



**The University
Library, IKMZ,
in Cottbus**

**Light and
architecture
in Edinburgh**

FDA at Irvine

**louis
poulsen**



Photo: Anders Sune Berg

The library's landmark quality is as pronounced during the day as it is at night.

Light with a story to tell

The IKMZ University Library in Cottbus

Herzog and de Meuron deployed three different types of lighting in the particularly well-designed library in Cottbus, clearly designating the different uses to which the building is put but also telling stories that reach far beyond the merely functional.

BY PETER THULE KRISTENSEN

The Swiss design studio Herzog & de Meuron is part of the international architectural elite. Founded in Basle in the late 1970s, it has helped put the German-speaking part of Switzerland on the world map. Herzog & de Meuron's works rarely resemble traditional buildings, but rather objects you might find in a modern art exhibition. Like many contemporary visual artists, they are preoccupied with the effects certain shapes and materials have on our sensory apparatus, for example, the associations awakened by a particular surface. As a result, their architecture does not just solve particular problems on a pragmatic level, but also incorporates a number of layers of meaning, de-

signed to provoke thought processes in the user.

This approach also extends to the studio's new university library, IKMZ, in Cottbus, Germany. This is not just a library for a local technical university but also a modern landmark that invites visitors to consider the university's role in global media and its place in the world. The library has reading rooms with large pendants reminiscent of public libraries from the 19th century, but also has a modern media centre where computer screens, instead of windows, provide access to digital rooms. The façade consists of two layers of glass with large silk-print characters whose meaning is impossible to

ascertain, but which nevertheless suggest that the building contains information, symbols and signs. The library's curved floorplan also sparks the imagination, bringing to mind both a crusader's castle and a piece of modern design. In this way the building urges the visitor to reflect on what a library is today, not just in Cottbus, but in the world of new media.

The library's appearance changes radically during the day. At daytime, it stands as an organically shaped monolith. After sunset, reflected light from the pink and green surfaces mixes with the light from the fixtures inside the building. In this way, the building assumes the character of a crystalline and sparkling jewel box.





The large chandeliers have been designed specifically for the library by Herzog & de Meuron. The chandeliers are made of a metal band shaped as a large spiral with a diameter of more than two metres. 26 opal glass shades are mounted under the metal band. The spiralled chandelier shape interacts with the large, green and magenta spiral staircase.

Through their work with shapes, colours, surfaces and lighting, Herzog & de Meuron has achieved a changeable, multi-faceted building rich in narrative. At the same time, the library is highly functional and the different reading rooms instil a sense of calm and concentration.

At the same time, the library is extremely functional and it's easy to find your way around. In this context, the artificial lighting is highly significant. It indicates extremely clearly the function of each particular area, but also suggests narratives that far exceed the purely functional aspect. This lighting concept is implemented in the public areas with the help of only three types of primary light sources: large pendants in reading rooms and the entrance area, AJ lamps on the reading desks and downlights over the shelves.

Light spiral

The pendants were specially designed for the library by Herzog & de Meuron. The individual pendants consist of an angular metal band shaped into a spiral with a diameter of over two metres. On the underside of the band, the thread-

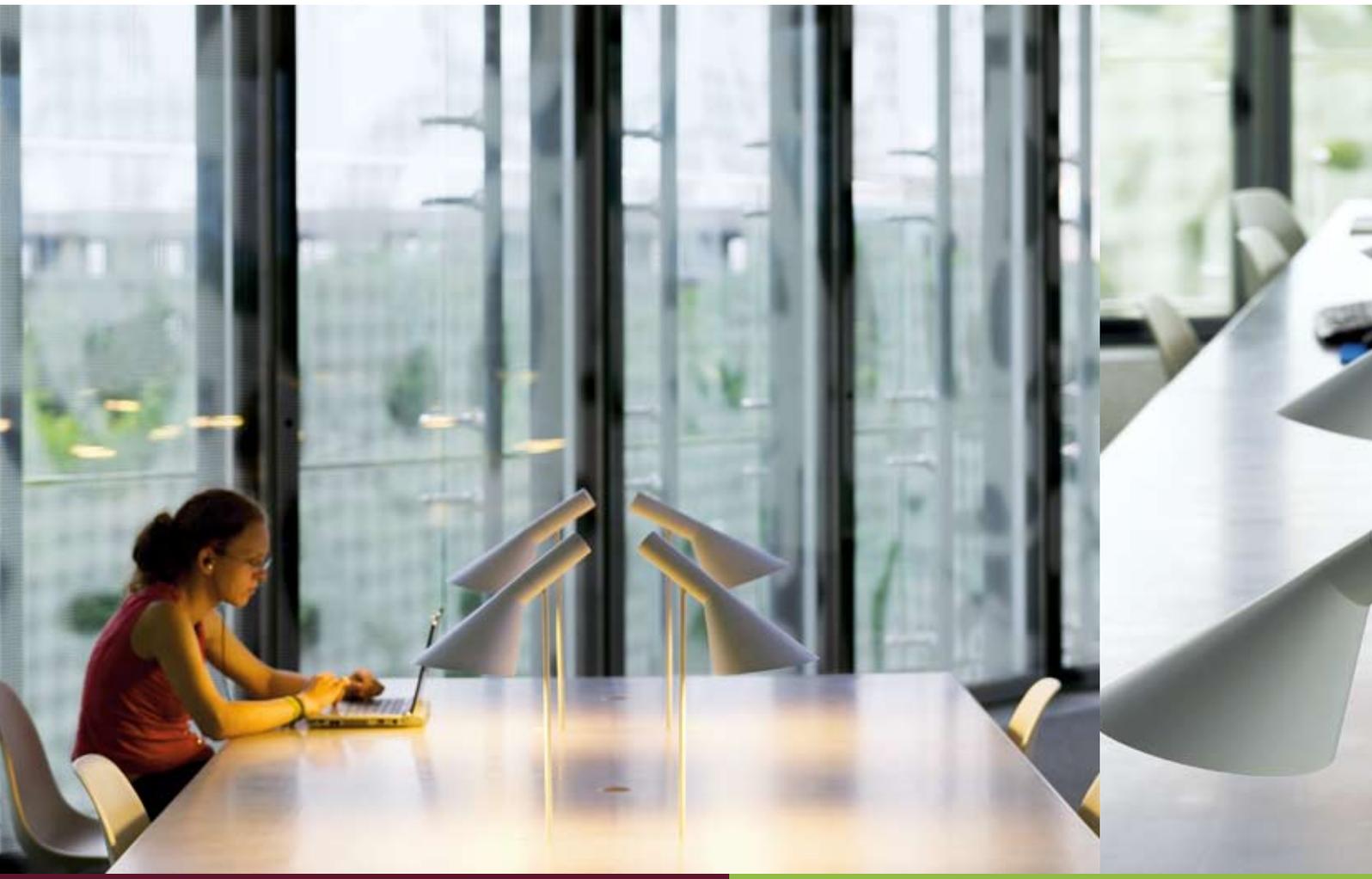
like shape of which recalls the spiral motif, 26 opal glass shades are mounted at equal intervals. The pendants' recurring spirals enter into a dialogue with the curved façade, the round functional cores and the large spiral staircase that, like the library's green and magenta leitmotif, connects the many staggered floors in the building. The pendants are suspended from the ceiling in the library's double-height areas – both in the ground floor's spacious entrance area and in the many reading rooms located along the curved façade – and convey the message that these rooms are particularly important. When the lights in all the shades are turned on, a lofty atmosphere spreads through the rooms. This is demonstrated most effectively in the evening, when the light is reflected like thousands of small illuminated spots on the

glass front, and like rays of light in the expanded-metal ceiling. It resembles the familiar effect achieved when classic crystal chandeliers are reflected in large mirrors. Your thoughts turn to the grand reading rooms of 19th-century libraries, but you are nevertheless left in no doubt that Herzog & de Meuron's pendants belong to the present. For example, the angular metal band and the thread-like shapes allude to the type of technologies associated with a technical university. As a result, the idiom is far from unambiguous and has many stories to tell.

Reading lamps and downlights

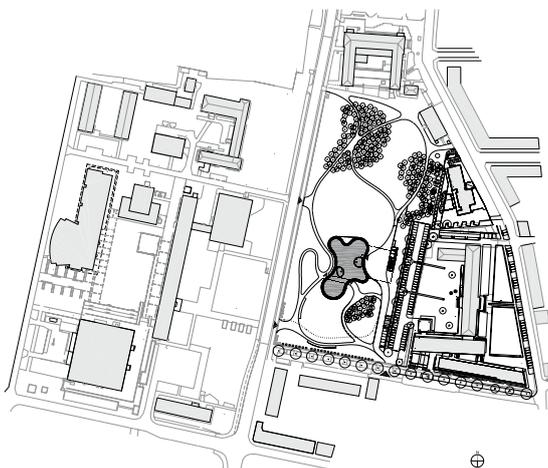
White AJ Table fixtures designed by the architect Arne Jacobsen have been inserted into plates on the desks in the reading rooms. Each tabletop has space for four readers but features no particu-



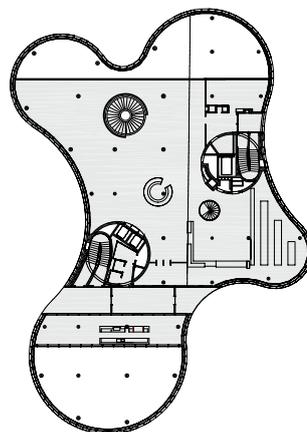


The coarsely dotted pattern forming the characters on the glass façade filters and subdues daylight to make a pleasant environment in the reading rooms

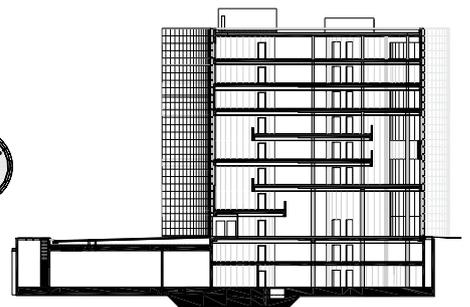
Also available as a wall and floor fixture, the AJ fixture was originally designed by Arne Jacobsen for SAS Royal Hotel in Copenhagen. The conical metal shade is angled to align it with the socket on top and the bottom of the shade is cut at an angle. The fixture provides perfect task and reading light. The fixture has a built-in tiltable joint in the tube for individual setting of task light. The AJ fixture directs light where it is needed and the shade provides efficient shading.



Site plan



Ground floor



Section



lar delineation between the spaces. As a result, light becomes an important marker of individual reading space. Normally, the fixture comes with a foot, but in this case the tubing is inserted directly into the tabletop so it grows out of the surface – almost like a flower. It is glare-free and directional, and the adjustment options make it an excellent choice as a reading lamp for books of all sizes. This also means that the lamps are never positioned exactly the same way twice, but instead endow the room with beautiful variation – suggesting that the reading desks are populated by people with different interests.

The AJ fixture seems inconspicuous in this context, despite its status as a design icon. It complements the subdued colour scheme – bright laminated tabletops, white Eames chairs and grey needled felt carpets – and

its simple, modern idiom fits in well with the rest of the detail in the library, which at no point is overdone or particularly flashy. The result is that you never get the feeling that the fixture, which was designed in 1957, is almost half a century older than, for example, the pendants. In addition to pendants and AJ fixture, downlights are also used. These are inserted into the expanded metal ceiling above the shelves and are turned on automatically as you approach. The less-than spectacular design means that the downlights do not compete with the extravagant pendants or the sculptural AJ fixtures.

Light and the overall effect

Because of its printed pattern, the façade seems neither particularly transparent or shiny if you walk around the building's exterior in the



The reading areas of the library are lit by the AJ table fixture. The modern, simple expression of the fixture is in harmony with the other details of the library, and in spite of its status as a design icon it does not intrude upon the surroundings.





AJ Table inserted into in all the library's work desks. The fixtures are white to match the reading rooms where the colours are subdued in contrast to the rest of the house.

daytime. However, from the inside it is not difficult to see out through the rough dots that form the characters on the façade.

When darkness falls, it is a different story, and the building's landmark function is no less pronounced. The interior rooms resemble bright ribbons in the façade, and you can just make out the coloured spiral staircase, the coloured columns and inner cores.

Through working with form, colours, surface and light, Herzog & de Meuron

have come up with a changeable, multi-faceted building with many stories to tell. At the same time, the different elements merge into one another: the pendant's spiral suits the staircase and curved façade, and the AJ fixture suits the subdued colours of the reading rooms. The result is more than just a mass of visual effects, but a carefully balanced game that also makes allowances for the special condition to which architecture is subjected, i.e. functionality. Herzog & de Meuron are not just

modern visual artists, they are also architects in a classic sense.

Assistant professor Peter Thule Kristensen, MAA, PhD.

IKMZ BTU Cottbus won the library award 'Library of the year 2006' of the ZEIT-Foundation and the German Library Association (DBV).



IKMZ BTU COTTBUS

INFORMATION-, COMMUNICATION- AND
MEDIACENTER IKMZ, COTTBUS

CLIENT: LAND BRANDENBURG, GERMANY, AND
THE BRANDENBURG TECHNICAL UNIVERSITY OF COTTBUS,

ARCHITECT: HERZOG & DE MEURON, BASEL, SWITZERLAND

ENGINEER: HÖHLER + PARTNER AACHEN, GERMANY

ELECTRICAL ENGINEER:

INGENIEURBÜRO KÜGLER & WALLSTEIN, COTTBUS,

LIGHTING DESIGNER: HERZOG & DE MEURON, BASEL,

SWITZERLAND IN COOPERATION WITH

SHOW ME GMBH DRESDEN, GERMANY

LANDSCAPE DESIGNER: GIESELA ALTMANN, COTTBUS



LED lighting in new context

Turning Torso

A partnership between Louis Poulsen Lighting and Osram made it possible to use LED technology for the lighting in Malmö's new landmark

BY IDA PRÆSTEGAARD

Turning Torso is not just a unique architectural feat – the skyscraper also represents a breakthrough for lighting. By using Dragon LEDs from Osram in fixtures specially produced for the project by Louis Poulsen Lighting, the innovative lighting solutions match the sophisticated architecture without being more expensive than more conventional lighting units.

The idea of installing LED lighting in the corridors of the 54-storey building was introduced several years ago by architect Mats Thorén and lighting designer Lars Bylund. Louis Poulsen Lighting and Osram worked on a number of different solutions before finding the best possible concept.

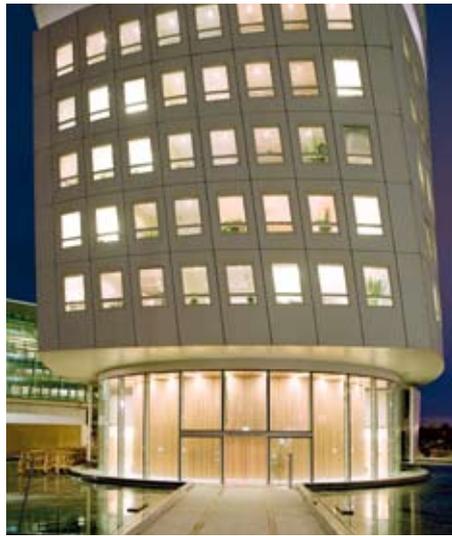
At the planning stage, the idea was that the corridors should be illuminated by conventional fluorescent tubes. However, the tower's unusual design means that the corridors are circular, so it was necessary to design a fixture whose curves match those of the building. The joints between fluorescent tubes would inevitably cast an uneven light on the walls, whereas the LEDs generate an even light.

On top of its aesthetic superiority, the LED lighting also proved to be the most financially advantageous solution as regards maintenance and service. The motion sensors installed in all the corridors enable the lights to be

Photo: Ulf Celander



The entrance to the Turning Torso is unpretentious. After you have passed the surrounding mirror basin, you are led into the building via a set of glass doors.



In the reception on the lower floor, lighting is made as luminous radials beaming from the centre core of the building.

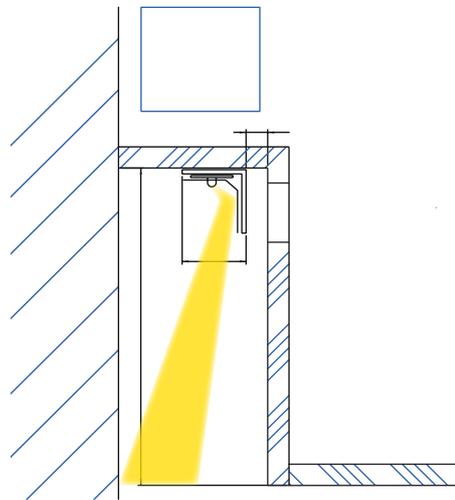




The design of the Turning Torso means that the corridors are circular. Consequently, the fixtures used in the corridors need to follow the same curve. Conventional fluorescent lamps would have thrown uneven lighting on the walls, whereas LED lighting creates an even lighting.



The LED fixtures are installed in the corridors as unilateral lighting from the outer edge of the ceiling where the fixture is placed under a frieze. The wall plays a pivotal light-technical role as reflector and provides 100 lux on the inmost part of the corridor and 150 lux below the fixture. LED fixtures are also installed in the building's lifts.



A sectional view of the LED fixture illustrates the light distribution.



Offices on the lower floors of the Turning Torso can be rented on a day-to-day basis. The general lighting in the simple cell offices consists of Malmö Trio pendants designed by Mats Thorén and Lars Bylund. Malmö Trio produces uniform lighting with low luminance and is therefore perfect for rooms with computers.



turned on as required, and the LED's shelf life is not shortened by being turned on and off regularly, two qualities with which fluorescent tubes cannot compete. The construction of Louis Poulsen's specially designed narrow, flexible fixtures allows for optimum cooling, so that the light source lasts for 50,000 hours.

The white Dragon LEDs are produced by Osram, which has also produced and supplied the system's transformers as well as the special print upon which the LEDs are mounted. The fixtures are installed under a frieze at the outer edge of the ceiling, providing unidirectional lighting in the corridors. The walls play an important role as a reflector, providing 100 lux in the middle of the corridor and 150 lux beneath the fixture.

Each fixture consists of right and left sections, each two metres long and fitted with 24 LEDs. The fixtures are connected to a box containing an electronic transformer. The white Dragon LED is 1.2 W and has a colour temperature of 5,400 K. The fixtures also act as emergency lighting. A total of 16,000 LEDs have been installed on 46 floors of Turning Torso.

Ida Præstegaard is an architect and editor of NYT.

The 54-storey Turning Torso soars 190 metres into the sky. The design is based on a sculpture inspired by the shape of a twisting human being. Both the sculpture and the building were designed by Santiago Calatrava. The building consists of nine five-storey cubes, each placed at a different angle to the one below, with the top segment twisted 90° clockwise compared to the bottom segment. Each floor consists of a rectangular section, which surrounds the central core, and a triangular section, which is partly supported by an external steel skeleton. The bottom part of the house is designed for offices, while the upper storeys contain 153 luxury apartments. Turning Torso was world-famous even before it was inaugurated in August 2005.

Plan, Turning Torso



TURNING TORSO

CLIENT: HSB MALMØ EK FÖR

ARCHITECT: SANTIAGO CALATRAVA SA, ZÜRICH/VALENCIA

INTERIOR DESIGNER: SAMARK ARKITEKTUR & DESIGN AB, MALMØ

LIGHTING DESIGNERS, LED LIGHTING: MATTS THOREN AND LARS BYLUND

ELECTRICAL CONTRACTORS: YIT BUILDING SYSTEM AB

ELECTRICAL ENGINEERS: NCC TEKNIK, ELINVENT AB



LIGHT AND ARCHITECTURE IN
EDINBURGH



A number of exciting buildings – most newly inaugurated – make Edinburgh worth visiting: New buildings, newly renovated buildings or buildings that unite historical and new architecture. The common denominator is the well prepared and refined light layout of the projects.



Standard Life

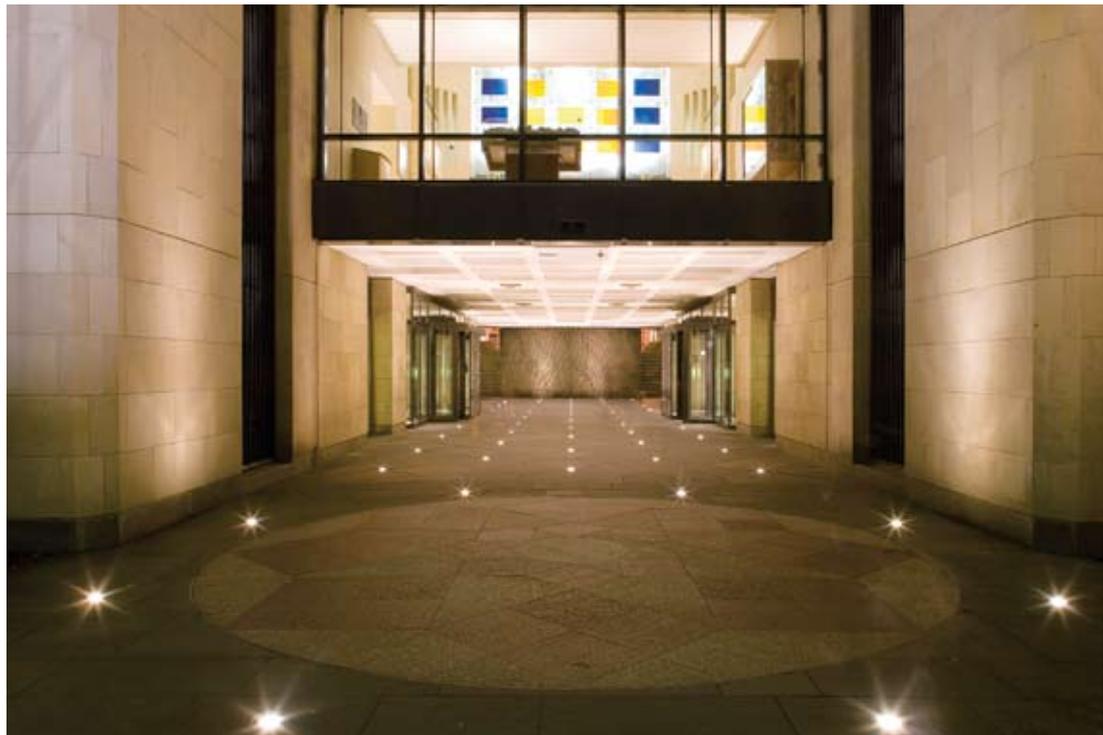
The insurance company Standard Life's headquarters on Lothian Road constitute one half of a gateway to the western part of Edinburgh. Michael Laird Architects organised the 40,000 sqm headquarters as two correlated office buildings for the insurance company's management and 1,700 staff members. The architects wanted to give the house a pronounced character and used pillars on the façade to add depth and shadow to the building. The outside materials include buff coloured sandstone for the façades, granite for the base and metal solar shading and access galleries. The roof is covered in copper just as the surrounding buildings. Lighting designers Speirs and Major Associates and Michael Laird Architects designed the building's indoor and outdoor lighting

Photo: Paul Zanic

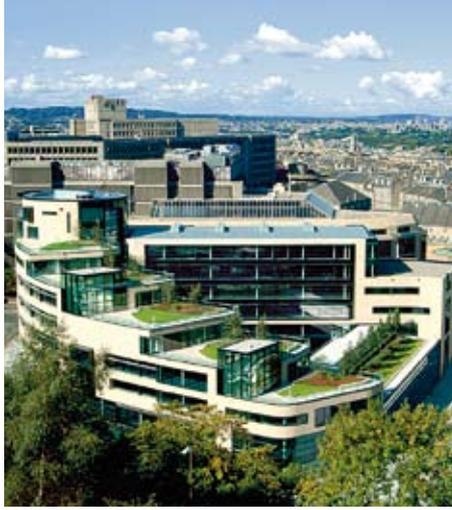


The elliptical sculpture in stone at the main entrance – created by artist John Maine – is accentuated by the recessed Nimbus fixture. The building façades are discretely illuminated by Pharo, the beam widths of which have been individually tuned to emphasise architectural details.

Five rows of Nimbus fixtures illuminate the concourse between the two buildings constituting Standard Life. This lighting creates a sense of security and makes the concourse a beautiful visual experience.



Greenside Place



Alan Murray Architects with The Parr Partnership are the designers behind the ambitious mix-use development project Greenside Place in central Edinburgh. The site is part of Edinburgh's World Heritage Site and was the last major free space in Edinburgh's East End. The project has enjoyed vast public attention and ends 40 years of speculations about the use of the site. The architects' urban analysis generated two distinct separate buildings - the Omni building for leisure activities and Carlton Square, a prestigious office building. The Omni building includes the five-star Glasshouse Hotel, a large cinema, fitness centres and bars.

The office building is placed on a very steep part of the site, its location being reflected in the building's design. From the roof level, a series of terraces descend towards the civic space between the offices and the new leisure and entertainment centre. The terraces are partly planted

Kipp Bollard and Post create lighting and visual coherence between the individual levels in the urban renewal project Greenside Park.



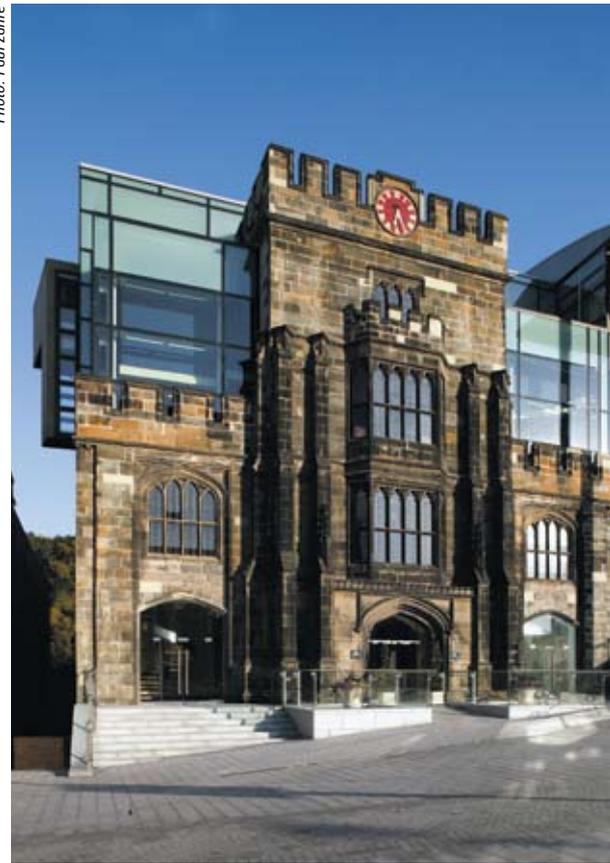
and grassed and constitute the escape routes from the offices. Arup Lighting's Bob Venning explains the lighting concept: »We wanted to keep the lighting at a low level with a minimum of upward lighting to ensure an undisturbed view of Carlton Hill from the offices. Kipp Bollard proved an ideal solution. It is simple, yet elegant, and emergency lighting units could be placed in the post, a necessary feature since the roof serves as an escape route. The light technical output was spot on, and the compact fluorescent lamps combine maximum lighting with low energy-consumption. Kipp Post is used in the new civic space to create a visual transition between the private terraces

and the public area together with Kipp Bollard.«

Glasshouse Hotel

The five-star Glasshouse Hotel is an important element in the Green-side Place project and is designed by Glasgow-based MA:ST Architecture and Design Ltd. The glass façade incorporates the front of a 150 year old church, the result being an exciting combination of new and old architecture. The hotel's minimalist and Japanese inspired rooftop garden is a pleasant recreational area and is thought as a historical reference to »The Physic Gardens«, which was the name of a medieval garden on the same site.

Photo: Paul Zanne



The Glasshouse Hotel



Weebee provides the lighting in the rooftop garden on The Glasshouse and is designed not to drown the beautiful view of e.g. Carlton Hill but accentuate the planting and the fine dimensions of the wooden pergolas.



Photo: Paul Zanne



Waverly Gate

At the beginning of 2001, Castlemore Securities bought the former headquarters of the Edinburgh Post Office. The imposing building from 1861 used to be an admired landmark in the city, but after having been partially unused for ten years, the building had suffered considerable damage. Hugh Martin Partnership was the architects behind the radical transformation which preserved and restored all the façades of the building, which is Grade-A listed. However, all internal, original constructions were carefully removed and a brand new, temporary office building was established in their place. The new building is pulled back from the original stone walls creating open, top-lit perimeter atrium spaces between the building and

The stepped profile of Waverley Gates accommodates terraces, which are open to the public. The many plants add a striking and luxuriant quality to the place during the day and, during the evening, the recessed Nimbus fixtures provide exquisite lighting.

Speirs and Major Associates, responsible for the lighting of Waverley Gate, wanted the original architecture and the new construction to appear as undisturbed as possible and therefore mainly used accent lighting from Louis Poulsen Lighting.







Nimbus LED is applied as general lighting in the entrance hall and in Waverley Gate's large, central atrium yard. The fixture is fitted with frosted glass to minimise glare.

The area between the original façades and the new construction creates atrium yards around the entire building.

Waverly Gate

the façades. The atrium spaces create an environmental buffer zone moderating thermal conditions, protecting the new offices from adjacent traffic and railway noise, and providing good natural daylight and ventilation distribution within the building. The main entrance to Castlemore Securities' new headquarters is from Waterloo Place where the entrance to the original post office with its stone entrance screen has been revitalised. A five-storey entrance hallway serves as the entrance to the reception area and the central atrium yard of the building.



Photo: Paul Zame



Photo: Paul Zane

RBoS – Royal Bank of Scotland

The fifth largest bank in the world and Scotland's largest company, RBoS, has established its new headquarters in Gogarburn outside Edinburgh. The 350,000 square foot building is designed by Michael Laird Architects in cooperation with the architects RHWL. The headquarters are envisioned as a small town with a main street, squares and neighborhoods. Each business building has its own yard with a gar-

den. The internal street serves as the main concourse – the community centre – and boasts restaurants, shops, hairdressers and other offers you would find in a town. The main street is covered by glass roofs and has vertical glass areas at junctions providing sufficient daylight to minimise the need for artificial lighting during the day.

Kevan Shaw Lighting Design is responsible for the lighting in the streets as

well as in a number of other key areas such as management and board offices, the leisure centre, gardens and the historical Gogarburn House. Overall, lighting integrates with the building structure to ensure as little interference with the architectural features as possible. To save energy, lighting is controlled by a combination of daylight sensors and timers. This makes it possible to vary the lighting at the beginning and end



The Pharo fixture has a reflector that produces a wide-beam light distribution and is used at the continuous wall at the main entrance to the bank and along walls in the hall. The result is evenly illuminated wall surfaces. Nimbus and Pharo are also used to emphasise pillars, trees and other elements – in this picture with reflectors producing a narrow-beam light distribution.

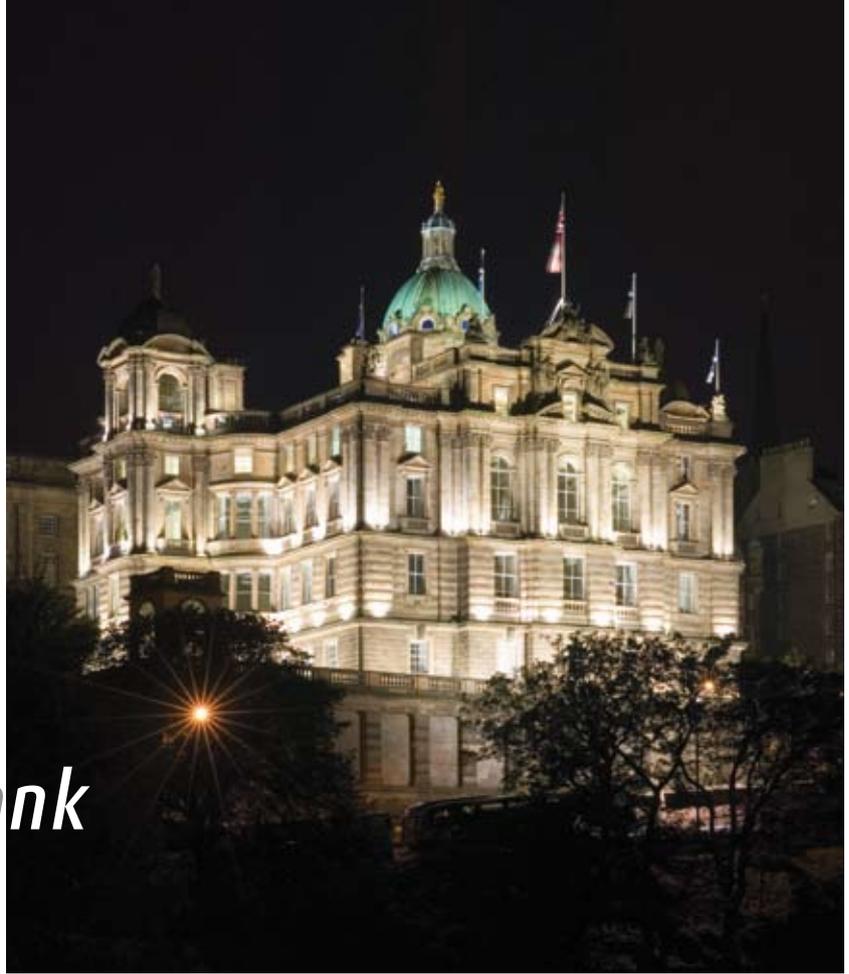
of the work day to create a dynamic atmosphere during the dark mornings and a more relaxed atmosphere when the day comes to an end. The control system has set scenes for evening events and functions on the street. To ensure flexibility in the special lighting in the junctions, lighting bars have been equipped with stage lighting which can be adjusted to highlight special areas.



Photo: Paul Zane



HBOS – Halifax Bank of Scotland



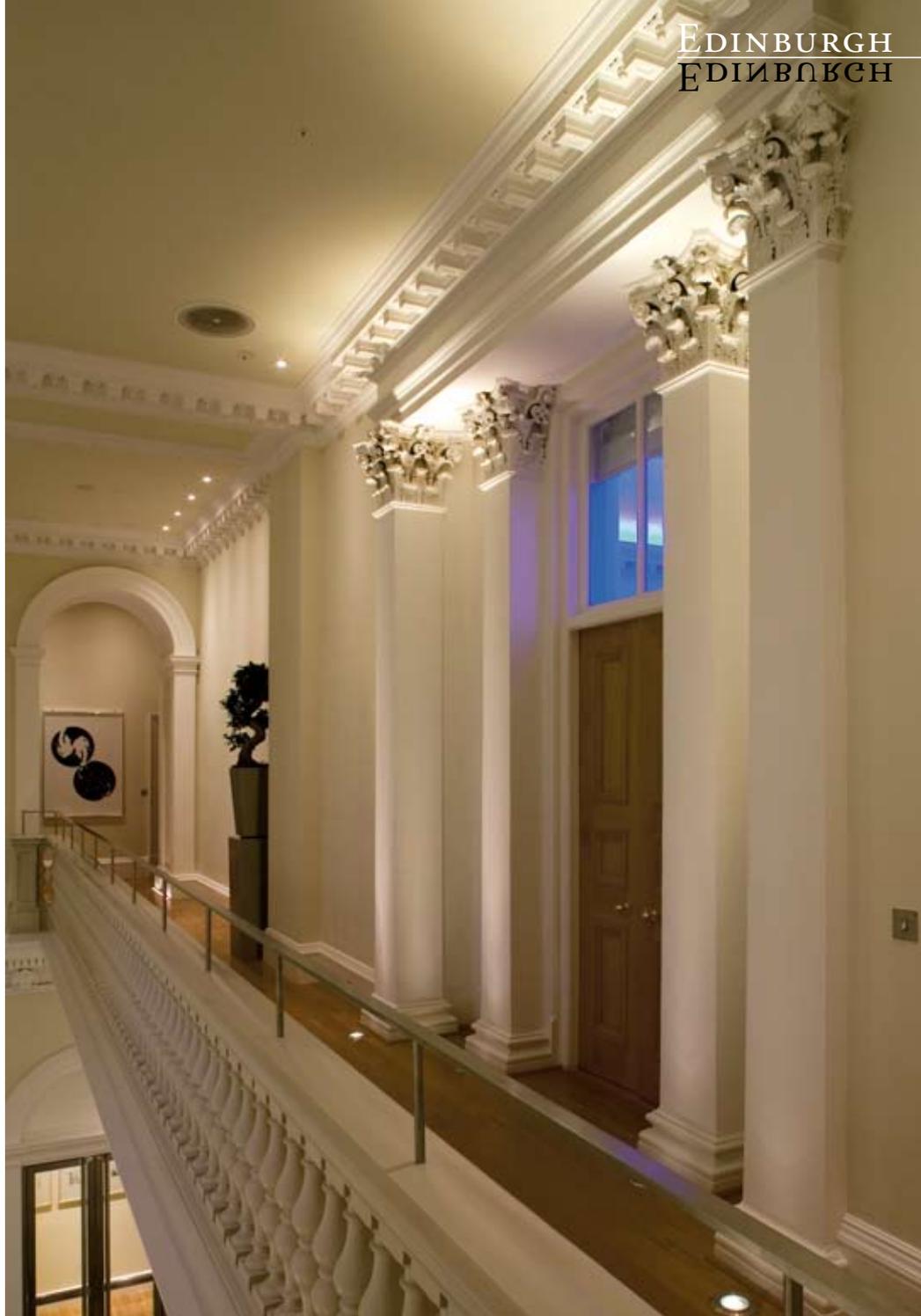
Nimbus is recessed in the wooden floors in Bryce Hall to illuminate walls and pilasters. Luxurious chandeliers – created by Speirs and Major Associates and produced by Mazoretti Ronchetti – counterbalance the subdued accent lighting.

The narrow-beamed Nimbus draws focus to the exquisite architectural details, e.g. the pilasters, embrasures and stucco in the entrance hall, at staircases and galleries.

In September this year, HBOS returned to its newly renovated headquarters on The Mound – a landmark in central Edinburgh for the past 200 years. The building was built in 1808 as the headquarters of the Bank of Scotland, which was renamed HBOS when it merged with Halifax Building Society. The famous Edinburgh architect David Bryce extended the building in 1878.

Malcolm Fraser Architects are responsible for the current, quite extensive renovation, gently preserving and recreating the original architecture and combining it with modern elements and materials. The floor plan of the building has been simplified, and the impressive Bryce Hall restored to its original two-storey format just as the entrance hall has been revived to its former splendour.

Lighting was integrated with the other architectural ideas early on in the planning process. The lighting solutions avoid inflicting damage to historical elements or being irremovable. Speirs and Major Associates was in charge of the lighting in all significant rooms, including Bryce Hall and the entrance hall.





PH 2/1 imbues the hallways with intimacy and creates a mood that complements the rooms, materials and surfaces of Queensberry House.

THE SCOTTISH PARLIAMENT HISTORY & FACTS

Completed in autumn 2004, the new Scottish Parliament complex in Edinburgh houses Scotland's first independent Parliament for almost 300 years. After a major renovation, Queensberry House from 1667 now forms part of the Parliament complex.

Enrique Miralles' project, which won the architectural competition, was the only project designed as a cluster of buildings instead of one large edifice. The functions of the Parliament are divided into nine different, interconnected buildings that all match the landscape of the 16,000 sqm piece of land. The plan arrangement allowed the architect to proportion the buildings surrounding Queensberry House so that they complement the historical building. Overall, the Parliament complex encompasses the Debating Chamber, four tower buildings with committee rooms, Queensberry House, the Canongate buildings, housing the offices of the MSP's, a media building and a foyer-cum-lobby with glass roof. Today, Queensberry House contains the office of the Presiding Officer – the highest political office in Scotland in its autonomous relationship with Great Britain – the Deputy Presiding Officers, the First Minister and their staff.

The Parliament lies at Canongate, named after a medieval town. This historical place lies in the eastern end of the Royal Mile running from Edinburgh Castle to Holyrood Palace – the Queen's official residence in Scotland.

Photo: © Keith Hunter / arcblue.com



Photo: Roland Halbe



Built in 1667, Queensberry House has served many functions through the years. Ironically, Queensberry House was home to the second Duke of Queensberry when the Treaty of Union (the agreement uniting Scotland and England in the United Kingdom of Great Britain) was signed in 1707. In 1997, Queensberry became part of the Scottish Parliament. After a careful renovation, the building now stands with its 17th century façade, while, internally, it is a highly functional part of the Scottish Parliament.

The Scottish Parliament

The Light in Queensberry House

Photo: Roland Halbe



After a comprehensive but gentle renovation, Queensberry House stands with its original façade from the 17th century. Inside, the building holds the offices of the Parliament's Presiding Officers.

The Lighting Consultant Office for Visual Interaction Inc. (OVI) had the overall responsibility for the lighting of the Scottish Parliament. Queensberry House – a central and historic building in the Parliament complex – required unique lighting solutions to match the qualities of the building.

Enrique Miralles envisioned a 'domestic quality' for the Queensberry House. As such, two strategic lighting decisions were agreed with Historic Scotland (the national landmark commission) as the setting out points for the lighting scheme. First, the lighting solutions would be individually tailored for each space while an overall aesthetic quality of the lighting should be felt through-

out the building. Second, the luminaires would be understood as a visual design object/element articulating a balance point to the landmark building. Logically, views of typical, fluorescent "office type" lighting fixtures were ruled out.

A vocabulary of Louis Poulsen luminaires all in a simple white finish were selected for the project. The PH Arti-



The extensive use of wood and the simple interior design form the overall theme of Queensberry House. The building's myriad seating arrangements are perfect for informal meetings.

choke pendants, fitted with 500W incandescent lamps, were used to anchor the design in the gathering areas located at the corner towers of the building, establishing a hierarchy of fixture types. A special hanging system was designed to transport the weight of the luminaire on stainless steel aircraft cables rather than the typical central pendant stem, which was not possible, based on the delicate condition of the historic ceiling composition.

The PH5 and ET Lumiere (Warehouse) pendants were used throughout the building in the office areas. Using a combination of both luminaires provide a variation in scale to harmonize with the scale of the historic structure. The lighting layouts for each of the rooms is varied, to accommodate the layout of the offices and other activities within.

A series of PH 2/1 miniature glass pendants are hung in the main entrance lobby of Queensberry House. This creates a warm atmosphere and candle-like 'chandelier' without being overpowering and reverberates the historic tradition of this building. The timeless and classic quality of the Louis Poulsen luminaire series brings a new respectful response into the historic space.

Warm colour temperature compact fluorescent lighting is used throughout the building to mimic incandescent light while providing energy savings. Small brick-sized luminaires are used as uplights, integrated within the base of the deep, restored window openings. Illuminating the window openings with very little wattage, approximately 15W each, reinforces the domestic quality while unifying and generating the overall nighttime appearance for this historic building.

QUEENSBERRY HOUSE:

THE SCOTTISH PARLIAMENT BUILDING
CLIENT: SECRETARY OF STATE OF SCOTLAND AND SCOTTISH PARLIAMENTARY CORPORATE BODY
ARCHITECTS: ENRIQUE MIRALLES, BENEDETTA TAGLIABUE AND RMJM LTD.
CONSULTING ENGINEER: RMJM LTD.
CONTRACTOR: BOVIS LEASE LEND
CIVIL AND CONSTRUCTION ENGINEERS: OVE ARUP AND PARTNERS
LIGHTING CONSULTANT: OFFICE FOR VISUAL INTERACTION, INC. (OVI)
JEAN M. SUNDIN, ENRIQUE PEINIGER

In The Donald Dewar Library, the Office for Visual Interaction chose to combine PH Artichoke with the Magazin fixture. The Magazin fixture provides the general lighting, its anti-glare ring being designed and placed so that it covers the filament in the incandescent lamp and thus prevents glare.



Direction-finding in a uniform landscape



Photo: Anders Sune Berg

Architecture with a *visual accent*

At the FDE Centre in Southern Jutland, the architects schmidt hammer lassen employed lighting fixtures to delineate differences and underpin the hierarchy between the varied spaces.

BY PETER THULE KRISTENSEN

Just outside Padborg, a new training and conference centre stands as a direction-finder in the flat landscape. The centre's location, beside a motorway, between petrol stations, car parks and a fast-food outlet, resembles so many peripheral areas that are difficult to categorize as either rural or urban.

Surroundings like these remind us of the phenomenon the Dutch architect Rem Koolhaas called "the generic city", i.e. a homogenous urban unit without any major centre or any visible difference between its monuments and the more anonymous buildings. In the generic city, where even the fast-food outlet has become a minor monument, artificial light plays an important role delineating differences.

Hierarchy

The architects behind the project, schmidt hammer lassen, opted in the first instance to recreate the hierarchy between monuments and anonymous shopping streets that exists in the traditional European city. The serial construction of one of the office wings cor-

responds to anonymous shopping streets, while a building with an arched roof provides the area with a monument. Beneath this, the communal areas take the form of a large, indoor square, encircled in a picturesque manner by a lecture theatre, meeting rooms and a canteen.

However, if you look closely enough at the details, it becomes obvious that the centre's individual features are not all attuned to each other. Modernist architecture tends to accentuate the importance of individual elements, such as making the construction method itself very prominent, or clearly displaying important practical functions on the exterior of the building. At the FDE Centre, this is only partly the case. The wooden beams of the arched roof are only partially concealed by the plaster walls, and here and there the two clash somewhat clumsily. And while narrow and expressive windows in the facade might from the outside suggest all manner of special and unusual rooms, the walls in fact conceal large halls and small meeting rooms. A more consist-

ent architectural strategy might have been preferable in some parts of the development.

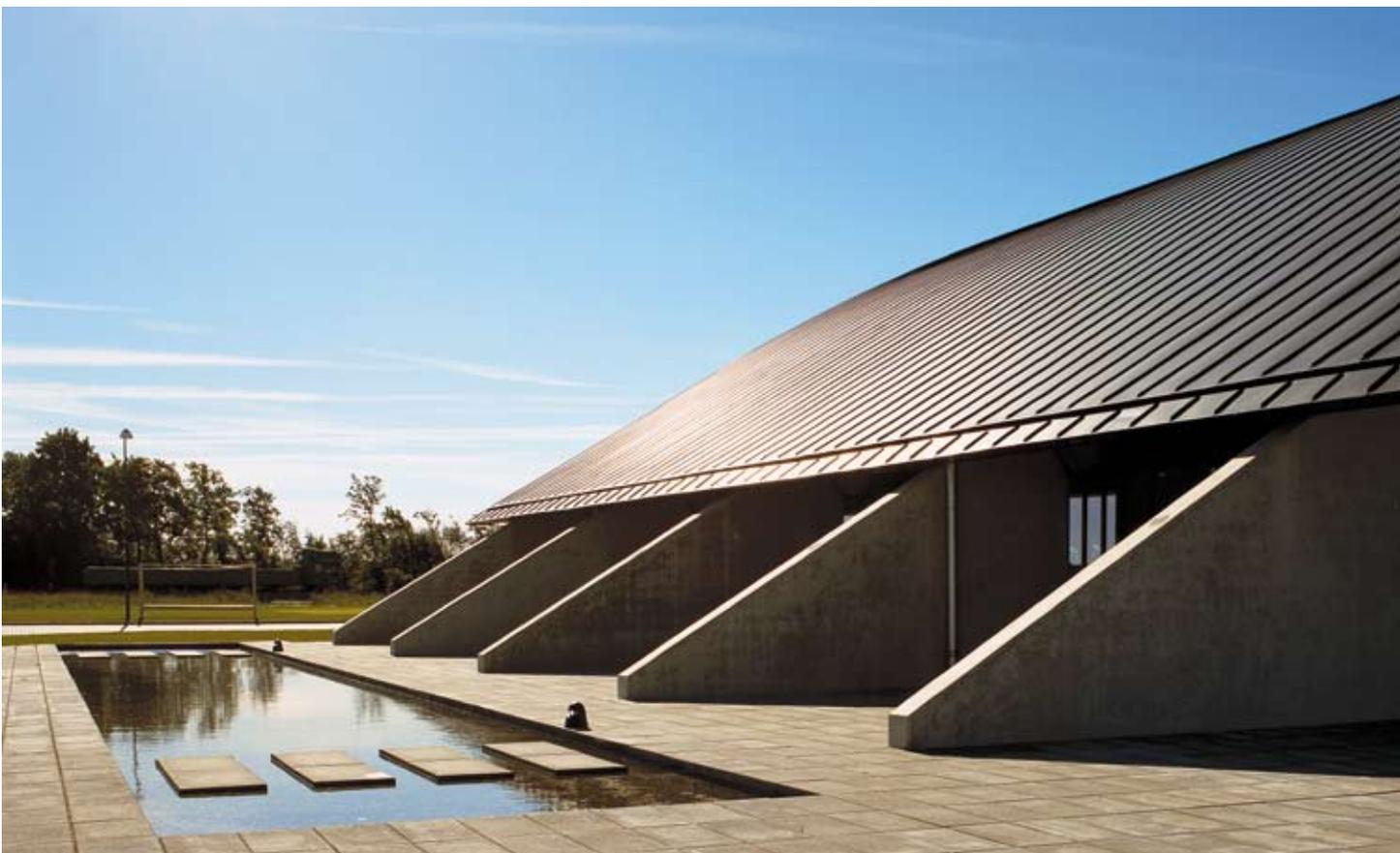
In the final analysis, what endows the centre's varied spaces with an air of cohesion appears to be a recurring tone, reflected in harmonious grey and white surfaces and in the choice of furnishings and design – with the lighting playing a particularly important role.

Lighting and interior decor

The indoor fixtures help underline the relative importance and hierarchy of the rooms. This is most obvious in the space beneath the arched roof, where some of the most exclusive fixtures have been fitted.

Large Memory (LP Centrum) pendants are suspended above the central square from the double-height ceiling, while

At the training centre in Padborg, the architects have chosen to recreate the hierarchy between monuments and anonymous streets as seen in traditional European cities. A wing with offices resembles these streets, while the building's landmark is a building with a large, arched roof.





Malmö Trio is used as general lighting in the building's large lecture hall. The objective design of this fixture underlines the direction of the rows of chairs and reinterprets the motif from the narrow embrasures.

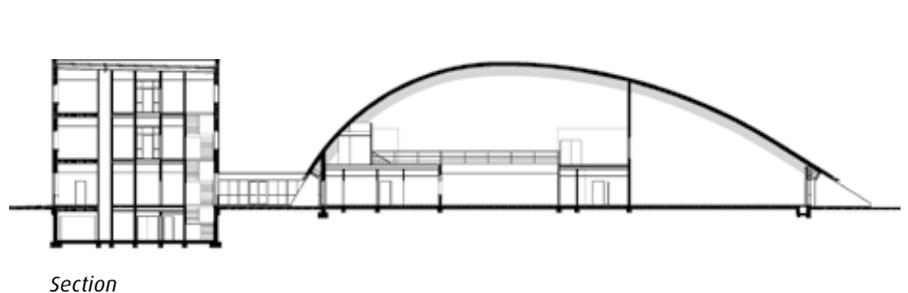
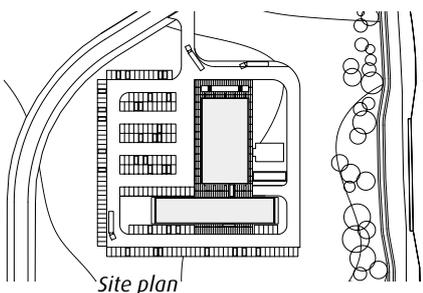
smaller PH Snowball pendants illuminate the surrounding balconies. The two types of pendants complement each other and signify, almost like modern chandeliers, that the square constitutes a coherent and festive space. The lighting level is adjusted according to the angle of incidence of the daylight, and is capable of reaching up to 350 lux. The lounge, a meeting room for the likes of the centre's management, is even more exclusive. Two PH

Artichoke pendants in brushed steel provide more refined and intimate lighting than the lamps on the square. In the adjoining theatre space, which is specifically designed for events such as lectures or concerts, the lighting can be turned all the way up to 500 lux. The Malmö Trio pendants have a matter-of-fact appearance, with a rectangular shape that emphasizes the direction of the rows of chairs and reflects the motif established by the narrow windows. It

is evident even to the most casual of observers that this room's lighting needs are more demanding than those of the square or the lounge.

Evening lighting

The FDE Centre's lighting really comes into its own when seen from outside in the evening. When the light radiates through the narrow window openings of the building with the arched roof, the façade seems to adopt a shimmer-



A row of large pendants meet different lighting needs in the building. On the central concourse, large Memory pendants hang suspended from the raised ceiling, while Snowball (PH Louvre) illuminates the encircling balconies. The two pendants match each other and signal that the concourse is a coherent and festive room.

In the Management's meeting room, two PH Artichoke in brushed steel signal the executive level.

ing pattern, and fibre-optics in different colours hidden in the gables form bright shapes in the landscape. The interplay between the building and the coloured signs in its immediate vicinity is best experienced in passing.

One of the fascinating things about driving through an area like this at night is the artificial lighting: the coloured neon signs of petrol stations, the rhythmic pulse of lights illuminating the motorway and, every so often, the interior of a building that is lit up in the darkness. Artificial light acts as a landmark in the generic city that takes on a whole other dimension during the hours of darkness.

Architecture like this is designed to be experienced at higher speeds than a traditional European city. When moving fast, it is no longer quite as important if the construction is suddenly disturbed by a bit of plasterboard, or if all the details harmonize. Even from a distance we can see how the wing and the building with the arched roof interact with one another and bestow a visual accent upon an otherwise uniform landscape, and how the small conference centre is endowed – particularly at dusk – with the same straightforward character that defines its surroundings.

*Assistant professor Peter Thule
Kristensen, MAA, PhD.*

FDE TRAINING AND CONFERENCE CENTRE

BUILDING CONTRACTORS: FORENINGEN AF

DANSKE EKSPORTVOGMÆND (FDE)

ARCHITECT: SCHMIDT HAMMER LASSEN

ENGINEER: DIRKS RÅDGIVENDE INGENIØRER A/S

ELECTRICAL ENGINEER: INGENIØRGRUPPEN SYD APS

LANDSCAPE ARCHITECT: SCHMIDT HAMMER LASSEN

INTERIOR DESIGNER: HANNE ROD, MDD



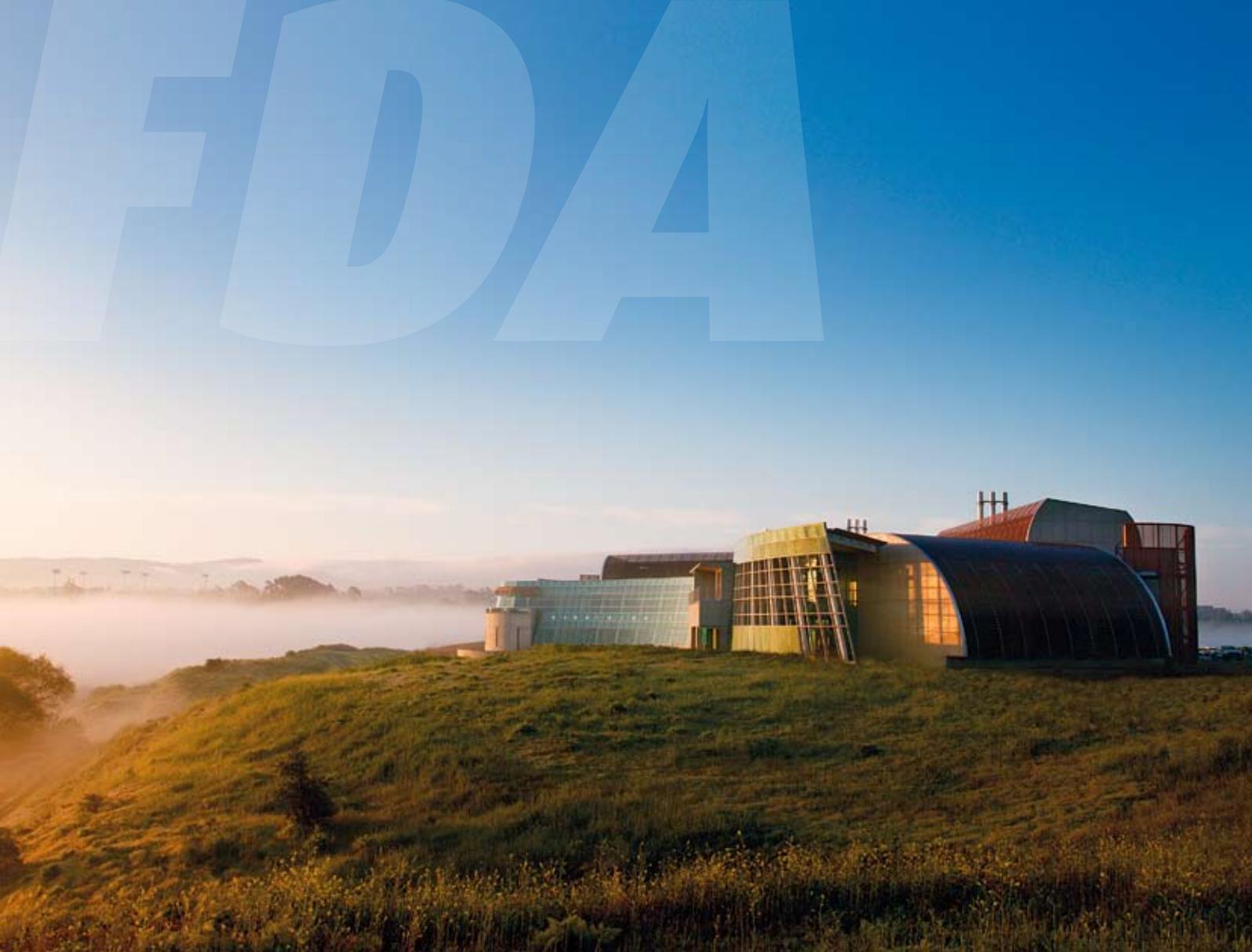


Photo: Adrian Velicescu/Standard

I n s p i r e d a r c h i t e c t u r e o n a b e a u t i f u l s i t e

FDA at Irvine

The architects Zimmer Gunsul Frasca Partnership have designed the new FDA Southwest Regional Lab and District Office in California. The boldness and openness of the architecture has had a pronounced influence on the working climate and internal communication of the building.

BY DAVID MOFFAT

When it opened two years ago a local newspaper called the new Southern California home of the U.S. Food and Drug Administration “wild” and “sexy.” Sited on a low bluff overlooking a protected freshwater marsh, it cut a bold, curvaceous figure visible, night and day, from a main entrance to the University of California, Irvine, half a mile away.

Although its form may initially seem mysterious and sensual, the lab’s now-established success as a work and social space might better be understood as stemming from an entirely sensible series of design moves. In part these were dictated by the FDA, whose need was for generic lab and office space that was economical to build and flexible to use.

It took the experienced hand of Zimmer, Gunsul Frasca Partnership, a firm with a growing reputation for innovative biological-science facilities, to design the building.

Immediately upon entering, the building reveals itself as the result of several refreshingly bold design moves. Most important of these is a continu-



FDA's bold and beautiful new headquarters at Irvine lie on a low hillside overlooking a protected marsh area. The enormous, sweeping surface made of green solar glass opens the entire building.

Photo: Adrian Velicescu/Standard

Photo: Nick Merrick © Hedrich Blessing





Nick Merrick © Hedrich Blessing

Daylight is a crucial element in FDA's new headquarters. Even the establishment of optimum artificial lighting listed high on the architect's agenda. PH 6½-6 pendants are used in several places, e.g. in the library and in the large, two-story circulation spine along the glass façade.

ously curving, east-facing curtain glass wall. Design Partners Dusty Rhoads and Doss Mabe of ZGF designed the angled expanse to extend the entire length of the building – from its entrance, where it tilts over to create a welcoming “front porch,” to a concrete “tail” housing a library and seminar room.

Made of green solar glass with ceramic frits above eye-level, the wall opens the entire building to stunning views of the wetlands below. Equally important to the workings of the building, however, are three identical two-story blocks of office and laboratory space, Rhoads explains. These are arranged at changing angles to one another along the main curve, leaving the gaps between to house service spaces. The open areas between these work blocks and the sweeping, expressive wall serves naturally as an undulating

circulation and social spine, containing a series of freestanding metal stairways. And the entire ensemble is completed by two additional rectilinear blocks that cluster around the entrance.

The origins of the FDA's new Irvine facility actually lie in a desire to create a new work culture at the agency that Rhoads says can be traced to the late 1990s and former Vice President Al Gore's initiative to “reinvent” government. According to Julie Henderson, the FDA's Irvine Facilities Manager, the ZGF building is one of five such facilities that have replaced and modernized its regional presence from Seattle to Atlanta. The regional centers fulfill a largely regulatory role for the agency, testing a vast range of products with potential effects on the health and safety of

Americans and standing ready to respond to sudden epidemics or other public-health crises, Henderson explains. Two groups of employees provide these services: inspectors travel their region, collecting product samples from ports, factories, farms and businesses, and these are then evaluated by scientists at the lab for a variety of defects and/or contaminants.

The FDA's old Pacific Region Lab was located in a warehouse/industrial area adjacent to downtown Los Angeles. There, its cramped hallways had grown completely inadequate. By the mid-1990s, the situation had become so dysfunctional that communication between the two arms of the agency, its inspectors and scientists, had nearly broken down. To improve efficiency and organizational integration, transparency was the

Photo: Nick Merrick © Hedrich Blessing





Photo: Nick Merrick © Hedrich Blessing



Photo: Nick Merrick © Hedrich Blessing



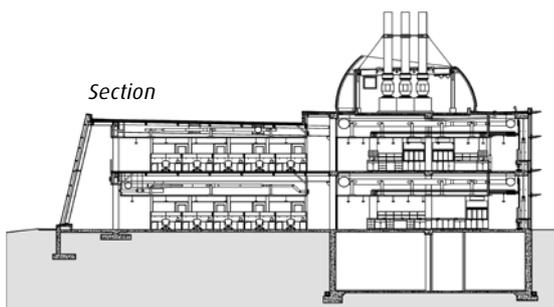
Photo: Nick Merrick © Hedrich Blessing

The design of the building and juxtaposing of building elements create several exclusive outdoor spaces where staff members can relax when they are on a break.

Canopies above writing desks create a sense of space at the workstations. AJ Discus (AJ Eklipta) has been mounted onto the canopy and PH 4/3 is placed on the desk.



Plan



Section



Corrugated and perforated steel sheets have been used for the horizontal sunscreens.



FDA's headquarters are designed as clear geometric shapes placed at different angles in relation to each other, making for a very exciting whole.

preminent design goal in the new building, Rhoads says. Inspectors and scientists needed to be brought under one roof, and their work spaces integrated to encourage communication and collaboration. In part this was done by locating them immediately adjacent to each other in open office and lab areas separated only by glass partitions.

Abundant light, both natural and artificial, was also a key element of this design strategy. ZGF believed natural light should be provided to all workspaces and that employees should be able to see completely through the building from one side to the other. To this end, the great glass wall is augmented with carefully placed clerestories, tall glass slits along corridors, and discrete panels of sunshaded view glass.

Light fixtures from Louis Poulsen Lighting were employed in key locations around the building. Among others, PH 6½-6 pendants are grouped over the stairs and in the library. The walls are mainly lit by AJ Eklipta.

Underfoot, simple colored concrete floors are inlaid with bands of limestone pavers. Limestone is also used for effect in high-visibility areas such as around the interior stairs. Maple veneer panels are used to create a sense of warmth in offices and meeting areas.

From the outside the building reveals a changing array of expressions. Cool and dark by day, its long glass façade glows with light at night. Its other faces exhibit a variety of metal screens and sunshades. Corrugated perforated stainless steel, the same material used for the ceiling panels inside, is used for horizontal sunshades, rimmed with solid stainless steel "beaks."

Similar, curving copper panels are used to establish the prominent curves along several of the vertical surfaces and screen its emergency exit stairs. Most prominent of these is a quarter-round drum shielding the windows of the conference area and offices right of the entry. Finally, on the roof, solid curving copper panels help enclose the lab's all-important mechanical equipment.

Through the long course of design, funding approval, and construction, the designs for the building endured numerous changes, the last prompted by security concerns following 9/11. The building is now outfitted with a battery of security cameras and a metal detector at the door. Bollards in a landscape of ornamental grasses and Jacaranda trees guard its main entrance, and visitor parking has been moved away from the front entry. Finally, a guard station – a seeming test model for the concrete structural systems

used in the main building – controls access from Fairchild Road.

It is testimony to the strength of original intention that none of these features – except perhaps an eight-foot-high perimeter fence between the building and the wetland below – compromise a design that melds sensitive siting with contemporary building art and well-conceived technological function.

David Moffat is a Berkeley, California, architect and Managing Editor of the journal Places: Forum for Design of the Public Realm.

FDA AT IRVINE

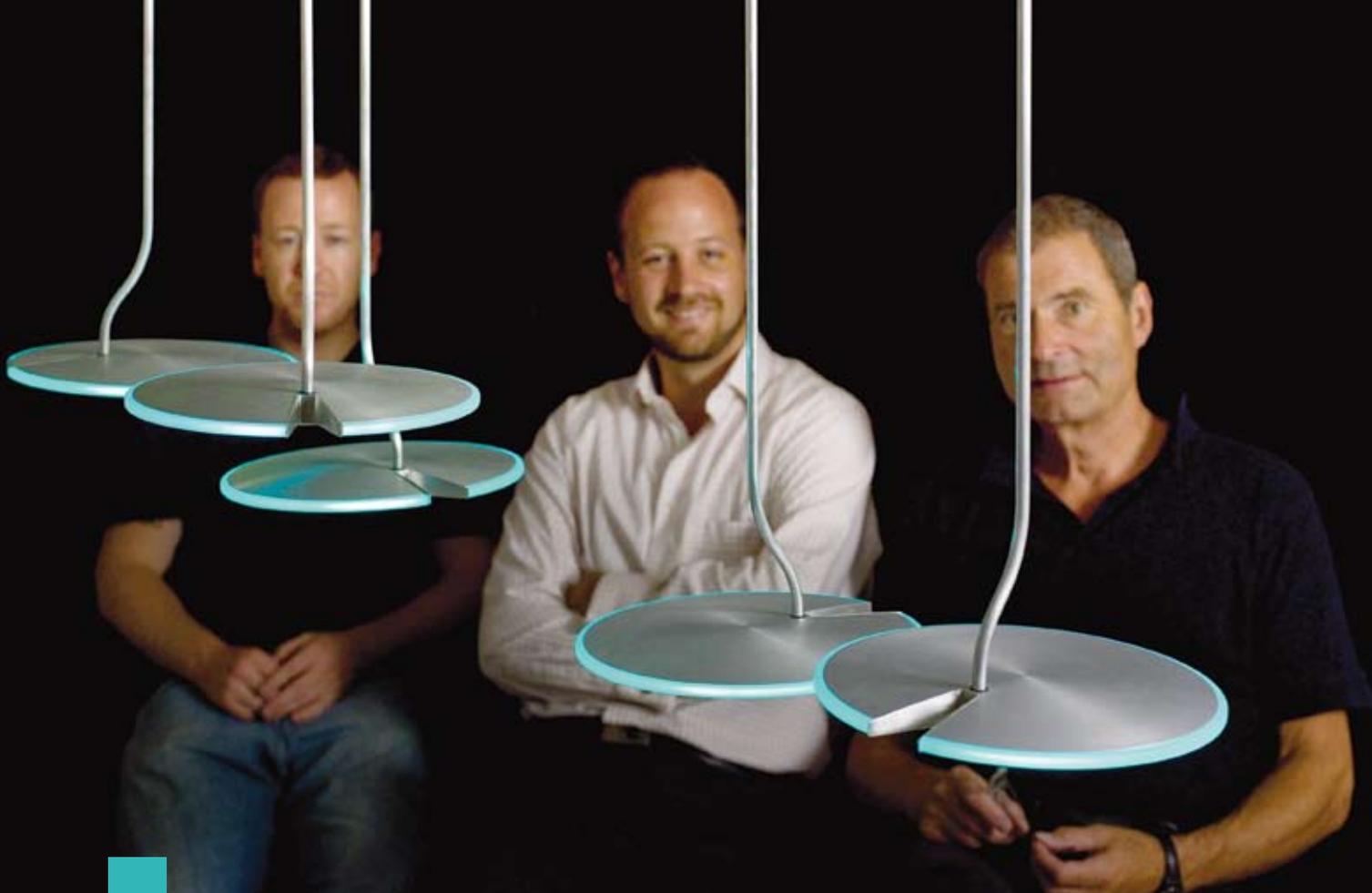
CLIENT: U.S. FOOD AND DRUG ADMINISTRATION
ARCHITECTS: ZIMMER GUNSUL FRASCA PARTNERSHIP + HENNINGSON DURHAM & RICHARDSON, INC., A JOINT VENTURE, LOS ANGELES

GENERAL CONTRACTOR: HENSEL PHELPS CONSTRUCTION COMPANY, IRVINE
CONSTRUCTION MANAGER: GILBANE BUILDING COMPANY, PHOENIX

BUILDING ENGINEER: HENNINGSON DURHAM & RICHARDSON, INC., OMAHA

ELECTRICAL ENGINEER: HENNINGSON DURHAM & RICHARDSON, INC.

LIGHTING DESIGNER: FRANCIS KRAHE & ASSOCIATES, INC., LOS ANGELES



Water Lily combines two different LED technologies in one pendant. One technology enables colour effects using the entire colour spectrum. The colours in a fixture can thus be varied as desired. The other technology provides very strong light. The two LED technologies are merged into an aesthetics inspired by the water lily's dance on water and the sun's reflections on the water surface. The designers from the left: Jacob Rudbeck, Jesper Olsen and Christian Bjørn.

W h e n y o u r a r m c h a i r i s a l a m p

LED as an experiment

Louis Poulsen Lighting is the initiator of some new and matchless LED lighting solutions – prototypes – created in cooperation with designers and Risø National Laboratory.

BY IDA PRÆSTEGAARD

Why not design the armchair you sit in as one big lamp? This was the question raised by Louis Poulsen Lighting. The answer is a both innovative and entertaining fixture. The same applies to other lighting solutions created jointly with designers Jacob Rudbeck, Jesper Olsen, Christian Bjørn, Christian Flindt, Louis Poulsen Lighting and Risø.

Launched in 2004, the project set out to find new applications for LED. Louis Poulsen Lighting was charged with

finding designers and helping them incorporate the light emitting diodes into innovative products that exploit the diodes' unique properties. Risø headed the research in energy-saving lighting, studying the colour rendering properties of the diodes and teaching the designers about light, colour and how diodes operate.

Working with diodes allows far greater design freedom than working with traditional light sources: A designer can interact with light emitting diodes; they

can be embedded and withstand pressure and impacts. This enabled designers of the new LED solutions to use different materials and much smaller dimensions than they could in developing traditional lighting solutions. Three of the lighting solutions were created by designers Jacob Rudbeck, Jesper Olsen and Christian Bjørn; "Water Lily" – a collection of flat fixtures inspired by the shape of the water lily, "Flip-Flop" – a flexible table fixture with embedded light emitting diodes and »Cluster«



Cluster is inspired by a bouquet of flowers. The diodes are placed in a piece of aluminium embedded in a silicone shell to form a small flower. Cluster is a pendant made up of 13-14 little "flowers" suspended from the ceiling. The bouquet is tied together by a small ring that adjusts the spread of light when pulled up or down. As a bouquet of flowers, Cluster can be arranged to fit the individual user.



Light recliner is a luminous bean bag inspired by the popular "ballroom facilities" from IKEA where kids can bathe in a sea of large coloured balls. The chair consists of 250 opal luminous balls in the top layer and 3,000 plain balls underneath, providing flexibility and the possibility of interacting with the product. The bean bag has a faint glow when unused but lights up when you sit or lie down. The material is 3D textile. This sandwich textile makes the balls comfortable for sitting. The diodes are highly resistant to impact and emit light through the dense material on the sides, producing a luminous effect that creates an atmosphere around the chair. Designer: Christian Flindt.

Flip-Flop is a table fixture inspired by the need to change lighting in a simple manner. Technology has allowed light sources to be embedded in silicone, a highly flexible and pliable material. A pole running vertically through the fixture allows the silicone to contract or expand so that the light it emits is either spread or narrowed.

– a bouquet of little bells of light resembling a bunch of flowers. The fourth lighting solution, »Light recliner«, is a luminous bean bag designed by Christian Flindt.

Developing the four new LED products was an exhilarating process. The designers' open-minded approach to the development task was a great inspiration to Louis Poulsen Lighting. Louis Poulsen Lighting managed the design process and made sure that the new

products follow the company's design philosophy to the widest possible extent. Functionally, this means that the lighting must be bright enough for use at a desk or kitchen table or in places where you need to find your way round. In addition, the new products meet another of the company's requirements, viz. that a lighting fixture must create atmosphere and be evocative. This can be achieved by using a small bit of the light to illuminate the product itself and thus accentuate its shape and materials.

Louis Poulsen Lighting is not contemplating putting the four fixtures into production at the moment. However, the market response will obviously be useful in the next phases of product development. The new lighting solutions were exhibited at Illums Bolighus on the Night of Culture in Copenhagen, 13 October, and for following three weeks.

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Newcomer to the Toldbod series



Photo: Kaslov Studio

Louis Poulsen Lighting is launching Toldbod Bollard and Toldbod Wall in new and smaller versions. Both newcomers are ideal for private homes and gardens. With its shielded downlight and elegant, simple design, Toldbod Post has become a popular fixture for outdoor and indoor projects worldwide over the past 25 years. The Toldbod series is among the best sellers of Louis Poulsen Lighting's product range.

The new Toldbod Bollard and Wall have a Ø 155 fixture head. The small dimensions make the new fixtures an obvious choice for private homes and gardens. Their stylistically pure and discreet design harmonises with both modern and older architecture. Bollard and Wall are available in black and grey with a textured, powder coated surface. Both fixtures can be fitted with 40W E14 light sources, but energy-saving lamps are equally suitable.

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celebrates its 65 birthday

"The magazine is primarily envisioned as an advertisement of Louis Poulsen & co, and the reason why it will not appear as four pages of self-praise but more like plain, technical information is that we see this as the best advertisement." These are the words of magazine editor Poul Henningsen in the very first issue of NYT in September 1941. Today, NYT can look back on 65 years with the same editorial approach.

The Editor



