

# **SWISSPEARL ARCHITECTURE 5**

International Edition - High Profile Buildings

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## ARCHITECTURE AND GLOBAL WARMING



A widening hole in the ozone layer, the ill effects of greenhouse gases, a shrinking ice pack, receding glaciers and growing desertification: with entire ecosystems rapidly disappearing and the list of endangered species getting longer, climate change and global warming have become pressing issues that can no longer be ignored. What's more,

the age of an abundant and inexpensive energy supply has come to an end.

According to official data, buildings in developed countries account for one third of energy consumption worldwide. They contribute significantly to  $CO_2$  emissions as we use the energy for heating, cooling and lighting, and for operating appliances and equipment at home and at work.

Naturally, architects can play a major role when it comes to building for the future while limiting the impact on the environment. The potential for saving valuable energy resources is enormous. Increasingly, designers will be expected to address environmental considerations when satisfying their clients' demands for quality construction, living comfort and attractive design. Their mission requires more innovation and creativity in high-end building design. With a multitude of environment-friendly materials and energy-efficient techniques already available today, architects need to embrace a philosophy of global thinking and incorporate such green solutions into their visions. One such solution is the Swisspearl ventilated façade system with its state-of-the-art low-energy technology and high thermal insulation. This intelligent strategy, so far mostly implemented in European countries with harsh winters, has proved to be energy-efficient and cost-effective over the past 30 years both in new construction and refurbishing projects. Ventilated façade systems not only minimise a building's  $CO_2$  emissions, they also reduce energy consumption for heating and cooling by using the air permanently circulating in the ventilation cavity. Last but not least, they keep a building structurally sound for many years without the need for heavy maintenance.

Another potential for environmental improvement resides in the use of sustainable building envelope materials. Increasingly, preference will be given to outer skin materials with proven long life expectancy designed to outperform more conventional components requiring regeneration every 10 to 20 years. The end result is a massive reduction in lifecycle costs and maintenance. Of course, the initial investment will be higher and clients will need to be convinced. However, more and more buyers are prepared to pay for added value. Indeed, structures with a longer lifespan, low energy consumption and maintenance contribute to the long-term profitability of their investment. It is the architect who needs to point out the financial savings of the design as well as its positive environmental effects.

Architecture and construction are faced with a number of urgent but exciting challenges in the years ahead. For our planet's sake, inspired architects will continue to choose solutions such as Swisspearl to provide durable beauty, attractive living space and environmental responsibility.

Anders Holte, CEO Eternit (Switzerland) AG



## ACTION MINDFUL OF THE ENVIRONMENT

The impact of environmental issues on our daily lives continues to grow unabated. Environmental awareness and action have become hotly debated topics. Ever-increasing resource depletion, energy consumption and pollution jeopardize our very existence. The preservation of our natural environment demands effective and sustainable action worldwide. Whatever human beings undertake must be part of a natural cycle.

The construction and operation of buildings require a large part of available energy. Here lies an enormous potential for improved efficiency. In order to minimise the consumption of energy and materials in the building sector, the use of raw materials must be kept as low as possible, building materials must be recyclable, and pollution must be avoided. Today, action is taken in many countries around the world to protect the environment and to reduce energy consumption. In Switzerland, a national programme for the efficient use of energy has been launched. Its aim over the medium and long term is to cut energy consumption down to one third of today's figure: an average target of 2000 watts per person and per annum would be compatible with concerns about a changing world climate.

In the area of ecology, Switzerland plays an important pioneering role in international comparison. Since the 1970s, much has been - and continues to be - done in favour of environmental protection. Stringent laws and ordinances have been issued sooner than anywhere else, in particular in terms of air and water quality. Due to these efforts, Switzerland's environmental and resource policies have turned out to be largely positive in many areas, as illustrated in the Federal Government's recent «Environment Switzerland 2007» report. The progress made in matters of ecology, however, is threatened by the increasing pressure brought to bear on the environment by lifestyle patterns and consumer habits. Nevertheless, the Swiss are repeatedly hailed as world champions in recycling; and environmental awareness is part of the philosophy embraced by many industries.

The Swiss producer of cement composite materials has long since been concerned about ecology. As early as 1976, the firm's management launched an initiative to replace the natural but hazardous reinforcement fibres by a cocktail of harmless artificial fibres. This demanding process of substitution was completed at the beginning of the 1990s. In 1993, the aim was to develop a sustainable production cycle - in compliance with the requirements of the United Nations Conference on Environment and Development in Rio de Janeiro in 1992. Since 1995, Eternit (Schweiz) AG has monitored its ecobalance, and, since 2001, its efforts in environmental management. As a building materials enterprise, the firm uses massive amounts of materials and energy on a daily basis. For this reason, it analyses the processes, monitors operations and taps the potential of savings wherever possible. Even packaging is subject to ecological considerations: the special wooden pallets used domestically are returned for future use.

In essence, cement composite is a mixture of cement and fibres, with added water. The reinforcement's fibres strengthen the basic material in the direction of the strongest stress. This principle has been copied from nature: the stalks of plants feature parallel cellulose fibres embedded in the basic cell material; human and animal muscle tissue consists of bundles of fibres in a matrix of connective tissue.

Swisspearl is the name of high-quality cement composite panels which are dyed in the mixture. They are ecological products. The raw materials are almost exclusively of natural origin. Most are produced in Switzerland, very often from a local source to avoid long-distance transport. Some cellulose comes from elsewhere in Europe. Only the high-quality artificial fibre produced in Asia must be imported. Colourfast pigments and solvent-free surface treatments are used in the colouring process. Cement composite panels can be recycled to produce cement again. In other words, the quality composite material is produced with due consideration to environmental considerations. Cement composite is produced almost exclusively from natural, harmless substances. The manufacturing process requires comparatively little energy, the waste heat is further utilised, the added colour is regularly recycled, and the process produces very little waste and no emissions.

The production of Swisspearl cement composite panels is in compliance with the firm's basic ecological principles and with the stringent guidelines in effect at production sites in Switzerland. Production processes are regularly updated to enhance environmental compatibility. For instance, the water needed for production is processed at the firm's own treatment plant and reused; it circulates in a closed cycle. The sedimented source material is also reintroduced to production. Only small amounts of clean water are discharged into the stream that runs through company premises; the quality of the water released into the public system is permanently monitored. Overall, waste is avoided or reduced. The parts of the moist raw panels stamped off are immediately returned to the original mixture. The panels ordered by the client are cut with the help of a computer programme to ensure that only a minimum amount of cuttings remain. This also helps to minimise waste at the construction site.

With regard to the future, the producer of Swisspearl expects the use of their products to be as environmentfriendly as possible. The construction of façades is based on the principle of rear ventilation. The air behind the façade cladding rises due to warming and the chimney effect. Thanks to the circulating air, the heat insulation remains dry at all times, and the building is climate-controlled. Owing to the separate functioning of each façade layer, the cement composite panels protect this diffusioncompatible type of construction and the building. The material itself breathes and regulates moisture, a feature which adds to living comfort. Swisspearl panels require little maintenance and are easy to clean. They are durable, thereby ensuring the building's long life cycle. And they are easy to remove.

Ecological construction requires a sustainable building method that intervenes as gently as possible in the natural cycle. Ecology is not to be limited to building materials and construction alone. It also encompasses a wider range of energy and resource issues to be thought through and addressed by delivering intelligent solutions. Swisspearl offers environment-friendly products for environmentcompatible façade systems. *Michael Hanak*  The production is based on water operating in a closed cycle. It is cleaned in the firm's own purification plant, and only completely clean water is returned to the nearby stream.





The Centre Esplai near Barcelona is in every way distinguished by architecture dedicated to sustainability. In this context, the design of the façade plays an important role.



## Centro Esplai, El Prat de Llobregat, Spain SOCIALLY AND ECOLOGICALLY WORTHWHILE





"ECONOMY IN THE USE OF POWER RESOURCES HAS BEEN A FUNDAMENTAL GUIDE IN THE DEVELOPMENT OF THE PROPOSAL. THE BUILDING IS ON A HIGH LEVEL OF SUSTAINABLE ARCHITECTURE THANKS TO ITS ORIENTATION, ITS THERMAL COVER AND THE REST OF THE MATERIALS AND FACILITIES". CARLOS FERRATER AND NURIA AYALA



In May 2007, the Centro Esplai was inaugurated in Barrio Sant Cosme near Barcelona. It's a huge complex with different functions: on the one hand, it accommodates a youth hostel that, with 344 bedrooms, is the largest in the whole of Catalonia. On the other, the building contains numerous offices used by the client, the Fundació Catalana de l'Esplai, as well as various school and communal rooms. The delta of the Llobregat, which is an ecologically valuable natural landscape although socially problematic, is located in the immediate vicinity. This location was prudently chosen: the Centro was intended not only to open up the delta to children and young people and increase their awareness of ecological issues by means of guided visits and special courses, but also to help stabilise the situation in the district with attractive infrastructures.

The building, which was developed in collaboration with the ecologist Ramon Folch, is designed for sustainable, energy-saving use. This comprises the appropriate treatment of water, the use of renewable energy, solar panels on the roof for the preparation of warm water and – particularly important in this geographical situation – efficient sun protection in order to avoid overheating of the building and costly ventilation and cooling systems. In this context, the design of the façade was particularly crucial: despite its varied utilisations, the Centro had to have a unified appearance while at the same time fulfilling the high expectations of sustainability and comfort.

The complex consists of an end building for the offices of the Fundació Catalana de l'Esplai and a narrow, angular wing of bedrooms. The ground floor is reserved for communal use: among other things, it accommodates a large hall, classrooms, bedrooms and day rooms, a library



Location Area Sant Cosme, El Prat de Lobregat, Spain
Client Fundació Catalana de l'Esplai, Barcelona
Architects Carlos Ferrater and Nuria Ayala, Barcelona
Building period 2006–2007 (competition 2004)
Façade construction Client
Façade material SWISSPEARL<sup>®</sup> REFLEX, Platinum
9020, three special colours PLANEA





- 1 Swisspearl<sup>®</sup> cement composite panel
- 2 Profile UPN 270
- 3 Thermal insulation
- 4 Plaster plate
- 5 Tube profile  $40 \times 40 \times 30$  mm support structure
- 6 L-profile 40  $\times$  40 mm façade support
- 7 Frame perimeter with stainless steel matt plate
- 8 Glass window, stainless steel matt
- 9 Mechanical window
- 10 Bend, stainless steel matt plate
- 11 Insulation plate, extruded polysirene
- 12 Concrete plate to protect waterproof membrane, waterproof membrane 13 Concrete



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## OFFICE WING: A HIGH AIR SPACE ILLUMINATED By a skylight opens up behind the slanting façade.





and the youth hostel dining room. This simple ground plan is countered by a complex system of lighting and shading elements. The façade was developed from the sectional drawing under consideration of the orientation. It is completely closed on the side of the access corridor in the wing accommodating the bedrooms, but since it is slanting and ends in a skylight, the corridors on the upper floors are really galleries, and the triangular air space is illuminated by diffused zenithal light right down to the bottom. The office façade on the opposite side is similarly designed except for a few small openings and extensive glazing equipped with brises soleil. In both cases, the outer skin is designed as an insulated and rear-ventilated construction clad with vertical format grey cement composite panels. In this way, it was possible to comply with the ecological requirements on the façade while taking the geometry of the angled areas into account. The façades are either closed or interspersed with punched windows depending on the arrangement of the panels.

On the other side of the wing with the bedrooms, the building has quite a different appearance. The façade consists of a layer of balconies assigned to the bedrooms. In order to provide a view while at the same time protecting the bedrooms from the sun, the architects developed a system of open and closed areas. Bright red, blue and yellow cement composite panels that function both as parapets and as permanent sun protection were mounted in front of the balconies. Not only the colours, but also the different formats of the panels are irregularly placed, resulting in a varied pattern that contrasts with the rigid character of the corridor façade and reflects the variety of the young guests. *Judit Solt* 



YOUTH HOSTEL BEDROOM WING: COLOURFUL CEMENT COMPOSITE PANELS SERVE AS PARAPETS AND SUN PROTECTION AND REFLECT THE VARIETY OF THE YOUNG GUESTS.

## Social Housing in Ljubljana and Maribor, Slovenia A HOMELY ATMOSPHERE



Two recently completed housing developments by the Slovenian architects Bevk & Perović once again prove that quality does not have to be expensive. The façades of both groups of buildings consist of corrugated composite panels, and like softly draped curtains they evoke a homely atmosphere.













Ground floor



THE CORRUGATIONS FINE DOWN THE SCALE OF THE BUILDINGS, SET THE ENVELOPE VIBRATING AND LEND THE FAÇADE A TEXTILE APPEARANCE.

The housing development in Polje near Ljubljana, which was completed in 2005, set the seal on the international success of architects Matija Bevk and Vasa Perović (see Swisspearl Architecture 3). In particular, the façades of the six buildings – reddish-brown cement composite envelopes rhythmised by conspicuous fastenings, an interpretation of Gottfried Semper's cladding theory – gave rise to some discussion. Now, two new developments have once more taken up the themes of Polje: social housing, economically built, a high architectural level and innovative façades.

The Cesta v Gorice development is located on the periphery of Ljubljana. The long plot of land is bordered on one side by a road, on the other by a marshy green area. Owing to the dearth of attractive public spaces in the district, it was important for the development itself to incorLocation Cesta v Gorice, Ljubljana, Slovenia Client City of Ljubljana

Architects Bevk & Perović, Ljubljana

Building period 2006-2007

**General contractor** Alufinal, Dusan Peterkovic s.p., Krsko

**Façade construction** Gradbeno podjetetje Grosuplje d.d., Ljubljana

**Façade material** SWISSPEARL<sup>®</sup>, special colour and corrugated sheets EFASAL (from ESAL d.o.o.), special colour



- 1 EFASAL<sup>®</sup> corrugated cement composite sheets
- 2 Air space
- 3 Insulation
- 4 Window trim, zinc-coated, painted
- 5 French window6 Railing, steel profiles, zinc-coated,
- painted
- 7 Substructure, zinc-coated, L-profile 8 Concrete
- 9 Plaster



SUBTLY DIFFERENTIATED INTERMEDIATE SPACES OPEN UP BETWEEN THE LOW BUILDINGS.

porate differentiated communal areas. At the same time, care had to be taken to ensure that the zones between the houses did not deteriorate into no man's lands. For this reason, the architects divided the estate into four parts, each of which formed a unit. The S-shaped buildings comprise two clearly defined categories of courtyard: the larger ones, which include areas planted with fruit trees, are rural in character, whereas the smaller, paved courtyards with children's playgrounds make an urban impression. It was decided not to add private balconies in order to emphasise these communal spaces.

The ensemble contains different-sized apartments that are rented to both low-income families and refugees with residence permits. They nevertheless have a unified appearance, and the dual-direction apartments are organised in a bathroom-kitchen module accessed by galleries. Bevk & Perović chose two different cement composite panels for the façades. The galleries are clad with smooth black panels that form an ideal background for the bright yellow doors. The exposed façades, on the other hand, are clad with corrugated panels. This simple and reasonably priced strategy greatly adds to the impact of the development. On the one hand, the scale of the buildings is fined down by the corrugated structure because the hard, robust envelope appears to be vibrating; on the other hand, the closed-in façade areas, which are of different sizes owing to the staggered arrangement of the storey-high openings, take on the appearance of curtains that have just be opened or drawn. This gives every view of the buildings a different aspect, and the façades gain a textile appearance that emphasises the homely character of the complex. The fastenings of the panels are visible without being specially stressed – like tiny decorative buttons on a dress.

A variation of the same design principle is represented by the development in Maribor. Here, too, corrugated surface areas result in a lower-density scale between the storey-high openings of the façade and an increased sensation of elegance. The vertical lines of the corrugated cement composite panels are contrasted by smooth, reclining panels in the same colour. In this way, the architects draw attention to the roof end behind the panels and emphasise the contrast between the envelope and the tectonics. A sharp contrast to the restrained grey cement fibre is







- 1 EFASAL<sup>®</sup> corrugated cement composite sheets
- 2 Battens
- 3 Window sill, anodised aluminium
- 2 mm
- 4 Insulation
- 5 Textile screen
- 6 Parapet, inc-coated, painted7 Infill, expanded metal mesh,
- zinc-coated
- 8 Wood substructure 120 imes 45 mm
- 9 Ventilation module

- 1 EFASAL<sup>®</sup> corrugated cement composite sheets
- 2 Battens
- 3 Insulation
- 4 Parapet, zinc-coated, painted 5 Substructure, zinc-coated L-profile,
- $100 \times 190 \times 5 \text{ mm}$







ENVELOPE AND TECTONICS: THE VERTICAL LINES OF THE CORRUGATED Sheets are contrasted by smooth, horizontal panels of the same Colour in the area of the ceiling slab edges.

formed by the carefully arranged private and semi-private exterior spaces: the small, orange balconies project from the body of the building at unequal distances from one another, while multi-storey indentations in the volume open up to the landscape or the sky. The latter are intended for communal use: here, too, an attempt has been made to compensate for the disadvantages of the surroundings through high quality exterior spaces. *Judit Solt* 

Location Preradoviceva, Maribor, Slovenia Client Javni medobcinski stanovanjski sklad Maribor, Maribor Architects Bevk & Perović, Ljubljana Building period 2005–2007 General contractor Javni medobcinski stanovanjski sklad Maribor, Maribor Façade construction Srecko Knuplez, Zgornja Velka Façade material SWISSPEARL<sup>®</sup>, special colour and corrugated sheets EFASAL (from ESAL d.o.o.), Vulcanit

## University of Primorska Headquarters and Faculty of Humanities of Koper, Slovenia

**Embedding with Contrast** 

![](_page_21_Picture_2.jpeg)

The new university building is an annex to the old palace buildings within the context of the historical city centre. The new sections stand out clearly from the renovated buildings.

The main concern when planning the renewal of the two old palaces and the new building was to preserve and refine the existing qualities of the site while at the same time placing a new modern programme in this sensitive city area. As well as trying to create an efficient dialogue between the two given factors, we tried to create a legible functional concept to facilitate orientation.

The new spaces in the palaces are designed as "buildings inside buildings", detached from the walls in such a way as to reveal the historical elements. The new building is connected by a two-storey glass passage and has a clear functional partition. In the middle of the building there is a communication area with daylight entering the ground floor from the roof. The street side of the building accommodates classrooms and lecture rooms, with lecturers' rooms and the faculty administration premises above them on the courtyard side on the attic floor. *Plusminus30 architects*  Location Titov trg 5, Koper, Slovenia

**Client** University of Primorska and Faculty of Humanities, Koper **Architects** Plusminus30, Ljubljana; Barbara Debevec, Jure Melon, Lara Može, Bernard Podboj, Nataša Štrukelj

Building period 2005-2006

General contractor Makro5 gradnje d.o.o., Koper

Façade construction Termika, d.o.o., Ljubljana

Façade material SWISSPEARL  $^{\ensuremath{\mathbb{R}}}$  PLANEA, red T 304

The new annex building, which accommodates the more public premises, is connected to the old palace by a twostorey glass passage. The red façade forms a contrast to the ancient surroundings.

![](_page_22_Picture_1.jpeg)

![](_page_23_Picture_0.jpeg)

![](_page_23_Picture_1.jpeg)

![](_page_23_Picture_2.jpeg)

Faculty of Electrical Engineering and Computer Science, Maribor, Slovenia New Building for New Study Courses

![](_page_24_Picture_1.jpeg)

Silver grey cement composite panels, glass and metal – the modern technological appearance of the façade of the new building, which was recently opened by the University of Maribor, reflects its interior life: this is where electronic engineers and computer scientists are trained.

The University of Maribor began constructing its engineering faculty in Koroska Street in the 1970s. At the time, it was necessary to engage experts to repair war damage and meet the requirements of personnel. Recently, it is mainly the rapidly growing informatics and electronics sectors that are dependent on university graduates. The Faculty of Electrical Engineering and Computer Science of the University of Maribor (FERI) has grown in recent years to 266 employees and 3000 students, who finally had to be divided up over four different localities owing to lack of space. The construction of the new building meant

![](_page_25_Picture_0.jpeg)

that the faculty could be reunited in one place. The new building closes one of the last gaps on the university ground. It is located on the corner of Presih Street and Koroska Street and consists of three volumes that define a covered atrium in the middle. The first volume contains four large auditoriums and forms the spine of the building. The second, ring-shaped volume runs parallel to Presih Street and accommodates laboratories and classrooms. The street façade is - in conformity with the shape of the volumes - clad with horizontal cement composite panels. Irregularly placed slits, equipped with permanent but movable lamellas function as openings. When the lamellas are closed, the façade is smooth and uniformly grey; when they are open, it is not only the surface structure that changes but also the colour effect, since the undersides of the lamella contrast with the grey of the cement composite. The third volume is built directly onto an existing building in Koroska Street. Together, the three volumes describe a large courtyard. Here, too, the façade is characterised by silver grey cement composite panels and horizontal openings; the slit windows are, however, uninterrupted and are constructed as movable grids for sun protection. Judit Solt

Simple courtyard façade with horizontal window openings and movable metal grids for sun protection.

Stairway balustrades with Cemcolor panels with a metal handrail and decorative fastenings.

![](_page_25_Picture_4.jpeg)

Location Smetanova 17, Maribor, Slovenia Client University of Maribor, Maribor Architects Styria d.o.o., David Mišič, Maribor Building period 2004–2006 General contractor Konstruktor d.d., Maribor Façade construction Klemaks d.o.o., Maribor Façade material SWISSPEARL<sup>®</sup> REFLEX, Silver 9000 Interior material CEMCOLOR

![](_page_26_Picture_0.jpeg)

![](_page_26_Figure_1.jpeg)

![](_page_26_Figure_2.jpeg)

# Titus Brezovacki Primary School, Zagreb, Croatia From Rigidity to Plasticity

![](_page_27_Picture_2.jpeg)

Red and yellow clad columns lend a playful touch to the façades in front of the classrooms. The restrained colour play breaks the repetitiveness of window bands.

![](_page_27_Figure_4.jpeg)

![](_page_28_Picture_0.jpeg)

Special premises stand out with window openings of different sizes. This free façade design was facilitated by the rear ventilated façade with Swisspearl panels.

> By softening the stringency of the primary volume, this annex to an existing school establishes a connection with the surrounding area, thus upgrading the neighbourhood as a whole.

> Designed by the architects Vedran Pedisic and Emil Spiric, this new building is part of an existing elementary school in the western part of Zagreb. Completed in 2006, it was constructed as an annex to replace deteriorated sections of the school and utilises the same L-shaped area. This new annex now houses a sports hall with a smaller gymnasium on the first floor and an adjacent perpendicular two-storey school wing.

> Situated within an estate that was built during the socialist era and which is dominated by prefabricated housing with brick façades, this new building is in sharp contrast to its surroundings. The geometry of the floor plans,

as well as the volume itself, are simplistic in style, and the dark-blue Swisspearl panels that cover the entire façade emphasise this puristic approach. The south front, where all the classrooms are located, is plain and reduced in its design. The combination of different textures and the sparing use of colour counteract the monotony of the façade resulting from the repetitiveness of its bands of windows. By way of contrast, the architects made full use of the façade system on the north side by cutting out windows of various sizes and shapes independent of the supporting structure, and by adding jutties according to the needs of the interior space. A large multi-purpose room on the first floor overhangs the ground floor and opens up onto the street by means of extensive glazing. Likewise, the stair tower, where the main entrance to the building is located, is designed as a transparent jutty to the primary volume.

![](_page_29_Picture_0.jpeg)

![](_page_29_Figure_1.jpeg)

![](_page_29_Picture_2.jpeg)

Ground floor

Client City of Zagreb Architects Vedran Pedisic & Emil Spiric, Zagreb; Hrvoje Davidovski, Mladen Hofmann, Gordana Gregurić, Dragana Knezović, Tanja Baljkas, Boris Baljka Building period 2005-2006 General contractor Mešić com, Zagreb Façade construction Mar-Tel d.o.o., Zagreb Façade material SWISSPEARL® CARAT, Black Opal 7022, SWISSPEARL® CARAT, Amber 7083, SWISSPEARL® REFLEX, Sunset 9230

Location Spansko 29, Zagreb, Croatia

### 28

![](_page_30_Picture_0.jpeg)

![](_page_30_Figure_1.jpeg)

- 1 Swisspearl<sup>®</sup> cement composite panel
- 2 Profile 100 imes 100 mm
- 3 Rear ventilation space
- 4 Insulation 5 Sub-construction
- 6 Paneling
- 7 Roofing paper
- 8 Expanded polystyrene
- 9 Trapeze profile
- 10 Concrete

Due to such spatial applications and the various windows – precisely defined from their dark background by their white framing –, the volume loses its rigidity, creating a more plastic appearance towards the public space. Thus, a connection is established, linking the school to the surrounding residential area and the nearby market. *Patrick Zamariàn* 

are simplistic in style,

and the dark-blue Swisspearl panels that cover the entire façade emphasise this puristic

approach.

## Chriesbach Eawag Forum, Dübendorf, Switzerland

In Dialogue with the Environment

![](_page_31_Picture_2.jpeg)

![](_page_31_Figure_3.jpeg)

The aim was to achieve the highest possible degree of sustainability. The architect Bob Gysin, in collaboration with a team of specialists, successfully implemented the vision of the Swiss Federal Institute of Aquatic Science and Technology (Eawag) in Dübendorf. Architecture and technology are stretched to the limits of feasibility. And the result is the receiver of a wealth of honours and distinctions.

As the aquatic research institute of the ETH domain, the Eawag is committed to the achievement of the careful treatment of water and other important resources. For the new main building, the client stipulated not only economy and careful handling of resources, but also a "zero energy house", rain water utilisation and urine separation. Since the institute moved into the new premises in September 2006, the research and office building, which was conceived according to the most recent knowledge, is The well-insulated building envelope, consisting of timber elements, is clad with cement composite panels behind the adjustable glass lamellas.

![](_page_32_Picture_1.jpeg)

Location Überlandstrasse 133, Dübendorf, Switzerland Clients Eawag and Empa, Dübendorf Architects Bob Gysin + Partner BGP, Zurich Building period 2004–2006 (1st prize study assignment with preliminary qualification 2003) General contractors Implenia Generalunternehmung AG, Dietlikon Façade design Mebatech AG, Baden Façade construction G+H Fassadenbau GmbH, Römerberg (Germany); Schäfer Holzbautechnik AG, Dottikon Façade material SWISSPEARL® PLANEA, blue T 406 and special colour dark grey proving the worth of its in-house technology. The building, which accommodates 150 workplaces, functions without conventional heating and cooling systems and needs about as much thermal energy as an average singlefamily house. Nevertheless, it does not cost more then a comparable conventional building. A photovoltaic plant, controlled ventilation, night time cooling and lighting via the atrium are the most important keywords of the ingenious, computer-controlled functional system.

The compact block is surrounded by an optimised building envelope. The choice of materials took into consideration aspects such as grey energy, ergonomics and environmental tolerance. The outer layer is determined by screen-printed, light blue glass lamellas. These are adjustable and screen the sun's rays in summer while letting them through in winter. The view through the sun and weather protection envelope falls on the regularly fenestrated external wall. The 45 millimetre thick wall construction consists of highly insulating prefabricated timber elements clad with cement composite panels. The rich blue of the façade panels corresponds with the curtain wall attached to the façade, and the load-bearing construction of the reinforced concrete skeleton construction is taken up by the pillars behind the façade.

The interior of the building has a surprisingly generous atrium, representing both a light shaft and a hall. Around this, all the offices, as well as the projecting conference boxes, are located over five storeys. The atmosphere is open, transparent and communicative. Classrooms and seminar rooms, a staff restaurant and a communal library for Eawag and Empa complete the programme of rooms. The Chriesbach Forum forms the central point on the Empa and Eawag site in Dübendorf. A largely unified complex of purpose-built buildings in the best sense of the word was developed here over the past 50 years: careful, solid industry and laboratory architecture of the postwar modernity period. A few years ago, some of the buildings were excellently restored. Today, the once evacuated research premises are located in the extended industry and trade area that forms part of the planning area of "Glatttalstadt". The new building in its urban setting refers to the orthogonal arrangement of the existing buildings. The design of the surroundings includes the nearby river Chriesbach. Thus the mysterious "magic box", that is designed to be optimally environmentally friendly, is in constant dialogue with its built and natural surroundings. Michael Hanak

![](_page_33_Figure_3.jpeg)

![](_page_33_Figure_4.jpeg)

Ground floor

![](_page_33_Figure_6.jpeg)

![](_page_33_Figure_7.jpeg)

![](_page_34_Picture_0.jpeg)

An escape balcony leads past the external walls behind the glass layer.

- 1 Swisspearl<sup>®</sup> cement composite panel
- 2 Battens 40  $\times$  60 mm, horizontal and vertical
- 3 Wind-proof membrane, horizontal battens with insulation
- 4 Diffusion panel F30
- 5 Stand construction with insulation
- 6 Coarse grained chipboard
- 7 Acoustic mat
- 8 Slit acoustic panel
- 9 Steel girder

- 1 Swisspearl<sup>®</sup> cement composite panel
- 2 Battens 40  $\times$  60 mm, horizontal and vertical
- 3 Wind-proof membrane, horizontal battens with insulation
- 4 Wooden windows, spruce
- 5 Technology and media canals
- 6 Laminated glass lamella, silk screen printing 7 Grid
- 8 Double console, flat steel

![](_page_34_Figure_19.jpeg)

![](_page_35_Picture_0.jpeg)

The recently completed Federal Building in San Francisco by the Los Angeles based architectural firm of Morphosis is a sterling example of the fact that it is indeed possible to build a highrise building that is an architectural gem as well as an environmentally sensitive structure.

## Federal Building, San Francisco, California, USA INNOVATIVE, ECO, AESTHETIC

![](_page_36_Picture_2.jpeg)

![](_page_37_Figure_0.jpeg)

Cross section through skip-stop lobbies 1:1000

![](_page_37_Figure_2.jpeg)

![](_page_38_Picture_0.jpeg)

![](_page_39_Picture_0.jpeg)

THE VERSATILITY OF THE MATERIAL, AN ENORMOUS COLOUR RANGE, THE EASE AND SPEED OF INSTALLATION AS WELL AS ITS ECOLOGICAL CREDENTIALS – LOW ENERGY CONSUMPTION IN MANUFACTURE AND LONGVITY OF THE PRODUCTS – MAKE SWISSPEARL PANELLING AN ATTRACTIVE OPTION.

![](_page_39_Picture_2.jpeg)

The 18-storey building is sited vis-à-vis the Federal Courthouses, between the dense, vertically packed buildings of the commercial CBD to the north and the more horizontal warehouse district to the south. In response to this contrast, the two façades are treated entirely differently from one another: the northern façade is more conventional, with vertical glass fins that act as brises soleil, whereas the southern façade is clad in perforated stainless steel panels which are pulled taut across its face. Like tectonic plates, the flat sheets have been shifted and overlapped to create fissures and shadow gaps as well as a three-storey opening, which is the sky lobby above, looking out over the cityscape. The upper plane folds over the top of the slender building like an eyebrow or fringe over the top of the northern façade. Parts of the screen can open and close to regulate the light, giving the façade

![](_page_40_Figure_0.jpeg)

![](_page_40_Figure_1.jpeg)

![](_page_40_Figure_2.jpeg)

another dynamism and flexibility. The translucency of the membrane gives the building a complexity and depth as one's perception is constantly shifting depending on how the membrane filters the fall of light. A gentle light allows the skeleton structure behind to be discerned through the filigree of the screens; a harsh light seems to solidify the skin.

The lower part of the façade unfolds like a bride's veil to cover a public plaza on ground level. In contrast to so many highrise towers, which have an abrupt 90 degree junction between the vertical and horizontal planes ignoring and dwarfing the pedestrians below, the plaza of the Federal Building responds to the street plane, thus humanising the scale. The folded steel membrane above invites the public in and gives government bureaucrats the opportunity to mingle with the public. It is a welcome and appropriate gesture on the state's part to allow the public access to a day care, gym and meeting rooms; after all, the building is financed by the tax payer.

The entry foyer on street level is created by a dynamic, angled concrete corner column which braces the corner and pulls away from the façade to create a glazed opening, again as if split or cracked open: an echo of the precarious seismic geology on which the city is built.

The interior of the building is as dynamic and futuristic as the exterior. The tilted grey Swisspearl panelling creates a triangular funnel space which is punctured by glazed light boxes like artificial crystals growing from the interior façade. The lift lobbies are clad with the same panels; timber panels are folded across the ceiling in a similar manner to the entrance lobby where Swisspearl panels are used to create unusual, highly complex spaces. The

![](_page_41_Picture_0.jpeg)

effect is an interior reminiscent of a science fiction film. As with the exterior, there is a beautiful play between the solid concrete and the ephemeral interplay of natural light and translucent surfaces internally.

The building is not simply designed aesthetically, it also functions well: the offices are organised to allow 90 % of the workers to have extensive views and natural light thanks to the rationality of the plan, which has centred the service core to allow for open plan clusters of work zones along all its façades. The architects have also designed a technically sophisticated natural ventilation system to provide good air circulation. These design aspects surely add to the quality of the work environment for the users of the building. *Anna Roos* 

![](_page_41_Figure_3.jpeg)

Cross section through elevator lobby 1:200

Location 1127 Mission Street, San Francisco, California, USA Cilent U.S. General Services Administration (GSA), San Francisco, CA Architects Morphosis, Santa Monica, and The Smith Group, San Francisco Building period 2004–2006 General contractor Dick/Morganti Joint Venture, Large, PA Façade construction Performance Contracting, Hayward, CA Façade material SWISSPEARL® CARAT, Sapphire 7061

![](_page_42_Picture_0.jpeg)

## Hotel Bellevue, Pohorje, Slovenia FROM MODERN TO CONTEMPORARY

![](_page_43_Picture_1.jpeg)

In Maribor, Slovenia, a listed hotel from the 1950s was recently renovated. Local architects Oskar Virag and Iztok Rajšter added a new guest wing, choosing an unusual combination of materials.

![](_page_44_Picture_0.jpeg)

The hotel Bellevue is situated outside the city of Maribor, Slovenia, on the slopes of the Pohorje mountains which are famous for their unspoilt nature, winter sports facilities and the oldest vine in the world. The hotel was built in 1958, when the plateau above the city was made accessible with a cable car. Today, due to its distinctive form, the building is considered to be an important representative of modern Slovene architecture and is therefore a protected heritage. In 1965, a new guest wing was added, with a passage connecting it with the older part.

A few years ago, the owner, the Terme Maribor, decided to renovate the complex. Together with the Protection of Cultural Heritage in Slovenia, the architects Oskar Virag and Iztok Rajšter - both graduates from the University of Ljubljana and currently independent architects in Maribor - resolved to pull down the newer parts and restore the central wing containing all the public spaces to its original state. The restaurant under the high saddle roof regained its fully glazed façade, dark corridors were opened up, and the old exterior timber panelling replaced. The lightness and elegance of the 1950s architecture also served as an example for the new additions. The guest wing - like its predecessor - now consists of two cubic volumes positioned at a slight angle. The four-storey buildings have a grey stone façade on the basement level and dark brown wood panels above with large windows for the guest rooms. Both the upper part and the central connecting section were, however, clad in light blue Swisspearl cement composite panels, creating a striking contrast to the traditional materials and lending the hotel an air of contemporaneity. "We wanted to create the impression of the top floors floating above the lower parts", said the architects. "In certain weather conditions, they merge with the blue sky and seem to disappear completely". Mirko Beetschen

Location Na Slemenu 35, Pohorje, Slovenia Client Terme Maribor

Architects Vires, Maribor; Oskar Virag, Iztok Rajšter Building period 2006

General contractor Bitermo d.o.o. Portorŏz, Lucija Façade construction Mizarstvo Kuharič d.o.o., Polenšak Façade material SWISSPEARL® REFLEX, Cobalt Blue 9241

![](_page_45_Figure_5.jpeg)

Ground noor 1:1000

### "THE GLITTERING BLUE OF THE SWISSPEARL PANELS PERFECTLY SUITED OUR INTENTION OF LOWERING THE BUILDING VISUALLY". IZTOK RAJŠTER

![](_page_45_Figure_8.jpeg)

- 1 Swisspearl<sup>®</sup> cement composite panel
- 2 Air layer 40 mm
- 3 Thermal insulation 100 mm,
- wind-proof membrane
- 4 Concrete plate in inclination 200–280 mm
- 5 Protective net
- 6 Wood plank
- 7 Thermal insulation roof mate 200 mm
- 8 Foil insulation
- 9 Thermal insulation 80 mm
- 10 Closing sheet metal border

![](_page_46_Picture_0.jpeg)

## Health Centre Hvar, Jelsa, Croatia

Between Man and Exterior Space

![](_page_47_Picture_2.jpeg)

The ensemble of the new health centre near Jelsa is situated on a slight slope, orientated towards the south. A view of the countryside is afforded by every corner. The link between man and exterior space is created by the careful choice of materials and large transparent surfaces where bright sunlight is not a problem.

The interior walls of the buildings are orientated toward the central stairway, creating an intimate atmosphere with a view of the city. White walls and large glass surfaces give the volumes that articulate the exterior surface a vibrant rhythm. Corridors, waiting rooms and toilets are located on this side. The exterior walls are characterised by a strong contrast between the blue surface and white window cubes. These hollow cubes serve as a protection from direct sunlight and allow diffuse light to enter. In addition, they prevent people looking into the dispensaries behind the façade from outside. The façade is constructed with cement composite panels with a thermally insulating ventilation space behind. *mh* 

Location Jelsa, Croatia

**Client** Ministarstvo Zdravstva Republike Hrvatske, Zagreb

Architects APZ Inžinjering d.d., Zagreb; Tonči Čerina Building period 2005–2007

**General contractor/façade construction** MGA d.o.o., Metković

Façade material SWISSPEARL<sup>®</sup> CARAT, Black Opal 7023 The outer façade walls are characterised by the contrast between the monotone blue surface and the white, regularly placed projecting plaster cubes.

![](_page_48_Picture_1.jpeg)

![](_page_49_Picture_0.jpeg)

Museum Narona, Vid, Croatia The Hall of Rome

The Narona Museum is clad in cement grey Swisspearl panels that protrude at regular intervals so that the interior of the building is supplied with natural light.

![](_page_49_Picture_3.jpeg)

Spectacular archaeological finds prompted the Croatian city of Metković to build the Narona Museum in the small village of Vid. Its architect, Goran Rako, constructed a spectacularly modern building on the site of a former temple, thus creating a bridge between antiquity and today.

The area around the Croatian village of Vid near Metković is considered to be one of the most important archaeological sites for Roman culture outside Rome. Previously, in antiquity, it was the site of the wealthy city of Narona, later a Roman colony. Archaeological digs from 1995 delivered epochal finds: the Augusteum is a temple consecrated to the emperor Augustus, with beautiful mosaics and sixteen spectacular marble statues. Croatian architect Goran Rako, who graduated at the University of Zagreb, was commissioned with the delicate task of building a modern museum on this historical site, in which the temple ruins, the precious mosaics and the statues would be displayed.

"I had to construct a building that would cover the whole archaeological site and take up a large area in the middle of a small village", says Goran Rako. In order not to spoil the rural character of Vid but still make a modern statement, the architect decided to break down the large volume into smaller elements and place them like large steps onto the sloping site. The volumes thus form generous terraces. The staircases, with which the architect connected the latter, are supposed to enable communication across the house and thus make it an integral part of the landscape. The stairs are also a distinct feature of the simple façade which consists of cement grey Swisspearl panels. "I didn't want to use stone", Goran Rako explains, "for this would have been too literal. I found that this Swisspearl material was the most similar to natural stone". The large plain façades are accentuated by protruding panels that create an interesting light and shade pattern and supply the interior with natural light. A small square covered in white gravel gives Vid a new centre, connecting the traditional with the modern. *Mirko Beetschen* 

![](_page_50_Picture_4.jpeg)

![](_page_51_Figure_0.jpeg)

### "I USED SWISSPEARL AS 'ARTIFICIAL' STONE AS I DIDN'T WANT TO USE PROPER STONE IN ORDER NOT TO be over-literal on this historic site". Goran Rako

![](_page_51_Figure_2.jpeg)

![](_page_51_Figure_3.jpeg)

50

![](_page_52_Picture_0.jpeg)

The architect Goran Rako broke down the large volume into smaller units, placing them on the sloping site and connecting them with staircases and terraces.

Location Vid, Croatia Client City of Metković Architects Radionica Arhitekture d.o.o., Zagreb; Goran Rako, Nenad Ravnić, Blanka Gutschy Building period 2004–2006 General contractor/façade construction MGA d.o.o., Metković Façade material SWISSPEARL® XPRESSIV, cement grey 5747 Built for Velux, a manufacturer of roof-windows, this business and warehouse building transforms the roof into a folded façade, thus taking advantage of the unique possibilities offered by ventilated façade systems.

## Velux/Kalcer Business and Warehouse Building, Trzin, Slovenia TRANSFORMING THE ROOF

![](_page_53_Picture_2.jpeg)

![](_page_54_Picture_0.jpeg)

The rapid economic upswing of countries within the former Yugoslavia has led to the development of industrial and business areas not subject to any supervisory planning. The typical lack of architectural coherence presents a challenge to the designers, while at the same time offering them a wide range of possibilities. The business and warehouse building Velux/Kalcer in Trzin, built by the Slovenian architectural firm of Arhiveda, is a textbook example of such self-referring architecture.

The building consists of two markedly different parts. The warehouse itself is constructed in prefabricated concrete, remaining simplistic and reduced in form. On the other hand, the office section, formed by a steel cantilever construction, is fastened to the concrete structure of the warehouse, overhanging it by three metres on both sides.

The core element of the design concept was based on the task itself. Owing to the fact that Velux fabricates roof windows, the roof itself is transformed into a floating front façade with planes in various slopes. The folded façade is covered by greyish blue Swisspearl panels, thus utilising the unique possibilities offered by ventilated façade systems.

Sixteen bands of windows extend along both floors of the office section from top to bottom and accentuate its expressive appearance. The front façade attracts the attention of drivers who frequent the four-lane road to Ljubliana, and logically, the functional concept of the building is adjusted to the motorised traffic as well. The parking zones are situated below the office section; visitors access the building through a narrow passageway that leads to two separate office units, each with its own multifunctional entrance hall. The expressive exterior façade is also prevalent in the interior, giving the various offices, boardrooms and lecture halls a distinctive appearance. *Patrick Zamariàn* 

Vertical section 1:20

- 1 Swisspearl<sup>®</sup> cement composite panel
  - 2 Perforated Z-profiles 40 mm
  - 3 Single ply membrane, plywood 15 mm
  - 4 Plywood 15 mm
  - 5 Structural framework, wood 160 mm
  - 6 Thermal insulation 250 mm
  - 7 Vapour barrier
  - 8 Steel sub-construction 50 mm
  - 9 Plasterboard 25 mm
  - 10 Support battens  $100 \times 100$  mm
  - 11 Reinforced concrete
  - 12 Steel construction, thermal insulation 150 mm
  - 13 Layer of air

Location Ljubljanska cesta, Trzin, Slovenia Client Kalcer d.o.o., Trzin, and Velux Slovenia, Trzin Architects Arhiveda d.o.o., Ljubliana; Marko Mandelj, Rafko Napast, Mladen Muck Building period 2006 Façade construction Miran Lamovšek, Moste Façade material SWISSPEARL® NOBILIS,

![](_page_56_Figure_0.jpeg)

![](_page_56_Picture_1.jpeg)

"THE PLANES OF THE MAIN FAÇADE BECOME AN ABSTRACT ROOF WITH VARIOUS SLOPES THAT DICTATE ITS RHYTHM AND CHANGE THE PERCEPTION OF THE BUILDING ACCORDING TO THE POINT OF OBSERVATION". MARKO MANDELJ, ARHIVEDA

![](_page_57_Picture_0.jpeg)

## Business Commercial Centre Tuš, Polzela, Slovenia Relaxed Creative Expression

The Swisspearl material of the ventilated façade has a metal loadbearing section with a lower zone in the shape of a broken line.

![](_page_57_Picture_3.jpeg)

The dominant panoramic view of the building is the south-orientated entrance to the supermarket, which is turned towards the centre of the town. The large covered entrance and the façade, which projects for two meters on all sides, protect the pedestrians. The architectural concept is subordinated to the urban building line, with its ground floor plan in the shape of broken lines that are repeated in the formation of the external appearance of the building. In compliance with the investor's wishes, and owing to the tight building schedule, the construction was carried out as planned with industrial prefabricated elements. The two given conditions - the urban building line and the prefabricated construction - were rigid and creatively limited in terms of design. The lower compact concrete part is subordinated to the technological limitation of an industrial product which in the process of shaping

![](_page_58_Picture_0.jpeg)

The colour of the façade refers to the corporate image of the investor, at the same time reviving a cultural memory of the valley of the green gold - i.e. hops.

the façade takes on a relaxed creative expression. The façade console looks like a light open green umbrella over the compact built part. *Mateja Kričej* 

Location Polzela 11 b, Polzela, Slovenia Client Engro Tuš, Celje Architects Mateja Kričej, Primoš Borin, Celje Building period 2006 General contractor Vegrad d.d., Velenje Façade construction Liwel d.o.o., Celje Façade material SWISSPEARL® PLANEA, special colour Cyprit

- 1 Swisspearl<sup>®</sup> cement composite panel
- 2 Supporting construction of galvanised steel metal
- 3 Load-bearing metal
- 4 Wreath mask aluminium sheet metal 1 mm
- 5 Sintofoil 1,2 mm, with felt
- 6 Insulation 2 imes 80 mm
- 7 Vapour barrier
- 8 Plasterboard (Fermacell) 15 mm, with rough coating

![](_page_58_Figure_12.jpeg)

![](_page_58_Figure_13.jpeg)

![](_page_59_Picture_0.jpeg)

![](_page_59_Picture_1.jpeg)

Commercial Centre Tuš, Idrija Location Lapajnetova ulica 33, Idrija, Slovenia Client Engro Tuš, Celje Architects Atelje Villa d.o.o., Ljubljana; Leon Belušič Building period 2006 Façade construction Klemaks d.o.o., Maribor Façade material SWISSPEARL® CARAT, Coral 7031, and special colour PLANEA, green Florit 821 4954

## Slovenia - Artistic Pattern

MUUUAUMUMU

The complex is a contemporary "hybrid" that includes a shopping centre, parking platform and football field. Special attention was focused on the design of a long straight main façade of the supermarket, which is mainly experienced from the car. The dynamics of its scale are adapted to this façade and, although it is closed in the programme sense, it is also attractive and addresses the traveller who is entering the town as well as potential customers of the shopping centre. The long surface is composed of two parts, a smaller smooth, silver-coloured one and a larger one structured in the green colour of the investor. The artistic pattern of its texture comes from the local tradition of lace making, where intertwined lace threads are transformed into meanders of highlighted lines. In this way, the main façade unites abstract international aesthetics with characteristic local elements. Leon Belušič

C

F

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![](_page_60_Picture_0.jpeg)

### Office and Trade Building Thiriet, Saint-Pierre

Location Near highway exit Saint-Pierre, Réunion Island, France Client Thiriet, Saint-Pierre, and Banque française commerciale de l'Océan Indien (BFC), Saint-Pierre Architects Espace Création SCPA C. & Pierre Rossier, Saint-Denis Building period 2006 Façade construction Habitat Confort, Saint-Pierre Façade material SWISSPEARL<sup>®</sup> CARAT, Coral 7030

![](_page_60_Picture_3.jpeg)

## **Réunion Island – The Hurricane Test**

The island located in the Indian Ocean is regularly visited by tropical cyclones. At the end of February 2007, such a cyclone raged for four days, with wind blowing in strong gusts above 250 km/h and torrential rains. But although the natural catastrophe caused a lot of damage all over the island, the appearance of the façade of the Thiriet building did not change: the Swisspearl panels were neither displaced nor showed any alteration in surface aspect or colour. *mh* 

## Sweden - Combination with Stone

This high profile residence located in the west harbour of Malmö stands about 20 meters away from the shore. All twenty apartments in this 50 meter long and 13 meter wide building overlook the sea (Öresund). Construction was started in the autumn of 2006, and the façade was installed in March 2007 – a fairly short time for a new five storey building.

A special feature of the façade is the material and colour combination of the black cement composite panels and travertine. The short sides of the building are clad with this imported natural stone: these panels, used in different sizes from 300 to 1700 mm, are 25 to 30 mm thick. The heavy blocks are installed on a strong aluminium sub frame, whereas the Swisspearl panels are screwed onto a standard wooden sub framing. *mh* 

#### Multi-family Residence Ankarspelet 2, Malmö

Location Barometergatan, Malmö, Sweden Client Riksbyggen, Stockholm Architects White architects AB, Malmö; Sven Gustavsson, Göran Wihl Building period 2006–2007 General contractor/façade construction Peab Sverige AB, Malmö Façade material SWISSPEARL<sup>®</sup> CARAT, Black Opal 7020

![](_page_61_Picture_0.jpeg)

## Serbia - Spatial Demarcation

Located in the heart of a large new commercial building, the interior colours and materials of the Café Senso create a relaxed, cultivated atmosphere. The centre of the café is occupied by a bar counter with a wooden working surface and clad with dark cement composite panels. The side walls above the beige benches are also clad with anthracite cement composite panels that clearly demarcate the room with its light coloured furniture. *mh*  Café Senso in the Commercial Building Atrium, Belgrade Location New Belgrade, Serbia Architects Vasko + Partner Ingenieure, Vienna/Belgrade Building period 2006 Façade construction NBN Inženjering, Belgrade Façade material SWISSPEARL<sup>®</sup> CARAT, Black Opal 7020

![](_page_61_Picture_4.jpeg)

![](_page_62_Picture_0.jpeg)

![](_page_62_Picture_1.jpeg)

![](_page_62_Picture_2.jpeg)

#### Durnwalder Office and Residential Building, Bruneck, South Tyrol Location Ahrntaler-Strasse 26,

St. Georgen/Bruneck, South Tyrol, Italy Client Armin Durnwalder, St. Georgen/Bruneck Architects Armin Durnwalder, St. Georgen/Bruneck Building period 2005–2006 Façade construction Leo Reinisch, Trimont Façade material SWISSPEARL® CARAT, Black Opal 7020

![](_page_62_Picture_5.jpeg)

## Italy - Abstract Perimeters

The office on the ground floor is orientated in such a way that it opens up to the main road of the valley like a shop window. The separately accessed apartment on the two upper floors is mainly orientated towards the south and west and intentionally closed to the much frequented main road.

The choice of material was taken into consideration when designing the organisation of the building. Exposed concrete, glass and aluminium were used for the lower parts, whereas cement composite and timber were used for the upper parts. The unusual shape of the building is the result of the perimeters of the plot and urban regulations that have produced the unusual acute angle in the north and the backward staggering of the attic storey, while the alignment of the window façade and the balcony layer at the front of the building differ from one another. The abstractly shaped building volume is held together by the uniform grey of its outer skin. The building is classified as a KlimaHouse A (energy saving construction). *mh* 

![](_page_62_Picture_9.jpeg)

![](_page_63_Picture_0.jpeg)

#### Commercial Building Levi 9, Novi Sad

Location Trifković Square, Novi Sad, Serbia Client Levi9 Global Sourcing Balkan d.o.o., Novi Sad Architects M+, Novi Sad; Dragan Marinčić, Aleksandra Marinčić, Andrea Tamaš Building period 2006–2007 Façade construction Montažni objekti, Novi Sad Façade material SWISSPEARL® CARAT, Black Opal 7025 and Onyx 7090

## Serbia - Solid Contrast

The location of the office building of a Dutch software company in Novi Sad is on the "edge zone" of the old city. Regarding the appearance of the new building, the investor's main concern was a contemporary approach. The architects used a cubic form and new materials. The element that frames the differently treated segments of the building is a solid structure which begins as the floor at ground level, develops into the wall of the back façade, and ends up as the roof of the third level. Black cement composite panels were applied to give this element a solid character. White panels on the sides of the building contrast with the glazed front and the wooden panels of the box on the upper floors. With its clear form and daring but careful use of materials, this building makes a decisive gesture towards a new perception of architecture in its cultural environment. *Dragan Marinčič* 

#### Lobby for Swimming Pool and Spa, Collado Villalba Location Las Águedas s/n, Collado Villalba. Spain

Client City Council, Collado Villalba Architects Manuel Canalda Piñana, Pozuelo de Alarcon/Madrid Building period 2006–2007 Façade construction Atyrsa S. L., Alcoron Façade material SWISSPEARL® CARAT, Black Opal 7025, Coral 7031, Onyx 7099, Sapphire 7060

## **Spain - Colourful Reception**

The swimming pool and spa sports complex, formed by three buildings with curved roofs, is one of the most modern facilities in the region. Cement composite panels in various colours were used for the area of reception, an extensive and luminous zone covering over  $400 \text{ m}^2$ , where different constructive elements are combined: crystal curtain walls, timber ceilings and everywhere a spectacular red, black, white and grey combination of colours with Swisspearl panels. *mh* 

![](_page_63_Picture_9.jpeg)

News

Exhibition Stand at the Swissbau 2007, Basel Location Messe Schweiz, Basel, Switzerland Client Eternit (Schweiz) AG, swisspor AG, Dörig Fenster Service AG Architects Cadosch & Zimmermann, Zurich Building period 2007 Stand construction Erne AG Holzbau, Laufenburg Façade construction Eternit (Schweiz) AG, Niederurnen Façade material different available products

![](_page_64_Picture_2.jpeg)

## **Distinctions - Innovative Sustainability**

A series of distinctions bear witness to the innovative power of this exemplary project in Switzerland, the Federal Institute of Aquatic Science and Technology (Eawag) in Dübendorf, designed by architect Bob Gysin: in 2006, it was awarded the Swiss Solar Prize and the Swisspor Innovation Prize. In 2007, the Watt d'Or was followed by an invitation to Shanghai for the next Holcim Forum for Sustainable Construction. The same year, Eawag has received the first Velux Foundation Daylight Award, Switzerland's most coveted architectural prize. *mh* (see also page 30-33)

![](_page_64_Picture_5.jpeg)

## **Exhibition - A Crowd Puller**

The Swissbau in Basel is the Swiss building sector's most important trade fair. This year, the Eternit (Schweiz) AG stand was conspicuously located right at the front of the huge main hall. The towering three-storey structure also comprised the firms Swisspor and Dörig. This joint appearance with the spectacular deconstructivist architecture had a magnetic effect on the passing public. All three areas were clad with different cement composite products – the stand architecture itself shows off the products. A tour of the spatial structure was a rewarding experience. *mh* 

## **Green-Award – Environmentally Sensitive Design**

Green distinction for the new building complex of the National Oceanic and Atmospheric Administration (NOAA) in Suitland, designed as a joint venture by Morphosis and Einhorn Yaffee Prescott. The project achieved Gold certification within the LEED (Leadership in Energy and Environmental Design) Green Building Rating System. LEED is a voluntary, consensus-based national standard for developing high-performance, sustainable buildings. The combination of unusual form, high technology, and green measures made the construction a challenge. *mh* (see also Swisspearl Architecture 4)

![](_page_64_Picture_10.jpeg)

# Nuria Ayala, Architect in Barcelona, Spain

![](_page_65_Picture_2.jpeg)

Born in Barcelona 1975. Architect's degree from the Escola Tècnica Superior d'Arquitectura de Barcelona (ETSAB) in 2001. Has worked in different architectural practices since 1995 and joined Carlos Ferrater's studio in 2000. Senior Architect and collaborator on differents projects and competitions.

See also www.ferrater.com and page 4.

#### What made you decide to become an architect?

I was 6 or 7 years old when I decided to design buildings, perhaps because I wanted to recreate the spatial sensations inherent in places or buildings which I had visited. When I asked about these structures, it was explained to me that the buildings had been designed by an architect.

### Where do you work, and in what organisational structure?

It is a flexible professional structure that deals with the complex organisation of each collective project and participates in the different phases with the collaboration of other studios and specialists.

### What themes interest you particularly in your work?

I am particularly interested in projects that take shape and develop into real and specific constructions that, when they are completed, are useful because they realise the intention for which they were conceived and serve the society in which they were developed.

### Who are your role models, and why?

Among the architects from the past, I admire Louis I. Kahn for his pure and forceful basic geometric shapes that lend monumentality to the site and for his poetic spaces combining abstract geometry and materiality. And day by day, I have the possibility of sharing my work with a master, Carlos Ferrater.

#### What are your favourite buildings?

One of them is the Mosque of Córdoba. The repetition of elements in a mesh that covers a multi-purpose place (prayer, commerce, school, meeting point), characterised by unlimited space. Another is Farnsworth House, with its definition of public-private and nature-interior, its slightness and scale.

#### What would you describe as your greatest success in architecture?

The construction of the ONG "Centre Esplai", a social project that comprised the project itself and what it represented like a symbol of the new stage of the Fundació Catalana de L'Esplai and of the organisations and people who work there; and the positive reversion that has filled the site selected for its construction, the area of San Cosme, with a vivid and complex place in which the building, its programme and its materiality are combined to create one more beautiful, rich city.

### How do you find the right building materials for a project design?

The choice is based on the final materialisation of the concept or initial sketch that we aim to provide. Obviously we analysed the optimisation of the details and the constructive process.

### Why do you use cement composite panels?

In our last project, the "Centre Esplai", we made the whole outer perimeter with Swisspearl Reflex Platinum panels, playing with the dimensions of the standard panels, which enabled us to construct the "skin" of the building following the parameters of beginning a project, such as: austerity, functionality and practicality. For the inner skin, in the façade of the shelter, we used panels in special colours according to the specifications: the primary colours of Miró (red, yellow and blue), which correspond to socio-cultural criteria.

#### Nuria Ayala, I thank you for your answers.

Interview by Michael Hanak

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![](_page_67_Picture_0.jpeg)

![](_page_67_Picture_1.jpeg)

![](_page_67_Picture_2.jpeg)

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![](_page_67_Picture_4.jpeg)