

SNAP

ARCHITECTURAL NEWS + PRODUCTS

VOLUME 10, ISSUE 5



SOUND INVESTMENTS

**FOCAL POINT'S SKYDOME
EDGE ACOUSTIC**
PAGE 12

SHOP FITTINGS

Versatile furnishings
are trending in retail
design.

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HOW THE WEST HAS WON

Arizona, California,
and Nevada
manufacturers
report jobs, wages,
and production
activity are rising.

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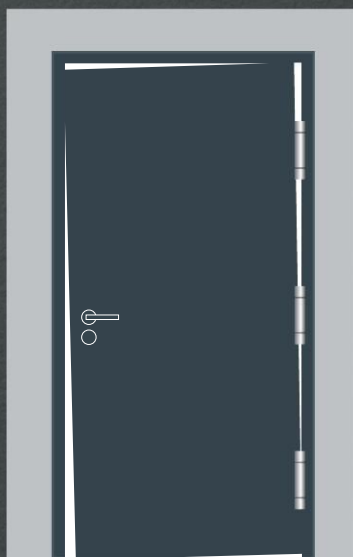


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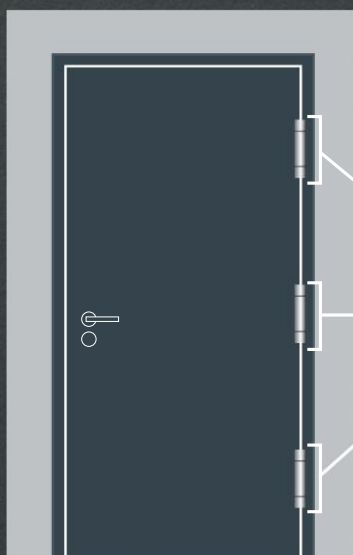
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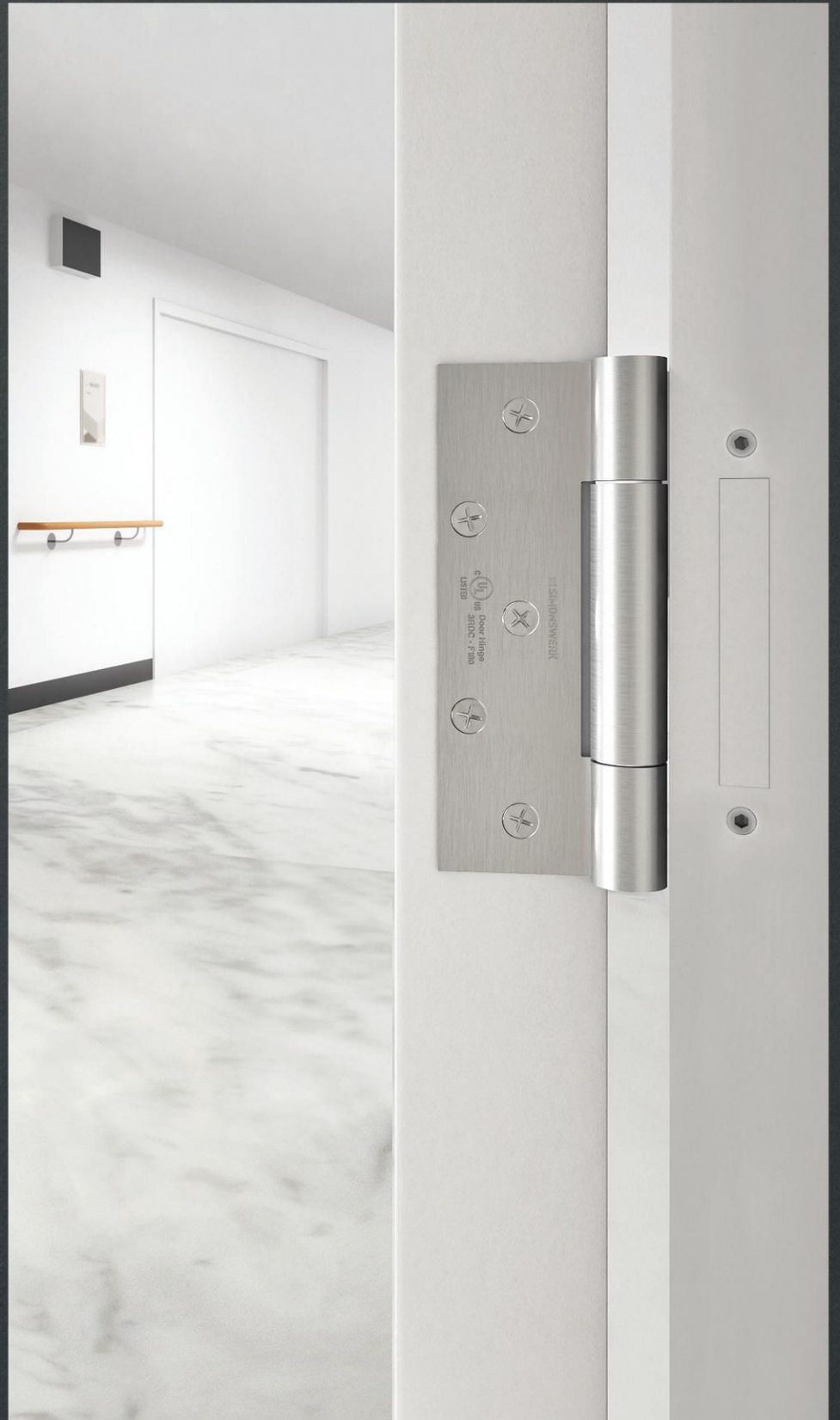
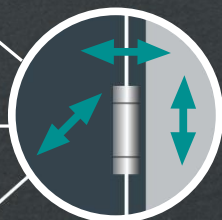
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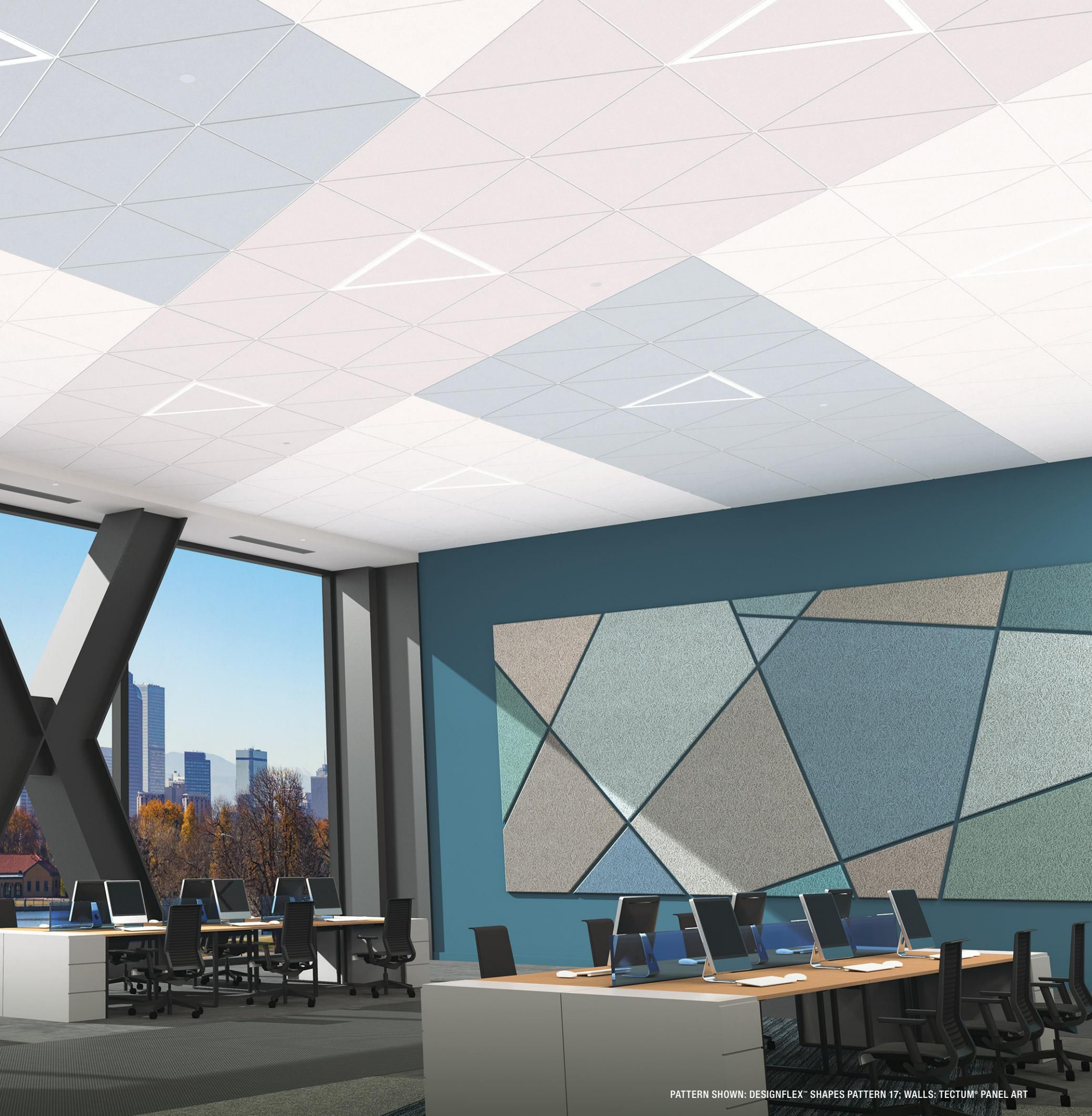
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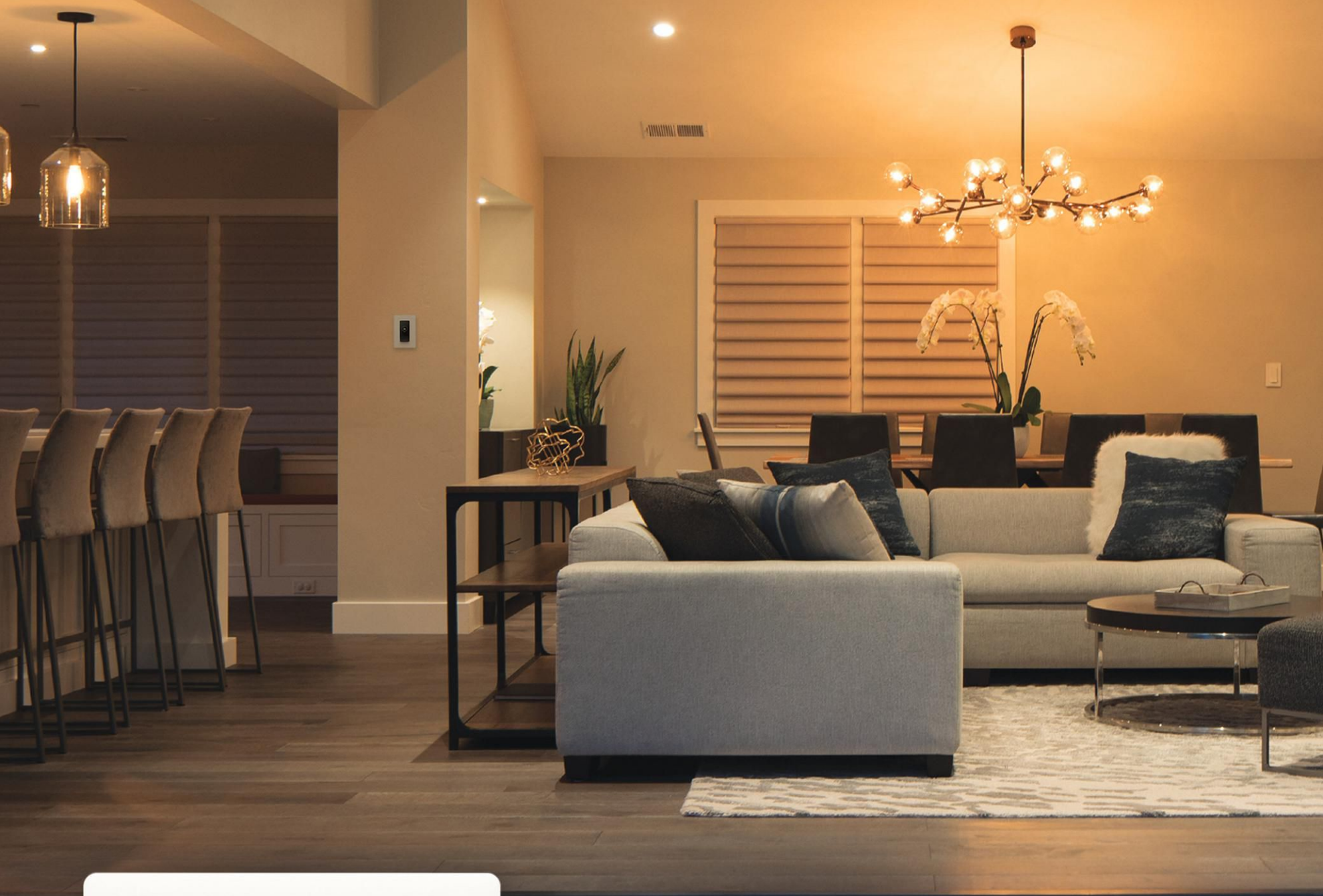
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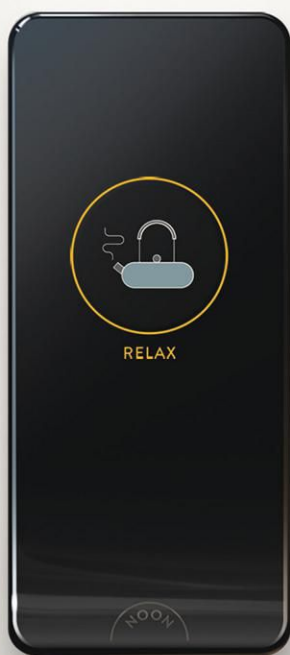


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SNAP 206

Home in a new light.



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SEPTEMBER/OCTOBER 2018



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CURRENTLY TRENDING IN RETAIL

Clockwise from top right: leather-like tiles from Apavisa; Flexetail's Mobile Tiny Retail store on wheels; and Carol Ross Barney, architect of Chicago's Riverwalk—and of an exciting new McDonald's.





Minding the Store



IN RECENT YEARS, the act of shopping has experienced a major shift. Consumers can browse, purchase, and schedule home delivery of most goods and services using apps and their cell phones, without setting foot in a brick-and-mortar store.

For brands with decades invested in multiple stores, design that grabs and holds consumers' attention is more important than ever. That's why fast-food franchise McDonald's asked **Ross Barney Architects**, a firm known for

transformative civic-minded architecture, to redesign a Chicago drive-through. Turn to the project on page 18, to review its 19,000-square-foot of crowd-pleasing highlights and to read why architect Carol Ross Barney was keen to work with the global chain.

In our special Q&A (page 14), **McDonald's** in-house architect Maximiliano Carmona shares how "significant architecture" such as Ross Barney's can lead to a better retail experience.

Throughout the issue you will find smart solutions for a range of retail environments, beginning with the versatile, easy-to-assemble furnishings trending in outlets from pop-ups to conventional department stores (page 12).

And, because first impressions are the most lasting, we've decided to showcase the latest storefront and entrance solutions which are covered in a special product specs section on page 30.

From luxury boutiques to pop-ups, this issue is packed with the right products. One especially retail-friendly offering in the hardware section (page 39) is basically a storefront on wheels—the foodtruck concept built for broader applications. Don't stop at those product sections. Be sure to check out all of the innovative building materials we've found. It pays to shop around.

KELLY L. BEAMON *Editor*

SNAP

ARCHITECTURAL NEWS + PRODUCTS

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The Enduring Allure of Designing with Stone

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The Metal Retrofit Revolution

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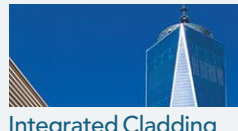
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A More Transparent Shade of Green: PCRs Drive Restrooms to the Lead in Green Design

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Interior Motives

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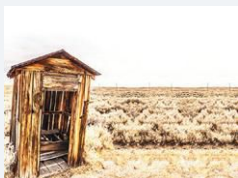
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Key Approaches to Commercial Bathroom and Shower Design

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PMMA/PUMA: Rapid Cure Systems for Waterproofing

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Taming Tornado Alley

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Privacy Is Not Dead: How Specialty Doors Help Create Private Conversation Spaces

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in brief

London's Happy Street

UPCYCLED FURNITURE DESIGNER Yinka Ilori is well positioned to be one of the darlings of next year's London Festival of Architecture (LFA).

In September, Ilori won the LFA's competition to revive the Thessaly Road Railway Bridge, including its underpass areas, on the heels of also being chosen with British architects **Pricegore** to collaborate on the design of the festival's Dulwich Pavilion. His collaboration for the pavilion called Color Palace will feature a screen built from brightly painted slats, reminiscent of his cheerful trademark chairs (including some he designed in partnership with recovering addicts from Restoration Station, a London rehab center).



His bridge refurbishing—his first solo public work—includes cladding brick walls of the underpass with reflective, enameled architectural panels in rainbow colors. The facelift is titled *Happy Street*. Both will be unveiled in June 2019 for the month-long architecture and design event.—*Clare Dowdy*

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CAPITAL IMPROVEMENT

Clockwise from above: *Happy Street*, designer Yinka Ilori's rendering of planned public artwork to cover London's Thessaly Road Railway Bridge; the existing bridge; and Ilori with one of his chairs.



WHO BUILT IT BEST?

A Zaha Hadid Architects-designed Petroleum Studies Research Center in Saudia Arabia (right) and Thomas Heatherwick's grain silo-cum-art gallery in South Africa (bottom) are among the contenders for World Architecture Festival awards.

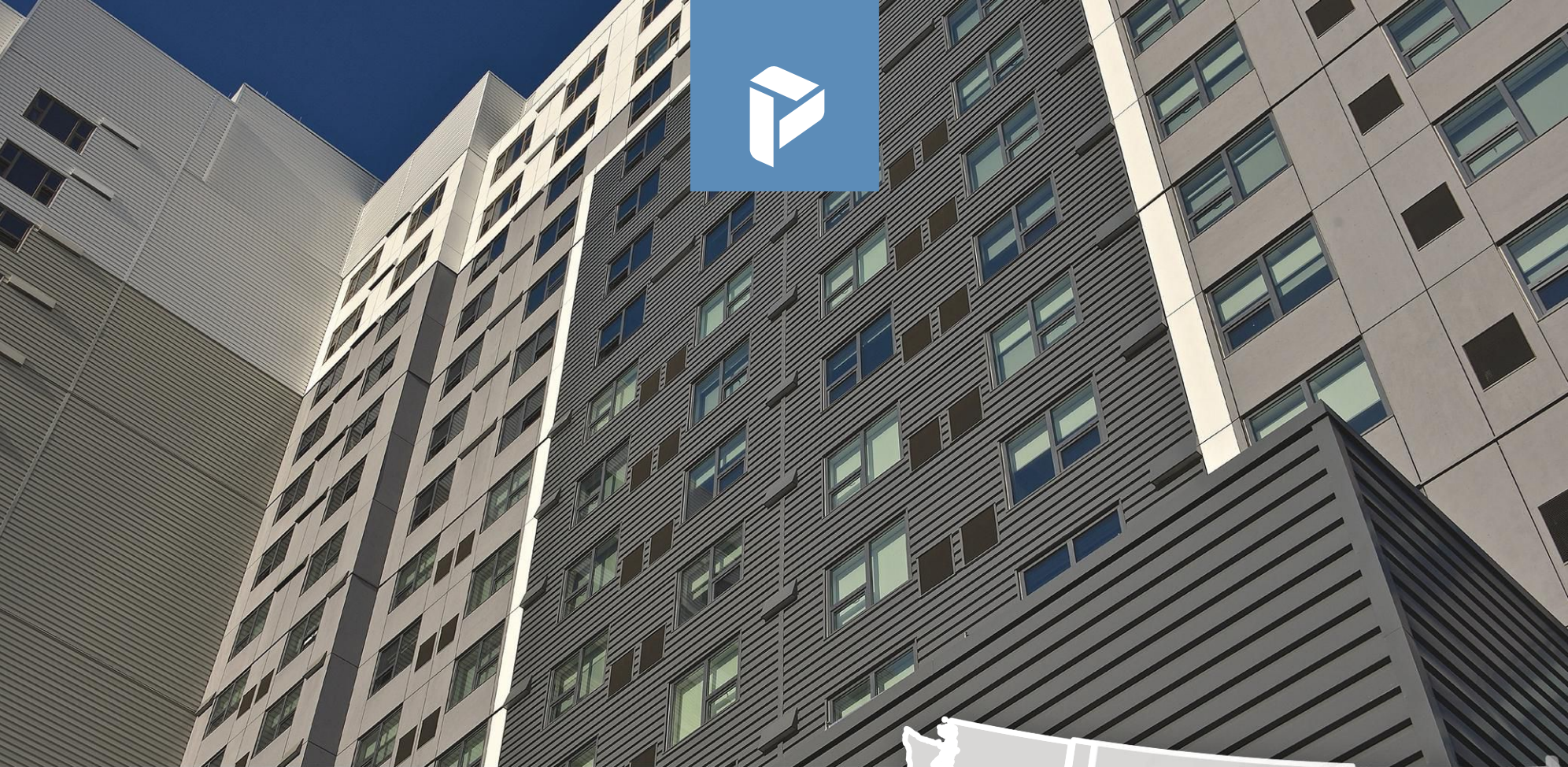


The Year in Architecture

Of the more than 1,000 entries to the World Architecture Festival (WAF) Awards 2018, judges have announced a shortlist of 536 from 81 countries that remain in the running. Among them are a research center in Riyadh, a village lounge in rural China, and a mosque without a minaret in Iran.

The eleventh edition of WAF will be held November 28 through 30th in Amsterdam alongside the co-located event INSIDE World Festival of Interiors.

While the shortlisted entries range wildly in size and type, judges noted those in the "Old and New" category, which delivered a wealth of ideas for creative re-use of old structures through extensions and additions. One example: **Thomas Heatherwick**'s conversion of a disused grain silo in South Africa for use as a contemporary art gallery. More than 100 judges from around the world will weigh in on the category winners, which will be announced during the November 2018 festival.



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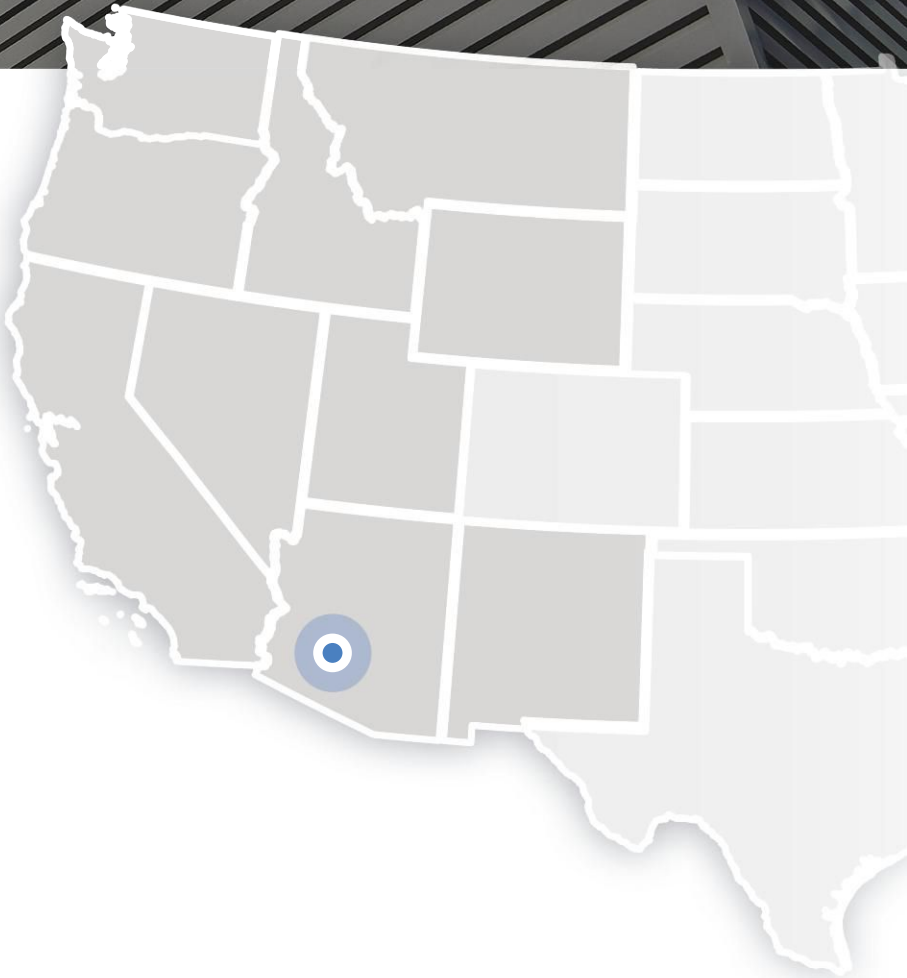


Photo above courtesy of Airmark Apartments:

Hotel Interurban, Tukwila, WA Architect: Gwest Architecture Installing contractor: All Metals Distributor: AMS Profiles: Highline C2, Flush Soffit
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EVENT FLASHBACK

SNAP's editor Kelly Beamon moderated the Simply Scandinavian panel with (left to right) designers Ghislaine Viñas, Joe Doucet, and Brad Ascalon. The discussion on the growing appeal of Scandi interiors and products was a professional development workshop held at New York City's Scandinavia House by the New York chapter of the International Interior Design Association (IIDA) in July.

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in brief PRODUCTS

Retail settings are all about unfussy, flexible furnishings.

1. SKYDOME EDGE ACOUSTIC

MANUFACTURER: Focal Point

PERFORMANCE: Updating the original Skydome, which debuted 20 years ago, this version's knife-sharp profile can be specified as an edge-lit luminaire or as an unlit matching acoustic fixture like the one shown here.

PRICE RANGE: \$\$

APPLICATIONS: As a suspension or surface-mounted fixture in 2', 3', or 4' diameters, Skydome Edge can be arranged to create an attractive field of sound control and illumination. The acoustic polyester panel is comprised of 40% recycled plastic bottles, carries a Class A fire rating, and has a noise reduction coefficient of 1.05.

FOCALPOINTLIGHTS.COM

(SNAP #210)



2. ENTICE PANIC DEVICE

MANUFACTURER: Blumcraft, a division of C.R. Laurence

PERFORMANCE: As a two-piece emergency egress system, Entice features a low-profile crash bar attached to its vertical component.

PRICE RANGE: \$\$

APPLICATIONS: Using proprietary through-glass fittings, the device can mount on both monolithic tempered to double-glazed insulating glass. Architects can specify back-to-back ladder pulls, which is an aesthetic innovation among its panic devices.

CRLAURENCE.COM

(SNAP #211)



3. PELLE COLLECTION

MANUFACTURER: Apavisa

PERFORMANCE: 3D printing technology gives this collection of porcelain tile the look and feel of leather.

PRICE RANGE: \$\$

APPLICATIONS: The Pelle Collection's hide-like texture is available in a total of five colors (Silver, Gold, Brown, Grey and Anthracite) and three pre-configured patterns featuring slender and medium rectangles and mosaics.

APAVISA.COM

(SNAP #212)



4. STANDOFFS

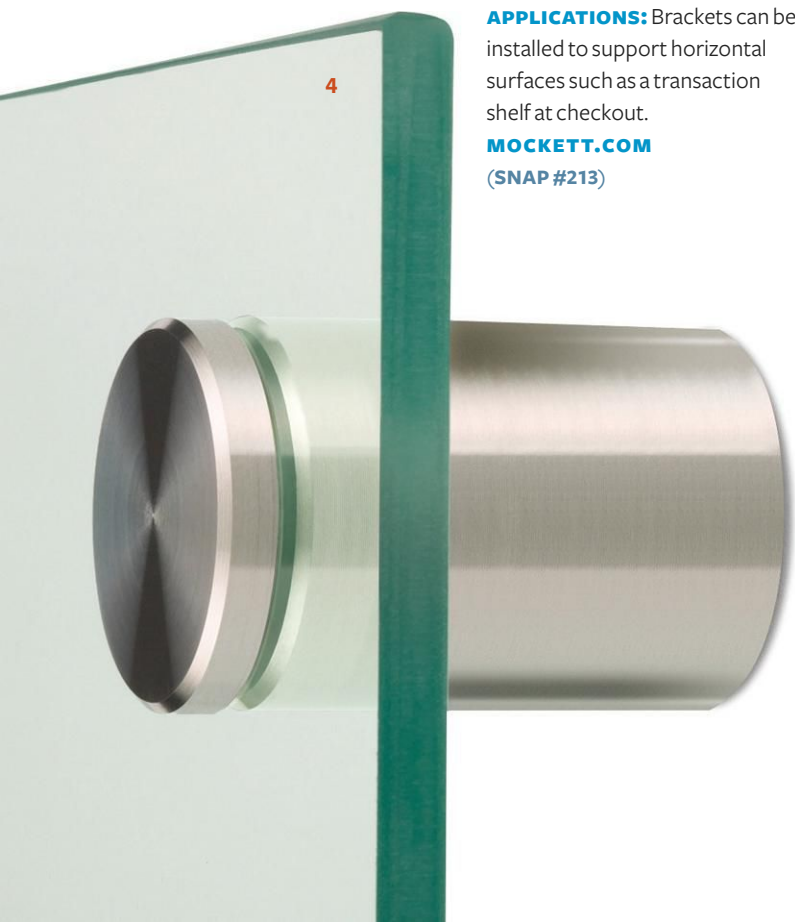
MANUFACTURER: Mockett

PERFORMANCE: These brackets provide streamlined support for holding up such custom signage as logo art, menus, and directories. Caps and barrels are available in a variety of lengths and diameters, in an aluminum or satin stainless steel finish.

PRICE RANGE: \$\$\$

APPLICATIONS: Brackets can be installed to support horizontal surfaces such as a transaction shelf at checkout.

MOCKETT.COM
(SNAP #213)



6. DICHROIC

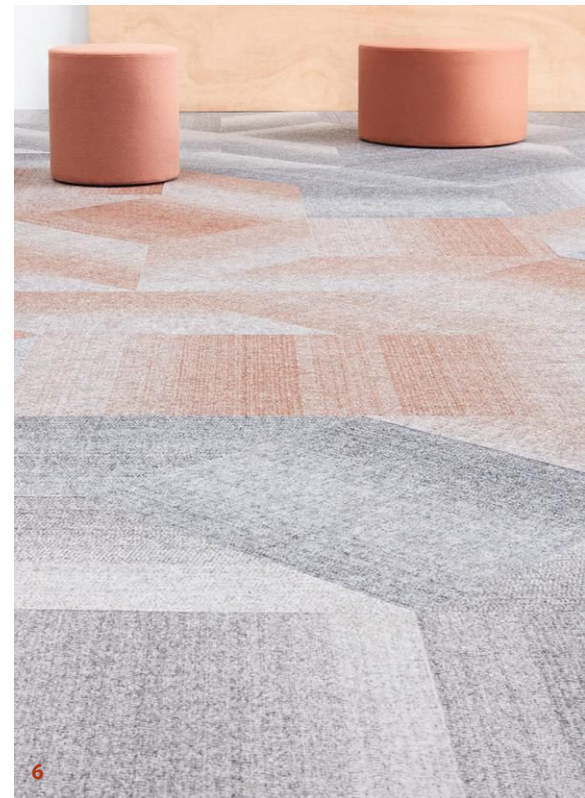
MANUFACTURER: Patcraft

PERFORMANCE: Dichroic's sweeping ombre colorways are expressed in two shapes, which make it low-maintenance and versatile for commercial spaces.

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

APPLICATIONS: The faceted and conventional carpet squares are made of sound-absorbing PET to help with sound absorption and an EcoWorx backing, giving it a lifetime warranty against stains, fading, and abrasive wear. Available first quarter 2019.

PATCRAFT.COM
(SNAP #215)



7. DIVY

MANUFACTURER: 3form

PERFORMANCE: These suspended partitions from 3form absorb sound and double as tackable surfaces. Available in six different patterns and baffles. Hardware for both single and multi-panel installations is available in stainless steel or black oxide finishes

PRICE RANGE: \$

APPLICATIONS: Ideal for creating flexible privacy, Divy's birch frames are covered in Sola Felt, a composite made of 50% post-consumer PET with a Class A fire rating. Panels boast a noise reduction coefficient of .75 and come in 15 colors.

3-FORM.COM
(SNAP #216)

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



◀ Carol Ross Barney, FAIA

Founder, Ross Barney
Architects
Chicago

YOUR UPSCALE REDESIGN FOR THE CHICAGO MCDONALD'S SEEMS TO SIGNAL A TREND.

ROSS BARNEY: Yes. McDonald's recognizes that a high-concept design is a good way to tell people where the brand is going.

DO MASS RETAILERS NEED HIGH-END LOOKS?

ROSS BARNEY: Retail—this type especially—is under a lot of pressure to sell an experience. Customers can sit at home and buy almost anything through Amazon and Uber delivery. The future of retail environments depends on offering an enhanced experience. Design is a big part of that.

Maximiliano Carmona, AIA ▶

Senior Director, McDonald's Global
Design and Development
Chicago

SINCE WHEN DOES MCDONALD'S NEED SEXY ARCHITECTURE?

CARMONA: For the last 18 months, we've focused on hiring retail designers across the world—Australia, Amsterdam, Hong Kong, and now in the United States.

WILL OTHER RETAILERS EMBRACE THIS TREND AS A WAY TO STAY RELEVANT?

CARMONA: Trends have a shelf life, so we try not to get hung up on them. But I'd say retailers are adapting. The customer is creating today's retail experience.

BESIDES HAVING A HIGH-FLYING PORTFOLIO LIKE ROSS BARNEY, HOW ELSE DO FIRMS GET YOUR ATTENTION?

CARMONA: A more intimate relationship is important. Carol was at most meetings, and that's hard to get at a big firm. We also like the innovation at firms that have not worked with direct competitors and aren't too large—less than 100 employees.

TWO PROS' UNIQUE POINTS OF VIEW

Having caused a stir by collaborating on a new minimalist, ecofriendly McDonald's (page 18), Carol Ross Barney, designer of the Chicago Riverwalk, and Maximiliano Carmona, the fast-food giant's inhouse architect of 20 years, share a special insight on what is trending in retail.



PHOTOGRAPHY: © WHITTEN SABBATINI (LEFT)



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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.

WARRANTY Manufacturer’s 20 Years Leak-Proof Performance

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.
- HD Infill Board is set in place between drain channels prior to the metal roof panel.
- 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)

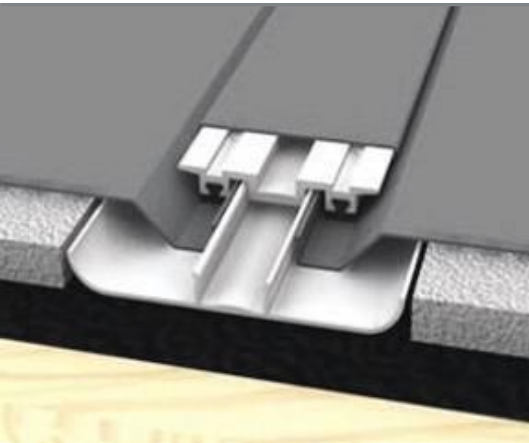
Testing is not applicable to all substrates, materials, and dimensions. Additional testing and analysis is available upon request.

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

Recycled content varies upon material selected. All metal components are 100% recyclable.



We provide free cost estimates and detailed quotations. Our engineering deliverables include shop drawings, anchor details, and wind load calculations. We can fully engineer our materials to local codes with a engineer registered and licensed in your state.

Contact Overly for more information on how this system can be applied to a vertical surface.



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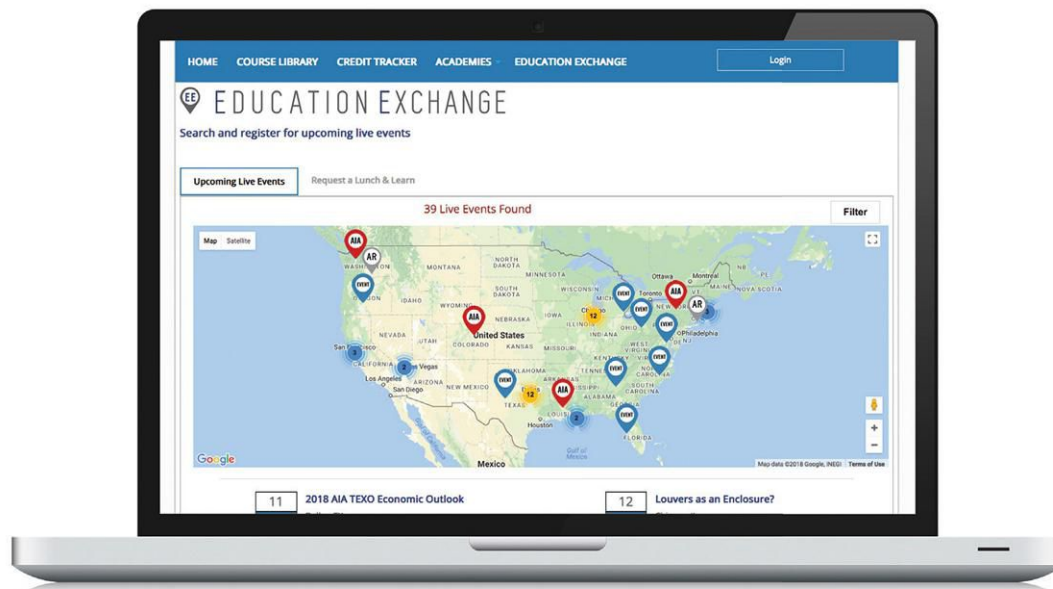
CUSTOM METAL SYSTEMS

SINCE 1888

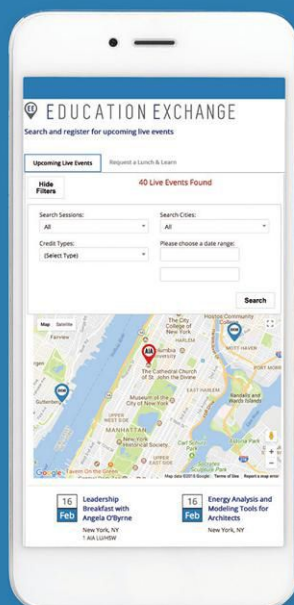
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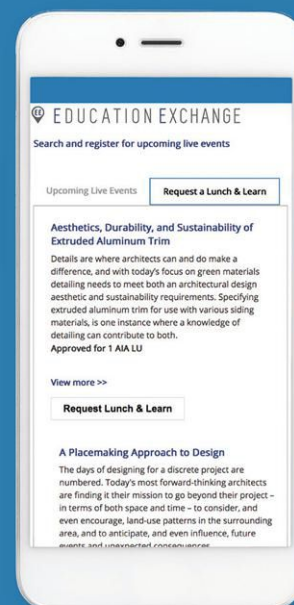


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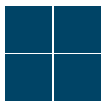
Blumcraft® (a division of CRL) defined the category of tubular panics over 50 years ago and we're doing it again with the groundbreaking **Entice® Panic Device**. Its innovative design features an independent, ultra-narrow crash bar that easily and securely attaches to the vertical panic component. This unique 2-piece system means that for the first time, architects can specify a tubular-style panic device with back-to-back ladder pull aesthetics. The **Entice® Panic** can be mounted onto 1" double-glazed insulating glass using proprietary through-glass fittings.



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SNAP 36





CASE STUDY: RETAIL

BY KELLY BEAMON



Design Within Reach



MCDONALD'S, CHICAGO

PROBLEM: Make over a popular, kitschy, mid-century McDonald's.

SOLUTION: Build a tech-y glass cube to reflect the new way its customers shop.

JUST WHEN IT SEEMED high-end design could not get more mainstream, a gleaming glass restaurant erected on the spot once occupied by Chicago's Rock 'n' Roll McDonald's has breached new ground—a fast-food drive-through.

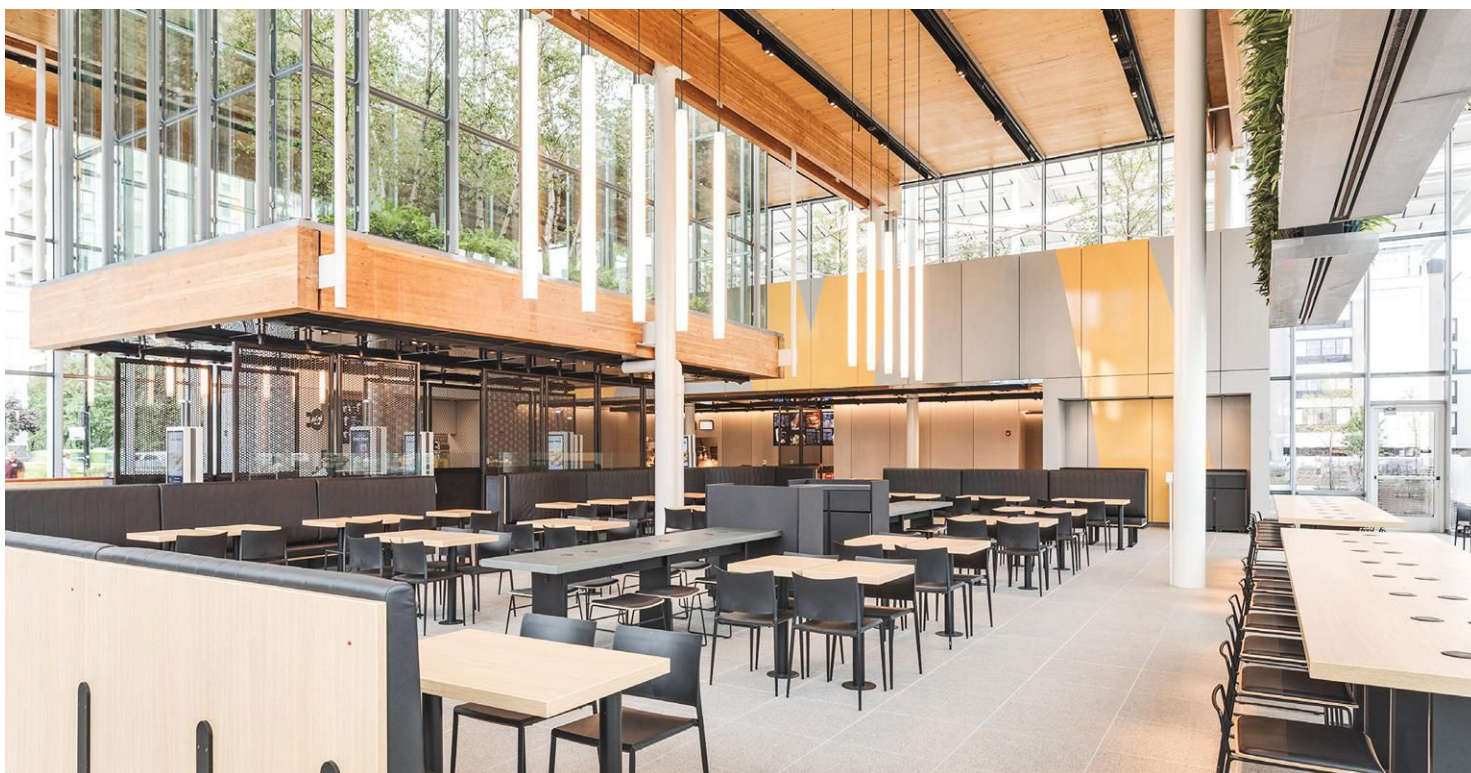
While the 269-seat establishment is still a McDonald's, its new cube-shaped profile by **Ross Barney Architects** is also a tech-y homage to the future: It is built from the latest sustainable sensation (cross-laminated timber); wrapped in a light-giving, bird-friendly glazing; and bursting with green features such as a rooftop apple orchard, parkland, pervious paving, green-vehicle charging stations, and 1,062 solar panels that can generate up to 60 percent of its electrical energy.

Viewed from the street, the restaurant is a transparent cube that contains a

GREEN GENES

Diners enjoy a view into a portion of the roof that appears punched through to let a trough of trees (left) sit low in the space but separated from diners by glass walls. A pergola made of solar panels (above) shelters the building and its outdoor dining area and the drive-through.

PHOTOGRAPHY: © KENDALL MCCAUGHERY/STEVE HALL + NICK MERRICK PHOTOGRAPHERS



GLASS LAND

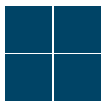
An interior wall of plants (above) is among the green areas created by local firm Omni Ecosystems. Glass walls (left) allow for natural illumination when daylight sensors turn off interior LEDs.

smaller cube full of trees—one of the property's green roofs. Seen from inside the restaurant, the trees appear planted on a mezzanine-height platform at the center of the space that is enclosed in glass walls up to the ceiling. Beneath it, two rows of kiosks line a walkway formed by half-height walls separating dining areas on either side. Back outside, a drone's eye view would take in the vast pergola, which holds the solar panels and shelters the building and its surrounding walkways.

The look heralds a new direction for the brand. "More contemporary designs are in the works around the U.S.," confirms **Maximiliano Carmona**,

McDonald's senior director of global design and development. (See interview, page 14.) But those restaurants will likely be completed with different architects, leaving the 19,000-square-foot Ross Barney-designed location as a one-off special attraction. "We can't just duplicate this anywhere. The site is unique because of its size compared with our typical restaurants, which are around 4,000 to 5,000 square feet," Carmona says. "What this project does is demonstrate what a progressive McDonald's could look like."

Fresh from designing Chicago's Riverwalk, Carol Ross Barney, the homegrown founder of her eponymous firm, was a natural fit for the mod-



CASE STUDY: RETAIL



ernizing brand. (The company also relocated its headquarters from the suburbs into a hip new office by Gensler in Chicago's West Loop.)

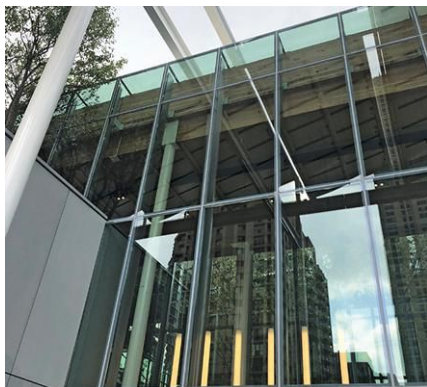
"I grew up in Chicago. My parents moved to the suburbs when I was five. I remember McDonald's as a piece of American culture," says Ross Barney. "We associate it with suburbia and standardization, but [design] is the way its brand will survive compared with the likes of Sears and Wards department stores."

As a proponent of "design as a right, not a privilege," Ross Barney took steps to make the franchise-owned site an inviting community hub with more public space and 40 percent less parking than its predecessor. "If it were up to Carol, the entire property would be a park," says Carmona with a warm laugh. But retail profits must be prioritized, so the drive-through remains. "It's over half their business," Ross Barney points out, adding "We are car creatures." ■

GOOD CITIZEN

Ross Barney Architects reduced the property's parking by 40 percent and increased its green space by 72 percent.

IN THIS PROJECT



VS1 CURTAIN WALL SYSTEM

MANUFACTURER: Innovation Glass

PERFORMANCE: VS1's standard system allows the use of a blade-shaped mullion in lieu of the conventional box section.

PRICE RANGE: \$-\$\$

APPLICATIONS: LEED-certified VS1 reduces metal framing by 50% because it eliminates horizontals from the façade. Available in panel sizes from 5'x10' to 10'x30', and up to 3" thick, the glass can span up to 50' between supports. With lateral tension cables, it can reach wall heights of over 100'. Flexibility and system detailing make it suitable for a range of projects.

INNOVATIONGLASS.COM
(SNAP #217)



GLULAM

MANUFACTURER: Western Structures

PERFORMANCE: Versatile and environmentally friendly, Glulam beams are made by gluing dimensional lumber together to make extremely deep sizes.

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

APPLICATIONS: Recommended for a variety of different projects, beams can range from 3" deep to 60" deep with widths of up to 17". For residential and commercial buildings, laminated beams provide a green structural option.

WESTERNSTRUCTURES.COM
(SNAP #218)



A|UHPC PANELS

MANUFACTURER: Taktl

PERFORMANCE: Architectural Ultra High Performance Concrete (UHPC) panels and 3D elements can help provide a high-performance building envelope with long-term performance.

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

APPLICATIONS: Façade panels cast at standard dimensions of 4'x10' and 5/8" thickness are available in 10 standard textures, 12 colors, 2 aggregate finishes, and a wide variety of custom textures, colors, profiles, and sizes.

TAKTL-LLC.COM
(SNAP #219)



ECO-PROMENADE

MANUFACTURER: Unilock

PERFORMANCE: These durable, permeable pavers are available in standard or four custom finishes: Umbriano Mottled, Series Exposed Granite, Il Campo Brushed, and Smooth Premier.

PRICE RANGE: \$\$

APPLICATIONS: Eco-promenade is recommended for large commercial environments, and can be mechanically installed for greater cost effectiveness.

COMMERCIAL.UNILOCK.COM
(SNAP #220)



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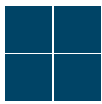
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CASE STUDY: RETAIL

BY CHRIS FOGES



DOLCE & GABBANA FLAGSHIP, LONDON

PROBLEM: Transforming an older storefront into a unique luxury retail experience

SOLUTION: Use rich stone, opulent accents, and plenty of optical illusion to create a sense of surreal spaciousness

SITE-SPECIFIC

Curiosity's renovations included opening the first-floor façade to the street (right) and adding cast iron railings over the stonework to lend a domestic character. A single entrance was created at the center, on axis with a spiral stone stair running up to the third floor (above).

“THE DIFFERENCE BETWEEN ‘fast fashion’ and luxury retail is giving the customer a unique experience,” says Gwenaél Nicolas, designer of Dolce&Gabbana’s (D&G) new six-story London flagship. “Especially in the age of Pinterest, the challenge is to make spaces that you only fully understand by being there.” The Old Bond Street store is the latest example of D&G’s new retail approach in which a global identity has been dropped in favor of bespoke, site-specific interiors; it is the third to be completed by the French-born Nicolas’s Tokyo-based studio **Curiosity**. Its design seeks to induce a sense of the surreal through optical illusion, exploiting the “baroque poetry” of stone.

Having agreed with D&G cofounder and designer Domenico Dolce that a monochrome palette would convey the “strong, elegant”



PHOTOGRAPHY: © ALESSANDRA CHEMOLLO

A BESPOKE SPACE

Above the retail store, a three-story “atelier” features an elliptical stair formed of many varieties of black-and-white stone (below). Contrasting colors also contribute to an illusory effect in jewelry rooms on the second and third floors (left), where mirrors lend an unreal thinness to black walls.

essence of London, Nicolas sourced more than a dozen types of stone from four continents. They include jet-black granite and glittery white marble, alongside several richly figured varieties containing both colors. Laid in bookmatched patterns for the floors, the variegated stone has pronounced wavy stripes that evoke flowing rivers, subtly encouraging customers’ progress through the enfilade of spaces on each of three retail levels (the three stories above those accommodate an appointment-only “atelier” for couture customers). Stone also marks the vertical elements used to guide movement, from the linings of deep doorways to the store’s centerpiece staircase, descending through the three floors like a viscous swirl of molasses. Black granite balustrades appear to dribble onto white stone steps, an effect achieved by waterjet cutting so precise that the joints are nearly impossible to discern with the eye or the fingertips.

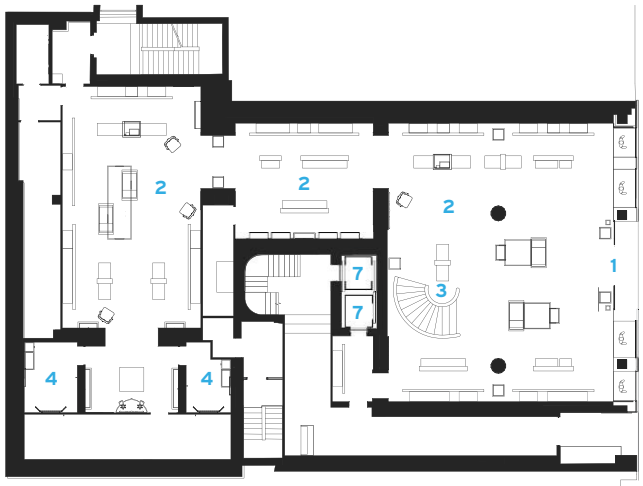
On the upper retail floors, the dreamlike ambience is enhanced by the use of reflection to play with perception. Black stone-lined niches containing jewelry displays are set into mirrored walls so that they appear to hang in space as flat, graphic panels. Stepping inside causes a momentary double-take. Seemingly secret doors in the black stone walls reveal another surprise: small consultation rooms whose walls are padded with black damask, like outsize jewel cases.

Opulence is also suggested by florid gold antiques and walnut-lined, gold-carpeted fitting rooms. But elsewhere, says Nicolas, “if you

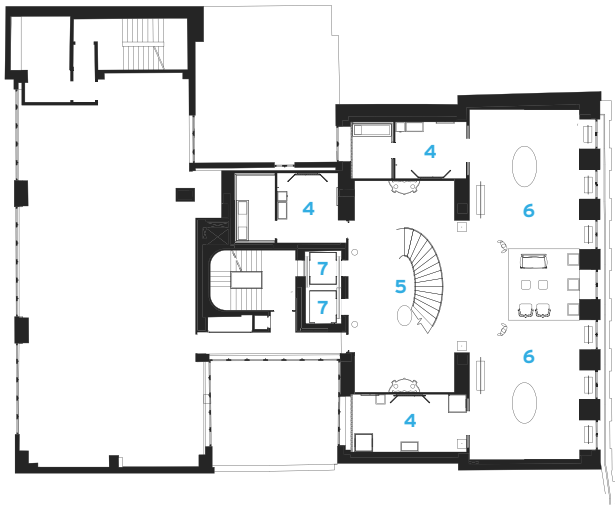
remove the stone, it’s actually quite a minimalist space.” Off-white plaster walls are enlivened only by a subtle baroque motif in relief, and the custom furniture—though beautifully made—is light and unobtrusive. These elements make a recessive backdrop against which to show D&G’s richly colored, “jeweled” clothes and accessories, presented like paintings within polished walnut frames that seem to float free of the walls.

These moments of focus draw on the art of retail merchandising and the science of cognitive psychology. “Understanding natural human behavior allows us to aid orientation or create surprise and confusion,” says Nicolas. Products are arranged so that the eye tracks from left to right and low to high, following viewers’ instincts. Similar thinking informed the lighting design. “To make something disappear, you can either hide it or duplicate it,” says Nicolas. With low ceilings limiting the ability to conceal fixtures, the polished plaster surfaces are instead strewn with many more twinkling spots than are necessary. “If there are five, you see them; if there are 50, you don’t,” he says.

Like the meandering grain of the floors, the lighting—arranged not to cast shadows—helps to make customers “feel as if they are floating in space.” This mild, pleasant sense of disorientation is their reward for visiting the store, an experience that social media cannot replicate. “In retail, you usually create that sensation with smell or music,” says Nicolas. “If you can create it with the space itself, that’s magic.” ■



GROUND-FLOOR PLAN



FOURTH-FLOOR PLAN



- | | |
|-----------------|--------------------|
| 1 ENTRANCE | 5 ELLIPTICAL STAIR |
| 2 RETAIL STORE | 6 COUTURE ATELIER |
| 3 SPIRAL STAIR | 7 ELEVATOR |
| 4 DRESSING ROOM | |



CONCEPTION CONSTRUCTION COMPLETION



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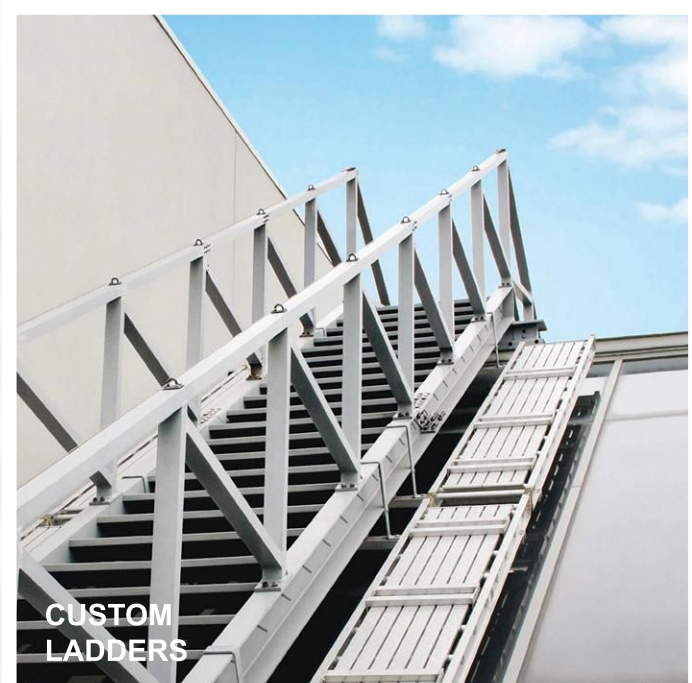
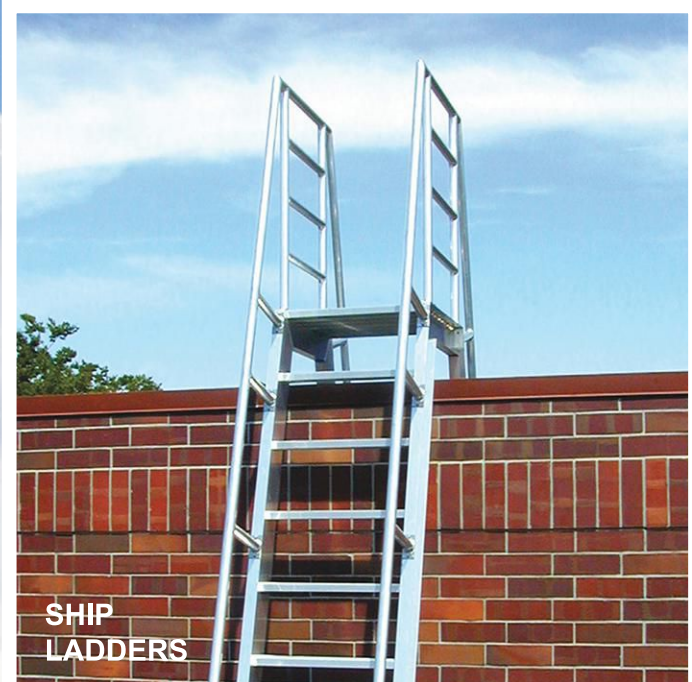
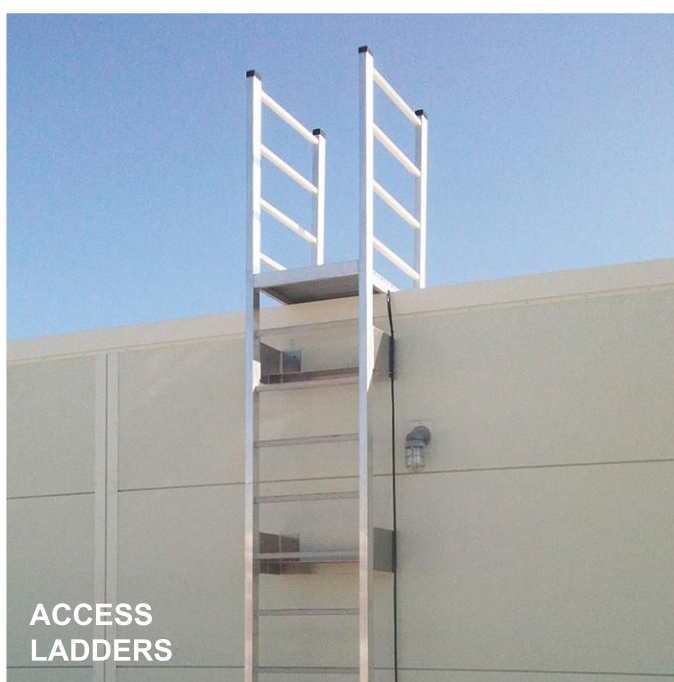


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SNAP 03

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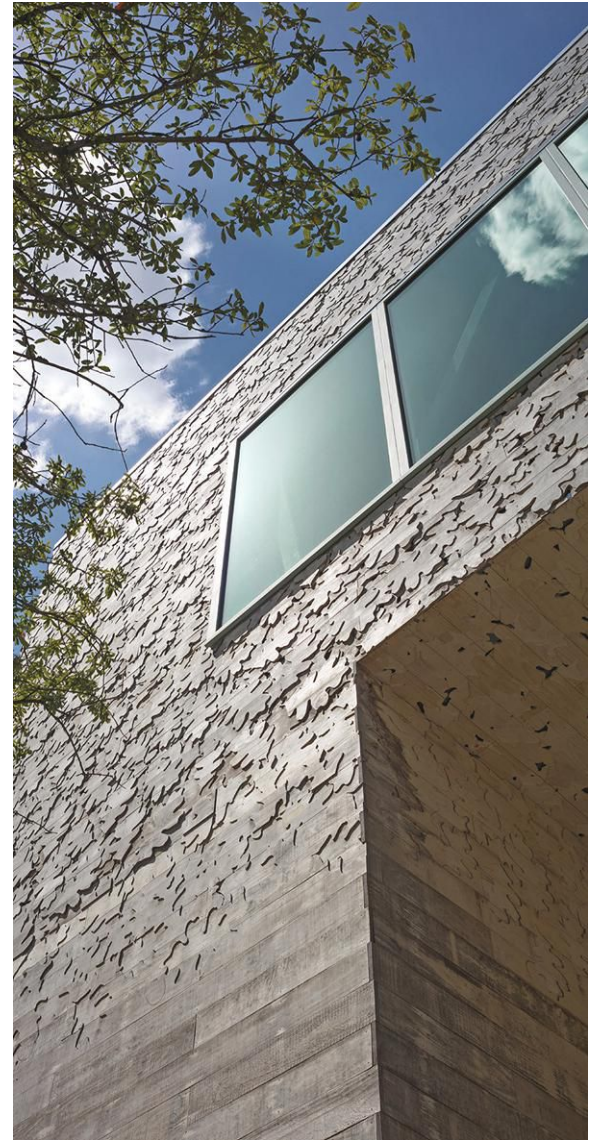
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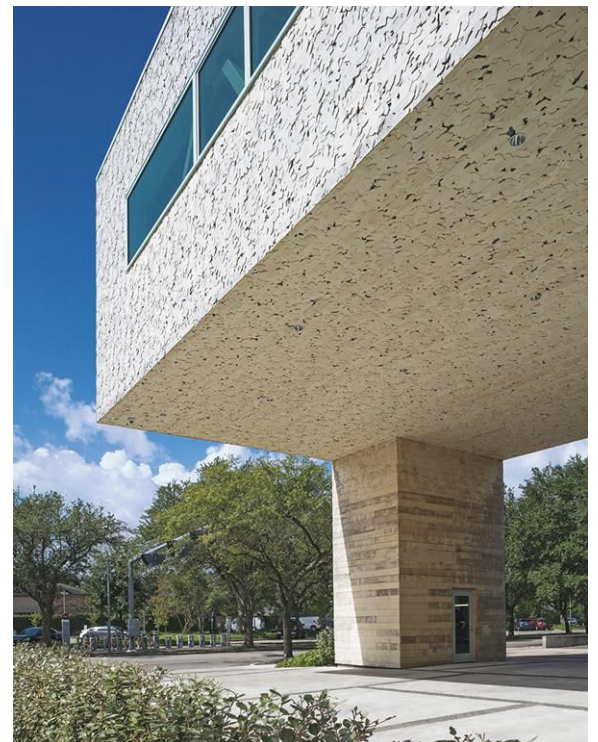
Creative Cladding

WHEN YOUR NEIGHBORS INCLUDE the Menil Collection, Rothko Chapel, and the Houston Center for Photography, the last thing you want is a nondescript office building—especially if you’re an architecture firm. Such was the concern when **Dillon Kyle Architects (DKA)** set out to build its new home in the Houston neighborhood of Montrose. To stand out, the firm explored cladding materials that it could manipulate with an eye-catching design. Glass and even *papier-mâché* were among some of the early contenders before the firm decided to use Accoya, a modified timber, selected for its dimensional stability, resistance to rot, and easily customizable surface.

The architects devised a three-story building with a cantilevered portion that shades the property’s parking lot and an informal gathering space. Then they applied approximately 12,000 square feet of the modified timber as a

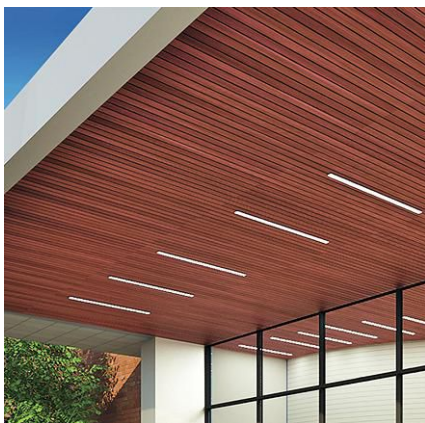
rainscreen attached to galvanized steel sheets offset from the structure. Accoya wraps the entire building, including the soffit and column of the cantilever, with the exception of apertures for windows and doors. The skin’s CNC-milled leaf pattern—developed in-house by the firm over the course of one year—starts out dense at the top of the building and gradates to non-routed panels at the bottom, with each 8 foot-by-8 inch board measuring 11/16 inches thick.

“The pattern is a nod to the oak trees that are common to Houston, especially in the area around our building,” says Peter Klein, an associate principal at DKA. The beauty of this product—and another reason the architects chose it—is that over time, as different boards are exposed to varying amounts of sunlight and rain, it will develop a gray patina in an uneven, organic way, which will complement its leaf-patterned finish. —*Sheila Kim*



MADE IN THE SHADE

Clockwise from top left: The striking 100-foot-long cantilever at DKA’s Houston office; a detail of the building’s Accoya-clad exterior; and the support volume for the cantilever clad in the same wood panels with a smooth finish.



WOODWORKS LINEAR EXTERIOR

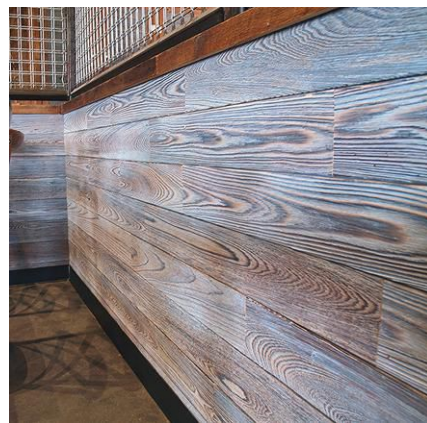
MANUFACTURER: Armstrong Ceilings

PERFORMANCE: Made of Western hemlock, the exterior linear panels come in a 12"-x-96" format and attach via screw fasteners to Armstrong's Prelude XL Exterior system. Available in six standard finishes and in custom stains.

PRICE RANGE: \$\$

APPLICATIONS: Designed to withstand the elements, the panels are ideal for building overhang and soffit applications, especially when used to visually create a seamless transition from indoor to outdoor space.

ARMSTRONGCEILINGS.COM
(SNAP #221)



CHROMATIC WOOD

MANUFACTURER: ASI

PERFORMANCE: Adding the dramatic Shou Sugi Ban look to surfaces, these 6"-x-96" planks are constructed of yellow pine (cypress for exteriors) and tinted in vibrant colors using a VOC-free water-based urethane stain. A Class A fire-rated version is also available.

PRICE RANGE: \$\$

APPLICATIONS: Well suited to walls, millwork, ceilings, and most vertical focal points; the cypress-pine version can additionally be used outside.

ARCHSYSTEMS.COM
(SNAP #222)



HENLEY SANDFORD RUSTIC

MANUFACTURER: Havwoods International

PERFORMANCE: The 5"-x-47" planks are composed of engineered wood finished with a European-oak surface layer for a genuine-hardwood look. Sanford can be specified in natural tones but also bold hues such as red and blue. Edge options include tongue and groove or side micro-beveled edge.

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

APPLICATIONS: Suitable for flooring in a variety of residential and commercial settings.

HAVWOODSUSA.COM
(SNAP #223)



PASSIVE RAINSCREEN SYSTEM

MANUFACTURER: Kebony

PERFORMANCE: The manufacturer's new proprietary clip system attaches Kebony modified wood as a rainscreen without the need for predrilling. It consists of extruded high-grade aluminum clips and self-drilling stainless steel screws.

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

APPLICATIONS: The clip system mounts directly onto sheathing with either 3/4" or 3/8" airspace between the building envelope and rainscreen. With its performance in eliminating water penetration, Kebony is suitable for residential and commercial projects.

KEBONY.COM
(SNAP #224)

Parks and Recreation

IT SEEMS ONLY NATURAL that a welcome center for a park allude to the outdoors in some capacity. So, when designing a discovery center for Îles-de-Boucherville National Park, which lies just outside of downtown Montreal, **Smith Vigeant Architectes** chose to showcase timber, geology, and sustainability.

Collaborating with SEPAQ, Quebec's national parks network, Smith Vigeant conceived an amoeba-like façade sporting different tiers of undulating walls clad in local woods. Some portions of the envelope were constructed with single-, double-, or triple-height floor-to-ceiling glazing or retaining walls composed of stone. A band of vertical wood slats that extend from the northern elevation to the southern side adds textural visual interest while also forming a shade to combat solar heat gain. Operable clerestory windows also aid in this effort, producing a chimney effect that enables warmer air to escape



through the top.

Of course, in a region like Quebec, the architects had to address the harsh winter temperatures as well. After studying the seasonal sun angles and paths, Smith Vigeant strategically sized and positioned the south-facing slatted screen—and the overhang it's attached to—to block summer sun but allow winter rays to penetrate the interiors. Additionally, concrete floors inside feature radiant heating while triple glazing of the curtain

walls and windows helps keep cold air out.

Interiors echo the woody aesthetic of the exterior: Timber planks clad most of the ceiling and walls while a serpentine feature wall sports a lighter-tone wood. The undulating reception and information desk also mimics the façade, particularly the southern-elevation screen with its composition of vertical battens. From outside to inside, it's a handsome-yet-subtle tribute to nature that prepares visitors to appreciate the real thing. —SK



IT'S A WRAP

Clockwise from top, left: Îles-de-Boucherville National Park welcome center; Smith Vigeant Architectes' timber-clad information desk and ceiling; and the south elevation's slatted screen.



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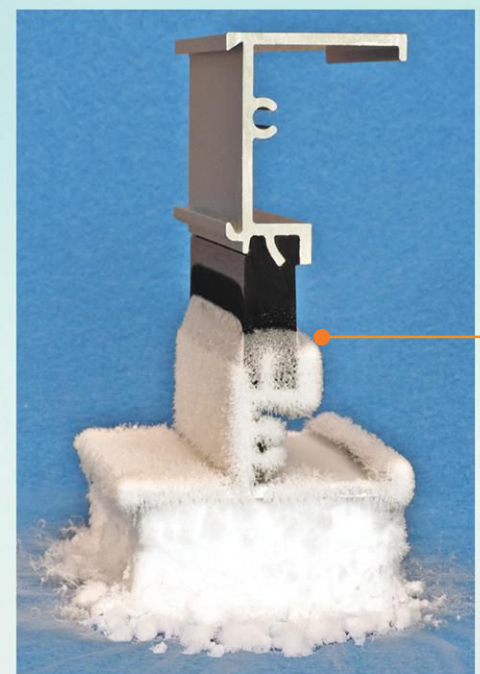


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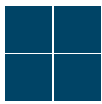
Azon Saves Energy

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- AZO/Tec® technical services with expertise in window design



Extreme cold temperatures of -100°C (-148°F) will not transfer through an aluminum frame with a modern pour and debridge thermal barrier (and neither will high temperatures in very hot environments)



Vitrine Chic

THE FIRST IMPRESSION IS EVERYTHING. But a location in a forgotten corner of a historic New York City building can be a tough place to carve out a memorable entrance of one's own. Existing architectural details (in this case pilasters, terrazzo, and vaulted ceilings) may compete or clash with new design. To avoid that, Brooklyn-based **Workstead**, the firm asked to adapt the building's previously sealed-off lobby as the home of a new bakery, tapped into nostalgia associated with vintage storefronts from the building's style era. Arcade Bakery is designed to look like a longtime tenant: The 4,200-square-foot bakery and café occupy mahogany-clad, brass-fixture alcoves along the lobby's corridor, blending in with existing Old World details. Its service window—customers' first encounter with the brand—is the scene stealer: A mahogany-wrapped vitrine with large, fold-up glass windows nods to classic sales counters.

"We designed the system of horizontal folding glass shutters to be easily opened and

incorporate visible brass hinges, cables, and counterweights," said Workstead's principal Robert Highsmith. To support its delicate appearance, Highsmith's team specified sturdy marine hardware. Paneling wrapping a portion of the wall beneath the counter and lining dining nooks along the corridor are also mahogany. "We often layer natural materials to introduce tactility in micro-spacial details," Highsmith says.

Workstead also solved for drawbacks such as the building's sloped floor, which makes conventional café dining sets impractical. "The steep angle of the slope," says Highsmith, "drove us to design seating within the alcoves." Built-in benches and custom fold-down tables complement the building's great bones. They also work as front-row seats for contemplating the lobby's architectural drama. —*Julian Lim*

BAKED GOODS

Located in the alcoves of an older New York City building, Arcade Bakery's curb appeal relies on its casework (top). Sloped floors (above, right) made built-in seating more practical than café chairs. Fold-down tables (right) make the eat-in areas work.





3D VISUAL STUDIO

MANUFACTURER: NanaWall

PERFORMANCE: 3D Visual Studio is the company's exclusive design program that enables architects to visualize and animate their design using NanaWall's Single Track Sliding glass walls.

PRICE RANGE: \$\$

APPLICATIONS: This proprietary tool integrates with the company's RemoteSTACK feature, making it possible to physically remove panels from the opening and store them elsewhere.

NANAWALL.COM

(SNAP #225)



ALUMINUM THERMALLY CONTROLLED MULTI SLIDE

MANUFACTURER: LaCantina

PERFORMANCE: The thermally controlled sliders provide structural integrity and energy efficiency. The company's proprietary design also allows for split finish color options for design flexibility.

PRICE RANGE: \$\$

APPLICATIONS: The Multi Slide system features door panels that stack flush for minimal sight lines.

LACANTINADOORS.COM

(SNAP #226)



ART DECO SERIES

MANUFACTURER: INOX

PERFORMANCE: This brass door hardware series features a commercial-grade, spring-assisted chassis for ease of operation and durability.

PRICE RANGE: \$\$

APPLICATIONS: Jazz Age-inspired details enhance a full array of entry sets, levers, escutcheons, deadbolts, door stops, door pulls, cabinet pulls, and pocket sliding-door hardware.

UNISONHARDWARE.COM

(SNAP #227)



KILN-FORMED GLASS

MANUFACTURER: Nathan Allan Glass Studios

PERFORMANCE: Custom products for exteriors include kiln-formed glass, thick glass, cast glass, and architectural textured glass.

PRICE RANGE: \$\$\$

APPLICATIONS: Custom glazing is ideal for exteriors, especially the company's Glass Flooring and Stair Tread applications designed with its Glass Sandpaper finish for safety and durability.

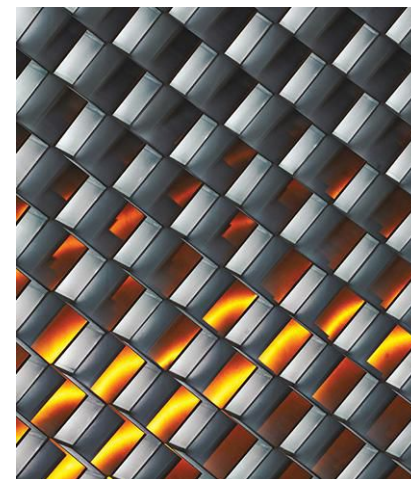
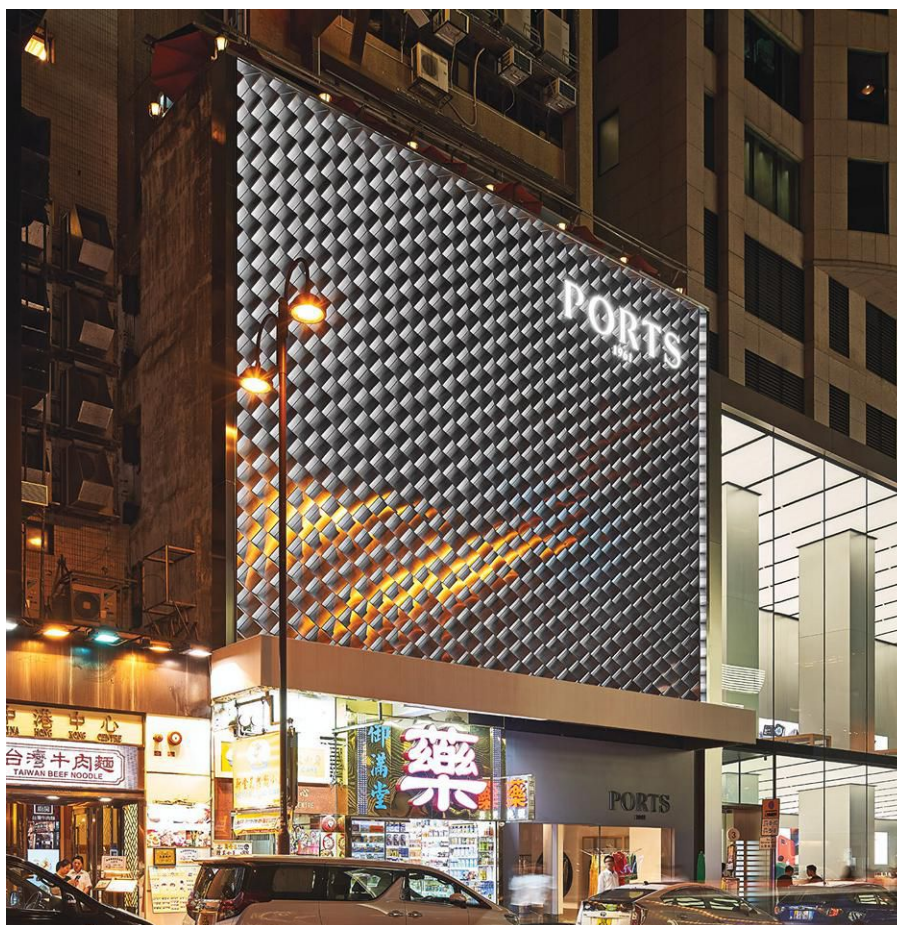
NATHANALLAN.COM

(SNAP #228)

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

Ports 1961

DEPENDING ON WHERE and when you gaze at it, the transformative facade of Ports 1961 in Hong Kong's Kowloon district can evoke both a peaceful glow and a garish glare. It's meant to distort and distract, according to its creators. The luminous face of the building in particular, designed by French engineering firm **T/E/S/S atelier d'ingénierie**, is built from glass-and-steel boxes that are open on one side: on each, two glass panels have a satin finish; two others, a sandblasted glass; the last is stainless steel. Installed together, the series of hollowed-out cubes creates a zigzag pattern, and its many angled reflective surfaces scatter both light and color. Canadian design studio **UUffe**, the architects behind the overall scheme for the exterior of the luxury clothing store, say it is meant to dazzle. Their official statement calls it "a mirage of an iceberg in the chaos." —JL



STARING INTO SPACE

The transformative façade of this high-end Hong Kong clothing store changes depending on where you stand and at what time of day.

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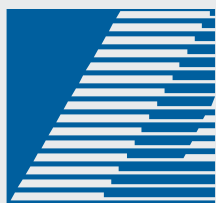
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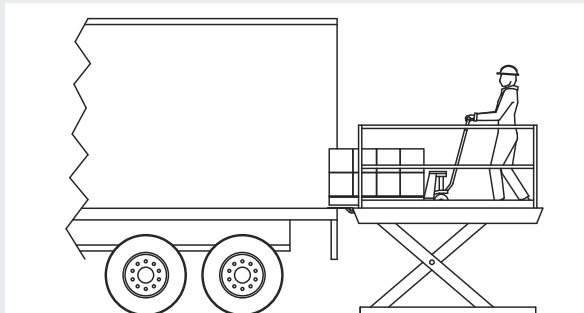


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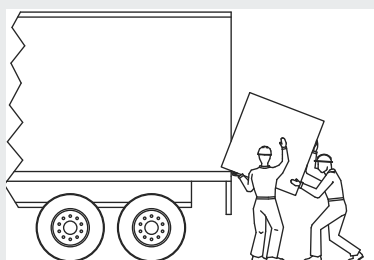


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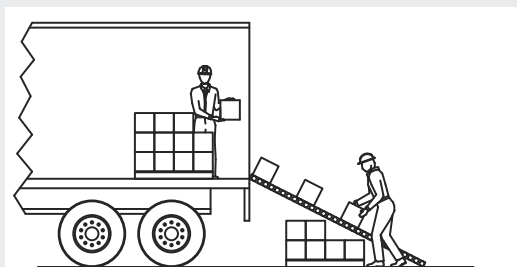
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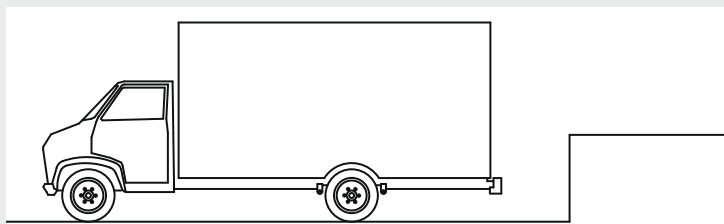


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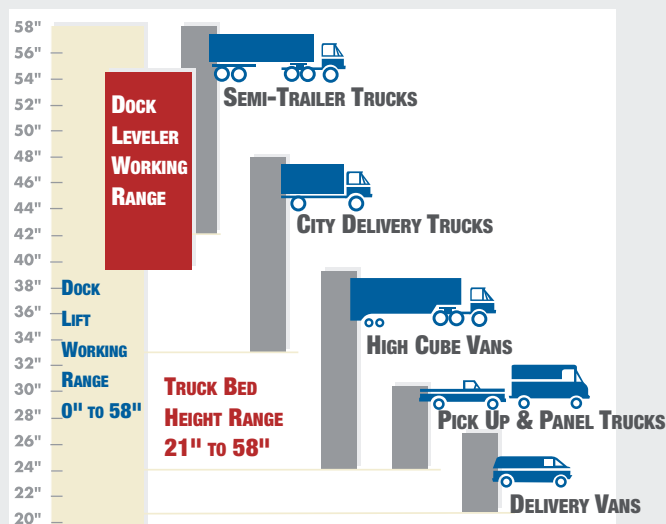
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SNAP 30

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Full Metal Jacket

BUILT IN 1972, the Nassau Veterans Memorial Coliseum, a sports and events venue on Long Island, was overdue for an update. “This building had great bones,” said John Cerone, associate principal and director of virtual design and construction of New York-based **SHoP Architects**, who undertook the exterior renovation. “With its four-foot-thick concrete piers, we knew it could hold much more. We took a light approach to the project and decided to clip a metal design element—a series of fins—to the existing structure.”

Digital modeling was key to the design process. The exterior of the Coliseum was scanned with 3D lasers to create digital files that would ensure the metal system fit precisely onto the building while allowing the fins and their support structure to be pre-fabricated in controlled environments. The scans enabled the design team to coordinate with the contractors to a tolerance of a fraction of an inch.

The intricate metal system wrapping the

arena consists of approximately 4,700 aluminum fins created from 225,000 square feet of recyclable, 4mm Alucobond PLUS aluminum composite material by **3A Composites USA**. The panels were folded into a tapered form similar to a shark’s dorsal fin, with none of them the same size or shape. As they contour around the building, they create a powerful undulating line that looks like an ocean wave.

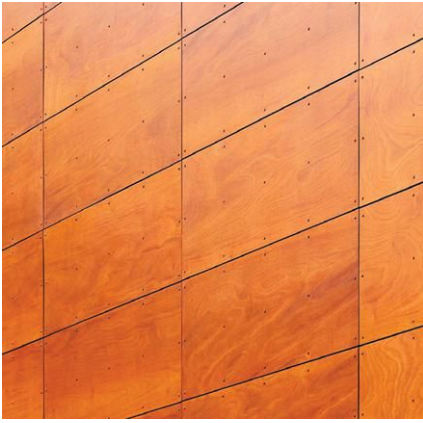
The Coliseum’s 85,000-square-foot concrete exterior was painted solid black in order to serve as a backdrop for the metal overlay. Instead of penetrating the walls to anchor the fins, they are installed in a pre-fabricated space frame attached to the wall. Using 20 miles of tubing, the 20-ton space frame was designed with 32 uniquely configured bays.—*Leslie Claggett*

FIN-TASTIC FAÇADE

Fabricated of two sheets of lightweight aluminum thermobonded to a proprietary fire-resistant core, the fins have a brushed aluminum finish that reflects ambient light and color throughout the day.



PHOTOGRAPHY: © JAMEY PRICE PHOTOGRAPHY; COURTESY OF 3A COMPOSITES USA



PRODEX

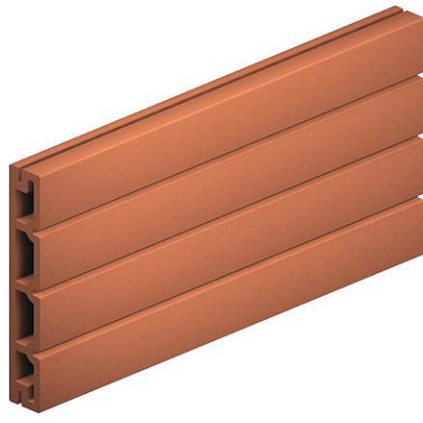
MANUFACTURER: Prodema

PERFORMANCE: A PVDF film coating makes these panels maintenance-free and resistant to dirt, graffiti, water, weather, and UV rays. Can be cut in the field, and available in curved profile. ISO 14006 certified, LEED eligible.

PRICE RANGE: \$\$\$

APPLICATIONS: With a high-density bakelite core, these wood-veneer panels can be installed with exposed or concealed mounting systems. Panels measure 96" x 48" and are offered in nine thicknesses and nine colors.

PRODEMA.COM
(SNAP #229)



TERRABRICK

MANUFACTURER: Palagio Engineering

PERFORMANCE: A1 fire-rated, freeze-resistant, LEED eligible.

PRICE RANGE: \$\$

APPLICATIONS: The hollow, extruded terracotta panels have a grooved surface recalling brick facing. In 24" and 48" lengths and 10" and 12" heights, they are installed with a mortar-free clip system. Available in four colors.

PALAGIOENGINEERING.COM
(SNAP #230)



CRATER FERRO

MANUFACTURER: Rieder

PERFORMANCE: ISO 9001, ISO 14001 certified. A1 fire-rated.

PRICE RANGE: \$\$

APPLICATIONS: The pitted texture of this glass fiber-reinforced concrete panel varies from 1/2" to 3/4" deep. In three formats: 48" wide, in 98-, 122-, and 142" lengths. Available in five standard colors, with custom colors available.

RIEDER.CC
(SNAP #231)



SERIES 912

MANUFACTURER: Porcelanite Dos

PERFORMANCE: Freeze resistant, LEED eligible.

PRICE RANGE: \$\$

APPLICATIONS: This porcelain tile has a rough, chiseled finish. Field tile measures 12" x 18"; molding and corner trim available. Available in five colors: Blanco, Marengo, Gris, Negro, Musgo.

PORCELANITE.ES
(SNAP #232)

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

Earth-Friendly Façade

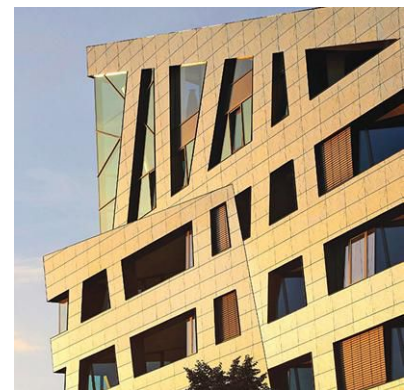
IN ITS DESIGN for the Sapphire 73-unit apartment building—its first residential project in Berlin—**Studio Libeskind** pursued both architectural and environmental goals. Located on a busy corner in the Mitte neighborhood, the building, with its large angular windows and canted, metallic-glazed tile walls, is a landmark in more ways than one.

The three-dimensional, geometric-patterned tile that clads the building is a key part of the firm's investigation into sustainability and new technologies. Designed by Daniel Libeskind for Casalgrande Padana, the "Fractile" stoneware panels cover 27,986 square feet of the exterior. The tiles have a super-hydrophilic titanium dioxide coating that breaks down organic deposits (dust and soot, greasy stains, and exhaust gasses) and non-organic stains (such as accumulations of sand or mud) when exposed to UV light, and sheds rainwater with great efficiency. Lab-tested under conditions that replicate 50 years of exposure to the elements, the self-cleaning, air-purifying cladding was specifically developed for façade use. —LC



CATALYST FOR CLEAN

Approximately 3,600 Fractile panels cover the exterior of this residential building, creating not just a distinctive appearance but improving the air quality by oxidizing common pollutants.



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SNAP 50



Shop'til You Pop(U)

CHARGED WITH DEVELOPING a technologically sophisticated, mobile store that is scalable, can be quickly deployed, and is suitable for testing new ideas in any market, Giorgio Borruso, founder of Marina del Rey, California-based **Giorgio Borruso Design**, analyzed the underlying issues.

“Perhaps the biggest challenge was to design a product that would allow retailers to stay relevant for many years to come, both in terms of rapidly evolving technology and the endlessly rotating, heterogenous tenants,” he said. His solution: a portable, 3,000-square-foot tensile fabric structure using material from Fabritec that can stand up to the physical stress posed by multiple relocations and installations.

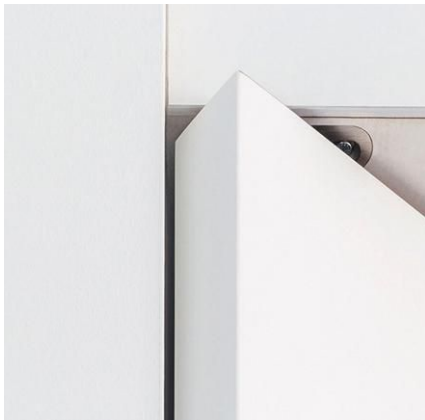
The interior features several custom-designed, interactive fixtures that blend online and physical experiences. A freestanding wall, dubbed the Shapeshifter, is a reactive merchandise display composed of moving components. A virtual reality dome encloses a 360-degree projector that extends the experience of the physical space into the digital realm. The ReacTable provides a readout of product information when a consumer places merchandise on its surface.

Borruso outlines the advantages to retailers: “They can bring in their own databases, update graphics, and rearrange layouts in a matter of minutes, without having to invest in long-term leases or costly construction.” —*Leslie Claggett*



CUSTOMIZED FOR CONSUMERS

Developed for retailing innovator ShopWithMe, the tent-like temporary structure by Giorgio Borruso Design combines the intuitive convenience of e-commerce and the tactility of conventional brick-and-mortar stores.



INVISIDOOR DL50

MANUFACTURER: Argenta

PERFORMANCE: Suitable for use in gypsum board and brick walls, this frame aligns completely flush with surrounding surfaces. Can be used in standard and non-standard openings.

PRICE RANGE: \$\$

APPLICATIONS: Concealed 3D-adjustable hinges are key to the seamless appearance of this aluminum door frame. Available in eight finishes.

ARGENTALU.COM
(SNAP #233)



BLACK SUEDE

MANUFACTURER: Assa Abloy

PERFORMANCE: Highly durable, permanent matte finish is tested to ANSI/BHMA 156.18 standards.

PRICE RANGE: \$\$

APPLICATIONS: The soft, suede-like feel of this hardware is a tactile design element. Available for a wide range of door closers, crash bars, hinges, pulls, bumpers, and locksets.

ASSAABLOY.COM
(SNAP #234)



GS-GL20 GLASS DOOR CAM LOCK

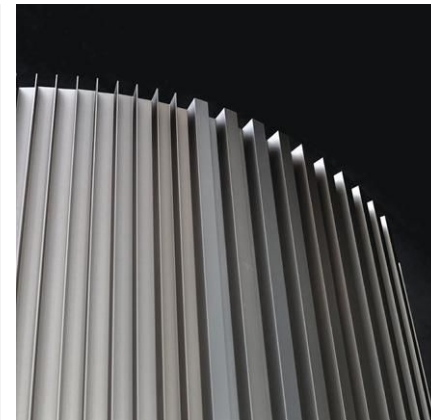
MANUFACTURER: Sugatsune

PERFORMANCE: Dimple key accommodates up to one million key changes, combining security, aesthetics, and flexibility. Master key system available.

PRICE RANGE: \$\$

APPLICATIONS: Designed for glass swing-door showcases. Offered in black, chrome, and 24K gold-plated finishes; coordinated hinges available. Available 2019.

SUGATSUNE.COM
(SNAP #235)



LINARTE

MANUFACTURER: Renson

PERFORMANCE: This aluminum wall cladding from Belgian manufacturer Renson clips to a horizontal mounting system and features deep channels to enable designers to add visual interest to façades.

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

APPLICATIONS: Designed as exterior cladding, Linarte's ribbed profiles can be adapted to hold LED strips. The manufacturer's blade-shaped Block wood infills to form address numbers and signage.

RENSON.EU
(SNAP #236)

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

Portable Paradigm

AS A VETERAN RETAIL DESIGNER, Joel Kamm was familiar with the shortcomings of mainstream, on-demand mobile outlets. "Trailers are restricted in height and are hard to set up and stabilize. Motor vehicles, with their typical 30+ inches of ground clearance, can be difficult for shoppers to access, are cramped, and not environmentally friendly," he said. "Shipping containers—really more of a temporary, rather than mobile, option—are limited [by] where they can be placed and are expensive to transport because they require a special license and union labor."

Knowledge of these restrictions helped to shape Kamm's solution: the **Flexetail Mobile Tiny Retail** store (MTR). Compliant with DOT height and width requirements, the 1,300-cubic-foot design maximizes interior space because it is not restricted by any preexist-

ing structure and is sized to fit within a parking spot. The platform lowers and lifts the entire store in seconds, making set-up and moving extremely efficient. Located under the doors, the hitch system allows for customized entryway options, including steps, ADA-compliant ramps, and extended platforms. Electricity is supplied via a PV-powered battery, allowing for off-the-grid installation.

While its technology is innovative, the MTR uses the same materials, finishes, and systems found in brick-and-mortar shops—this familiarity in form and function puts both consumers and merchants at ease. Fully insulated and fitted with HVAC, thermal comfort is assured. Tempered-glass doors and windows open onto an interior that can be customized to suit the sales inventory. —LC

SHOP SPOT

Flexetail's Mobile Tiny Retail unit comes in two sizes. The 12-ft model is 18'L x 8.5'W x 10'H and when open, takes up 100 sq ft. The 16-ft model is 22'L x 8.5'W x 11.5'H and when open, takes up 140 sq ft. The MTRs are available with mirrored plans, extending configuration options.



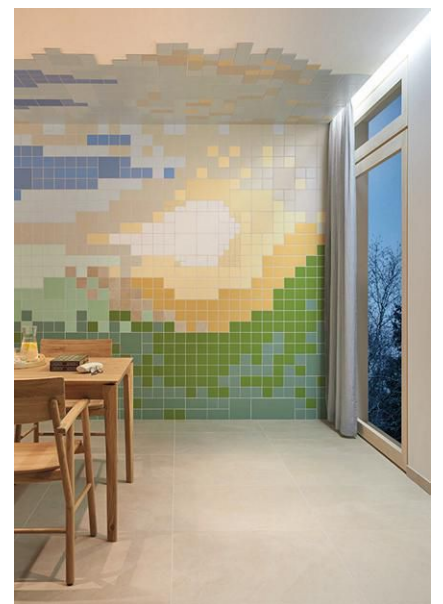


On the Surface

FOR FRESH INSPIRATION on colors and patterns for tilework, look no further than the winning submissions to the fourth annual International Newcomer Competition 2017 Tile Award, a juried contest, that has as its brief “make the most of possible designs using ceramic tiles.” The top designs were *Transmittance* by Avishkar Bharati of **JDAP Design-Architecture-Planning** in Mumbai, India; *RE: Tile* by Andreas Crynen of **Ingenhoven Architects** in Düsseldorf, Germany; and *Stay Unique* by Agnes Tröger-Morguet of **Agnes Morguet Innenarchitektur & Design**, in Cologne, Germany.

Whittled down to three from nine finalists out of an initial 63 entries from 20 countries, the winners had the opportunity to have their designs built as 1:1 models.

In a bonus event, finalists also met in fall 2017 for a workshop in Iceland where they had an opportunity to pitch their ideas to German tile manufacturer **Agrob Buchtal**, which sponsors the contest.—*Kelly Beamon*



THREE'S THE CHARM

Clockwise from the top: The Tile Awards' winning installations are *Transmittance* by Avishkar Bharati, *Stay Unique* by Agnes Tröger-Morguet, and *RE: Tile* by Andreas Crynen.



REDI YOUR WAY

MANUFACTURER: Tile Redi

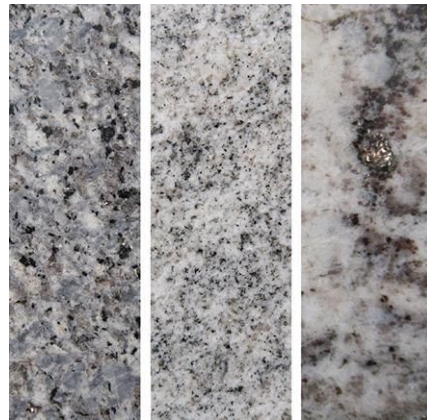
PERFORMANCE: These one-piece, leakproof shower pans come with integrated drains, thresholds, and splash walls.

PRICE RANGE: \$

APPLICATIONS: Surface overlays are available in a variety of colors to suit residential renovation projects, especially those with multiple units.

TILEREDI.COM

(SNAP #237)



SENSA

MANUFACTURER: Cosentino

PERFORMANCE: This easy-to-maintain granite surfacing is available in a wide range of veinings and textures.

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

APPLICATIONS: Sensa slabs are recommended for kitchen counter tops and exterior applications, and can be specified with stain protection.

COSENTINO.COM

(SNAP #238)



MEDINA TILE COLLECTION

MANUFACTURER: StoneImpressions

PERFORMANCE: This artisan-style tile is available in Carrara marble or Limestone, for interior and exterior use.

PRICE RANGE: \$\$\$

APPLICATIONS: Inspired by Mediterranean culture and colors, with accents of onyx and turquoise, Medina Tile is ideal for residential applications.

STONEIMPRESSIONS.COM

(SNAP #239)



SUBWAY! JEWEL GLASS MOSAIC

MANUFACTURER: New Ravenna

PERFORMANCE: Part of the company's KIDDO Collection, this mosaic tile is made with waterjet cutting technology.

PRICE RANGE: \$\$

APPLICATIONS: Decorative tile recommended for residential and commercial use.

NEURAVENNA.COM

(SNAP #240)

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

Pattern Play

CEMENT TILE has been trending as a way to add texture and spark to residential spaces because of its matte finish and association with bold patterns. A case in point is Brooklyn firm **4|Mativ**'s update of a 50-square-foot master bathroom, as part of a townhouse renovation that won the firm a spot among Record's noted annual Kitchen & Bath projects (Record, September 2018).

Architect Priya Patel and interior designer Esther Beke, the firm's principals, specified the **Cement Tile Shop**'s tile on the floor of the big upstairs bath to abstract the patterned wallpaper used in a smaller downstairs bathroom. The wallcovering itself echoes patterns on cozy Pendleton blankets.

To amp up the master bath's comfort level, the designers added radiant heating under the floor tiles and built wall-mounted cubbies for toiletries on either side of a new walnut double vanity. True to 4|Mativ's philosophy that baths and kitchens should "add quality to a client's life," the bold tile has brought a sense of drama to the family's daily routines. —*Diana Mosher*



GO BOLD

Designers of this master bathroom chose this cement tile for its pattern. Its thin glaze and delicate clay body are best suited to low-traffic residential spaces.



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- Flat panels
- Perforated or slotted
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- May contribute to LEED® projects
- FINISHES: Clear lacquer top coat or stained to match

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Sounds Good!

Architects designing open offices tackle the common annoyance of workplace noise.

BY KATHARINE LOGAN

THE RATTLING OF AN AIR DIFFUSER, the ping of an elevator, the laughter of colleagues gathered around the water cooler, the conversations of neighbors overheard loud and clear: such distractions in the workplace are so irksome that acoustics consistently rank as the No. 1 or 2 complaint on employee surveys, with poorly designed open offices largely to blame. “It’s not easy to deal with noise,” says Bill LaPatra, a partner with the Seattle-based architecture firm Mithun. Unlike thermal discomfort, the other top-ranked workplace complaint, “You can’t just put on a sweater” to fix it, he says.

Many architects, along with employers, are grabbing this issue by the ears—especially in the tech

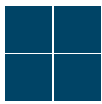
industry, where productivity is a direct function of engineers’ ability to focus, and sector growth keeps workplace design on the leading edge. The cycle of build, occupy, test, and repeat is exceedingly short for the most quickly growing tech companies, says Stuart Colby, a principal at Portland, Oregon-based SERA Architects, and acoustic design is a significant aspect of those iterations.

One example is Microsoft Corporation, which made the transition to open offices about five years ago. Since then, providing employees with acoustic comfort has become something of an obsession for Brenda Ball, the company’s Americas workplace

BEYOND THE CUBICLE

Instead of trying to stop workplace noise, Mithun’s renovation of Microsoft’s marketing offices in Bellevue, Washington, provides several types of environments, including kitchens (left) and collaboration nooks (below), so that employees can select a spot with the physical layout and acoustical properties best suited to the task at hand.





strategist. “If you’d told me 20 years ago that I’d be this dialed in on acoustics, I would have been surprised,” she says, but with multiple factors in this high-pressure industry fragmenting employees’ attention, “it’s more important than ever to get acoustics right.”

So when Microsoft renovated its marketing offices in Bellevue, Washington, acoustics were a top priority. The limited-scope “refresh,” designed by Mithun and completed in 2017, comprises 139,000 square feet on seven floors in a downtown high-rise, with the graphics, textures, and colors of each floor intended to evoke one of the company’s seven U.S. operating regions. On the level designed to recall the Midwest/Great Lakes region, for example, the social hub uses charred wood and a bricklike tile for a gritty, urban feel, with wavy-edged wood ribbing overhead inspired by steel bridge structures; in the Pacific hub, perforated metal sails, blond wood, aqua chairs, and a food-truck-effect canopy over the bar create a very different tone.

While each floor’s aesthetic is unique, the acoustic strategy is consistent and is based on “modes of behavior,” says acoustic consultant Basel Jurdy, a principal with the local office of Stantec. He identifies three types of activity, each with a corresponding quality of attention: administrative, characterized by light focus that can accommodate colleagues’ stopping by; focused, requiring concentration without interruption; and re-energizing, when a round of intense work is completed and it’s time to recharge, either by socializing with coworkers or unwinding alone.

Each floor of Microsoft’s new space offers a choice of environments tailored to each mode. Besides the shared open office, there are small nooks and soft-seating areas for informal collaboration, as well as enclosed meeting rooms and two-per-

son conversation rooms for high-focus activities, with even smaller rooms for making phone calls, and a social hub where employees can take a break. To encourage people to use the environment most appropriate to their acoustic needs, ancillary spaces are located conveniently close to the shared open office area. “Instead of trying to stop the sound of voices in the open workspace,” says LaPatra, “we provide a variety of acoustically different zones.”

Meeting rooms are designed with particular attention to the acoustics of digital conferencing so that crucial presentations aren’t undermined by muffled or garbled sound. To prevent acoustic reflections that might not be noticed by people in the room but can be picked up by microphones, fabric-wrapped semi-rigid fiberglass boards cover three-quarters or more of the ceiling, with additional sound absorption from carpeted floors and acoustic treatments on one or—ideally—two walls. Meeting and phone rooms are isolated from adjacent spaces with walls comprising three layers of drywall on fiberglass-insulation-stuffed stud framing. And because occupants of the small phone rooms are inevitably speaking close to the walls, the risk of booming is eliminated with acoustic panels.

Getting the design right is necessary but not sufficient for success. It’s equally essential that contractors maintain acoustic seals and inspect for holes before walls are closed in. Otherwise, says Ball, “you spend money to provide a highly performing space, and with one leak the money goes out the window.”

The Microsoft renovation—which Ball says is generating a lot of positive feedback—illustrates how much can be achieved acoustically with spatial and surface interventions’ targeting specific areas for maximum benefit. A more thoroughgoing revamp of 300,000 square feet in three two-story buildings in



Mountain View, California, allowed SERA, the architect for the project, to make some big moves. The renovation, initially designed for another tech client with a strong commitment to good acoustics, was taken over by LinkedIn during construction and completed in 2017; it engaged site, building envelope, mechanical systems, and structure, as well as the configuration and finishing of the interiors.

The first move was to transform a central parking lot into a landscaped meadow criss-crossed with boardwalks. The transformation connects the buildings, provides a place of respite for workers—whether visiting the meadow or just glancing out a window—and removes vehicle noise and movement from the campus's center. The peaceful space that now resides between the buildings is a huge resource, says Colby. To animate this new park, and to pull noise-generating program elements away from focused-work zones, cafés and fitness facilities are located at building corners, with access from inside and out.

The campus's existing ribbon windows, tinted almost black, transmit less than 15 percent of visible light. However, replacing them with clearer glass would have entailed re-engineering to meet new

energy code requirements. So, within the buildings' enormous floor plates (the largest is 386 feet across), the architect introduced skylit atria. Because people are naturally drawn to daylit spaces, areas adjacent to the new openings are zoned for group activity, with such potentially noisy elements as kitchens and game rooms positioned away from more-focused-work areas.

Open workspaces are divided into 50- to 70-person neighborhoods separated by 66-inch-tall partitions. (Such high panels are generally not a good acoustic choice for enclosing individual and small-group workspaces, as people tend to confuse visual for acoustic privacy and speak more loudly than when they can see their neighbors. But for separating large groups, where there is no illusion of privacy, this isn't an issue.) Neighborhoods were further subdivided into teams of about 16, using lower furnishing partitions such as felt panels and sliding whiteboards. As at Microsoft, conveniently located ancillary spaces provide acoustic flexibility and choice. At any given time, every employee has at least one spot, in addition to an assigned desk, where he or she could choose to work.

Informing the design for the project, acoustician Ethan Salter, a principal consultant with San Francisco-based Charles M. Salter Associates, used several computer-based methods to predict speech privacy, including the Privacy Index (an ASTM-defined metric—based on the percentage of words spoken that may be understood by people nearby—for determining whether a space provides a “normal,” “confidential,” or “secure” level of privacy). Each method evaluated some common factors: noise level, sound isolation between spaces, room finishes, and background-noise levels.

SERA's approach to acoustics on all of its projects, LinkedIn included, is based on recommendations in the General Services Administration's publication *Sound Matters*. In addition to defining essential terms, providing an overview of the relevant research, summarizing key concepts, and detailing specific strategies, the publication (intended to assist owners and employers, architects, user groups, and other members of the design team) provides a 10-step checklist for achieving acoustic comfort in offices. The first four steps, pre-design, consist of developing the acoustic program and defining workplace policies. The next three address the design of the spatial layout,

PARK VS. PARKING

SERA's revamp of a complex for LinkedIn in Mountain View, California, replaced a parking lot with a landscaped courtyard (opposite page), removing car noise from the campus center. The buildings' interiors are zoned so that areas where people would naturally gather, such as kitchens (above), are positioned adjacent to skylit atria.



while the final steps deal with the acoustical treatment of spaces.

Acoustics rank as a high priority for any company wanting to foster productivity and well-being in the workplace, but for Plantronics, an audio-communications-equipment company, acoustics are a matter of identity. So its first ground-up, new office facility, the company's Europe, Middle East, and Asia headquarters, completed last year in Hoopdorp, the Netherlands, puts acoustics first and foremost. The 40,000-square-foot, three-story building's clean, monochromatic exterior is intended to reflect the company's mission and design philosophy, according to the architect, William McDonough+Partners. The spacing of reflective metal panels and windows, shifting between solid and transparent areas, is inspired by sound wave patterns.

The interior, designed by a team from Gensler's New York and San Francisco offices in collaboration with local N30 Architects, engages visitors and employees in an acoustic-integrated narrative. Beginning with the parking garage—where most people will arrive—graphics provide an overview of the company's history. The elevator and stairwell provide an acoustic pause, with sound-absorbing panels creating a sense of calm, and light and white surfaces supporting the silence.

From the ground-floor lobby—which provides a fuller introduction—stairs ascend within two diagonally stacked double-height atria. To prevent the free roaming of sound from floor to floor, a large wall rising through the space is faceted

and fissured with acoustic plaster to absorb and break up reflections. "You can dampen, you can block, you can cover," says Milena Jovovic, design director at Gensler, "but this breaks up the sound waves so they would naturally dissolve." A living wall, intended primarily for biophilic effect, also helps dissolve sound waves.

The narrative continues in an exhibition area on the second floor, where a special room designed to approximate an anechoic chamber (one that absorbs reflections of sound or electromagnetic waves) creates nearly complete silence. Here, an interactive tabletop with a complementary lighting installation allows visitors to experience the acoustics of a typical workspace and then transform them with soundscaping. This technology is a refinement of sound masking, an active strategy among the primarily passive tactics of acoustic design. Masking delivers low-level background sound matched to the spectrum of human speech—mitigating what might otherwise be uncomfortable silence and rendering normal conversation unintelligible to the casual listener. Soundscaping achieves the same effect using identifiable sounds, such as flowing water, which Plantronics has found to be most effective at mitigating speech distraction. The sound of water also has the benefit of mood-enhancing associations. Soundscaping can also be dynamic, residing in the Cloud and using sensors in an Internet-of-Things (IoT) infrastructure to respond to the volume of noise in different parts of the office in real time.

On the third floor, where Plantronics hopes to inspire its engineers to solve modern



workplace problems by immersing them in a modern workplace, an open office uses soundscaping for real. To help dispel any cognitive dissonance that a sourceless sound of water might set up, the interior design incorporates water features—to define a waiting area, for example—as well as screens that act as digital windows (or skylights) to a view of nature. “We’re really working with psychoacoustics,” says James Waddell, a managing director at Plantronics, referring to the branch of psychology concerned with the perception of sound and its emotional effects. “How does a human feel in the space? That’s the No. 1 thing to think about.”

That one thing is affected by a multitude of factors, and Plantronics, LinkedIn, and Microsoft each emphasize different strategies, or give different expression to similar strategies, in their approach to workplace acoustics. In a

comment that pertains equally to all three projects, however, SERA’s Colby identifies what underlies their acoustic excellence. “It isn’t that they faced some heroic challenge, like creating the world’s greatest concert hall,” he says. “It’s that they required a lot of discipline, consistency, and follow-through to apply a wide range of acoustic-design principles across a variety of spaces—with the typical budget pressures that even well-funded projects face.” That lesson is not just for the tech sector; it has the potential to help people in open offices everywhere to concentrate more easily, and to enjoy better acoustics during their time at work. ■

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

CORPORATE IDENTITY

The Gensler-designed interiors for the offices of audio-equipment company Plantronics in Hoopdorp, the Netherlands, include a double-height lobby (opposite) with a faceted wall that mitigates acoustic reflections. Upstairs, water features (left) provide low-level background noise. A nearly anechoic room (above) allows visitors to experience soundscaping.

Continuing Education

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Learning Objectives

- 1 Outline spatial-layout strategies that can mitigate distracting workplace noise.
- 2 Describe finishes and construction details that can improve open-office acoustics.
- 3 Discuss methods for determining the level of speech privacy a particular design will provide.
- 4 Describe technologies such as sound masking and soundscaping.

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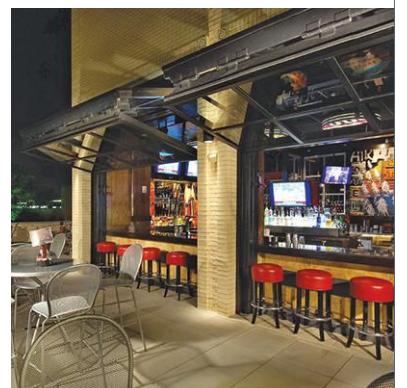
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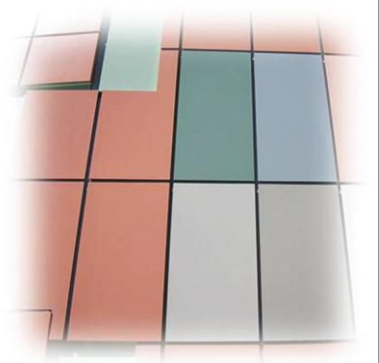
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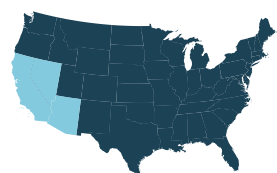
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A Bright Future

Jobs, wages, and production activity are on the rise out west.

BY J. MICHAEL WELTON



MANUFACTURERS IN Arizona, California, and Nevada now describe the Great Recession as a memory and their business outlook as good.

“The momentum is extraordinary,” says Sandra Watson, president and CEO at the Arizona Commerce Authority. “In 2013 there were about 155,000 manufacturing jobs. In five years, those grew five percent to 162,400 jobs today.”

Companies like **Nikola Motor Company** and **Lucid Motors** each added 2,000 jobs, while **Orbital, Raytheon**, and **Intel** also grew. Salaries are rising: “The average wage is \$72,800, up 6.5 percent from five years ago,” Watson says.

At 10-year-old **Arktura** in California, a maker of ceiling and wall systems, software that improves production methods makes all the difference. “We’ve expanded with multiple machines,” says Sebastian Munoz, director of design and development. “To simplify steps, you have to create the software.”

Still, they compete for materials. “The automotive industry is now using a lot of aluminum,” he says. “We’re fighting with the big dogs, and that’s always a challenge.”

Bob Potts, research director at the Nevada Governor’s Office of Economic Development, can’t keep up with growth at the Tahoe-Reno Industrial Center. “There’s a battery factory there, a partnership with **Panasonic** and **Tesla**,” he says. “And there are big data centers for **Apple** and **Google**, and fulfillment centers for **Zulily** and **Amazon**.”

Each contributed to Nevada’s 14 percent manufacturing growth year-to-date, with 6,500 jobs added since January.

Small firms like North Las Vegas-based **GigaCrete** are growing too. Its mineral-based plaster and stucco—able to withstand high winds, deep heat, and 30.06 bullets—are experiencing demand in disaster-stricken areas in California and the Caribbean. “We’ve beaten last year’s sale already,” says Michael Johnson, president and CEO.

Arizona, California, + Nevada



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3 **MANUFACTURER:** USG Ceilings Plus
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PRICE RANGE: \$-\$\$\$
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4 **MANUFACTURER:** Cerno Group
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\$288 BILLION

SOURCE: CALIFORNIA MANUFACTURERS AND TECHNOLOGY ASSOCIATION

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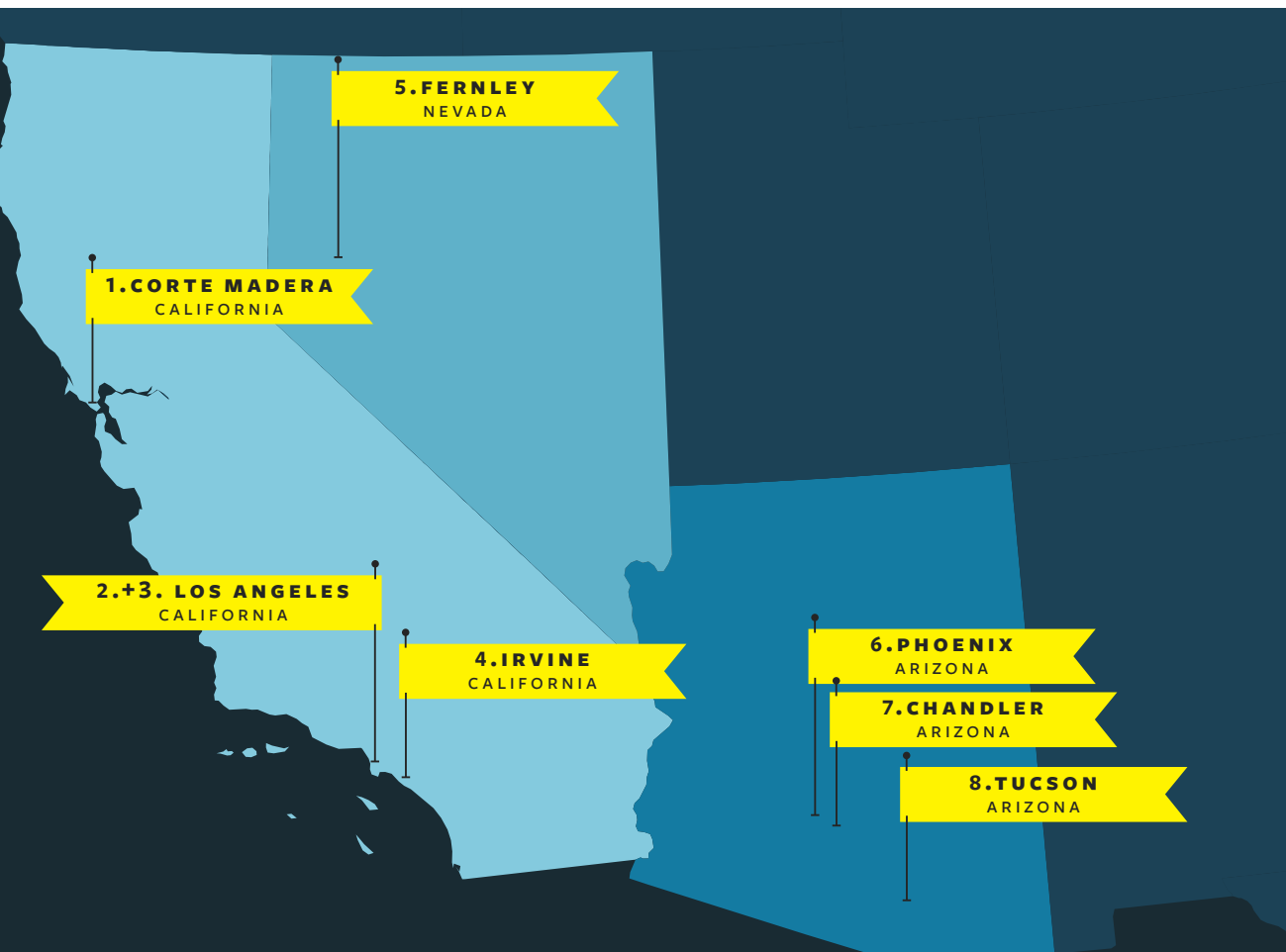
56,000

workers at over 1,800 manufacturing companies.

Printing, publishing, and metals fabrication account for more than **10,000** of those jobs.



SOURCE: NEVADA GOVERNOR'S OFFICE OF ECONOMIC DEVELOPMENT



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NEVADA

2.+3. LOS ANGELES
CALIFORNIA

4. IRVINE
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7. CHANDLER
ARIZONA

8. TUCSON
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PRICE RANGE: \$\$
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PRICE RANGE: \$\$
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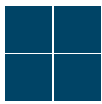
Bonded Logic
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NEW AND UPCOMING EXHIBITIONS

ADFF: NY

NEW YORK

October 16–21, 2018

This month, the Architecture & Design Film Festival will launch its 10th season in New York. The event promises dozens of documentaries about creative visionaries, talks with filmmakers and architects, and interactive installations. More at adffilmfest.com.

Edward Burne-Jones

LONDON

October 24, 2018–February 24, 2019

This exhibition at Tate Britain charts Burne-Jones's rise from an outsider of British art to one of the great artists of the European fin de siècle. The museum will display over 150 works in different media including paint, stained glass, and tapestry. More at tate.org.uk.

KAHNSCIOUS: Photographing Architecture

NEW YORK

October 27, 2018–January 20, 2019

The Hudson Hall presents Scott Benedict's collection of images, audio documents, and notes detailing his journey photographing architect Louis I. Kahn's creations. For more information, visit hudsonhall.org.

Paul Rudolph: The Hong Kong Journey

NEW YORK

November 29, 2018–March 2, 2019

Through a series of previously unseen drawings, sketches, and renderings, this exhibition at the Center for Architecture will focus on the American architect's three significant projects in Hong Kong. For more information, visit paulrudolphheritagefoundation.org.

The Sea Ranch: Architecture, Environment, and Idealism

SAN FRANCISCO

December 22, 2018–April 28, 2019

This exhibition at the San Francisco Museum of Modern Art will examine the early concepts and plans for a seminal Northern California Modern development through archival and contemporary photographs, original drawings and sketches from the project's designers, and a full-scale architectural replica. More information at sfmoma.org.

Anni Albers

LONDON

October 11, 2018–January 27, 2019

The Tate Modern will present the UK's first major work of German textile artist Anni Albers. The more than 350 objects include small-scale studies, large wall hangings, jewelry, and textiles for mass production. For more information, visit tate.org.uk.

Glenstone Expansion

POTOMAC, MARYLAND

October 4

The Glenstone Museum will open its new Pavilions, a 204,000-sq-ft building and 130 acres of landscape. The expansion will provide 50,000 sq ft of new exhibition space with 13 distinct areas featuring art from Glenstone's collections. Learn more at glenstone.org.

World Architecture Festival (WAF)

AMSTERDAM

November 28–30, 2018

WAF is the world's largest annual international live architectural event. On the final day, the organization will announce the winners of the WAF Awards, the world's biggest international architecture awards program. For more information, visit worldarchitecturefestival.com.

Salone del Mobile

SHANGHAI

November 22–24, 2018

Salone del Mobile will feature 119 elite Italian brands showcasing work for the Chinese market, highlight rising designers, and include master classes with renowned Italian and Chinese architects. More information at salonemilano.it/en/.

ONGOING EXHIBITIONS

1:1 Drawing, Design, and Communication

NEW YORK

Through November 10, 2018

The show at the New York School of Interior Design aims to expose the public to the varied ways designers have approached communication over the centuries, with a specific emphasis on the necessities of communicating designs for production and presentation. The exhibit will include drawings, instructions, objects, and interiors from over 20 historic and contemporary designers. More at nysid.edu.

Mario Bellini for Murano

VENICE

Through December 2, 2018

Architect and industrial designer Mario Bellini's glasswork is on display at the Fondazione Musei Civici di Venezia as part of Venice Glass Week. The exhibition features recent productions, including his architecture for the Deutsche Bank headquarters in Frankfurt (2011) and the Louvre's Department of Islamic Art (2012). For more information, see museovetro.visitmuve.it.

B. Wurtz: Kitchen Trees

NEW YORK

Through December 7, 2018

For his first public commission, artist B. Wurtz created an installation of five sculptures for New York's City Hall Park. The whimsical, large, arboreal-looking structures are composed of found kitchen items that form "trunks" and cascading "branches," with hanging plastic fruits and vegetables. More at publicartfund.org.

Investigating Where We Live

WASHINGTON, D.C.

Through December 31, 2018

The annual exhibit is the product of a five-week program where teens 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 information at nbm.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 for their use of silver production at the time of the fair. At the Richard H. Driehaus Museum. For more information, visit driehausmuseum.org.

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. Visit royalacademy.org.uk.



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Ai Weiwei: Life Cycle

LOS ANGELES

Chinese artist Ai Weiwei's first major institutional solo exhibition in the 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.

LECTURES, CONFERENCES, AND SYMPOSIA

2018 American Society of Landscape Architects Annual Meeting and EXPO

PHILADELPHIA

October 19–22, 2018

The four-day event is the largest global gathering of landscape architects and students, with over 6,000 attendees expected. The program will include more than 135 educational sessions, lectures, and tours, along with a trade show featuring 350 exhibitors. At the Pennsylvania Convention Center. More information at aslameeting.com.

Modern House Day Symposium and Tour

NEW CANAAN, CONNECTICUT

October 20, 2018

Hosted by the New Canaan Historical Society, this year's symposium will center on ideals germane to the work of architects, including materiality, proportion, and sustainability. Panelists include Cooper Union's architecture school dean, Nader Tehrani, and architects Sean Godsell and Go Hasegawa. A tour of four modern houses, including Philip Johnson's Glass House, will follow the discussion. More information at nchistory.org.

COMPETITIONS

London Affordable Housing Challenge

Registration deadline: October 9, 2018

As property prices continue to soar in London, this competition asks participants to design a pilot-phase concept for affordable housing in Britain's capital. For more information, go to londonhousing.beebreeders.com.

LA+ ICONOCLAST Design Ideas Competition

Deadline: October 10, 2018

The contest invites landscape architects, architects, planners, artists, and designers to reimagine New York's Central Park. Five winners will share \$20,000 and be featured in a special issue of LA+ Journal. See more at laplusjournal.com/ICONOCLAST-Competition.

Memorial to the African Americans Enslaved by William & Mary

Deadline: October 12, 2018

The Lemon Project Committee on Memorialization invites design submissions for a memorial to the men, women, and children who were enslaved at the College of William & Mary. See wm.edu/sites/enslavedmemorial.

The Rio Reimagined 2018 Ideas Competition

Registration deadline: October 28, 2018

The American Institute of Architects Phoenix Metro Chapter calls on architects, urban planners, landscape architects, developers, and community leaders to submit proposals that would help restore the Rio Salado's natural ecosystem and spur economic vitality in the surrounding eight Arizonan communities that share it. For more information, see aia-phoenixmetro.org/competition-18.

2019 Richard Rogers Fellowship

Deadline: October 28, 2018

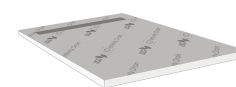
Established three years ago by Harvard University's Graduate School of Design, this research-focused residency program takes place at the British architect's Wimbledon House in London. The fellowship is open to candidates who are interested in exploring topics that have been central to Rogers's career, including urbanism and sustainability. More information at richardrogersfellowship.org.

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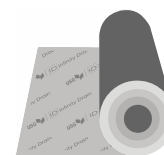
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SNAP 203



YOU INC.

Soft Identity, an installation by Puerto Rico firm MUUAAA at London's Design Biennale, invited attendees to define themselves via custom designed shirts, flags, coats-of-arms and passports.

London Design Festival and Biennale

THINGS GOT EMOTIONAL DURING THE LONDON DESIGN FESTIVAL (LDF) and the overlapping DESIGN BIENNALE.

At LDF, **Thomas Heatherwick**, whose firm is behind the design of the Olympia master plan and Coal Drops Yard retail district, delivered a keynote address pronouncing "There is so much character and atmosphere in old structures. They really create a human connection that many new buildings, with their scale and shininess, struggle to have."

Architecture's emotional resonance was also probed at the Design Biennale where the theme was *Emotional States*. Held at Somerset House, the Biennale's exhibitions representing 40 cities, countries, and terri-



tories wrangled with a connection between design and mental and physical well-being. Installations touched on issues such as social equity, sustainability, migration, and urban living.

MUUAAA, a Puerto Rico based firm, seized the moment to examine complex feelings of communities with controversial national identities in *Soft Identity*. Their retail-inspired demonstration allowed attendees to produce their own branded flags, passports, and coats-of-arms.

A Dutch contingent offered *Power Plant*, a compact greenhouse that could replace farms lost to climate change. Tricked out with a hydroponic water system and red and blue LEDs that increased plant growth 40 times over, the self-sufficient greenhouse could produce crops year-round and—via its solar panels—generate all the electricity needed to do so.

Silent Room, by Lebanese designer Nathalie Harb, grew out of the realization that in cities, quiet has become a luxury commodity. Her proposal was a new type of public amenity: a cocoon-like space with piped-in bird noises, where users could escape environmental and visual noise.

Another type of regeneration was in play in entries from war-torn countries. Somalia's



CONSTRUCTIVE DISCOURSE

Installations by Waugh Thistleton Architects (top) and Studio INI (left).



What Remains traced how the country's protracted civil uprisings have decimated its architecture. Through pictures and 3D models, organizers remembered and honored iconic buildings in Mogadishu, the country's capital; these recreations symbolically helped them regain moments of their culture and identity that were lost with the structures.

In a similar vein, the U.K.'s *Maps of Defiance* focused on documenting ISIS' systematic genocide of Yazidi communities in northern Iraq. Conducted by **Forensic Architecture** in conjunction with the Victoria & Albert Museum (V&A) and, the non-governmental organization Yazda, this entry used photography, photogrammetry, and witness accounts to recreate lost Yazidi sites. From there, team members cross-referenced images and models, documenting all the decimation in order to understand the scale of the destruction, give a voice to the victims, and help heal those who survived.

Back at LDF, to Heatherwick's point about connecting the new and the old, *MultiPly*, a multistory jumble of staircases, bridges, and lookout points by **Waugh Thistleton Architects**, **ARUP** and the **American Hardwood Export Council**, took over the V&A's courtyard. Comprised of prefab panels made of cross-laminated timber (CLT), the project championed the structural and aesthetic properties of the latest wood alternative. It also advanced CLT's viability for commercial and residential developments. As for the ease with which *MultiPly*'s panels can be assembled, taken apart, and reconfigured: Well, that's just a nod to the architects down the line who will one day rework the structure. —Julie Taraska

AMERICAN BEAUTY

The Face Values exhibit by the Cooper Hewitt, Smithsonian Design Museum

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DESIGNING SITE FURNITURE is always demanding. Products need to resist weather, vandalism, wear from repeated use, and possess visual appeal for masses of passersby.

Prague firm **Atelier SAD** received a crash course in such rigors of product manufacturing when it collaborated with landscape furniture company **Mmcitéi** on a portable gazebo structure called Pinecone, shown on this page.

The manufacturer's brief was for a shelter that would be fun, but also easy to break down, transport, and reassemble in a day. Because clever design is also key to marketability, the company turned to SAD, a team of designers and architects with a penchant for concrete Brutalism and the sculptural architecture of the sixties.

"We were aiming to smash boundaries. Above all, the Pinecone is a versatile structure which works in parks and schools alike," says David Karásek, the manufacturer's co-owner and designer, explaining the market impact they wanted it to have.

But the most durable materials are often heaviest, so keeping the structure lightweight introduced an additional layer of challenges. Which material was both strong and portable, without being too expensive for mass production?

SAD's designers responded by creating the friendly, freestanding structure shown here, which is made of 109 plywood panels shaped like fish scales. Coated with a special waterproofing finish, the panels attach to a dome-shaped steel frame in seven tiers using a system of galvanized steel joints. Openings between scales enable natural ventilation, light and gentle sound control in outdoor spaces. — *Vittoria Elliott* (SNAP #260)



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