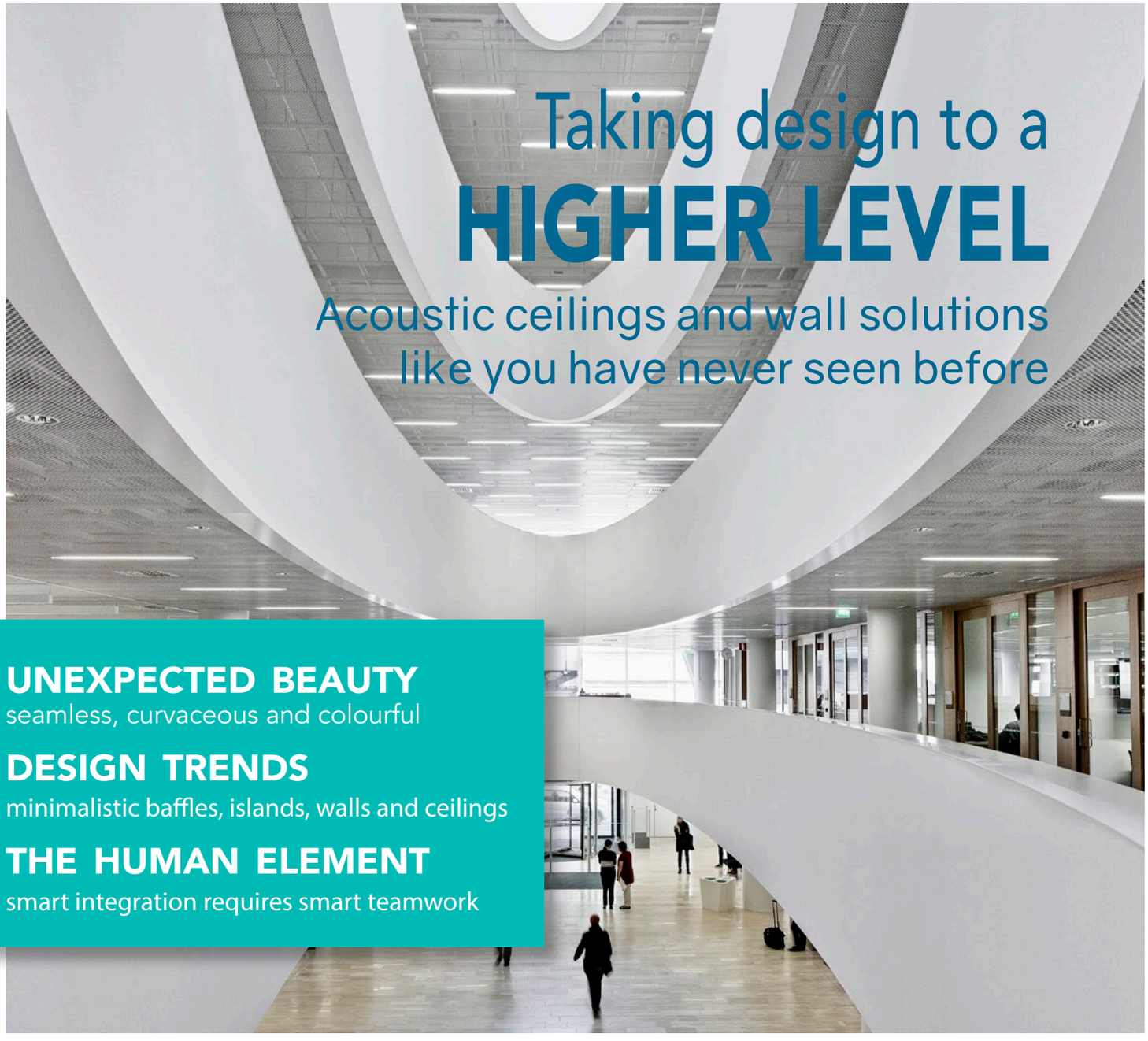
INSPIRED BY YOU

A COLLECTION OF INTERIOR ACOUSTIC DESIGN



Taking design to a HIGHER LEVEL

Acoustic ceilings and wall solutions like you have never seen before

UNEXPECTED BEAUTY
seamless, curvaceous and colourful

DESIGN TRENDS
minimalistic baffles, islands, walls and ceilings

THE HUMAN ELEMENT
smart integration requires smart teamwork

Rockfon®

Part of the ROCKWOOL Group

CHALLENGING SPACES

Project: La Comedie Française, Paris FR
Architect: Stéphane Delaby, Agence Brossy & Associés
Ceiling: Mono Acoustic TE

SUSPENDING BELIEF

Suspended acoustic solutions are evolving beyond the highly successful grid ceiling. They are changing shapes, hiding their gridlines and adding curves and colours. They are even leaving the ceiling entirely, floating in space and hanging on walls. They are doing this in order to meet the demands of all the latest trends in architecture and interior design. Whether multifunctional or monolithic, minimalist or inspired by nature, even mixing old with new, suspended acoustic ceilings and wall absorber solutions are reinventing themselves. In this edition of *INSPIRED BY YOU*, we go in search of projects that are pushing the boundaries of acoustic control. It's time to suspend your beliefs about suspended acoustic ceilings.

We invite you to explore here and online: **www.rockfon.co.uk/inspiredbyyou**

CONTENTS

FRONT COVER

Project: Kaisa House, Helsinki FI
Architects: Selina Anttinen + Vesa Oiva, Anttinen Oiva Architects (AOA)
Ceiling + walls: Industrial Opal + Mono Acoustic TE

SEAMLESS ENSEMBLE

Considered to be one of the most important design trends of the past 20 years, monolithic architecture plays with our sense of scale.

Project: Rochdale Metropolitan Borough Council, Rochdale UK
Interior Design: Steve Dickson, Senior Interior Design Director
Architect: FaulknerBrowns
Ceiling: Mono Acoustic TE

Bringing a monolithic aesthetic to interior spaces can be a real technical challenge, especially when it comes to the ceiling. The undisturbed surfaces often requested by architects make it difficult to control acoustics or provide easy access to technical installations in the ceiling void. Monolithic architecture often includes strong angular shapes and raw, hard surfaces, all of which can wreak havoc with the acoustics of a space. Moreover, architects and clients are often reluctant to employ a standard grid ceiling, especially when they want to avoid interrupting a clean, minimalist surface.

REFLECTING PERSONALITY

Take for example **ASTRUP FEARNLEY MUSEET** in Oslo, Norway – a collaboration between Renzo Piano Building Workshop and Narud Stokke Wiig Architects. This architectural masterpiece is located in the newly-built Tjuvholmen neighbourhood jutting into the city's harbour. More than just a museum for modern art, it is a multi-faceted complex including the museum, office buildings, a park, beach and harbour-front promenade. The aspen timber-clad buildings are sheltered under a single adjoined swooping glass roof inspired by the sails of the ships that still ply the harbour's waters. "This is an iconic complex in the centre of the city," explains ***Hossam Gadalla***, Project Architect. "The roof unites all the different activities into a single entity."

When it came to creating the art galleries of the museum, the design team wanted a monolithic ceiling with the same geometry as the roof. "We needed a ceiling that was neutral and strong – neutral because it shouldn't overshadow the works on display, yet strong because it needed to reflect the personality of the roof." At the same time, the ceiling had to fulfil a long list of acoustic and technical requirements. "We were really impressed by Rockfon. The quality of their **Mono Acoustic TE** ceiling system enabled us to achieve what we wanted both technically and architecturally. Rockfon understands architecture; the choice really paid off. When you look up, you see the wooden beams, and the ceiling spans the spaces between with the same double curvature as the roof."

HOSSAM GADALLA
Nordic Office of Architecture

> WHEN YOU **LOOK UP,** YOU SEE THE WOODEN BEAMS, AND **THE CEILING SPANS THE SPACES** BETWEEN WITH THE SAME DOUBLE CURVATURE AS THE ROOF.

Project: Astrup Fearnley Museet, Oslo NO
Architects: Renzo Piano Building Workshop and Narud Stokke Wiig Architects
Ceiling: Mono Acoustic TE


AGILISYS

ACCENTUATING SURFACES, CONTROLLING SOUND

But monolithic ceilings are not reserved for cultural projects like Astrup Fearnley Museet in Norway. Across the North Sea in the United Kingdom, **ROCHDALE METROPOLITAN BOROUGH COUNCIL** commissioned a new civic office building. The idea was to relocate the staff who worked in 33 different buildings scattered around the city into one office centre. Architects FaulknerBrowns were selected to design the new building.

Part office space, part library and part community services, the building is designed to display transparent governance. There was a strong desire to not compartmentalise the building, but at the same time the design had to provide structure and visual cues to the different kinds of users. The ceiling plays an important role in this task. It helps to delimit spaces and add grandeur to the open and transparent design, while at the same time contributing to controlling the acoustics. Like vast ribbons, the ceilings help weave the floors and spaces together into an understandable ensemble. Here again, the monolithic **Mono Acoustic TE** ceiling not only accentuates the use of raw surfaces elsewhere in the building, but also helps guide the eye through the building and create acoustic comfort.

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Interior Design: Steve Dickson, Senior Interior Design Director
Architect: FaulknerBrowns
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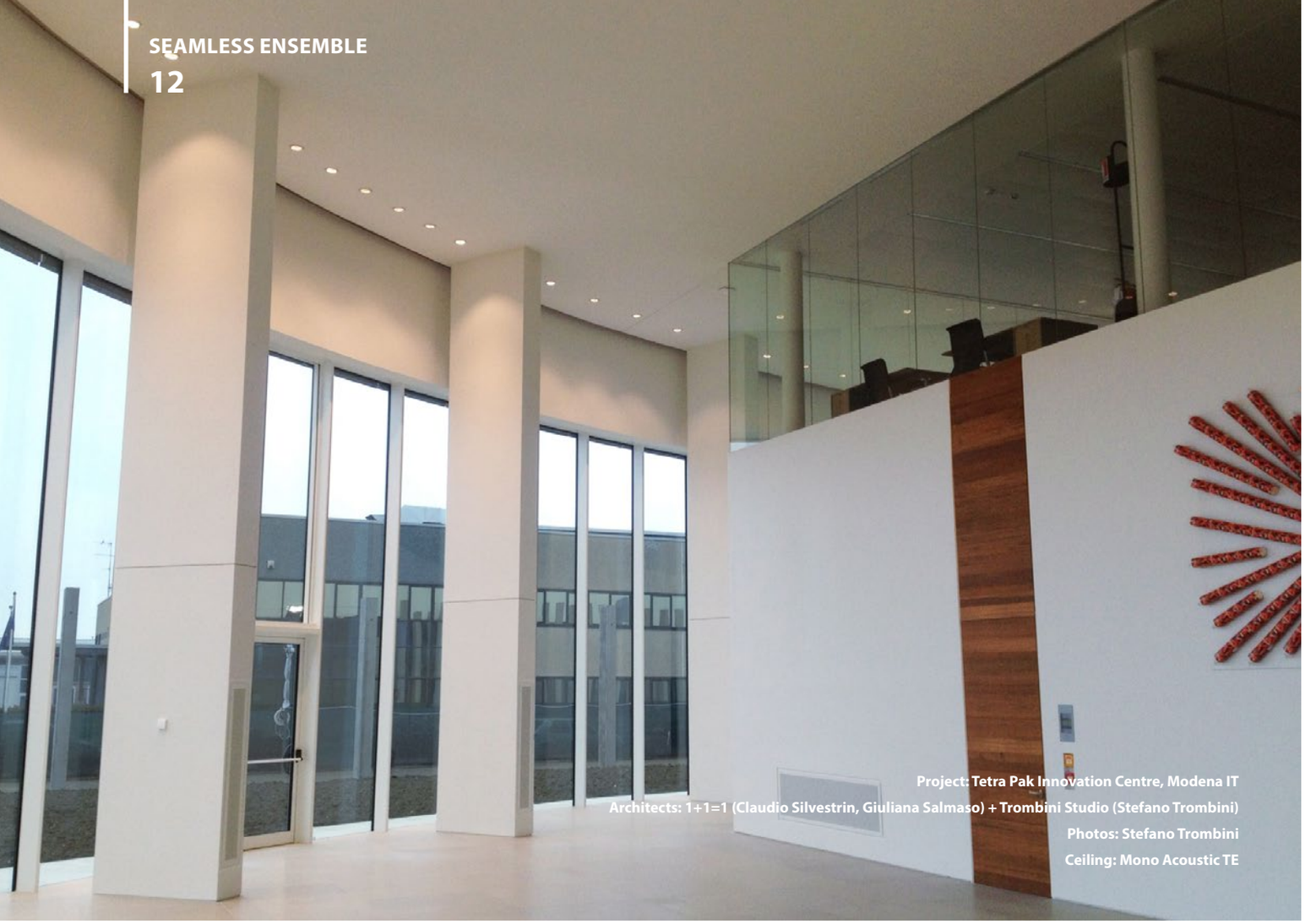


Project: Tetra Pak Innovation Centre, Modena IT
Architects: 1+1=1 (Claudio Silvestrin, Giuliana Salmaso) + Trombini Studio (Stefano Trombini)
Photos: Stefano Trombini
Ceiling: Mono Acoustic TE

BREAKING WITH CONVENTION

At the **TETRA PAK INNOVATION CENTRE** in Modena, Italy, the world-famous packaging company wanted to transform an old farmhouse into a new R&D facility. "Transparency, flexibility, security, building automation and wellness were the guiding principles," says architect ***Stefano Trombini***. "The project sought to preserve the original architecture, reinterpreting it symbolically through the building's materials and to open up to as much natural and uniform lighting as possible."

When it came to deciding on the ceiling, the architects at 1+1=1 and Trombini Studio refused to conform to what they call the "industrial logic" of grid ceilings. As Trombini points out, "Several thousand years of architectural history show us the beauty of monolithic solutions – linear, unique, simple. So why since the 1960s do we see ceilings that are the same shape – standardised, modular, removable, perforated, confusing? It's not good architecture." Instead they opted for a monolithic ceiling because it would be "an integral and indispensable part of the project. It had to aesthetically and functionally live up to the concept. The ceiling had to suit the project, not vice versa." It also had to provide suitable acoustics for such a busy space, which is why it was constructed using the **Mono Acoustic TE** system from Rockfon. So it's not surprising that it was ranked first in the Best Large Workplaces in Europe 2012 competition by Great Place to Work®.

CÉCILE VASSORT
Rockfon

Mono Acoustic TE

Cécile Vassort
Group Product Manager at Rockfon

When Rockfon designers and engineers began developing a monolithic ceiling solution, they combined the flexibility of two installation methods – a suspended grid system or mounting directly to the soffit – with specially designed close-fitting Rockfon acoustic panels. The joints between the panels are then filled, and the seamless surface is achieved by applying a render.

Horizontal or vertical, sloping or curved, white or any colour on demand, Mono Acoustic TE adapts to any space. It also easily integrates lighting, HVAC systems and inspection hatches. Boasting one of the highest acoustic performance of any seamless ceiling available today, Mono Acoustic TE provides high sound absorption, a significant decrease in reverberation time reducing echoes and enhancing speech intelligibility, all while offering the well-known benefits of a Rockfon stone wool core ceiling, such as fire safety and humidity resistance.

Project: Refurbishment of the Hôtel-Dieu, Vieux-Port, Marseille FR
Client: InterContinental Hotels Group
Architect: Anthony Béchu, agent, Tangram Architectes
Interior design: Jean Philippe Nuel, Volume ABC, Tangram Architectes
Photo: Eric Cuvillier
Ceiling: Mono Acoustic TE

If you think curves and grids are mutually exclusive, think again. Here are four examples that twist conventional wisdom.

CURVACEOUS BEAUTY

Project: Puerto Venecia, Zaragoza ES
Architect: Eduardo Simarro, L-35 Arquitectos
Contractor: Oproler
Installer: Europlac 2002
Ceiling: Mono Acoustic TE

In 2012, curves in architecture hit the headlines when the United Kingdom's Department of Education banned them from new school buildings. Considered an architectural extravagance, curves were out, and straight lines were in. Why? Because bureaucrats decided that curves were not functional and added unneeded cost to buildings. But such a categorical dismissal of curves fails to acknowledge that architectural choices are rarely black and white. When faced with challenging projects, designers need the complete palette of geometric shapes.

A shopping centre, a hotel, a historic theatre and a university library: *INSPIRED BY YOU* takes you inside four projects where the use of curved ceilings was not an architect's folly, but an essential — and in some cases vital — ingredient to ensuring acoustic and architectural success.

MAKING WAVES

In October 2012, the Spanish city of Zaragoza found its way into the record books as home to the largest shopping centre in Europe. With a cinema, an amusement park and over 150 big-name stores, the sprawling 206,000m² **PUERTO VENECIA** has something for everyone. Cafes and restaurants line a canal that meanders through the complex and an artificial lake sits at the heart of an outdoor activity area.

With water playing such an important role outdoors, the designers looked to integrate the same fluid feeling indoors. That's when architect ***Eduardo Simarro*** at L-35 Arquitectos decided to look up. Simarro explains: "In an area of this size – 200m long by 24m wide – where thousands of people gather, achieving acoustic attenuation and control of sound reverberation is fundamental. For this purpose, work must be done especially on the 'horizontal' planes since nearly all of the vertical planes are glass windows." He designed the shopping mall with a ribbon of white ceiling rippling down the middle, evoking the ebb and flow of the water in the lake just outside.

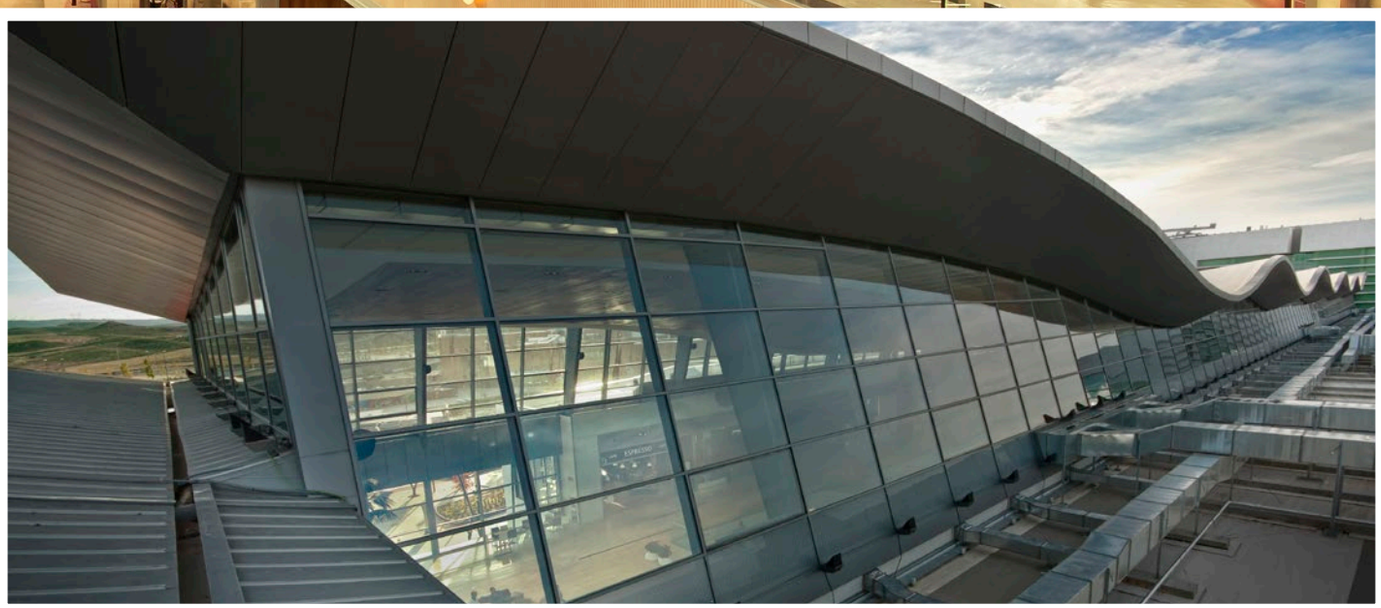
At first glance, it's easy to think the ceiling is made of hard plaster or gypsum. Actually it is 3,500m² of sound-absorbing **Mono Acoustic TE** from Rockfon. More than just an artistic nicety, the ceiling helps control the acoustics of the vast shopping centre. "Rockfon is a natural choice for its sound absorption and aesthetically good finish. It is very easy to work with the products, and the stone wool core is an excellent material," says ***Mariano Velilla***, Installer with Europlac 2002.

> "ACHIEVING ACOUSTIC ATTENUATION AND **CONTROL OF SOUND REVERBERATION** IS FUNDAMENTAL."


CASAS
Junkemöller
ZARA HOME
ZARA HOME

DOCK 39
Hollister

Project: Puerto Venecia, Zaragoza ES
Architect: Eduardo Simarro, L-35 Arquitectos
Contractor: Oproler
Installer: Europlac 2002
Ceiling: Mono Acoustic TE

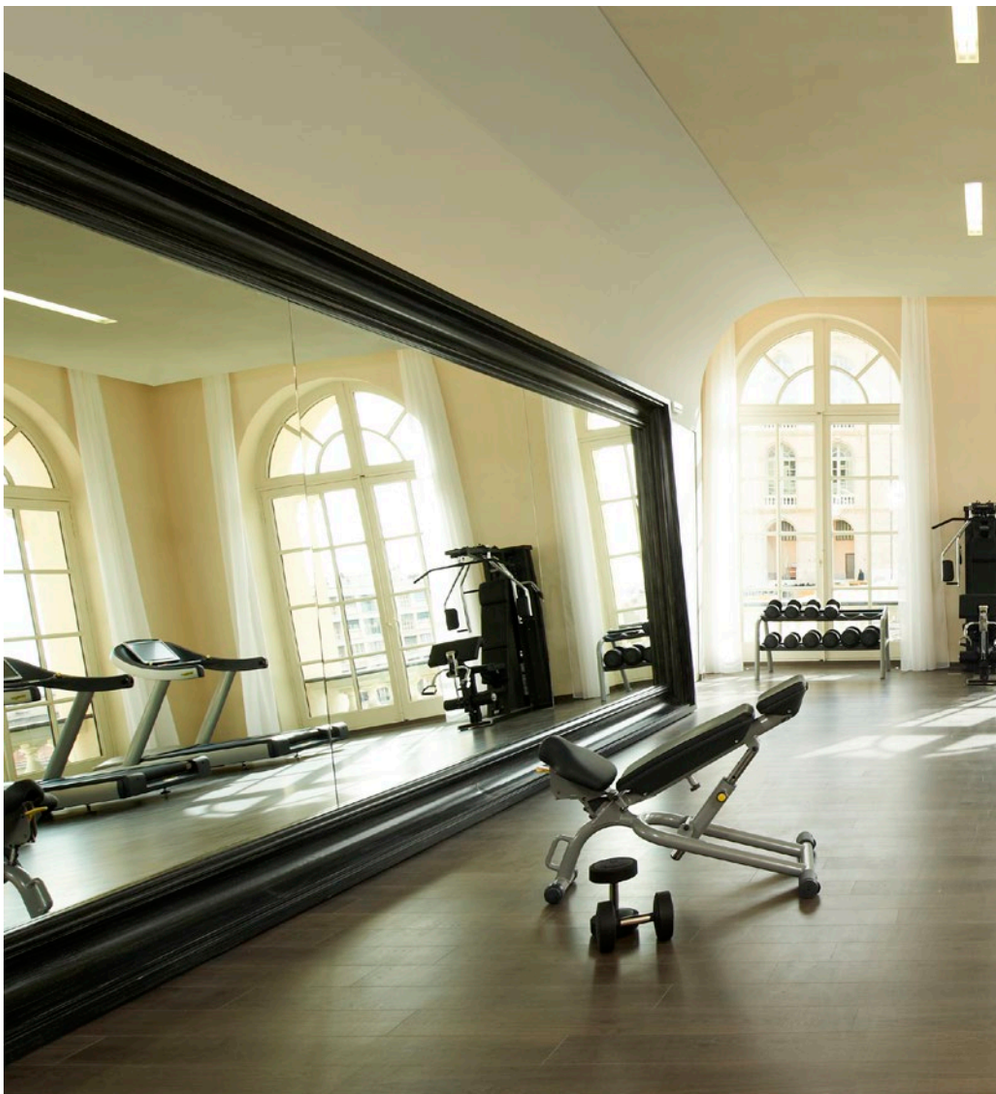


ACCOMMODATING THE PAST

Sometimes curves are simply unavoidable. The majestic **INTERCONTINENTAL MARSEILLE – HOTEL DIEU** opened in April 2013 and instantly became a landmark of the famous French Mediterranean port city. The hotel is a total restoration of the venerable Hôtel-Dieu, a hospital that dates back to The Middle Ages, and features a Michelin-starred chef, a luxurious spa, an indoor pool and an elite 24-hour staff. It also has curves... lots of them. From the window arches to the swirling central staircase, the Art Nouveau lobby to the cloisters, the façade to the vaulted ceilings – they are everywhere.

So when Marseille-based Tangram Architectes' Lead Architect ***Anthony Béchu*** teamed up with Volume ABC and world-renowned interior designer ***Jean Philippe Nuel*** to create the hotel's communal spaces (reception, meeting rooms, media room, bar, restaurant, swimming pool and fitness center), they chose a ceiling solution that could accommodate their every need – and acoustics were at the top of their list. For example, the Cultural Center located on the ground floor near the foundations is a windowless space with vaulted ceilings, rough stone walls and a dark wooden floor. Light reflectance and acoustics are provided by the beautifully calm **Mono Acoustic TE** ceiling.

The advantages of the Mono Acoustic TE ceiling system also figure prominently, yet discreetly, in the gym. With floor-to-ceiling windows on three sides, it provides an amazing view of the Vieux-Port. The curvature of the window arches is echoed in the seamless curled transition between the ceiling and the fourth wall above the gigantic mirror. Communication Manager ***Emmanuel Dujardin*** with Tangram Architectes explains: "The building is a protected monument, so we couldn't alter what had been done by the original architects. This meant we had to use materials, such as Rockfon, that would allow us to respect the existing architecture while integrating our design."



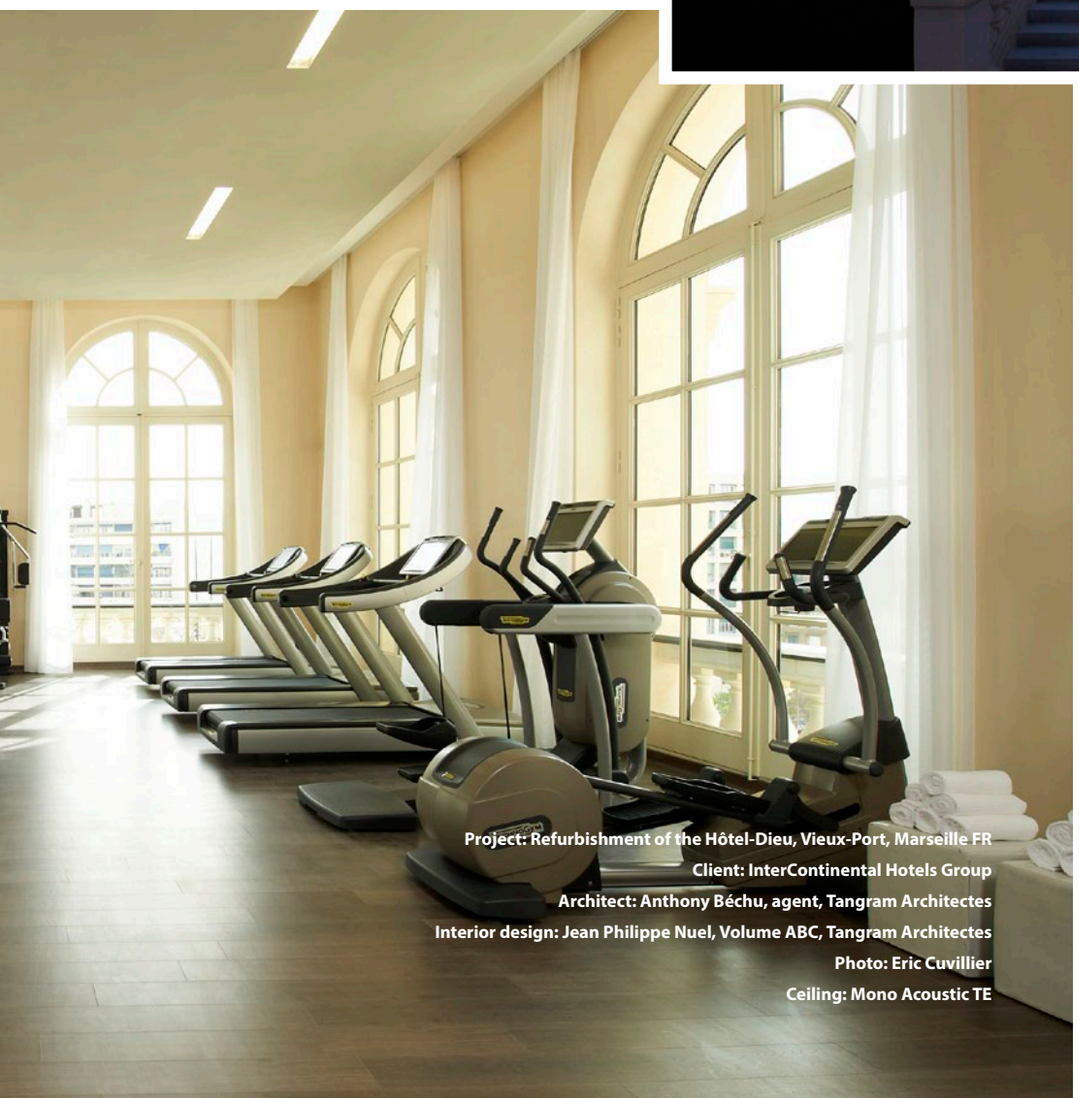


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Photo: Eric Cuvillier
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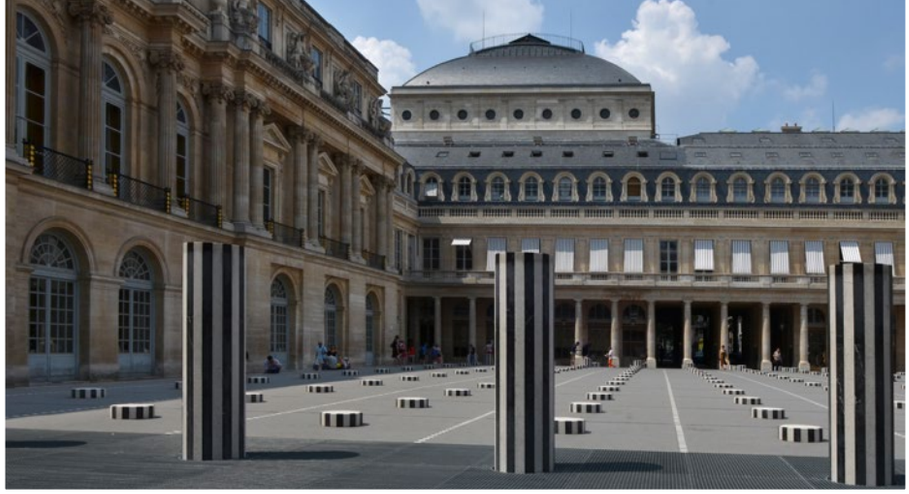
> “WE HAD TO USE MATERIALS, SUCH AS ROCKFON, THAT WOULD ALLOW US TO **RESPECT THE EXISTING ARCHITECTURE** WHILE INTEGRATING OUR DESIGN.”



Project: La Comédie-Française, Paris FR
Architect: Stéphane Delaby, Agence Brossy & Associés
Ceiling: Mono Acoustic TE

> THE DÔME IS NOW BOTH A **SPLENDID** AND **FUNCTIONAL** SPACE.

STAR PERFORMANCE

LA COMÉDIE-FRANÇAISE in Paris is the home of France's national theatre company. Its crown jewel is the Salle Richelieu, an Italianate auditorium that is considered one of the finest in the world. The Salle Richelieu reopened in January 2013 after 12 months of renovation. One very important part of this project, hidden from the public, was the modernization and renovation of the Dôme, which sits above the Salle Richelieu and houses the HVAC units.

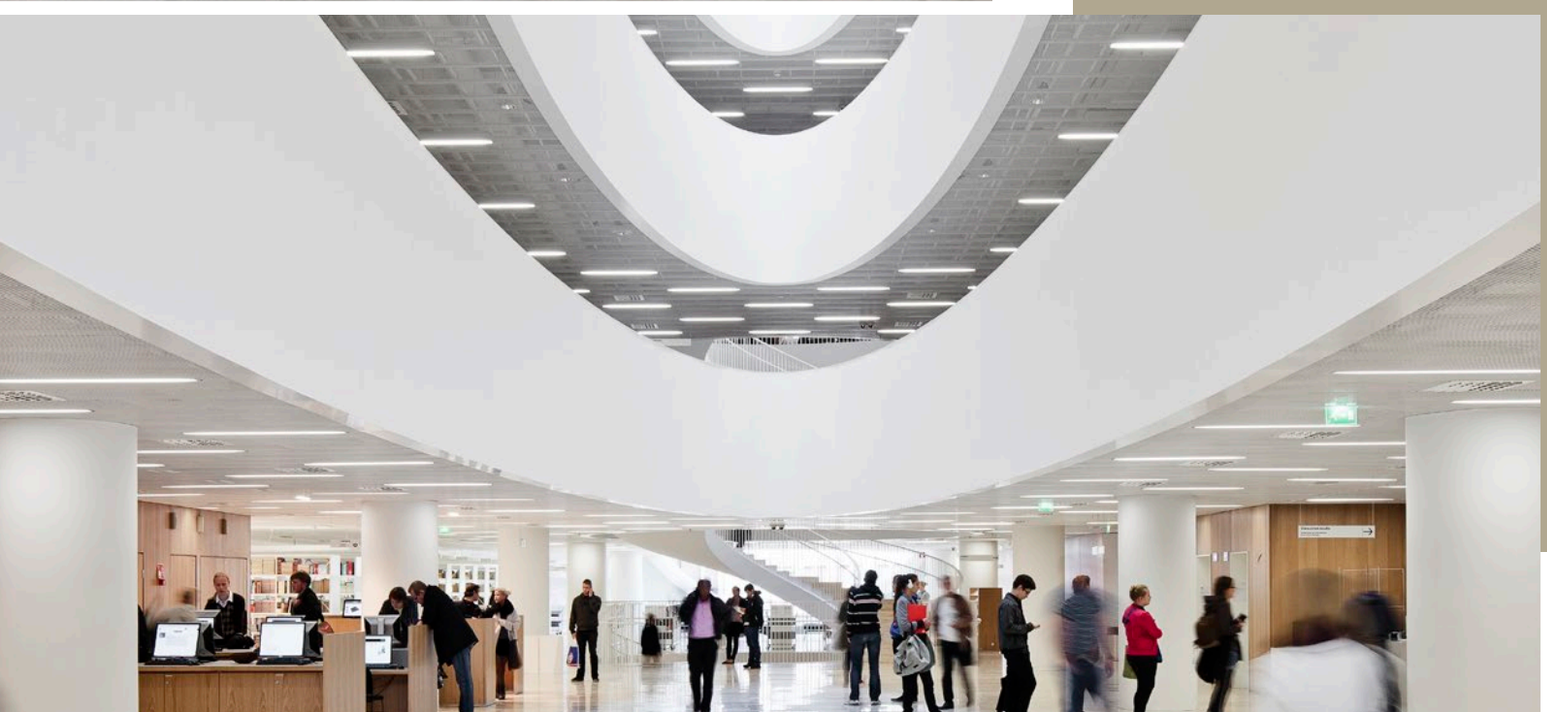
By reorganizing the HVAC systems, the architects proposed turning the Dôme into useful space which would be a windfall for the theatre company in a city like Paris where square metres are precious. The renovation of the Dôme freed up 250m^2 of floor space. "By reducing the space allocated to technical equipment, we reclaimed half the volume of the Dôme and highlighted the wrought iron structure created by Julien Gadet in 1900," explains ***Stéphane Delaby***, Architect, B&A Studio of Architecture. "To allow the Comédie-Française best use of their new space, both technically and acoustically, **Mono Acoustic TE** was installed throughout the curved Dôme between the metal structure, preserving it entirely. The Dôme is now both a splendid and functional space, completely insulated acoustically from the theatre below."

LADY KAISA

When the University of Helsinki decided to develop a new central library on the site of an old department store in the centre of the city, few imagined just how spectacular the final result would be. One of the visionary few was ***Vesa Oiva*** of Anttinen Oiva Architects (AOA), who came up with a bold and elegant proposal, saying, "The nature of libraries will change considerably over the next 50 years, and this called for flexible building system solutions."

The heart of **KAISA HOUSE** is a magnificent oval atrium that rises through the entire building. The curves of the atrium harmonise with the strong curved openings carved into the western elevation of the building. To accentuate the curves of the atrium, the white balconies on each floor seem to hang in the air like concentric cloud rings, drawing the eye upward.

But the balcony walls are actually improving the acoustics of the space, creating a calm and quiet environment for library users. To achieve the smooth surface and curve they wanted, AOA used **Mono Acoustic TE**. Rockfon ceilings are also helping throughout the rest of the library, with **Industrial Opal** installed behind a stretch-metal mesh. From the moment it opened, "Lady Kaisa" won over the hearts and minds of the public, earning it the annual award of the Finnish Critics' Association in the spring of 2012. ■



> “THIS CALLED FOR **FLEXIBLE** BUILDING SYSTEM **SOLUTIONS.** „

Project: Kaisa House, Helsinki FI
Architects: Selina Anttinen + Vesa Oiva, Anttinen Oiva Architects (AOA)
Ceiling + walls: Industrial Opal + Mono Acoustic TE

UP AND AWAY

The world isn't flat. There are steps and plateaus, peaks and valleys – and we now know the sky is most certainly not the limit. When it comes to ceilings, biomimicry is inspiring designers around the world. They in turn are asking for more new-build and renovation options when specifying ceilings.

Project: Moray Council , Elgin UK
Installer: Linear Projects Ltd
Ceiling: Rockfon Eclipse + Sonar Activity B


IDEALCOFFEE

BIOMIMICRY

Biomimicry (from the Greek: bios meaning life; mimesis meaning imitation) is an emerging science. Popularised by biologist Janine Benyus in the 1990s, biomimicry looks to the natural world for design ideas and inspiration. But biomimicry in architecture dates even further back. Frank Lloyd Wright, for example, likened the columns in the Johnson Wax building to water lilies. When engineers started using a building's mass to provide 'inertia' against temperature fluctuations, they were inspired by the thermoregulation used in termite mounds.

Clouds and hedgerows are the inspiration behind acoustic islands and baffles. They are the free-floating go-to solution in rooms where grids cannot go. Islands hang horizontally, parallel or at slight angles to the soffit; baffles hang vertically, often adjoining in rows or columns.

Interior architecture and design are feeling biomimicry's influence. In fact, many designers are trying to make their spaces feel more 'natural' by exercising greater control over five factors:

FLEXIBILITY

Nature adapts constantly. Landscapes shift. Communities congregate and disperse. Many of today's designers want to create interiors that are modular and mobile, where the component elements can be moved around freely without upsetting the overall environment.

DESIGN

The shapes, textures and colours of nature are a rich source of inspiration for designers. Some biomimicry designs aim to look like an element of nature, while others try to reproduce the effect produced by an element of nature.

VISUAL COMFORT

In nature, plants and geological formations provide shape and shade, modifying natural light. Designers are applying the same principles to interior spaces.

THERMAL MASS

Like in the termite mounds mentioned earlier, thermal mass can help reduce the cooling and heating load of a building, making it more energy efficient.

ACOUSTICS

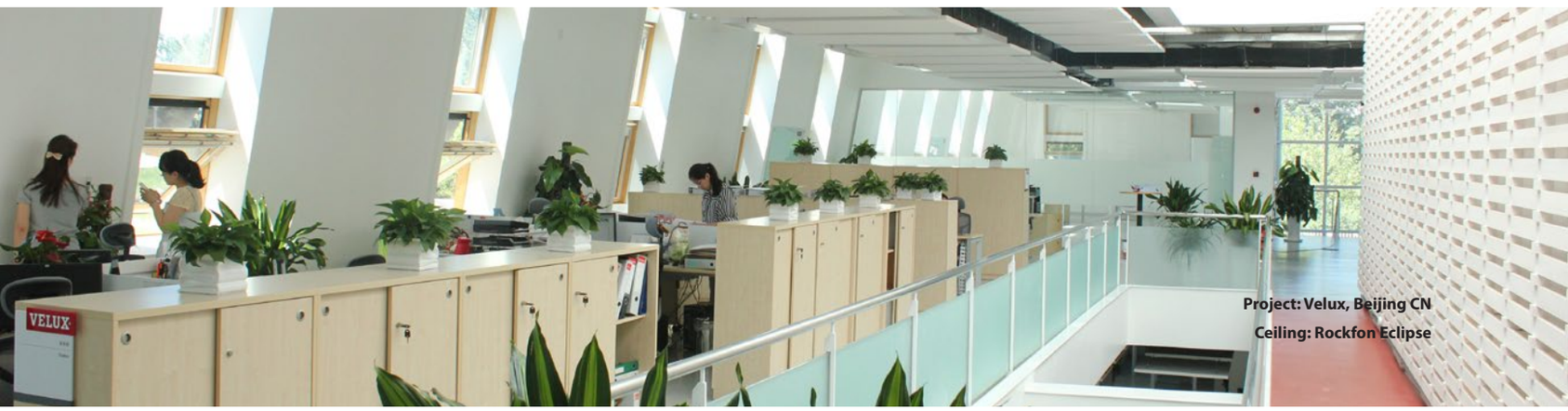
Biomimicry can be a double-edged sword when it comes to acoustics. On one side, the increased use of natural materials like stone and glass, with their hard and flat surfaces, can make reverberation a problem. On the other, designers can use softer naturally-curved shapes and porous materials to muffle and attenuate ambient sound.

> "STUDY NATURE,
> LOVE NATURE, STAY **CLOSE** TO NATURE.
> **IT WILL NEVER FAIL YOU.**"
>
> – FRANK LLOYD WRIGHT

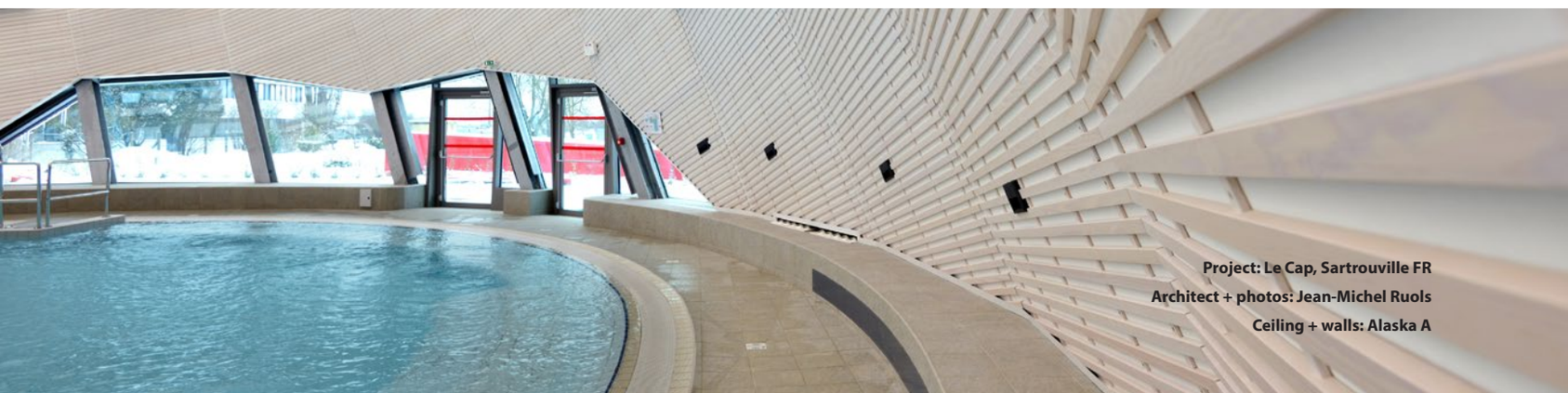
Project: Moray Council , Elgin UK
Installer: Linear Projects Ltd
Ceiling: Rockfon Eclipse + Sonar Activity B

Project: Electrolux, Evere BE
Architect: Thomas van Havre, Exode Architecture
Ceiling: Sonar Activity B

Project: Mail.ru Group, Moscow RU
Ceiling: Fibral Multiflex Baffle



Project: Velux, Beijing CN
Ceiling: Rockfon Eclipse



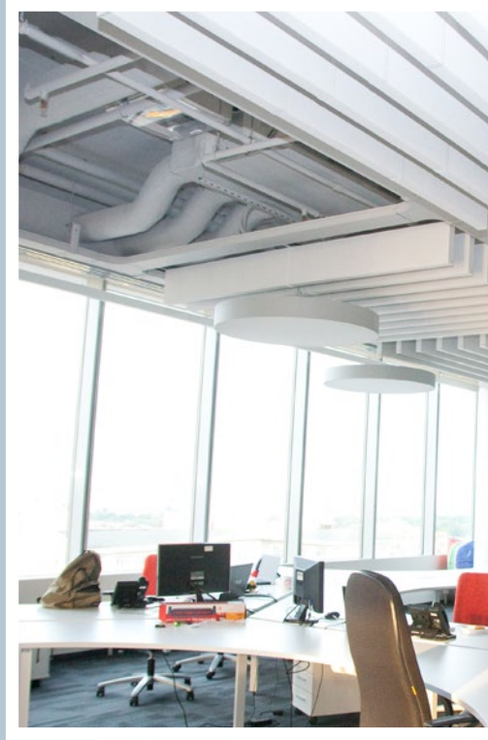
Project: Le Cap, Sartrouville FR
Architect + photos: Jean-Michel Ruols
Ceiling + walls: Alaska A

HANGING HIGH

When the **MAIL.RU GROUP** signed a long-term lease agreement to house its headquarters at the Skylight Business Centre in Moscow, the building's architecture was a challenge. As the name implies, the inside is bathed in natural light, thanks to high windows and a vast atrium, but the architects chose to leave all the HVAC conduits and cable trays visible under the soffit.

The centre consists of two 27-storey towers connected by a plaza and sky bridge; the towers are mirror reflections of each other. Mail.ru occupies nearly 30,000m² in one of the towers. To control acoustics, Mail.ru installed 17,000 **Fibral Multiflex Baffles** above the open plan offices and in the atrium.

In the same way rows of trees provide a natural windbreak, rows of baffles absorb sound and control reverberation.



Project: Mail.ru Group, Moscow RU
Ceiling: Fibral Multiflex Baffle

QUIET COUNSEL

In Scotland, the **MORAY COUNCIL** moved into smart new headquarters following the renovation conversion of a dilapidated former supermarket on Elgin's high street. It was awarded a BREEAM "Excellent" rating for its environmentally friendly credentials. The skylights ensure work areas benefit from plenty of natural daylight, reducing the requirement for artificial lighting. Directional air vents from the roof, rather than air-conditioning, provide ventilation.

These design features meant a traditional suspended ceiling was not suitable, but with over 220 staff working in the main open-plan area, noise levels needed to be controlled. Taking a cue from the way leaves give a forest its serenity and soft porous moss absorbs sounds from a stream, 68 **Rockfon Eclipse** ceiling islands were suspended throughout the main office and 126m^2 of **Sonar Activity** B-edge tiles were directly fixed to the bulkheads. The frameless islands have a minimalistic but sharp-looking edge. They absorb sound from both sides of the panel and let air circulate freely all around.

Project: Moray Council , Elgin UK
Installer: Linear Projects Ltd
Ceiling: Rockfon Eclipse + Sonar Activity B

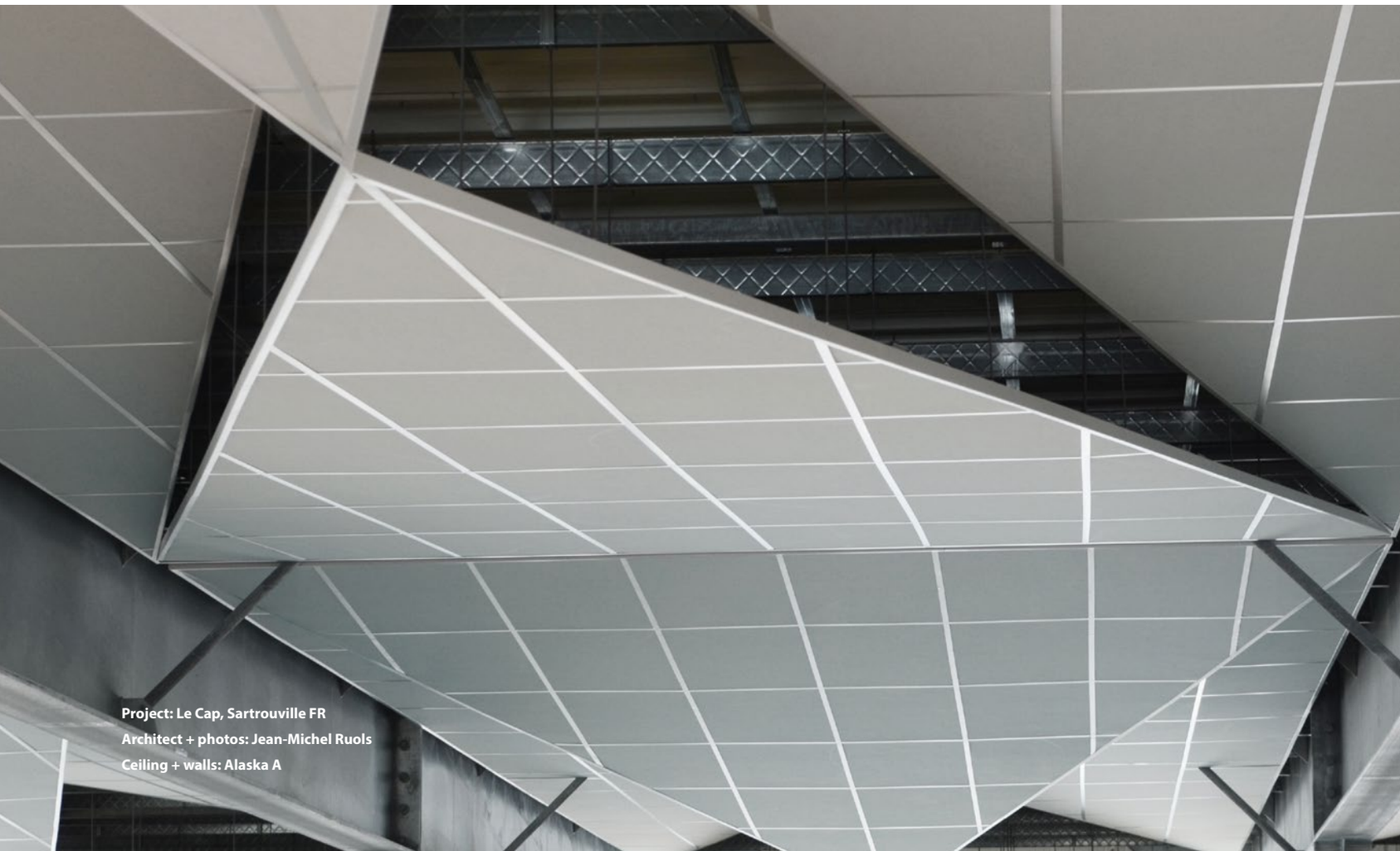

“THIS COULD LOOK
QUITE COMPLICATED,
BUT IT BECAME SIMPLE
WITH SOLUTIONS LIKE
ROCKFON. ”

Project: Le Cap, Sartrouville FR
Architect + photos: Jean-Michel Ruols
Ceiling + walls: Alaska A

SOUND SHAPERS

Some of the most difficult spaces in which to control acoustics are indoor swimming pools, which are notorious for the reverberating sounds of excited voices and splashing. At architect ***Jean-Michel Ruols***' **LE CAP** aquatic centre in Satrouville, France, traditional 600x600mm **Alaska** ceiling panels were cut and installed to create untraditional geometry. "We created triangular-shaped islands – like origami," says Ruols, "because they grab sounds in the angles and help stop echoes. Using Rockfon, we were also sure to achieve high humidity resistance and durability – which were key priorities for me, as an architect."

Floating high above the water's surface, these islands seem to soar like the fins of flying fish. "This could look quite complicated, but it became simple with solutions like Rockfon," explains Ruols. "Rockfon is not just a product, it is a partner – really!"



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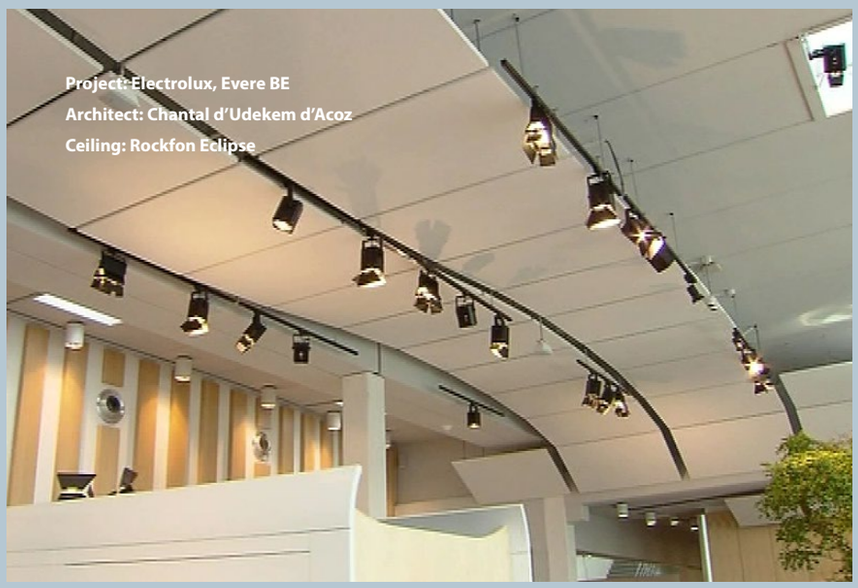
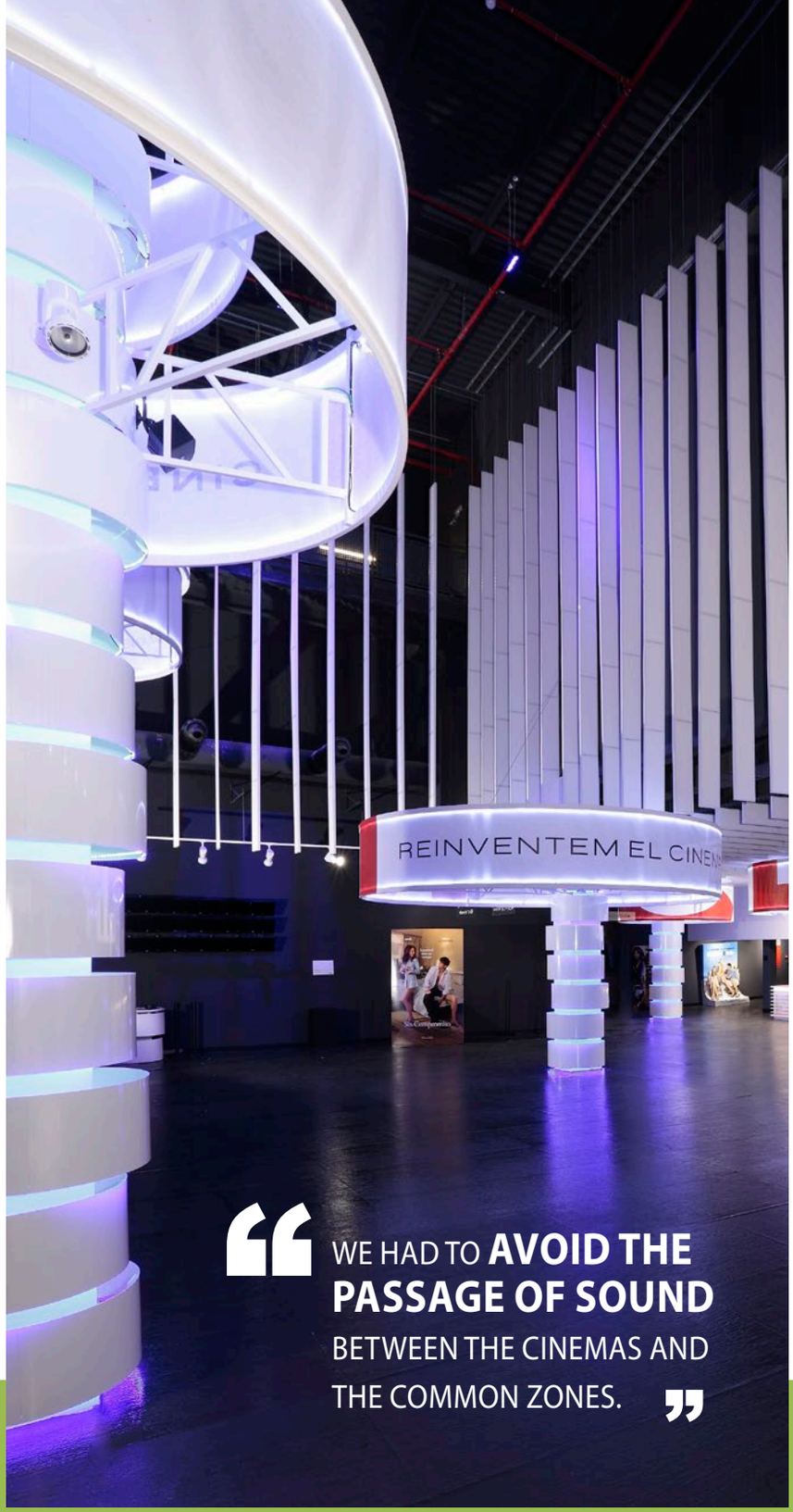


Project: Electrolux, Evere BE
Architect: Chantal d'Udekem d'Acoz
Ceiling: Rockfon Eclipse

Acoustics and a lack of installation height were the two main challenges that inspired **ELECTROLUX** to use **Rockfon Eclipse** islands and **Sonar Activity** B edge in its Evere, Belgium product showroom and headquarters. The exhibition space was installed in part of an existing industrial building that had concrete ceilings, walls and floors as well as a glass front. "If we left bare concrete, there would have been too much reverberation and noise. We had to find a way to absorb it," explains ***Chantal d'Udekem d'Acoz***, Director Architect partner at Atelier d'Architecture de Genval. Using Rockfon Eclipse, "we created a long white wave that pulls visitors through the different expo areas. It controls the acoustics perfectly and looks fantastic. It's just what we needed."

Project: Electrolux, Evere BE
Architect: Thomas van Havre, Exode Architecture
Ceiling: Sonar Activity B

Project: Cinemes Centre Splau, Llobregat ES /
Architectural Technician + Industrial Organisation Engineer: Marta Batlle
Installer: Odiel Acústica
Ceiling: Rockbaffle Deco + Rockfon Color-all Charcoal



> WE HAD TO **AVOID THE PASSAGE OF SOUND** BETWEEN THE CINEMAS AND THE COMMON ZONES.

SPACE AND SOUND

At the 28-screen high-definition movie complex **CINEMES CENTRE SPLAU** in Llobregat, Spain, Architectural Technician and Industrial Organisation Engineer ***Marta Batlle*** looked to the ceiling to help create a high-quality, memorable experience. "The cinema screen should be light years ahead of the home television screen. And there is only one path: immersion – immersion in image and immersion in sound. These cinemas are architecturally distinct and conceived of as immersive from the start," says Batlle.

The two biggest challenges in achieving this experience were space and sound. "We have included 28 cinemas in a little more than 9000m^2," explains Batlle. Because of the close proximity of the theatres, "we had to avoid the passage of sound between the cinemas and the common zones or foyers."

With all the screens situated on only two floors, there was often little clearance height to work with. For the public areas, Batlle decided to leave all the service installations visible and paint them in a dark colour. To avoid having customers walk into a vast almost totally obscure lobby, sound-absorbent white **Rockbaffle Deco** from Rockfon was specified. The baffles are joined end-to-end in a strikingly tall free-floating installation, giving the appearance of birch trees in a moon-lit forest. In the theatres, **Rockfon Color-all** Charcoal ceilings are used to provide a very dark, immersive experience and contain the sound. According to Batlle, the Rockfon products have contributed to delivering the immersion she wanted. As for the client and cinema-goers: "They are delighted," she says.

Project: Velux, Beijing CN
Ceiling: Rockfon Eclipse

HOT AND COLD

For the Danish-based **VELUX** offices in Beijing, China, islands play a key role in the heating and cooling of the building. The new offices were built with slanted exterior walls to showcase Velux roof and wall windows. A lot of natural light, therefore, enters on all sides of the building – and from the top. Velux corporate policy is to make new buildings as energy efficient as possible, and the building in Beijing was no exception. It uses thermal mass to heat and cool the interior. **Rockfon Eclipse** islands were chosen because they provide three advantages: they help reflect natural light throughout the building, provide the air circulation required by thermal mass principles and also achieve a high level of acoustic comfort. "It raised the level of the building, because it looks more sophisticated than what people are used to seeing with low hanging ceilings. It gives a new impression that people aren't used to," says ***Jan Engberg***, Director of Production, Velux China. ■

KIM PALMEN
ROCKFON

Rockfon Eclipse

Kim Palmen
Manager Product Development at Rockfon

WHY WAS ROCKFON ECLIPSE DEVELOPED?

Traditional suspended ceilings aren't always the best choice for certain rooms, either for technical or aesthetic reasons. Good examples are rooms with floor-to-ceiling windows or historic buildings, where you don't want to obstruct the windows or hide architectural features. So we wondered if there was another way to use the space overhead to control acoustics and reflect light.

WHAT HAS BEEN THE REACTION OF SPECIFIERS?

The feedback we've received since introducing Rockfon Eclipse has been very positive. Architects find increased design freedom in how easily the frameless design, sharp -looking, minimalistic edge and elegant bevel all integrate with other elements. They can play around with module combinations, varying installation heights and suspension angles to create their own signature design of a space. They also appreciate the modern and subdued visual aspect of Rockfon Eclipse – how the nearly invisible installation system makes the islands appear to float in mid-air. Building owners and occupants like the light reflection and compatibility with thermal mass heating and cooling, not to mention the acoustics.

WHAT IS THE FUTURE OF ROCKFON ECLIPSE?

Originally, Rockfon Eclipse was available in a limited number of sizes, in square and rectangular formats. As demand has grown, we've added bigger sizes and various shapes, which are gradually being introduced across many countries. Along with these developments, we are also making Rockfon Eclipse available in custom colours via our colour-on-demand service, giving designers total freedom of expression.

Project: Berufsschule, Ansbach DE
Ceiling: Rockfon Eclipse

WONDER WALLS

In some spaces, sound is a by-product of activity. In others, sound is the activity. That is why in schools and concert halls in particular, intelligibility and sound quality are fundamental.

We have all had the experience of sitting in a classroom or theatre and straining to hear what the teacher or actor is saying, even if the rest of the room is quiet. We have all heard someone make the remark, "the acoustics in this room are bad." But unless you are an acoustician, you probably haven't given much thought toward how the problem could be solved. Acoustics in schools and performance spaces are two of the trickiest challenges in the book and require true 'outside-the-grid' thinking.

Project: Heartlands Academy, Birmingham UK
Architect: Elly Loach, Archial Group
Ceiling + walls: Rockfon Contour + Rockfon Color-all
(Anthracite, Chili, Concrete, Plaster)

LESSONS LEARNED

Schools are dynamic and complex environments full of acoustically challenging activities. For one, they go against the common approach to acoustics that is so often based on experience gained in an office environment. Schools and offices have very little in common. Also, many countries have a mix of old and new school buildings, and no matter when they were built, it is highly unlikely that they are prepared for today's constantly evolving teaching methods and activities without substantial modification.

The list of issues continues. Schools accommodate a wide range of differing activities. Some rooms are used for multiple purposes, and many activities are inherently 'noisy' (music, drama, woodwork, sports) and can cause unwanted noise in neighbouring spaces. In the classroom, poor acoustics put a strain on teachers' voices and students' learning. Hard surfaces abound in schools, and many new school construction projects are conversions or expansions of existing buildings. Finally, budget constraints often mean that acoustics are placed low on the list of design priorities.

In recent years, some architects and designers have been tackling school acoustics by rethinking the methods used to control acoustics. One important weapon in their arsenal is wall absorbers.

Project: Heartlands Academy, Birmingham UK
Architect: Elly Loach, Archial Group
Ceiling + walls: Rockfon Contour + Rockfon Color-all (Anthracite, Chili, Concrete, Plaster)

In the United Kingdom, for example, the government's BB93 guidelines for school acoustics are notoriously draconian. So when Archial Group was named Architect and Lead Designer for the new **HEARTLANDS ACADEMY** in Birmingham, acoustics were front and centre. Lead Architect ***Elly Loach*** explains: "Each area within the building had differing requirements, including acoustic performance, aesthetics and humidity resistance." Instead of thinking about the acoustics once they had designed the different spaces, Archial Group developed an overall design concept that integrated acoustics from the outset. "The inspiration was the TV test screen image with its pattern of vertical stripes of colour." To represent these rectangular shapes, Loach used **Rockfon Color-all** as acoustic wall absorbers throughout the building and **Rockfon Contour** baffles in double-height areas. Additional Rockfon ceilings are found in the music classrooms, kitchen and circulation areas of the Academy as well.

> "EACH AREA WITHIN THE BUILDING HAD **DIFFERING REQUIREMENTS,** INCLUDING ACOUSTIC PERFORMANCE, AESTHETICS AND HUMIDITY RESISTANCE."

The designers of **FRYDENBERG SKOLE** in Oslo, Norway, faced a similar challenge. The new school was being built within a converted industrial building. The high ceilings and floor-to-ceiling windows would make for very bright and airy spaces, however "Between the glass, concrete, brick and beams, there were hard surfaces everywhere," recalls ***Lee Dade***, Project Leader for Installations with ESG Bygg og Eiendom AS. To meet Norway's strict requirements for school acoustics and allow for the varying height in the rooms, Dade and his team of ceiling specialists opted for a mix of **Koral 40mm** suspended ceilings, **Multiflex Baffles** and impact-resistant **Samson** wall absorbers. "Rockfon was the only one to get the sound under control and provide the acoustics needed in the different rooms." ▶

Project: Frydenberg Skole, Oslo NO
Architect: Arch Uno AS
Technical advisor: Multiconsult AS
Installer: ESG Bygg og Eiendom AS
Ceiling + walls: Koral 40mm, Rockfon Contour, Samson wall absorbers

LEE DADE
ESG Bygg og Eiendom AS

> ROCKFON WAS THE ONLY ONE TO
> **GET THE SOUND UNDER CONTROL**
> AND PROVIDE THE ACOUSTICS NEEDED IN THE DIFFERENT ROOMS.

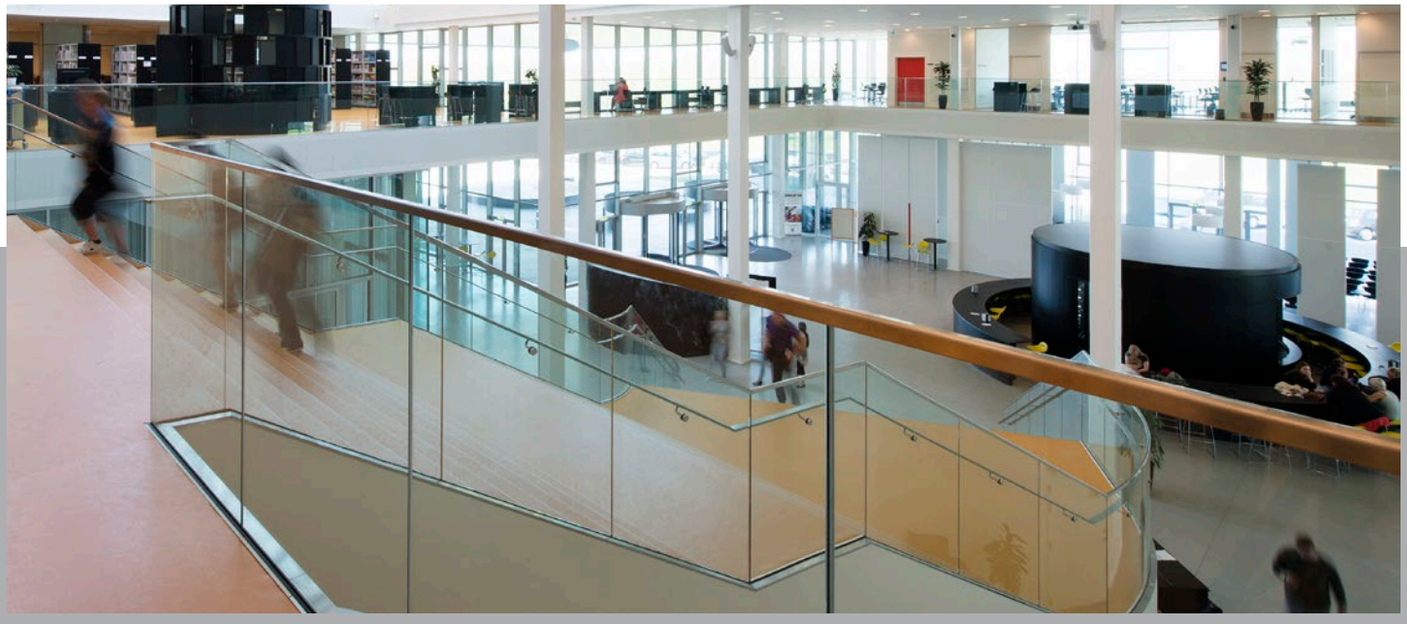
Project: University College Sealand Campus, Roskilde DK
Architect: Henning Larsen Architects
Walls + Ceiling: VertiQ + Sonar E

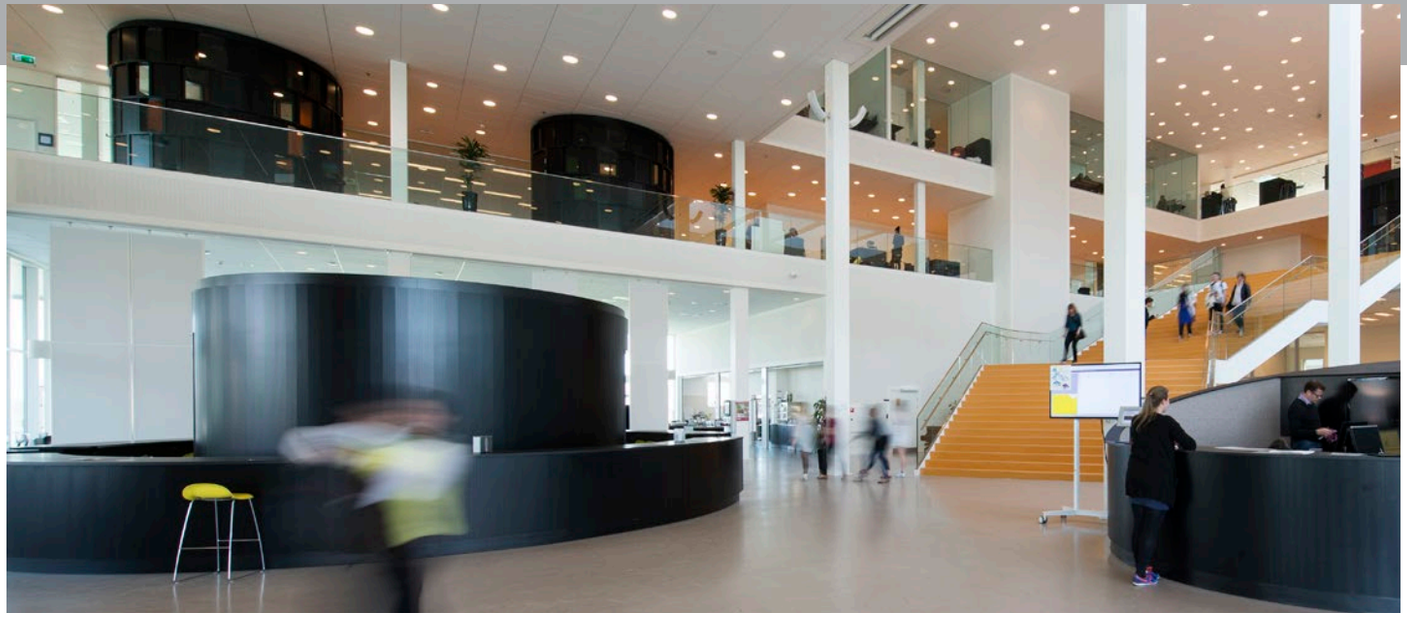
SOUND TEACHINGS

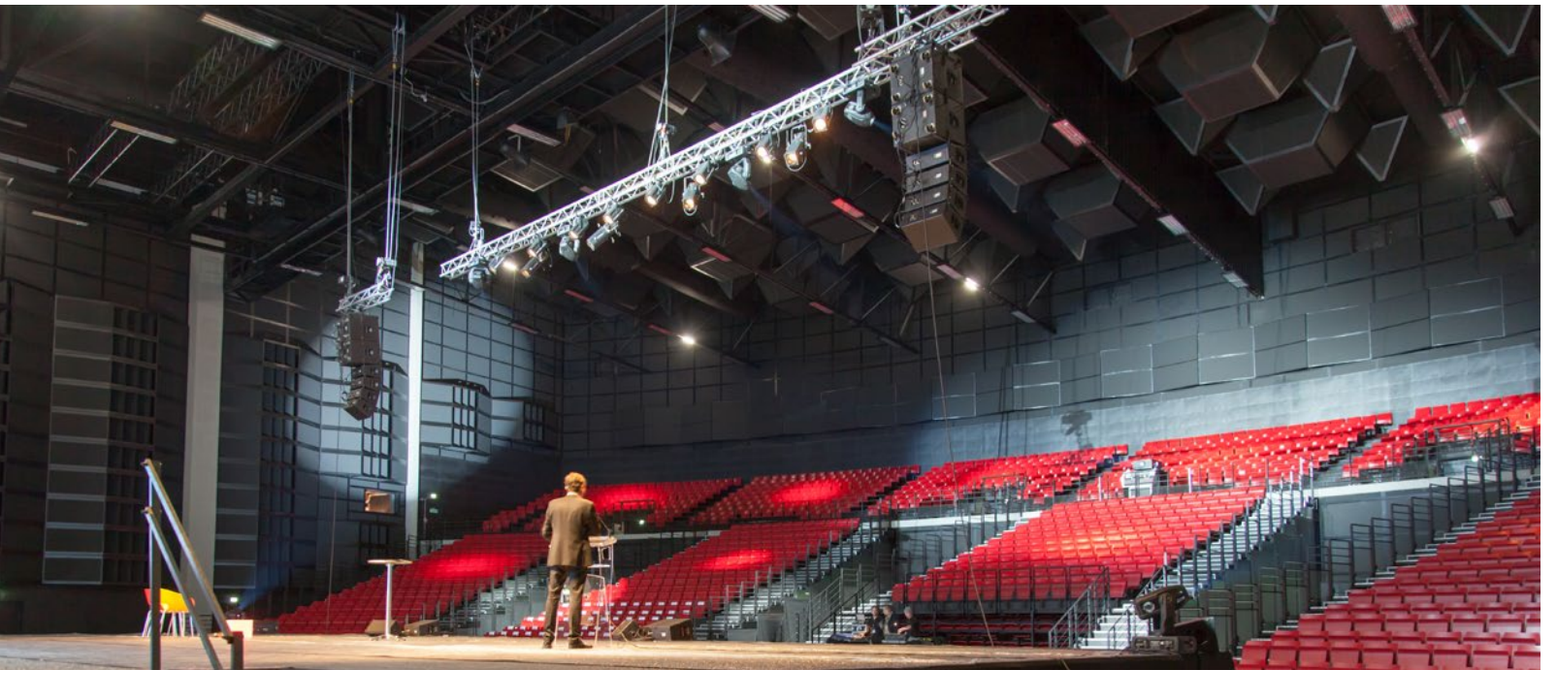
In one of the oldest cities in Denmark sits a college campus with some of the most modern architecture in the country.

Designed by the renowned practice Henning Larsen Architects, **CAMPUS ROSKILDE** of the University College Sealand, which opened in 2012, was designed to "facilitate dialogue and random meetings and provide the students with a feeling of being part of a manifold university environment beating with one pulse". The campus specialises in educating nurses, teachers, social workers and physiotherapists.

Consisting of four square buildings, each turned slightly inwards to create a more intimate and varied space around a central square, the campus is a vibrant and active community. To make sure that this "many minds, one pulse" design principle did not create a raucous experience in the large indoor spaces, Henning Larsen Architects chose Rockfon ceilings in a special **Sonar** E-edge 1200x300mm format and **VertiQ** wall absorbers. Interestingly, the wall absorbers are installed as sliding room dividers hung from railings around the cafeteria where sound levels and reverberation would be highest. VertiQ was selected because it is stable and strong enough to withstand being handled on a daily basis. Today, Campus Roskilde is recognised as one of Denmark's most beautiful and enjoyable university complexes.





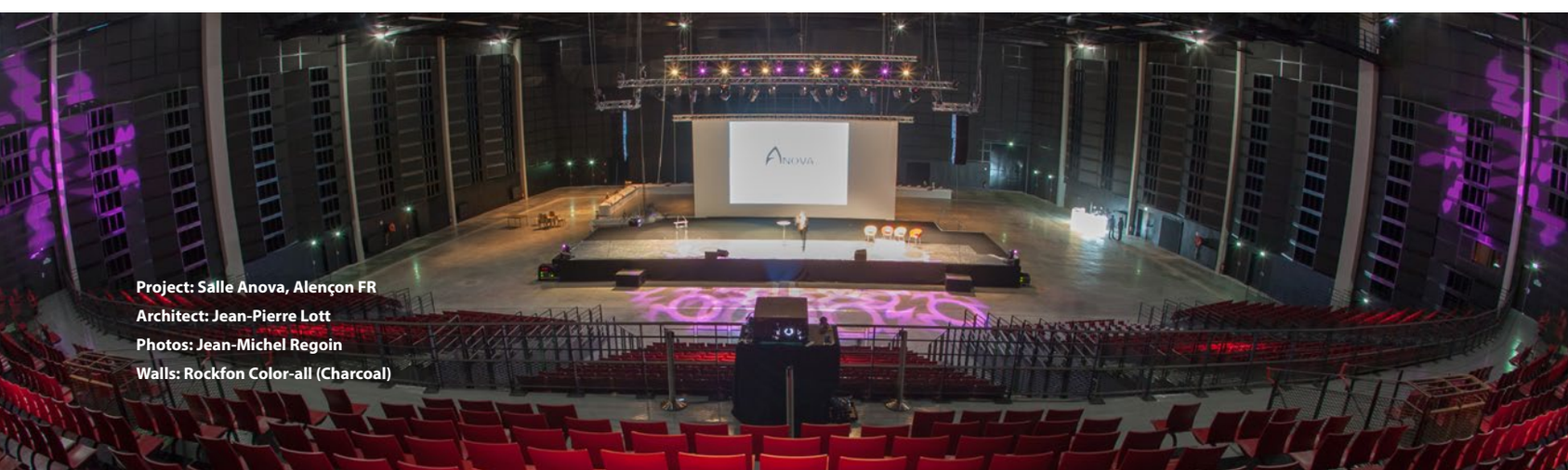


> THE **SOUND TRAPS** USED HERE ARE A REAL **BREAK-THROUGH.**

MASTERFUL PERFORMANCE

At first glance, designing acoustics for an auditorium or concert hall might seem much easier than for a school. They tend to be purpose-built for performance, so there shouldn't be any surprises controlling the acoustics, right? Well, if the main challenge of a school is the multitude of spaces and activities, the challenge of an auditorium is the multitude of performance styles in the same space. How do you design the acoustics for a space that might host a lecture one day and a concert the next?

One original approach was developed for the Parc des Expositions Anova exhibition centre in Alençon, France. The centrepiece of the complex is the 2860m² **SALLE ANOVA**, which can be configured to host everything from company seminars to one-man shows, rock concerts or films. For optimum acoustic control, the acoustician teamed up with Rockfon to develop and install a series of wall-mounted 'sound traps'. The traps come in many sizes and are built using **Rockfon Color-all** in the range's darkest tone, Charcoal. They are mounted in custom frames designed by Rockfon and built by the installer. "We have worked with this acoustician several times over the years, and each time our solutions become more sophisticated. The sound traps used here are a real breakthrough, and he plans to use them in his future projects," explains ***Hervé Edouard***, Technical and Logistics Manager, Rockfon.



Project: Salle Anova, Alençon FR
Architect: Jean-Pierre Lott
Photos: Jean-Michel Regoin
Walls: Rockfon Color-all (Charcoal)

MACIEJ MOSIĄDZ
ROCKFON

VertiQ

Maciej Mosiądz
International Project Manager, Rockfon

WHAT WAS THE INSPIRATION BEHIND VERTIQ?

It came from listening to our customers. Many of them were asking us for an acoustic alternative to ceiling tiles because they had situations where suspended ceilings weren't an option or improved acoustic environment was needed. They wanted a product that would provide all the expected qualities of Rockfon such as great acoustics, beautiful design and easy installation – and on a more technical note, relieve the 'flutter echo' that accumulates between a room's hard surfaces. We delivered with VertiQ A edge and then added VertiQ C which is a more design-oriented panel with concealed edges, giving multi-panel walls a more monolithic expression.

WHAT ARE THE ADVANTAGES OF VERTIQ?

VertiQ is particularly useful in buildings that have lots of wall space – either individual walls like in schools and offices, or high walls found in leisure centres and sporting facilities. The white, black and grey colours of VertiQ's woven surface fit into just about any setting. They are also highly impact resistant and when installed directly to the wall using System HAT profiles, meet the requirements of 'high impact resistance' in accordance with DIN 18032 Part 3.

WHAT ABOUT INSTALLATION?

Again, VertiQ is very flexible. Other wall absorbers are generally fixed permanently to the wall or use profiles that are too easy to demount – even by children. VertiQ offers three installation options, each well-suited for a specific setting: System Q is a high-aesthetic combination of concealed-edge panels and specialised aluminium corners and profiles; System HAT provides high impact resistance; and System T is secure yet demountable, using fixing brackets that can only be removed with a custom demounting tool.

VertiQ is not just another wall absorber. It is an aesthetic and practical solution in terms of impact resistance and sound absorption.

Project: University College Sealand Campus, Roskilde DK
Architect: Henning Larsen Architects
Walls + Ceiling: VertiQ + Sonar E

Project: Ørestad Skole, Ørestad DK
Client: Copenhagen County
Architect: KHR Architects
Ceiling: Sonar X

LESS IS MORE

Minimalism is one of the major architectural trends of the past few decades. But delivering truly minimal interior design requires a maximum amount of clever thinking.

As a concept, minimalism is easy to understand. Strip a space down to the essential to achieve simplicity. But as every architect knows, buildings are anything but simple. They are designed for intensive everyday use and come with a long list of technical requirements. INSPIRED BY YOU takes at closer look at projects where minimalism was at the fore.

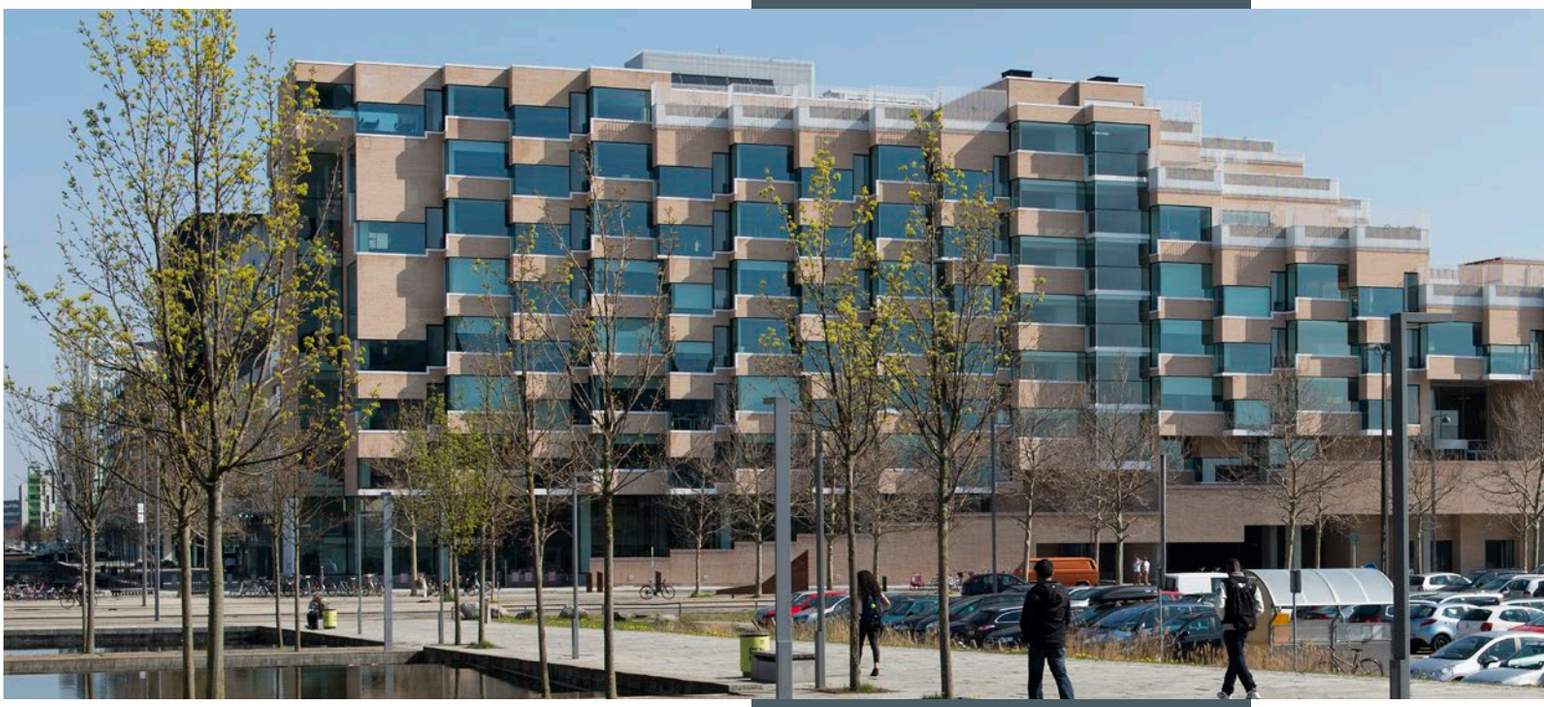
> **THE CEILING** HELPS PROVIDE A **FOREGROUND, MIDDLE** AND **BACKGROUND.**

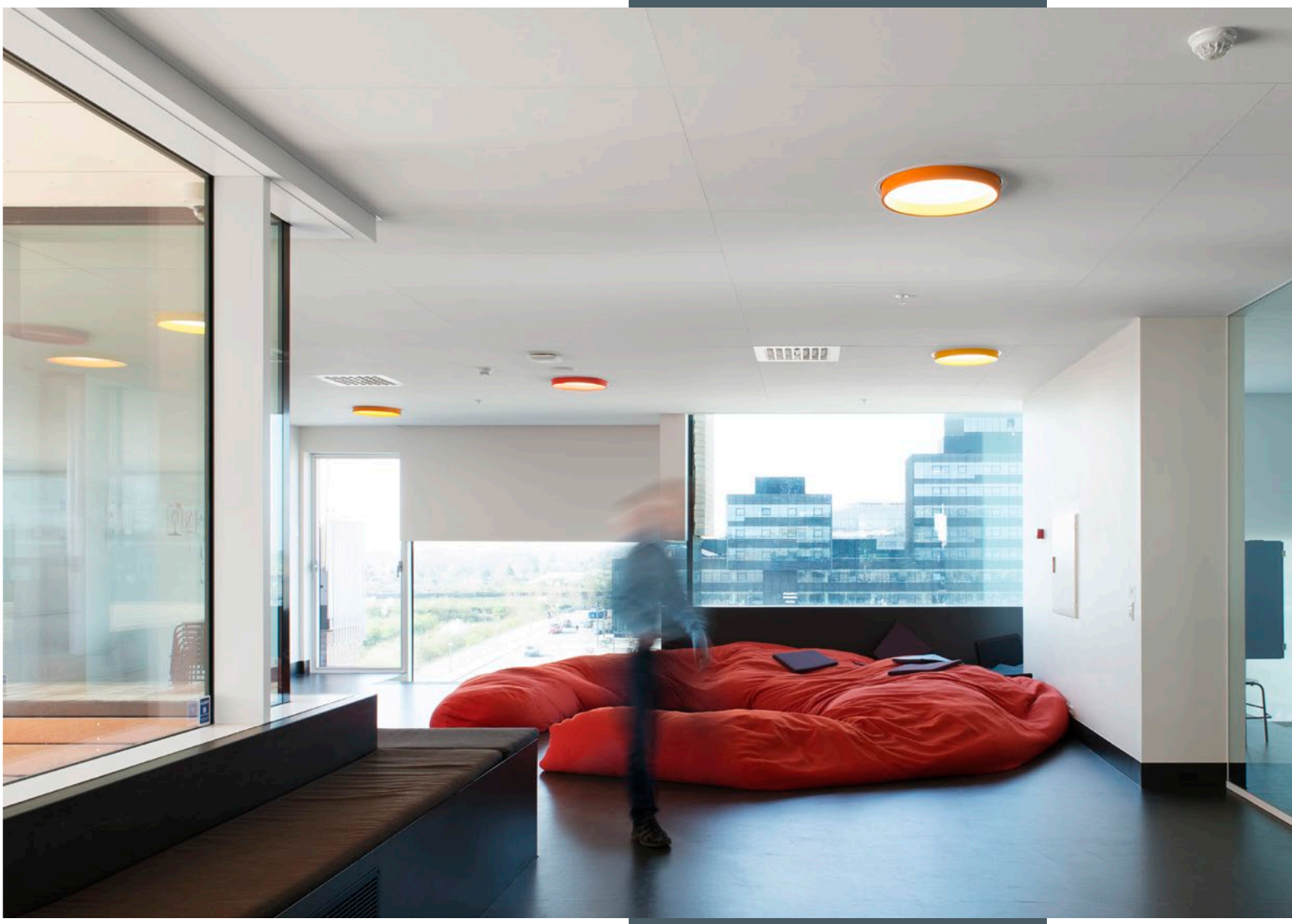
Project: Ørestad Skole, Ørestad DK
Client: Copenhagen County
Architect: KHR Architects
Ceiling: Sonar X

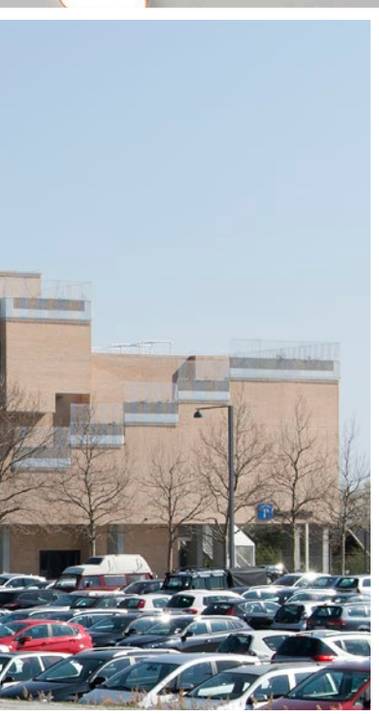
DISTRACTION-FREE LEARNING

When the newly established Danish city of Ørestad commissioned the architects at KHR Arkitekter to design a school, after-class care facility and public library, they wanted a design that would ensure the building's stature as the modern city's social and cultural focal point. KHR's striking design for **ØRESTAD SKOLE** consists of hanging gardens, bay windows and sprawling terraced rooftop piazzas. Indoors, the building's geometry is home to many different kinds of rooms and public spaces, all interconnected and of varying sizes and colours. Here the ceiling plays an essential role in providing orientation and minimising distraction.

"The idea was to make the building very extroverted. For example, the public library is on the ground floor and bay window niches on the eight upper floors hang over the public areas," says ***Mikkel Beedholm***, Architect, KHR. "Inside there are no organic shapes, only geometric ones with lots of angles. The ceiling helps provide a foreground, middle- and background", he explains, referring to the 1800x600mm long **Sonar** X-edge ceiling planks. "It helps the occupants understand their place in the space while at the same time highlighting the unique geometry of the building."







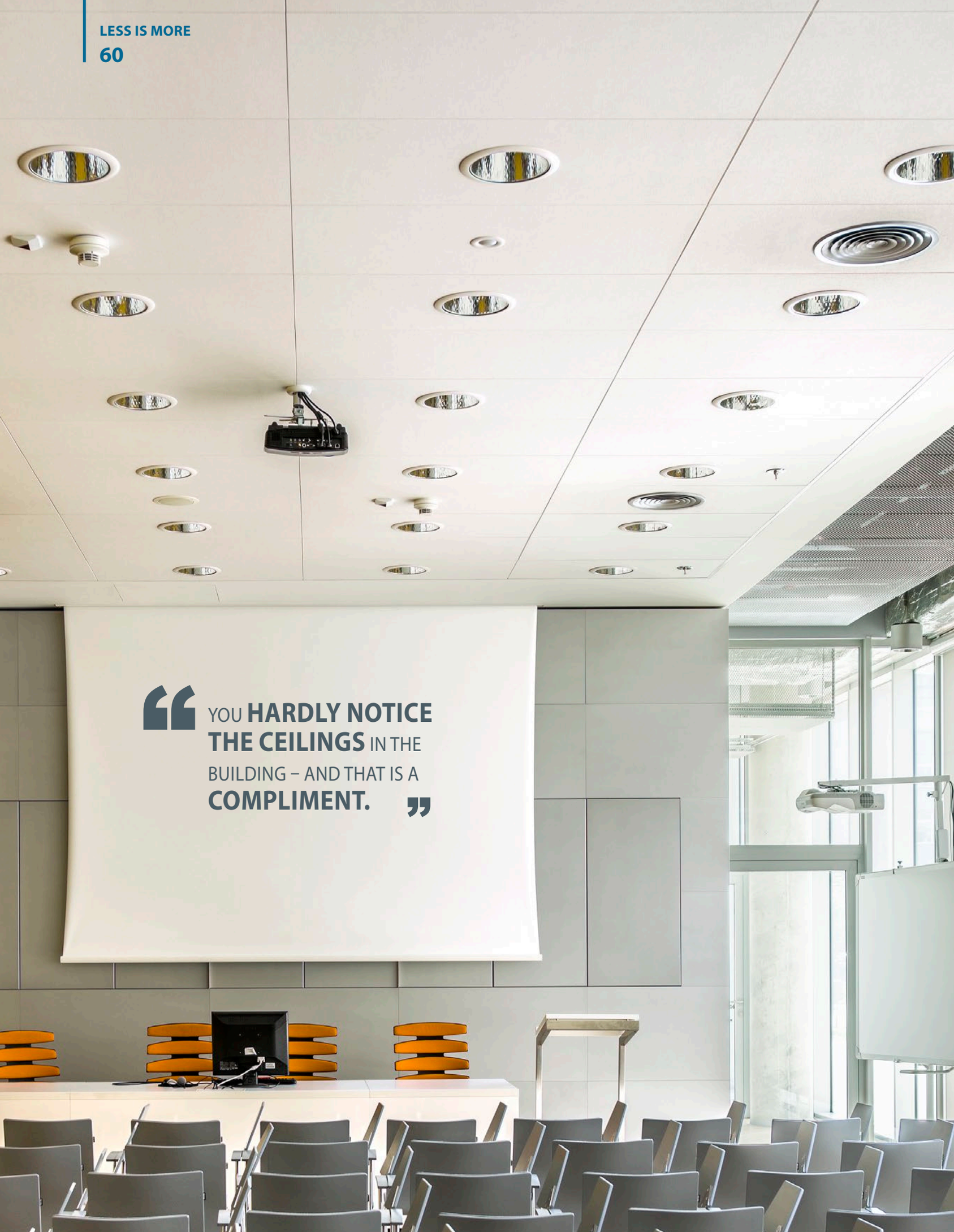
Project: Ørestad Skole, Ørestad DK
Client: Copenhagen County
Architect: KHR Architects
Ceiling: Sonar X

TRENDY FOREST ACCOMMODATION

Nestled deep in a forest 30km north of Warsaw, **HOTEL NARVIL** is quickly becoming one of the trendiest conference and leisure destinations in Poland. Designed by architect ***Konrad Rubaszkiewicz***, the structure fits beautifully into its environment and is completely surrounded by nature. The main inspiration for the concept of the hotel is the site's 30-year-old linden trees. Their beauty, age and energy helped shape the course of the project.

To maintain the interior harmony, Rockfon provided 700m^2 of **Sonar** and 3400m^2 of **Alaska**, both in grid-concealing D-edge, to create a series of flowing ceilings that perfectly match the hotel's minimalist aesthetic – and that meet the acoustic, fire protection and light reflection requirements.

Project: Hotel Narvil, Serock PL
Architect: Konrad Rubaszkiewicz
Ceiling: Sonar D + Alaska D


“YOU HARDLY NOTICE THE CEILINGS IN THE BUILDING – AND THAT IS A COMPLIMENT.”

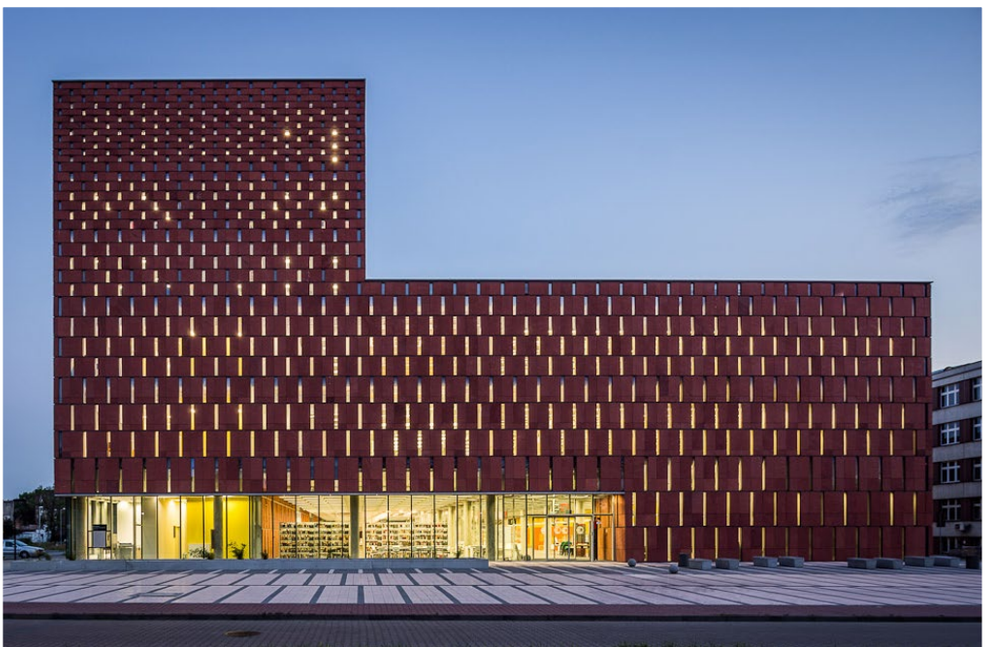
Project: CINiBA, Katowice PL
Architect: HS99
Ceiling: Sonar D

CONTROLLING THE ATMOSPHERE

The Scientific Information Centre and Academic Library (the Polish name, Centrum Informacji Naukowej i Biblioteka Akademicka, creates the library's catchy daily-use acronym: **CINIBA**) is a joint project of the University of Silesia and the University of Economics in Katowice. Designed by the firm of architects HS99, it was named the best building built in Poland between 2000-2012 in the 7th edition of the Life in Architecture award organised by leading Polish architectural magazine *Architektura Murator*, standing out from over 1,000 entries.

In fact, CINiBA has received several awards: Best Building in *Life In Architecture*, Grand Prix in an architectural contest by prestigious weekly magazine *Polityka*, as well as a nomination for the Mies van der Rohe Award 2013, the European Union Prize for Contemporary Architecture, placing within the top 34 shortlisted works.

Dariusz Herman, one of the architects from HS99 who worked on CINiBA, describes the building as 'simple': "We wanted to create a space which would be an oasis. The building is introverted. It communicates with the exterior through the perforated façade." Herman recalls that indoors, one of the greatest challenges was "taking control of the atmosphere", and contributing greatly to that goal was the ceiling. To control acoustics and create the desired minimalistic design, HS99 specified concealed-grid **Sonar** D-edge ceiling tiles from Rockfon for the office area corridors and the conference/lecture rooms. "The richness of the textures and forms offered by Rockfon products have allowed the ceiling to harmoniously integrate with our concept, and this is what we were looking for," says Herman. "You hardly notice the ceilings in the building – and that is a compliment."



INTERVIEW: RAFAŁ DEGUTIS, ARCHITECT

BUSINESS HARMONY

Project: Opera Office, Gdansk PL
Architect: Rafał Degutis (Degutis Architecture Studio)
Ceiling: Alaska E and X

The recently completed **OPERA OFFICE** complex is located between the Gdansk city-centre and the region of Wrzeszcz, next to the Tri-city's main road. This minimalist-inspired Class A office rental space was built around a careful selection of existing trees which are now framed by the square at the entrance. ***Rafał Degutis***, lead architect with Degutis Architecture Studio, talks about the project's expectations and architectural solutions.

WHAT WAS THE OBJECTIVE OF THE PROJECT?

The aim of the project was the creation of a centrally-located office space which would be both visually aesthetic and functional, making it an attractive place of work to potential tenants.

WHAT WAS THE INSPIRATION?

The building is minimalist – simple, yet dynamic – with slanted facades and details like the lines of light on the glass facades. Less is more; that concept has been with us from the beginning of this project, and the National Opera House in Oslo was our inspiration.

WHAT WERE THE MAIN CHALLENGES?

The biggest challenge was presented by the location's conditions and the L-shaped form of the land, which was overgrown with old trees. But because of this, the project became interesting, and its greatest features are the old trees which we've kept in the patio. We constructed the building in harmony with them.

RAFAŁ DEGUTIS
Degutis Architecture Studio

WHY DID YOU CHOOSE ROCKFON PRODUCTS?

In Opera Office, we provide tenants with a choice of office configurations. Some companies prefer an open-plan layout, but there are others who prefer to divide their space. So we needed to use modular ceilings that wouldn't detract from the minimalist aesthetic and would provide good acoustics. For me, Rockfon products were an obvious element of the project as far as technical office space solutions are concerned. The specifications for these products are suitable for Class A offices.

HOW DID ROCKFON PRODUCTS HELP YOU ACHIEVE YOUR DESIRED DESIGN?

Their quality, and in particular details like the combination of 600x600mm and 1200x600mm **Alaska** X-edge modules, allowed us to be creative in designing office spaces and hallways of the highest standard. And Rockfon doesn't just "do ceilings", they also offer sound absorbing solutions for walls and more – so I usually just reach for the Rockfon catalogue. Also, during construction, Rockfon was always there for us, which meant that the building was finished and commissioned on time, without any problems.

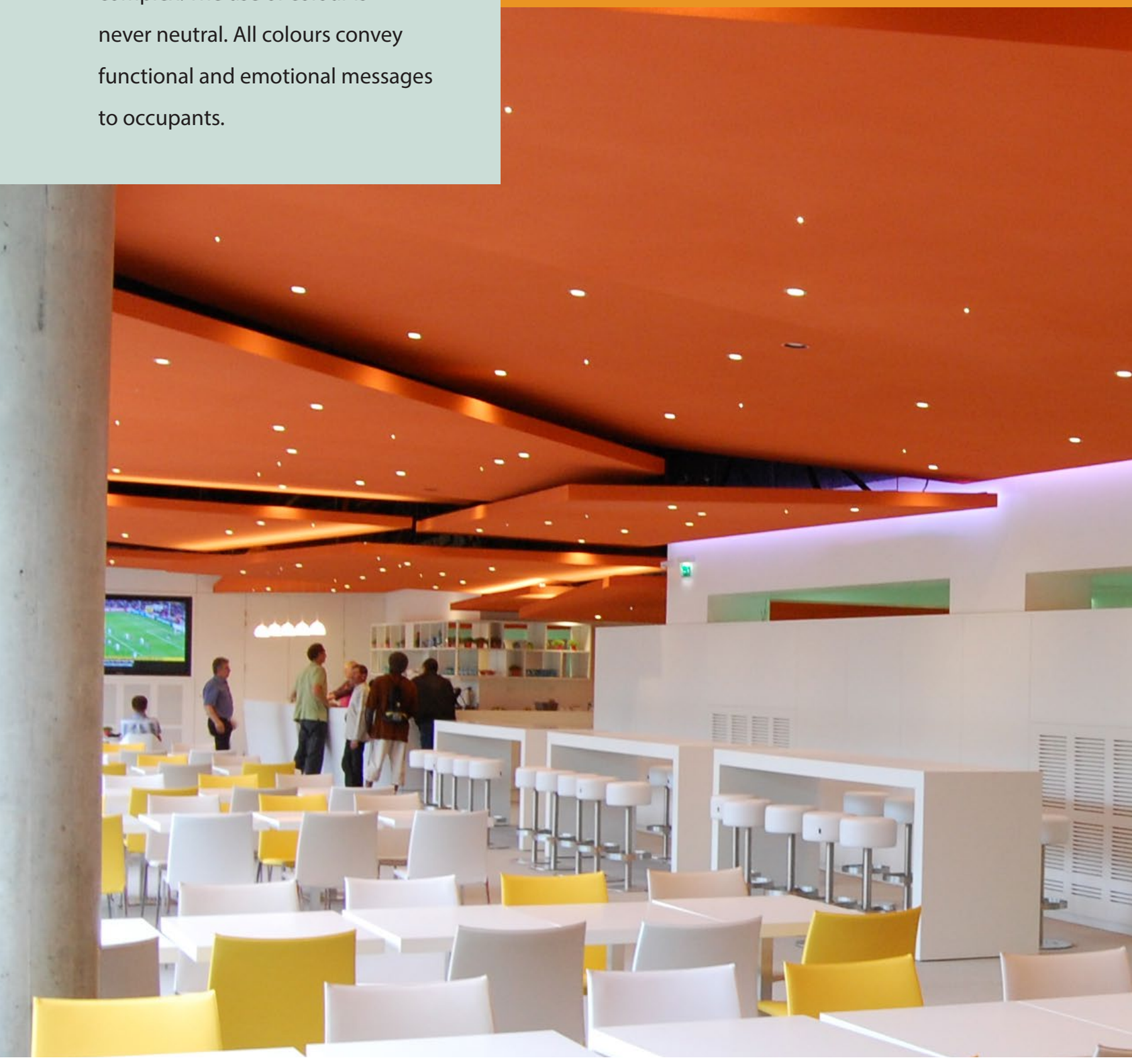
Project: Opera Office, Gdansk PL
Architect: Rafał Degutis (Degutis Architecture Studio)
Ceiling: Alaska E and X

IS OPERA OFFICE A SUCCESS?

I think so. The building has a lot to offer: a great location, a product that's well-suited to office space and an interesting, attractive architecture, with which we wanted to show that offices of this type don't need to be boring and boxy. The fact that 100% of the space had been rented while still at the construction phase shows that the clients appreciated our efforts. Companies like Lloyd's, Raiffeisen Bank, Lufthansa, KPMG and others can't be wrong!

LIVING

Colour is an extremely important element in interior design. Like anything important, it is also complex. The use of colour is never neutral. All colours convey functional and emotional messages to occupants.



COLOUR

Project: Roland Garros Players' Restaurant, Paris FR
Architect: Didier Girardet (ACD Girardet et Associés)
Installer: Aquilon
Ceiling: Mono Acoustic TE

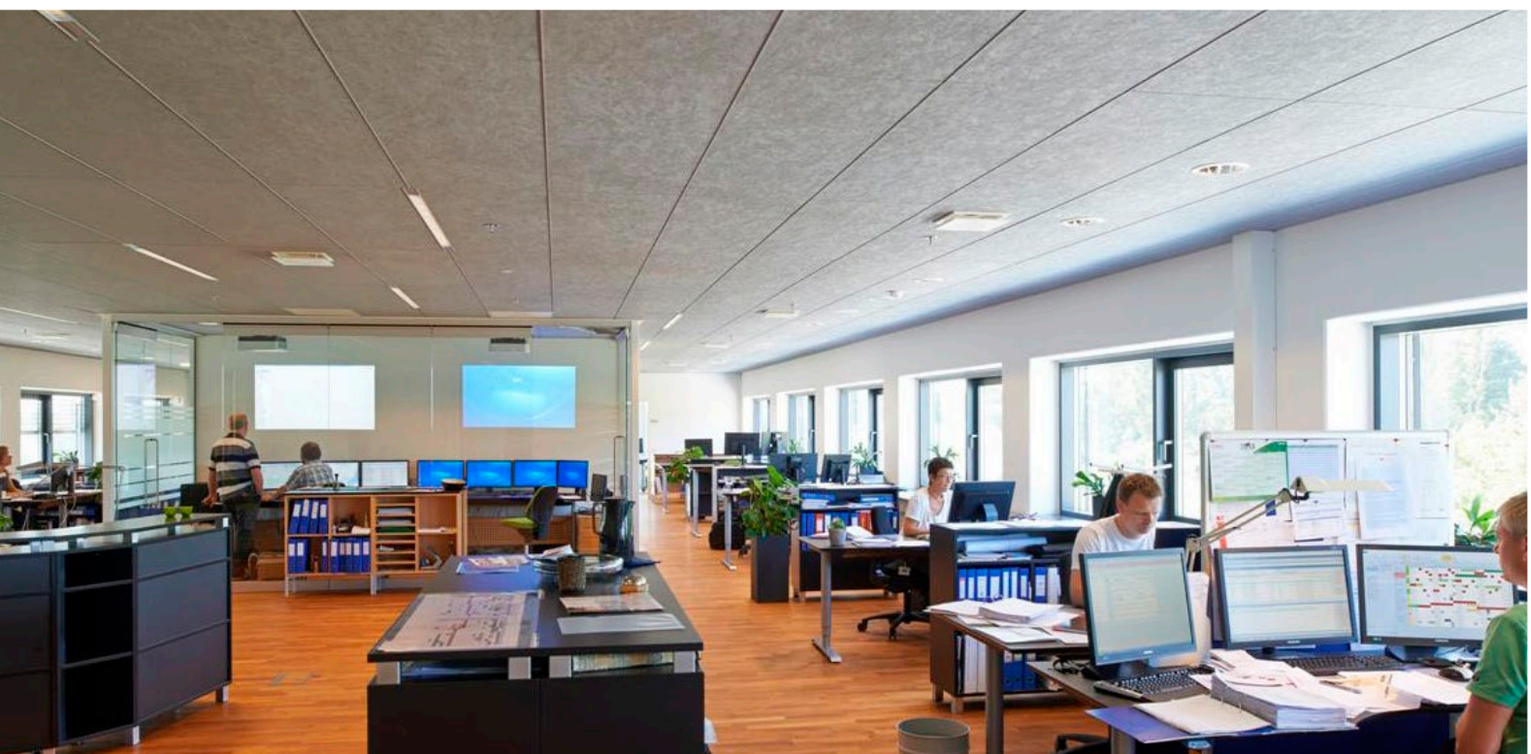
HOW ARE YOU FEELING?

Let's start with the basics. A colour affects and is affected by light and any other colours around it. Our perception and relation to a colour changes depending on whether it stands alone, is dominating a space or if it is in play with other colours. It's also influenced by the quality and quantity of light hitting it. If you've ever thought a room 'felt' different in the morning than in the afternoon, chances are it's because of the way shifting daylight plays with the colours in the room.

Although there are cultural differences in the way we use and react to colours, there is a large body of research that clearly shows colour is a visual language internationally. Colours evoke physical and psychological reactions, and brightness or colour temperature creates different moods and ambiance – warm colours are considered stimulating, while cool colours generally have a calming effect.

Inside the administrative building for **SYDFYNS ELFORSYNING** (Southern Fynen Electricity) in Svendborg, Denmark, colour was used to create balance. Upon entering, the first thing you notice is the sheer length of the building and amount of light flooding in through the white-walled atrium room with its multi-storey glass facade.

To give the building a warmer tone and make it feel less clinical, the lower-level floors are made with grey stone while the upper-level floors are wood. Adding additional elegance, C&W Architects specified a 2700m² metallic-look ceiling, **Rockfon Color-all** Mercury, in concealed-grid H-edge with integrated lighting in the hallways and stairwells. For greater acoustic control in the vast atrium, a space filled with hard surfaces of stone and glass, the beautifully light-reflective seamless white wall is actually 350m² of **Mono Acoustic TE**. "The concealed H-edge and long-format of the Rockfon Color-all tiles help amplify the length of the building," says ***Anders Hulgaard***, Architect at C&W. "While the grey ceiling provides a nice contrast to the vastness of the atrium, it also signals to the occupant that they're in a different kind of space and the atmosphere it creates is warmer."

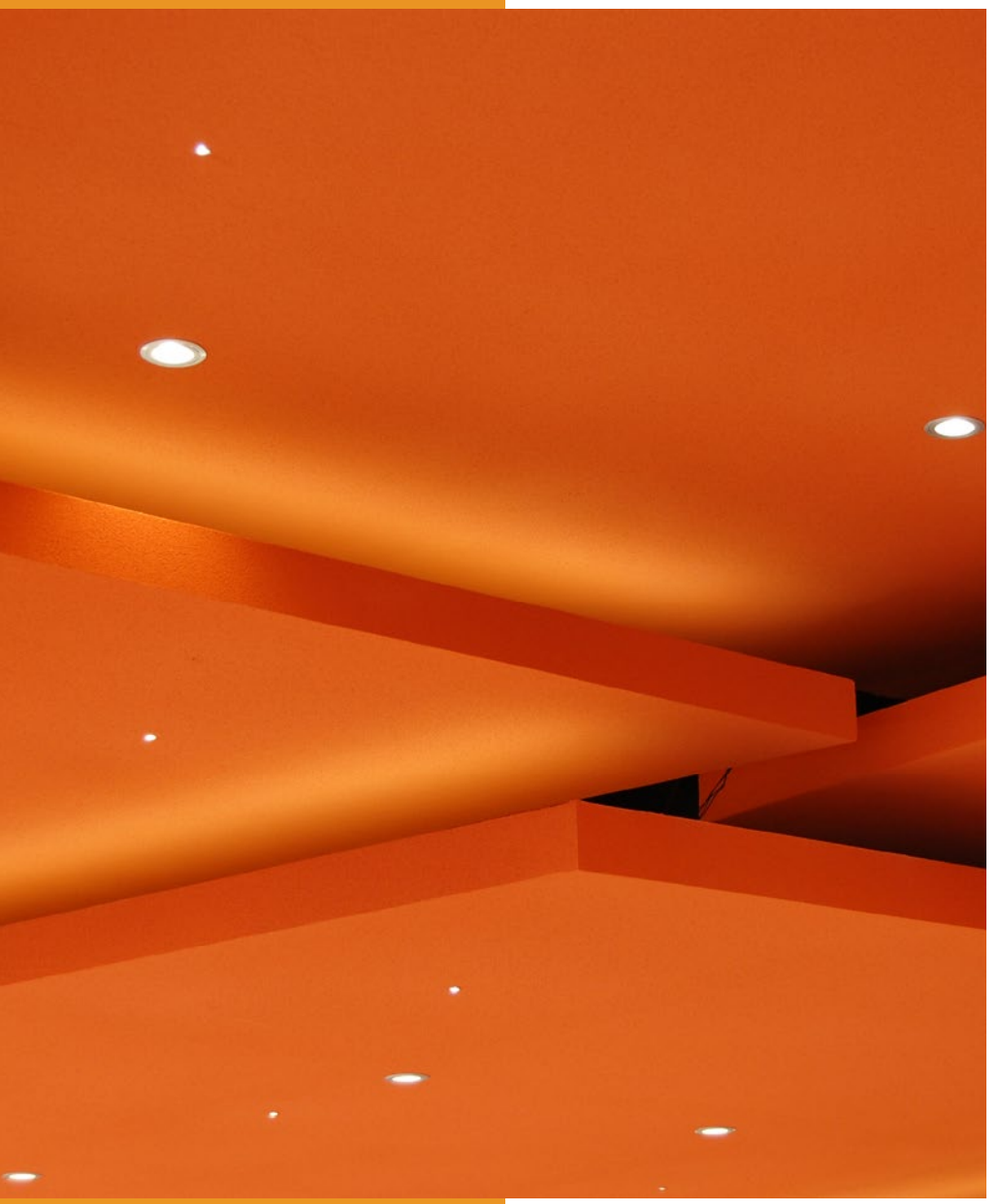


Project: Sydfyns Elforsyning, Svendborg DK
Architect: Anders Hulgaard, C&W Architects
Walls + ceiling: Mono Acoustic TE + Rockfon Color-all (Mercury)

> THE **CONCEALED** H-EDGE AND **LONG-FORMAT** OF THE ROCKFON COLOR-ALL TILES **HELP AMPLIFY THE LENGTH** OF THE BUILDING.

> THE ASSEMBLY REQUIRED **ACCURATE HEIGHT POSITIONING** OF THE PANELS, WHICH **IMITATE THE CLAY** OF THE TENNIS COURT SURFACE.

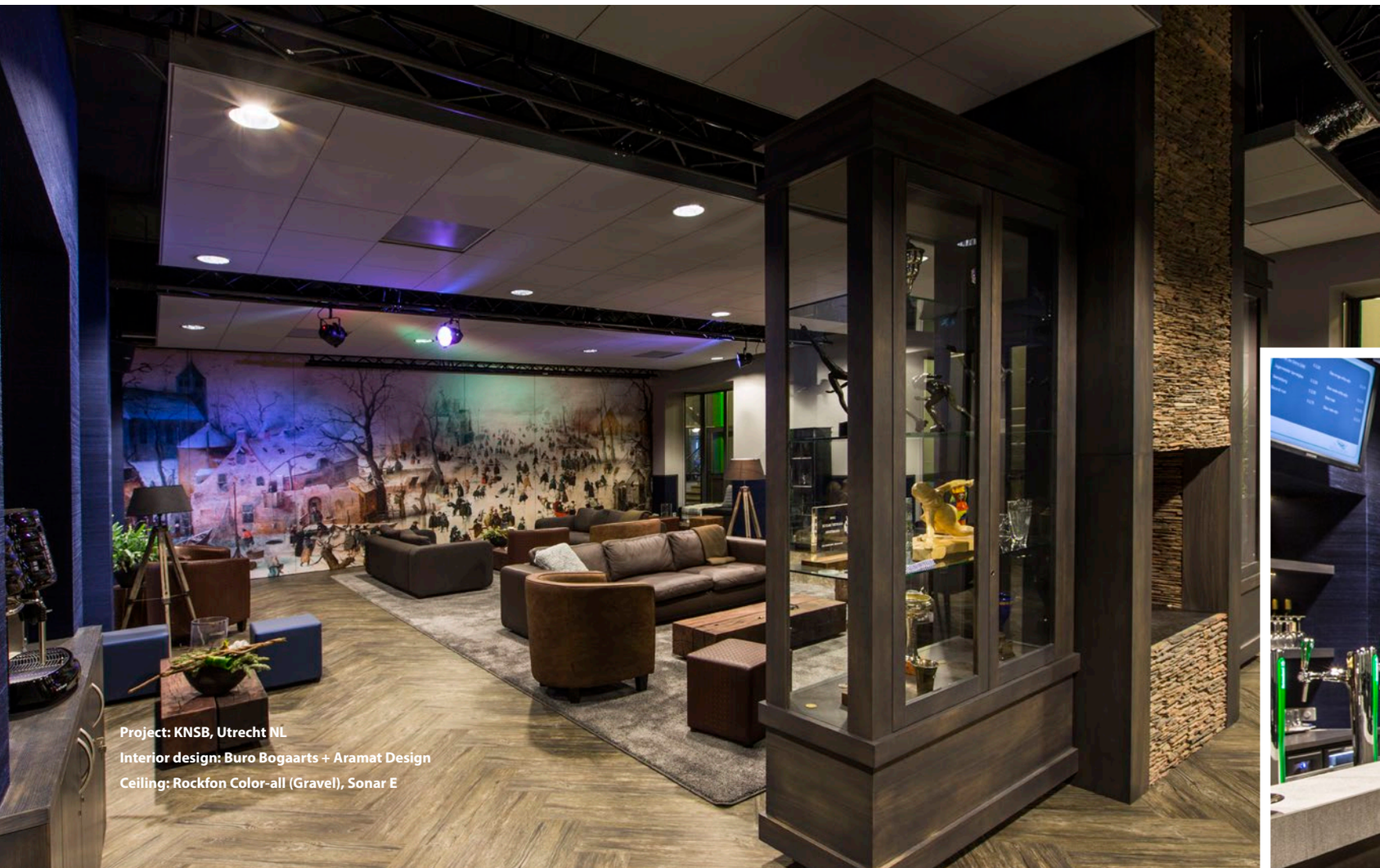
Project: Roland Garros Players' Restaurant, Paris FR
Architect: Didier Girardet (ACD Girardet et Associés)
Installer: Aquilon
Ceiling: Mono Acoustic TE



Inside the **ROLAND GARROS PLAYERS' RESTAURANT** at the tennis complex in Paris, home to the French Open, fresh thinking about acoustics led to an innovative use of colour. Players, their families and entourages gather here for a moment of quiet concentration before the court action begins and for celebration afterward. Originally built in 1994, the restaurant was in need of renovation, due notably to a problem with the "cocktail party" effect. The room was very noisy, with a hard tiled floor, large glass surfaces and walls with many angles.

Didier Girardet, the architect behind the renovation of the restaurant, came up with the idea of a deconstructed ceiling with broken and slanted coloured surfaces: "The assembly required accurate height positioning of the panels." The offset between the different panels made it possible to sculpt both the light and sound, trapping echoes to make human conversation clearer. The ochre colour warmed up a predominantly white space while evoking the clay courts that Roland Garros is famous for. In making this design a reality, Girardet specified ***Mono Acoustic TE***, which could be shaped to his exact specifications and coloured to "imitate the clay of the tennis court surface." The result is a high-end space that sounds as good as it looks. ▶

> USE **COLOUR CEILINGS** TO CREATE A MORE **INTIMATE ATMOSPHERE.**



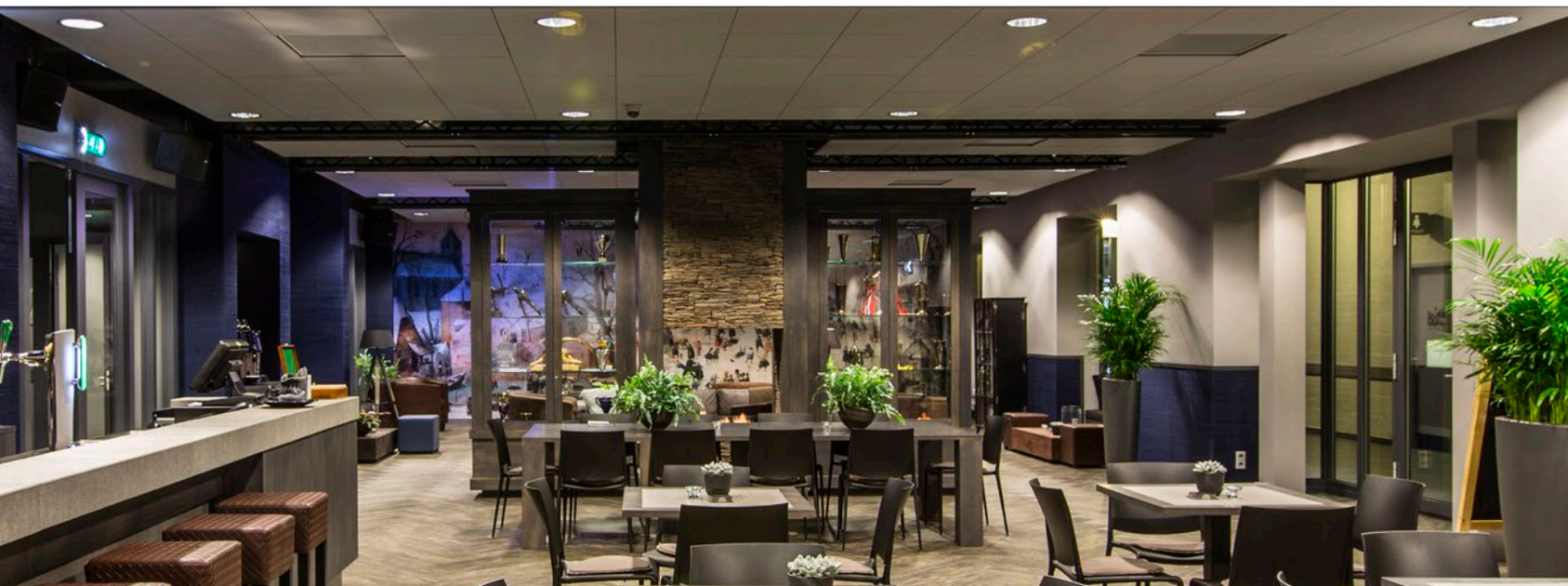
Project: KNSB, Utrecht NL
Interior design: Buro Bogaarts + Aramat Design
Ceiling: Rockfon Color-all (Gravel), Sonar E

WHERE DO YOU STAND?

Colour affects spatial perception too. It is an important tool to use when shaping the feeling, appearance and atmosphere of a room. Lighter colours tend to make spaces seem bigger, while darker colours can make spaces feel more intimate. A dark ceiling will also seem lower than it really is, or – if installed high enough above – it can simply disappear.

A case in point is the design of the new headquarters for the Royal Dutch Skating Federation **KNSB** in Utrecht, the Netherlands, which includes offices, meeting rooms and public recreational spaces such as a gallery and lounge. ***Jos Bogaarts*** from the interior design firm Buro Bogaarts explains that, "the colour scheme of the building evokes the natural setting of ice skating: winter along the country's frozen canals." In the bright, efficient office areas, the earth tones of the flooring evoke the grass, reeds and stones found along the banks of the canals with a snow-white Rockfon ceiling of **Sonar** above.

However, the feeling is totally different in the downstairs library and lounge area. Wood, stone, leather, darkened ceilings and a mix of muted lighting with theatrical spotlights create a warm, cosy setting. Bogaarts explains that in the restaurant, **Rockfon Color-all** Gravel colour ceilings were specified "to create a more intimate atmosphere" and blend in perfectly with the natural materials used in the space.

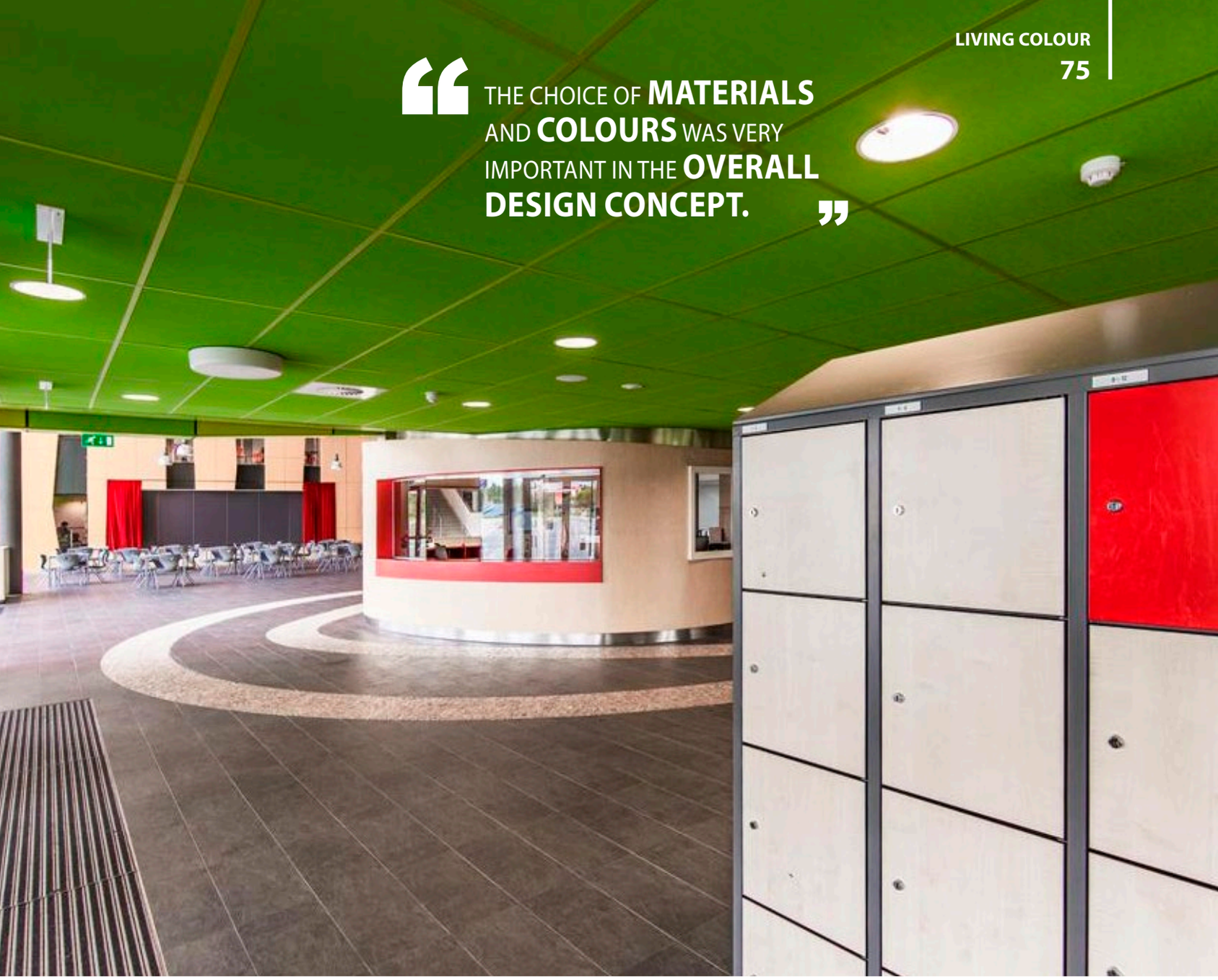


WHY ARE YOU HERE?

Colour schemes can even be used to indicate the purpose and usage of a space. They can be used to create boundaries and transition. Designers think about how the visual stimulation in a space will be perceived by the brain to evoke a desired cultural response. This is of utmost importance in environments where varied spaces have different tasks and functions, to avoid any confusion that can cause stress to the occupants.

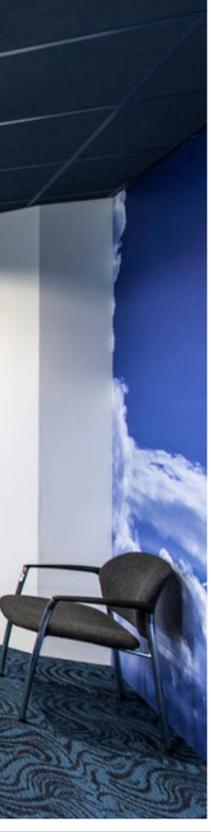
A very good example of this multi-purpose space is education. In Houtens, The Netherlands, the firm BBHD Architecten used colour throughout their design of the city's secondary **HOUTENS SCHOOL**. According to Architect ***Ronald van Hek***, "the colours used – including on the ceiling – made the different school functions visible. The choice of materials and colours was very important in the overall design concept." Van Hek and his team selected bright white **Alaska** ceilings for the classrooms and administration spaces with varying tones of **Rockfon Color-all** for ceilings in areas dedicated to other activities.

Project: Houtens School, Houtens NL
Architect: Ronald van Hek, BBHD Architecten
Ceiling: Alaska, Rockfon Color-all



> “THE CHOICE OF **MATERIALS** AND **COLOURS** WAS VERY IMPORTANT IN THE **OVERALL DESIGN CONCEPT.**”

In the spacious **AIR FRANCE & KLM LOUNGE** at Schiphol airport in The Netherlands, the challenge was how to create a sense of privacy and structure in a vast open space. The architect chose to use black **Rockfon Color-all** Charcoal ceiling tiles throughout the space in order to make it feel less overwhelming. White **Rockfon Contour** baffles were hung in flowing lines like airplane contrails to add motion and provide visual directional cues. ■



Project: Air France & KLM lounge, Schiphol Airport NL
Installer: Henri Zeegers
Ceiling: Rockfon Color-all (Charcoal), Rockfon Contour

> “THE USE OF **COLOUR IS NEVER NEUTRAL.** ALL COLOURS CONVEY **FUNCTIONAL** AND **EMOTIONAL** MESSAGES TO OCCUPANTS.”

Project: Dansk Industri, Copenhagen DK
Architect: Transform
Lighting: Philips
Ceiling: Mono Acoustic TE, Sonar X

THE HUMAN ELEMENT

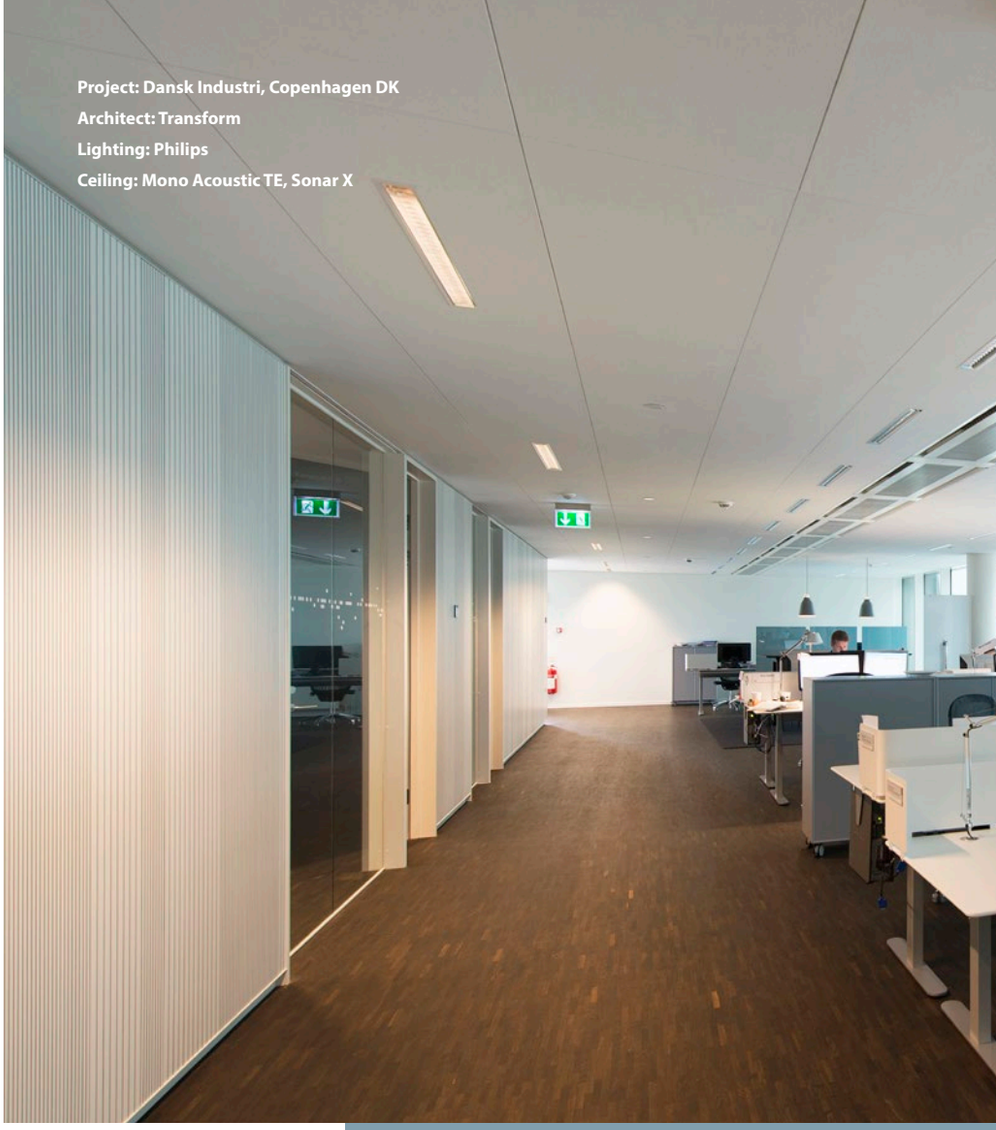
With the rise of eco-friendly construction, designers are taking a holistic approach to ceilings, lighting, heating and cooling. But closer integration is not possible without one vital ingredient.

What is the secret to successful technical integration? We asked members of four building project teams to talk about how they develop holistic ceiling solutions. While their experiences differ, one message comes through loud and clear: smart integration requires smart teamwork.

MOCK-UP MAGIC

When **DANSK INDUSTRI** (the Confederation of Danish Industry) decided to renovate its 'Industriens Hus' headquarters located on the City Hall Square in Copenhagen, it chose the architects at Transform to create more than just a facelift. The 1970s brick façade was replaced with a glass front suspended on a slim, diamond-shaped steel framework. Indoors, the workspaces and ground-level public shopping areas were also completely overhauled. As part of the building's more energy-efficient design, the ceiling was to house integrated LED lighting from **Philips** along with integrated HVAC (heating, ventilation, and air conditioning).

To make sure the project went smoothly and that the final result would meet Dansk Industri's requirements, "About 12 months before the first tiles were delivered, we built a mock-up of an office space," says ***Thomas Vilmar***, Sales Director Denmark and Finland at Rockfon. The idea was to show all the project members what the new ceiling would look like and iron out any issues before installation began on the work site. "Because the building overlooks the world-famous Tivoli Gardens, lighting is strictly regulated. The office lighting has to be angled a certain way so as not to light-pollute the Gardens," he explains.



Project: Dansk Industri, Copenhagen DK
Architect: Transform
Lighting: Philips
Ceiling: Mono Acoustic TE, Sonar X

LARS SERUP
Transform

> "ROCKFON'S IDEA TO **BUILD A MOCK-UP** HELPED REASSURE EVERYONE."

Another challenge was the typical 1970s building style. The soffits were already quite low by modern standards but actually varied in height throughout the building because of settling over time. "Our **Sonar** X-edge ceiling was the only one that would ensure enough clearance for all the installation elements – HVAC, wiring, lighting, acoustics – to fit and work well together," Vilmar adds. "Creating a mock-up was the only way to prove that."

"Rockfon's idea to build a mock-up helped reassure everyone," says ***Lars Serup***, Lead Architect on the project at Transform. "From our point of view, the idea was architecturally good from the beginning. But being able to see and touch it convinced everyone that our design of the office spaces was the right one."

THOMAS VILMAR
Rockfon

Project: Dansk Industri, Copenhagen DK
Architect: Transform
Lighting: Philips
Ceiling: Mono Acoustic TE, Sonar X


TERMA

Project: BDO, Herning DK
Installer: Systek Skræddergaard
Lighting: Luminex
Ceiling: Sonar X

CO-DEVELOPING INTEGRATED LIGHTING

Integrated lighting was also a major issue when the Danish accounting firm **BDO** decided to build new offices in Herning. The design called for high ceilings but also needed to provide occupants with room for concentration and work. In addition to acoustics, lighting would play a key role in this.

After an initial project kick-off meeting, Rockfon and lighting supplier **Luminex** worked together to design an entirely new line of luminaires: Matric-Line L3. The combination of near-monolithic **Sonar** X-edge tiles with Luminex lighting creates an elegant solution. The ceiling grid carries the luminaires, and Luminex developed a weight distributing bridge that facilitates easier installation. Where luminaires and tiles meet, the fixture becomes a tile-bearing part of the grid structure.

The solution developed by Rockfon and Luminex not only met the architect's and BDO's requirements, it helped keep the project delivery on track. "It makes the usually complex installation process extremely uncomplicated for all trades involved," says ***Kim Sørensen*** from installers Systek Skræddergaard. "We were able to install each in seconds."

> "**IT MAKES THE** USUALLY COMPLEX **INSTALLATION PROCESS EXTREMELY UNCOMPLICATED** FOR ALL TRADES INVOLVED."


BDO

Project: BDO, Herning DK
Installer: Systek Skræddergaard
Lighting: Luminex
Ceiling: Sonar X

VENTILATION WITHOUT VENTS

For the new **SYDMORS SKOLE** (South Mors School) on the Danish island Mors, the ceiling design called for an uninterrupted surface. The architects did not want any visible ventilation grates, which was a headache for contractor ***Niels Thomsen***. "I called Rockfon, explained the situation and asked them: 'Can you do it?'."

The performance of Rockfon ceilings provided the key to finding the solution. As ***Oskar Meres,*** Regional Technical Manager at Rockfon, explains: "For optimum ventilation, there must be non-visible gaps between the tiles and preferably as many joints as possible in the ceiling."

By creating a small air pressure behind the suspended ceiling you can utilise the many joints to push the air through and thereby ensure good ventilation without noise and draft.

Six years ago, Rockfon was involved in a test project for a university that took advantage of this phenomenon to provide ventilation. The idea was adapted to the Sydmors project using **Sonar** E-edge tiles. "Instead of installing vents, the ceiling behaves like one giant vent," explains Meres. To enhance the overall acoustics of the rooms, **VertiQ** wall absorbers are also installed throughout the building. "We wouldn't have been able to find the solution if we hadn't sat down and worked out all the issues together," explains Thomsen. "It took everyone's expertise and teamwork."

OSKAR MERES
ROCKFON

Project: Sydmors Skole, Vils DK
Architect: Ole Davidsen, Arkitektgruppen Limfjorden ApS
Engineers: A&I Rådgivende Ingeniører + D.A.I arkitekter og ingeniører
Contractor: Niels Thomsen, Tømrernes Byggeselskab A/S
Ceiling + walls: Sonar E and X + VertiQ

“WE WOULDN’T HAVE BEEN ABLE TO **FIND THE SOLUTION** IF WE HADN’T SAT DOWN AND **WORKED OUT ALL THE ISSUES TOGETHER.**”

NIELS THOMSEN
Tømrernes Byggeselskab A/S

Project: Le Tivoli, Paris FR
Installer: Augagneur

METAL MEETS STONE WOOL

In 2011, renovation began on the **LE TIVOLI** office complex near Gare Saint Lazare in Paris, France. The goal was to modernise the seven-building, 22,000m² ensemble to make it more eco-efficient and obtain BREEAM certification. After first specifying an **Alaska dB 40** stone wool suspended ceiling, the architect and owner decided they wanted the look of a metal ceiling – but they still wanted the acoustic performance of the originally-planned Rockfon ceiling.

It fell to Rockfon and the installer Augagneur to develop a new ceiling solution. "We've worked with Augagneur on several projects over the years, and we know each other well," says ***Laurent Behuel***, Rockfon Area Sales Manager. "This relationship enabled us to find an innovative and cost-effective solution." The team came up with the idea to create metal modules lined with Rockfon tiles. To the casual observer, the ceiling is metal, but the Rockfon insets give it the acoustics of a modular stone wool ceiling. "It was the first time Rockfon has integrated its products into a metal ceiling, and the final result successfully met all the client's requirements." ■

> "**THIS RELATIONSHIP** ENABLED US TO FIND AN **INNOVATIVE** AND **COST-EFFECTIVE** SOLUTION, AND THE FINAL RESULT **SUCCESSFULLY MET ALL** THE CLIENT'S **REQUIREMENTS.**"

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