THE ART OF SOLID STATE LIGHTING
Barely a decade since LEDs entered the mainstream, it has become a major player as an interpreter of functional and fine art. Once limited as a neon replacement for flexibility and color, the benefits for both characteristics—as well as ease of maintenance, reduced energy use, and extended life—have allowed LEDs to become a palette for light artists and lighting designers worldwide. That said, LED “art” installations, typically fall into one of five forms:

- **Environmental Art**
  LEDs as an art form has rapidly grown in public appreciation. At the James Turrell exhibit at New York’s Guggenheim Museum, visitors who filled the seating platforms at ground level were mesmerized by a color-changing bath of light swirling around the 65-ft.-wide by 95-ft. high central atrium. North of the border, in Winnipeg, Canada, the fanciful “emptyful” has turned a downtown open space into a destination for residents and visitors.

- **Projected Art**
  Used in tandem with sophisticated projection techniques, LEDs add color and dramatic imagery to events such as the city-wide celebration Vivid Sydney, and the historical outdoor documentary Fresque de Nuit, in Mont-Laurier, Canada.

- **Transformed Outdoors**
  The lighting program for Dallas’ Klyde Warren Park incorporated LEDs into the inspirational solution for constructing a public park out of an urban void.

- **Integrated Art + Architecture**
  Outlining a building such as the Star Performing Arts Centre in Singapore, LEDs can turn a structure into a painterly expression of form, giving it a glowing substance on the night sky.

- **Transformed Indoors**
  Google offices have set a standard for lifestyle work settings to visually support the creative process. In the Dublin, Ireland office, the lighting creates a distinctive flow linking the design throughout the spaces.

Light artist James Turrell has accomplished a rare feat in the art world: simultaneous exhibits of his work at three major U.S. museums. In New York, Houston and Los Angeles, Turrell’s work drew crowds from late spring until late September; the current retrospective in LA runs through April of 2014. Septuagenarian Turrell is no come-lately to the light-as-art scene. He has been experimenting with light forms since the mid-1960s. His newest and largest major public work was on view at the Guggenheim where the rotunda bore little resemblance to the space designed by Frank Lloyd Wright. A solid tapering cone was constructed over the spiral openings from the ground floor to the top. Visitors gathered at the bottom of the rotunda, looking up at elliptical bands of light undergoing constant transformation as the graduating light patterns beamed from sets of LED fixtures mixed with daylight from the oculus at the top.
In collaboration with artist Bill Pechet, Lumenpulse provided the illumination for the urban sculpture, “emptyful,” in Winnipeg. Standing 35 ft. high and 31 ft. wide, the interpretation of a transparent beaker-like vessel often used in laboratories has been installed in the downtown Millennium Library plaza. Pechet Studio, based in Vancouver, won an international competition to create a piece of artwork as part of Winnipeg’s Public Art Program to invigorate the center of the city.

From May 24 to June 10, Sydney pulsated with light—projected, beamed, and reflected. The fifth Vivid Sydney drew more than 800,000 to the annual lightfest. One of this year’s new events was the lighting of the Harbour Bridge. It was turned into an interactive light experience by 100,800 color-changing LEDs, a collaboration between 32 Hundred Lighting and Intel using Intel Core processing technology. Visitors at select control stations could select a section of the bridge to light up, choose their colors, follow the prompts on a screen and then watch their selection appear on the structure. Other events this year included “Aquatique” where images appeared on the projected spray of massed water fountains in Darling Harbour.

**FEAT OF ART AND ENGINEERING**

Lighting for “emptyful” had to be slender, discreet, and powerful, according to Pechet. A total of 24 bands of 4-ft.-long Lumenfaçade RGB strip lights are secured in an H beam to the sculpture.
The city of Mont-Laurier in the Laurentian Mountains, 170 miles from Montreal, wanted to commemorate its 100th anniversary. Ambiances Design Productions was commissioned to create Fresque de Nuit (night frescos) an outdoor, multi-media event that dramatized the history of the city and the region. Martin Gagnon, who created “Aurora Borealis,” in Québec City, was responsible for the design, production and implementation of the sound-and-light event. Fresque de Nuit has proven to be a huge success, with significantly more visitors than estimated.

In Dallas, there was a desire to create an outdoor park in previously unused space. The city turned to New York’s Focus Lighting. “We approached this commission knowing that as lighting designers, we were an integral part of a project that would make a difference in the community,” says Paul Gregory, Focus’ president. Klyde Warren Park claimed the unused air rights above the multi-lane Woodall Rogers Freeway Provides to create a destination park between the city's business district and the arts district on the opposite side. The Office of James Burnett, the Dallas landscape architects who initiated the concept of an elevated park to span the chasm, collaborated with Focus to create a 5.2-acre series of outdoor room-like spaces that would be available both daytime and evening. Illumination was critical, as lighting would provide a user-safe environment and give expression to the trees and foliage at nightfall.

ROCK SHOW?
Moving light projectors perform like a concert venue. The lighting—a mapped video projection show—creates aerial effects on the exterior surfaces, including the tree canopy.

OUT OF THIN AIR
An illuminated crown identifies the entry into Klyde Warren Park where LED sources contribute to the park’s variegated sculptural landscaped presentation with strip lights, submersible color-changing fixtures and lighting tiles.
An architectural statement on the Singapore urbanscape better be bold and creatively lit. With 5.3 million people packed into 275 sq. mi., there’s a good chance lots of people will see it. For the Star Performing Arts Centre & Star Vista, which combines an auditorium above a multi-level shopping mall, Tokyo-based Lighting Planners Assocs. Inc. dramatized the angular exterior geometry profile with Aristo’s 10W/m LED strip lights. For the transparent upper level, 150W CMY color-changing metal halide illumination identifies the theater bowl skin in deep blue and turquoise.

ETHEREAL
RGB floodlights wash the auditorium’s skin. Side glow fiber optics highlight the curves in cool white. The underside of the auditorium steps are also lit with LEDs. The technology helped the project achieve environmental recognition.

LEDs as Architectural Integration

Star Performing Arts Centre
Singapore

Lighting Design:
Lighting Planners Assocs., Inc.
Photos:
Courtesy, Lighting Planners Assocs.

LEDs Transforming Outdoors

Cheekwood Botanical Garden & Museum of Art
Nashville, Tenn.

Lighting Design:
Bruce Munro
Photos:
Courtesy, Cheekwood

Cheekwood, one of Nashville’s landmark estates, served as the host of a breathtaking light installation by UK artist Bruce Munro: “Field of Light.” The large scale outdoor artwork on the grounds of the botanical gardens is the first of seven outdoor pieces that Munro and his team will install in the Music City. In this case, the artist used light as a means to transform the gardens and the site’s rolling hills into an enchanting iridescent landscape that emerges organically at nightfall. The artist and his team spent 6500 hours carefully planning and designing the site-specific exhibition. It is only the second time the artist has showcased his work in the United States. “Cheekwood is the most perfect place to exhibit because it provides a variety of opportunities to respond to, as each space varies in scale and topographical character,” says Munro.

IN HARMONY

Visitors are mesmerized by 20,000 glass spheres that rise from the grounds on slender stems. Their sheer volume, says artist Bruce Munro, silhouetted against the mansion, creates an effect that’s both natural and otherworldly.
At 14 stories, “Google Docks” is the tallest building in Dublin. Along with three adjacent structures, the office complex handles sales, marketing, finance and engineering for Europe, the Middle East and Africa. Each floor represents a different theme. In an open plan presentation space, David Nolan of Britelux provided a pair of residential-quality Liza pendant chandeliers, with shades of open interlocking circles enclosing a single clear lamp. For individual work spaces, another residential element is the pole-mounted floor fixtures with custom shades made in Ireland.

The Victoria and Albert Museum of Childhood in London’s east end, is a branch of the main V&A museum, the U.K.’s national museum of applied art. Opened originally in 1872, the iron frame structure of the building features a clear vaulted ceiling over the main three-level exhibition hall. Around the balconies are metal railings formed of open geometric design. In 2012, the museum recognized the fact that the existing fluorescent lighting was unable to showcase the elegance of the vaulted ceiling, nor the intricacies of the railing. DHA Design was retained to bring new lighting that would dramatize the structure and accent the museum’s display of toys and childhood playthings. DHA employed Lumenpulse’s Lumenline pendant/indirect luminaires, which were customized to include track spots for special exhibits. A Pharos touch panel controller is programmed to beam soft pink for daylight hours and a gradual color-changing display for evening.

Museum officials desired to highlight the building’s historic vaulted ceiling and railings, and traditional fluorescent couldn’t do the trick. Instead, DHA design turned to LED, which certainly tints the ceiling without being over the top.