

INSPIRED **BY YOU**

A COLLECTION OF INTERIOR ACOUSTIC DESIGN

Revealing

THE BEAUTY INSIDE

Renovations and new builds

EXCEPTIONAL DESIGNS

stunning international inspiration

INNER METAMORPHOSIS

putting old buildings in a new light

CREATING COMFORT

sustainable buildings with outstanding indoor climate



Part of the ROCKWOOL Group

A PERFECT MATCH

Project: Statoil Sandsli Offices, Bergen, NO
Architect: Niels Torp
Installer: Acusto
Ceilings: ROCKFON Krios dB 44
Suspension grids: Chicago Metallic Standard 1200

INSIDER SECRETS

In this edition of INSPIRED BY YOU we focus on the inner beauty visible in a wide range of projects from around the world. Beauty, as they say, is in the eye of the beholder. But at ROCKFON, we think that it starts in the inspiration of the designer, who sees the potential of a new build or an existing structure. Before that beauty is revealed to the occupants, it has to be imagined and brought to life.

It's time to go inside.

NOTE: Not all ROCKFON products and services, such as recycling, featured in this magazine are available in the North American market at this time.



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FRONT COVER

Project: Novo Nordisk Headquarters, Bagsværd, DK

Architect: Henning Larsen Architects

Ceilings and walls: ROCKFON Mono® Acoustic, ROCKFON Mono® Acoustic Flecto

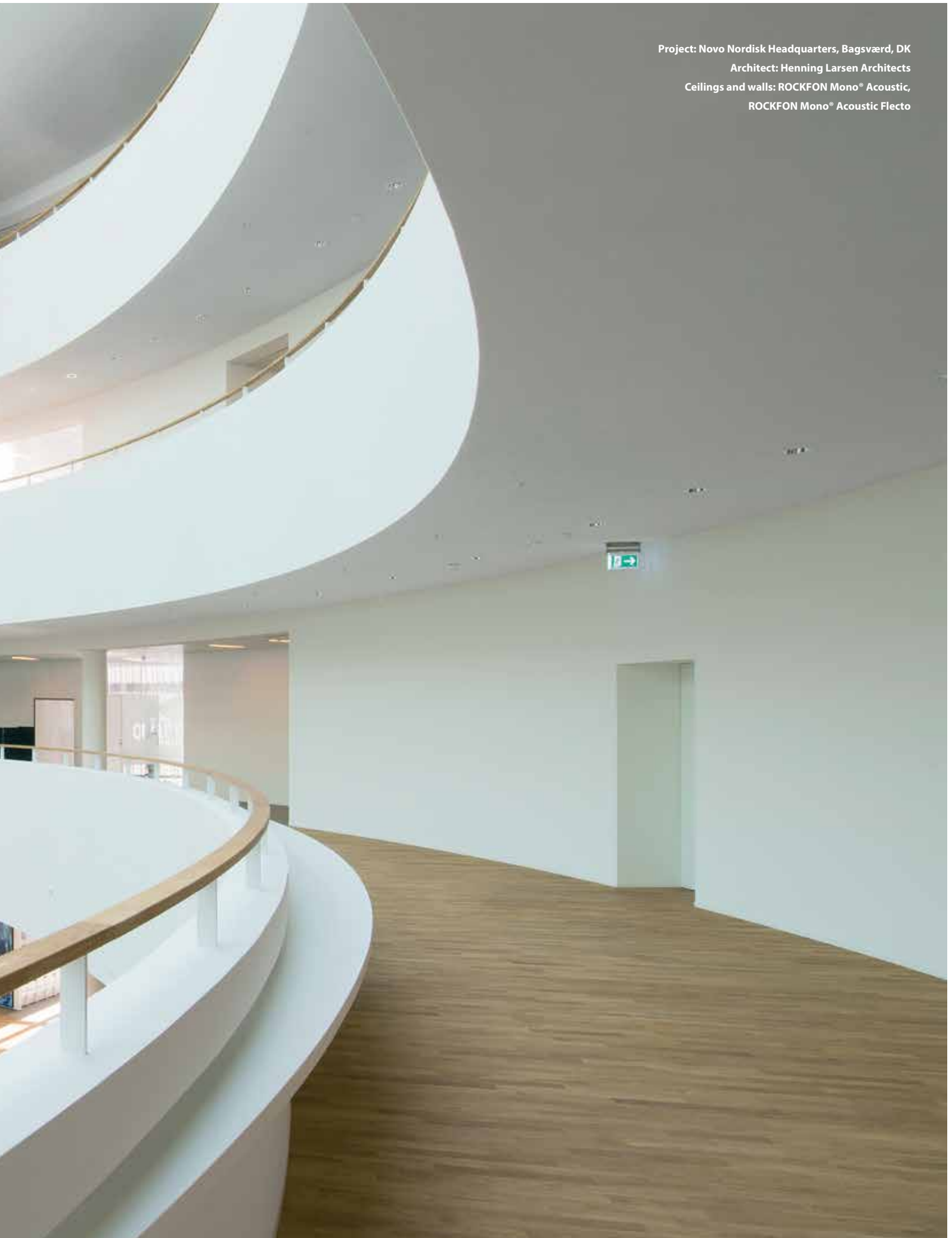
EXCEPTIONAL DESIGNS

Truly exceptional designs pay close attention to every detail and refuse to accept “good enough”.

Any building project will challenge the designers to preserve their aesthetic vision as the project advances. The process can threaten to take the upper hand over the final product. Compromises may threaten to dilute the sheer force that a building’s design can have on its occupants, and designers must remain focused to keep their vision as the driving force.

The first pages of this edition showcase a collection of projects that illustrate what happens when that vision remains intact right to the end. Projects that make people stop in their tracks. Projects that have turned out to be simply stunning on every level. Enjoy.

Project: Novo Nordisk Headquarters, Bagsværd, DK
Architect: Henning Larsen Architects
Ceilings and walls: ROCKFON Mono® Acoustic,
ROCKFON Mono® Acoustic Flecto





NOVO NORDISK – INSPIRED BY COMPANY DNA

The Danish pharmaceutical company **NOVO NORDISK** wanted their new corporate headquarters in Bagsværd north of Copenhagen to be a bright and open office environment while clearly reflecting the company's DNA. **Henning Larsen Architects** won the project with their stylish bid for a circular building with an organic design inspired by the structure and round spiral shape of the insulin molecules, which are the foundation of the Novo Nordisk product range. Henning Larsen Architects also incorporated clear architectural references to the Scandinavian design tradition and to the Danish architect Arne Jacobsen who – aside from his well-known Egg and Swan chairs – also designed for Novo Nordisk.

The curved building design called for flexible building materials to compliment its circular shape, and Henning Larsen Architects chose to install **ROCKFON Mono® Acoustic** on both vertical and horizontal surfaces in the large atrium. According to architect **Søren Øllgaard** "Mono made it possible to create a stunning design with continuous surfaces that tie the room together. On top of that, it was a bonus to be able to make these flexible ceilings and walls, which still maintain their good acoustic properties."

Aside from the design flexibility and acoustic benefits, the Mono system also allowed the architects to emphasise the stunning flow of natural light in the building. "With its continuous surfaces, Mono creates a unity, draws light in an exciting way and provides a more interesting look with its rustic surfaces," says Søren Øllgaard, and concludes "It is refreshing that the ceiling has a texture."



Watch the video and see more photos at www.rockfon.com



“ MONO MADE IT **POSSIBLE**
TO **CREATE** A STUNNING
DESIGN WITH **CONTINUOUS**
SURFACES THAT TIE THE
ROOM **TOGETHER** ”

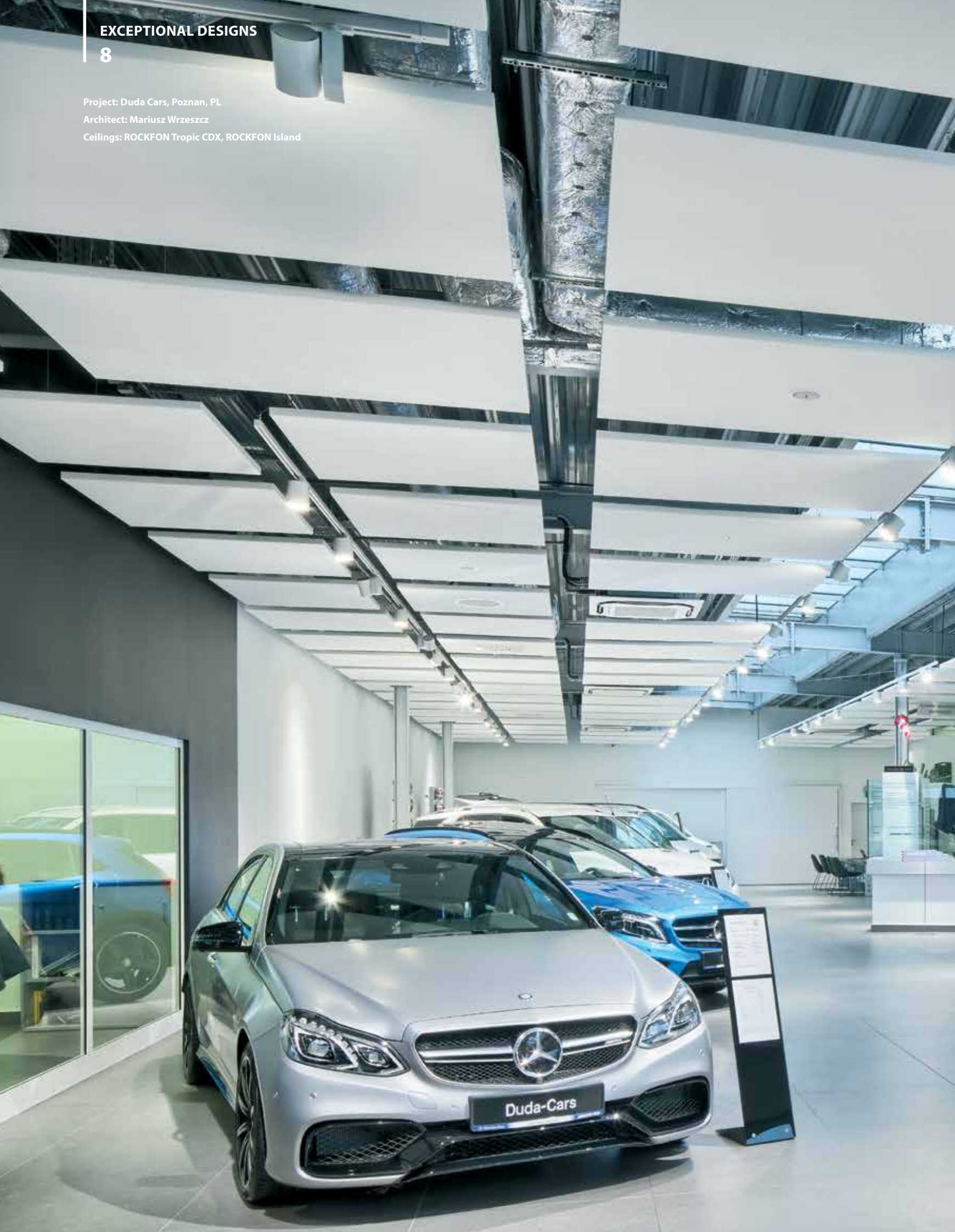


Project: Novo Nordisk Headquarters, Bagsværd, DK
Architects: Henning Larsen Architects
Ceilings and walls: ROCKFON Mono® Acoustic,
ROCKFON Mono® Acoustic Flecto

Project: Duda Cars, Poznan, PL

Architect: Mariusz Wrzeszcz

Ceilings: ROCKFON Tropic CDX, ROCKFON Island







DUDA CARS - HIGH STANDARDS

DUDA CARS is the leading Mercedes-Benz dealer in Poznań, Poland. The 7,000 m² / 75,350 ft² dealership includes a more than 2,100 m² / 22,600 ft² large covered showroom and service space. The showroom was extended to incorporate a large, new exhibition area and entrance; the renovation connects the old and new showrooms both architecturally and logistically. Proudly displaying the Mercedes-Benz logo, the eye-catching circular entrance is a prominent landmark that distinguishes the showroom of Duda Cars. A feel of prestige was fundamental to the design in line with the brand. "The luxury of the brand defined how the project was realised and the finishes of the building. High standards were fundamental," explains architect **Mariusz Wrzeszcz**. "We were looking for a modern solution with large spaces and height. But at the same time, the building and its interior should not be monumental, cold or empty." Metal and glass are used extensively in the design to lend modernity, and connect with the existing showroom. Artistic installations in the interior, including an interactive steel sculpture suspended in the lobby, contribute a sense of playfulness.

Elegantly arranged in a floating grid, **ROCKFON Tropic CDX** is used throughout the exhibition spaces for its functionality and design possibilities. "ROCKFON ceilings let us achieve the effect of elegance and prestige. The interior contains elements of art: the cars themselves are like works of art, and these elegant and high-quality ceilings complement this effect. We managed to arrange the ceilings so that they look like a sculpture," says Wrzeszcz.

"The user-friendliness of the interior was equally important, so acoustic solutions were crucial. Although the area is huge, there is no unnecessary, disruptive sound." Services and lighting are easily incorporated into the grid and spacing between panels. The assistance of the ROCKFON acoustic experts was an added advantage. "The support from the ROCKFON staff was great. They helped us both in terms of material choice but also with logistics – even in unforeseen situations and emergencies," says Wrzeszcz.





Project: Duda Cars, Poznan, PL
Architect: Mariusz Wrzeszcz
Ceilings: ROCKFON Tropic CDX, ROCKFON Island

ARTS ET VIE SWIMMING POOL – PEACEFUL ATMOSPHERE

The **ARTS ET VIE** vacation residence in Plozévet, France, is the first of its kind with an indoor pool in the Brittany area. After an 18-month construction process, the 4-star bungalow residence opened in June 2014, and now welcomes visitors from March to November. Designed for people of all ages, the heated swimming pool primarily caters to families with children during the school holidays and to retirees outside these periods.

Acoustics in swimming pools are notoriously difficult to handle, so project architect, **Gérard-Charles Gautier**, faced a challenge in creating an environment that would offer a pleasant experience to both recreational swimmers and playing children. His solution was to equip the pool ceilings with **ROCKFON Sonar** acoustic stone wool tiles suspended from Chicago Metallic T24 Hook D850 ECR class D - grid system to achieve a high-quality, reliable structure that would resist corrosion in the humid environment.

On top of managing acoustics, the smooth, white surface and concealed X-edges of the Sonar tiles also allows designers to create monolithic looking, yet still demountable, ceilings. Building owner, **Vincent Berthy**, has noticed that the visitors enjoy the atmosphere in the building. "Particularly on the interior aesthetics of the pool, the feedback has been that the visitors appreciate its light and airy design," he says. "Even with the windows open, the atmosphere is very quiet."

Berthy is convinced that the acoustics in the building play an important role. "The visitors give really good feedback on the pool, because even when there are children, there is no resonance," he says. "In other buildings the guests would leave because of the noise when we had larger groups of children, but here that is not the case at all. We have no problems, and even with noisy children here, the other customers can still enjoy the pool." The process also resulted in some valuable experiences to be used in future projects. "The approach to this pool should be generalised, because this is the first time we have had a product of this quality," Berthy concludes.

“EVEN WHEN THERE ARE
CHILDREN, THERE IS
NO RESONANCE”



Watch the video and see more photos at www.rockfon.com

Project: Arts et Vie Swimming Pool, Plozévet, France

Architect: Gauthier Philippe

Ceilings: ROCKFON Sonar CDX, ROCKFON Sonar CDG

Suspension grids: Chicago Metallic T24 Hook D850 ECR Class D





CHIZHOVKA ARENA – FIT FOR IT ALL

When Belarus was chosen to host of the 2014 Ice Hockey World Championships, it became clear that the country had to construct a new hockey stadium. The capital was already home to a 15,000-person arena, but according to the competition rules a second rink was needed for the event. The solution became the 9,000-seat **CHIZHOVKA ARENA**, which is scenically located in a residential area on the Chizhovka reservoir shore in Minsk.

Inspired by its location, the design of the arena mimics two water drops interacting. “Since the Arena is located on the shore of a reservoir, the principal concept is water drops. I tried to join them in the composition to create the impression of a large drop – that is the larger arena – overflowing into a small drop over an inserted partition,” Chief Architect of the project, **Marat N. Grodnikov**, explains.

While the hockey arena was inspired by a single event, Grodnikov wanted to make sure the facilities would also benefit the neighbourhood after the championships ended. To that end, he added a smaller 500-seat rink to be used by the general public and integrated a 5,000 m² / 54,000 ft² shopping area on the building’s third floor.

As the arena also hosts music events, the acoustic climate was an important consideration throughout the project. “To optimise the project economy, we immediately have made the acoustic analyses,” Grodnikov explains. Once the calculations were done, the arena was outfitted with **ROCKFON Artic** and **ROCKFON Lilia** stone wool tiles to achieve the right acoustic climate.

The result of the creative combination of materials has been a multi-arena with an acoustic environment that is well-suited for its many purposes. “There is no boominess or significant reverberation, and everything produces good acoustic content, especially the larger arena, which is also used for musical performances. And the shows that have performed in the arena have not required any additional sound insulation, since we did not have any problems with the acoustics,” Grodnikov concludes.





Project: Chizhovka Arena, Minsk, BY
Architect: Marat N. Grodnikov
Ceilings: ROCKFON Artic, ROCKFON Lilia



MARKTHAL – SILENCE AND NOISE

The **MARKTHAL** covered market in the city centre of Rotterdam is one of the first of its kind in the Netherlands. The unique structure was designed by **MVRDV Architects**, who were approached by the city of Rotterdam to create a combined market and residential building. After several drafts, MVRDV decided that they did not want to cover the market with a traditional low roof, and instead they drafted an arch. "In that way the apartments would be able to see the market, and really experience this," explains project architect, **Anton Wubben**, of MVRDV.

Making the market the focal point of the construction, they decided to cover the inside of the arch with a piece of art consisting of 4,000 colourful panels by local Rotterdam artist Arno Coen. The surrounding apartments were constructed to have a view into the market, and the penthouse apartments were even equipped with glass floors, allowing residents to look directly down onto the stands. To direct visitors' attention directly towards the life in the market, MVRDV kept all other elements in a very minimal design. "Whatever we did, the market should be the centre of the design, and all the functions around it should facilitate this," says Wubben, "so the space needed to be as minimally designed as possible."

To achieve this discreet expression, MVRDV decided to keep all other functions – such as window frames, floors and ceilings – in a calm, grey tone. "We needed an acoustical ceiling which had no seams whatsoever, and the correct colour possibilities, so there we used **ROCKFON Mono® Acoustic**," Wubben says. The result is an impressive structure with a remarkable balance between peaceful privacy and hectic interaction. "In the end we created a space, a framework you could almost say, that is the host for a market, but we could never have imagined the way the city has embraced this project. And although we have worked towards this in the design, the way that people use this building in the end is overwhelming," he says.



Watch the video and see more photos at www.rockfon.com



WHATEVER WE DID,
THE MARKET SHOULD BE
**THE CENTER OF
THE DESIGN,**
AND ALL THE
FUNCTIONS AROUND IT
SHOULD FACILITATE THIS ”

Project: Markthal, Rotterdam, NL

Architect: MVRDV

Installer: Pennings Akoestiek

Ceilings: ROCKFON Mono® Acoustic

Suspension grids: Chicago Metallic Monolithic



WHAT WE LIKE BEST IS
ITS **SIMPLICITY** AND
SEAMLESSNESS ”

JULIAN WEYER
C.F. MØLLER



Photo: Mew

BESTSELLER – INTIMATE SIMPLICITY

BESTSELLER wanted its new regional office in Aarhus, Denmark, to have an intimate quality, as opposed to being generic. To avoid creating a huge block on this unique waterfront site at the entrance of the pier, the scheme proposes a series of staggered volumes interconnected by different outdoor spaces. Resembling a small, vibrant city, this flotilla of buildings accommodates 22,000 m² / 236,750 ft² of workplaces, showrooms, an auditorium and various shared spaces above ground as well as 24,000 m² / 260,000 ft² of car parking, studios, logistics and technical services underground. The office is designed by **C.F. Møller** and is situated in the city's up-AND-coming Docklands district, a former industrial area transformed by new residential, commercial and cultural developments. A new post in Denmark's second largest city supports the international fashion brand's rapid expansion.

Simplicity guides all aspects of the design. With its rectilinear ensemble of volumes, the building forms a striking presence beside the water. A restrained grid of stone and glass characterises

the facade. Technical measures including sea-water cooling and solar heating aimed at the building's low-energy operation are designed to be as unobtrusive as possible, accentuating the simplicity of the architecture. An internal street forms connects the various buildings.

With an impressive, almost 22,000 m² / 236,750 ft² large monolithic ceiling made from **ROCKFON Mono® Acoustic**, installed in the Chicago Metallic Monolithic grid system, the vast interior retains its simplicity, lightness and spaciousness while accommodating all the necessary technical functions. Lighting, ventilation and fire installations are concealed in the ceiling, in combination with specially designed tracks. The acoustic and light-reflecting advantages of ROCKFON Mono® Acoustic are essential for the open plan offices and shared spaces. "We aimed to keep the huge ceiling area as simple as possible with the least amount of detailing," explains **Julian Weyer**, partner at C.F. Møller. "We've reduced the ceiling elements and concealed the technical details, which is why we opted for ROCKFON's white Mono ceiling. It was a challenge to unclutter the ceiling, but what we like best is its simplicity and seamlessness."

FRANK WINTERS
ROCKFON

Improved ROCKFON Mono® Acoustic

**Frank Winters, ROCKFON
Systems Development Manager**

Most architects and designers like the look of a seamless ceiling, but often feel like they have to choose between aesthetics and acoustics. That was the starting point when we developed ROCKFON Mono® Acoustic, which is the best performing seamless acoustical ceiling you can get. To achieve this unique system, we combined a traditional suspended ceiling system with a specially developed filler and render that gives the ceiling its smooth surface. The result was a ceiling that gives you the fire protection and humidity resistance of stone wool, but is flexible enough that you can create virtually any design with it. To give architects full design freedom, we also created the pliable ROCKFON Mono® Acoustic Flecto panels that can be bended into any curve shape.

We recently made some updates to ROCKFON Mono® Acoustic, which we think will benefit both architects and installers. For the architects, we have improved the render to give an even smoother and whiter surface that reflects light really well. Installers will appreciate that the improved render can now be applied with high pressure, which makes the application process faster. Installers will also save time with our new brackets, which significantly reduce the need for screws. Finally, we have made the tapered edges of our tiles smaller to produce the same smooth results with a reduced amount of filler.

Project: Bestseller Headquarters, Aarhus, DK
 Architect: C.F. Møller
 Ceilings: ROCKFON Mono® Acoustic
 Suspension grids: Chicago Metallic Monolithic





Project: Belarus National Airport, Minsk, BY

Architect: Oleg V. Sergeev, Minskproyekt Municipal

Unitary Engineering Design Enterprise

Ceilings: ROCKFON Tropic, ROCKFON Artic, ROCKFON Island



INNER METAMORPHOSIS

Inspired renovations reveal the true potential and beauty of any space - transporting the building from the past to the future.

One of the biggest challenges in renovating existing buildings – rather than tearing them down – is convincing people that the final result will be better than a new build. But opinions are shifting.

People are beginning to realise that, when done right, a renovated building is often a more economical and environmentally responsible way to obtain a high-quality space than starting over with new construction. But one of the biggest challenges can be creating a modern design that combines the history of the structure with modern technology, comfort and conveniences. This is where the choice of materials really makes a difference.

“ THE IDEA OF THE PROJECT WAS TO **CREATE** AN ENTIRELY NEW INTERIOR SPACE WITH A **MODERN, LIGHT AND AIRY ARCHITECTURE** WITHIN THE BOUNDARIES OF THE EXISTING BUILDING ”



Project: Belarus National Airport, Minsk, BY
Architect: Oleg V. Sergeev, Minskprojekt Municipal
Unitary Engineering Design Enterprise
Ceilings: ROCKFON Tropic, ROCKFON Artic, ROCKFON Island





MINSK NATIONAL AIRPORT – ACOUSTICS TAKE OFF

Constructed in the 1980's, The **MINSK NATIONAL AIRPORT** is the air gateway of the Republic of Belarus with an original capacity of about 5.2 million passengers per year. Initially, upwards 80% of airport traffic was carried within the Soviet Union, but as the geopolitical situation changed, the airport became an increasingly important intersection connecting Western Europe and the Commonwealth of Independent States (CIS). Meanwhile, airport capacity dramatically dropped around the change of the millennium and the existing building ceased to comply with international standards.

To improve passenger services, it was decided to remodel the airport to increase its capacity for international airline traffic by up to 70% and improve the indoor environment. "The objectives of a reconstruction and the construction of a new building differ greatly from each other. In this case we had to work with the existing size and architecture of the building that was built in the former Soviet Union era. The idea of the project was to create an entirely new interior space with a modern, light and airy architecture within the boundaries of the existing building," says Chief Project Architect of Minskproyekt Municipal Unitary Engineering Design Enterprise, **Oleg V. Sergeyev**. "We have dramatically changed the entire interior, streamlined the terminal area, created entirely new paths of passenger traffic, and re-thought the location of check-in counters and waiting rooms to provide passengers with the necessary level of service," Sergeyev explains.

The remodelling to expand the existing space was inspired by the principles introduced by the legendary architect Le Corbusier and his ability to work with spaces, but also had to meet local standards for fire safety and acoustics. "Working on the airport project we also had to meet the international standards for passenger service and noise while creating a comfortable indoor environment. That is why we paid special attention to the selection of building materials – for example by using special glass and suspended acoustic ceilings," says Sergeyev. The complex requirements for ceiling performance were met with a creative combination of suspended **ROCKFON Tropic** and **ROCKFON Artic** stone wool tiles assisted by **ROCKFON Island** acoustic islands. "We chose the ROCKFON suspended ceilings because they fully meet our standards for fire safety and acoustics. ROCKFON products are a contemporary and novel solution in our market that we were able to choose based on their value-to-quality ratio," Sergeyev says.





Project: S:t Lars, Engelska Skolan, Lund, SE
Architects: Sews, Juul | Frost
Installer: Intermontage i Bromölla AB
Ceilings: ROCKFON Sonar dB, ROCKFON Hygienic, ROCKFON Hygienic Plus
Suspension grids: Chicago Metallic Standard 1200



Watch the video and
see more photos at
www.rockfon.com

S:T LARS - TRANSFORMATION FOR A NEW GENERATION

The English school and its 300 students moved into the newly renovated part of the **S:T LARS** building in August 2014. The historic S:t Lars building was constructed in 1879 and previously housed a mental hospital. In accordance with the historical architecture of the S:t Lars area, the red brick facade has been preserved as the building was transformed into an elementary school. Designed by Malmö Architects **Sews** and Copenhagen Architects **Juul | Frost**, the first phase of this transformation was recently completed and the second phase has just started.

While the exterior was kept widely intact, there have been major changes on the inside as NCC turned the house into a green building with excellent indoor climate and low environmental impact. To qualify for the Swedish Miljöbyggnad environmental certification, NCC chose to install energy-efficient windows, an air conditioning system that recycles heat, an extra layer of insulation in the exterior walls and ROCKFON stone wool ceilings. In addition to the **ROCKFON Koral** ceilings in the regular classrooms, the school also outfitted its studio with **ROCKFON Sonar dB** ceilings and installed **ROCKFON Hygienic** and **ROCKFON Hygienic Plus** ceilings in the large school kitchen.

The installers from **Intermontage i Bromölla AB** decided to suspend the ceiling tiles from the new **Chicago Metallic Standard 1200** grid throughout the building. "We are very pleased with the many benefits of the new ROCKFON grid," says **Ola Gladh** of Intermontage i Bromölla AB. "There is no oil on the grid, so the installers can keep their gloves on during the entire installation. The profiles are easy to work with because they are so stiff and the large stockpile makes it easy to make good-looking verticals."

“ THE PROFILES ARE EASY TO WORK WITH BECAUSE THEY ARE SO STIFF AND THE LARGE STOCKPILE MAKES IT EASY TO MAKE GOOD-LOOKING VERTICALS ,”







Project: S:t Lars, Engelska Skolan, Lund, SE
Architects: Sews, Juul | Frost
Installer: Intermontage i Bromölla AB
Ceilings: ROCKFON Sonar dB,
ROCKFON Hygienic, ROCKFON Hygienic Plus
Suspension grids: Chicago Metallic Standard 1200

MORMON CHURCH ZOETERMEER – HEAVENLY ACOUSTICS

When The Church of Jesus Christ of Latter-day Saints in the Netherlands decided to replace their church in The Hague with a new temple, they gained an impressive religious building, but lost their multifunctional meeting space. In 2008, six years after the completion of the temple in The Hague, the church finally found a place to create a new church building that could double as a multifunctional meeting building in nearby Zoetermeer.

The basis for a **MORMON CHURCH** is a standard plan, designed and prescribed by the church. The church built in Zoetermeer is a replica of a church in Germany built to a very specific design. The ceiling of this building has a unique design that includes integrated lighting and wooden strips. Acoustics are of utmost importance to the church – the Mormon tabernacle in Salt Lake City has an international reputation as one of the most acoustically perfect buildings in the world - so the church decided to employ an acoustical expert.

Based on the experiences constructing the church in Germany, the German design was found to not only be relatively high in price, but also difficult to install and – most importantly – the acoustics were not as desired. After hearing about the German experiences, fitting company **Slukom** decided to take a look at the design. Together with Chicago Metallic they suggested a ceiling solution that allowed the contractor to make fewer amenities, saving time and money and resulting in better acoustics.





Project: The Mormon Church, Zoetermeer, NL
Architect: Meijer & van Eerderen architectenbureau
Installer: Slukom afbouw
Ceilings: ROCKFON Alaska SLP, ROCKFON OlympiaPlus
Suspension grids: Chicago Metallic Standard 200,
Chicago Metallic 50mm Bandraster 3050

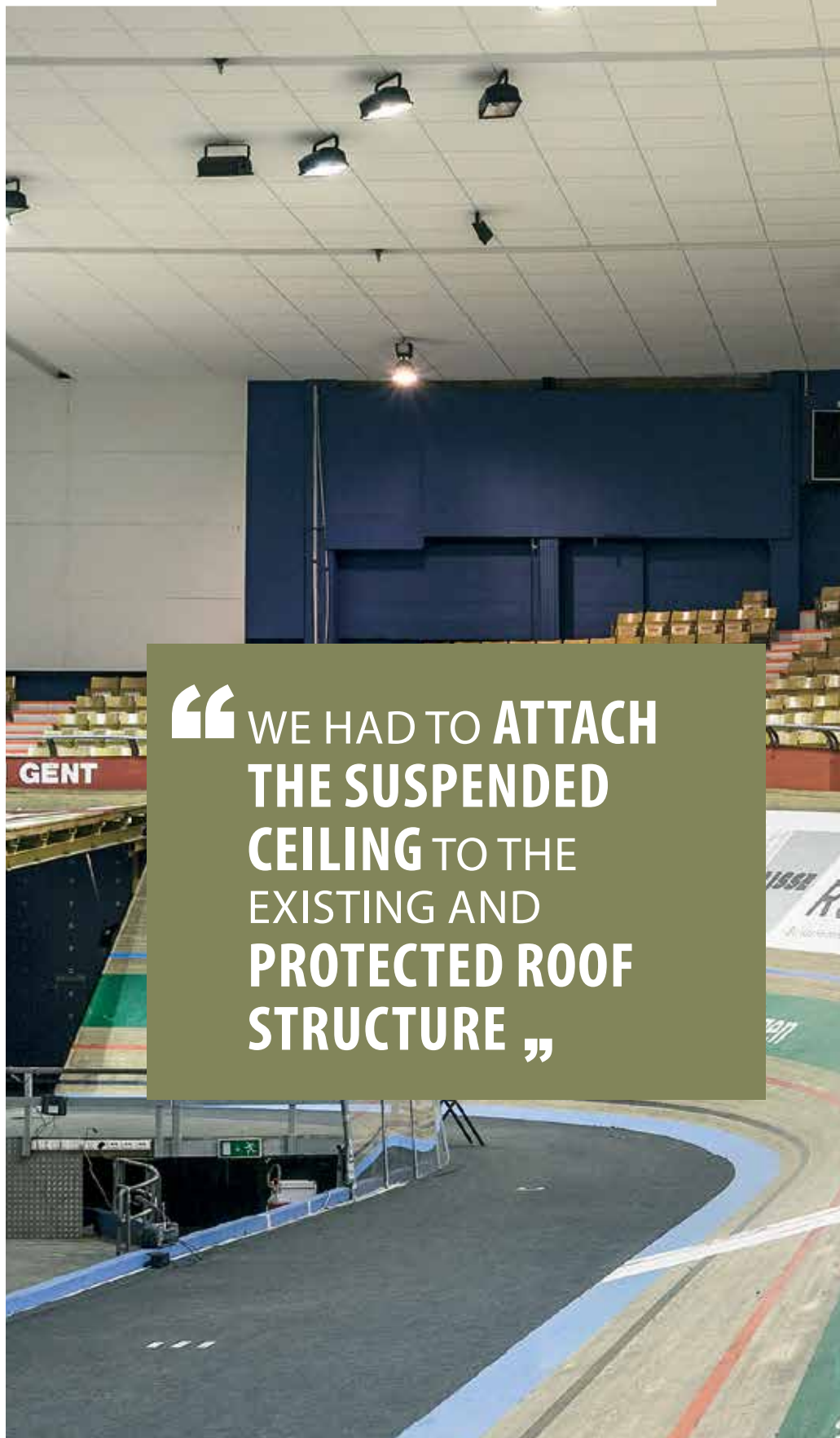


'T KUIPKE GHENT – RIDING TO ACOUSTICS

The **'T KUIPKE VELODROME** in Ghent, Belgium, is best known for its annual six-day bicycle race, but the multifunctional building also hosts concerts, award shows, book fairs and exhibitions. This extensive use of the building had taken its toll on the wood fibre ceiling in the arena, which had not been renovated since the building was reconstructed after a fire in the 1960's. Damaged from water, age and decades of cigarette smoke, the leaking ceiling urgently needed to be replaced. To accommodate a pleasant experience for the future users of the building, **Arte & Deco Architecture and Planning** made aesthetics and acoustical comfort key priorities in the project. Furthermore the 5,600 m² / 60,250 ft² new ceiling had to meet the strict Belgian fire safety regulations.

The new design had to account for the curved shape of the existing aluminium carrying structure, and the Lummen-based installers from **Calu** worked closely together with **ROCKFON** to ensure the necessary test documentation and develop the project plan for replacing the 85 by 65 metre / 275 by 215 feet ceiling. Taking into account the curve from 17 metres / 55 feet at the sides to 13 metres / 42 feet at the lowest point, the project required meticulous planning. "We had to build a huge scaffolding of about 25,000 m³ / 882,000 ft³ three times to enable us to do the job in three phases. All in all it took us three months to finish the job," says **Raf Bervoets** of Calu.

Once the existing ceiling had been removed, the team had to select new materials that would fit the dimensions of the existing structure. "We installed a **ROCKFON Krios** ceiling in the full width of the hall in the - for Benelux unusual - dimension of 1250x1250 mm / 49.25x49.25 in. We did so because we had to attach the suspended ceiling to the existing and protected roof structure which was placed every 1250 mm / 49.25 in. As 1250x1250 mm / 49.25x49.25 in is a common dimension in the **ROCKFON** and **Chicago Metallic** German assortment, both companies could support me in this." Raf Bervoets explains.



“ WE HAD TO ATTACH
THE SUSPENDED
CEILING TO THE
EXISTING AND
PROTECTED ROOF
STRUCTURE ”

PASCAL VAN DORT
ROCKFON



Acoustical corrections in transformations

Pascal Van Dort
ROCKFON The Netherlands Area Sales Manager

A century ago, the famous German physician and pioneering microbiologist Robert Koch (1834-1910) stated "there will come a day when men will have to fight against noise as intensive as he used to fight against cholera and the plague". This is what we see today in the building environment, where due to high vacancy rates in many cities the amount of renovations and transformations of the existing building stock is growing. Simultaneously the need for a good acoustical comfort is increasing. Many studies shows that half of the personnel is dissatisfied with the interior climate in offices, and 60% indicate that noise is the main source of disturbance. Moreover, one-third of the employees that work in a poor acoustical environment have a bigger chance to develop work stress and sleeping problems.

The comfort in the room is highly determined by good acoustical conditions that positively contribute to the concentration, orientation, and auditory experience of the users within the room, while avoiding the so-called 'cocktail-party effect' in which people in noisy environments tend to speak louder and louder due to the high noise level which is present in the room. Applying a traditional suspended acoustical ceiling can do miracles in these kind of situations, but is not always possible for technical or aesthetic reasons. In that case ROCKFON offers different solutions such as ROCKFON Island acoustical clouds in different forms and colours, ROCKFON Contour vertical acoustical baffles or islands that can consist of different types of acoustical panels in combination with ROCKFON Infinity profiles.



Project: 't Kuipke Velodrome, Ghent, BE

Architect: Arte & Deco Architecture and Planning

Installer: Calu

Ceiling: ROCKFON Alaska SQ 1250x1250 mm / 49.25x49.25 in

Suspension grid: Chicago Metallic Standard 200

CREATING COMFORT

Designers and building owners are using sustainable building techniques to create interiors that take comfort to a new level.

The interest in “green building” is maturing and accelerating. Gone are the days of simply chasing after certification. Today, building owners and developers are looking for sustainable ways to make buildings responsible, profitable and healthy places to be.

Increasingly, occupant comfort is being integrated early in the building design process. Comfort goes beyond physical considerations and encompasses things like flexibility and wellbeing. The goal is to anticipate the way the building will be used in the future and make design decisions today that ensure not only the sustainable environmental performance of the building, but also the sustained enjoyment of the building by its occupants.





Project: Lyceum Schravenlant, Schiedam, NL

Architect: LIAG architecten, NL

Installers: PBS, Oss

Ceilings: ROCKFON Alaska

Suspension grids: Chicago Metallic Standard 200

Photos: Moni van Bruggen, Sebastiaan Knot

MAKING SUSTAINABLE BUILDINGS SOUND GOOD

This section features examples of buildings that are not only built with concern for the environment, but also provide acoustic comfort for people to learn, work and heal in. Because buildings should not only care for the planet, but also for the people using them, says ROCKFON Acoustics Specialist and Ph.D., Gary Madaras.

While concepts of environmentally friendly building are gaining increased foothold, the importance of sound is not always given due thought. The tendency to focus solely on reducing environmental impact entails a risk of compromising construction longevity, indoor climate and fire safety. Sustainable buildings should also be comfortable and safe buildings designed for the people who use them.

But protecting the environment is only a part of what it means to be sustainable: "Many people think that conservation of natural resources and protecting the environment are the most important components of sustainability. And of course they matter, but there are also human components," says **Gary Madaras**.

Still, social indicators of sustainability, such as fire safety and acoustic performance, are often overlooked in discussions about 'green' buildings. "Even though a building is built with the most sustainable materials or uses little energy, it can and should be viewed as a sustainability failure if it wastes human capital that is so highly valuable," Gary Madaras says.

THE SOCIAL COMPONENTS OF SUSTAINABILITY

Noise affects our productivity, our relationships and our overall well-being. Like some of our other senses, hearing informs us about the situation we are in, and whether it is safe or dangerous. "Our hearing is part of our natural defenses, so loud sounds are very disconcerting to us, and can cause a startle reflex whereby we experience an increase in heart rate, respiration rate and muscle tension," says Gary Madaras. But hearing is the only sense we can't shut off, so noise can be very stressful.

"It can very much affect both our short-term and long-term well-being. And this stress can also reflect on social behaviour and our relationships at work and home," he says. "So designers need to recognise and appreciate the extent acoustics affect the well-being of the occupants of their buildings and ultimately the long term financial viability of their clients. Acoustics are not about simply checking a box in order to comply with a minimum standard."

Nowhere else is this more evident than in healthcare buildings. "If patients don't get restorative sleep, they stay longer in the hospital. While there, they use more pain medication and are at greater risk of falling. After they leave, they are also more likely to be readmitted due to complications associated with their hospitalisation. This is why some hospitals in the United States are reimbursed in part based on how quiet areas around patient rooms are.

Similarly, noise and poor interior acoustics can greatly affect the learning environment in schools. "Statistically, children in schools only hear and understand 3 out of 4 words. And the younger they are, the less developed they are at filling out that missing word," Madaras says. Poor acoustics can make it difficult to communicate accurately. That can be a problem in schools and workplaces, but in hospitals it can be a matter of life and death.

COMMUNICATION AND PRODUCTIVITY

Noise not only affects our well-being, but also our overall productivity. Staff costs are - without comparison - the largest expenditure of organisations. Studies show that up to 90 percent of an organisation's resources are spent on manpower, while less than 10 percent is spent on the physical workplace.

"So even though a lot of people think that making sure that the carpeting on the floors or the wood on the walls comes from sustainable sources is most important, those types of environmental concerns actually account for less than 10 percent of the resources used by a company - the rest is manpower," Madaras explains. "So if you really want to be sustainable, you have to have a balanced approach including environmental issues, social aspects and overall prosperity."

Because staff costs make up such a large part of company expenditures, even small changes in the acoustic experience may significantly affect business over time. Therefore, says Madaras, business leaders should pay attention to providing buildings that improve the acoustic experience for people. "We know that office employees spend 62 percent of their time doing quiet work, so they really need to concentrate.

“ IF YOU REALLY WANT TO BE **SUSTAINABLE**, YOU HAVE TO FOCUS ON EFFICIENT AND **PRODUCTIVE** RETURN ON INVESTMENTS IN **HUMAN CAPITAL** ”



GARY MADARAS,
ROCKFON





This reality conflicts with the general trend towards open collaboration space. If people are constantly distracted by noise, it reduces their productivity," he says. "So acoustics should be brought to the forefront of sustainable thinking. Even a small improvement in the acoustic experience can improve employee productivity and limit health risks, leading to much larger financial savings when compared to those associated with an efficiently designed and operated building".

DESIGNING FOR SUSTAINABILITY

"Some of the sustainability assessment schemes and building codes are integrating social factors such as acoustics and fire, but the incentives still don't appropriately reflect the efforts and costs of improvements beyond basic compliance."

This places a great responsibility on the architects and interior designers. "They need to have a conversation with the building owners about if they just want to meet the bare minimum compliance or optimise the acoustic experience," Madaras says. "But the building owners don't know to think about this on their own, so it's the designers' responsibility to inform them of the possibilities for improvements," he says. "So far, ignoring the importance of acoustics has led to the development of building systems that often prioritise cost-optimisation over the comfort of the people who use the buildings".

“ YOU HAVE TO HAVE A BALANCED APPROACH INCLUDING ENVIRONMENTAL ISSUES, SOCIAL ASPECTS AND OVERALL PROSPERITY ”

RESOURCE CONSCIOUS PRODUCTION

As the following pages show, architects have several different reasons to prescribe ROCKFON stone wool tiles in effort to meet LEED, BREEAM or similar requirements. Some combine natural daylight and the high light reflectance of the tiles' white surface to reduce the need for electrical lighting, while others have successfully adopted the local ROCKWOOL and ROCKFON recycling schemes to reduce landfill from the production process.

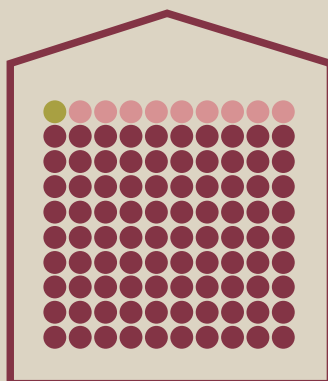
The ROCKWOOL Group has spent the past three decades developing recycling schemes in many countries, where discarded insulation products and ceiling tiles can be upcycled into new products without any loss of quality. In order to meet customer expectations and continue our continuous development of more sustainable acoustic solutions, ROCKFON now delivers sustainability documentation, from recycled content, to EPDs, Low emission certificates, recycling schemes etc.

ROCKFON tiles are made from basalt, a virtually inexhaustible resource. And a little goes a long way: 1 m³ / 35 ft³ of basalt produces 2,200 m² / 23,600 ft² of 15 mm / 5/8" ROCKFON tiles – or the equivalent of the ceilings of about 30 classrooms. Apart from basalt, ROCKFON uses recycled content, which means that ROCKFON products consist of up to 42 percent recycled materials.

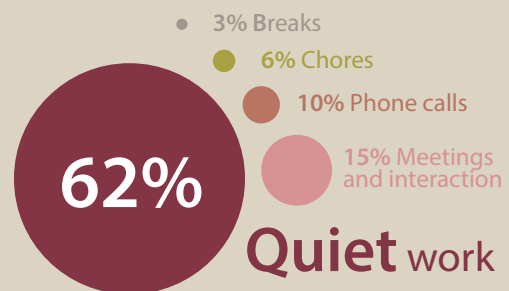
BUSINESS OPERATION COSTS

Over a 10 year period

1% Energy costs
9% Rental costs
90% Staff costs



HOW DO WE SPEND OUR TIME AT WORK?



Sources: World Green Building Council (2014): Health, Wellbeing & Productivity in Offices - The next chapter for green building; Brill et al. for BOSTI Associates (2001): Disproving Widespread Myths About Workplace Design

LYCEUM SCHRAVENLANT – FROM CRADLE TO CRADLE

The Dutch High School **LYCEUM SCHRAVENLANT** is the first educational building in the Netherlands designed and built after the cradle-to-cradle principles. The cradle-to-cradle philosophy is a holistic approach to consumption and construction processes seeking to create systems that are not only efficient but also essentially waste-free, where used materials are repurposed in another product without loss of quality or creating additional waste.

The Schiedam Municipality has committed to an ambitious target to reduce carbon dioxide from community buildings, to take into account how long a building is expected to be in use and assume responsibility for what happens to it afterwards. That means that public buildings in Schiedam must be completely demountable at the end of their life cycle and materials given new life as different products. Taking these sustainability principles into account, it was first examined whether the old school building could be given a facelift, but most of the materials in the existing 1960's structure were far from sustainable. Like other schools built in that era, the building had an old-fashioned educational structure, and the price of bringing energy consumption up to date would eventually be much higher than opting for a new-build.

As the Hague-based **LIAG architecten** took on the project, they decided on an innovative approach that would put the needs and ideas of the 600 students at the centre of the design process. Working with the school they facilitated a 3-day project asking the students to 'Design your school'. The project allowed the students to visit other construction projects and come up with solutions that were presented to the other students, their parents and the municipality. These inputs were then included in LIAG's design process.

The project was a relatively small, but fully CO₂ neutral building with optimal temperature regulation and clean air meeting the highest Dutch standards (Frisse Scholen Klasse A). The building is powered by 120 solar panels, the toilets are flushed with natural water, and the construction was made from re-used and recyclable building materials including 30,000 m² / 325,000 ft² of **ROCKFON Alaska SLP** acoustical stone wool tiles that create a healthy acoustical atmosphere. A long wall of reindeer moss supports the ceiling in creating a comfortable acoustical environment and regulates the humidity in the building.

Including the importance of indoor climate as a part of the sustainability discussion convinced the municipality and the school board that it was crucial to invest in this field. **Thomas Bögl** of LIAG architecten explains the importance of not just thinking of sustainability as a question of choosing low-impact construction materials: "A building is only sustainable if it contributes to the primary goal of its existence – in this case education. In that sense a healthy indoor climate is a must."

"An energy friendly building built with sustainable materials is not by definition a healthy building, so we also paid a lot of attention to the indoor climate of the building, where acoustics is a major parameter. If the sound levels are low, people experience less stress, which leads to a lower absence due to illness," Bögl continues. The result is a comfortable and sustainable school which is future-proofed to easily accommodate the adaptation of new techniques and the flexible division of rooms, allowing the building to shrink or grow in the future and potentially fulfil other functions – for instance allowing the local community to use the sports hall and the classrooms outside of school hours.



Watch the video and see more photos at www.rockfon.com



Project: Lyceum Schravenlant, Schiedam, NL

Architect: LIAG architecten, NL

Installers: PBS, Oss

Ceilings: ROCKFON Alaska

Suspension grids: Chicago Metallic Standard 200

Photos: Moni van Bruggen, Sebastiaan Knot

“ AN **ENERGY FRIENDLY** BUILDING BUILT WITH **SUSTAINABLE** MATERIALS IS NOT BY DEFINITION A HEALTHY BUILDING, SO WE ALSO PAID A LOT OF ATTENTION TO **THE INDOOR CLIMATE** OF THE BUILDING, WHERE ACOUSTICS IS A MAJOR PARAMETER ”



SOUTHMEAD HOSPITAL – A HEALTHY CONSTRUCTION PROCESS

SOUTHMEAD HOSPITAL, which recently opened its first phase, is one of the most environmentally friendly buildings of its size in the UK. Smart material solutions and process innovation all contributed to earn the hospital its 'excellent' BREEAM rating. Bridging aesthetics and the ambition of creating a sustainable building, the architects wanted to move away from the square look of typical suspended ceilings, but still needed high-performing ceilings that would reflect light and reduce the energy needs for artificial lighting. The building design incorporates lots of big windows and a large glass atrium as its centre piece, which called for building materials that would support the distribution of the natural daylight and provide a uniform spread of light in operating theatres and examination rooms.

Contractors **Carillion** met both demands by equipping the building with **ROCKFON Medical** ceiling tiles with concealed edges to create a uniform look and achieve an 86% light reflection. The Medical range fulfils the cleaning and hygienic demands of healthcare environments and do not contribute to the growth of MRSA. They have a low particle emission and have achieved the Clean Room Classification ISO Class 4 for **ROCKFON Medical Plus** and ISO Class 5 for **ROCKFON Medical Standard**. This solution also met with the Trust's requirements for larger plasterboard margins for rooms and reduced the amount of standard exposed grid ceilings in the new building.

ROCKFON also contributed to achieving the positive BREEAM rating by reducing the amount of waste generated in the construction process. Working closely together, the ceiling contractor Carlton Ceilings & Partitions, Carillion, the distributor SIG Interiors, the Construction Development Manager and the ROCKWOOL factory in Wales developed an innovative process for returning all site waste including ROCKWOOL insulation slabs, pipe lagging and ROCKFON ceiling tiles to the ROCKWOOL factory in Wales for upcycling into new products. By picking up the waste each time new products were delivered to the site, the operation reduced the costs for transport, managed the storage of material at the Bristol depot, and delivered the waste to ROCKWOOL for reprocessing. While most ROCKWOOL factories are able to process waste into fibres of the same quality as those made from new materials, this was the first and largest project where multiple operating companies on one site collaborated to create a single waste stream.





Gate
39
On-Call

Project: Southmead Hospital, Bristol, UK

Main Contractor: Carillion

Ceiling Installers: Carlton Ceilings

Ceilings: ROCKFON Medical Standard, ROCKFON Medical Plus

Suspension grids: Chicago Metallic Standard 1200



Project: Orange City, Warsaw, PL

Architect: Fiszer Atelier 41

Ceilings: ROCKFON Tropic SLN

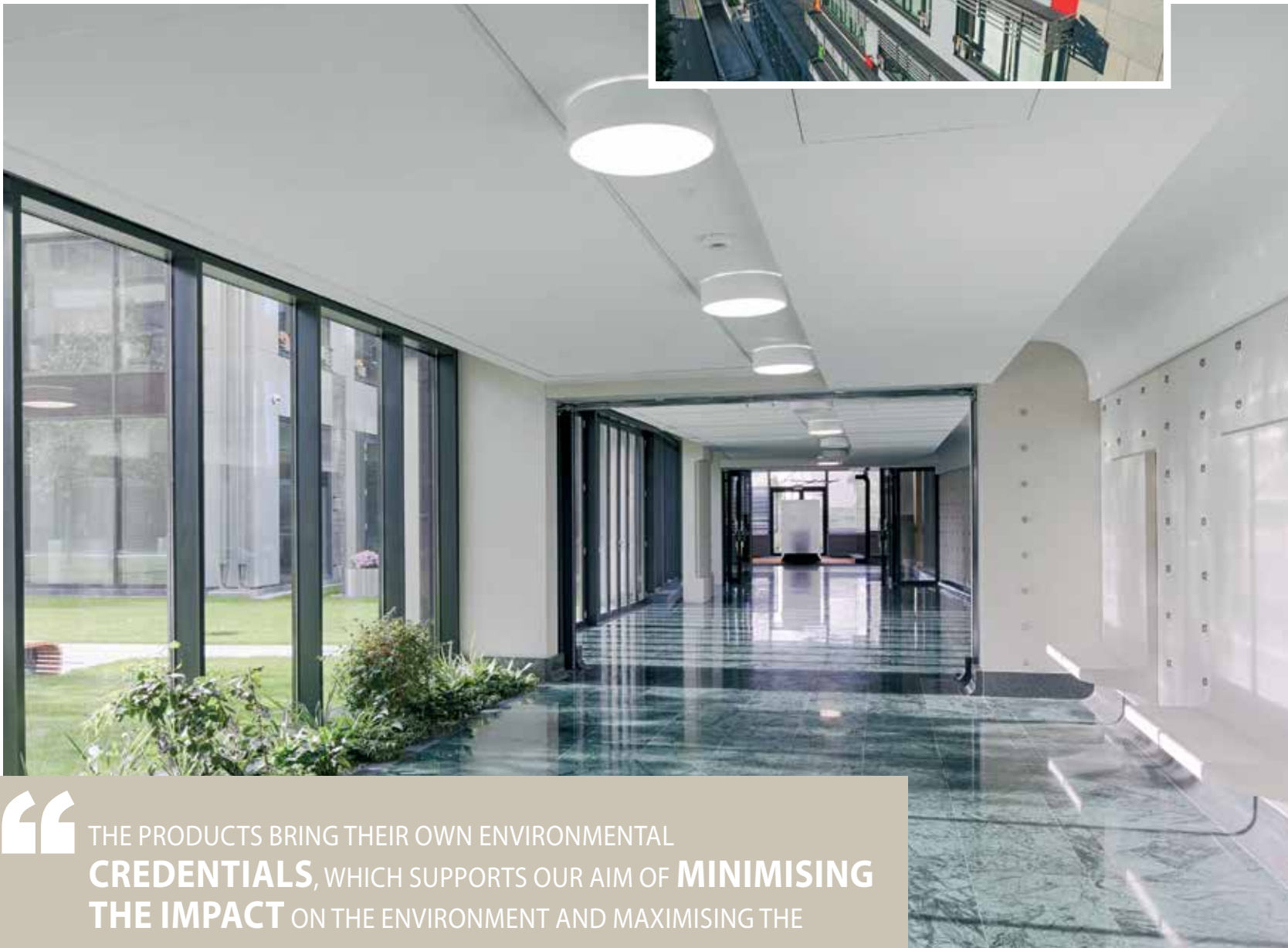
Suspension grids: Chicago Metallic Ultraline

ORANGE CITY – ORANGE IS THE NEW GREEN

Renowned telecommunication provider **ORANGE** relocated to its new BREEAM certified eco-friendly headquarters in Poland's capital, Warsaw. It is one of the largest office complexes in the area, serving around 3,500 people over 43,000 m² / 462,000 ft² of floor space across five buildings that stretch six storeys. With an underground parking lot accommodating 1,050 cars and 120 bicycles, a canteen with over 300 seats, a grocery store, kiosk, ATM, cafeteria, fitness club, car wash and a garden, it's no wonder it has been dubbed 'Orange City.'

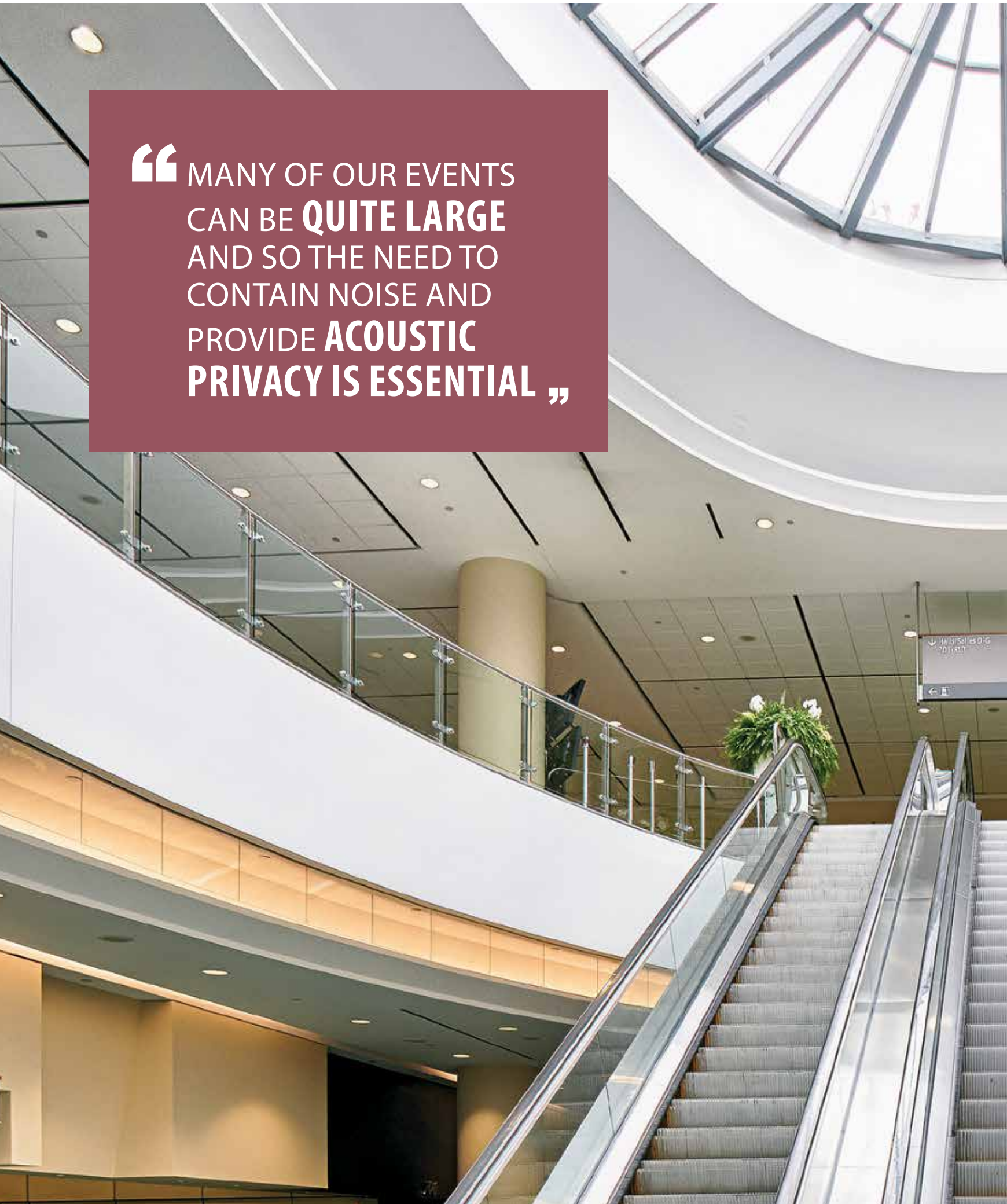
Architects **Fiszer Atelier 41** designed the project with a specific environmental, functional and adaptable vision in mind: "The concept was to design a flexible space that would adhere to meticulous thermal and energy saving requirements to achieve BREEAM 'Excellent' certification," explains lead architect **Piotr Bujnowski**. The complex complies with requirements for energy efficiency, green-area management, energy consumption for lighting, factors affecting the employees' health and solutions to reduce water consumption.

With efficiency, adaptability and sustainability in mind in all aspects of the project, the architects chose **ROCKFON Tropic SLN** as the ceiling system for the entire project: "We wanted a system that was highly efficient and adaptable in every aspect, from its technical properties to its physical dimensions. The ROCKFON system worked for single and large open-plan office spaces, while creating continuity with the rhythm of the facade. It has superior sound absorption qualities, which is essential in a busy, fast-paced office environment. Additionally, the products bring their own environmental credentials, which supports our aim of minimising the impact on the environment and maximising the facility's efficiency," elaborates Bujnowski.



THE PRODUCTS BRING THEIR OWN ENVIRONMENTAL **CREDENTIALS**, WHICH SUPPORTS OUR AIM OF **MINIMISING THE IMPACT** ON THE ENVIRONMENT AND MAXIMISING THE FACILITY'S EFFICIENCY 

“MANY OF OUR EVENTS CAN BE **QUITE LARGE** AND SO THE NEED TO CONTAIN NOISE AND PROVIDE **ACOUSTIC PRIVACY IS ESSENTIAL**.”





Project: Metro Toronto Convention Centre, Toronto, CA

Architect: B + H Architects

Photos: John Lynch, Bochsler Creative Solutions

Ceilings: ROCKFON Koral

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METRO TORONTO CONVENTION CENTRE (MTCC) – ENVIRONMENTAL CONVENTIONS

MTCC'S SOUTH BUILDING, located in downtown Toronto in Canada and spanning an area of more than 110,000 m² / 1.2 million ft², showcases a striking number of environmental strategies with its restoration. The existing building, which opened in 1997, no longer aligned with MTCC's functional and environmental ambitions in achieving LEED® Canada certification, a rigorous and internationally recognised certification from Canadian Green Building Council (CaGBC).

Over the years, MTCC has evolved its environmental awareness within its event planning, offering sustainable meeting solutions with options for renewable power, zero waste, locally sourced menus and carbon offsets. The restoration opened the opportunity to use high performance materials to support a lower carbon footprint, especially by replacing large systems, such as the ceiling and floor, which can fundamentally alter sound and energy values. "Choosing products that have recycled content and low/no-VOCs is important to the convention centre," explains **Joshua Jaikaran**, MTCC's facilities technical coordinator and project coordinator.

One of the main design considerations became the ceiling system, covering 34 meeting rooms and 4 exhibit halls with a barrier-free, fully accessible floor plan. "Since we are Canada's largest convention centre, many of our events can be quite large and so the need to contain noise and provide acoustic privacy is essential - rather than having sound penetrate the plenum and carry to adjacent spaces," says Jaikaran.

MTCC chose **ROCKFON Koral** for the project due to its high acoustic performance rating, low-VOC and good recycled content levels, long-term durability and its light-weight, lightly textured and easy clean surface. Jaikaran elaborates, "Having a white ceiling tile with a smooth surface and high light reflectance brightens up the space, which could potentially mean energy savings, light reduction and a cooler space."





Project: UPM Headquarters, Helsinki, FI
Architect: Helin & Co. Architects
Ceilings: ROCKFON Alaska



MARIITTA HELINEVA
HELIN & CO.



UPM HEADQUARTERS – LIGHT AND TRANSPARENCY

After occupying a prominent site for a century in Helsinki's historic city centre, **UPM** relocated to a purpose-built office designed by Helin & Co Architects on Töölönlahti. The new headquarters of the Finnish Biofore company forms part of a new urban development of the site. "UPM set a target of cutting-edge architecture, both functionally and aesthetically, that stems from the company's long history at the heart of Finnish industrial and social development," explains **Mariitta Helineva** from **Helin & Co**. Facing the city, the striking L-shaped building is set behind an expansive forecourt. Wood, especially from UPM, features extensively throughout without restrictions for fire regulations. Plywood clads the facade, the interior features timber furniture and wood panels on ceilings and walls, and wood plastic composite floorboards on the balconies. On the west facade, sunshading is fashioned from the fine mesh used for UPM's paper processing. These measures and others including an advanced HVAC system helped award the building a LEED Platinum certification.

Light and transparency characterise the interior. Its heart is the voluminous atrium with a reception cafe and leaf-shaped void, around which circulation is organised, that brings plentiful daylight into the building. Vertical LED fins create a play of light reminiscent of dappled light. Corridors and workspaces also front onto the void to access extra daylight. Transparency translates to the workspaces, which are all open-plan. "This adds communication in the office," Helineva continues. "The workplace has become a meeting point for employees because many of them travel extensively or work in various locations."

Here, heating and cooling are provided by modular metal ceiling panels in varying configurations. Helineva: "We needed to integrate an acoustic ceiling system with these technical panels and **ROCKFON Alaska** was a good solution. It's an easily accessible white ceiling system with good acoustics, it's good quality and cost-effective." With lighting and ventilation placed in a 10 cm / 4 in profile between the panels, this seamless ceiling contributes to ensuring optimal acoustic and thermal comfort in the workspaces.



From sports arenas to public spaces, acoustic performance is what sets great buildings apart from ordinary ones.

The acoustical challenges of public facilities are made more difficult by size of the building and sheer number of people that use them. Places like airports, sports centres, swimming pools, hotel convention centres and recreation centres are often buzzing with swarms of people.

The acoustics must be able to facilitate large gatherings and create a comfortable atmosphere that fosters communications between visitors and enables speech intelligibility. The design of the sound is an integral part of the building's design.

WINNING STREAK



Project: Atlantic Swimming Pool, St. Petersburg, RU
Contractor: Eugene G. Ostanin, OOO Techglavstroy Contractors
Ceilings and wall absorbers: ROCKFON Artic, ROCKFON Sonar,
ROCKFON Medical, ROCKFON Color-all, ROCKFON Impact



ATLANTIC SWIMMING POOLS – DIVE IN

The branches of the **ATLANTIC SWIMMING POOLS** chain that recently opened in three districts in St. Petersburg are part of an ambitious expansion plan for the construction of 20 new swimming pools in St. Petersburg, Ufa and a number of other Russian cities. The centre combines outstanding swimming facilities with fitness clubs, Medical rooms, spa and beauty salons, sports stores and health food cafés to make exercise convenient and accessible to all citizens. With a wide selection of special programs for seniors, athletes, future moms, people with disabilities, recreational exercisers and children, the Atlantic Pool offers classes for any need.

Catering to such different target groups, the large multi-purpose building had an obvious need for managing

acoustics. To reduce noise and reverberation in the large pool areas, Chief Engineer of OOO Techglavstroy Contractors, **Eugene G. Ostanin**, prescribed several types of **ROCKFON** products for ceilings and walls. The suspended ceilings were equipped with a mix of **ROCKFON Artic**, **ROCKFON Sonar**, **ROCKFON Medical**, **ROCKFON Color-all** and **ROCKFON Impact** panels were used as for ceilings and as wall absorbers.

Eugene G. Ostanin explains how the choice was both driven by technical and aesthetical needs: "The strict requirements to ventilation in swimming pools mean that suspended ceilings can become deformed or that the panels are simply blown away by the wind if they are only 8 mm / 3/8 in thick. **ROCKFON** panels are 15 to 20 mm / 5/8 in to 3/4 in, they have high performance characteristics and are available in a wide range of colours, which enabled us to find a harmonious blend of colours for the ceilings, the wall panels and the tiles that are used in the pools," he says.



Project: Atlantic Swimming Pool, St. Petersburg, RU
Contractor: Eugene G. Ostanin, OOO Techglavstroy Contractors
Ceilings and wall absorbers: **ROCKFON Artic**, **ROCKFON Sonar**,
ROCKFON Medical, **ROCKFON Color-all**, **ROCKFON Impact**



THEY HAVE HIGH
PERFORMANCE
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OF COLOURS ”





CLUB ONE – TOO IMPORTANT TO CLOSE DOWN

The **UNION LEAGUE BOYS & GIRLS CLUBS** plays a vital role in helping the children in the Pilsen neighbourhood of Chicago develop their academic and athletic skills, so closing down its facilities during its recent renovation was simply not an option. Instead, Antunovich Associates' design and the **Tandem Construction's** crew worked together to create a project plan that minimised disruption to club programming during the \$4.2 million, 19-month renovation project to nearly double the facility's original size. "We phased the project so that Club activities could continue in the original facility as the new addition was built and then move over to the new facility as the original building was renovated," says Tandem vice president of construction, **Tony Andrews**.

Sports are an important part of the club's activities, so to meet the demanding requirements of Club One's gymnasiums, ROCKFON recommended the **ROCKFON System Olympia^{Plus}**, a combination of **ROCKFON Impact** panels installed in the impact resistant **Chicago Metallic 50mm Bandraster** installation frames. These stone wool acoustic ceiling panels are used throughout Europe, but had not yet been introduced to the U.S. "The ROCKFON system was exactly what was needed for the Union League's gymnasium. Without [their team], we wouldn't have even known about it," says Antunovich Associates' project architect, Clark Christensen. "[They] went above and beyond to provide the best solution."

For Club One, the panels integrate with the **Chicago Metallic suspension systems** and **ROCKFON Infinity Razor Edge Perimeter Trim** to make the ceiling appear zero-depth. "In the renovated gym, the ceiling system didn't diminish the overall height in a way that made it feel cramped. It left enough room for the electrical and sprinkler infrastructure, so we didn't have to muck about above the existing ceiling. You also can tell it has better acoustics to reduce the sound of the kids running around. It's a robust system with a high missile-impact rating so we know it can stand up to balls hitting it. When necessary, the panels can be replaced easily," Christensen explains. Tandem's project superintendent, Brian Curtin, adds, "Installing the very first high-impact grid in the U.S. has been a great experience and a neat thing to be a part of. We will see more and more of these ceilings suspending in gymnasiums throughout the country."

Project: Atlantic Swimming Pool, St. Petersburg, RU
Contractor: Eugene G. Ostanin, OOO Techglavstroy Contractors
Ceilings: ROCKFON Alaska

Project: Union League Boys & Girls Clubs, Chicago, US
Architect: Antunovich Associates
General Contractor and Installer: Tandem Inc.
Ceiling system: ROCKFON System OlympiaPlus with ROCKFON
Impact and Chicago Metallic 50 mm Bandraster 3050

RADISSON BLU SOCHI HOTELS – ACCOMMODATING EVERY NEED

Beyond only being establishments that provide lodging to travellers, hotels offer diverse services to guests and non-guests ranging from hospitality to wellness, retail, entertainment and conference halls, not to mention the technical support spaces. With this myriad of functions to accommodate, hotels become mini cities in themselves. This is the case for two prestigious new Radisson Blu Hotels built in Sochi, Russia for the Winter Olympics: **RADISSON BLU RESORT & CONGRESS CENTER AND RADISSON BLU PARADISE & SPA SOCHI**. Both contain approximately 500 rooms and accommodate some 750 guests.

The Resort and Congress Centre specialises in hosting events while the Spa caters to wellbeing and recreation. Corresponding to the complexity of hotel functions and spaces is an equally complex selection of materials. For ceilings, this involves aesthetic, economic and technical considerations including fire safety, acoustics, health and moisture resistance. In hotels, where large numbers of people congregate, good acoustics are vital whether it's in busy spaces like lobbies, restaurants and banquet halls, or quiet corridors and hotel

rooms. In both hotels, ceilings made from **ROCKFON Sonar** – around 4,000 m² / 43,000 ft² in total – are used to help ensure optimal acoustic comfort. Besides noise generated by people, sound from technical services also need consideration. **Alexei Blyznyuk**, Chief Engineer from **ZAO Hotel Development company**, the general contractor explains: "Utilities for water supply and fire systems are located in the ceiling space of guest rooms and throughout the hotel in general. These systems generate some noise, so the acoustic properties played an important role in the selection of ROCKFON ceilings."

With Sochi's location by the Black Sea, humidity was another important consideration for material selection. "We tested ceilings for moisture resistance and compared ROCKFON with products from other manufacturers," Blyznyuk continues. "We placed different samples into containers of water and compared the results. The other ceilings disintegrated while the ROCKFON ceilings were totally unaffected." Despite their large format (1800x300 mm/ 70.75x11.75 in and 1200x1200 mm/ 47.25x47.25 in), the panels retain their straightness and shape, which is a vital quality for the longevity and appearance of the hotels.





“ WE PLACED
**DIFFERENT
SAMPLES** INTO
CONTAINERS OF WATER
AND COMPARED
THE RESULTS ”



MEETING SQUARE BITSWIJK – A MULTIFUNCTIONAL SOLUTION

Initiated by the Municipality of Uden, real estate management agent Zorg Brabant and the local housing association, **MEETING SQUARE BITSWIJK** in Uden, the Netherlands, is a multifunctional centre that combines education, child care, health care, sports facilities, offices and housing. **DAT Tilburg** architects designed the project to encourage interaction between residents, and offer users all the necessary facilities to stay longer in the area and not have to move when their circumstances change. The building has an open expression, where functions are organised around a common core, which includes an assembly hall, a playroom and workshop spaces.

To accommodate all these different functions, the building needed a high-performance ceiling solution. "This building has a combination of functions, where the sports hall is surrounded by a school, assisted living facilities and a grand cafe. That meant that the acoustics had to be controlled very well, in particular in the ceilings," explains **GertJan de Rooij**, project architect of DAT Tilburg. Having already worked with the product in other projects, DAT Tilburg decided that the acoustic **ROCKFON Alaska** tiles were the ideal solution for balancing acoustics while supporting the natural air ventilation system in the school.

In the sports hall, DAT Tilburg looked for a sturdy ceiling solution that would balance acoustics in the large room, but still hold up to stray balls. "Government regulations of acoustic requirements for sports halls are actually not very strict. However, in practice it is annoying if the acoustics are not properly thought through," GertJan de Rooij explains. The solution became the **ROCKFON Olympia^{plus} A Impact 1A** system, which combines acoustic stone wool tiles with high impact resistance and easy demountability due to the Chicago Metallic Bandraster installation frame. "In Uden, the sports hall has a 7 meter / 23 feet high ceiling, which imposes additional requirements to impact resistance. Replacing or straightening a plate is not a simple task," he says.



Project: Meeting Square Bitswijk, Uden, NL
 Architect: DAT Tilburg
 Installers: van Dijk afbouw, Tenback projecten
 Ceilings: ROCKFON Alaska

WILFRIED STESEL
ROCKFON



ROCKFON System Olympia^{Plus}

Wilfried Stessel, ROCKFON Manager of Development of Grids and Accessories

ROCKFON Olympia^{Plus} is our high-impact resistance system, which was developed for exposed areas, such as sports halls and schools. Combining the hardy and aesthetically pleasing ROCKFON Impact tiles with sturdy Bandraster frames, we wanted to create a system that could hold up to shocks and balls but was still demountable. Anyone who has ever changed a damaged tile under a high ceiling in a sports hall knows that what you want strong tiles that won't easily break, and an installation frame that allows you to easily change a tile if it is damaged anyway. That thinking inspired us to alter the Bandraster frame to allow the tile to move slightly upwards to absorb blows, and to be demountable just by sliding the bayonet click connectors of the frame members from the Bandraster main runner slots.

We developed the system in close cooperation between ROCKFON and Chicago Metallic, and when we launched the system in 2010, it was our first joint patent. In accordance with the EN13964 D Product Standard, the system can resist impact of 16.5 meters/ 54 feet per second, which is the highest class of impact resistance.

To this day, I still think we developed a unique system that is the best in its category. To architects, that means a highly competitive combination of aesthetics and the well-known acoustical benefits, fire protection and humidity resistance of stone wool. To installers, the benefits are quick installation, as the frames can be clicked in place without the use of tools once the main grid is installed, easy access to underlying applications and easy demountability.

Project: Meeting Square Bitswijk, Uden, NL

Architect: DAT Tilburg

Installers: van Dijk afbouw, Tenback projecten

Ceiling system: ROCKFON System OlympiaPlus with
ROCKFON Impact and Chicago Metallic 50mm Bandraster 3050



Project: Emma Children's Hospital, Amsterdam, NL

Architect: OD205 Architectuur

Installer: Element binnenafbouw

Ceilings: ROCKFON Mono® Acoustic, ROCKFON Medical,

ROCKFON Alaska SLP, ROCKFON Sonar SLP

The latest thinking in hospital design puts the patient's wellbeing first and uses new layouts, colours and materials to create a caring setting.

Winston Churchill once remarked: "First we shape our buildings, thereafter they shape us". This is certainly true for hospitals. The role of interior design in patient wellbeing is amply documented, but what is less well known is the impact the layout has on the hospital's operational efficiency.

Juggling patient welfare and productivity can be tricky. But several major institutions are doing just that. They have prescribed smart design and flexible master planning to create hospitals that are responsive to changing technological, clinical and economic conditions.



CAREFUL THINKING

“ THE CEILING
HELPS PROVIDE A
FOREGROUND,
MIDDLE- AND
BACKGROUND ”



Project: Emma Children's Hospital, Amsterdam, NL
Architect: OD205 Architectuur
Installer: Element binnenafbouw
Ceilings: ROCKFON Mono® Acoustic, ROCKFON Medical,
ROCKFON Alaska SLP, ROCKFON Sonar SLP



Watch the video and
see more photos at
www.rockfon.com



EMMA CHILDREN'S HOSPITAL – HEALING WITH THE WORLD OUTSIDE

Staying connected to the outside life is an important part of any healing process, so when Delft-based OD205 Architectuur designed the comprehensive transformation of the **EMMA CHILDREN'S HOSPITAL** in Amsterdam they put the idea of integration at the heart of the building: Integrating the patients' stay in the hospital with their daily lives, integrating patient care with specialised academic research and integrating the building with the surrounding city. The extensive renovation called the Metamorphosis, was planned in three phases over a ten-year period and was recently completed.

Metamorphosis was designed as a micro city with streets, squares, playgrounds – and even a cinema – to give the children the experience of still being part of their normal environment. To create the feeling of not being in a hospital, various illustrators covered the walls in bright colours and playful Hergé comics, while large windows and untraditional building materials were used to achieve a friendly and transparent

design. Using natural light as their most important architectural tool, **OD205 architectuur** installed a monolithic ceiling in the central corridor to maximise light reflection. Created with 2,000 m² / 21,500 ft² **ROCKFON Mono® Acoustic**, the seamless ceiling is unique for a hospital with its impression of a filled gypsum ceiling but the fire safety and acoustic benefits of stone wool.

Designed for flexibility, the patient rooms are all the same size for any age groups, which makes it easy to temporarily bring in a different age group if future needs should change. The hospital was designed with a strong emphasis on enabling the children to keep a normal childhood, develop their social skills and remain a part of the community. Using play as a helper for healing, the hospital wants to inspire kids to leave their rooms to interact around the life-sized football game, the interactive video walls, or in the kitchen. "It is not the intention that children should stay in their room – no, they should really get out there and explore the world," says Architect **Peter Defesche** of OD205 architectuur.



MARIA MIDDELARES – A HOSPITAL FOR THE FUTURE

Changes in Medical technology, techniques and legal requirements can quickly affect facility needs and leave even newer buildings outdated. To avoid that, **EGM** and **LLOX architecten** designed the new **MARIA MIDDELARES HOSPITAL** in Ghent, Belgium, to allow for structural changes in the number of rooms or the size of the 17 operation theatres. Project architect *ir. Laurent Van Damme* of LLOX architecten explains: “The first plans were made in 2003 but were changed many times since, as techniques and ideas about health care quickly changed. The building layout was designed to provide flexibility in future extensions and allow the hospital to evolve in line with fast-moving Medical and technical developments. We wanted to avoid eventually having to build all kinds of small side buildings or little rooms on top, as that would contradict the structure and architecture.”

The U-shaped hospital consists of three big building blocks: two parallel blocks that carry a third crosswise building block that houses the nursing units. Between the two parallel blocks a light and open two-floor atrium has been given a central place in the design, allowing all ambulatory functions to easily be reached. “Modern hospitals need to be logistically well-ordered, and horizontal circulation routes need to be short. Patients, visitors and personnel need to cover short walking distances to go from one facility to another. Vertical circulation is concentrated in one elevator area centrally placed in the atrium,” *Sir. Laurent Van Damme* explains.



Project: Maria Middelaes Hospital, Ghent, BE

Architect: LLOX architecten

Installer: Jansen finishings, Meeuwen

Ceilings: ROCKFON Sonar D, ROCKFON Impact, ROCKFON Medical Royal, ROCKFON Medical Plus, ROCKFON Medical Air

Suspension grids: Chicago Metallic Standard 200

“ WE MADE A CONSCIOUS CHOICE TO CREATE A SIMPLE LOOK WITH EASY-TO-CLEAN MATERIALS ”

The inviting and accessible design is meant to create a ‘healing environment’ that radiates trust and rest, exemplified in the light atrium and the many patios that allow the natural light to penetrate through the building. The patient plays the central role in the open and airy building, where the majority of the 629 beds were placed in single-person bedrooms with room-height windows. This openness creates a very intense relationship with the outside environment. ir. Laurent Van Damme says: “We wanted to create the feeling of a residential health park. Laying in your bed or sitting in your chair, you are in strong contact with the landscape, the air and the sky. The panorama creates a relationship with the residential character of the environment, the nature surrounding the local creek, de Maaltebeek, and the traffic on the R4 highway.”

To further emphasise the airy feeling in the building, the architects chose hygienic, austere materials, while coloured accents were limited to isolated pieces of furniture and the choice of curtains. In close consultation with the hospital about practical and legislative requirements, EMG and LLOX decided to outfit the 30,000 m² / 323,000 ft² facility with various kinds of **ROCKFON Medical** stone wool tiles. “Choosing building materials for a hospital is always a balance between the need for hygiene and cleanability on the one hand and domesticity and “warmth” on the other hand. For the fixed elements, such as the ceilings, we made a conscious choice to create a simple look with easy-to-clean materials with good hygienic properties,” ir. Laurent Van Damme says. “To achieve a uniform design it is important to chose a product group with a sufficiently wide assortment of possibilities.” The large assortment within the ROCKFON Medical range allowed the architects the freedom to meet different needs in different rooms – such as cleanability, demountability and air-tightness in the operation theatres – while still maintaining an overall uniformity in the building.





Project: St. Luke's Hospital, Singapore
 Architect: Design Architects
 General Contractor: TMG Projects
 Ceilings: ROCKFON Medical, ROCKFON Pacific

ST. LUKE'S HOSPITAL – CARING FOR THE COMMUNITY

Named after the patron saint of the Medical profession, **ST. LUKE'S HOSPITAL** is one of six community hospitals in Singapore. Filling the gap between primary care and acute hospital treatment, nearly 80 percent of patients at the nearby National University Hospital who require community hospital care are admitted to St Luke's. As the Singaporean population is both growing and rapidly ageing, the Ministry of Health developed a Masterplan to meet the increase in patients by expanding hospital capacity with 1,800 extra beds by 2020.

As part of this plan, a construction project to expand the capacity of St. Luke's Hospital with 48 beds – bringing its total capacity to 233 beds – was initiated in 2012. The \$14 million government project includes a new seven-storey wing that will house a day rehabilitation centre, a pharmacy, an outpatient clinic and administration offices. The project is the first major expansion of the hospital since it opened in 1996, and also includes a renovation of the existing facilities.

For this renovation, **Design Architects** needed building materials that would fit in with the existing expression of the hospital and hold up to the hot and humid Singaporean climate. In consultation with general contractors, **TMG Projects**, and ROCKFON distributor, Welmate, it was decided that the dimensional stability in up to 100% humidity of the **ROCKFON Medical** range was the perfect match for the ceilings in the standard wards. Made from stone wool, the Medical range resists bacterial growth and is available with a wide assortment of edge types. The common areas were outfitted with **ROCKFON Pacific** tiles, which offer the same humidity resistance and look at a competitive price point.



ROCKFON Medical

Michel Soria

ROCKFON Southern Europe Area Marketing Manager

Healthcare facilities have stricter requirements to building materials used, so we developed the ROCKFON Medical range to make the benefits of stone wool available to hospitals and other care facilities. Building on the well-known acoustic benefits, fire protection and humidity resistance of stone wool, all tiles in the ROCKFON Medical range are aesthetically pleasing, easy to clean and MRSA resistant. All ROCKFON Medical tiles are available with a SQ edge, while ROCKFON Medical Standard and ROCKFON Medical Plus tiles are also available with an SL and SLN edge. Furthermore, the ROCKFON Medical Plus tiles are also available with a concealed X edge.

Knowing that different areas in health facilities have different performance needs, we developed three types of ROCKFON Medical tiles. For areas with essential hygiene and cleaning requirements such as wards, administration, waiting areas and nursing offices, we developed ROCKFON Medical Standard which is classified with Bacteriological Class B5 and B10. As hygiene and disinfection requirements increase – for instance in emergency rooms, delivery rooms, small surgery, radiology, laboratories and corridors – we recommend the application of ROCKFON Medical Plus (Bacteriological Class B1).

Our ROCKFON Medical Air system (Bacteriological Class B1 and B5) has an air-tight backing membrane and sealed edges suitable for high-risk areas, such as operating theatres, recovery rooms and intensive care, where air pressure is controlled to prevent the spread of infections.



MICHEL SORIA
ROCKFON



Project: Emma Children's Hospital, Amsterdam, NL

Architect: OD205 Architectuur

Installer: Element binnenafbouw

Ceilings: ROCKFON Mono® Acoustic, ROCKFON Medical,
ROCKFON Alaska SLP, ROCKFON Sonar SLP,
ROCKFON Hydroclean

Although open offices have become the workplace norm, some of the latest projects show that they are anything but normal.

There is a fine line between efficiency and productivity. Squeezing more people into less space may boost economic performance, but at what cost to personal productivity? What happens when a space's design hampers employee output—or worse, undermines value creation?

Today more than ever, the physical workplace is part of modern management and work. It needs to continually adapt and challenge conventional wisdom in order to keep up with the pace of change in business.

OPEN FOR



BUSINESS

Project: Statoil Sandsli Offices, Bergen, NO

Architect: Niels Torp

Installer: Acusto

Ceilings: ROCKFON Krios dB 44

Suspension grids: Chicago Metallic Standard 1200



STATOIL SANDSLI – ADAPTING THE OFFICE

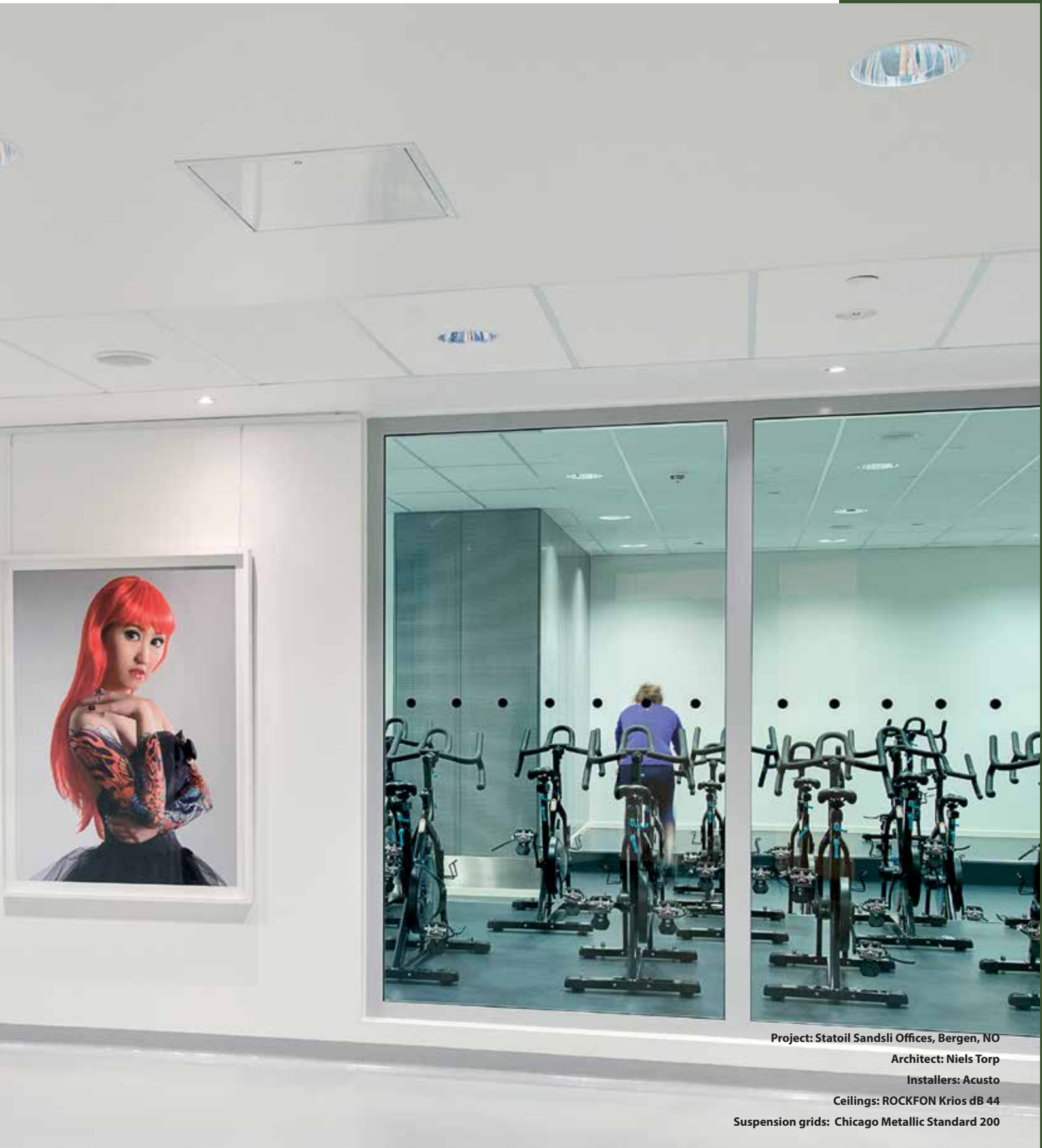
As part of a broader master plan for Norwegian oil and gas outfit **STATOIL**, a new office building adds 42,000 m² / 450,000 ft² of space to the Headquarters, relocating around 1,000 employees who were spread across Bergen, a city on the west coast of Norway. To ensure optimum interaction and sharing between workers, a modular and flexible open-plan solution was designed by architect **Niels Torp**.

The overall design revolves around the idea of a scaffold rather than a fixed building, where 22 'factories' have been created to afford each department the same high-level functional space to work with and adapt to their specification. "Each factory is designed as a 3m x 3m / 10ft x 10ft grid of 1,000 m² / 10,750 ft², with the same floor, ceiling and walls that can be moved according to the programme," explains **Jarle Jenssen** from **Acusto**, the interior installers. "These main elements had to demonstrate top

results in safety, quality and flexibility as Statoil wanted a special solution which could fulfil its long-term ambitions for growth." Solid and glass walls can be moved to create different solutions for each department - some tend to need more meeting room space whilst others require more workstations.

Having a large open space with mobile walls, constant acoustic comfort becomes heavily dependent on floor and ceiling options. ROCKFON were appointed to provide the ceiling with 23,000 m² / 247,500 ft² of **ROCKFON Krios dB 44** with SQ- and SLP-edges, owing to its exceptionally high sound absorption qualities, as well as the ease of installation and demounting. "We chose ROCKFON because we knew that Krios dB was exceptional in its market for sound insulation. The other winning factor was the quantity we required – we needed a company that we could rely on to deliver such a large quantity on time," says Jenssen. "ROCKFON could also provide environmental documentation for their products, something that Statoil was conscious of, from materials to transportation."





Project: Statoil Sandsli Offices, Bergen, NO

Architect: Niels Torp

Installers: Acusto

Ceilings: ROCKFON Krios dB 44

Suspension grids: Chicago Metallic Standard 200

“ WE **CHOSE ROCKFON** BECAUSE WE KNEW THAT KRIOS dB WAS **EXCEPTIONAL** IN ITS MARKET FOR **SOUND INSULATION** ”



Project: Statoil Sandsli Offices, Bergen, NO

Architect: Niels Torp

Installers: Acusto

Ceilings: ROCKFON Krios dB 44

Suspension grids: Chicago Metallic Standard 200



TECHNICOLOR CAMPUS – AN INNOVATION HUB

Media and entertainment technology frontrunners **TECHNICOLOR** recently relocated to their new research and development centre in Rennes in the northwest of France. The new 18,000 m² / 193,750 ft² complex is home to 550 researchers and developers and aims to facilitate exchange between academics, students and other campuses worldwide.

Parisian design studio **Devillers et Associés** designed the campus to stimulate team creativity and to comply with high environmental and low energy consumption standards. The main design focuses on large angular building blocks with a low-level pavilion at the centre. The ground floor façade is largely glass, creating an open, welcoming impression. Atop, a heavier impression is created by colour and materiality. An interesting window arrangement creates

a dynamic exterior by alternating between differently sized rectangular windows. Inside, the architects focus on functionality and comfort to inspire innovation.

“The architects had a very precise idea about the ceiling. It had to fit in with the concept of the façade, providing a modular system that would fit into our grid, and it had to provide the highest level of acoustic comfort,” says ROCKFON Sales Area Manager, **Olivier Cretois**. “We chose the **ROCKFON Alaska** range because it was a perfect solution with its large choice of edge conditions and dimensions. ROCKFON were even able to create special modules of 1350x600 mm / 4.5x2 ft and 1200x600 mm / 4x2 ft to fit the look we wanted to achieve, whilst not compromising on quality,” Cretois explains. To perfectly match the dimensions, ROCKFON also delivered 1220 mm by 150 mm / 4 ft by 6 in Chicago Metallic Bandrafter 3150 grids.



Project: Statoil Sandsli Offices, Bergen, NO

Architect: Niels Torp

Installers: Acusto

Ceilings: ROCKFON Alaska

Suspension grids: Chicago Metallic T24 click 2890

“ WE NEEDED A MODULAR
CEILING SYSTEM WITH **HIGH
ACOUSTIC** AND FIRE
PROTECTION CHARACTERISTICS ”

ZIRAAT BANK HEADQUARTERS – TIME IS MONEY

As Turkey's capital, Istanbul, prepares for the new **ZIRAAT BANK HEADQUARTERS** in its financial district over the coming years, **ERA Architecture** took on the interior of the temporary space in which all operations continue until the big move. The 12,000 m² / 130,000 ft² interior of an existing building was renovated in just over two months to house all the bank departments with their unique needs.

On top of designing a fully functional space for the country's largest bank, including the IT, operations and credit departments, the architects had to incorporate the bank's call centre in the design, requiring additional acoustic attention. "The main challenge in the design was for it to comply with all the regulations, from employee hierarchy and the corporate structure of a bank to the more functional aspects required for the call centre," explains, **Mr. Ekim Orhan Ismi**, senior architect and project manager at ERA Architecture.

"The sound absorption properties of the ceiling material directly influence the daily comfort of the people working for the call centre and around it," says Mr. Ismi. **ROCKFON Sonar SQ** and **ROCKFON Koral SLN** panels were selected as a solution to create an optimal acoustic environment for the project: "We needed a modular ceiling system with high acoustic and fire protection characteristics that could be installed in a very short time. ROCKFON products were proposed and we approved accordingly as they were totally in line with our expectations," says Mr. Ismi.



Project: Ziraat Bank Headquarters, Istanbul, TR
Architect: ERA Architecture
Ceilings: ROCKFON Sonar SQ, ROCKFON Koral SLN
Suspension grids: Chicago Metallic System T24



Project: Citrix Offices, Copenhagen, DK

Architect: Zeso Architects

Ceilings: ROCKFON Cosmos

Ceiling system: ROCKFON System Cosmos direct mount with system B screw



CITRIX OFFICES – AN OFFICE WITH A VIEW

Located in Vesterbro, Copenhagen, the new office for **CITRIX** designed by **Zeso Architects** reflects the industrial heritage of the neighbourhood. Once occupied by factories and meatpacking facilities, the district is revamped into a trendy hospitality and design hub. Situated atop one of the area's highest buildings, the newly renovated two-storey office affords spectacular views of the city. Recalling loft conversions of New York, the interior design proposes an open-plan office with an industrial touch. The open-plan workspaces for some 100 employees are combined with several enclosed meeting rooms and informal meeting areas.

While the concept celebrates the raw, industrial quality of the space, it was equally essential to create a warm, comfortable work environment. This balance is achieved through careful selection of materials, use of daylight and modernised acoustics. "The choice of 'rough' materials, paired with soft and warm furniture and finishings mixes past and present," explains **Claus Høeg Olsen** from Zeso Architects. "For example, concrete slabs and exposed concrete beams are combined with veneer walls/doors and acoustic textiles." Abundant daylight reaches deep into the office thanks to large facade windows, reducing the energy requirements for lighting.

In open plan environments with high noise levels, resolving sound issues is vital for achieving optimal acoustic comfort – here, the new continuous acoustic dampened concrete floor and acoustic ceiling play an important role. For this purpose, the ceilings are made from approximately 1,200 m² / 13,000 ft² of **ROCKFON Cosmos**, a lightweight product with extremely high sound absorption. Alongside its acoustic benefits, ROCKFON Cosmos' industrial look made it an ideal fit for the interior. "We chose ROCKFON Cosmos in white because of its acoustic advantages and simple, urban look," says Olsen. "Its surface integrates well with the existing concrete beams and columns. Another advantage was that we could conceal the electrical installations above the panels, which are easy to install and demount."

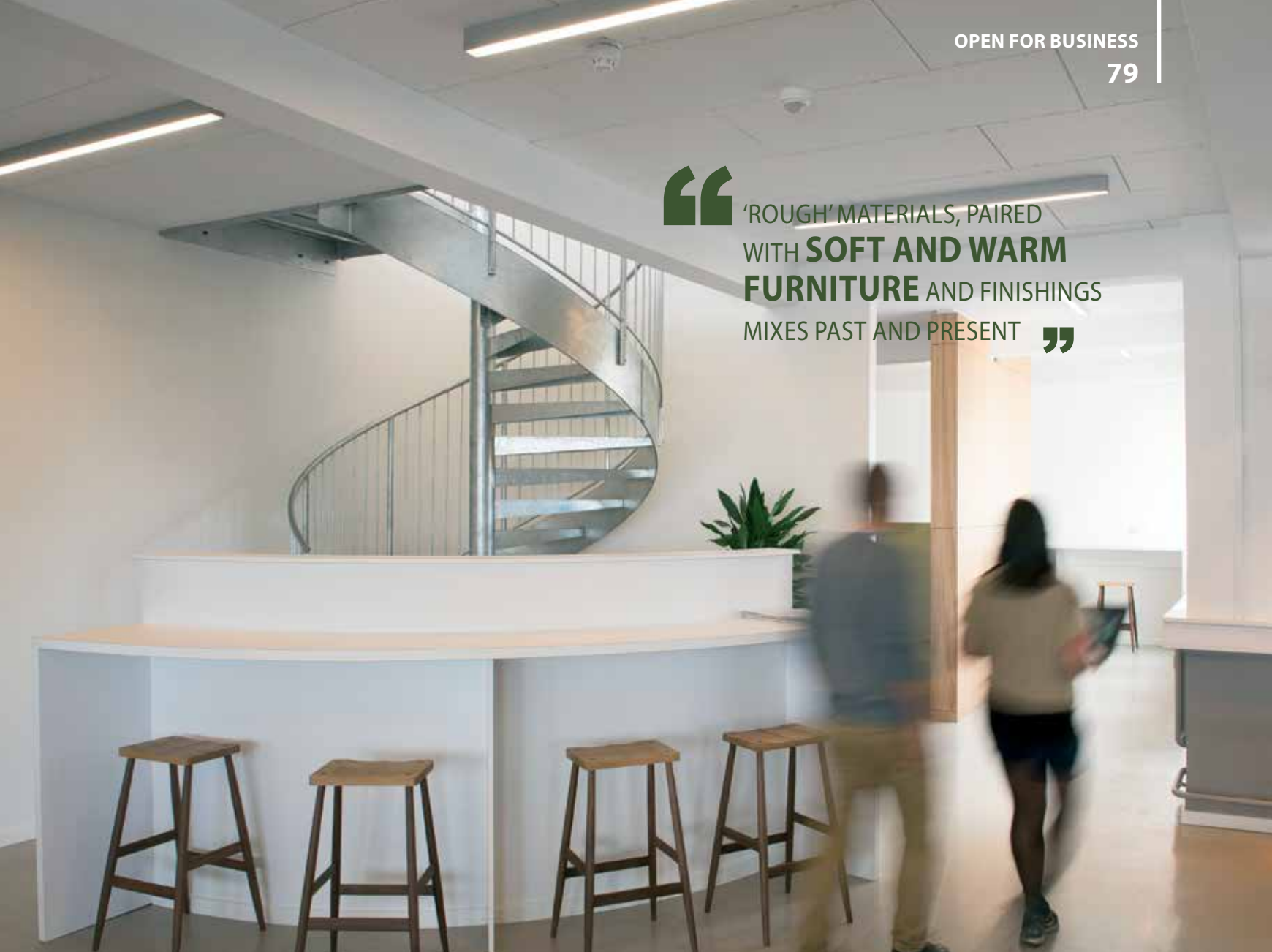
CLAUS HØEG OLSEN,
ZESO ARCHITECTS



Project: Citrix Offices, Copenhagen, DK
Architect: Zeso Architects
Ceilings: ROCKFON Cosmos
Suspension grids: ROCKFON System B screw



“ ‘ROUGH’ MATERIALS, PAIRED WITH **SOFT AND WARM FURNITURE** AND FINISHINGS MIXES PAST AND PRESENT ”





DATEA OFFICES – SOUND RENOVATIONS

Sorgenfri, a neighborhood north of Denmark's capital Copenhagen, is home to two offices owned by Danica Properties. Both offices take on a new expression by native architects **AG5**. The task was to create offices that were specifically tailored to the tenants **TRYGHEDSGRUPPEN**, an insurance company, and **DELEGATE**, offering business solutions. Both occupants had differing functional and aesthetic desires, giving the architects an opportunity to create individual and adaptable solutions.

A combination of single and open plan offices were reconfigured in the original spaces. Outdated materials were replaced with high performance surfaces, new lighting, windows and installations. By changing the floor and ceiling systems, a new identity was created for the residents: "At Delegate's we sought an industrial look and used floating ceilings and at TryghedsGruppen we sought a more refined look with a suspended ceiling from wall to wall," explains **Martin Lykkegård** from AG5.

A key consideration in the project was the opportunity to increase the acoustic performance of the offices. Project managers DATEA and AG5 Architects chose to use **ROCKFON Sonar CDX** ceiling panels for the TryghedsGruppen office space and **ROCKFON Sonar CDX** as an island solution for Delegate. "We've used ROCKFON ceiling systems many times so we were confident that they would provide an outstanding acoustic solution and in several dimensions. The subtle and simple expression of the white ceiling panels, in both cases, are visually pleasing and the panels have a superior sound absorption quality," says Lykkegård.



THOMAS VILMAR
ROCKFON



ROCKFON Sonar CDX

**Thomas Vilmar, ROCKFON Sales Director,
Denmark and Finland**

Suspended ceilings are great for many applications, but sometimes our customers need solutions with the stone wool benefits but a more uniform look than you get from a classic modular ceiling. If the tiles still need to be demountable – for instance to access appliances in the plenum – ROCKFON Sonar CDX is a great solution. At first glance, a ROCKFON Sonar CDX-edge ceiling doesn't look like a modular tile ceiling at all. To achieve this smooth, near-monolithic design, we reduced the seam between tiles by 25 percent. ROCKFON Sonar CDX offers optimum sound absorption for acoustic comfort, fire safety, humidity resistance and ease of maintenance. It truly is the multipurpose tile that does it all.

It is easy to integrate standard light and ventilation accessories with ROCKFON Sonar CDX, but we also partnered with light manufacturers to create custom solutions for our X edge systems that move far beyond the traditional full-tile square or rounded installations. Some of them even incorporate ventilation and lighting in the same installation, reducing the ceiling's visual clutter. With its fast, flexible and efficient installation, ROCKFON Sonar CDX is perfect for new projects, or renovations using existing grids.

ROCKFON Sonar CDX has a classic smooth white surface with no 'directional grain' to match up, which means that tile sizes can be mixed and rotated to fit into corners and create untraditional layouts. Other concealed-grid systems usually require special consideration and measuring for the placement and cutting of tiles, but the symmetrical design of ROCKFON Sonar CDX gives you quick lay-and-go installation. Beneath that beautiful near-monolithic ceiling can be a wealth of hidden installations... or nearly nothing. ROCKFON Sonar CDX gives you easy access and maintenance – but first of all, it looks great.

Project: DATEA Offices, Sorgenfri, DK
Architect: AG5
Ceilings: ROCKFON Sonar CDX,
ROCKFON Sonar CDX as an Island solution
Suspension grids: Chicago Metallic Standard 200



Project: Sørlandsenteret, Kristiansand, NO
Architect: LPO Architects
Ceilings: ROCKFON Sonar CDX
Suspension grids: Chicago Metallic Standard 200



MORE IN STORE

Faced with the challenge of e-commerce, high street shops are redesigning interiors to create amazing retail experiences.

The transformative power of the Internet is perhaps most visible in a shop near you. E-commerce has profoundly changed the customer's journey to purchase, so retailers are keeping stores relevant by creating physical spaces that go beyond the transaction.

They are trying to reinvent the in-store shopping experience by providing a sensorial experience that online boutiques cannot give their customers. In this battle, the atmosphere and design of a store can be the deciding factor into generating higher value purchases, greater traffic and increased customer loyalty.

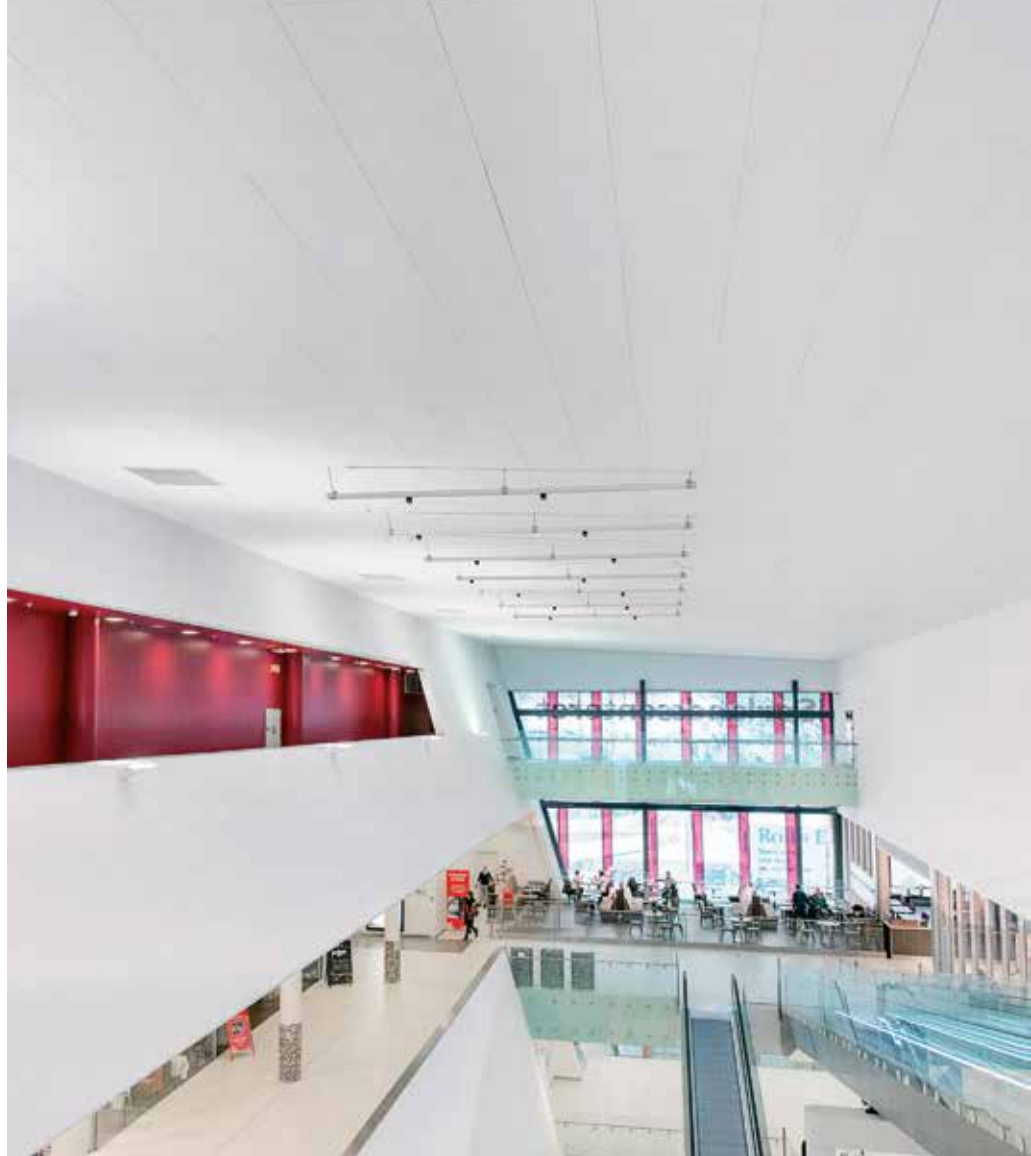
SØRLANDSSENTERET – A SEAMLESS SHOPPING EXPERIENCE

Versatility, flexibility and coherence are key considerations for the design of shopping centres. This was certainly the case for **SØRLANDSSENTERET**, Norway's largest shopping centre located in Sørlandsparken outside Kristiansand. Designed by **LPO Architects**, the 112,500 m² / 1.2 million ft² building combines the renovated existing centre with an extensive new wing, its sculptural form integrated into the undulating landscape. The starting point for the interior design was to create a light, airy atmosphere to accentuate the retail experience. This applies particularly to the shared spaces where visitors can rest between shopping. Here, the aim was to provide a calm atmosphere with views to the outside and between floors and daylight where possible.

A clean design dominated by white and the use of simple, consistent materials brings cohesion, continuity and clarity to the interior. Used for the shared spaces, the **ROCKFON Sonar CDX** (Concealed X-edge) grid ceiling system fulfils both aesthetic and functional requirements.

ROCKFON Sonar CDX made it possible to create an expansive and continuous white ceiling, which heightens the sense of light and improves acoustics across the food court bridge (1,200 m² / 13,000 ft²) and in the five-storey atrium (1,000 m² / 10,750 ft²). Minimal gaps between tiles and integration of lighting and services enable a seamless appearance. Being demountable, the system is particularly convenient in the food court, as it avoids troublesome renovations when hospitality concepts change.

In the Norwegian climate, the use of ROCKFON avoids cracked ceilings that result when the steel roof structure flexes under snow loads. Reduced construction time and increased safety on site resulted as the system could be easily installed in the high atrium using only mechanical lifts instead of scaffolding. "The ROCKFON ceilings integrate well with the overall design," says **Øystein Sjøstrand** from LPO Architects. "They're ideal for situations where a large, uninterrupted ceiling plane is required, the installation is particularly demanding and versatility is essential."



“THEY’RE **IDEAL** FOR SITUATIONS WHERE A LARGE, **UNINTERRUPTED** CEILING **PLANE** IS REQUIRED”

“ SHOPPING NEEDS TO BE PLEASANT, AND ACOUSTICS IS A BIG PART OF THAT ”



Project: The Loop, Antwerp, BE

Design: JosdeVries

Ceilings: ROCKFON Sonar SLP

Specialty Metal: ROCKFON Infinity Perimeter Trim



THE LOOP - BUILDING THE FUTURE SHOPPING EXPERIENCE

In October 2013 RetailDetail, a leading Belgian portal site and platform for the retail industry opened the doors to the retail 'experience platform', **THE LOOP**. The centre provides a live simulation of future shopping concepts, based on the customer journey of future consumers, showing retailers and suppliers in a visual and tangible way how customers will make their buying decisions in the future. **Jorg Snoeck**, CEO of RetailDetail explains: "The visitor experiences the full customer journey with the eyes of the consumer, but also has the opportunity to look through the eyes of the retailer or producer. This journey shows what they might expect from future retail concepts."

The retail strategic design office JosdeVries assisted in the development of the concept and will stay involved to ensure that the concept stays dynamic and refreshing. "The retail sector has evolved enormously over the last years and is facing many challenges. Consumers are shopping in a different way than they did in the past. The shopping process is very fragmented. It is no longer about physical shops, but about an omni-channel story in which consumers decide where, when and how to make their purchases," says Snoeck. "Today we go to the supermarket with a paper grocery list to restock our fridges after looking at the 'special offers' in commercial folders. But with Google glasses, body scans, drones, smart phones, 3D printers and web

shops, tomorrow that will be different. The fridge will tell us what we need, and the goods in the shops will automatically find us," he explains.

THE LOOP is a permanent installation with continuously switching themes to inspire the retail industry. For the permanent structure surrounding the changing exhibitions, ROCKFON was selected to contribute one of its most innovative products, **ROCKFON Infinity PerimeterTrim**, which offers endless possibilities and design freedom. The importance of using acoustical and sustainable products in retail environments, he believes, will only increase over the next years: "Above all, shopping needs to be pleasant, and acoustics is a big part of that. Sound has become an indispensable element in the creation of a total shopping experience, making it important to isolate noise and manage the general ambient sound levels and acoustical comfort in the shopping environments. On top ROCKFON has a sound sustainable approach to the market, a topic that will only increase in importance in the future retail industry."

According to Snoeck, future stores will not only focus on which goods are on the shelves, but also on creating a holistic shopping environment that supports the overall brand. "All aspects of the interior contribute to determine the success of a retail concept. ROCKFON is a well-known and leading player in the retail industry. A company that is the perfect fit for the vision we have on the future of Retail."





“ **ROCKFON COLOR-ALL**
TILES IN CHARCOAL COLOUR
ENHANCE THE ATMOSPHERIC
SURROUND SOUND. ”

Project: CineWorld, various locations across the UK
Construction: Britannia Construction
Installer: D&G Ceilings
Ceilings: ROCKFON Color-all Charcoal and Chalk, ROCKFON Artic
Suspension grids: ROCKFON System T24 A/E



CINEWORLD – A BLACK AND WHITE CHOICE

Cinema interior design is an integral part of the visitor experience and good acoustics are essential for ensuring the film can be heard and enjoyed. So when UK cinema chain, **CINEWORLD**, opened its new multi-screen cinemas, they wanted the design to create memorable experiences for movie-goers. This meant that the cinema design had to be both visually and sonically pleasant.

The Development Director with **Britannia Construction**, **Philip McCabe**, recommended the auditoriums be equipped with **ROCKFON Color-all** tiles in Charcoal colour to enhance the atmospheric surround sound. The matte black colour of the Charcoal fleece creates a dark environment that prevents light from the projector from reflecting on to the screen. "The **ROCKFON Color-all** ceiling tiles are ideal for this type of project. They fulfil all the acoustic and design requirements demanded by a high-tech multiplex," he says.

Using the **Chicago Metallic Standard 200** grid in black, the tiles were installed at an angle to the walls to create a dramatic diamond effect. Ceiling Contractor, **David Gardiner** of **D&G Ceilings** explains that the Chicago Metallic grid is an ideal system for installations, which can otherwise be cumbersome: "Auditorium ceilings are always sloping and can have suspension depths of up to 6,000 mm / 20 ft which makes installing the suspension wires very time consuming. The 1800 mm / 6 ft centre on the main runner of the **ROCKFON System XL T24** grid makes installation much quicker. The ceilings look great and Cineworld are very happy with the completed work." The system also allows for easier integration of services due to the greater distance between the hangers and opens up more design possibilities for the use of larger module sizes.

To create a welcoming, contemporary look for the new cinemas, the foyers of the new complexes will be outfitted with 15 mm / 5/8 in thick **ROCKFON Artic** stone wool tiles which have a smooth white surface for optimum light reflection.



QUICK SERVICE RESTAURANT - COLOURS ON THE MENU

ROCKFON contributed to the ambitious sustainability measures of a renowned international quick service restaurant during the world's largest sporting event, the Olympic Games, in 2012. Two temporary restaurants were commissioned to cater to athletes and visitors during the event. Given the temporary nature of the project, the aim was to avoid generating waste, therefore every part of the building right down to the smallest item was reused or recycled. Elements including the furniture and kitchen equipment to light bulbs and switches were reused in new and existing outlets across the UK after the event.

This accounted for around 75% of the building, with almost everything else being recycled, including the ROCKFON ceiling tiles. The **ROCKFON Color-all** range was selected for its acoustics, aesthetic and ease of installation, and most importantly, its full recyclability. Around 1,200 m² / 13,000 ft² of ROCKFON Color-all ceiling panels in Charcoal colour (1200x600mm / 2x4 ft) were specified for the larger restaurant and 480 m² / 5,200 ft² of ROCKFON Color-all in Chalk were installed in the

smaller outlet.

Essential for busy, fast food restaurants with high volumes of visitors, the tiles offer very high sound absorption, along with excellent fire safety and humidity resistance.

Using the ROCKFON Color-all collection enabled the design of an interior with coloured ceilings that perfectly fit the restaurant's brand design. The ceiling tiles resisted damage after installation and dismantling, making them more difficult to re-use, therefore recycling was the strategy here. The fully recyclable ROCKFON ceiling tiles were returned to the ROCKWOOL production facility and processed through its own upcycling service.

ROCKFON worked closely with the main contractor, **Barlow Group**, to coordinate the return of all ceilings to the ROCKWOOL factory in South Wales when the restaurants were decommissioned. The 24 pallets of returned materials were then crushed and combined with raw materials to create new high performance ROCKWOOL products, without any loss of quality.



ROCKFON COLOR-ALL ENABLED THE DESIGN OF **COLOURED CEILING** THAT **PERFECTLY FIT** THE RESTAURANT'S **BRAND** DESIGN



JENNY BROOKES
ROCKFON



ROCKFON Color-all

Jenny Brookes,
ROCKFON UK Area Marketing Manager

We know that the use of colour can dramatically enhance the design and atmosphere of a room, so in 2013 we developed the ROCKFON Color-all® range to make coloured ceilings easily available to designers. The range offers 34 beautiful colours organised in six themes with different tones that all link to contemporary design trends. These 34 colours are available in a variety of dimensions and with different edge types – all with an improved smooth and matte fleece surface that portrays colours in their true expression.



Project: Quick Service Restaurant, London, UK

Main contractor: Barlow Group

Ceilings: ROCKFON Color-all Charcoal and Chalk

Suspension grids: Colour-matched Chicago Metallic Standard 200

HANGING TOUGH

Specialty metal ceilings offer a level of creativity and durability that make them the ideal choice for some very special missions.

In spaces where designers need durable materials and full design freedom, specialty metal ceilings are often an ideal fit. Durable and cost-effective, metal ceilings are as easy to design as they are to install.

In the following pages, we take you into three locations with some very unique challenges - but ROCKFON metal ceilings provided the solution. The results may surprise you.



Project: Bradley Central High School, Tennessee, US

Architects: KBJM Architects

General Contractor: TRI-CON

Installer: Wallace Tile

Specialty Metal: ROCKFON CurvGrid and ROCKFON Infinity Perimeter Trim

Suspension Systems: Chicago Metallic 1200





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BRADLEY CENTRAL HIGH SCHOOL - CURVES AHEAD

Located in Cleveland, Tennessee, **BRADLEY CENTRAL HIGH SCHOOL** is a National School of Excellence serving 1,700 students in grades 9 through 12. When plans were made to construct a new fine arts centre, the school district wanted the \$3.3 million, 2,300 m² / 24,750 ft² building completed within 12 months. "We had a very tight frame for completing this project," notes **Cason Conn**, project manager for general contractor **TRI-CON**. "We had to condense the schedule and that meant the auditorium seats needed to be installed prior to the ceiling system going in. As a result, scaffolding could not be erected for the ceiling installation. That presented quite a challenge for our installer, **Wallace Tile**," says Conn.

Wallace Tile Vice President **Seth Bussey** worked with Carlo Grohovac of ROCKFON to develop an alternate installation plan to assemble the five 2.5 m x 7.75 m / 8ft x 25ft **ROCKFON CurvGrid** sections on the ground, connect them into pods, hoist the pods up to the ceiling area using a lift, and then connect them in the air. An installation like this would be virtually impossible to accomplish with any other curved ceiling system. "What made this possible was ROCKFON CurvGrid's combination of rigidity and light weight," noted Grohovac. The primary carrier also allows for fewer suspension wires that are

set back from the edge of the pods, further enhancing the floating cloud effect. Using the space above the audience was an integral part of the design.

Angie Lyon, project architect with **KBJM Architects**, chose the ROCKFON CurvGrid ceiling system to create the look she envisioned. "I didn't want a traditional flat ceiling," said Lyon. "My vision was for a feeling of movement, something that would draw the eye. ROCKFON CurvGrid is fluid and dynamic." Lyon chose the ROCKFON CurvGrid two-directional system with flexible metal panels in Morning Dew, a soft, metallic gold colour. The colour selection complemented the warm golds and yellows used throughout the Fine Arts Centre interior.

In addition to the ROCKFON CurvGrid, Lyon chose a **Chicago Metallic 1200** ceiling suspension system to create floating ceiling sections housing acoustic panels. The sections had a stepped perimeter for visual effect and were finished with **ROCKFON Infinity Perimeter Trim**, to create a crisp, clean look. Having never worked with ROCKFON specialty products before, Lyon was pleased with the support she received. "Carlo Grohovac, my ROCKFON rep, was very involved and cared about getting us what we wanted. He explained the product, made sure I was comfortable, and cared about it being right."



“ IT MAKES THE USUALLY
COMPLEX INSTALLATION
PROCESS EXTREMELY
UNCOMPLICATED ”



Project: Dannelly Field, Alabama, US
Architect: Seay-Seay & Litchfield Architects
Installer: E&E Acoustical and Drywall
Ceilings: ROCKFON SpanAir with WoodScenes walnut finish
and ROCKFON Infinity Perimeter Trim



“

IT'S ESSENTIAL THAT THE PERSONNEL
IN THE ROOM **HEAR CLEARLY**
AND **CORRECTLY** THE
IMPORTANT INFORMATION BEING
COMMUNICATED”



“ IT LOOKS LIKE
REAL WOOD
 AND MATCHES
THE COLOUR
 OF THE TRIM IN THE
 EXISTING FACILITY ”

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DANNELLY FIELD – LOUD AND CLEAR

Alabama Army and Air National Guard's **DANNELLY FIELD** is home to the 187th Fighter Wing and hosts a squadron of F-16C Fighting Falcon aircraft. The new auditorium forms part of a \$1.9 million expansion project. Providing continuity, **Seay-Seay & Litchfield Architects** and **Acoustical and Drywall** were asked to return five years after working on the original facility. The team subsequently collaborated with ROCKFON on the custom ceiling installation.

The auditorium performs an essential function as ROCKFON district manager **Carlo Grohovac** notes. "This is a very special facility where they brief the team before they are sent out for special operations. They're reviewing tactical manoeuvres and establishing how they go into battle. It's essential that the personnel in the room hear clearly and correctly the important information being communicated." Climate was also an integral consideration. An absorbent timber ceiling, which was the desired finish, cannot withstand the hot, humid south Alabama summer. Therefore a metal ceiling was selected to provide durability and maintain the intended aesthetic. Constructed of recycled aluminium, **ROCKFON SpanAir** Torsion Spring Panels contain no VOCs and mitigate mould and microbial growth.

The metal may be specified with an elevated recycled material content and is 100% locally recyclable. A perfect solution to match the interior finishes, the metal ceiling panels are customised with a hand-painted WoodScenes® walnut finish, offering better performance and significant cost savings over wood. "It looks like real wood and matches the colour of the trim in the existing facility," says E&E's **Adam Easterling**. "The all-metal product and **ROCKFON Infinity Perimeter Trim** will hold up better than real wood." Careful installation was required in the fan-shaped auditorium. "The panels are each a trapezoidal shape and connect into 30-inch by 5-foot tapered pods," Grohovac says. "Each pod of panels is installed for increased acoustic performance. The pods are suspended at the proper angle and aligned with equal spacing for a uniform appearance. Lights, sprinklers, vents and other necessary equipment are carefully positioned between the pods."





Project: Victoria Pool, Causeway Bay, Hong Kong
Architect: Architectural Services Department (ASD) Architects
Ceilings: ROCKFON Dampa
Suspension grids: Chicago Metallic Carrier No. 37

VICTORIA SWIMMING POOL – SWIMMING FOR VICTORY

In the unique location of Causeway Bay in the northern part of the Hong Kong island, a new swimming pool facility has been constructed to replace its neighbouring predecessor. Set in Victoria Park, the new pool offers the public a venue to practise and observe high-level aquatics. The project was initiated by the Leisure and Cultural Services Department (LCSD) to encourage international competition in sports including swimming, diving, water polo and synchronised swimming. Able to seat around 2,500 people, the **VICTORIA POOL** is considered the largest pool in Hong Kong with a spectator stand.

The new complex includes a 50 x 25 meter / 165 x 82 feet indoor heated pool, a 33 x 25 meter / 108 x 82 feet indoor heated multi-purpose pool, a diving and training pool, a children's pool, shower and toilet facilities, changing rooms and the park management office. The new design also features a streamlined exterior glass wall built alongside the trees in Victoria Park, creating curves and interesting patterns which give the pool a contemporary feel and link it to the surroundings. Another unique feature is the

ceiling of the main pool, which is punctured by large circular skylights.

Considering both the aesthetic and functional aspects of the design, **Architectural Services Department (ASD) Architects** used high-performance materials in their design of the complex for increased safety and durability. They chose the **ROCKFON Dampa** Metal ceiling system due to its robustness and high sound absorption qualities. ASD Architects also added a number of energy-saving measures to develop the design, including solar collectors, a solar heating system and a rainwater recycling system. Trees are extensively planted around the building, with landscaped areas on the rooftop and terraces.



PATRICK WALLIS
ROCKFON



ROCKFON specialty metal ceilings

Patrick Wallis
ROCKFON Specialty Metal Ceilings
Product Manager

Specialty metal ceilings can be used to add interest and appeal in virtually any space. Light, durable and incredibly flexible to work with, they can be arranged in impressive curved formations for visual impact in entryways and auditoriums, or aligned in simple geometric patterns to create a calm ambience in common spaces. Cost-efficient and easy to install, our specialty metal ceilings are a popular choice for projects where the architects need maximum design freedom and guaranteed product longevity.

Our wide range of curved, linear, plank and open-cell ceilings makes it easy to find the perfect solution for every need. To keep up with changing aesthetical trends, we continuously develop our range of finishes to give designers the choice between matte, glossy, coloured or wood-look solutions. These wood-look metal solutions have custom-painted finishes and look like wood, but are more stable, hold up better to humidity and are easier to install. Currently, the Planar and open-cell lines are some of our very popular solutions, as they are easy to install on our standard suspension systems and provide options for using perforations or backings to improve acoustics in a space.



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