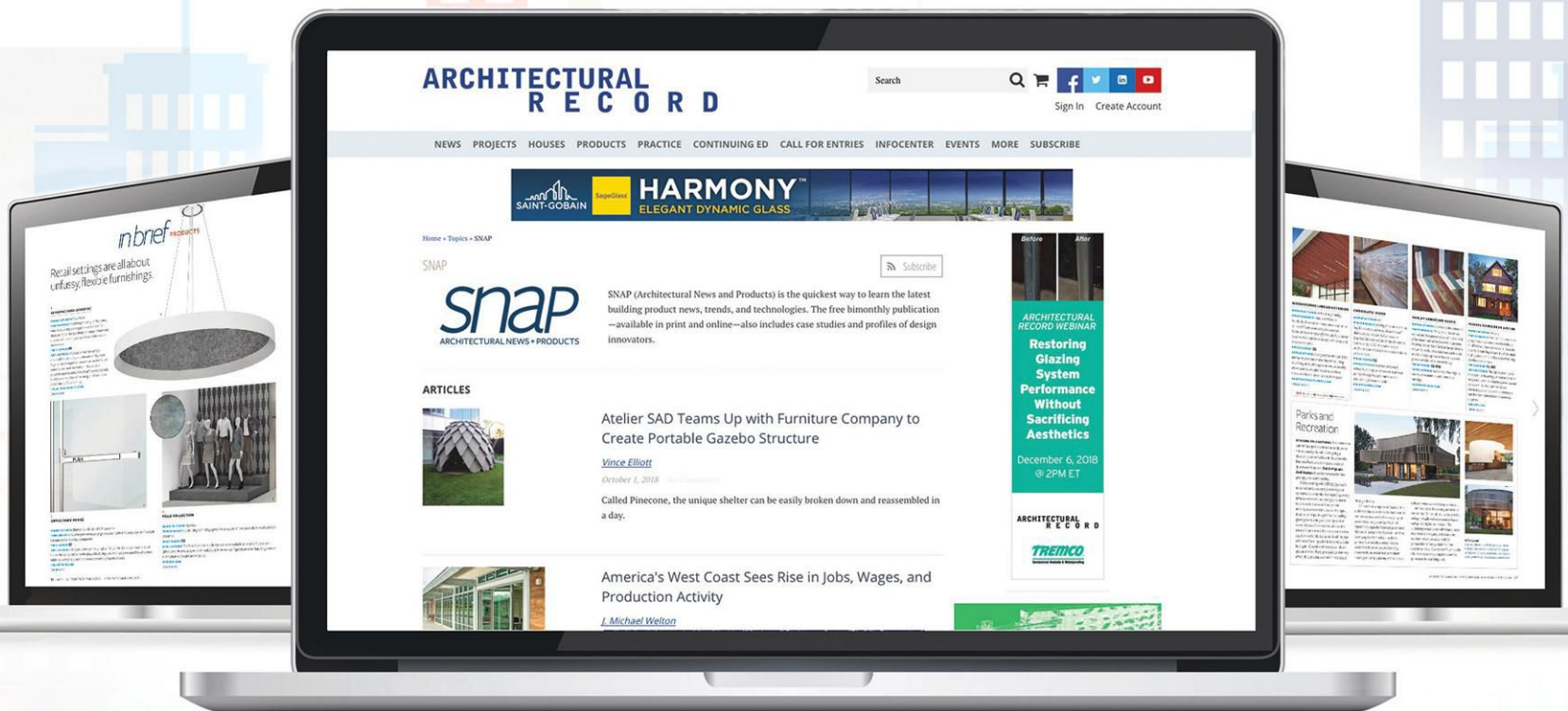
### Urban Zoo Coworking Design Challenge

Registration deadline: February 8, 2019

This competition asks participants for designs to create an identity for interiors in a new chain of workspaces that are set to launch in Latvia's capital. Submitted proposals must be adaptable and applicable to multiple locations. More information at [urbanzoochallenge.beebreeders.com](http://urbanzoochallenge.beebreeders.com).



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# A Reinforced Classic



## LOTHAR WİNDELS

Industrial designer and head of RISD's Furniture Design department (seated) with O&G Studio founders Sara Ossana and Jonathan Glatt

[lotharwindels.com](http://lotharwindels.com)

**IT ISN'T EASY** to reinvent a classic for contract use. But when **O&G Studio** partnered with industrial designer **Lothar Windels**, Chair of the Furniture Department at the **Rhode Island School of Design**, to reimagine the American Windsor, that's exactly what they set out to do.

"In the very beginning of the design process, it was paramount to create a chair with a very small footprint," said Windels. The compact chair—only 16" in width and 18.5" in diameter also needed to be durable.

"The Sakonnet was designed with the tight confines of a café in mind," said Sara Ossana and Jonathan Glatt, founders of O&G Studio (Ossana and Glatt met as graduate students at RISD).

A backrest of three triangulated spindles connecting to a circular undercarriage makes the chair compact and gives it a slightly modern look.

The team tested the Sakonnet multiple times throughout the process to ensure its durability. The chair can hold up to 400 lbs, and its tendons are 30-40% thicker than those of

residential chairs.

All of the Sakonnet's stretchers and tendons were reinforced with wood pins to withstand years of constant use. The designers even made sure that each piece of wood within the chair was oriented to take advantage of the directional strength of the wood's grain.

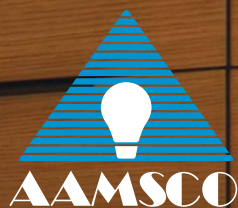
The 19 signature stained finishes were specially designed to hold up in contract applications, soaking into the grain to maintain color in the face of scratching or denting.

— Vittoria Elliott (SNAP #270)



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