

**WICONA®**  
TECHNIK FÜR IDEEN



LET'S BUILD  
THE CITY OF  
THE FUTURE

# »» TECHNIK FÜR IDEEN



Architect: Zaha Hadid Architects  
Fabricator: Stahlbau Pichler  
Photos: ©Hufton+Crow



## **520 West 28th (USA): organic fluidity is the key feature of the building**

The curved curtain wall design of the 520 West 28th building, located in the West Chelsea neighbourhood, famous as the main artistic and cultural district in New York City, makes it stand out from the rest of the rectangular blocks that are so characteristic of Manhattan. The prestigious Iraqi-British architect and Pritzker Prize winner Zaha Hadid designed this complex of 39 luxury apartments

with volumes inspired by nature, giving it dynamism and a very distinctive identity. WICONA played a key role in the curtain wall, since it required a customised solution with aluminium profiles adapted to the building. The solution used was a unitised curtain wall with motorised parallel-outward-vents.

**We are powered every day by the drive to solve the most complex technological challenges in terms of curtain walls and aluminium frames. Providing planners, architects and contracting authorities the means to achieve their ambitions and fabricators the tools to implement ingenious solutions.**

As an internationally renowned German brand, WICONA develops, creates and markets aluminium solutions for buildings: curtain walls, windows, sliding systems, doors and sunshading systems. As a system designer known for our products' performance and reliability, we have a two-fold mission: on the one hand, to provide planners, architects and contracting authorities the means to achieve their ambitions and on the other hand, to supply fabricators with the required tools for safe, ingenious solutions. Together, we are inventing on a large scale and pushing the limits of the imagination.

This is our raison d'être, and the promise reflecting the brand signature that we adopted globally in 2009 : „Technik für Ideen“. By continuously listening to our partners, we ensure a fluid and efficient collaboration between those reinventing the city, those designing the buildings and those developing bespoke, project-specific aluminium construction systems. To ensure that this liaison is effective, we provide all the technical solutions required to implement the most innovative projects. This is how we help provide some answers in a constantly evolving world.

» Everyday, we innovate to be the first to supply the technologies that will push the boundaries of their imagination and bring their ideas to life.



# » REINVENTING THE CITY

## **Henninger Turm (Germany): metamorphosis of a landmark**

The Henninger Turm was one of the landmarks of the City of Frankfurt am Main for over 50 years. For a long time the tallest building in the city at just under 120 metres, a grain silo with a revolving restaurant in what was known as the "barrel", the Henninger Turm was a popular destination for at least two generations for residents of the Rhein-Main region, who felt a close link to this building. Since the early summer of 2017, this landmark has returned to the skyline of the Main metropolis in the form of an ultra-modern high-rise residential building. Its appearance is immediately reminiscent of the striking, innovative industrial building of the 1960s, but at the same time is completely new. Architects Meixner Schlüter Wendt have created a cubic tower with an off-centre cylindrical projecting top ("barrel") which rises from a six-storey base.

The curtain wall construction company App (Leutkirch) manufactured the polygonal unitised curtain wall using a special design with motorised parallel outward opening sashes including curved glass in the "barrel" at the top of the tower.

**With its rich culture of innovation, WICONA has positioned itself for a number of years as a key stakeholder in the evolution of cities, developing highly energy-efficient aluminium solutions for sustainable urban design, placing the comfort of users at the heart of the discussion.**

Today, 50% of the global population is urban and in 2050, this figure is set to increase to over 70%. The construction sector already accounts for over 40% of global CO<sub>2</sub> emissions. New challenges have emerged and are becoming increasingly pressing. It is inconceivable to continue building in the same way as in the past. Sustainable urban design is becoming a major issue and there are many challenges for improved design practices, products and procedures, as well as uses and behaviours. WICONA's expertise in the field of aluminium and construction positions it as a key player in the evolution of cities.

The city of the future looks set to be a complex system consisting of increasingly sophisticated construction objects, requiring more and more technical components. In addition to buildings serving their traditional

purposes such as housing, protection and safety, hygiene and comfort, there are now forms of employment and resources that are diversified to the extreme: energy production, recycling and waste transformation, creation of a social fabric, pooling of services, food crops, etc. At the same time, there is an increase and intensification of obstacles in the legal, economic, social and societal environment.

For WICONA, such new diktats, far from restricting creativity, are an invitation to explore and create new innovative landscapes. We integrate this evolution in the supply of products and services, as well as the organisation communications. Our technologies and our teams are already dedicated to the cities and buildings of the future.



» As a key player in the construction industry, we are driven to provide the market with new ways to build, by placing people at the heart of the discussion.



# » CREATING TOMORROW'S STANDARDS

## Orona Ideo (Spain): LEED Gold and BREEAM Excellent certification

The building houses Orona's Innovation Ecosystem, bringing together the work of its 4,500 members of staff, researchers and students. For this building which defies the laws of gravity, WICONA enveloped the façade with a WICTEC 50 SG curtain wall consisting of over 2,000 triangular pixels that behave differently (opacity, translucence, transparency) depending on their orientation, exposure to solar radiation, use of interior spaces and the need for privacy.

**Innovation has been integral to WICONA since the company was created in 1948. During the course of its history, true to its pioneering spirit, the brand has filed 180 patents including 46 that are still active.**

As early as 1957, less than 10 years after it was created in Germany, WICONA anticipated the changes in the construction sector by developing the first aluminium profile systems with thermal breaks available on the market. Over the years, several of the patents filed by the company have gradually entered into the public arena and have become standards of use, adopted by everyone. Some of

these patents have shaped the course of aluminium profile systems, pushing the dimensional and performance limits of building systems as well as ensuring increased productivity and a reduced environmental impact. Most importantly, it has often been the first to put forward new, certified technological concepts that have enabled real progress in the building envelope.

## Technological advances that have revolutionised the sector

- |  |  |
|--|--|
| <b>1957</b> First range of thermal breaks  | <b>2013</b> Closed Cavity Façade   |
| <b>1991</b> Technical approval of bonded curtain wall glazing systems                          | <b>2014</b> Introduction of thermal insulation strips made of recycled polyamide                         |
| <b>1991</b> Windows with concealed sash  | <b>2015</b> Window system with pressure compensation   |
| <b>1998</b> Technical approval of bonded curtain walls with mechanical locking mechanism       | <b>2016</b> New functionally reliable gasket for quick and simple installation of unitised curtain walls |
| <b>1999</b> Concealed drainage on sliding units  | <b>2017</b> New pull and slide fittings  |
| <b>2001</b> Technical approval of breathable aluminium curtain wall                            | <b>2018</b> Introduction of concealed window handle  |
| <b>2001</b> Direct positioning system (DPS) for hardware                                       | <b>2019</b> INFINITE ALUMINIUM BY WICONA   |
| <b>2009</b> First intelligent curtain wall system TEMotion with integrated building technology |  |

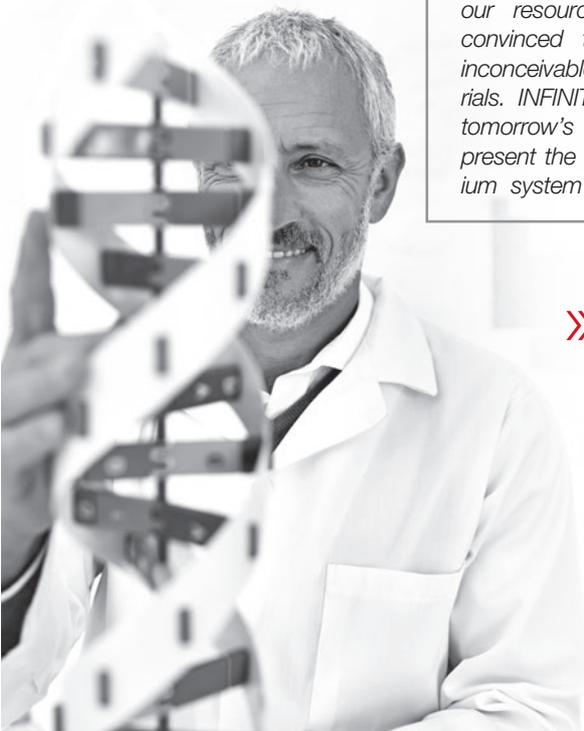


Architect: X. Barrutieta, E. Goikoetxea,  
J. de la Fuente, S. Pérez  
Fabricator: UXAMA  
Photo: Agustín Sagasti

### **INFINITE ALUMINIUM BY WICONA: a turning point in our industry**

*If you really want to build your vision, you need to take the future seriously. Bear in mind that our resources are finite. We are absolutely convinced that future urban development is inconceivable without sustainable reuse of materials. INFINITE ALUMINIUM BY WICONA offers tomorrow's standards today – we are proud to present the most environmentally friendly aluminium system solutions in our sector worldwide.*

*System solutions using INFINITE ALUMINIUM BY WICONA have the highest share of recycled end-of-life materials on the market. This share is guaranteed. It refers exclusively to aluminium which has reached its end-of-life as product in use and is brought back into the loop. Using these solutions we meet the requirements of tomorrow already today.*



**» INFINITE ALUMINIUM BY WICONA  
has the smallest CO<sub>2</sub> footprint worldwide:  
around 2.0 kg (1.5-2.3 kg) per kilo of aluminium.**

# » CONTROLLING THE ENVIRONMENTAL IMPACT

Architect: bof architekten  
Fabricator: Christophe Lenderoth GmbH  
Photos: bof architekten



## **Bharati station (Antarctica): comfort and energy efficiency under extreme conditions**

Developed by the agency bof architekten in Hamburg, Bharati – the Indian scientific research station - located in Antarctica 5,200 km south of the African coast, shows that even under climatic conditions, it is entirely possible to create buildings that are both comfortable and energy-efficient.

Solutions specially developed by WICONA were applied to the aluminium envelope of the station and to its large window façades. They provide reinforced fire resistance and an unsurpassed visual comfort with exceptional panoramic views of the surrounding scenery.

**Striving for environmental performance should not affect the building's comfort of use, regardless of the specific constraints related to the project, climate, usage or level of safety required. It requires efficiency and efficacy, WICONA's ultimate priorities.**

The environmental performance of a building is measured by the energy and resource consumption that it requires during its entire life cycle, taking into account the production of materials used, the construction phase of the building, its operations and ultimately, its destruction. It must therefore control the environmental aspects of a project, and aims to minimise energy and natural resource consumption, for identical or improved operations.

This is a major consideration for WICONA prior to a new project. Our commitment to the environment is not an abstract value or an empty promise; on the contrary, it is an extremely practical approach that hinges on a series of leading-edge initiatives. For many years now, we are committed to preserve natural resources, lower our CO<sub>2</sub> emissions, reduce our waste, ensure the

safety of all our colleagues whilst meeting our clients' quality requirements. This daily approach towards sustainable development is present from the product design until its manufacture, implementation and distribution.

Many of the projects we have been involved with have therefore obtained the most stringent environmental certifications, including DGNB, LEED and BREEAM. Our most highly performing products have been awarded the Passive House or Minergie certifications. By developing global thinking on the relationships between technology and ecology in the construction sector, WiconA is a company deeply aware of its responsibilities, with values that it applies as part of an approach towards sustainable development and the energy balance of our planet.

» **Our commitment to the environment is not an abstract value or an empty promise; on the contrary, it is an extremely practical approach that hinges on a series of leading-edge initiatives.**

***The Cradle to Cradle Product Certification is another integral part of our ecological behavior at WICONA.***

*At the beginning of 2017, WICONA systems were awarded the Bronze Cradle to Cradle (C2C) Certificate. Just two years later, WICONA window, door and curtain wall solutions were awarded the Silver Cradle to Cradle (C2C) Certificate. Nowadays, products are not only judged for their aesthetics or functionality, but also for their effect on the environment, on human health and for their reusability in the circular economy. In order to achieve one of the five levels of certification (from Basic up to Platinum), a product must satisfy the minimum requirements of the relevant level in all five categories: material health, material reutilisation, renewable energy and carbon management, water stewardship, social fairness and biodiversity.*



**SILVER**

# » ENHANCING ENERGY EFFICIENCY IN RENOVATIONS

**Building renovation, particularly in the services sector, is a major 21st century challenge and a determining factor in reducing energy consumption. Envelope plays a crucial part. We develop high performance, specific solutions precisely to overcome such a challenge.**



The renovation of 1970s buildings is a real opportunity to overcome city challenges such as the densification of urban population, shortage of available land, evolution of land prices and pursuit of energy efficiency. The residential and services sectors account for 43% of final energy consumption and over 20% of greenhouse gas emissions. However, even though most individual

houses have benefited from thermal renovation, the situation in the services sector is far less successful. Most of the work remains to be done to renovate these infamous energy sieves. The challenge is here and now: significant building renovation needs to be undertaken and, more specifically, the old façades and bay windows should be replaced. This is a matter of urgency: mobilisation has begun and projects are on the increase. This process is structured around a series of guidelines for national regulations as well as European directives. WICONA meets this challenge head on by developing high performance solutions.

The building envelope plays a crucial role towards an urban development that is sustainable, effective and optimised to reduce its footprint. Intelligent, double-skin curtain walls by reacting in real-time with the exterior, adapt to climatic conditions leading to a significant reduction of energy demand for heating, air conditioning, ventilation and lighting. The implementation of aluminium solutions contributes to a large extent to the energy performance of the buildings by transforming «energy monsters» into buildings with low energy consumption and even into energy-positive buildings.





Architect: Anthony Rio (Agence Unité)  
 Fabricator: ALUVAIR  
 Photos: ErwanS Media

» The renovation of the building envelope, with its intelligent aluminium façades, can generate up to 50% of energy savings.

### La Mabilais (France): new life, new performance

The rehabilitation by Antony Rio of the former telecommunications centre in Rennes which was designated as a historical monument, is a symbolic example of a successful energy renovation. This 16,000 m<sup>2</sup> building, the city centre landmark and a typical example of 1970s architecture, was entirely restructured. The rehabilitation project of the site was developed in order to

respect the original architecture of Louis Arretche, and restore its original brilliance. Joinery treatment was essential to the project's success. A total of 1,600 frames were made and placed on the structure whilst retaining the unusual aesthetics of the original joinery and ensuring that they have the required features for a low-energy building.





# » CONNECTING ALL PLAYERS INVOLVED

## **Velodrome in Glasgow (United Kingdom): process optimised with BIM**

Developed by the 3DReid architecture agency and built by Sir Robert McAlpine for the Glasgow City Council, the Emirates Arena complex and Sir Chris Hoy Velodrome is one of the largest sports installations in Europe and the city's first covered velodrome. The BIM concept was used in this project to validate the design, improve safety, eliminate errors and maximise prefabrication. Following the building's curb and adapting itself to the complexity of its various modules, the curtain wall which envelops the façade is from the WICTEC 50 range. It was implemented by Dane Architectural System, one of our partners. It was entirely developed as a BIM object as specified in this project.

**Architect:** 3DReid  
**Fabricator:** Dane Architectural System  
**Photo:** Graham Mathers

**The construction sector is rapidly evolving towards a collaborative model – Building Information Modelling (BIM). Our ambition is to provide an IT suite able to connect all the players involved in the construction process and to simplify data exchange. WICONA supports architects, planners and fabricators with this new method and provides its products as 3D-BIM objects, by object in REVIT and/or in Archicad format.**

In WICONA, complex tasks such as the design, planning, costing, preliminary work, production management, stock management and flow organisation are efficiently supported by a set of specially developed IT solutions. All partners involved in the project development can make use of highly sophisticated software that is compatible with one another's systems. Each player in the process has an IT solution able to respond to their requirements and to communicate efficiently with others.

Our fully interconnected IT solutions are the perfect answer to BIM challenges and represent a significant competitive advantage, by simplifying and accelerating all

processes during the project development. We enable a close collaboration between all players with the automation of information exchange flows, from the first sketch of the building until delivery.

BIM is a collaborative work concept that uses very specific, virtual, digital models of buildings. These models ease the design, and improve analysis and control compared with manual procedures. Once completed, these digital models contain specific geometric information and the data necessary to build, manufacture and supply. WICONA is fully committed to this approach, recognising that BIM has already become standard practice.

***Perfect connection  
between the architect,  
the manufacturer and  
WICONA***

*Our WIC3D software is used by architects to design one of our aluminium solutions in a quick and simple manner and to integrate it in their digital BIM model. It also enables direct communication with our WICTOP software package (costing, technical studies, order preparation and manufacturing assistance), developed for our manufacturing partners who can then meet the architect's requirements faster and accurately. A system of direct, digital ordering (Com@lu) is available between WICTOP and our internal system to obtain an entirely integrated work flow. Once the merchandise is delivered, the WICTOP software can enable an automated production of the joinery, using its interface with the plants.*



» WICONA's provision of IT solutions enables all parties involved in the project development process to be connected and simplifies all aspects of information management.





# CHANNELLING A TEAM'S PASSION

WICONA Head Office Ulm, Germany  
Architects: Mühlich, Fink & Partner  
Fabricator: Dodel Metallbau GmbH  
Photo: Conné van d'Grachten

**WICONA is convinced that the first foundation of a successful business relationship is the quality of human relations. We have just under 800 colleagues from across the world and all wear the company's colours with pride. They share a deep passion for technological challenges and the love of work well done.**

WICONA's priority is to establish a fluid and lasting relationship with each of its partners, based on collaboration and trust. We are constantly listening to our partners in order to provide relevant solutions at an appropriate cost. This receptiveness is shown at all levels, from the very first contact and commercial follow-up, through to our technical assistance and the ergonomics of our websites. It requires constant collaboration between WICONA and the various contacts for our client, in order to provide a personalised support and coordinated approach of the solution to their needs. Such coordination and dynamics help build a strong, lasting partnership.

We develop, coordinate and implement global solutions to our partners' needs, whether they be logistical, technical, IT-related or commercial. We are aware that time constraints are critical, that resources are not extensive and that compliance to regulations does not allow any discrepancy. Highly motivated, trained and competent, our collaborators can invent, innovate, an-

icipate, take risks, control, decide; in short, they can do all that is necessary to meet our partners' requirements. Beyond having the skills in their own fields, they can also take the initiative to ensure maximum reactivity. Each collaborator is therefore a trustworthy contact person for their clients, able to support them through each step of the commercial relationship, ensuring fluidity throughout.

The importance we place on listening to our clients and on the quality of the service we provide is an essential component that determines our recruitment policy and human resource management. Our aim is to bring men and women with very different profiles together around a common project, their diversity contributing richness to the company. Beyond their individual abilities and respective know-hows, our collaborators share the same vision: the passion of working on large-scale, complex projects, the love of technical challenges, maximum quality requirements, the ambition to innovate and a hunger to learn and evolve.



Discover our international job opportunities:  
[www.wicona.com/en/int/career/](http://www.wicona.com/en/int/career/)

**» Highly motivated, trained and competent, our collaborators can invent, innovate, anticipate, take risks, control, decide; in short, they can do all that is necessary to meet our partners' requirements.**



# » ENSURING THE PERFORMANCE OF CONSTRUCTION SYSTEMS

Architect: FXCollaborative Architects  
Fabricator: Intercom  
Photo: Subliminal (Miguel de Guzmán + Rocío Romero)



» For each new design, our experts from the research unit based in Ulm check the integrity of the process to ensure optimal performance from the bespoke solutions.

**What sets WICONA apart from its competitors is the sheer scale of its bespoke designs; it is the partner of choice for contracting authorities, architects and curtain walls consultants, supporting them every step of the way in even the most ambitious of projects and ensuring optimal performance.**

Beyond the richness of its catalogue, WICONA has developed a renowned know-how in special, bespoke designs, adapting its solutions to the creativity of planners, architects and contracting authorities. For this purpose, WICONA provides a dedicated service for special projects, bringing together over 30 engineers to put forward specific solutions for large architectural projects. The engineers rely on the German research unit based in Ulm, which guarantees the quality and homogeneity of the WICONA range, gathering, adapting and approving all the products in accordance with the requirements of clients from across Europe and around the world. For each new design, its experts control the process from start to finish, ensuring that all performance commitments are met.

Just as for the catalogue solutions, specific solutions are also thoroughly tested to ensure an optimal performance once set up on site. Most of them are tested by the innovation and test centre in Bellenberg (Germany) that certifies all WICONA cata-

logue products. Certified by the ift Institute, the German equivalent to the Scientific and Technical Centre for Building, it brings together all the control equipment to ensure the exceptional quality of the products. This Test Centre has four test rigs, two for curtain walls (tests carried out on curtain walls of up to 10 m in height), one for windows, doors and joinery, and one for mechanical resistance tests. This centre is also equipped with high-tech installations to measure the impacts of temperature and solar radiations as well as performances in real-life situations, validating the computer simulations carried out during the development phase of the solutions.

WICONA ensures the reliability as well as the mechanical, thermal, acoustic and reliability performances of all its solutions, both catalogue and bespoke. Every single detail is checked, each component is tested and urban planners, architects and contracting authorities are ensured of a final result that meets their requirements.



Photo: Conné van d'Grachten

### **35 West 15th Street (New York, USA): Specific solution, tested, with guaranteed results**

This apartment building, designed by FX Collaborative Architects, is characterised by its spectacular aluminium and glass façade. Serving as an urban mirror, it is a source of unsurpassed comfort for its occupants who benefit from unparalleled views of the city and optimal natural daylight. The structure's complexity, with all its angles, represented a major challenge. The combination of verticality and 20° incline, with many openings, generated a series of complex, technical constraints, particularly on the units located along the ridges. A bespoke, technical solution was developed using the WICTEC range. In order to ensure the final performance of the solution, parts of the curtain wall were developed in real-size by Intercom, one of our partners. It successfully passed the stringent American tests in terms of air tightness and water resistance in the Intertek-Architectural Testing laboratory in York, Pennsylvania.

# » PROVIDING THE MOST SOPHISTICATED SOLUTIONS

## Chamber of Commerce Innovations Campus in Hamburg (Germany): a successful adaptation for a daring architecture

This unique building, with a radical design, is in the Nikolai business district, positioned between two historical buildings and opposite the impressive classical façade of the old stock exchange. Aside from the complexity in implementing the work, it was essential to preserve architectural unity with the adjacent buildings, without renouncing the eco-construction principles. The result: a spectacular skyscraper façade created by adapting a window system from the WICONA catalogue. Johann von Mansberg, the project's architect, fitted the frames with illuminated strips giving the appearance of supporting columns, a typical feature in classical architecture.

Architect: Johann von Mansberg  
Fabricator: Heinrich Würfel Metallbau GmbH & Co. Betriebs KG  
Photo: Fritz Schöttner Fotografie

**To date, WICONA has over 60 years of experience, know-how and expertise in the design of aluminium solutions for high performance buildings, mainly curtain walls, joinery and sunshading.**

Renowned for its intransigence and pioneering talents, WICONA provides aluminium curtain walls and joinery solutions with innovative technology, aiming to exceed market standards and be the reference amongst professionals. Today, the company provides construction professionals with an extensive panel of solutions, together with a comprehensive service package.

Beyond technology, WICONA uses a unique development concept to optimise and secure the production process of its

construction systems: UNISYS. Just like a meccano set, this concept reuses a maximum of components across all products from the range. As a result, manufacturing costs are reduced, product reliability and flexibility is increased, stocks are minimised, tools are standardised, information flow and team training are both improved and, in the end, production is faster and better controlled.

### **Fire safety and protection of people**

*The protection of the building, of people using it and of its content is one of the main and daily concerns of any owner and occupant. It needs to be guaranteed in a comprehensive manner and remain consistent across the building, particularly for aluminium joinery. The WICONA ranges of doors, windows and curtain walls illustrate this approach. All of them provide a burglar alarm system and bulletproof versions. WICONA also offers a full range of fire protection solutions and a selection of guardrails.*

**» WICONA solutions are now the ultimate technological references on the market.**



**Curtain walls**



**Doors**



**Windows**



**Sliding systems**



# » SHARING TECHNICAL CHALLENGES

**WICONA's strength lies in the solid collaboration that the company has progressively built with its partners. We share a common culture, based on the same values: commitment, pride in work well done and a taste for technical challenges.**

Each company within the aluminium joinery sector has its own territory. Some focus on aesthetics and design, others on the service given to clients or the costs. WICONA has an entirely different priority: to deliver the best solution for complex envelopes, large-scale joinery and configurations that overcome technological challenges, whilst ensuring end performance. This is how the company adds value and makes a difference.

This specificity relies on a very close collaboration with the company's counterparts: projects in which we work together usually require some level of risk taking, which makes it essential for the partners to implicitly trust one another. We work across the world with the best manufacturers and fitters of aluminium joinery, both for local as well as for international projects. We share the same

passion for this work, the same high quality requirements down to the last detail and the same attitude when faced with the most audacious of technical challenges. Similarly, urban planners, contracting authorities or architects who choose WICONA are passionate about technological challenges and looking for a highly competent partner for their project. When there is trust and understanding between partners, together we can guarantee the result.

This privileged relationship between WICONA and its clients is reflected on several levels. Service is at the heart of our company as we are convinced that by listening to the requirements of our partners, by training them, supporting them and advising them, we are building the foundation of our common, future successes.



Photo: WICONA

» **Projects in which we collaborate with urban planners, contracting authorities, architects, manufacturers and fitters usually require some level of risk taking: collaboration and total trust are essential.**





Architect: Christoph Mäckler  
 Fabricator: FKN  
 Photos: Bernhard J. Lattner

### **Tower 185, Frankfurt (Germany): A challenge overcome together!**

Designed by the architect Christoph Mäckler, Tower 185 is a 50-floor building in the heart of Frankfurt's financial district. As the fourth tallest building in Germany, one of the characteristics of the project is its imposing 27,000 m<sup>2</sup> façade, a bespoke unitised solution designed by WICONA and fitted by FKN, one of our partners. In order to

optimise lead times, process efficiency and end performance, an assembly robot was developed to fit the panels. This radically innovative solution enabled a spectacular increase of the productivity of the build: every day, regardless of weather conditions, 20 panels were put up, each measuring 7 m<sup>2</sup> and weighing half a ton.

# » OPTIMISING THE ENTIRE VALUE CHAIN

**The heart of WICONA's work is the development of aluminium solutions, but its ambition goes far beyond that: it entails the control of all stages of the value chain in order to ensure its homogeneity, coherence and efficiency. This is the fundamental difference of WICONA compared with the competition, and ensures an optimal service to its partners and the high performance of end products.**

Between the primary production of aluminium and fitting the building façade, there is a long value chain where each stage affects the end performance of the solution implemented. WICONA has always chosen to control most of the value chain, thereby ensuring an optimal service to its partners. It is one of the only companies in its sector to have integrated its own extrusion plants, strip chains and coating plants. These are industrial stages further up the chain, that transcend WICONA's original work, i.e. the design of aluminium solutions, to control the quality of the profiles delivered and to reduce the lead times before it is available. This provides an essential competitive advantage.

Further down the profile conception and production stages, WICONA also has top-level storage facilities, to develop, harmonise and regulate the supply flows with those of the final deliveries. These are optimised with the highly sophisticated logistics systems designed by the company to ensure that its clients receive the best service. This could seem trivial but in reality, it is a fundamental aspect of the chain. On site, a delivery of profiles that have been poorly packaged and therefore

damaged, a delay in delivery or an incomplete delivery could lead to critical situations. This is why WICONA has always chosen to ensure a rigorous control of the storage and delivery phases.

WICONA's attention to detail in all stages of the value chain is also relevant during a sale. Aware that its products are meant to be manufactured and then fitted, the company provides a full range of cutting, assembly and fitting products, tested for that purpose. Powerful, robust pneumatic tools are available with each range, delivered with a user manual and a material sample. This attention to detail goes as far as providing a special glue to assemble the profiles and a specific product to clean the windows! This meticulous approach is far from being anecdotal, it reflects one of the company's fundamental commitments: to be fully accountable and to assist its clients and partners as best possible. Every single detail matters for WICONA and the benefits are undeniable: a reduction in non-quality costs, optimised manufacturing time, processes under control and guaranteed performance.

» Development, production, documentation, logistics and training are continually adapted to meet market requirements in the best manner possible and to ensure optimal service.

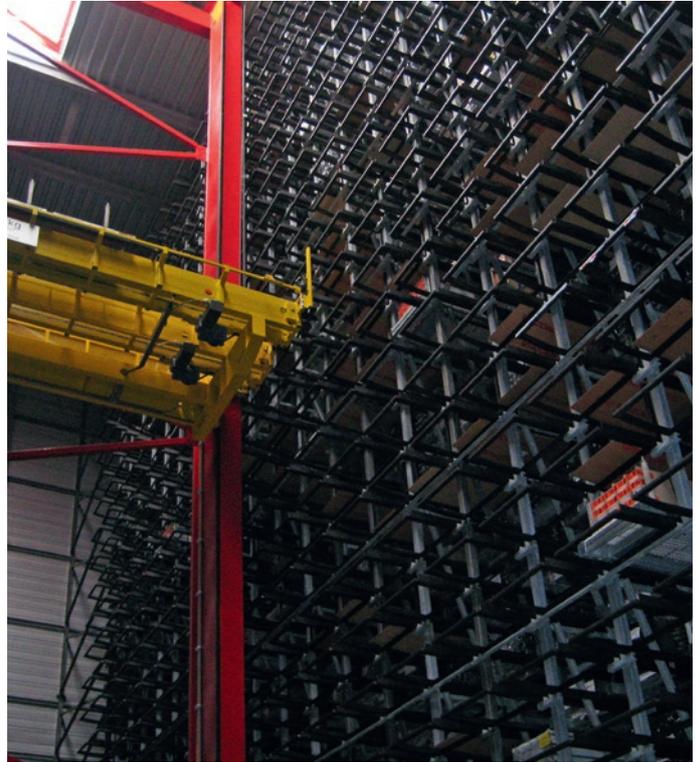


**Service-Center (Germany):  
a symbolic, representative site**

WICONA is constantly investing in its logistics equipment. Its service and logistics centre in Gerstungen is the prime example. It was designed to ensure an optimal level of service to its clients, from the storage of gross profiles, to the coating, crimping and dispatch. The aim is to reduce the time between order and delivery.



Photos: WICONA



Service and logistics centre in Courmelles (France)

Photos: Vent d'Autan



Photo: Anders Ellassen



# » SUPPORTING PROJECTS ACROSS THE WORLD

**WICONA started off in Germany and is today present in 48 countries over 4 continents. At least 25 languages are spoken daily in WICONA offices and 85% of its sales is carried out outside of its home market.**

WICONA offers solutions that are adapted to the most sophisticated, international requirements in terms of energy and performance. Its service provision is exceptional and it offers maximum flexibility, making it the ideal partner for urban planners, construction authorities, architects and aluminium joiners from across the world. Until the late 1990s, the company's international strategy was mainly a European one. Then, Eastern Europe revealed itself to be a market with high growth potential and significant investments were made in that region. The company later focused on China and the Middle East, which today represent 20% of sales. Over the next few years, conquering new markets, particularly the United States, will be a significant challenge.

Our teams are deliberately recruited in the countries where we have an office. They are multilingual and multicultural, so as to offer close support to architects and manufacturing companies in

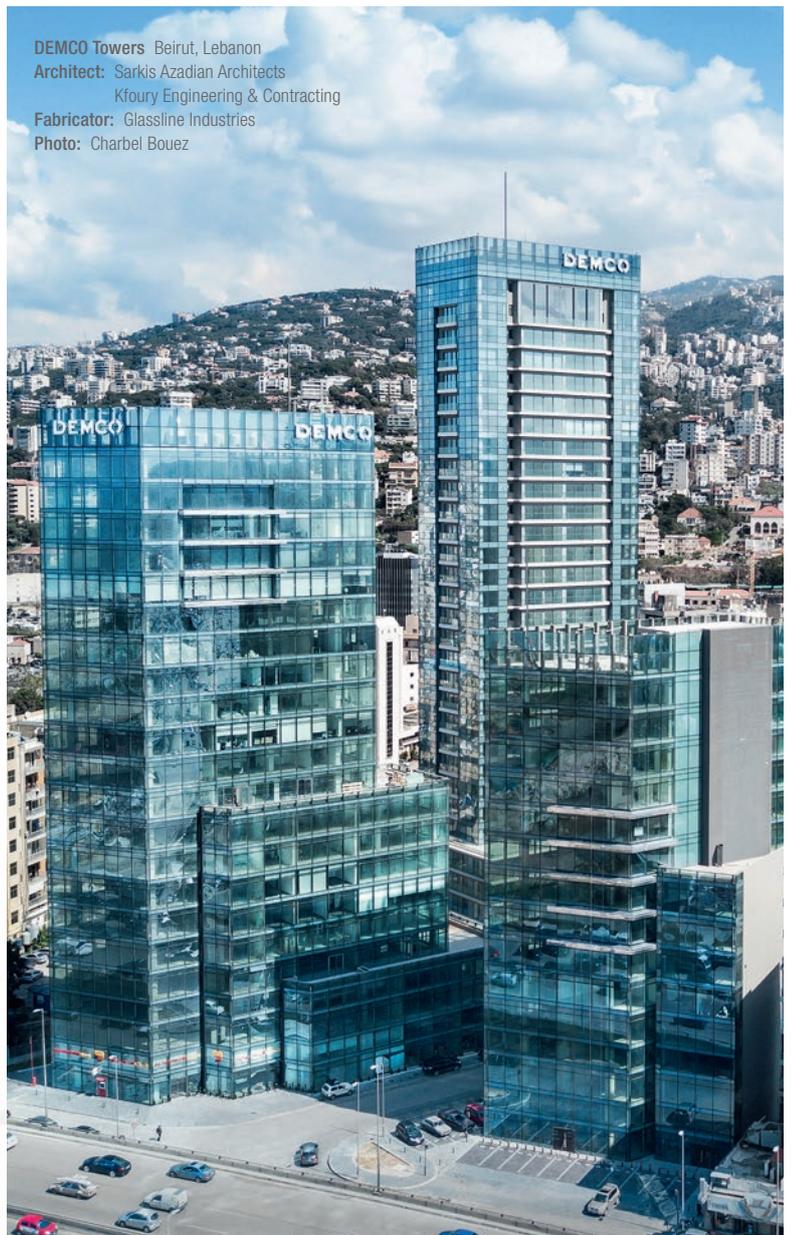
their international expansion. In an increasingly globalised world, more and more architects and contracting authorities leave their country of origin in search of export markets. Our multidisciplinary project teams work in close collaboration with them, offering a global approach regardless of the project's country, in terms of design, architectural perspective and effective, technical responses to requirements resulting from local norms and regulations. Our engineers are trained to manage projects and challenges of various sizes, from the definition of client requirement to project delivery.

WICONA's experience and international sites have enabled it to acquire a renowned know-how on large, international projects. It has demonstrated its ability to innovate on a technical and commercial level and has consolidated its leadership position in sustainable building.

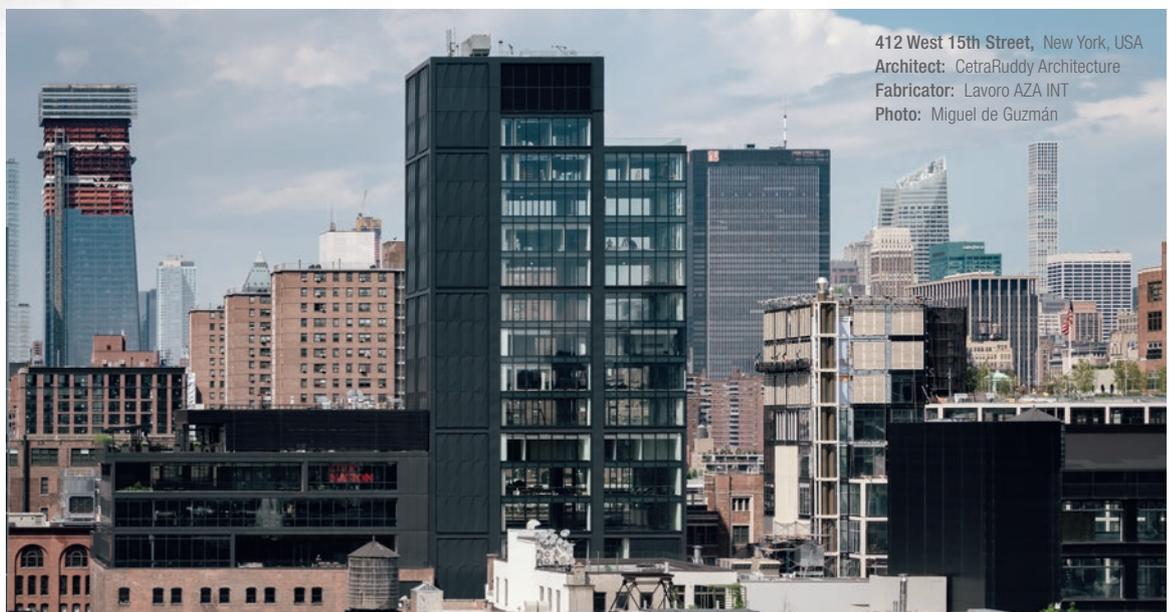


Pangu Plaza Beijing, China  
Architect: Lizuyuan Architect Office  
Fabricator: Beijing Bluesky  
New Construction Material Co  
Photo: WICONA

» Today, our multidisciplinary project teams are involved in transnational collaborations, providing support to architects and manufacturing companies in their international expansion.



DEMCO Towers Beirut, Lebanon  
Architect: Sarkis Azadian Architects  
Kfoury Engineering & Contracting  
Fabricator: Glassline Industries  
Photo: Charbel Bouez



412 West 15th Street, New York, USA  
Architect: CetraRuddy Architecture  
Fabricator: Lavoro AZA INT  
Photo: Miguel de Guzmán

# » RELYING ON THE SYNERGIES OF A LEADING GROUP



Flekkefjord Cultural Centre Flekkefjord, Norway  
Architect: Helen & Hard AS  
Fabricator: Hubro Hansen AS  
Photo: Jiri Havran

**WICONA is a brand of Norsk Hydro ASA, a fully integrated Norwegian aluminium company. It benefits from all the advantages of belonging to a group, combining local expertise, worldwide reach and unmatched capabilities in R&D.**

The Norwegian group, Norsk Hydro ASA, whose head office is situated in Oslo, is the leader in its sector, with 150 production sites in over 40 countries on all continents and 35,000 employees. Hydro is present within all market segments for aluminium, with sales and trading activities throughout the entire value chain. In addition to production of primary aluminium, rolled and extruded products and recycling, Hydro also extracts bauxite, refines alumina and generates energy to be the only 360° company of the global aluminium industry. Rooted in more than a century of experience in renewable energy, technology and innovation, Hydro is committed to strengthening the viability of its customers and communities, shaping a sustainable future through innovative aluminium solutions.

Its position as the leader enables it to make significant economies of scale across all levels (procurement, operations, commercial management), ensuring its clients both a cost reduction, an increase in productivity and an improvement in terms of quality and delivery times. Our engineers also collaborate to provide our clients with expertise in research and development, this is unparalleled in the world of aluminium.

Belonging to the Hydro group presents many advantages for WICONA. It offers its clients and partners the guarantee of total financial safety and a lasting impact, whilst the brand benefits from the international network of its parent company, using its distribution network and having greater capacity to develop its product range.



Photo: Tesla Motor



Photo: Øyvind Brevik

» **WICONA shares with Hydro, its parent group, a series of founding principles reinforcing a common culture, such as: care, courage and collaboration.**

### **Aluminium – the metal of the future**

*Hydro aims to be first global aluminium company to become carbon neutral from lifecycle perspective by 2020. The global climate depends on it, more and more customers want it and Hydro is capable of providing it. With Hydro 4.0 and Hydro 75R certified low-carbon aluminium products, Hydro launched two of the most sustainable aluminium alloys. Those two low-carbon aluminium products are certified by an independent third party company.*

#### **Hydro 4.0**

*Producing some of the aluminium with the lowest carbon footprint in the world, Hydro wants to make sure that this attractive material is made available to customers that care about the sustainability of the products they use. 4.0 kg CO<sub>2</sub> per kg aluminium is the maximum carbon footprint allowed in this series of products, a figure compromising total emission from mining, refining, transportation, energy generation, anode production, electrolysis and casting.*

#### **Hydro 75R**

*Aluminium is infinitely recyclable and can be used over and over again without loss of quality or properties. Still, hi-tech equipment is necessary to dig deeper into the scrap pile. Operating the most advanced sorting technology in the industry allows Hydro*

*to provide the highest recycled content in the market. Two Hydro plants work together to produce Hydro 75R alloys. The shredding and sorting of scrap takes place in the plant in Dormagen. From there, the metal is forwarded to Clervaux where it is remelted and also casted into Hydro 75R alloys.*

*75R contains a minimum of 75% post-consumer scrap. The higher recycled content, the lower the carbon footprint. When guaranteeing more than 75% recycled content, Hydro exclusively refers to aluminium that has reached its end-of-life as a product in use and brought back into the loop. Hydro is currently the only producer in the world capable of supplying prime quality end-of-life recycled aluminium with a recycled content of more than 75%.*

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