



VITROCSA®

Projects 1998 – 2003



Arosio



Geneva



Lugano

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Devoting creativity, rigour and perfectionism to transparency.

Taking simplicity to its highest heights and arousing fascination across five continents, to such a degree that men and women have been known to travel tens of thousands of miles to seek out invisibility.

Because people do journey from as far afield as Greece, Los Angeles, Sydney, Beirut

and New Delhi to Saint-Aubin, in the Swiss Canton of Neuchâtel, because they have chosen the beauty, clarity, rigour and sophistication which combine to create a perfectly streamlined design. In Saint-Aubin, they are welcomed to the premises of a former watch manufacture, which is now home to a buzzing team completely and passionately devoted to a resolutely contemporary vision of space and aesthetics.

#### VITROCSA

The tale of this extraordinary adventure – both in terms of technology and that of the people involved – will be told in this brochure.

« EVERYTHING IS VERY STRIPPED DOWN. MAXIMUM LIGHT FROM A MINIMUM OF MATERIALS! »

→ Sébastien

« THE MOST BEAUTIFUL THING ABOUT OUR WINDOWS IS THAT YOU DON'T SEE THEM! »

→ José

## Beauty and invisibility



« The secret behind the beauty of our windows is considerable hard work. They are beautiful because they are different. Unique. »

→ Ghyslaine

« Because of the industry we work in, we are building next to lakes and seas, with vistas over incredible landscapes. These windows open out onto an endless horizon. »

→ Vanessa

Eric treasures a memory of « Los Angeles at night, an incredible view of the city lights ».

Sydney harbour is one that has stayed with Jean-Marc, while Sébastien remembers « a 360° panorama of the city of Beirut ».

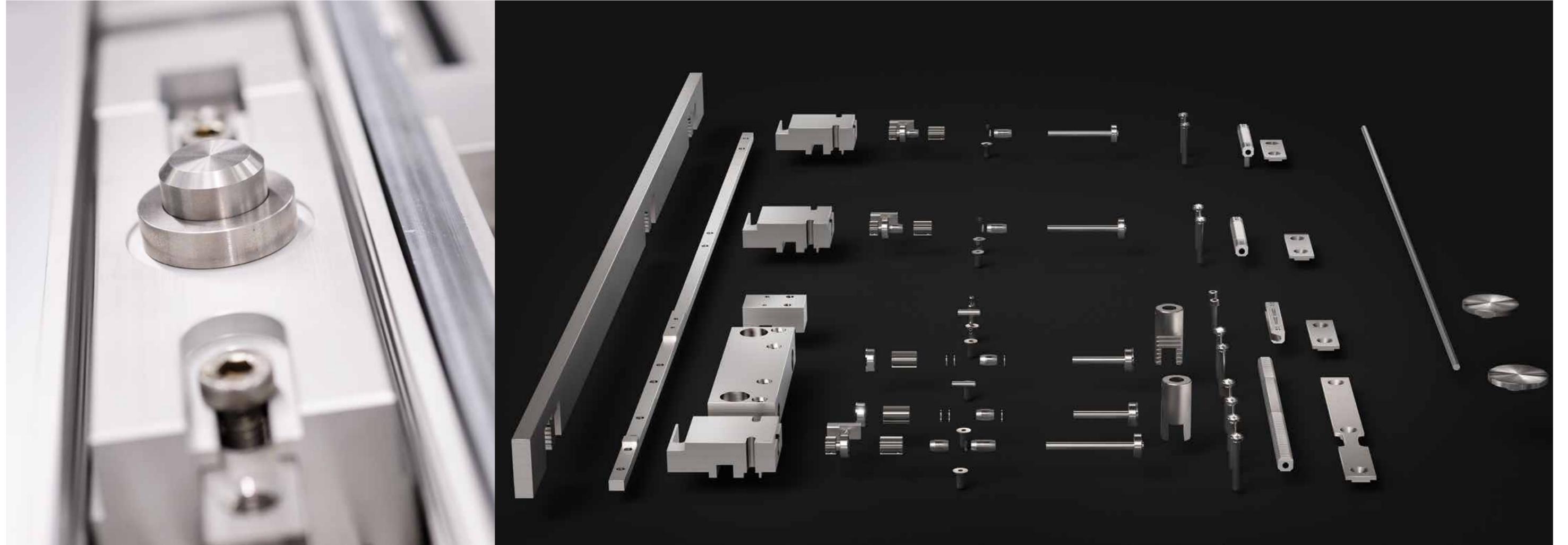
The beauty of landscapes unveiled... the notions of indoors and outdoors becoming obsolete as the two start to intercommunicate, with no visible boundaries. With invisible frames and no uprights, the panorama comes inside the building, becoming an intrinsic part of it.

« It's as if our windows did not exist at all », says Eric.

The minimalist window



—————→ Beauty and invisibility are the result of  
over a thousand exclusive components



We do not see the high-tech wonders hidden inside a luxury watch. Just as the fluid, uncluttered lines of a Bentley or a Ferrari reveal nothing of the engine they house. «I have visited both high-end watch manufactures and racing car workshops in equal measure. They share the same spirit, the same mentality. Time spent perfecting components that no-one will see, because they are part of a whole in which everything is of importance, every detail counts», says Eric Joray, Vitrocsa's founder. Similarly, Vitrocsa buries its precision mechanics in the ground and its windows have practically no uprights so that only the transparency of the glass partition exists. The result is clarity. And the landscape.

## Section



While the building sector often relies on highly traditional technologies and structures, Vitrocsa has dared to make use of micromechanics – in the elements which are hidden in the ground, in the uprights and in the window catches – and, gradually, an industrial structure. A high-precision industry is one where components are produced in the same way as the components of a mechanical watch. «We take great pleasure in achieving excellence. Like the watchmakers: the thinner and more complicated the watch, the happier they are! We are driven by the same spirit», observes Eric.

«Simplicity is the ultimate sophistication», wrote Leonardo da Vinci. Precision watchmaking. Precision mechanics. Precision «windowstry»? Add innovation and technical rigour, and we can easily list the qualities of Vitrocsa products:

## → Simplicity through complexity

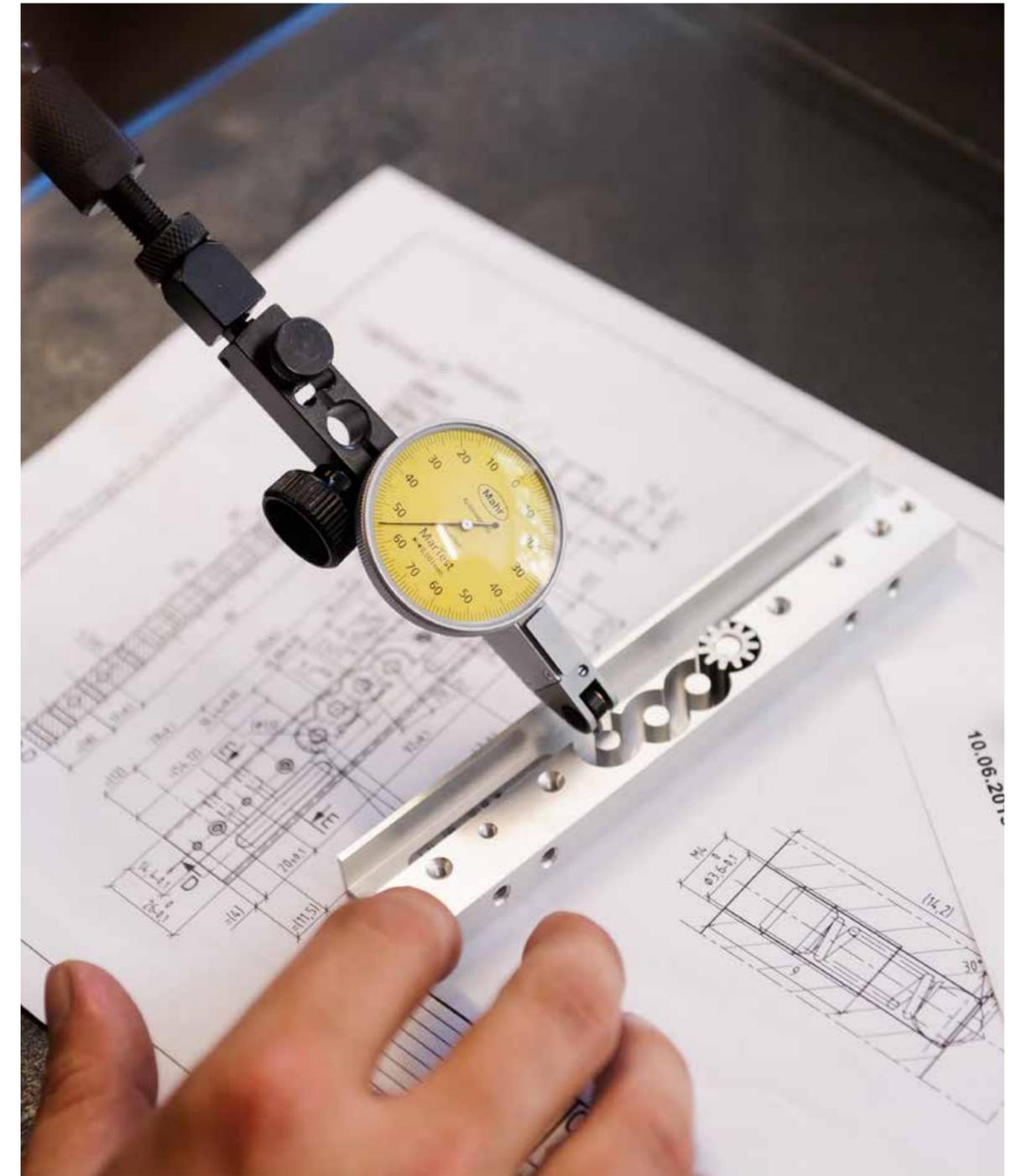
**Aesthetics** → What is the purpose of a window? To allow us to see beyond, by taking away the frame. Removing the profiles, concealing the technical elements... Circumstances require that the aesthetic of Vitrocsa windows is that of the landscape that they reveal.

**Light** → Whereas 15 to 20% of a standard window is comprised of the frame, in Vitrocsa products this is reduced to just 5%. That means 95% of the surface area is glazed. With such a high proportion of glass, light is obviously the winning factor.

**Energy efficiency** → Modern glass offers very high insulating properties. With 95% of the surface area glazed, aluminium, with high-performance thermal breaks, only forms a very small proportion.

**Security** → Extremely tough glass is combined with original security and lock systems. Unlike

some tried and tested mechanisms, which burglars are now experts in, Vitrocsa systems are like pieces of furniture with hidden drawers and secret compartments, as they contain invisible parts which are difficult to break into. RC2 and RC3 security classes are available on request.



## → Invention



Stahl House,  
Hollywood Hills, CA.



A normal day, a flash of inspiration. While Eric was working on the creation of an assembly line for Texas Instruments which used roller systems, he also saw the post office transporting packages on rollers. He had a sudden flash of inspiration: rather than securing the roller system for sliding glass doors in a base frame underneath the leaf, why not develop a roller system in the ground itself? In traditional windows, it is actually the surround, the frame, which supports the glass. By inverting this conventional construction principle, the system will no longer need a frame; a simple casing profile will suffice. The glass will bear the frame, rather than vice versa. Turn received ideas on their head... and the game changes entirely. The frameless glass becomes a bearing component

and takes on the frame's former role of reinforcement.

A minor revolution made possible thanks to technological developments in glass manufacture. This is what industry professionals call float glass, created by floating the glass to cool on a bath of molten tin 500 metres long. This means that the internal tensions, which used to be an inherent property of glass, disappear. Previously, if a child kicked a ball at a window, it would break. Now, the ball bounces off it: the tensions have gone, the glass is resistant.

Without this formidable resistance, which also comes from tempering the glass, Eric Joray's novel idea would have made no sense at all. And it is also this resistance which would enable him to develop, in parallel, a

new system of connection between glazing, both fixed and sliding. U-shaped profiles, known as «glass towers», which are bonded to the periphery of the insulating glass. At the sides, the U-shaped profile is turned into a connecting profile which ensures the leaves are airtight and rigid. There is no longer any need for a large section for vertical fittings. In their place: light, maximum brightness, invisibility!

The term « minimalist window » does not belong to Vitrocsa. The idea dates back to the post-war period. Minimalist windows had already been developed for the Case Study Houses, an architectural programme aimed at creating modern, economical homes. This programme was implemented on the west coast of the United States, mainly around Los Angeles, between 1945 and 1960. Vitrocsa's invention does not relate to the minimalist window itself, but rather to the application of this idea to contemporary standards. In the previous era, the windows were not airtight, and were either poorly insulated or not insulated at all. Vitrocsa has reinvented the minimalist window, both in terms of technological considerations and aesthetic accomplishment.

Eric Joray spent many years carrying out research and development in the watchmaking sector. From this industry, he took the idea that each piece must be perfect, a paradigm. The idea that the number of components in a system must be reduced to a minimum. If a component can fulfil three functions, the watchmaker is not going to find room for three components in his movement; one will suffice! He would prefer to develop and perfect one complicated element than have three to fine-tune. While a locksmith increases the number of components, the watchmaker tries to reduce them, even if it makes the component much more complex.

« Less is more ». Fewer components means a more rational, more efficient, more reliable, more economic, better functioning

## → Less is more!

## Variations and bespoke



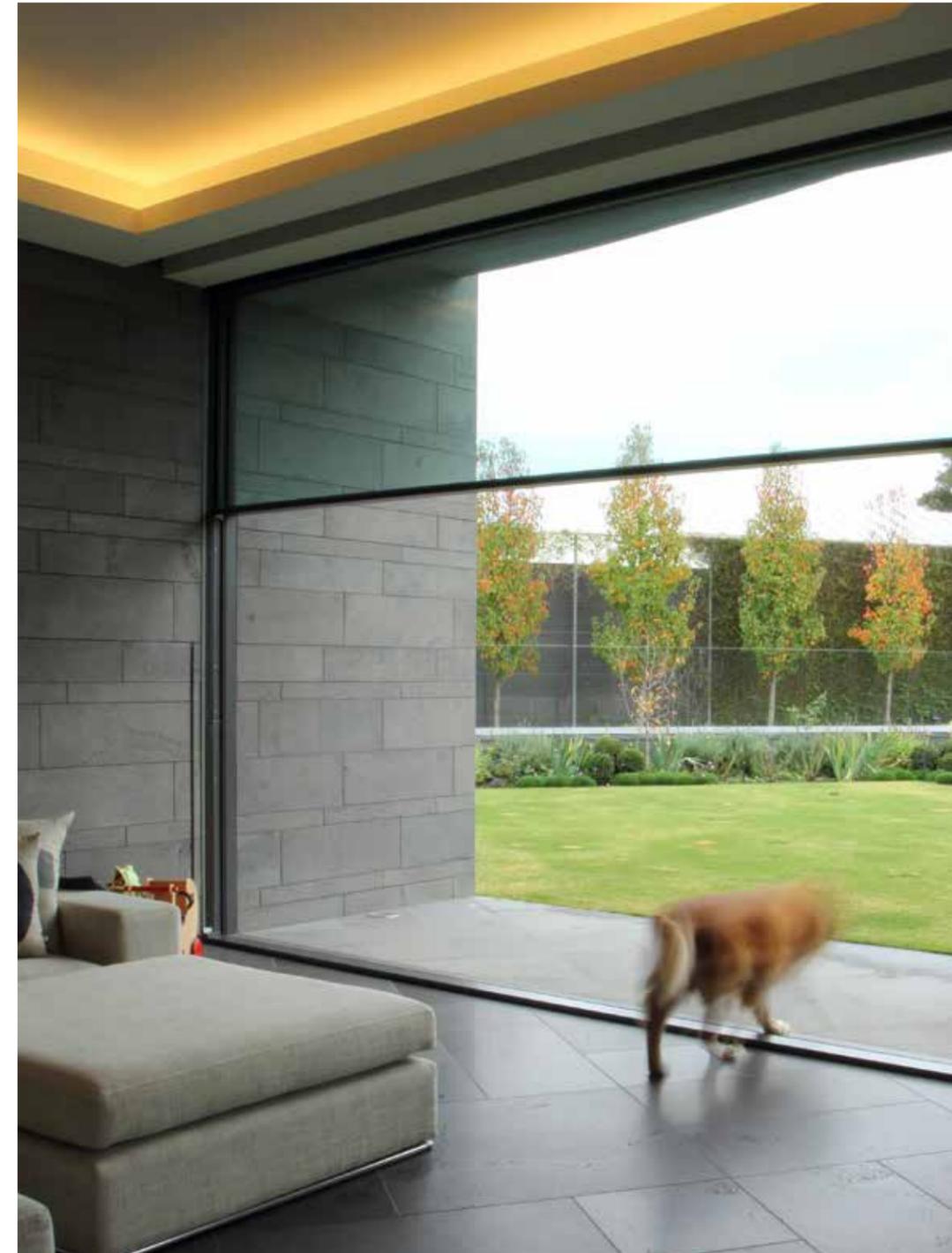
Nothing beats a simple technical premise – even if it is difficult to bring to life. This is because this principle then gives rise to novel developments, and an infinite range of versions. In our case, the idea of glass with a profile allows different families of products and countless variations, whilst retaining exactly the same basic components. The same profiles can be used for all four sides of a window, between fixed panes, or sliding, pivoting and guillotine windows; the same ball bearings can be used for all systems. And the variations can be adapted to suit the customer's requirements and the constraints imposed by the practical situation. «Nothing gives us greater pleasure than being set challenges. We are happy when we are faced with difficulties that we have to try and solve», is the view of Vitrocsa's enthusiastic staff.

For example, one of the company's earliest projects was to carry out work for care institutions and homes for the disabled. This allowed Vitrocsa to develop a completely flush sill, thereby removing any obstacle from the ground. Another step forward was made with the idea of invisible frames, which came from a request by the French architect Jean Nouvel, who did not want to be able to see the frame at the base of the window in one of his projects – just the grooves. Until then, while the frame of Vitrocsa windows was already flush with the floor, it was still visible. With this system, the frame is concealed underneath the floor covering to create an invisible frame.

Another architect's request: British architect Norman Foster wanted to be able to completely open up the windows on a

terrace so that the leaves were concealed. Vitrocsa responded to this brief by custom-developing the Turnable system, which has now become one of its flagship products. The memory of this challenge is particularly dear to Eric Joray, because the technical solution was devised not by him but by his collaborators Vanessa Buffat and Jean-Marc Détraz. This illustrates the notion of passing on the baton which is so crucial to him. «The addiction to invention is passed on. Thankfully! Otherwise, that would be the end of the company», he says.





Vitrocsa exports to all five continents, and over forty countries. Approximately 95 % of its total production is exported across the globe. The figures are quite staggering.

INDIA, ISRAEL, GERMANY, LUXEMBOURG, BELGIUM, THE NETHERLANDS, UNITED STATES OF AMERICA, CANADA, MEXICO, SOUTH AFRICA, ENGLAND, SINGAPORE, THAILAND, SWITZERLAND, HONG KONG, TAIWAN, CHINA, FRANCE, AUSTRALIA, NEW ZEALAND, BALI, BRAZIL, RUSSIA, GREECE, CROATIA, CYPRUS, PORTUGAL, LATVIA, LITHUANIA, ESTONIA, POLAND, ITALY, SAUDI ARABIA, KUWAIT, LIBYA, BAHRAIN, QATAR, TURKMENISTAN, IRAQ, LEBANON, OMAN, JORDAN, UNITED ARAB EMIRATES, SPAIN, PERU, KOREA, AUSTRIA, BULGARIA...

Vitrocsa around the world

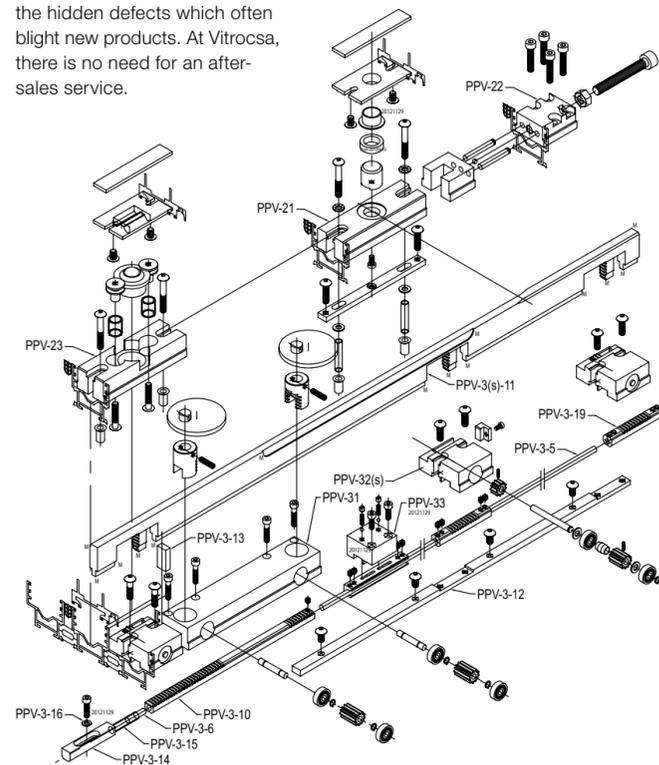
Section **2**



→ One step at a time

Staggering, yes, and all the more so because when the company started out, it had no pretensions towards international development. Firstly, it had to be able to succeed in its home market of Switzerland. The challenge was to find room for a new product in the oversubscribed field of construction. This was achieved firstly by keeping everything in-house. Then, there was one decisive meeting. Andrea Bassi, a Geneva-based architect, found the product extraordinary. He wanted to use it to build a detached home. The endorsement of a well-known architect would give Vitrocsa windows their first real push. Other architects then started to take an interest in the product. In Zurich, then in Ticino. «We used to do three or four homes each year», remembers Eric. «Then word of mouth really started to take off». Recognition was reinforced by the quality of the product over the long term, and the complete absence of any of

the hidden defects which often blight new products. At Vitrocsa, there is no need for an after-sales service.



→ The planet is our playground



International sales started in 2002, with Portugal. And not just any sites; these included major projects, such as the stands at Braga Stadium in the north of the country. And then... «We don't know how the Americans found us, we didn't even think to ask. But find us they certainly did!» At Vitrocsa, no-one was really thinking about the communications strategy at this time, nor was anyone worrying about prospects for the future. We simply did what we do. We invented, we created, we produced, always aiming for the best. And we knew that the rest would follow.

And when orders arrived from far-flung places, we celebrated, every time. «Each one was gratifying». Surprise followed surprise. Where would Vitrocsa see its windows

appear (or be concealed) next? Moscow, India, Israel, Canada, Australia... – latterly the house built by Pritzker Prize-winning architect, Glenn Murcutt.

Vitrocsa has worked with the most well-known names in architecture. We have already mentioned British architect Norman Foster, but there was also Souto de Mura from Portugal and Shigeru Ban from Japan, to name but a few. In Switzerland, Andrea Bassi, Vincent Mangeat, Lugano-based Boschetti architects and Gigon/Guyer in Zurich, again, amongst others.

Vitrocsa mainly works on luxury residences. Sumptuous homes in the Hollywood Hills, Los Angeles, Vancouver, India, Brazil... No matter where in the world, Vitrocsa's approach is

simple and the same: we are down to earth. «I have the same relationship with a wealthy client as with the local tradespeople. I talk about the same things, I have the same attitude. I act the same with everyone, I have no time for labels. I am, quite simply, a people person. Once Vitrocsa starts work on a site, we are immersed in a world of great wealth. But that has not changed our philosophy one iota». This approach is something Eric has passed on to his team.

← An entrepreneurial approach



Eric Joray, originally from the Jura region, was born and grew up close to the mountains of Neuchâtel. He trained as a mechanical precision engineer. Everything else he learned in the field, with his feet firmly planted in reality.

Section

# 3

THE MINIMALIST WINDOW

AN ENTREPRENEURIAL APPROACH

VITROC SA

## Be bold



He worked for ten years in the watchmaking sector, specifically manufacturing movements and gold cases. His career path had its ups and downs, its peaks and troughs. But he was always able to grab any chance life gave him with both hands. «When the train is coming past, you have to get on, as you can always get back off. But if you don't take that opportunity, it will be too late! You need to be bold», he says.

Returning to Switzerland after working in the USA and the Philippines, the watchmaking crisis was still ongoing, so Eric decided to switch fields. He then immersed himself in the world of construction. For eight years, he worked to help create prefabricated detached homes. In 1986, his career path took a bold yet poetic new direction: He started

to cultivate orchids, falling in love with the world of flowers.

It was through this surprising detour that he would find his vocation. Because where are orchids grown? In greenhouses. And Eric knew how to build them. He went on to build around 800 greenhouses and conservatories! Laying, at the same time, the foundations for what would be his life's work: the company Orchidées Constructions SA which in turn became Vitrocsa, for «VITRes-Orchidées-Constructions-SA».

It was during this agricultural aside that Eric found the path that would lead to minimalist windows and to global success. Proof that circuitous routes sometimes take you to the right destination. «There is a leitmo-

tif in my life», he says. «Doing something will always take you somewhere. You must do, not think about what you would have done. Even though my name (Joray) is French for «would've» (J'aurais)!»

The word *Orchidées* is still part of the company's name, like a lucky charm. There is a fantastic contrast between the orchid's explosion of forms and colours and the bare minimalism of Vitrocsa windows! Not only did one lead to the other, there is a passion for beauty in both. «I love the fact that a craftsman is also a little bit of an artist».

## In the watch manufacture



Vitrocsa is based in Saint-Aubin, in the Swiss canton of Neuchâtel. This provided an opportunity: the availability of premises in a former watch factory. As it has grown, Vitrocsa has taken over the entire building. «What I love about this building is that it is a return to where I started out. I am back in a watch factory, with its traditional workshops. This is the setting in which my earlier self developed. The circle is complete», Eric says.

Even today, despite the modern updates that have been made, the premises are not much to look at. There is no sign of pretension, nothing flashy, just the grey utilitarianism so characteristic of the many former watch manufactures in the Jura watch valley. But this is where we create the glass windows which will one day overlook Californian beaches or the Eiffel

tower, here, where the light in the stairwell is suffocated by heavy blocks of 1950s glass. Is this an aberration, for a place where high-end products are manufactured? Not entirely. Recently, some Koreans came to Vitrocsa's headquarters: they applauded at the end of the presentation, because they were so taken with this space. Similarly, in exceedingly luxurious surroundings in Italy, Vanessa heard an architect exclaim: «I'd rather be at yours!».

A fine compliment. «There really is no need for any bling. The product is all that matters», she notes.



## → Confidence is king

Eric, despite being the founder of Vitrocса, is not a fan of the word « boss », referring to himself as one of the company's « employees ». This may be semantics, but it is also symptomatic of his approach. An initiator and a motivator, he has decided to empower the employees of his company. « It's in my nature to let people do things themselves. My role within the company has been to correct the trajectories, and foster a passion for the product, a climate of collaboration and complete confidence ».

This approach is more like a guiding principle: « I never do anything that the others know how to do. This allows me to focus on other matters. It's second nature to me. It's what I've always done ». The result? Motivated staff, who live and breathe Vitrocса products as if they were genuinely their own. There is a collective pride when certain projects are



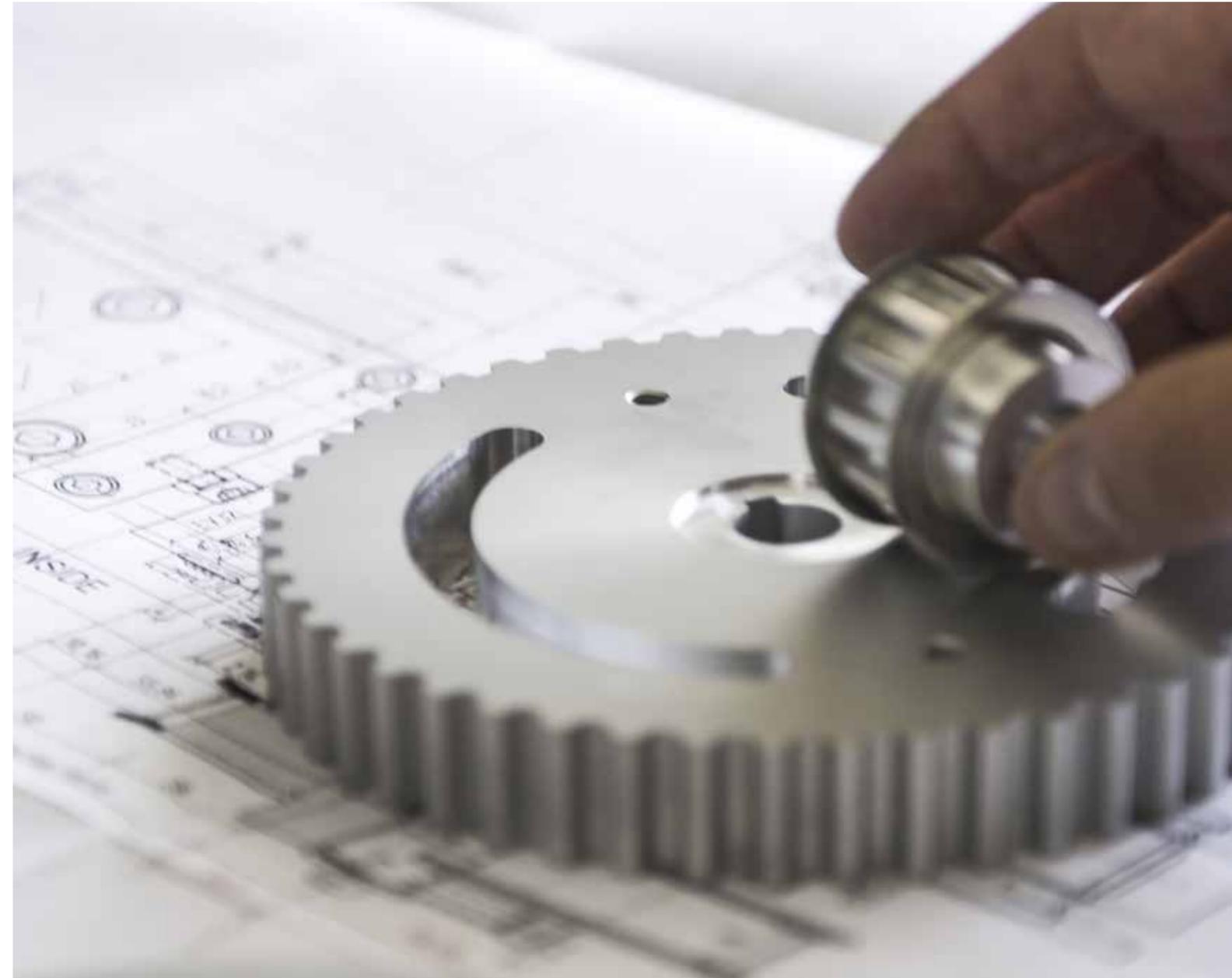
landed. Or when 1200 kilos of glass is installed. Pride in having achieved something exceptional. The fact that these successes are a collective effort, but one which allows individual autonomy, ensures that everyone feels they are personal successes.

« Everyone is pulling in the same direction », says Vanessa. « Of course Eric knows how to handle us so that we learn to put 100 % in every time! His passion has been contagious », adds José. « The thing that is very special here is Eric's spirit », adds Ghyslaine. « He's like Professor Calculus, bursting with ideas and with an ability to pass his passion for the product on to us. We are all truly proud to be able to say: I work at Vitrocса. »

« There's a really nice, laid-back family atmosphere, even if, like anywhere, there are some outbursts and stresses. Before

starting at Vitrocса, I worked all over the place, a real free agent. This is the first place where I really wanted to be taken on. And I was. Here, you want to contribute on both a mental and physical level! », says Sébastien.

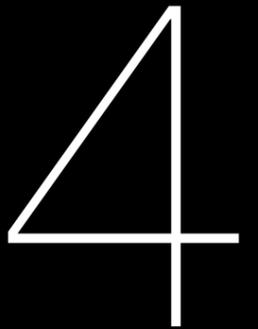
A perfect company in a perfect world, with no conflicts, no difficult relationships, a world where everyone feels invested in their work and merits the trust you hope to place in them? No. « There was a bit of a sorting process. Not everyone is able to adapt. Those who couldn't do so left, or we had to let them go. The amount of freedom accorded to everyone can lead to a misinterpretation of the company's philosophy. Trust must be legitimately placed in people capable of accepting it ».



Today, Vitrocsa is 18 people based in Saint-Aubin... and around 500 people across the globe. Because, to maintain the goal of remaining a small company without compromising global growth, Vitrocsa quickly decided to opt for a clear strategy: developing partnerships abroad.

Remaining true to what we are

Section



—————→ The future of the company lies in  
knowledge transfer and teamwork



—————> SME and multinational in one



Potential partners receive training in Saint-Aubin, giving them time to fully understand the Vitrocsa spirit – awareness of a high-precision product, designed for high-end architecture – and mastering the fitting technique which, although not particularly complex, requires painstaking precision. This ensures partners are very able to use the windows designed at the centre, so the focus there could be switched to research, development and logistics. Production does not stop as Saint-Aubin continues to manufacture for a certain number of partners in Europe and across the world. But other partners create, sell and install the systems in their respective countries. Moreover, Vitrocsa is increasingly developing extrusion under license abroad, in return for royalties. This is the case

in the Lebanon and the United States; the process has been started in Australia, soon to be followed by India and Brazil.

The approach is consistent: remaining true to our principles, keeping this unique dynamic of an approachable, inventive SME, whilst becoming, to all intents and purposes, a multinational. To ensure Vitrocsa quality is upheld, employees regularly travel abroad to provide training, check sites and oversee fitting. And back in Saint-Aubin, we are in constant contact with the whole of the globe. «Ten years ago, it would've been inconceivable. Now, it's just what I do. Australia in the morning, then off to St. Barths, Los Angeles, Brazil... Thanks to the Internet, we circumnavigate the globe every day», notes Sébastien.

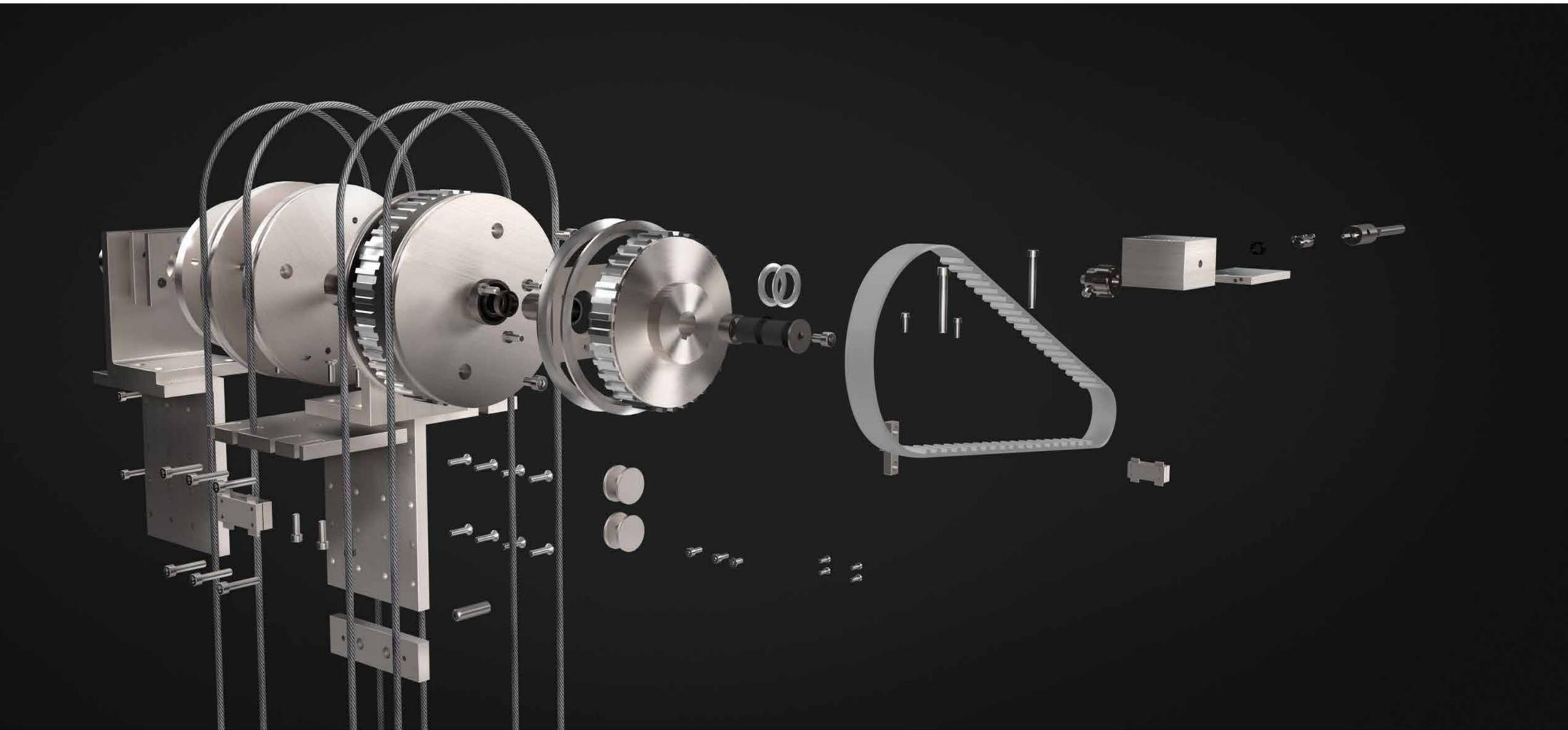
«In fact, we have very little contact with the village of Saint-Aubin. A neighbouring company, which sells conventional windows, is better known than us in the region, because, unlike us, their sales are local», says Ghyslaine, well used to the international life: she came from the hotel industry and has also worked as an air stewardess!

—————> An expert approach



Despite the international interest garnered by the company, Vitrocsa is not ready to sell its soul. To such an extent that a somewhat surprising approach is employed. «We wait for people to come to us requesting a partnership. It's a conscious choice. If someone is truly interested in our product, they will firstly come to us so that they can understand the systems and how the company works. That is the basis of our process for creating partnerships».

Invisibility born of technical expertise ←



High technology and industrial production. But with an artisan's approach. Right from the start, Eric's watchmaking experience inspired him to design everything, to create plans for every last component. It is therefore crucial to have support from a design office. «We have a gifted draughtswoman, who brings a great deal to the process. It has been one of the keys to our success», he says.

Section

5

VITROCSA  
INVISIBILITY BORN OF TECHNICAL EXPERTISE  
THE MINIMALIST WINDOW



Over the years, Vitrocsa products have undergone major technical developments to ensure they comply with standards. «We started a bit like a poet would», admits Eric, mainly focussing on the product itself rather than the standards that the budding company would quickly have to contend with. Behind the apparent simplicity of a window lie very complex phenomena – particularly that of the vacuum – which must comply with standards to ensure customer confidence and the continued development of the company. The engineering school in Bienne is a very important tool for Jean-Marc, who looks after both tests and patents.

Complying with Swiss standards is one thing. But when you carry out work in five continents, it all gets a bit more complicated. There are European standards, then American, Australian, Middle Eastern... Because, of course, every geographic situation and climate has different constraints, and therefore their own specific standards. In America, for example, they have hurricanes. In the Caribbean, windows are tested by our American partners to ensure they withstand winds of up to 350 km/h. The glass remains the same, but everything else must be adapted: drainage, adapting the fittings according to the wind, etc.

Wind constraints in the US or the Caribbean, where there are added constraints due to the salty sea air, constraints related to extreme cold in Moscow, constraints related to sand in Abu Dhabi and other desert regions... Vitrocsa really does offer a made-to-measure service. And all these variations, these changes to the product, are developed in-house in Saint-Aubin, where the quest for new solutions to meet weather-related demands is on-going.

## → Climates and standards

The basic materials are, of course, glass, aluminium, steel and stainless steel. Some profiles also contain carbon, to increase resistance to pressure from the wind. And then, we try things out, we experiment. For example, we are interested in ceramic balls to replace the stainless steel balls in the Turnable system, with the aim of reducing friction to a minimum. These balls are practically guaranteed for life, as they are not subject to electrolysis or corrosion. They are at the very peak of current technology. And we are the first to think about using them in the context of windows. A completely novel use. Another example? The invention of a «4x4 trolley» including springs and shock absorbers, to better distribute the enormous loads of large windows (3m by 6m, weighing 1250 kilos) and allow them to slide smoothly.

In short, at Vitrocsa, whether alone or in collaboration (with the engineering school in Sion or the Ecole polytechnique fédérale in Lausanne, for example), we carry out tests and make changes until we find the perfect technology. Other inventions are underway, or have been shelved... waiting until the world is ready for them! It is quite often the case that revolutionary systems are too far ahead of their time to be taken up immediately. «We're keeping

## → Constant innovation

things for the future», says Eric with a smile. «Every invention requires a bit of a battle!»



## → Copies and imitations

Are copying and pirating a real concern for the innovators in Saint-Aubin? Yes and no. No, because copying is a form of recognition: people only copy something which merits imitation. And, as the market is so vast, there is room enough for everyone. High-quality copies, which actually help to promote the minimalist window, are not really a source of too much worry as they contribute to an expansion of the market. In the same way as for cars or watches, there will be a range of quality standards. Not all windows are Rolls or Rolexes or, should we say, Vitrocsas, but they nevertheless do what they are designed to do.

A copy only becomes a real worry when the execution is poor. Imitations of a lamentable quality damage the reputation of

the product. They will give customers an unfavourable impression of the minimalist window and, consequently, spread the idea that the system itself is no good.

Fighting copycats, despite the existence of patents, is difficult, as everyone knows. In the end, what guarantees that Vitrocsa will continue to be the benchmark company in this field is the constant innovation, the development of «specialities» (invisible frame, sliding, pivoting, turnable, etc.) which ensure it stands firmly apart from other companies. And even if the competition gets hold of these one day... at Vitrocsa, we know that their versions won't be a match for our quality.



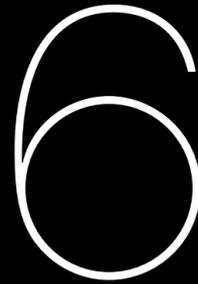
← Changing of the guard

So, once a project is started, it's something completely self-contained? Not really. It has always been the case that around 10% of profits are reinvested in research and development. «We have never been interested in pure profit at Vitrocsa. What we earn gets reinvested in research.» Jean-Marc is the company's R&D specialist. He's the man who finds solutions. «Ideas come from all over the place, from an architect, from Eric or Vanessa», he notes. These ideas need to be developed, so we can find solutions to their proposals.»



Today, Vitrocsa is undergoing a major change in its structure. Eric Joray is gradually passing the baton to his team. A solid team, long absorbing the idea that this company also belongs to them. Each of them has always had to manage the quality of his or her own work. And now a selection has been made: those who remain are the best!

Section



## Long-term future

Because there is no family member to inherit, the wisest solution seemed to be to create a management team formed of the heads of the six departments which currently make up the company, six people who have made a huge contribution to the development and success of Vitrocsa. « Considering the commitment and professional abilities of Vanessa and Ghyslaine, Hysni, José, Jean-Marc and Sébastien, it was an obvious decision to pass the company on to them. They are gradually buying out the shares and, in the medium term, will become majority shareholders. The benefit of having a team of six is if the power goes to one person's head, there are five others to control the situation! »

This decision is based on the goal of assuring the long-term future of the product and the company: its structure, its financial health, its development. A huge step, but a logical transition: each person remains in charge of the sector that he or she manages already.



**Vanessa Buffat** → After more than ten years' experience with an architecture firm, she joined Vitrocsa in 2004. She is currently responsible for customer care, both from a technical and a commercial standpoint. She participates in various aspects of product development and also takes care of organising marketing and communications.

**Ghyslaine de Blaireville** → Joining Vitrocsa in 2006 as a secretary, she now manages trips to Switzerland and abroad, amongst other duties. Her current role is executive secretary, which she performs in parallel with management and accounting.

**José Pereira** → A former locksmith, José joined Vitrocsa in 2005, where the exclusive nature of the products meant he had to learn everything again from scratch! A challenge he successfully met. He is now in charge of managing the programme and offers, and for contact with customers.

**Sébastien Franchini** → Hired in 2005 as a labourer, his background was joinery; wood and, in particular, aluminium. Gradually,

he was entrusted with orders from customers and partners (offers, order confirmations, manufacturing dossiers and delivery lead times), and with the management of supplier orders.

**Hysni Muli** → Joining Vitrocsa in 2005 as a labourer, his previous work experience was in restaurant kitchens, and his French was quite basic. He became workshop manager in 2007, where he manages the workshop, the stock, monitoring orders, and the development of new products. His work in detail? He oversees more than 1500 items!

**Jean-Marc Détraz** → After eight years working as a carpenter, he joined Vitrocsa in 1997 as a window fitter. Ten years later, he is head of research and development, which also includes testing products in the laboratory.

→ Trained  
in the field



One striking thing, when we look at these six career paths... No-one had any higher education. It is not management or administrative theory that has formed each individual, but work in the field.

This fact is a motivating factor for everyone. «Because, if you see others move up the ladder, you can see you will have your chances too», notes José. Eric has done a good job of convincing people that, while they work here, they are working as much for themselves. This concept of work has really caught on. Products which leave the premises must be impeccable because, yes, they are our products as much as theirs. And here, everyone has developed this mentality. We fight hard for this company!»

Practitioners, in the most noble sense of the word. People who

have learned and have bettered themselves. Today, for example, everyone speaks English, which no-one was able to do just five years ago. And everyone is an expert in computer technology. «Yes, everyone has a doctorate in Vitrocsa!», enthuses Eric Joray. Everything here is based on good sense. Why hire someone new when we have people capable of moving up and taking on responsibilities? Our customer base is made up of partners who are also practitioners. This makes dialogue easier for everyone!»



→ Past,  
present, future

How does Eric Joray feel today when he thinks about Vitrocsa which is, in some ways, his life's work? «I am proud, but it's more than that. I will be prouder to see them continue, and happy to be a spectator. I will come back and see them, it's a family.» Vitrocsa is a company in rude health. It is showing good profits. No boss wants to see things collapse once he's left. Partly for reasons of pride, perhaps, but also out of respect for others.

«The future is bright. It's a company with good prospects, and it would be silly to look elsewhere» is Sébastien's analysis; he adds «In ten years, the change has been staggering. Yes, ten years ago we had the same number of staff, but we were producing half of what we do now despite rushing around twice as much. Lots of systems have been put in place.»

The future will be similar to the present: that of an SME with a global impact. The principle of licensed agreements means that

the team based in Saint-Aubin can remain quite small. We envisage maybe a few additional people, as the increase in partners and customers inevitably means more work at head office. But volumes could increase ten-fold with just five more staff in Saint-Aubin. This is based on the principle of Saint-Aubin leaving others to do what they know how to do, as per Eric's tried and tested formula, with head office focussing on its core work: research, product development, communication, contacts, training.

In a company where passion and innovation are a driving force for all, the goal certainly is, and will remain, to develop new products, either based on customer suggestions, or on things the company has squirrelled away in its drawers. And Vitrocsa, housed in a former watch factory, has drawers aplenty...

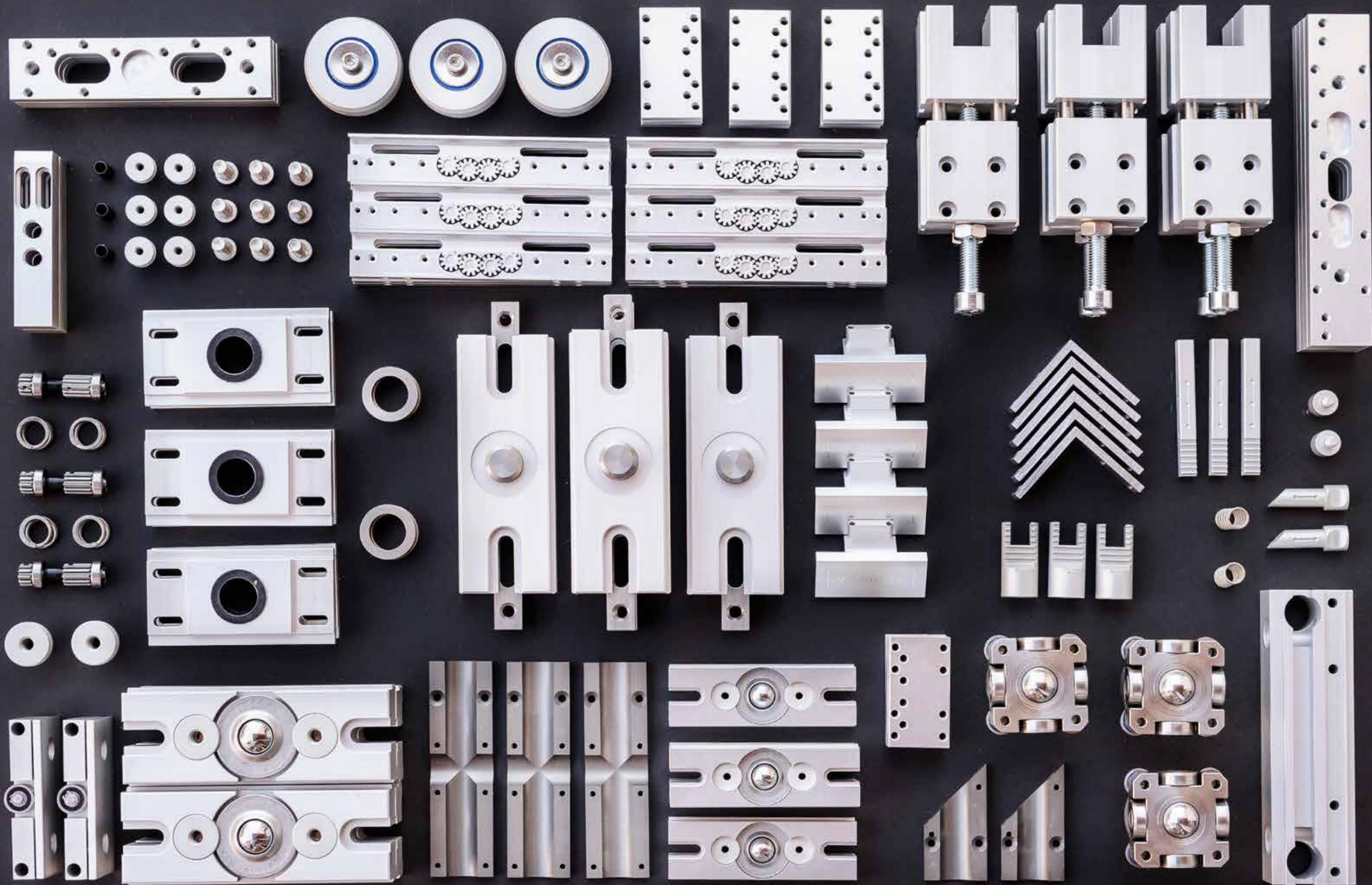
→ Vitrocsa headquarters,  
St-Aubin-Sauges.



Vitrocsa products

Section

7

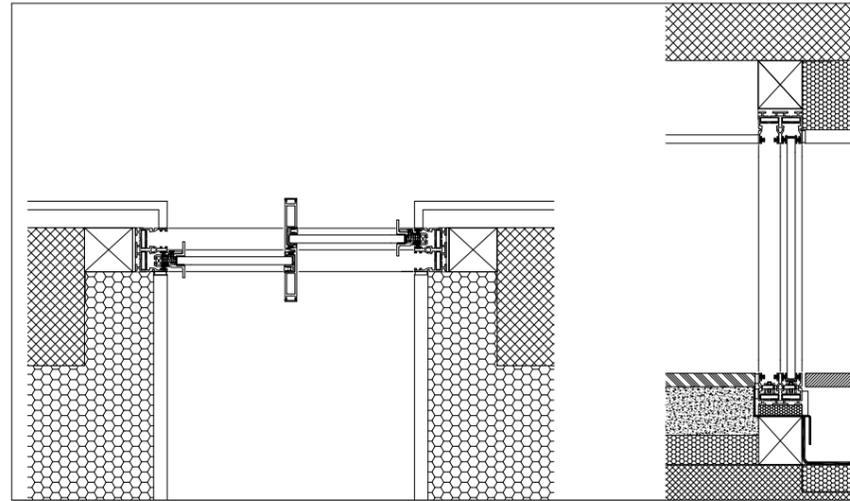


→ Ranges

→

**SWIMMS**

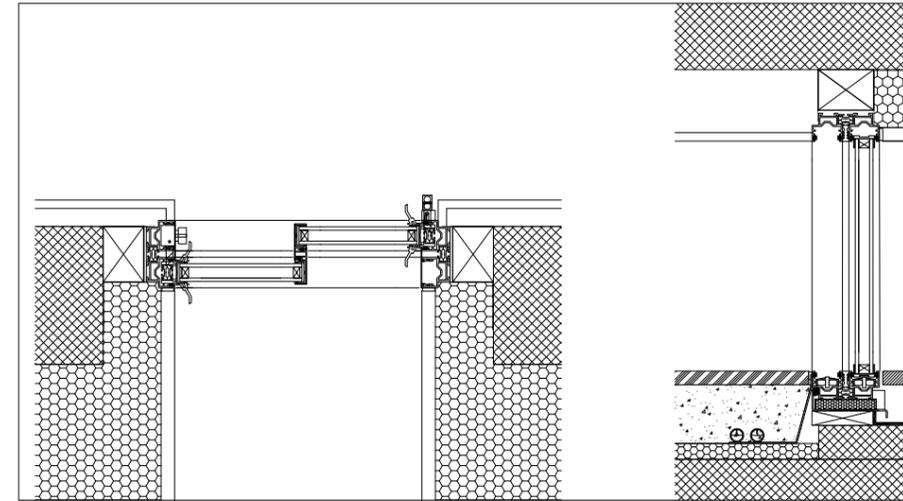
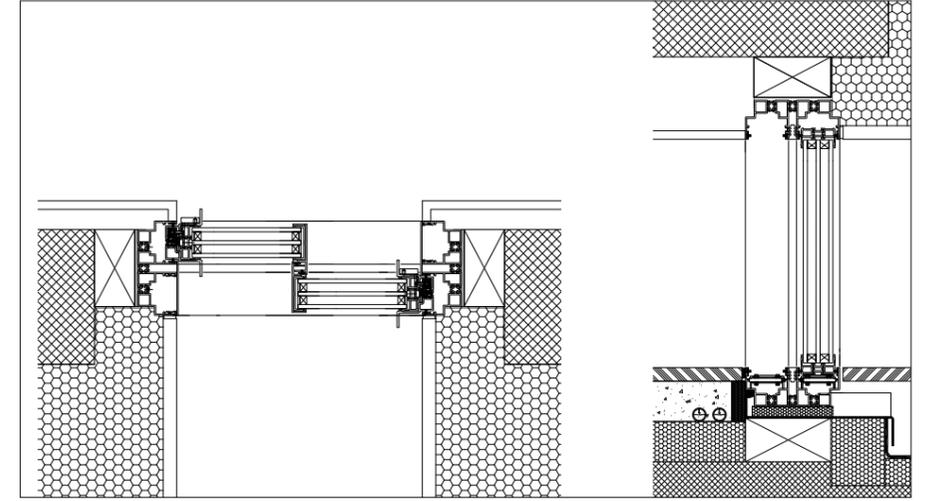
This profile assembly system allows for a range of glazing thicknesses, either 10-12 mm or 16-20 mm. This range is perfect for hot countries or for internal partitions.



→

**TH+ range**

Using 32 or 44 mm double or triple glazing, the Vitrocsa TH+ range allows for sliding window surfaces of up to 18 m<sup>2</sup>. The excellent insulating properties of the profiles, in combination with the glass, enable current high energy efficiency standards to be met.

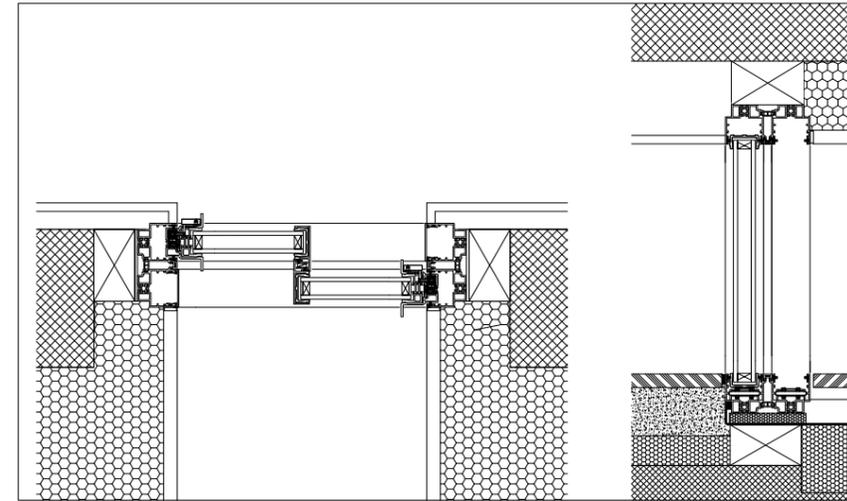


↑

**3001 range**

The Vitrocsa 3001 range allows for sliding window surfaces of up to 6 m<sup>2</sup> with 26 mm double glazing.

←



**V32 range**

The V32 range has thermal reinforcement and a glass fibre profile. This range is designed for standard sliding/ fixed openings.

## Applications

### Curved

Created using the same technical solutions as the Vitrocsa TH+ sliding system, the curved version of the application allows a radius of 3 metres for the mobile elements and 1.5 metres for fixed. To guarantee the precision of the bending process, this application is only available in anodised finishes.



### Pivoting

With an anodised 25 micron natural or coloured aluminium alloy structure, the thermolacquered version is available in an infinite choice of colours. Fixed or pivoting, 18 mm vertical profile width. Locking and sealing assured by a mobile rack blade or cylinder with key.



### Turnable corner

The new Turnable corner system has been developed to optimise space by using a roller principle which completely frees up the glazed components. This major architectural solution frees up surface and corner space by enabling the panes to be stored in a dedicated area. The glass panel can be dimensioned up to a surface area of 6 m<sup>2</sup> with a weight of 300 kg.



### Guillotine

The guillotine frames mean that almost boundless heights can be reached, whilst retaining the same quality and aesthetic criteria as other products. Perfectly balanced, the moveable panes (maximum 500 kg per glass) can be manipulated with just a few grams of thrust, either manually or motorised.

They have two different operating methods:

- system with two identical panes of glass which counter-balance one another
- counterweight system on the side (integrated into the finishes) which enable an infinite range of configurations.



### Invisible frame

This application removes the need for an internal or external architectural barrier. It features 32 or 44 mm double or triple glazing, and sliding window surfaces of up to 18 m<sup>2</sup>.

## History of the company

### 1986

↓  
Creation of the company Boutique Orchidées (sole trader) in Onnens. Activities: construction of conservatories and sales of orchids.

### 1989

↓  
Creation of the public limited company Orchidées Constructions SA.

### 1986-1993

↓  
Construction of 800 traditional greenhouses.

### 1993

↓  
Launch of Vitrocsa minimalist windows 1001 and 2001, developed in-house and fully self-financed.

### 1994-1995

↓  
Construction of greenhouses with Vitrocsa 2001 windows.

### 1996

↓  
New design of the Vitrocsa 3001 window by the architect Andrea Bassi; first house created with Vitrocsa windows.

### 1996-2000

↓  
Multiple extensions of homes with Vitrocsa windows.

### 2000-2003

↓  
Prestigious residences and projects.  
Development of new markets within Europe.

### 2004-2006

↓  
Development of new markets outside of Europe, including Russia, Australia, Israel, India, Canada and the USA. Development of the guillotine opening system.

### 2007

↓  
Change in the company's strategy, enabling efforts to be mainly concentrated on manufacture and research & development. Creation of the Vitrocsa TH+ product which allows for glazed surfaces up to 18 m<sup>2</sup> and which meets high energy efficiency standards. Development of the pivoting system.

### 2008-2010

↓  
Development of new markets including the Lebanon and UAE. Continued innovation with the creation of the new Swimmers range, with a Mono version (single glazing) which is the perfect solution for the Australian market.

### 2011-2012

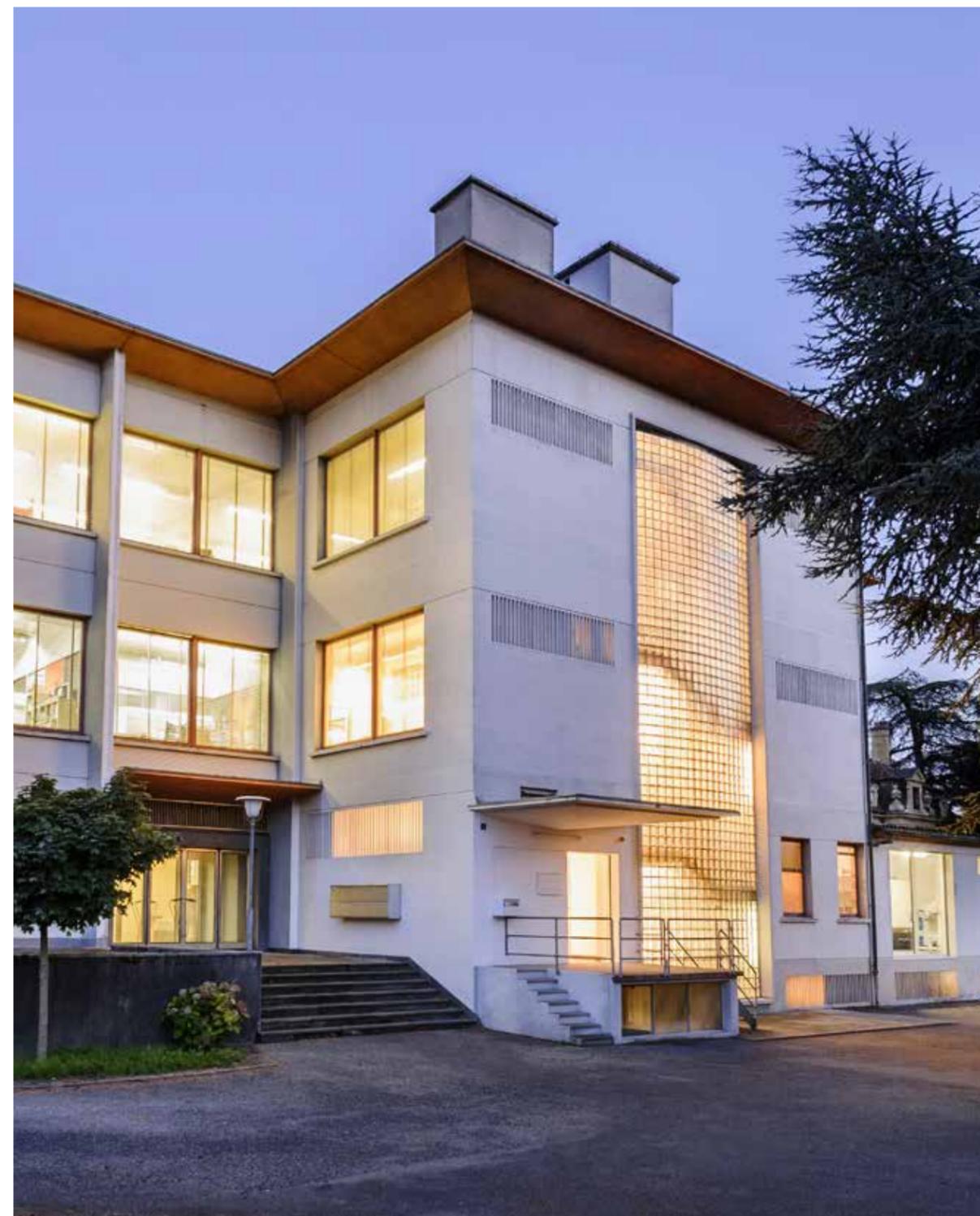
↓  
Development of the « Invisible frame » system, a new application of the TH+ system which integrates the frame underneath the floor covering. Creation of the Turnable corner system. Start of a collaboration with the communications agency Inox, which includes the creation of a brochure and a website. Stand at the 100% Design fair in London.

### 2013

↓  
Development of new markets, including South Africa and Korea. Stand at the Batimat fair in Paris.

### 2014-2015

↓  
A team of six people is formed with a view to taking over the company. Work on the communication strategy with Inox Communication and Vox&Verb, to create the brochure you are currently holding.



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## Credits

### Cover and pages 18, 19, 55

Partner: Wintec, Israel  
Architects: Yoav Anderman  
Photographs: Amit Geron

### Page 4

Architects: Andrea Bassi / Pietro Boschetti

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Partner: SIAS, Greece  
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