OBJEKTIV

Magazine for architects and fabricators

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DESIGN IS DICTATORSHIP

Says Claus Neuleib. And designs a trade fair display for RAICO that polarises

MAGIC TOOL FOR FAÇADE PLANNER

Software simulated 3D dome roofs all the way to completion

MEGA-CITY

China builds passive house metropolis for 20 million people

MODERN STYLE EMBRACES GOTHIC

Dresden's Saint Sophia's Church lives on in the architectural masterpiece

EVOLUTION FOR ETFE FAÇADES

The first serially producible modular system is here

MULTITASKING IN 3D

As the only woman in a team of five, you automatically become the multitasking officer. During the development of the new ETFE_THERM^{+}, the guys needed me as a system planner, as a 3D printing expert and as an actress in the video in order for us to achieve the 2018 Architects' Darling award. And hey – we won SILVER!

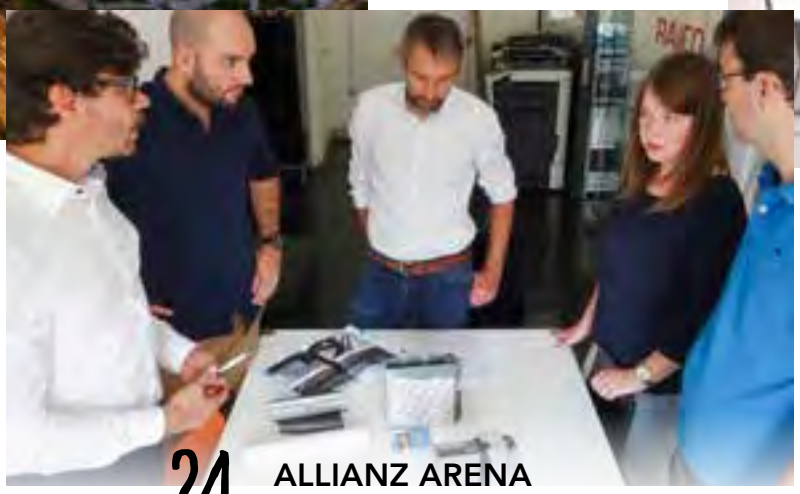
ETFE modules are thin, air-filled plastic membranes – like those which, for example, decorate the Allianz Arena façade. A very new field for me and my colleague Michael Kaufmann – but familiar territory for our three development partners from FJP-tec. Together, we were able to learn a lot from one another. And to realise a functional prototype for the world's first serially producible ETFE façade modular system, based on the THERM^{+} FS-I, in the shortest possible time (see page 24 onwards).

This is so easy to use, you don't even need to be able to multitask to do it …

Yours, Michelle Herdlitschka
Technical System Planner
RAICO Bautechnik GmbH

ETFE_THERM^{+}: SILVER Winner in the "Best Product Innovation Technology" category

PERFORMANCE SPECIFICATIONS



SUMMIT MEETING

In their professional lives, their passion for architecture and building techniques unites them. In private, the four can also get enthusiastic about other things. As for example last November, on an extensive ski tour in Austria's Hochgurgl/Ötztal region. Just for once, under perfect snow conditions, Manfred Hörburger, Managing Director of the Hörburger Stahl- und Metallbau (steel and metal construction) company, with daughter Sabrina, nephew Thomas and RAICO Austria Marketing Manager Milenko Tesic, weren't planning façades – but fast-paced downhill ski runs and elegant stops for meals and refreshments after skiing. The only thing they left out this weekend was the snowball fight – instead opting for the Scheiber family's delicious Kaiserschmarrn raisin pancakes at the Crosspoint Restaurant.

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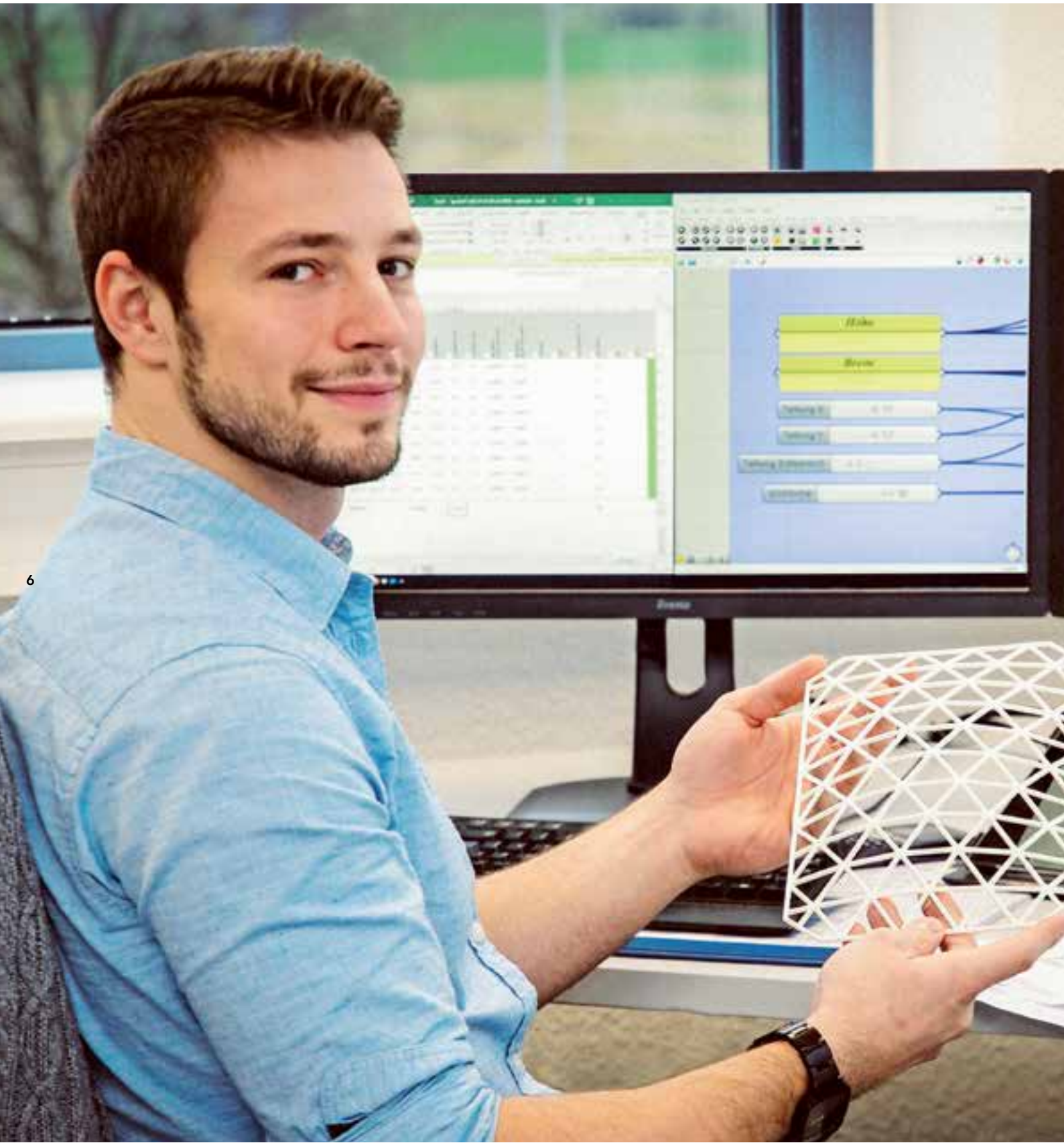

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MAGIC TOOL FOR DOME PROFESSIONALS

Something complex can be so simple: Paul Rothe from Metallbau Windeck GmbH has developed a software solution for three-dimensional dome roofs that automatically recognises the neuralgic points during the planning process and digitally depicts all the processes all the way to production. The key feature: The RAICO add-on systems are implicit in the software. Paul Rothe and Hagen Weber (RAICO Bautechnik GmbH) tell how the software helps them to do justice to the architects' extraordinary ideas.

Text: Nina Pöltl

Hagen Weber: Planning a glass dome roof is a highly complex process. We often sit down with the architects at a very early stage and sift out what is and isn't possible. For the architects, the main focus is the aesthetic aspect. We two try to technically realise that idea – you as the person responsible for the steel substructure and me in relation to the roof system. The challenge is to combine the architectural requirements with the technical standards and production techniques. It must at all events be well sealed-off and watertight.

Paul Rothe: In addition, every project is unique and many glass roofs have very complex geometries, especially if it involves double-curved shapes. In the long term, the construction firms and planners cannot cope using the classic two-dimensional planning methods. That realisation motivated me to develop an automised 3D solution that digitally depicts the entire planning process all the

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way to completion. The software supplies all the information necessary for the further processing company, from production drawings and assembly drawings, through profile sections, all the way to the order list. Even detailed plant and assembly plans can be generated, which enormously increases process safety.

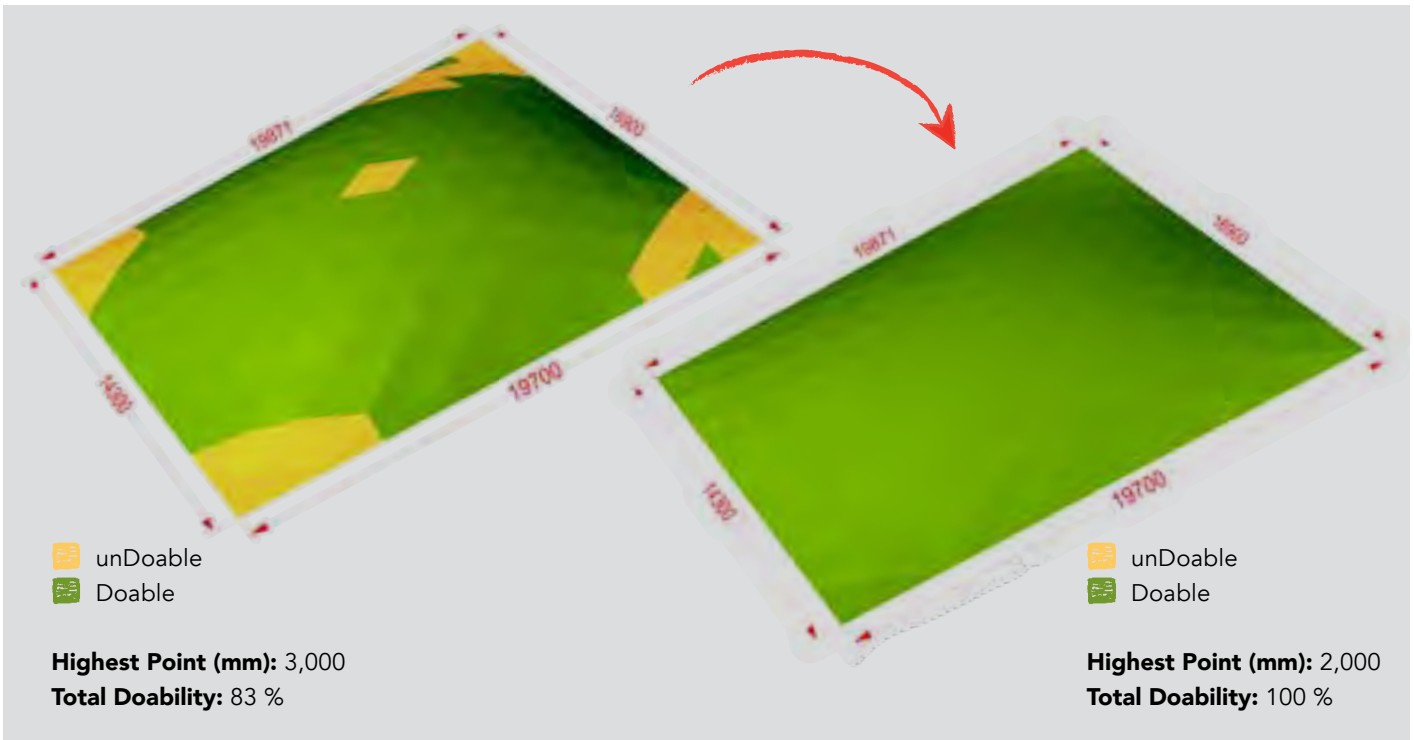
Hagen Weber: I think you've achieved a huge step forwards with the software. After all, we are partners and have been working together very successfully for years. The special feature of the software is that the RAICO roof cap systems have been implemented, making it possible to directly check whether it is possible to realise the glass roof with the existing RAICO cap system and the steel substructure or whether, and at which places, a special construction needs to be developed. This not only saves the company time, but also money.

Paul Rothe: To put it simply, the software functions like this: You enter the base area of the construction with the aid of the coordinates. The basic shape of the special glass roof construction is then created algorithmically via the second parameter – the rise. This data can be subsequently altered. Next, the software lays a grid over the basic shape and divides it into triangles. The algorithm makes it possible to identify and locate every single nodal point. The tool offers the possibility of checking the project parameters to see whether they are compatible with your requirements as the system manufacturer.

"The software compares, designs and shows where special solutions are needed."

Paul Rothe, Metallbau Windeck

Hagen Weber: Sometimes you only need to turn small adjusting screws – to very slightly alter the rise, the inclination or the angle – to realise the roof with an existing RAICO system. This is more economical than a special solution and, for the architect, this also only represents a minor alteration to their design. Different dome roof constructions can be easily compared with one another and discussed with regard to the eligible systems.



THE YELLOW AREAS CANNOT BE COVERED WITH A CONVENTIONAL RAICO SYSTEM.
THE SLIGHT CHANGE OF THE HIGHEST POINT MAKES IT POSSIBLE TO REALISE THE DOME ROOF WITHOUT A SPECIAL SOLUTION.

Paul Rothe: And by linking up to the materials list, you can keep a reliable eye on the costs. The software helps us find the best solution, in which all the important components are taken into consideration: design, technical implementation, cost effectiveness, process safety and adherence to the schedule.

You can find out more information on the new software here: www.metallbau-windeck.de/medien/roof-projekt.html

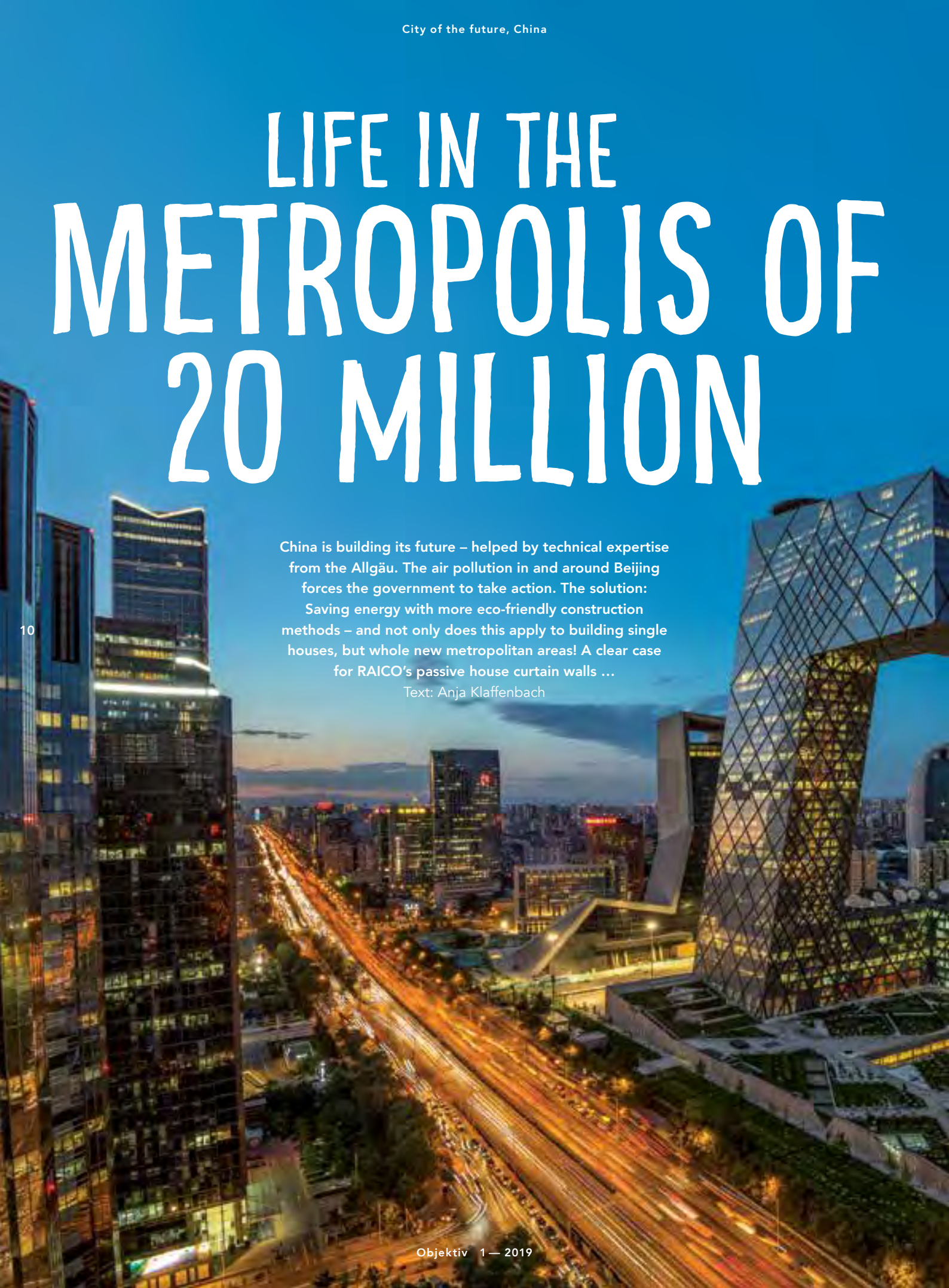
PROJECT	Mittelbrandenburgische Sparkasse
LOCATION	Potsdam, Germany
CLIENT	MBS Potsdam
ARCHITECTS	KSV Planung und Kommunikation, Berlin
PLANNING	glasfaktor Ingenieure GmbH, Dresden Sebastian Rücker
CONSTRUCTION	Metallbau Windeck GmbH, Berlin
SIZE	about 336 m^2
COMPLETION	2016
RAICO SYSTEM	THERM$^+$ S-I 76 steel curtain wall, WING 105 DI special construction
SPECIAL FEATURES	cushion roof, rhombic glass dome, real structural glazing without suction holders, approved in an individual case, triangular special windows

THE 12-TON HEAVY ALUMINIUM & GLASS DOME ROOF ELEGANTLY CONNECTED THE OLD AND NEW BUILDINGS OF THE SPARKASSE SAVINGS BANK IN POTSDAM. AN INNOVATIVE SOLUTION IN WHICH 228 TRIANGULAR GLASS ELEMENTS AND 360 CHEVRONS WERE USED.

LIFE IN THE METROPOLIS OF 20 MILLION

China is building its future – helped by technical expertise from the Allgäu. The air pollution in and around Beijing forces the government to take action. The solution: Saving energy with more eco-friendly construction methods – and not only does this apply to building single houses, but whole new metropolitan areas! A clear case for RAICO's passive house curtain walls …

Text: Anja Klaffenbach



Do you know Gaobeidian? On this question probably just as many people in China will shake their heads in astonishment as here in Europe. With its just under 600,000 inhabitants the city is a mere side issue compared to Chinese proportions, even within the province of Hebei, surrounding Chinas capital Beijing. Yet the creators of Chinas future are at work right there – and RAICO plays an important part in this scheme.

Admittedly, the idyllic town of Heidelberg is not the first thing that comes to mind when you catch sight of the industrial park of Gaobeidian while driving across the 8-lane motorway from Beijing. And yet there are remarkable parallels. The creation of "Gaobeidian Railway City" was inspired by the model town on the river Neckar: The railway city represents the world's biggest passive house construction project – and it is China's pilot scheme for green building. The reason is obvious: In and around Beijing the atmosphere is literally "foul". In particular the province of Hebei, surrounding Gaobeidian, is dominated by heavy industry and thus regarded as one of the front runners of China's smog issue.

Bid by the highest authorities, the task in Gaobeidian is to build a cleaner future: The passive house estate in the innovation zone "Railway City" is part of an action plan of the Chinese government,

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WINDOOR CITY: A PLACE WHERE IDEAS TAKE SHAPE AND AMBITIOUS FUTURISTIC CONSTRUCTION PROJECTS ARE BORN

created to promote an energy saving way of living and working in the China of tomorrow. "Green building" is today's buzzword, and thanks to the desire to reduce China's housing energy consumption, RAICO's teaming up with the Chinese retail partner Orient Sundar produces good results: Together they are planning to install a total of 1.5 million m^2 of energy saving curtain walls in passive house quality.

A spirit of excitement is tangible in the Hebei province: In April 2017 the Special Economic Zone "Xiong'an New Area" was launched on the personal initiative of Chinas President Xi Jinping. It is obvious: The capital Beijing is bursting at the seams, and in a considerable radius around the metropolitan region the polluted air is in dire need of a "breather". The solution? Xiong'an. The city of the future is considered as a concentrate of Xi's vision for the "New China", with advanced technologies aimed at all aspects of living. Administration, universities, hospitals and business centres are facing a medium-term relocation from Beijing. The plan seems to be working out: By now more than 100 high-tech enterprises have moved to Xiong'an, including big players like Alibaba, Baidu or JD Finance.

Pioneer spirit is palpable everywhere in Xiong'an: "Green building" is the keynote, making the city a symbol of an eco-friendly lifestyle. Passive houses are set to be the standard in building, saving energy and thus helping to reduce emissions.

And what does the brave new world of China's eco-friendly metropolis created on the drawing-board look like? The city of the future focusses on the human factor of its inhabitants, putting into perspective the traditional Chinese role of people as mere providers of services. Many services are envisaged to become fully automated. Shopping in checkout-free supermarkets without waiting in line, having your purchases debited on your bank account automatically, and delivered to your home by driverless cars on request. Also at the gyms of tomorrow, everything is arranged to function without "human" service. And when in an experimental project with autonomous cars the service staff comes flying in on hover boards, you can feel a touch of the movie "Back to the Future" …

The "City Makers of China" are pursuing an ambitious schedule: By 2019 high speed trains are supposed to connect the city of the future with Beijing – with a journey time of less than 30 minutes! At present about 2,000 people live in Xiong'an, while in 10 years the number is planned to increase to 8 million people. The long-term plans aim at 15 to 20 million people living and working there. On the whole the new mega city of Xiong'an is supposed to extend over 2,000 km^2 – not even Munich, Hamburg and Berlin put together amount to these dimensions. Maybe Xiong'an and Gaobeidian, the mega projects where RAICO is involved in China, are still dark horses, but the impressive figures demonstrate: Eco-friendly building can be a fantastic "green" driving force for the whole economy.

A SMART SOLUTION! THE INNER LIFE OF THE HI-TECH FAÇADE OF THE NEW EXHIBITION HALL LEAVES NOTHING TO BE DESIRED

THINK BIG!

One of RAICO's first cooperation project with Orient Sundar already exists and the wooden curtain wall of the Windoor City Exhibition Hall in Gaobeidian is exceptional in many respects, beginning with wood as the construction material. While wooden curtain walls are very common in Europe, in China wood is considered as an absolutely high-class construction material. The gigantic dimensions of Chinas biggest wooden curtain wall were also a great challenge. Together RAICO and Orient Sundar passed the herculean task with flying colours: With 40 metres in width and nearly 9 metres in height everything had to be constructed as a consistent unit. The high tech interiour of the RAICO curtain wall system is the highlight of this project: Smart home elements like shading, ventilation and lighting are directly integrated into the curtain wall system.

GIGANTIC DIMENSIONS IN THE MIDDLE KINGDOM: CHINA'S LARGEST WOODEN PASSIVE HOUSE FAÇADE STANDS IN GAOBEIDIAN

PROJECT	Exhibition Hall
LOCATION	Gaobeidian, Peking Province, China
CLIENT	Hebei Orient Sundar
COMPLETION	2017
SIZE	600 m²
CONSTRUCTION	Hebei Orient Sundar
RAICO SYSTEM	THERM$^+$ H-V wooden passive house façade and FRAME$^+$ 75 WI window system

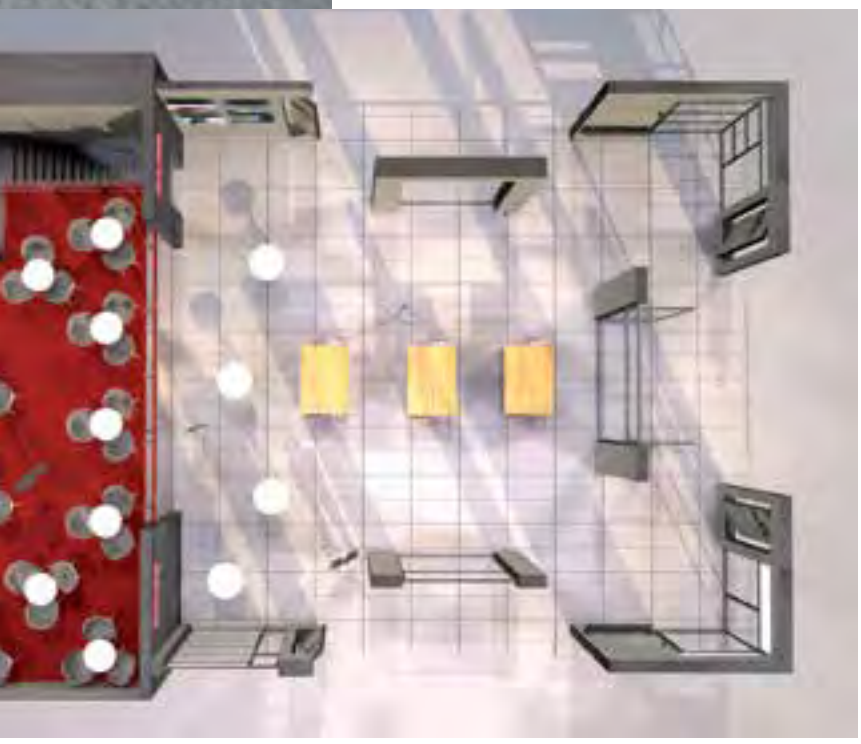
OPEN TO INNOVATION:
THE RAICO TRADE FAIR STAND
BY ARNO DESIGN

DESIGN IS DICTATORSHIP

At BAU 2019 in Munich, many innovations will again be celebrating their launch. One of these is the RAICO trade fair stand created by designer Claus Neuleib, one of the managing directors of the company ARNO Design. We talked with this creative genius and found out just what intuition, dictatorship and church painting have to do with trade fair communication.

Text: Tobias Schneider

Under his hat, he sports designer glasses and tatoos. In his heart, he cherishes a love of drama and staged performance. If all this conjures up the image of an artist in your mind, you're not far wrong. Visually, Claus Neuleib would, for example, easily pass for a musician, artist or a star photographer. In actual fact Neuleib, born in 1961 and living in his adopted city of Munich, is a designer and creative director and one of the best designers in Germany in the field of trade fairs. Because he's the kind of person who knows exactly what he wants: to keep reinventing his clients' displays with a sure instinct and a passion for shapes, colours and textures.



"Design leaves no room for alternatives and compromises. Design is dictatorship."

As one of the managing directors of the Munich design office ARNO Design, in June 2018 "Mr Trade Fair" accepted the commission to redesign the RAICO trade fair stand and chose to communicate with a bold visual statement from the very beginning. "A good trade fair presentation should polarise," explains Neuleib, "It should stand out vividly from its surroundings, catch the eye." And so it happened that when he presented his

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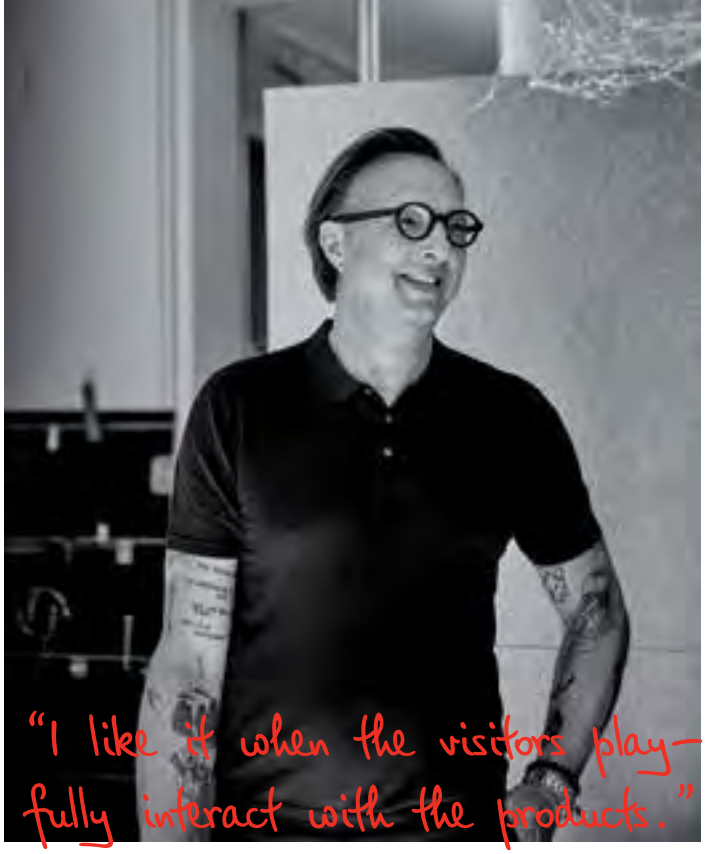
design, little more than the logo, profile pattern and catering area remained of the previous RAICO trade fair concept. Design, as he explains, doesn't mean finding wishy-washy compromises, but can sometimes be a kind of dictatorship. This calls for clear decisions, courage and consistency.

„After just a few minutes, I could already visualise the design for the RAICO trade fair stand."

"We intentionally chose the company ARNO Design and Claus Neuleib as the creative mind. Right from the start, he had a specific concept of how to get the best out of our trade fair stand, and thus for us as a company," says Andrea Jall, the RAICO Art Director, recalling the first meeting with him. The designer initially visualised the way the stand should look in the form of a scribble on paper, later via mood boards, then as realistic renderings and finally in a detailed trade fair stand concept. Where does Neuleib get the inspiration for all his designs? "I love and live design. In my private library, I have over 1,300 books on fashion, architecture and art. I absorb it all, recall it at a given time and allow all the impressions, shapes, styles and historical periods that I've gained to flow into our clients' specifications and corporate identity. In the case of RAICO, I could already clearly see the basic idea in my mind's eye after a few minutes. It's a kind of intuition."

THE 4.10 M HIGH FAÇADE WITH CORNERS, EDGES AND PLENTY OF PROFILES



The university graduate in interior designer who has dedicated himself to trade fair design for the past 32 years, also vividly recalls the specific source of inspiration for the new RAICO trade fair stand: "Many years ago, I saw the 'Storefront for Art and Architecture' by the architect Steven Holl at the Gallery New York." Here, the façade is cleverly broken up with rotatable elements and hatches, enabling a detailed view to the interior. As in the façade of the new RAICO trade fair stand. The small fold-out doors and panels invite the visitor to discover the world of the RAICO façade solutions and to playfully interact with the products.

Despite the solid, austere anthracite framework, the nearly 200-square-metre stand looks extremely inviting. Surrounded by a variety of 4.10-metre-high RAICO façades, the glass elements – artistically decorated on site in slate-coloured paint by a church painter – offer a view of the communication area as well as the two-floor guest area with a lounge atmosphere. At the centre, the three red counter islands of the "Profile Library" offer plenty of material for conversation – because under the solid wood panels, 36 white-lined drawers containing about 180 RAICO short samples, as well as the RAICO's own manufactured trade fair exhibits, await discovery by the specialist visitors – more than have ever been seen in RAICO's trade fair history.

We're proud of the result and are happy that while making a clear design statement, Claus Neuleib has succeeded in harmonising it perfectly with our requirements: in his own unique style. □

"As a central point, the profile library offers plenty of material for conversation."

MODERN STYLE EMBRACES LATE GOTHIC

Text: Nina Pöthl, Photos: Andrea Jall

Prof. Dr.-Ing. Gerhard Glaser is a contemporary witness, architect and former state conservator of the German federal state of Saxony. Over a period of decades, he fought for the preservation of the oldest Gothic church in Dresden and then, following its destruction, for a proper and fitting memorial. The Church of St. Sophia Memorial will finally be inaugurated in 2019. The memorial is an architectural masterpiece, in which the abstracted "Busmannkapelle" is surrounded by an enormous glass showcase. A special self-supporting glass construction has facilitated the creation of an harmonious exterior façade.

It is February 13, 1945, a fire-storm sweeps through Dresden at night and razes an area of 15 square kilometres to the ground in the Baroque city. Over 20,000 people perish, and large parts of the city centre are destroyed: the Church of Our Lady, Semper Opera House, Zwinger Palace, Albertinum Museum and the Royal Palace are all ablaze. The force of the destruction cuts to the heart of the Church of St. Sophia, the oldest Gothic church in Dresden, built around 1350, and the annexed "Busmannkapelle", built around 1400. Nevertheless, the Church of St. Sophia is still considered one of the best-preserved landmark ruins in the Elbe metropolis after the Second World War.

The people of the city, entire faculties of the TU Dresden and the former President of the People's Chamber of the GDR give massive support to its preservation. For a short period, the Church of St. Sophia even ranks second in a register of 40 listed landmark ruins. When Walter Ulbricht, Secretary-General of the Socialist Unity Party, interferes in the case, the situation worsens

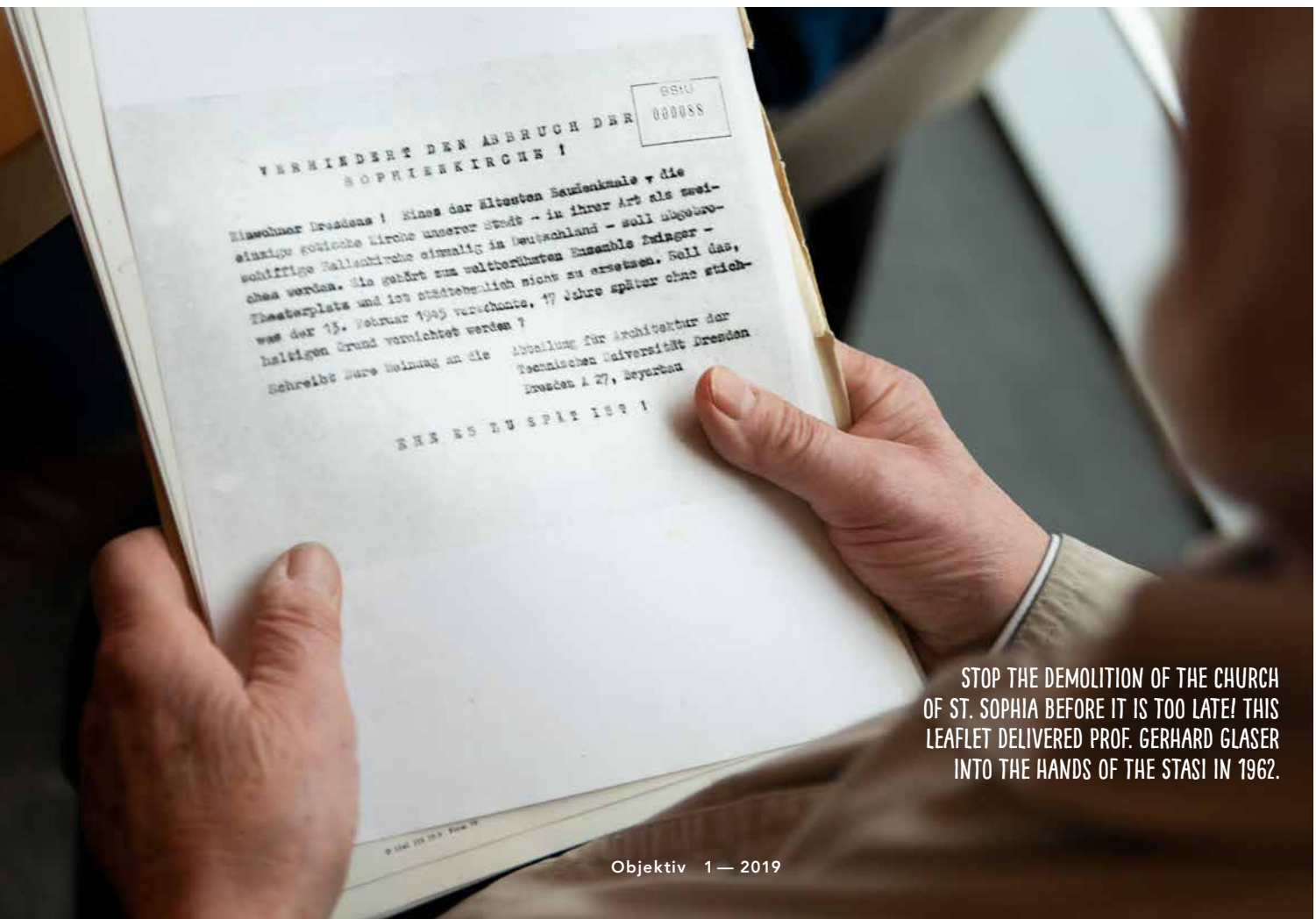
FIVE ABSTRACT PILLARS LOOM OUT OF NOWHERE LIKE MONUMENTS. THEY HAVE BEEN BUILT ON THE SITE WHERE THE FIVE BUTTRESSES ONCE SUPPORTED THE CHURCH OF ST. SOPHIA WITH ITS TWO NAVES.

dramatically. At the time, Ulbricht was busy establishing Stalinist socialism in the GDR. A Christian view of life did not fit in with the prevailing atheistic, antihistorical world view. In 1960, he ostentatiously removes the Church of St. Sophia from the city model of Dresden.

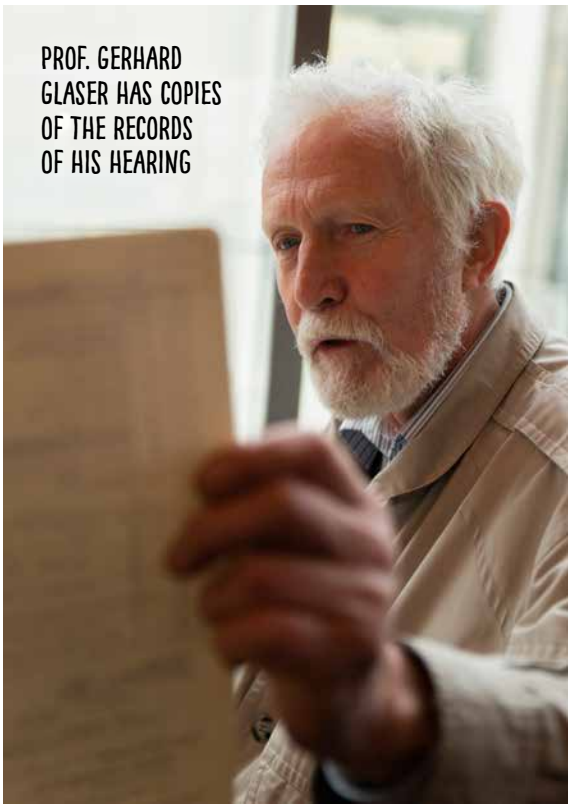
However, a young Gerhard Glaser is also active. It is not too late yet! He is 25 years old, has just completed his architectural studies at the TU and has been working as an architect for a few months in the masons' guild charged with renovating the Zwinger Palace complex in Dresden. His job is to rebuild the badly damaged Albertinum, which today houses parts of the Dresden State Art Collections featuring unique art treasures from around the world. In 1962, he tries to prevent the demolition of the landmark ruin with a leafleting action, but by doing so opposes the ideology of the GDR regime. Together with three former fellow students and with the help of other students, he distributes leaflets in letter boxes belonging to politically influential people. His actions have consequences: Gerhard Glaser and his colleague Hermann Krüger are sitting at their drawing boards in the workshop when the door to the draughtsman's room suddenly bursts open.

Two well-dressed gentlemen enter. They identify themselves as Stasi officers. The two architects are politely asked to accompany them for questioning. At this moment, Gerhard Glaser assumes that his action to protect the monument will be punished with a year and a half in prison. "When, during the interrogations, they read from my diaries they have confiscated, I imagine I will get another year on top. After endless rounds of gruelling interrogations lasting

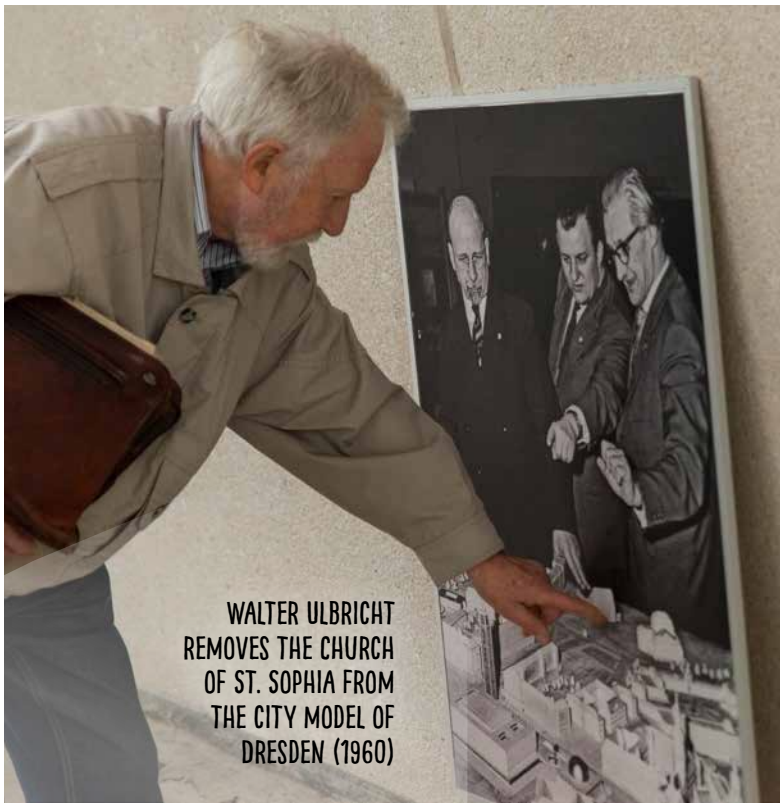
AFTER THE SECOND WORLD WAR, THE CHURCH OF ST. SOPHIA WAS CONSIDERED ONE OF THE BEST-PRESERVED LANDMARK RUINS IN DRESDEN.



STOP THE DEMOLITION OF THE CHURCH OF ST. SOPHIA BEFORE IT IS TOO LATE! THIS LEAFLET DELIVERED PROF. GERHARD GLASER INTO THE HANDS OF THE STASI IN 1962.



PROF. GERHARD GLASER HAS COPIES OF THE RECORDS OF HIS HEARING



WALTER ULBRICHT REMOVES THE CHURCH OF ST. SOPHIA FROM THE CITY MODEL OF DRESDEN (1960)

well into the night, I suddenly hear the words, 'We can stop all this if you work for us in future.' The next morning at 5 o'clock, the cell door suddenly opens and I am released. I had reckoned with everything, but not with being released so quickly. I only learned why ten years later", recalls Professor Glaser.

His release was due to the intervention of then General Director of the State Art Collections and died-in the-wool Stalinist, Max Seydewitz. It was his job was to organise the accommodation of art treasures that had come back from the Soviet Union and establish a collection in the Albertinum. On the night of the arrest, he called the head of the Stasi and said: "If those two guys are not sitting at their drawing boards again by tomorrow, then I'm supporting Kurt Hager." After Walter Ulbricht, Kurt Hager was the most important man in the GDR. Seydewitz's project to establish the Albertinum would have come to a standstill without the two young architects, which is why they were released so quickly.

Ultimately, all their efforts remained unsuccessful. By 1963, the reconstructible ruin had been demolished in an act of cultural barbarity. In the end, all that remained of the "Busmannkapelle" were a few stones from the south window, the altar, four console stones and parts of bases of the vault. In the years that followed,

"When they read from my diaries during the hearings, I mentally added on a further year of prison."

Professor Dr.-Ing. Gerhard Glaser

the largest restaurant complex in Dresden – the "Feeding Cube" – was built on the site of the Church of St. Sophia.

The preservation of historical buildings runs like a golden thread through the life of Professor Glaser. Soon he is Deputy Head of the Construction Department at the Central Institute for the Preservation of Historical Monuments. In the mid seventies, he establishes "VEB Denkmalpflege", a construction company specialising in preservation work. In 1982, he becomes Chief Conservator of the Central Institute for the Preservation of Historical Monuments and is made responsible for the old state of Saxony, which was restored in 1990. Only after the fall of the Berlin Wall and the reunification can he resume his fight for the Church of St. Sophia. In 1998, he is awarded the Order of Merit of the Federal Republic of Germany for his extraordinary achievements.

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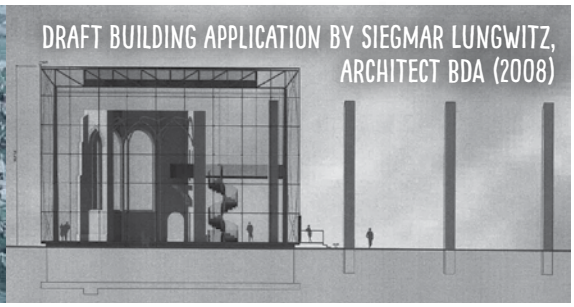
SHOWCASE OF MEMORY



"The architects had the wonderful idea of establishing a connection in an abstracted spatial context between the painfully little that could be salvaged."

Professor Dr.-Ing. Gerhard Glaser

An appropriate reminder of the city's oldest Gothic church needs to be created! Following the peaceful revolution, Professor Glaser immediately contacts the new political forces in the city. With a great deal of dedication, the "Bürgerstiftung Dresden" community foundation, established in 1999, and the development association, founded a year earlier, succeed in making sure that the Church of St. Sophia manifests itself in consciousness of the public again. Today, the "Bürgerstiftung Dresden" community foundation owns the Memorial to the Church of St. Sophia, which will be completed in 2019 after almost 25 years of planning and construction.

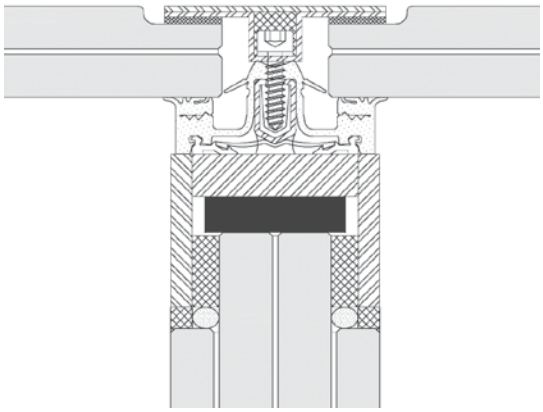
The design by the architects Gustavs & Lungwitz was awarded 1st prize in the 1995 ideas competition. The abstraction of the chapel in exposed concrete restores the architectural fragments of the originally preserved "Busmannkapelle" in their old spatial relation: this includes the window fragments and the portrait busts of Lorenz Busmann and his wife who the "Busmannkapelle" was named after.

Where the St. Sophia church once stood, the paved floor plan now reminds us of the church's destruction. Five abstract pillars loom out of nowhere like monuments. They are built on the site where the five south-facing buttresses once supported the two-naved hall church. Metal profiles simulate the structure of the former ribbed vault. The "Room of Silence" can be found in the basement, where two large stones from the original structure of the Church of St. Sophia, 12 gravestones from the 17th Century and facing bricks from the church interior are exhibited. A 13.5 m-high glass shell with a 22 m x 12 m base encloses the memorial.

The glass shell, which takes the form of an oversize showcase, represented a real challenge in engineering. In contrast to the Ideas Competition, the supporting principle of the glass façade has been altered from a cable construction to an internal glass construction for financial reasons. The new all-glass façade was designed by architect Siegmar Lungwitz. From the offices of glasfaktor Ingenieure in Dresden, static and constructive details have been implemented as part of a ZiE (approval in the individual case). The reinforcement of the four-sided glass façade is achieved by the substantial inner space shell. What is special is that the huge façade panes, weighing up to 840 kg, are not supported by a metallic post and beam construction – as favoured by representatives of the client – but are rather glued to 13 m free-spanning glass swords. The glass forms the load-bearing element. The goal was to create a façade surface that is as transparent and homogeneous as possible. A conventional mullion-transom façade with chair rails would have failed to meet the sophisticated demands of the design for the outer shell. The engineers from glasfaktor brought in RAICO during the pre-planning phase. Together, they developed a special glass top construction featuring a flat pressure plate, which is sunk into the glass surface via a specially milled edge to ensure a smooth and homogeneous façade surface. The RAICO top construction is bonded to the glass fin over a stainless steel U-profile. Neither the chairs, plates nor a single bolt can be seen from the outside. This represents an extremely elegant solution, where the glass surface is completely smooth and the RAICO profiles remain invisible between the individual panes.

Almost a quarter of a century has passed since the bombing of Dresden. What was destroyed in a single night and then finally destroyed by the GDR regime remains lost forever. Today, the "Busmankapelle Memorial" commemorates the abuse of power during the Third Reich and the 40 years thereafter. The monument is a memorial and meeting place in one, a place of gathering and peace and a place of reflection. □

Busmannkapelle, Dresden



"The special RAICO top construction made it possible for us to realise the extraordinary aesthetic challenges of the 13 metre-high all-glass façade."

Sebastian Rücker, Managing Director glasfaktor Ingenieure

PROJECT	The Church of St. Sophia Memorial
LOCATION	Dresden, Germany
DURATION	2008 – completion in 2019 The long period of construction was due to the difficult financing.
CLIENT	"Bürgerstiftung Dresden" community foundation; Client's representative: Prof. Dr.-Ing. Gerhard Glaser
ARCHITECTS	Siegmar Lungwitz Architect BDA, Dresden
PLANNING	glasfaktor Ingenieure GmbH, Dresden Sebastian Rücker
CONSTRUCTION	Hunsrücker Glasveredelung Wagener GmbH & Co. KG, Kirchberg
RAICO SYSTEM	Special system based on the THERM^{+} S-I steel façade

ALLIANZ ARENA FOR THE HOME

Boundless possibilities with "off the peg" profiles? With the world's first serially producible ETFE façade modular system, ETFE_THERM+ RAICO solves planning and design tasks in one go. And wins SILVER in the 2018 Architects' Darling Award at the first go.

Text: Tobias Schneider

As alluring as the visual possibilities of modern ETFE buildings may be, it's usually only specialised planning offices who dare to take on the technical challenges, the laborious planning process and the lengthy development time. One of these is the Munich engineering firm Leicht. When looking for a scalable steel façade system, the ETFE planners quickly hit on RAICO: The starting signal for productive collaboration and the founding of FJP-tec as the exclusive supplier for RAICO.

From problem to idea

"We didn't want to be constantly replanning, but to develop something once and to be able to combine it again and again," explains

SPECIAL COMMANDO UNIT FOR CREATING THE ETFE FAÇADE: JOCHEN ARNDT (FJP-TEC), MICHAEL KAUFMANN (RAICO), MICHELLE HERDLITSCHKA (RAICO), FLORIAN WEININGER (FJP-TEC) AND PETER HERBERT (FJP-TEC).

FJP-tec founder Peter Herbert, who (among other things) collaborated in planning the ETFE façade of the Allianz Arena in Munich. "With the THERM+ FS-I system, we've found the perfect framework for realising a modular, scalable ETFE façade solution." Michelle Herdlitschka, Technical System Planner at RAICO, agrees: "Our steel façade system offers everything you need to cover a surface with ETFE modules. Above all, it enables the absorption of greater horizontal forces with narrow face widths. For the very first time, this gives the user the possibility of installing ETFE elements as easily as glass or panels."

Not just castles in the air

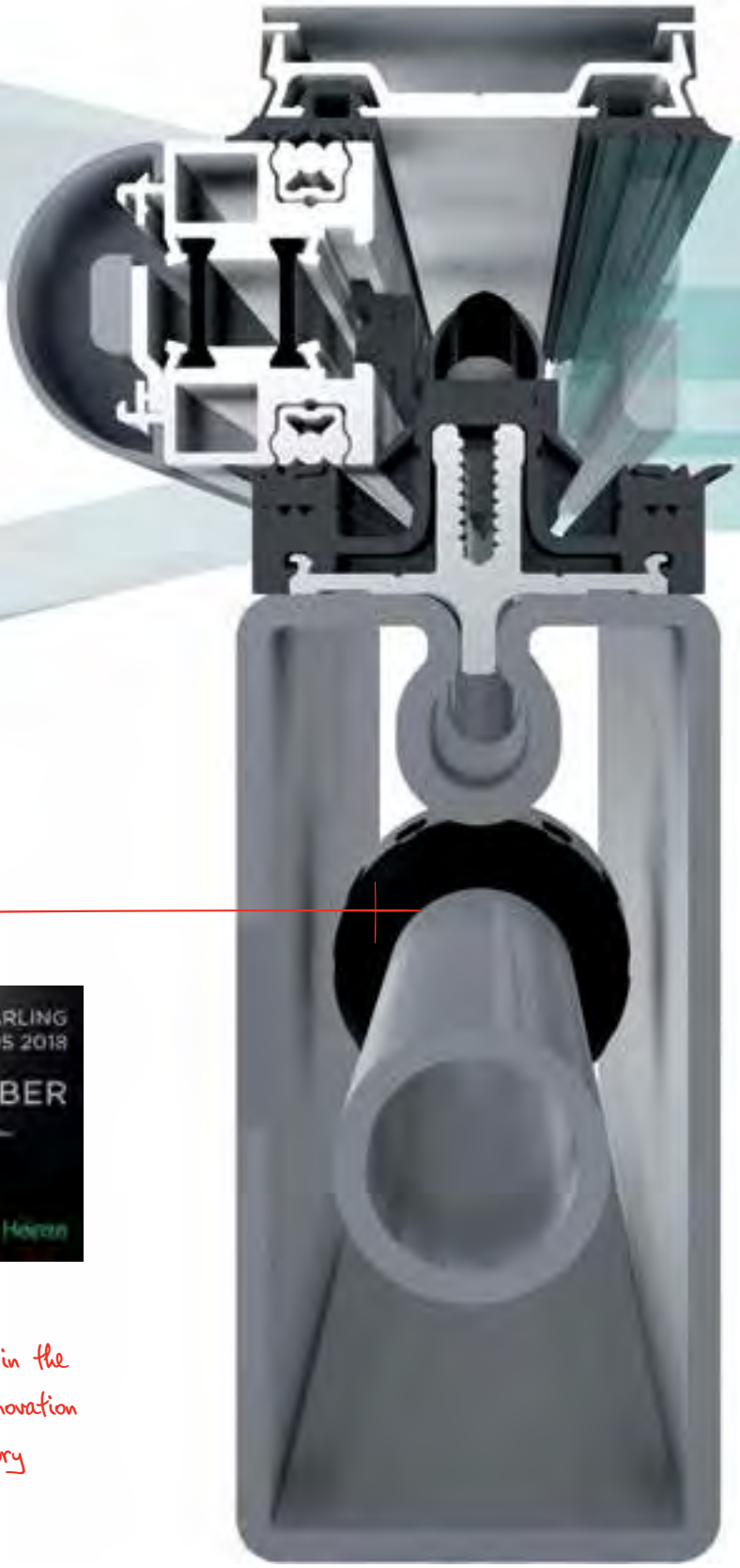
After only a short time, it became clear just how goal-oriented and fruitful the collaboration was. All the participating partners were able to mutually benefit from one another's know-how, and to learn from and grow with one another. Soon, the first prototypes were being produced by 3D printing, minutely examined for practical applicability and continually improved. The result: a harmonious combination of the RAICO steel façade, ETFE modules and plenty of design freedom.

A fully-developed technology

Whereas ETFE façades could hitherto only be implemented as an elaborate special solution, the RAICO ETFE_THERM+ system is now revolutionising this field with an undreamt-of modularity that also offers many technical advantages. "The thermal separation of the frame profile markedly improves building physics performance. The air supply system is integrated invisibly into the beam-and-post system. It's even possible to combine ETFE_THERM+ elements and standard glazing with no problem," enthuses FJP-tec founding partner Jochen Arndt.

A successful premiere

Even before the market launch, the concept study scored high at the Architects' Darling Award 2018, winning SILVER in the Product Innovation Technology category. The jury evidently liked the versatility of the design. Whether single or multi-coloured, printed or unprinted ETFE modules, LED-backlit sheets, translucent insulation panels on the inside or the possibility of combining them with other materials – the RAICO ETFE_THERM+ system will give architects' ideas plenty of room to grow in the future. □



ETFE_THERM+:
SILVER Winner in the
"Best Product Innovation
Technology" category

You can find out more information on the new ETFE_THERM+ in this video:

MORE THAN THE SUM OF ITS PARTS

At Arcora today the 47 team members still live up to the philosophy of its founder Corentin Quéffelec: "The whole team is more than the sum of its individual parts". Arcora sees itself as a translator of architectural visions into resilient solutions, both technically as well as economically. The firm's secret to success? Each member's versatile competences get recombined into individual teams for every new project. Be it Japan, Greece or La Défense just outside Paris – roughly 6,200 international projects in 42 years prove one thing: Here the individual parts match up perfectly!

ON THE TOP

THE MOST IMPORTANT THING FOR ALL WINTER SPORTFANS – BESIDES THE IDEAL PISTE CONDITIONS, NATURALLY – IS THE PERFECT PLACE TO STOP FOR A BITE AFTER SKIING. THESE FOUR MOUNTAIN RESTAURANTS ARE WELL WORTH A VISIT, FROM BOTH A CULINARY AND AN ARCHITECTURAL POINT OF VIEW.

◀ Zugspitze mountain station (Germany)
Client: Bayerische Zugspitzbahn Bergbahn AG
General Planning: ARGE: Baucon – Hasenauer – AIS
Construction: Stahlbau Pichler GmbH/Srl, Bozen
Duration: 2014 – 2017
RAICO Systems: Curtain-wall system THERM$^+$ A-I 56 and THERM$^+$ H-I 56 mm on a steel substructure

Nebelhorn Summit Restaurant (Germany) ▶
Client: Nebelhornbahn AG, Oberstdorf
Architects: Hermann Kaufmann ZT GmbH, Schwarzach
Planning/Construction: Stahlglasbau Dann GmbH, Kempten
Construction year: 2016
RAICO Systems: THERM$^+$ A-I aluminium curtain wall, THERM$^+$ H-I timber curtain wall, insert window WING 50 A

◀ Jungfraukoch Glacier Restaurant (Switzerland)
Client: Restaurationsbetriebe Jungfraujoch AG
Architects: Universal Gebäudemanagement AG, Interlaken
Planning: Speiser Metallbauplanung GmbH, Thun
Construction: Werner Keller Metallbau AG, Hergiswil
Duration: 2012 – 2014
RAICO System: THERM$^+$ S-I steel curtain wall

Karren Panorama Restaurant (Austria) ▶
Bauherr: Dornbirner Seilbahn GmbH
Architects: Architekten Rüf Stasi Partner, Dornbirn
Construction: Klocker Schlosserei GmbH, Dornbirn
Construction year: 2013
RAICO System: THERM$^+$ S-I 56 steel curtain wall

LEGAL DETAILS

PUBLISHER
RAICO Bautechnik GmbH
Gewerbegebiet Nord 2
87772 Pfaffenhausen, Germany
www.raico.de

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IDEA, CONCEPT AND CREATIVE DESIGN
RAICO Bautechnik GmbH

EDITORIAL TEAM Andrea Jall, Verena Inninger, Dr. Stefan Lackner
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PRINTED BY
Holzer Druck und Medien, Weiler-Simmerberg

PICTURE CREDITS
Michela Morosini (Cover, p. 14, p. 17) | Andrea Jall (Editorial, p. 3, p.11, p. 18 et seq., p. 24 et seq.) | Rudi Wyhlidal (p. 4 et seq.) | Christian Wolf, Fa. Criadero (p. 6 et seq.) | Metallbau Windeck GmbH (p. 7 et seq.) | Getty Images (p. 3, p. 10 et seq.) | China International Windoor City (p. 12 et seq.) | Hagen Weber (p. 13) | ARNO Design (p. 15 et seq.) | Gustavs & Lungwitz (p. 22) | Hunsrücker Glasveredelung Wagener GmbH & Co. KG (p. 23) | glasfaktor Ingenieure GmbH (p. 23) | Arcora (p. 28 et seq.) | Bayerische Zugspitzbahn Bergbahn AG (p. 30) | RADON photography / Norman Radon (p. 30) | Martin Keller Photography (p. 30) | Dornbirn Tourismus & Stadtmarketing GmbH, Jürgen Kostelac (p. 30)

Published by:

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