



WHITEBOARD

The information magazine about White cement | 2017-1





Editorial

Dear Ladies & Gentlemen,

to Improve is to Focus.

We as CRH White had a successful year 2016. In the name of our Team I would like to thank you for your trust in us being your preferred solution provider in White.

But the we will not stop to think further about how to create more Value for our customers. Initiatives in Innovation, technical Marketing and production specific topic will lead us to the to our core vision, having Excellence in White. And I think based on all customer focused articles you can find in our Whiteboard that we are on the right way to deliver our promises.

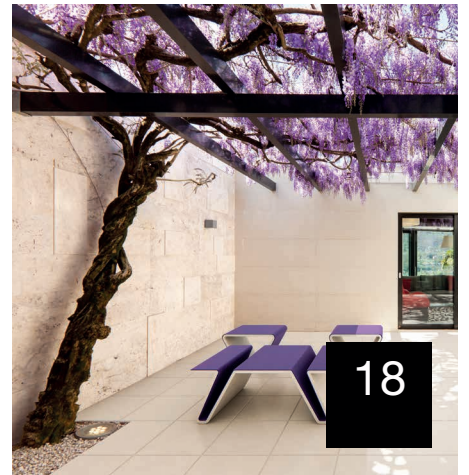
Buildings, Parks, Design items in several aspects, all in White.

We are as well focused to push our C³ Atelier with interesting exhibitions to be closer to the end customers. Architectural themes, customers presentations and now an art with pictures out of concrete are showing the modern and fancy time of the product Concrete.

I wish you a happy reading and a successful summer 2017.
Thank you very much for your trust

With kind regards

Ing. Josef Nowak
Head of White Cement



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Introducing CRH White team

SOPRON PAVILLON

CASTLE DISTRICT REVITALIZATION



Photo: Balázs Danyi

The Castle District of Sopron is a 40-60 meter wide boulevard, which was formed on the outer skirt of the ditch running along the city walls that encircled the former historical core of the town, on the so called glacis slope. Consequently, from direction of the castle walls the row of houses, mostly of Rococo and Louis XVI style built in the 18th-19th century, appears with alternating building height, developed typically on narrow plots.

The only exception is one spot where the facade is interrupted by war damages and part of the castle wall reveals as a visual element. The outer row of houses consists of earlier, partly medieval buildings with wider lot divisions, resulting in patio houses that are connected to Castle District with passages. Once long ago – after the development of the surrounding facades – market function was present in this area of historical significance: it gave place to cattle markets or at some parts of it hay markets were held in the middle of the 19th century. In the 19th century, the Castle District was more of a contiguous, slightly outwards sloping area than a boulevard, even though also a tram line was running along it.

Conditions prevailing before the design process of the Castle District's renewal were formed during the second half of the 20th century. At that time, a traffic system was developed on basis of Pál Boronkai's plans with retain walls, articulated and separated traffic routes (service road). This traffic-dominated state restricted pedestrian traffic to the minimum and at the same time it longitudinally separated the once contiguous space. Traffic light intersections, service roads, cars passing and searching for parking place restricted pedestrian traffic to a narrow stipe along the walls. Prior to the conversion, actually the whole Castle District was one contiguous parking lot. The generosity of the extremely wide public place, the large and contiguous square worthy of a city was overbuilt and over-articulated: the area was filled with retaining walls, roads and hedges blocking the view.

The traditional functional dominance of hospitality and trade on the ground floors of the Castle District houses was not accompanied by corresponding public space connections (e.g. coffee terraces, outdoor catering areas). The architectural elements (historic buildings) of the public space were in poor aesthetic and technical condition, and the area missed a single, integrated image that could have provided the Castle District with identity. The place between the statue of Virgin Mary and the Fountain of Loyalty (=Hűség kútja) is one of the most important public spaces in Sopron. Nevertheless, it was unjustly fragmented and divided by retaining walls and stairs.

In autumn 2009, the city council of Sopron announced a national, secret, open architectural competition with the title „Sopron – Revitalization of the Castle District”. The competi-



tion was won by Hetedik Múterem Kft. in collaboration with its landscape designer partner GEUM Múterem Kft. In the course of several years of design work, the first and most spectacular phase of the public space renewal, an approx. 15 thousand m2 large area has been completed by 2015.

The beauty of the Castle District lies in its character created by the continuously changing cross sections and constantly varying spatial relations along almost half a kilometer length; and by the feature that all this belongs to Várkörút (Castle Boulevard), to its dynamism and generosity. This duality, namely the dichotomy of the longitudinal dynamism and cross-sectional diversity is the greatest value that we wanted to strengthen in our plan.

The key concept was that when standing at any point of the Castle District one should know and feel that he/she is in this very part of the area. However, moderate approach was also required since the facades of the historic development along the inner and outer curves are determinative urban design elements, thus competing with them for dominance is unnecessary.

After the complete reconstruction of utilities, new street lighting was installed and new pedestrian-dominated surfaces were formed in accordance with the renewed traffic system. Because of the historic environment and the former state, our main objective was to create a pavement with uniform appearance (color) evenly sloping towards the outer arc, providing a noble effect with its use of material. That is why we chose dark-colored clinker bricks and granite stripes ensuring the unity of the spatial structure. The graphics of the latter, like lines in sheet music, were meant to arrange the different features of public space architecture without disturbing the sense of integrity.

Due to the public utility network's density, landscaping and planting demanded great care. While high trees with pierced foliage were designed to the central zone, tree species with smaller canopy were placed next to the buildings – partly in order to ensure a dominant view for the historic facades, and on the other hand because of the different functional requirements of the pedestrian-dominated areas.

A pavilion was built in the area's center of gravity, accommodating the necessary service rooms and toilets. The building has fine concrete surfaces with board formwork texture, precast reinforced concrete louvers and wood-paneled facades, subtly evoking the materiality of the excellent monumental reconstruction works accomplished in the second half of the 20th century in Sopron.

The first and largest phase of the Castle District has been completed, and now it indicates the direction for further developments of the areas surrounding the city core. The already started public plaza revitalization of the city center will be finished with the renewal of two large connected areas, Kisvárkerület (Small Castle District) and Széchenyi tér.

With regard to the renewed public space, Barnabás Winkler wrote in his review: "Visitors to the city, but especially the residents of Sopron are visibly happy about the revitalized urban district. The Castle District is no longer merely a circulation zone, but it is filled with real urban life ... The once intimate atmosphere of the Castle District has returned, being reformulated with modern materials, but preserving the small-town coziness." (Régi-új Magyar Építőművészet 2016/3)

SOPRON CASTLE DISTRICT REVITALIZATION

Address: Sopron, Castle District

Area: appr. 15 000 m² public space and 40m² public building

Design phase: 2009 (national competition), 2010-2013

Construction: 2014-2015



Architecture:

Designer: Hetedik Műterem Ltd. (www.hetedik.hu)

Architect in charge: Levente Szabó DLA

Landscape design: Csenge Csontos (+), Borbála Gyüre, Gergely Lád (Geum Műterem Ltd.)

Co-architects: Balázs Biri, Jessica Dvorzsák, Dávid Kohout, Orsolya Simon (Competition: Orsolya Almer, András Páll, Tibor Tánzos)

Inspector of monuments: András Veöreös, Sándor Tárkányi

Traffic engineering: Ádám Rhorer, András Mezey (Közlekedés Ltd.)

Public utilities: Ádám Szabó (Aqua-Duo-Sol Ltd.)

Street lighting technology: Tibor Galazka, Ferenc Horváth (GT-Vill Ltd.)

Civil engineer: Csaba Horváth

Structural expert: Géza Kapovits

Water engineering: Gergely Drobni, László Skublics

Accessibility: Anna Kormányos

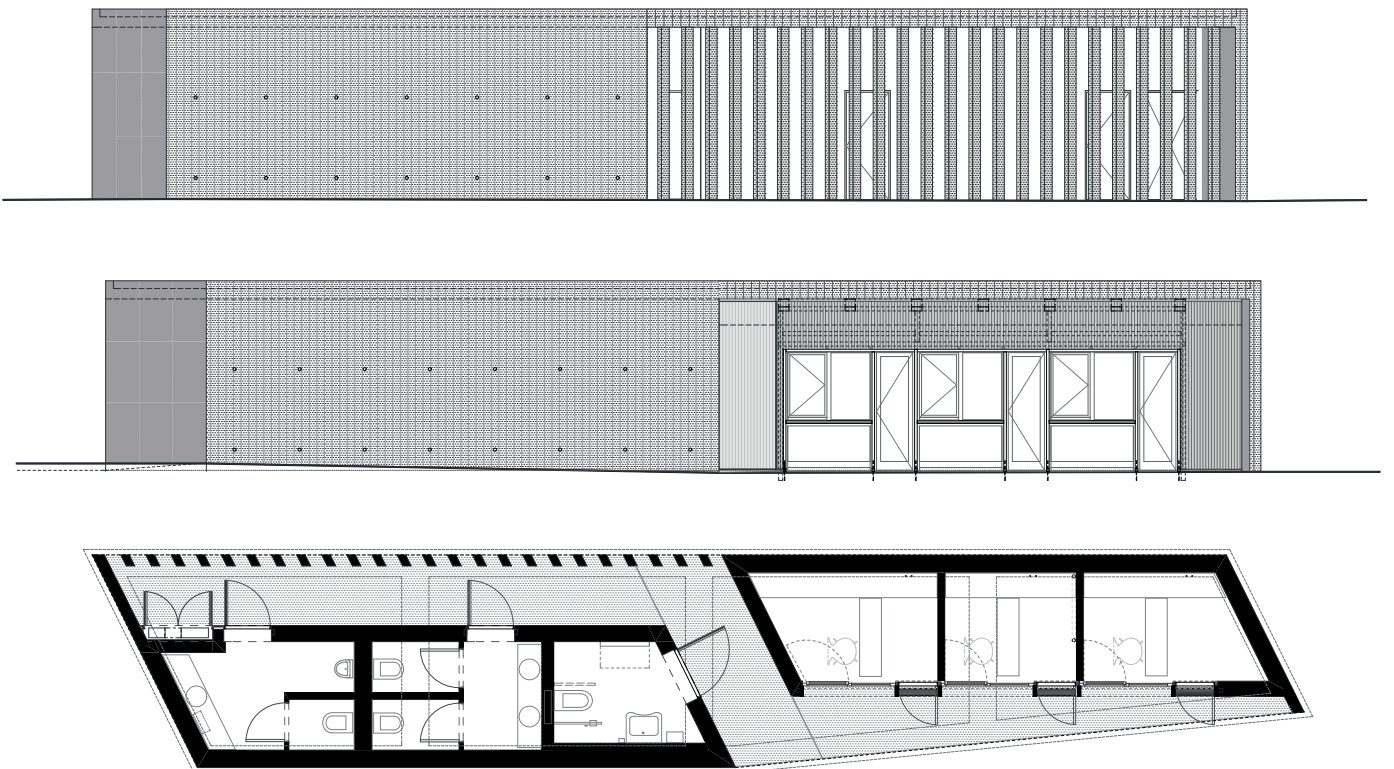
General contractor: VEMÉVSZER Ltd.

Awards: ICOMOS Award 2016,

DaNS 20th Salon of Architecture in Novi Sad, Salon

Award in urban design category

Photo: Balázs Danyi



Archeopark Pavlov

Pavlov, Czech Republic







The idea for the museum was first mooted in 2002 by the Institute of Archeology of the CAS, Brno, which is now also an expert partner and sponsor of the project. The project was prepared by the Regional Museum in Mikulov in cooperation with the Radko Květ architectural studio. Construction was then carried out jointly by OHL ŽS, a.s. and SKRstav, s.r.o. Pixl-e was the contractor for the exhibition, while the furniture and audiovisual technology were supplied by A.M.O.S. Design, s.r.o. and Lotech, s.r.o, respectively.

Archaeological aspects: Dolní Věstonice – Pavlov – Milovice locations

For many decades now, excavations at the complex of Palaeolithic (the period of mammoth hunters) settlements have unearthed a huge number of stone and bone tools and artwork, as well as the skeletal remains of anatomically modern humans. This puts Pavlov and Dolní Věstonice high on the list of the world's leading archaeological sites. The site reminds us of a past historic age and is both part of the universal cultural heritage and a symbolic integral element of the local culture, fundamentally forming a relationship between the local population and the region. It has embodied cultural values that the local population takes pride in and establishes their relation to the country. This outstanding

and attractive architecture and exhibition covers an area in excess of 500 m² and combines contemporary audiovisual technology with traditional museum displays. It allows the public to become acquainted with the most important discoveries that scientific research has uncovered here. In addition to photographs and documents that detail the history of the various digs at these sites, the museum will also display the actual finds and explain the spiritual world of these ancient people. Special emphasis will be placed on topics such as hunting, the everyday life of hunters, their art, and their burial rituals, as well as other aspects of their world.

The Archeopark may well become an attractive destination for culturally inclined tourists and integrate well with the region's current tourist infrastructure.

Urban and architectonic solution

The project resolved the urban and architectonic issues of the site, including the technical and traffic aspects together with the flora of the surrounding landscape. The Archeopark has a delicate location in the sense of broader urbanistic considerations. It is located on the border between the village boundary and the open countryside and forms part of the Pálava hills' impressive scenery. The majority of the construction is situated underground, with just the white



concrete towers projecting above ground. The architectonic solution is based on the location's conditions and formed according to three principal aspects:

1. The construction site is part of a national cultural monument, limiting construction to the area already archaeologically excavated and researched, with the only exception being the "in situ" exposition.
2. We assumed the archaeological excavations are located 4–5 meters under the current terrain.
3. The construction site is part of a protected landscape area (PLA). Based on these aspects, the concept of an underground construction arose together with the loose paraphrase of "limestone rocks standing out from green meadows and vineyards".

The main exhibition area—as well as the administrative, technical and social areas—is hidden in the hillside. The skylight tower projects to the exterior, as does the conical entrance and the look-outs to Děvičky and the lake below. The intention is for the building to be reminiscent of the shape of a cave. Regarding the materials, up-to-date means

are used to express monolithic reliefs with concrete, oak wood and glass.

The entrance area is defined by gabion walls and forms when entering the Archeopark. This zone is multifunctional: It could be used also for open-air activities, such as theatre performances or further background for archaeological works. This open-air landscape project accommodates spatial and functional use of the area while subtly contributing to the scenery under the Děvín hill.

Technical solutions: Methods of projection and the thrilling process during the construction work. The museum itself is a reinforced monolithic building made from relief concrete in a watertight system. The sharply shaped ceiling is supported by the walls and towers with no additional support required. The complexity of the shapes is exceptional, and unusual sandwich construction structures are used for the elements projecting above the ground.

From creating the very first sketches to compiling the plan for the building permit, we designed the building using sketches, paper models, 3D models and orthogonal drawings. During the implementation phase of the project, we developed a 3D construction model that was later systematically disassembled into its individual parts.

These parts were subsequently dimensioned and designed by construction industry professionals and ultimately reassembled. During the construction work, we referred to both the 3D construction model and the orthogonal drawings. The platform and building height were delimited geodetically.

Changes during the construction:

The archaeological excavations preceding construction revealed a waste hole filled with bones. As this was a significant part of this national cultural monument, it was decided to preserve and display this location. Based on this decision, we decided to adapt the project in two relevant spots.

The “in situ” exposition presents the preserved waste hole of mammoth bones following the archaeological research conducted in 2014. We were forbidden from intervening in locations where future archaeological research may be conducted. Once the general research had been carried out, the waste hole was covered with a layer of sand and shielded by a temporary wooden construction that was later replaced by bracing walls and a foundation system. The protective sand layer was only removed once the building of the museum was completed.

INFORMATION

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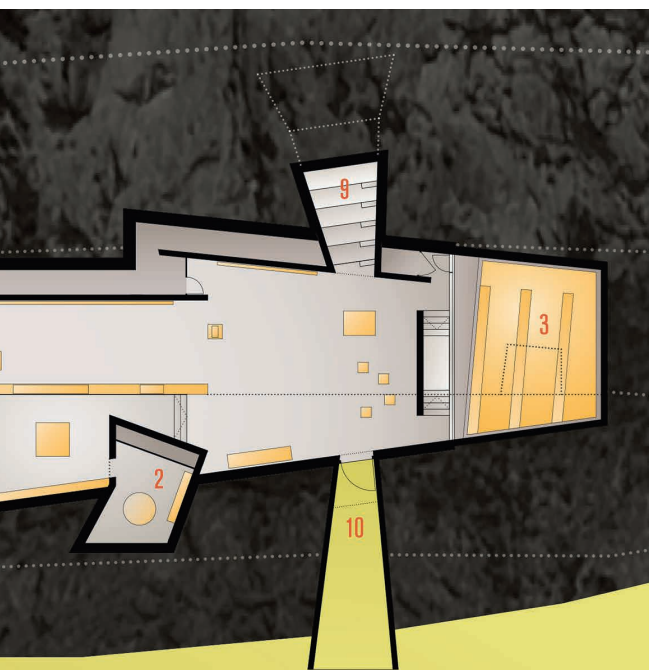
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ANDROMEDA

CREATIVE OUTDOOR DESIGN

Advanced chemical materials such as silicones and polyurethanes have brought about more diversity in the production of various items of urban and garden architecture. In this spirit, the Andromeda company has been offering since 1992 elements of garden and urban architecture made of artificial stone, such as flower pots, seats, fountains, statues, garden fireplaces, street furniture, etc. In the manufacture of our artificial stone products we use superior quality white cement supplied by CRH Slovakia plc. The 23 years of co-operation with CRH Slovakia helped Andromeda to become one of the leading manufacturers of these products within the EU.

Currently, Andromeda focuses on the development of a new brand: MANIGA STYLE. The MANIGA STYLE products aim to combine modern creative design, high utility standard, smart solutions and uncompromised, constant quality. We plan to introduce MANIGA STYLE products to the market gradually. With the first product, we introduce to you an exceptional sport, called "Snookball". Snookball, a hybrid of billiards and football, is a new sports phenomenon that has rapidly swept the world. Andromeda has designed and subsequently produced the first year-round, outdoor, mountable Snookball table, in the MANIGA STYLE.

This playing field, or giant table, can be installed in the field as well as on paved surfaces. It is made of materials that guarantee its multi-generational lifetime, with proper maintenance. This very new, very attractive and very entertaining game will enrich our community, recreational, and spa facilities as well as residences or sports clubs. Another new sports product under the MANIGA STYLE brand is an outdoor ping pong table. With its understated design, maintenance free and long-years utility combined with a clever adjustment system it is destined to become a top product in this sector. Another interesting new MANIGA STYLE product is a garden chess table.

Robust, yet gentle, like life itself. We believe that this gentle rebel with its traditional longevity will be the darling of your gardens, terraces and patios. Unique to the MANIGA STYLE brand is the look of urban benches, utilitarian and aesthetic at the same time. They are designed to be harmonious and dignified, with the aim to increase the self-esteem of their users. Yes, with this range of products we have tampered with emotions and pushed the envelope indeed,

to the leading edge of being different.

The benches are classical yet innovatively modern, massive and rugged, yet understated and dignified. For example, the bench called Family may not be ergonomic, but it is still in fact very comfortable and can actually be used as either a bench or a table. For next spring, you can expect smart pots—for cities and homes—that will delight professional gardeners in particular. For our sister company, LUNA, we have developed a MANIGA styled, modernly attuned lawn and garden fencing which has the potential to become a hit in the next few years. We are pleased that in promoting the growth and advancement of our company we have the support of a reliable partner, CRH Slovakia. We are a company with, above all, a deep conviction that our country is blessed in having people who have courage, who respect each other as well as their community, and who in such understanding find inspiration to transform their dreams into modern reality.



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Gravelli

Giving concrete a soul

The fact that concrete can also be used for purposes other than building foundations in recent years convince increasingly looking at interior design architectural studies from around the world.

With the increasing popularity of exposed concrete the demands on quality of raw materials began to increase in direct proportion.

The Czech company Gravelli advanced in this development a step further and set itself the objective of pushing the limits of the possible use of concrete.

The main objective was to reduce the weight of the elements, prevent surface cracks and optimization of the surface treatment, so that fluid did not soak into the concrete and was resistant to rapid fouling.

In trying to keep all the recipes on a natural basis for the development of the material and its mechanical properties only top level quality materials were considered for which it was neces-

sary to ensure a suitable supplier.

Especially in subtle elements susceptible to cracking in the initial stage of production is shown as a key component of the cement, which can dramatically change the appearance of the final product.

The best solution proved to be White Portland cement from our supplier CRH (Slovensko) a.s. Technological advances Gravelli continually presents in the form of design products such as tables, sinks, lighting and even jewelry and fashion accessories.

Among the most significant products include garden chair Zephyr, which attracts attention primarily by their shape, seeming ease and overall design. In the words of the authors, it is still considered the most challenging element that is a natural concrete yet managed to create.

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BRUK
MODERN LINE



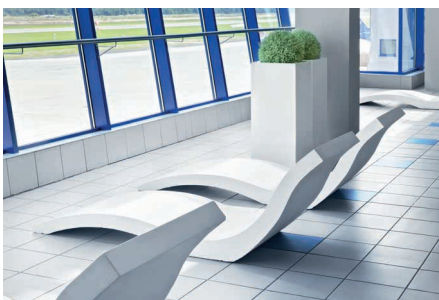
Chair and stool



Stool and table Focus



Slim Panels



Chaise lounge Harmony



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Modern Line collection is a line of architectural concrete products with a strong and simple Scandinavian design that creates a new vision of elegance. Among Polish concrete manufacturers, Modern Line company offers products that blend perfectly into modern outdoor and indoor arrangements.

Minimalism and neatness of the form along with breaking schemes in approach of creating concrete products resulted in unique furniture and surface designs. Modern Line surprises - it changes known into unique one. Effective design of concrete tables, stools, benches, planters, panels and slabs is an effect of modern concrete recipe. It enabled creation of products with extremely smooth - satin surface, various shapes, textures and wall thicknesses.

Thin-walled Modern Line furniture collection called "Slim" is an innovation on Polish market. "Slim" bench, "Focus" and "Gravity" furniture have a reduced 2-3 cm wall's thickness and did not lose their perfect durability parameters.

The Modern Line collection is a proof that architectural concrete is a very versatile material. Its raw beauty perfectly blends into the natural environment and matches to modern interior and exterior arrangements. Modern Line's portfolio also proves that the architectural concrete looks well with many materials (wood, felt) and enables creation of various textures and surfaces. Collections' products are created using hand casting technology and exist in a few monochromatic colors (white, concrete, steel, carbon). It is the line of modern style and a vanguard of future thinking. Modern Line transforms known into unique one.

For more information visit our website:
www.modernline.info.pl/en

modern line 

Contemporary Danish Architecture Exhibition

C3 Atelier hosts Contemporary Danish Architecture Exhibition in Budapest and Vienna

As proud creators of C3 Atelier, a platform for showcasing innovations of the building industry we are always happy to form cooperations focusing on excellence. A nice example for this is a project that originated in CRH Hungary and spread to Austria, too.

Our C3 Atelier in Budapest partnered with the Danish Embassy of Hungary and the Chamber of Hungarian Architects presenting a Contemporary Danish Architecture exhibition. This initiative was a great opportunity to develop our business relations with some of our key stakeholders, architects, business partners as well as the media.

The exceptional works of 15 well-known Danish studios are shown on 27 large displays, and many of the projects show spectacular uses of concrete and also colored concrete, and sustainability is a key concept. The Budapest opening ceremony took place 30th September, 2016 where Éva Beleznyai well-respected urbanist, architect and former chief architect of Budapest opened the exhibition.

A professional lecture was presented by Eörs Henrik Thék of Ferrobeton on the design and engineering of re-useable concrete elements, including examples used at Dagály Swimming Complex. Other than the unique contribution of Ferrobeton in creating the temporary stands, CRH has also supplied some of the cement and concrete used. Participants could then „see live” the topic, enjoying a site visit at the Dagály construction.

The opening event of the exhibition in C3 Atelier Vienna took place 21st of October, 2016. Hungarian chamber-member architects and media also attended. Following the exhibition opening, they continued with a guided tour on the WU campus to take a closer look at the library building designed by Zaha Hadid. The next day DC Tower 1, currently the highest building of Vienna and one that was built using CRH cement, gave participants a bird's-eye view over the Austrian capital's architecture.

As one of the leading construction material producers in the region we are proud to host such events at C3 Atelier and are fully committed to building relations with our partners and share professional knowledge.



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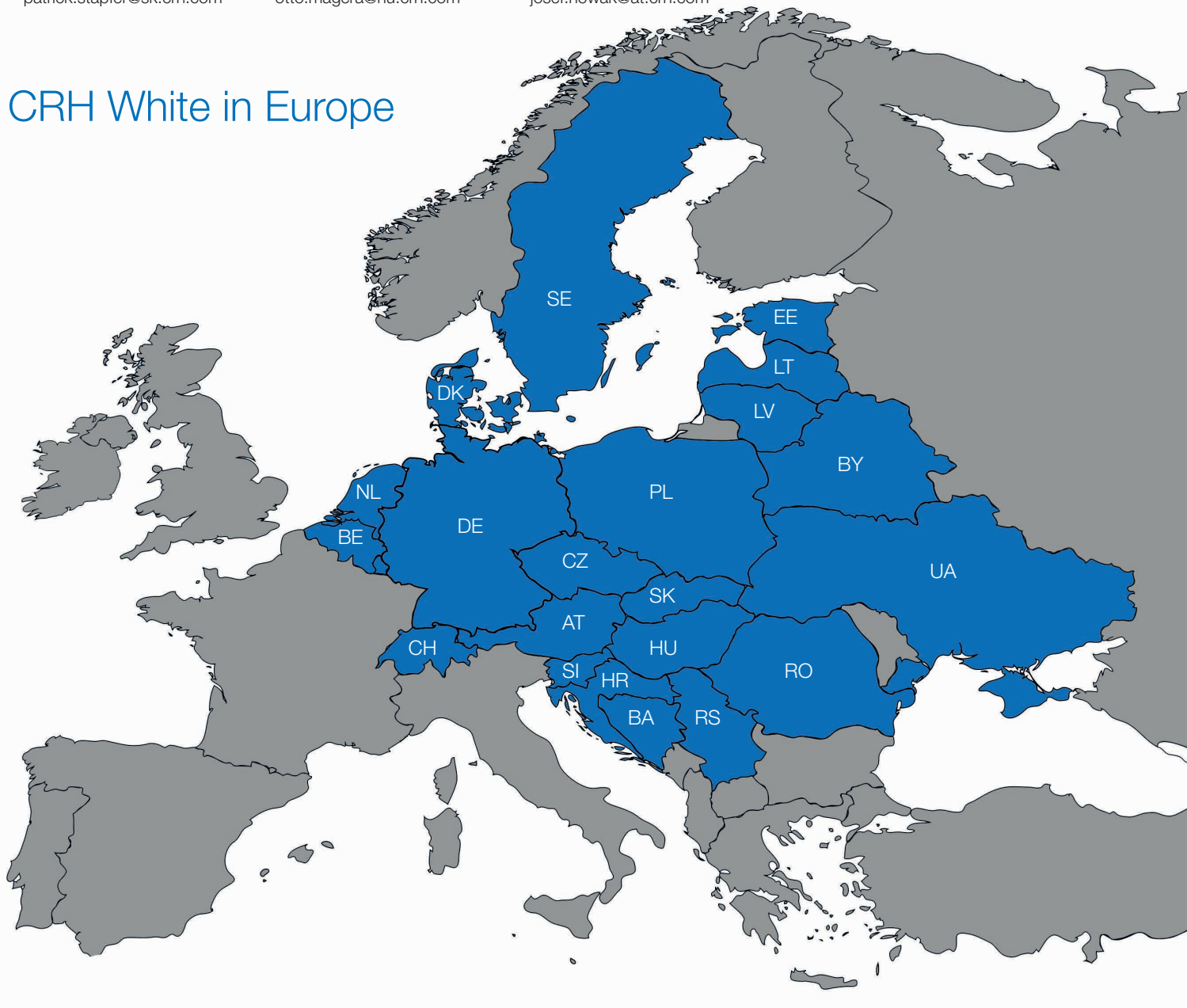


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