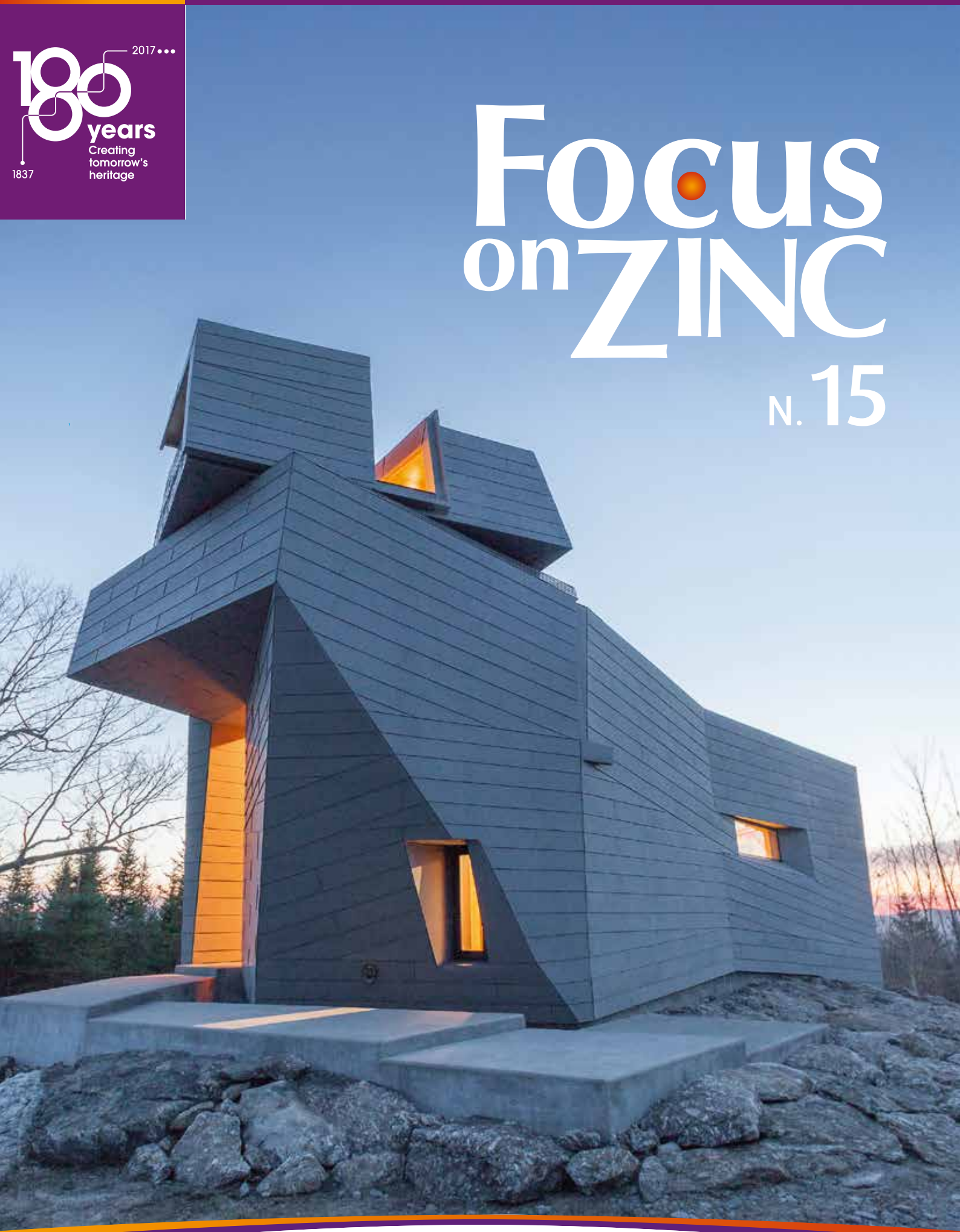
1837 2017 180 years
Creating tomorrow's heritage

Focus on ZINC

N. 15



VMZINC

1837 - 2017

VMZINC® is celebrating its 180th anniversary

After almost two centuries working for the building industry, zinc is constantly reinventing itself and yet remains the same.

The société des Mines et Fonderies de Zinc de la Vieille Montagne, renamed VMZINC®, is celebrating its 180th anniversary this year. At each stage of its development, it ensured that the zinc it produces perpetuates and strengthens its unique qualities, which guarantee its functionality and its expressiveness.

With zinc, we are dealing with pertinent continuities, those found in Architecture between roofs and facades, between the old and the new, the city centre and the suburbs, Europe and major cities around the world.

VMZINC®
180 years of continuities

HISTORIC CONTINUITIES

Zinc has been present in the earth's crust since the dawn of time and is found in abundance in many minerals. Although chemists in ancient times and in the middle ages tried to handle this metal, better known as "Indian tin", it wasn't until the Industrial Revolution that the Abbott and chemist Jean-Jacques Dony initiated the first large scale applications of the material with his original refining procedure, which led to its rapid growth in the construction industry. It was an immediate hit in the building sector thanks to its capacity to resist corrosion.

Near Aix-la-Chapelle, on the border of the First French Empire, the Altenberg deposit (Vieille Montagne) was the centre of zinc extraction from the end of the 18th century.

With its strong image as a new industrial product, zinc arrived on the market at the beginning of the 19th century, when Paris was about to enter a period of major transformation. Together with stone facades, cast-iron guard-rails and slate mansards, zinc rapidly joined the list of symbolic materials associated with the work of Baron Haussmann.

Compatible with low slopes, the homogenous, textured, metallic grey-blue of zinc roof tops give the City of Light its unique 5th façade.

180 years later, VMZINC® has withstood the test of time by adapting to each period, thanks to the malleability of its material, the skills of its engineers and the unconditional support of the zinc-roofing profession.

SPATIAL CONTINUITIES

From ridge cap to gutter, to downpipe, via roofing panels and valleys, VMZINC® draws a continuous line across the tops of buildings. The ideal material for architectural seaming, it is folded and welded to the roof and makes all singular points or protrusions likely to threaten the integrity of the building watertight.

Initially used solely for roofing, VMZINC® now extends its protective coat to facades, ensuring watertightness for the entire envelope. So the same material is used to manufacture radial panels roofing the domes of a Byzantine church and to form the cassettes cladding the pleated facades of a contemporary theatre.

Because it can roof an existing building and its extension in a single stroke, zinc unites the old and the new, making it possible to discreetly and efficiently create both horizontal and roof extensions, creating perfect seams and trims between even the most heterogeneous materials, planes and forms.

GEOGRAPHIC CONTINUITIES

From the heart of Paris, zinc has come a long way, spreading to the immediate outskirts of the French capital and subsequently to the entire country.

It can be found as frequently on modest and utilitarian architecture - for example on collective housing buildings from the early 20th century or covered markets - as on exceptional projects, palaces, museums and universities.

Now it has travelled beyond Europe, to distant countries and their territories, where this material was until recently unknown. New uses are being invented there and the culture of zinc is being regenerated. In these new contexts, complying with different regulations, architects are working with no preconceived ideas using a material to which they are giving new expression.

CONTINUING TO CREATE TOMORROW'S HERITAGE

An expert in zinc since it was created, VMZINC® is constantly pushing the boundaries of its material by regularly introducing innovations, while preserving its intrinsic qualities.

For example, the recent PIGMENTO® range brought new colours to the texture of zinc, facilitating its integration in the most varied urban contexts.

Multicoloured without being gaudy, preweathered and now engraved, VMZINC® retains its legendary flexibility enabling all presentations, both inside and outside: scale motifs, continuous strips with varying widths, hollow or raised joints, perforations on request that give unexpected transparency to the metal. It applies perfectly to virtually all types of slopes, all volumes of all sizes, on a huge airport or a small urban kiosk.

Zinc provides its sustainable, durable skin to increasingly inventive and diverse creations, to the architectural designs and objects of today that will become the heritage of tomorrow, which we will leave to future generations, similar to certain monuments of the past already protected by zinc, which are now recognisable or have become cult buildings.

AFTER ALMOST TWO CENTURIES WORKING FOR THE BUILDING INDUSTRY, ZINC IS CONSTANTLY REINVENTING ITSELF AND YET REMAINS THE SAME.

FOCUS ON ZINC N° 15 - October 2017. FOCUS ON ZINC is the international architecture magazine from VMZINC®. It is published in English, French, German, Italian, Polish and Spanish **Publication Director** Roger Baltus **Project Manager** Corinne Gessat **Editorial Committee** Silvia Besana, Michel de Caluwé, Stéphane Corbel, Tugay Dindar, Corinne Gessat, Catherine Gibert, Laurent Heindryckx, Knut König, Eric Ladeuix, Jonathan Lowy, Barbara Nordberg, Laura Terricabras Balada **Editorial Contribution** Roger Baltus, Jenny Gilbert, Olivier Namias, Barbara Nordberg **Design** Graphic Plus D13678 **Printing** Groupe des imprimeries Morault.

VMZINC® celebrated its 180th anniversary this year. This period of celebration was an opportunity to take a look back and rediscover, with emotion but no nostalgia, just how far we have come!

Although it all started in 1805 with the invention of an industrial zinc refining process, it wasn't until 1837 and the creation of the " Société des Mines et Fonderies de Zinc de la Vieille Montagne", that a solid industry was built up and the use of rolled zinc in the building sector started to spread exponentially. The impetus for this growth came from "Vieille Montagne", now VMZINC®, which has been constantly innovating and evolving its production processes & equipment, its alloy, and its offer, with numerous innovations in terms of surface aspects and comprehensive solutions for building envelopes.

Three decades ago, VMZINC® chose to place Architecture at the heart of its preoccupations, as zinc is also chosen for its aesthetic qualities (textures, surface aspects and presentations). This is an approach as of yet rarely taken by industrials in the building sector, and it required the development of a real architectural culture throughout the company, in order to promote architecture and architectural quality.

The 15th edition of our international Focus on Zinc magazine yet again demonstrates this. The projects presented highlight magnificent buildings that reveal the beauty of zinc, its materiality and, more generally, its originality. They also demonstrate innovative uses of zinc and new presentations, including sophisticated perforations, made to order shingles and customised facades.

The history of VMZINC® is continuing with the same energy as before, the same enthusiasm and a new shareholder. The latter will steer the company towards new challenges for building envelopes, services that are increasingly in line with what clients want, and an ever more sustainable future.

Enjoy reading and discovering the impressive projects in this issue!

Still passionate about zinc,

The editorial committee

PUBLIC BUILDINGS

When two periods meet

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One should not be misled by the severe Gothic appearance of the Betoño convent: this religious establishment was not founded in the Middle Ages, but at the beginning of the 20th century. In 1905, the Carmelite nuns who had been evicted from their convent in Toulouse moved into this neo-Gothic complex designed for them by architect Marcial Dagorette. Legend has it that the ex-consul of Spain in Toulouse left his fortune to this operation, which he funded entirely. He was embalmed and buried in the monastery. The Carmelites left the premises in 1999 and the last nuns definitively left in 2007. It was then that the perimeter walls that isolated the religious centre from the rest of the town were torn down to make way for the construction of an ambitious cultural centre including workshops, a library, a laboratory, a recording studio and artists' residences.

Architects Roberto Ercilla and Miguel Angel Campo won the competition with a project resolutely and bluntly confronting the Gothic and the modern. They completely reorganised the layout inside the old building. The convent is accessed via a long pathway winding through a large glass corridor. An initial sequence guides the visitor from the street to a small tower, leading to a footbridge that crosses the cloister, which was transformed into a library that visitors can access after descending from one last tower. Despite its surprising form, the crystalline extension designed by Ercilla and Campo respects the existing building, only occupying hollow spaces. It creates a link between the environment, an industrial zone that gradually replaced the countryside of this municipality located next to Vittoria-Gasteiz. Zinc covers the roofs of the old parts of the building. The architects designed a broken roof, a clever element making it possible to create high ceilings allowing attic spaces to be created. The material connects the various parts of the convent. The vertical installation of the lower slopes increases the surface of the facades, giving balance to the relationship between the openings and the wall. Completed in 2011, the paradox is that the centre was never used. Having considered converting it into a university, it may finally be used, as initially intended, for an arts centre.

Vitoria - Spain / Krea cultural centre / Architect(s): Roberto Ercilla Arquitectura / Contractor: Bilca / Technique: VMZ Standing seam / QUARTZ-ZINC® / 2,700 m²

PHOTOS: ROBERTO ERCILLA ARQUITECTURA

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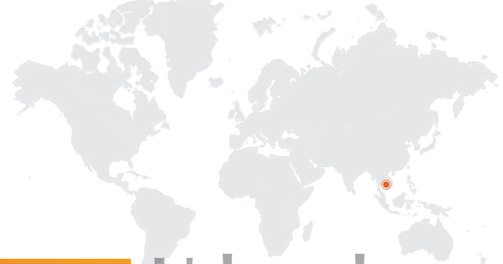


COMMERCIAL BUILDINGS

Urban dragon

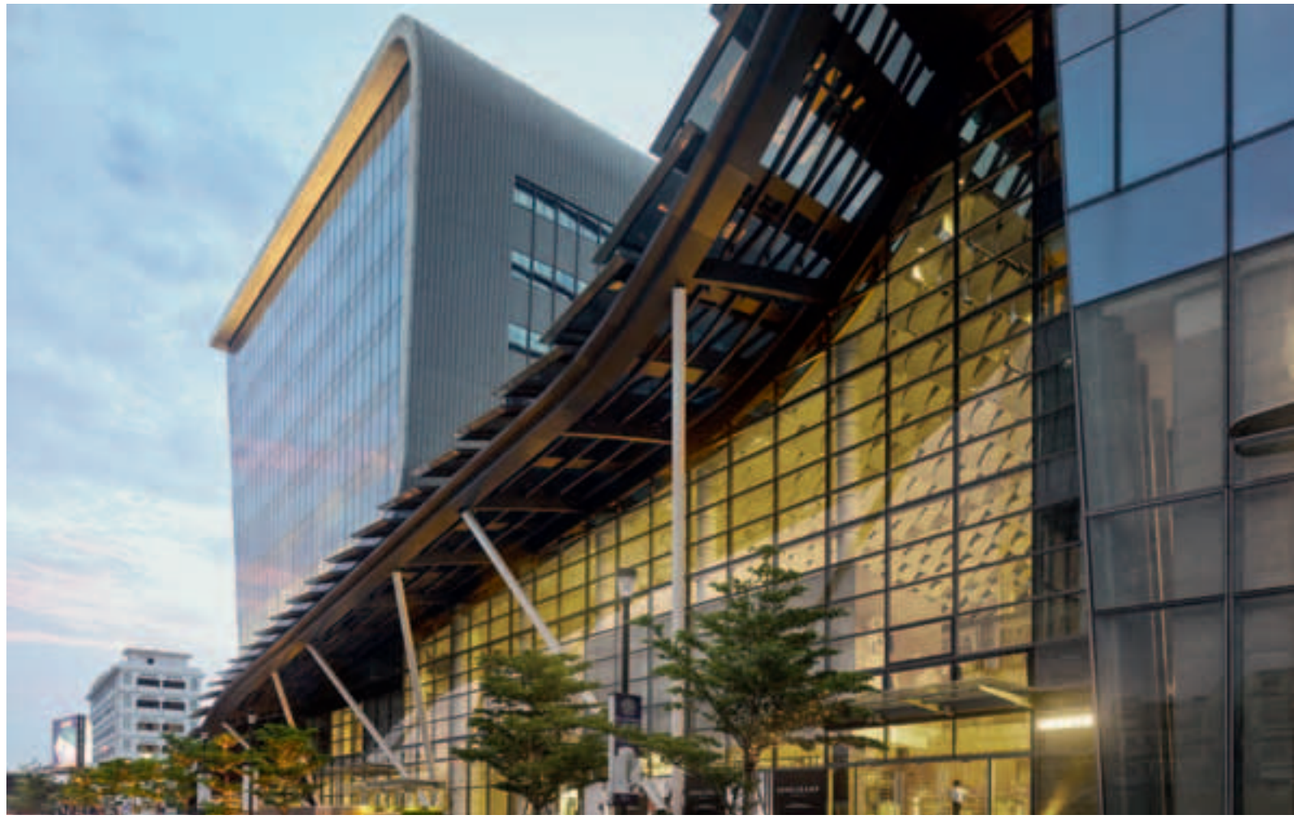
According to Chinese mythology, dragons hold audiences in large glass palaces on the bottom of the ocean. Although it is built on land, the Vattanac tower poses as a metaphorical incarnation of this legend, with its curved form evoking the mythical animal's backbone, encased in a sheath of glass scales. A symbol of prosperity in Asia, the dragon – in this case called "Vattanac Capital" – cannot be missed in the Cambodian capital Phnom Penh, which, despite its name meaning hill of the temple, is a low, horizontal city. This physiognomy is being gradually changed by the property boom, with constructions getting taller, although not to the extent of the solitary Vattanac Capital that dominates the urban skyline with its 188 metres and 29 floors.

The TFP Farrells architecture firm wanted to give this urban signal traditional features to connect it to the legend of the dragon, by printing traditional art patterns called "naga" on its windows.

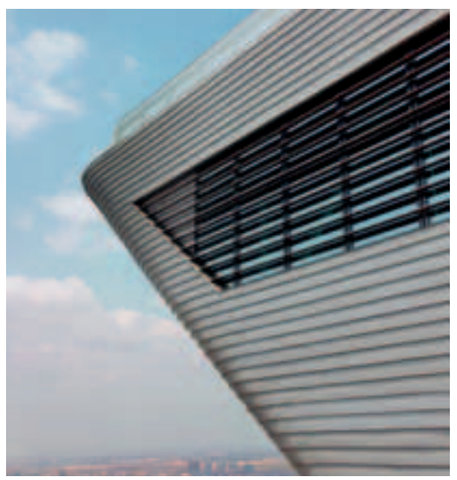
Vattanac Capital is a mixed-use building. It combines offices, major brand shops and a luxury hotel. It is also a dual building, made up of a tower with a nine-storey building housing cinemas, a fitness centre and a medical centre in its lower part. Together with an esplanade, this layout makes it easier for the tower to connect with the city.

The building complies with LEED environmental standards. It was awarded the LEED "Silver" certificate and is aiming ultimately to obtain "Gold". Together with glass, zinc is a key material in the construction. Its light grey QUARTZ-ZINC® cladding, featuring horizontal standing seam, covers the protrusion, making the tower look like a naja snake. This same zinc clads the rear facades of the lower building. Covering the low-slope roofs, slanted facade and underside in a single movement, the glossy metal forms a compact case for this singular building, marking the capital of Cambodia's entrance into a new era.

Phnom Penh - Cambodia / Vattanac Capital Tower / Architect(s): TFP Farrells / Contractor: Jangho Curtain Wall Company / Techniques: VMZ Standing seam, VMZ Flatlock panel / QUARTZ-ZINC® / 3,000 m²



PHOTOS: VATTANAC PROPERTIES



PUBLIC BUILDINGS

Variations and research

It is quite unusual for an architecture firm to build two projects on the same site within ten years of each other. And even more unusual in a town like Cambridge. And yet, architecture firm BDP twice had the opportunity to express its contemporary architectural style in this historic town. The Maxwell centre for research was inspired by the size of its neighbour, the Physics of Medicine (PoM) building, designed ten years previously by BDP. Formal themes are reversed, vertical openings are replaced by horizontal lines with the addition of dark ANTHRA-ZINC® and contrasting bright AZENGAR®. This combination clads a sculptural volume reminiscent of John Hedjuk. The centre obtained the BREEAM "excellent" certification, a label that is reflected in the facade cladding, asserting durability and ease of maintenance.

Vertical strips of colour create a sort of rainbow against a black background, a reference to the atmospheric elements that is highly appropriate for this centre, which works on blue sky research, i.e. fundamental research. The centre must facilitate the creation of bridges between scientific work and potential applications in the industrial and commercial sectors. To facilitate organisation and incentivize rapid developments in research, the storeys of the building are designed as large open spaces supported by seven poles. On the facade, a large horizontal strip conceals ventilations along horizontal ribbons of windows. Its oblique position paradoxically strengthens the horizontality of the volume and heightens the desired effect. To determine the colour of this metal envelope, the architects drew inspiration from that of the neighbouring building: as ANTHRA-ZINC® zinc had proven its worth and remains impeccable a decade after it was installed, the architects used it again on the new building. Perhaps unknowingly, the PoM building served as an open-air laboratory, devoted to the ageing of materials, which is the least a sector entirely devoted to research could do!

Cambridge - United Kingdom / University of Cambridge Maxwell Centre / Architect(s): Building Design Partnership (BDP) / Contractor: All Metal Roofing / Technique: VMZ Flatlock panel / ANTHRA-ZINC®, AZENGAR® / 1,400 m²

PHOTOS: PAUL KOZLOWSKI

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PUBLIC BUILDINGS

Black box

The Haute École de Strasbourg, a protestant humanist establishment created in 1538 by Jean Sturm, is the birthplace of the local University. In the opinion of its founders, a city owed its reputation as much to the intellectual work it produced as to the goods it manufactured. Today, the Haute École is known as the Jean Sturm Gymnasium. Although in everyday English the word gymnasium generally refers to a place dedicated to practising sport, in this case it is used in the Germanic sense to designate a high school, a private secondary establishment for pupils prior to entering university.

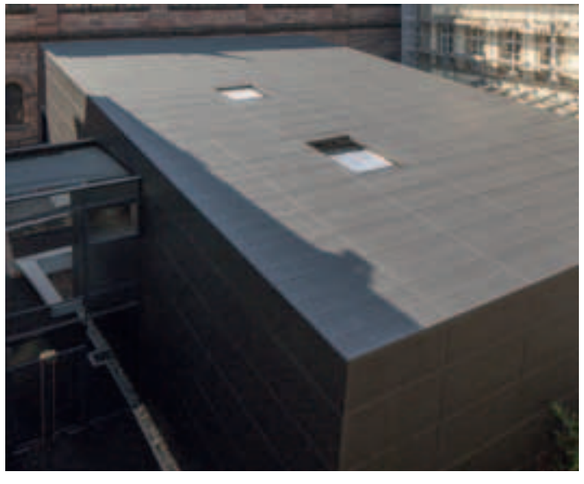
Having been damaged by several fires, the Jean Sturm Gymnasium occupies a complex of several buildings in the city centre that were rebuilt in the 1870s, recognisable for its use of stone, especially sandstone. The new auditorium was built at the heart of one of the school's courtyards, on the site of the former lavatories. It has the form of a cube tipped five degrees towards the empty space of the courtyard. A choice made by architect Claude Bucher and the project owner CPES (*), in consultation with the architect from the French architectural review board *(Les Bâtiments de France)*, supervising all interventions at heritage sites on behalf of the State. The upper edge of the cube is aligned with the first floor of the church that closes the fourth side of the courtyard. The use of an almost black zinc to cover the entire volume creates a powerful contrast, clearly distinguishing the contemporary parts from the historic parts. The architect opted for absolute monolithism: doors are covered with zinc, the windows of the rooms - two amphitheatres, a music room, a room for body language classes and various technical rooms - are concealed behind metal panels and a large ventilation grid.

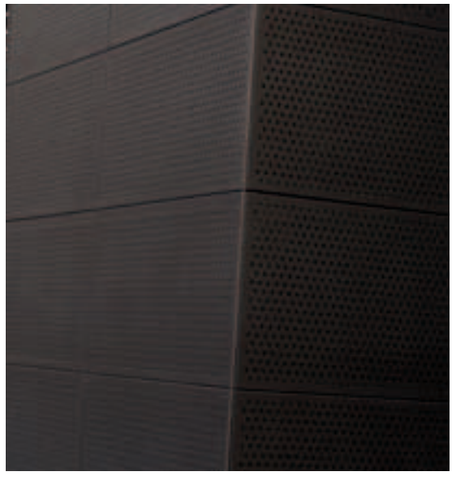
Perforations in the zinc ensure provision of light and natural air, transforming the metal envelope into a breathing skin. The same regular perforation pattern is applied on the walls and roof, which brazenly acts as the fifth facade, visible from the classrooms and corridors of the school. The cube seems like a mysterious casket, a black box containing all knowledge.

(*) Strasbourg Protestant Council of Education, represented by Mr. Paul Buret.

Strasbourg - France / The cube, Amphitheatre / Architect(s): Claude Bucher / Contractor: Wiedemann et Fils SARL / Technique: Perforated panels / ANTHRA-ZINC® / 900 m²

PHOTOS: PAUL KOZLOWSKI





COLLECTIVE HOUSING

Symbiosis with nature

Located in the municipality of Collina d'Oro, with a view over Lake Lugano golf club, this vast complex of 11 apartments on three floors is built on a concrete foundation slab. The architects' priority was to harmoniously blend the construction with the surrounding nature, despite the relatively large dimensions of the project. The context and the topography played an essential role in the design of the building, whose lines interact with the environment and the relief of the plot, highlighting the relationship between nature and culture. The designers' work was not limited to the building. It also included work on the pathways and surrounding areas, which are incorporated in a subtle relationship with the site. The building interconnects with the hill, and the pathways leading to it become meeting places.

The choice of facade materials, zinc and glass, contribute to the impression of fusion and symbiosis with nature. With a play of colours and sunlight on the metal and glass surfaces, the building seems to have sprung up from its environment. The cladding on the facades and the glass panels of the guard-rails, windows and doors give a lightweight appearance to the complex. Massive elements gradually become lighter as they near hollows, thus accentuating the horizontal stratification of the building. This impression of hollowness is particularly striking on the facade facing the valley, which is contrasted by a full, massive facade facing the mountain. The cladding was installed with a subtle staggering of the zinc panels, as though they were slabs of marble. The elements, which vary in length and have five different heights, are installed the wrong way round, so as to highlight the horizontal joints that seem to stretch the building with their geometries.

Lugano - Switzerland / Résidence du Parc, Vignio / Architect(s): GIEFFE Studio Sagl / Contractor: Pedrera / Technique: VMZ Flatlock panel / PIGMENTO® Blue / 1,005 m²

PHOTOS: PAUL KOZLOWSKI

COMMERCIAL BUILDINGS

A new era

In Europe, industrial zones close to city centres are undergoing rapid transformation and Brussels is no exception to this rule. The idea of locating a shopping mall in a neighbourhood isolated by rail and river infrastructures, adjoining the city's second largest incineration plant and the wholesale food market may seem surprising, unless one considers the programme to be the foundation stone of a forthcoming urban transformation. The Docks Bruxsel centre points to this potential metamorphosis: the 61,000 m² complex, made up of five large buildings, occupies the site of a former textile mill that had already been reconverted as a production plant for the famous Godin wood-burning stoves. Some of the historic buildings were incorporated into the operation, opting for juxtaposition creating a collage of very different architectural styles: heritage brick buildings and sculptural organic forms connecting commercial spaces. An atrium unites some of the buildings, characterised by a variety of public open spaces resembling squares, or by covered spaces reminiscent of the covered Parisian shopping passages, recreating an interiority that is conducive to sociability, while remaining environmental.

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Although the treatment of these spaces highlights the traces of the old industrial plant, indicating the location of the former buildings with steel lines, the exterior aspect of the centre, particularly visible to passing drivers, is more abstract. For Lilia Poptcheva, the architect in charge of the project at the Art & Build architecture firm, the idea was to mark this entrance to the city with a strong signal, materialised by large, sculptural, ovoid forms of timber and zinc. Cladding the irregular geometries of these volumes posed a major challenge for the installation company, which mobilised a staff of 30 people over 10 months to install the 19,430 zinc shingles! Although the shingles were delivered pre-cut to the site, the installers had to perform high-precision work to cover the most convex double-curve sections of the building. Another innovation, this project is one of the first in Europe to have used AZENGAR®, a unique engraved zinc featuring a bright, raw aspect. The architect chose to install this new surface aspect, which at the time had never been installed, much less on such a huge surface area (6,650 m²). A true vote of confidence!

Brussels - Belgium / Docks Bruxsel Shopping mall / Architect(s): ART & BUILD / Contractor(s): Jacobs & Sohn SPRL - M. Mutsch et Fils S.A. / Technique: VMZ Scales / AZENGAR® / 6,650 m²

PHOTOS: GEORGES DE KINDER / ART & BUILD ARCHITECTS

COMMERCIAL BUILDINGS

Just like a village

In China, there are only 416 shops per million people compared to 3,620 shops per million people in the United States (2008 statistics). Having been under-equipped in terms of shopping malls for a long time, China is very rapidly catching up and malls are being built all over the country. Forecasts for growth remain high, with 44% of shopping malls built worldwide in 2014 having been built in China, and 7,000 malls set to be inaugurated by 2025. This position as leader in terms of retail property is not however entirely idyllic, as many Chinese people went directly digital and have got into the habit of doing their shopping online.

So everything has been done to help visitors return to physical shopping: developers are banking on special events or architecture, which has to be spectacular or feature original forms, such as that of retail villages or suburban shopping malls that resemble small rural towns, and are more popular than city-centre shopping districts. This village formula was selected for the "Yin Long Bay Impression" in Jining, a city with one and a half million inhabitants located half-way between Beijing and Shanghai. Jining is associated with Confucius, who was born about forty kilometres away. The urban extension zone where the mall is located is reminiscent of this past and is structured around a landscaped river whose diagonal course contradicts the orthogonal street grid. The map of the neighbourhood is divided into a series of pedestrian streets that never end, as they are all circular. This modern layout features shop-houses with two or three floors inspired by classical Chinese architecture, with double-sloped roofs serving as a strong reminder of the past. All the roofs are in zinc. Just like the neighbourhood, the installation of zinc reinterprets the notions of tradition in a contemporary manner. The roll caps, typical of low-sloped Parisian roofs, are thicker than normal and more dynamic. They pass over box gutters installed in the slope of the roof, another original installation feature often encountered in these countries where zinc was not traditionally used (and where there is little or no regulation!) and which are freely adopting the material, regenerating its installation techniques and its expressive potential.

Jining - China / Yin Long Bay Impression / Architect(s): DR Architectural and Planning Design Pty Ltd, China Humax Engineering Design Co Ltd / Contractor: Beijing North-Century Construction & Decoration Engineering Co., Ltd / Technique: VMZ Roll cap / QUARTZ-ZINC® / 8,000 m²

PHOTOS: DWGS & JPGS

INDIVIDUAL HOUSING

Graceful as a swan

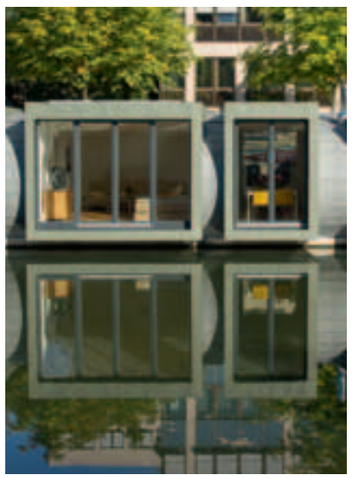
With “Hausboot Schwan”, his house-boat project clad entirely in zinc presented at a competition organised by the city of Hamburg, architect Daniel Wickersheim won mooring rights on the Norderkai, one of the many canals in the Hanseatic city. The initial idea was to create a link between the architecture and the aquatic element. The result is a floating house with surprising contours, a “Swan” – the English translation of the German word “Schwan” – in the form of a tube with oval sections, intersected by cubes housing doors and windows. Its structure, placed on a reinforced concrete pontoon, is protected with zinc cladding made up of flatlock panels. This cladding system is so flexible that it was possible to apply it even on the curved surfaces of the house-boat: the pre-fabricated elements were curved on site to adapt to the project’s volumes.

Ventilation on the roof tops is ensured via discreet ventilated roof ridges. The roofing elements made up of transversal flatlock strips leave room on the upper part for standing seam panels that are not visible because they are covered with other flatlock elements, so slightly elevated. This thoroughly examined system ensures visual continuity of the curved roof and harmoniously integrates ventilation. Daniel Wickersheim used three types of preweathered zinc to clad the envelope: the cylindrical body is clad entirely with velvet grey QUARTZ-ZINC®, whereas the cubic volumes of the door and windows create a contrast with green PIGMENTO®. The soffits of the openings are clad in ANTHRA-ZINC®, giving them a darker aspect. In terms of energy, “Hausboot Schwan” is equipped with a wood-pellet stove, underfloor heating and a photovoltaic installation, specifically designed for optimum effectiveness. According to the architect, the price of this floating house is comparable to that of a traditional house, which earned him several consultations for similar projects. The lack of mooring places in the city centre should however restrict the expansion of this type of housing.

Daniel Wickersheim opened the doors of this house-boat, where he lives all year round. He rents part of the boat by the day or week and shares the living spaces, kitchen and breakfast room with his guests.

Hamburg - Germany / Barge /
Architect(s): Daniel Wickersheim / Contractor: Kooperative Dachdecker / Technique:
VMZ Flatlock panel / PIGMENTO® Green,
QUARTZ-ZINC®, ANTHRA-ZINC® / 250 m²

PHOTOS: PAUL KOZLOWSKI



PUBLIC BUILDINGS

Civic justice

There is an expressive architecture that conveys, through its form and ornaments, the sentiments that the institution it houses should inspire. This is particularly true of all buildings related to order, authority and the legal system: the severe prison, the powerful police station, or the austere courthouse. This gravitas, which was expected in the 19th century, no longer applies today, judging by the new courthouse in Newcastle, a coastal town in Australia, located approximately one hundred kilometres north of Sydney. The building designed by COX Architecture is indeed expressive, but it translates an open and positive image of justice. The bright colours, the textures, the dynamic, straight, tapered forms present the law as the link between the citizen and society rather than as a source of punishment. The courtrooms and halls are naturally lit by windows and skylights, large glass facades demonstrating a clear determination to be transparent. Another sign of this civic vision is the building's location in the heart of the town's civic district, close to its other institutions.

The corner plot allocated to the courthouse features a strange geometry, an acute triangle prolonged by a strip on one side. The architects did not try to make this extravagant plot regular, on the contrary, they used the plot's irregularity to give the project its strong identity. An overhanging tip of the triangular construction marks the intersection of the two streets on either side of the courthouse, a strong gesture compensated by the efforts made by the architects to reconnect the building with the existing urban fabric. Main parts of the building on the first floor over ground level create a link with the historic buildings of the town and the courthouse itself. Vertical veils send out a message of quiet strength, a combination of various materials symbolises the diversity of society. Concrete screen walls serve as sun shields. Their pattern is reminiscent of the trees that were growing on the site when the town was founded. Timber, stone, zinc – the latter chosen for its aspect and its durability, make the entire building a sort of inhabitable work of art.

Newcastle - Australia / Courthouse / Architect(s): Cox Architecture / Contractor: John Holland / Technique: VMZ Composite / QUARTZ-ZINC® / 8,500 m²

PHOTO: GARRY OWENS - RAYGUN PHOTOGRAPHY

PHOTOS: TOM FERGUSON

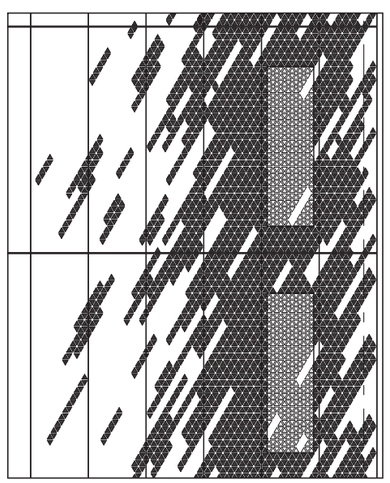
COMMERCIAL BUILDINGS

Urban vibrations

Since the independence of Estonia, Tallinn has re-emerged as the capital. Immediately next to its historic centre, perched on a hill overlooking the city, skyscrapers are springing up like mushrooms. The Viru Hotel, built in the early 1970s, was once the only tall building in the city. But this is no longer the case. On the road to the airport, a neighbourhood is being constructed tower block after tower block. With its fifteen floors of shops, offices, and accommodation on the last three floors, the Novira Plaza marks an entrance route to the city from the outskirts.

In our modern era, tall buildings are often predominated by glass. But architect Kalle Vellevoog, who had already built with zinc, wanted to re-use the material for this tall building project. Composite zinc panels were the final choice, as they provide surprising rigidity facilitating their installation in sophisticated technical configurations such as those used for curtain walls. Made up of two sheets of zinc glued to either side of a polyethylene core, they can also resist a high level of perforation, such as that reached on the Novira Plaza, where in places the panel has a perforation rate of almost 50%. The ANTHRA-ZINC® panels were applied all around the staircase. The perforated patterns designed by Vellevoog made it possible to unify a facade with disparate openings, without reneging on providing natural light. Passers-by can imagine the position of the windows and building purposes concealed behind this crafted metal sheath!

Tallinn - Estonia / Novira Plaza offices / Architect(s): Architektuuribüroo Kalle Vellevoog / Contractor: Parmet / Technique: VMZ Perforated Composite / ANTHRA-ZINC® / 1,600 m²



PHOTOS: TÕNU TUNNEL

PUBLIC BUILDINGS

Inhabited rocks

Located close to the Swiss border, the Italian town of Verbania cultivates in-betweens: positioned between Piedmont and Lombardy, between urbanisation and nature, between water and mountain, between lake and river. A dual nature that did not make the architect's task here easy: on which element of the context should he base the design of his project? Invited to compete for the design of a multi-purpose centre bordering the lake, on one of the town's last natural plots, the architects working in the aptly named Stones Group did not hesitate for a second. They drew inspiration from the stones on the lake shore and at the mouth of the San Bernardino River, which borders part of the site. The result is a landscape-building, more of a sculpture than a construction, marking out the programme with four monumental stones connected by a parallelepiped, creating a panoramic opening overlooking Lake Maggiore.

All of the structural work, in concrete, was carried out following an orthogonal plan. A glue laminated timber structure made it possible to create the rounded volumes that give such strength to the project. A series of vertically installed arches is connected to a veil, formed using braces also made of glue laminated timber. This beautiful structure, encased in its preweathered QUARTZ-ZINC® remove second zinc, houses spaces that are large enough to hold a theatre, a cinema, offices, a bar-restaurant and conference rooms. The metal envelope was carefully installed using the standing seam technique: long parallel or radial strips ideal for cladding the double curve. In the parts necessitating openings for natural light or ventilation, the same preweathered zinc was used, but in expanded metal. The unity of material preserves the integrity of these magnificent rocks, which the architects consider as the point of departure for new lakeside strolls.

The steps and landscaping, which are an integral part of the project, are an invitation to re-qualify the area around the congress centre, to offer Lake Maggiore a truly major space!

Il Maggiore Verbania - Italy / "Il Maggiore" cultural centre / Architect(s): Fabrizio Bianchetti Architetto / Contractor: Monetti Group / Techniques: VMZ Standing seam, Expanded zinc / QUARTZ-ZINC® / 7,000 m²

PHOTO: ALBERTO CALDANI FOTOGRAFO

PHOTOS: PIER MARIO RUGGERI

INDIVIDUAL HOUSING

In a different light

Activities change, buildings remain. Hidden from view by its former manager's house, a disused dressmaking workshop in Courtrai stood out like a “sore thumb” for inhabitants overlooking the centre of the block. Walls made from concrete blocks, saw-tooth roofs reminiscent of an outdated industrial world, the old workshop seemed to have no visible quality, except for Caroline Vanbiervliet, an associate of Stéphanie Breughe at the Klarté architecture firm. Searching for accommodation and a premises for her firm, the architect immediately saw the potential of this place, which she re-invented using a strategy of reversal. The former house became a work space, providing the firm with the possibility to extend its premises. And the former work space became a living space, benefitting from the peace and quiet offered by its location at the heart of the block. All this required a few changes: a large portion of the constructions that occupied the inner yard was demolished to make room for a garden. The old bricks were re-used to create a small extension adjoining the old workshop. Rather than re-opening the North-West facing roof windows, the architect opted to create two patios, a clever solution which made it possible to allow the light in, and create views and new spaces in a main building only open on one side, due to party boundary rules. The metal structure of the old workshop was exposed, and the suspended ceilings that had been installed under the roof slopes were removed.

The architect gave pride of place to raw materials: OSB interior walls and ceramic deck panels to cover the floor. Preweathered zinc replaces the corrugated fibre-cement sheets of the old roof. Zinc, which is much more durable than corrugated galvanised steel sheets, was also installed on the facade. It covers the insulation and blends perfectly with the timber joinery. Installation of VMZ Sine wave corrugated panels on the roof required particular attention from the installer and the architect. The latter felt it was important to validate all flashing details with a view to affirmation rather than dissimulation.

Triangular elements in zinc visually terminate the box gutters: reverse echoes of the old saw-tooth roofs, these elements become an ornament revealing the care given to the design of this building that looks deceivingly simple and functional.

Courtrai - Belgium / Accommodation and offices / Architect(s): Klarté Architecten / Contractor: STOCKMAN nv / Technique: VMZ Sine wave profile / QUARTZ-ZINC® / 630 m²

PHOTOS: YANNICK MILPAS

PUBLIC BUILDINGS

Behind the mantilla

"In architecture, everything begins with an abstraction: a mantilla on a showcase unveils its secrets and reveals the access to the building in an invitation to enter it. What I see signals something else. This is what we learn from Bilbao."

These words summarising the architectural choice that guided the design of the Torreilles tourist office may seem presumptuous. They are a reminder that there is no such thing as a small project, and that a 373 m² building, located in a town of 3,643 inhabitants, can have an impact that is just as strong as that of a 24,000 m² museum in a city with a population of almost one million people (the Guggenheim museum in Bilbao – Editor's note).

And it is a fact that, in a simple programme with a limited surface, the Torreilles tourist office has big ambitions, the first being optimal integration into the urban fabric. Close to the Town Hall, the building is positioned so as to be visible without being overpowering from the various streets leading to it, in particular thanks to its protruding first floor, translating the wish to innovate in a historic context. On the side that adjoins an old cellar, the building is slightly tilted, in order to better connect.

Another ambition is programmatic, determined to be a multi-purpose space. For example, the layout makes it possible to use the room on the first floor outside of the Tourist Office's opening hours to organise an exhibition, hold a municipal council meeting, celebrate a wedding, or project a film. A skylight activates transparency from the street and reveals the spaces through the mantilla, inviting passers-by to join in the activities in progress, like a "visible element signalling something else", as per the quotation.

The combined constraints of a substrate offering poor solidity and seismic regulations led the architect to opt for dry implementation, minimizing masonry. The ground floor features traditional materials. On the first floor, an assembly of classical joinery ensures the transparency essential to the "mantilla" - the second perforated, corrugated zinc skin that surrounds the upper floor, creating a space for maintenance and ventilation. The metal acts as a sun-shield, just one of several environmental features installed in the building: heat pump, passive systems, etc. The architect says the AZENGAR® zinc is like a "hoardable" material, as it can be recycled at end of life thanks to its considerable residual value.

Torreilles - France / Tourist office / Architect(s): Bernard Cabanne & Michel Génis architectes / Contractor: Sopribat / Technique: Perforated VMZ Sine wave profile / AZENGAR® / 400 m²

PHOTOS: PAUL KOZLOWSKI

COMMERCIAL BUILDINGS

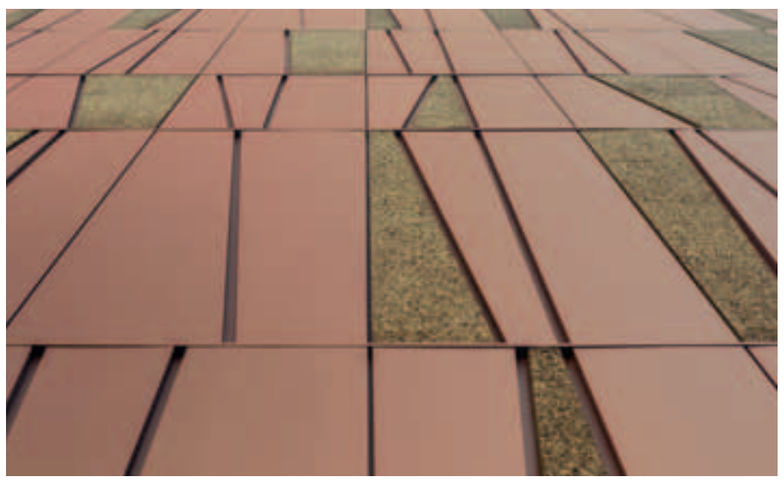
A Dual in the Sun

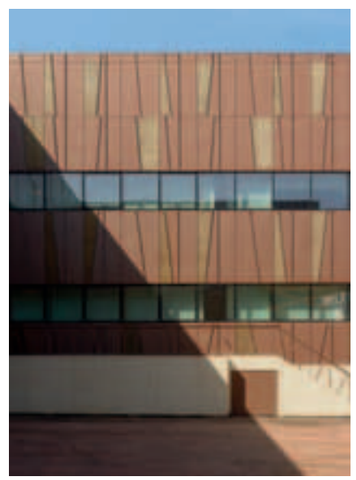
Vila Nova de Gaia and Porto, which are separated by the Douro River, have been vying for centuries for the food trade, among which wine transported from inland by river to these two rival cities. Although Porto gave its name to the world famous alcoholic beverage, Vila Nova de Gaia, itself a merger of two opposing municipalities, became home to all the warehouses that store Port wine, thanks to obscure taxation reasons. Having become the centre for worldwide exports of Port, in the space of a century, the centre of Vila Nova de Gaia became studded with wine cellars that are now tourist attractions. The city's need to stand out from the crowd led the various wine producers to assert their individual identities, and architecture plays a central role in this search for singularity.

This quest for originality is the backdrop for the renovation of the mixed-use building housing the warehouses and offices of the Gran Cruz company. The client wanted the solidity of a metal skin, but was not satisfied with classical aluminium solutions, which he considered too industrial and too similar to common commercial buildings with their "one-size-fits-all" aspect enabling them to be rented to a very broad spectrum of clients. The colour of the material was another issue: the client, who associated zinc with grey shades, finally opted for red PIGMENTO® after having discovered the preweathered products range. Installation was dictated by the client's wish to be original. Aligned with the dimensions of parallel strips of windows, which determine the horizontal layout, the sheets of folded zinc were installed with a vertical slant marked by a hollow joint, an unusual layout clearly asserting the determination to break with the ordinary. Here and there, a panel of cork, a material cherished by wine-growers, replaces a zinc panel. The cork panels were glued to sandwich panels that also feature the reinforcements for the zinc modules. With this blend of materials, Gran Cruz inaugurated a brand new combination in the history of zinc. The cladding was installed on the existing facades, which at times it extends and completely transforms.

Vila Nova de Gaia - Portugal / Offices of the "Gran Cruz" cellars, Porto / Engineering: Afaplan / Contractor: José Torres Pinto Lda / Technique: Folded panels / PIGMENTO® Red / 1,500 m²

PHOTOS: VMZINC®





COMMERCIAL BUILDINGS

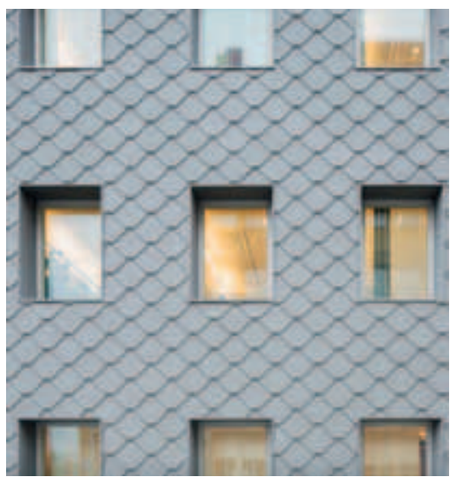
Two-sided

The return to cities is an urban phenomenon of the early 21st century that has led to even the most ordinary constructions located in the extended perimeter of urban centres being upgraded. The completion of the Atlas Garden, a 7,300 m² office building located close to the Central station in Stockholm, is a good example of this. Although situated at the heart of the city, the building to be renovated was located in a particular environment. Constructed on a long, narrow plot, the southern facade overlooks a side street that is not very wide. Its northern facade faces a major railway line terminal, an infrastructure that totally isolates it from the shores of one of the many inlets that border the Swedish capital. The architecture of the building is quite classical: a main structure with a predominantly parallelepiped form and four levels, completed by an overhang on the street side.

Comparison of images of the old building with those of the renovated project show some persistent features: the six windows of the east gable were retained and clad in zinc. But comparison also reveals some major changes. The building was given a roof extension over almost its entire surface, with tri-partition of the base/structure/attic borrowed from classic architecture, but in this case creating modern lines. The additions to the southern facade are identifiable by their glass walls. The existing facades were clad with pre-formed VMZ Adeka zinc shingles, complemented by strips of interlocking profile on the window surrounds. Using a standard product made installation easier so close to the railway line, a proximity which made operations very tricky. On the west gable, the zinc cladding gives relief and movement to the building. The metal shingles cover a staircase, forming a dynamic volume that lifts the building out of anonymity and banality. A fluid architectural image in this restricted plot.

Stockholm - Sweden / Atlas Garden /
Architect(s): Sweco Architects / Contractor(s):
KG Construction UAB, Carlssons Plåt AB /
Techniques: VMZ Adeka, VMZ Interlocking panel /
QUARTZ-ZINC® / 1,610 m²

PHOTOS: FOTOGRAF BOSSE LIND AB



PUBLIC BUILDINGS

A square within the square

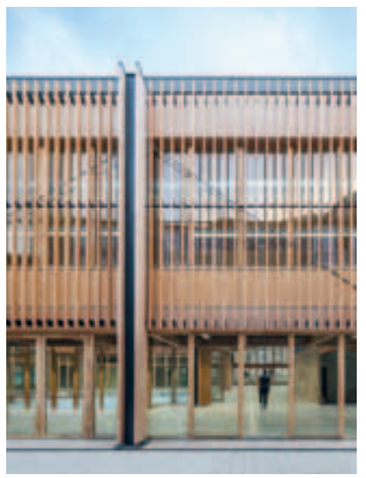
In 1882, as in many Spanish towns, a market square was built in the centre of Reinosa. This metal and timber building symbolised the renewal of this Cantabrian town. Its renovation in 1980 generated much controversy and did not prevent it from deteriorating. The municipality was looking for new cultural activities to regenerate the facility, which had been deserted by traders. Its destruction by a fire in 2012 was the perfect opportunity to radically modernise it. An international competition was launched, for which 329 projects were submitted. The proposal by the deAbajoGarcía firm, designed by architects Begoña de Abajo Castrillo and Carlos García Fernández, was finally selected.

This project aims to revisit traditional architecture from a contemporary point of view and to exploit the opportunities provided by new constructive techniques. The project features a building designed as an adapted, covered square. In the space left vacant by the old market, ruins were demolished and a new building was erected based on a structure made essentially of timber, with 1,500 m² of built surface. The vertical strips covering the walls create modern jalousie windows, concealing and revealing the interiority of the building that houses a central patio, around which the centre's activites will take place. Part of the entresol's structure is based on a series of opaque concrete boxes housing the spaces reserved for services. The broad range of spatial situations available give great flexibility in terms of the activities that will take place in the building. The patio is like a square within a square, an island of light that calls out to the street outside. This is where run-off from the standing seam roof with four box gutters is collected. The four slopes, which converge around the patio, gave the building its name: Impluvium, the name of the low basin that featured in the courtyard of Roman houses. In Reinosa, this Miesian-style (*) architecture is inspired by an ancient residence, with a subtle, fortuitous blending of materials and the most recent techniques.

(*) Referring to the refined, streamlined architecture of Mies Van der Rohe.

Reinosa - Spain / Sociocultural centre
IMPLUVIUM / Architect(s): RAW/
deAbajoGarcía / Contractor: Industrias Rogo /
Technique: VMZ Standing seam /
QUARTZ-ZINC® / 1,300 m²

PHOTOS: MONTSE ZAMORANO ARCHITECTURE PHOTOGRAPHY



INDIVIDUAL HOUSING

Contemporary renaissance

The post-war period in Italy saw widespread construction of “palazzine”, average-sized private collective housing buildings, with modern use of materials and windows, but retaining certain signs of traditional architecture, such as more or less de-structured sloped roofs. Located on the hillsides overlooking Turin, in a residential neighbourhood dominating the city and the River Po, the 1950s building that architecture firm MG2 ARCHITETTURE was in charge of restructuring presents a “mountain chalet” version of the “palazzine” model, mainly identifiable by its sloped roofs. The architects were entrusted with the renovation of the building’s three apartments, all its interior and exterior communal areas, and the creation of an underground car park. The panoramic view of the mountains is the area’s best quality, and it was first and foremost this characteristic that the architects wanted to highlight, by completely changing the garden and reorganising it in terraces and pathways overlooking the horizon.

The renovation of the building focused on enhancing the three walls in Carrara marble, the only original cladding the architects decided to keep. Although demolitions were kept to a minimum, major changes were made to the building. The south-facing part of the roof was removed to create a terrace, taking the same approach as that used to remodel the garden. Everything was done to make the most of the exceptional view, and to connect the interiors with the exteriors, both near and far. The existing balconies and loggias were covered with sun-shields, which significantly improve their habitability. The surface of the communal areas was increased by annexing the former garage.

Three main materials were used to restructure the building: marble, timber and zinc. The layout plan of the ANTHRA-ZINC®, installed in the form of interlocking panels, incorporates hollowed profiles that create a subtle relief and are coordinated with the openings, which were changed considerably. The strong contrast between the marble and the black zinc generates a dynamic that is reminiscent of the work of Carlo Mollino, the famous modernist Torinese architect.

Turin - Italy / Private house / Architect(s): MG2 ARCHITETTURE / Contractor: I BANDAI S.A.S. / Technique: VMZ Interlocking panel / ANTHRA-ZINC® / 300 m²

PHOTOS: PIER MARIO RUGGERI

PRIVATE BUILDINGS

Race for the stars

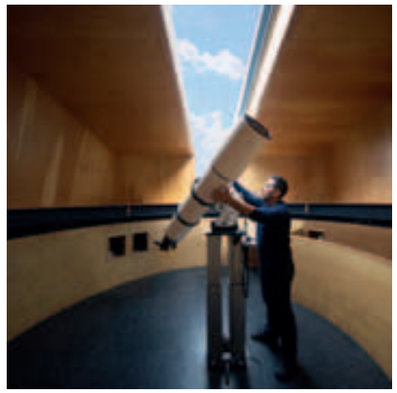
The development of international observatory projects that bring together prestigious scientists working with gigantic telescope assemblies and located in the most isolated mountains of the planet cannot get the better of amateur observatories. There are still enthusiasts out there who, like 19th century amateur astronomers, devote their lives to observing the distant stars.

Passion for the stars naturally leads the contemporary astronomer far from the city and urban areas. Gemma Observatory, is not located on a high mountain plain in Chile or Hawaii. Rather, it is situated on summit in a sparsely populated area of New Hampshire, at the centre of a dark landscape approximately 5 kilometres in diameter, protected from light pollution. The architects aimed to disturb this natural environment as little as possible, which explains why their observatory does not present the traditional dome image associated with this type of programme.

Here, no hemispheric mobile dome and, in a sense, no building either. Instead, Gemma Observatory imitates the natural blocks of granite located on the site. The building's multiple facets define a volume that seems to be the product of geological folds and collisions. The zinc cladding strengthens its integration with the environment: its grey colour echoes the surrounding rocks, the rows of flatlock panels regularly change direction in response to the topography. This approach continues even in the observation tower featuring rhomboid volumes, whose precision mechanism makes it possible to easily turn the monolithic block. In the off position, the "dome" faces south. An opening in the metal skin holds a window that reveals the North Star, like a compass for the astronomer, placed at the intersection of telluric forces and the infinity of the universe.

New Hampshire - USA / Gemma Private observatory / Architect(s): Anmahian Winton Architects / Contractor: Crocker Architectural Sheet Metal / Technique: VMZ Flatlock panel / QUARTZ-ZINC® / 446 m²

PHOTOS: ANMAHIAN WINTON ARCHITECTS



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presented in this issue, to get to know the architects
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(*) These company names are subject to modification in the coming months.

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