

# Roto Inside

Issue no. 45

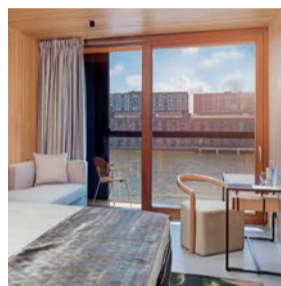
Roto Window and Door Technology customer and partner information

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in a digital world  
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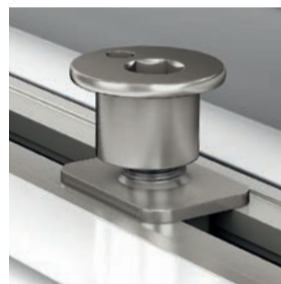
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Staying “on the ball” in a digital world

## Welcome to Roto eLearning!



Available in up to eleven languages, fully voiced and subtitled: the new Roto eLearning is the perfect way to get ready for installation and sales.

■ **New at Roto** For almost 15 years, Roto trainers have provided expertise in products and their processing and successful sales of windows and doors. The Roto Campus offers a wide variety of training opportunities and enjoys an excellent international reputation. The latest addition to these opportunities is a web-based eLearning range.

For any situations where face-to-face training is not possible or trainees need to repeat learning content, the new eLearning platform provides valuable knowledge – as diverse as it is detailed – regarding Roto hardware systems and Deventer sealing profiles. All eLearning content is available in up to eleven languages, fully voiced and subtitled.

### Learning any time, anywhere

Users can work through a guided course unit in 30 to 60 minutes at their computer or tablet, wherever they are and whenever they like. They have the option to pause as often as they like and navigate back and forth through the course unit. The Roto eLearning range was developed with a focus towards maximum flexibility in the content offered and professionally prepared course materials.

Herwig Thonhauser, Head of the Roto Campus, explains the concept: “The days of handing out mountains of paper so that trainees can revisit seminar content at home are over. In future, every Roto customer will be able to easily and flexibly refresh, update or expand their knowledge on our learning platform.”

### Ready for installation and sales

A positive side-effect of the digital range: if circumstances mean that face-to-face seminars and training sessions cannot take place, employees can simply be trained in trade, industrial and sales skills via the Internet. In addition, Roto eLearning also provides the perfect basis for getting new team members up to speed.

### Selecting content – Testing learning success

At the end of every learning module there are interactive exercises to test whether the relevant details and facts concerning the module topic have been properly absorbed and can be recalled. “Self-learning programmes should always end with such a self-assessment,” states Thonhauser with conviction. To help with concentration and ensure variety across the entire learning phase, the modules feature professional speakers, video recordings and interactive units. The most important aspects of each training course are summarised and available to download in a PDF.

### <https://ftt.roto-campus.com>

Any customers interested in using Roto eLearning in their company should get in touch with their contact person in Roto sales, who will be able to allocate personal login details via a close-knit network of administrators. It is also possible for customers to register as participants themselves. A link for registration is available on the Roto eCampus website.

### Compliant with data protection

Authorised users are shown the learning modules relevant to them and their market to select from, on an individual basis. All digital processes in the Roto learning environment have been designed to comply with data protection requirements.

Thanks to its simple user interface, Roto eLearning is also suitable for users who are less comfortable with using IT systems. Simple Roto excellence also extends to the training available from the Roto Campus.

### Roto Campus – the international further training academy

The Roto Campus offers training courses for products and technology as well as communication for end user-oriented sales. The range of training courses includes both face-to-face events at Roto in Leinfelden-Echterdingen and Velbert in Germany or in a partner company, as well as web-based eLearning resources developed and supported by professional trainers.

The Roto Campus team compiles web-based training courses tailored specially for country-specific and target group-specific requirements. Customers are also provided with advice for organising complex training programmes.



➤ **How does Roto eLearning work? This two-minute video provides an explanation of the eLearning process.**

<https://youtu.be/bLKPMBiMSjU>

## In conversation



| An interview with Marcus Sander, Chairman of the Board of Directors at Roto Frank Fenster- und Türtechnologie GmbH

### Roto Inside: What conclusions can you draw for Roto Fenster- und Türtechnologie from the past few months?

**Marcus Sander:** As a company, our absolute focus is on our customers. Across FTT, the only possible way of contacting our customers was by phone and video conferences because of the social distancing rules in place. Despite this, it was important to provide the best possible support to each and every one of our customers and offer them the service they required, especially when it came to ongoing product advice. Our teams around the world managed to do this successfully, as we were able to maintain continuity in our relationships with customers at all times. This is a fact that makes us proud of our company's performance.

### Roto Inside: How did you address the subject of customer support?

**Marcus Sander:** Our sales organisation was able to support its customers continuously and without interruption thanks to digital communication. Some customers have already clearly indicated to us that they would like to continue using this form of collaboration in future, whenever it is suitable for the topic at hand.

### Roto Inside: You produce in 15 factories around the world. Were there any restrictions?

**Marcus Sander:** Across the globe, some markets and regions have so far been faced with greater challenges due to COVID-19 than others. This means that in countries where we are active, opening times were temporarily limited by the authorities or we were even ordered to close, for example in China, Russia, Italy and Spain. As a company, we had to respond accordingly. However, work continued without interruption in our factory in Leinfelden, for example, since the very first day of the coronavirus crisis, as well as in the central Logistics Service Centre in Lein-

felden. Since we produce several of our product groups in many factories, our supply remained stable, meaning that we were able to deliver to our customers at a high level at all times without any restrictions.

### Roto Inside: How would you rate your global ability to deliver?

**Marcus Sander:** Our supply chains are on a firm footing around the world. This means that there are no logistical problems with material flow or with the delivery of goods. We are continuously reviewing the reliability of our global supply chain and ensuring this on an ongoing basis. This is why we were and are still able to ensure the availability of all Roto product groups in all markets. As part of this strategy, we produced more than the planned quantities in some cases over the past few months to flexibly meet changing global demand.

Maintaining our excellent ability to deliver is our best way of supporting our customers at the present time. Thanks to our international set-up, we are able to ensure our deliveries at all times.

### Roto Inside: In an interview you gave at the start of the year, you said that the focus of FTT investment would be on digitalisation in the internal production sector. Will you now step up these efforts even further?

**Marcus Sander:** Our activities with regard to machine networking, collaborative robots, driverless transport systems and digital possibilities for improving the entire supply chain are all steps on the journey towards Industry 4.0. This is something we are continuously working on, as we planned and outlined at the start of the year. Of course, we are now glad that we tackled these issues months or years ago, and therefore at a very early stage. Ultimately, this is how we have been able to maintain our current excellent ability to deliver.

However, we would like to further intensify our efforts with regard to digital product communication. The latest tool for this is our e-learning platform. Available in up to 11 languages, with full audio narration and subtitles, it imparts knowledge about our hardware systems and Deventer sealing profiles.

### Roto Inside: How are your customers responding to the system offered by your company?

**Marcus Sander:** Our concept of offering a modular system with our Roto NX Tilt&Turn hardware system has undoubtedly proven successful. It is constantly winning over new customers

with its modularity. They recognise the advantages to be gained from using the same parts in different product groups – the Roto NX Tilt&Turn hardware system, and the Roto Patio Alversa and Roto Patio Inowa sliding systems – for their efficient production and logistics. This systems expertise in particular, combined with the coordinated gaskets from our Roto subsidiary Deventer and our threshold solutions, makes the entire package incredibly attractive for manufacturers. This is because, thanks to this modularity, our customers are able to flexibly implement their ideas with a reasonable number of items. To put it in a nutshell, it means that thanks to the system we offer, we provide maximum support to our customers' production, both when it comes to the process and ultimately also economically.

However, it is less the performance of the individual products and more the expert advice from our customer advisers that results in customers quickly receiving optimally coordinated configurations when developing new products. In addition to the product spectrum, this of course also requires comprehensive knowledge of the application. Let's take the Roto Patio Inowa sliding system solution as an example. We offer this system with the hardware, gasket and threshold already coordinated with each another. The advantage for our customers is that they get a tested, reliably functioning system and in particular have fewer technical contact persons because the individual components are coordinated.

### Roto Inside: Alongside hardware, sealing profiles, thresholds and other components, Roto FTT also offers door locks. Are you planning to further expand the Door product range?

**Marcus Sander:** My answer to this question is a resounding "Yes". Our product range, which is already very extensive, includes three product segments: the Roto Safe multipoint lockings, the main door hinges from the Roto Solid family, and the Roto Eifel threshold system. Like most players in the field of multipoint lockings, we are carrying out studies of future locking concepts and are also researching upgrades to existing solutions.

### Roto Inside: What were your expectations as you entered the second half of 2020?

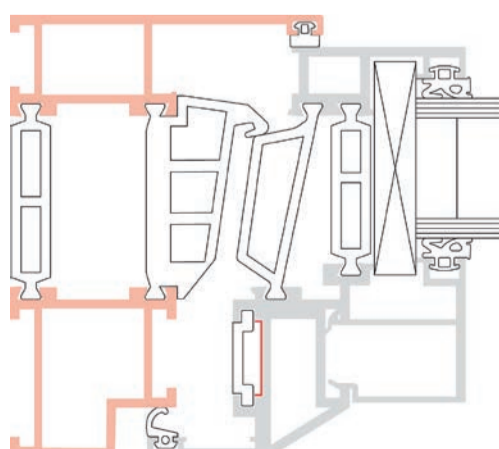
**Marcus Sander:** We hope that we can return to normal, both in terms of our day-to-day work and in the economy as a whole, and of course that we all remain healthy. On that note, I would like to wish everyone continued strength and optimism and would like to thank all of our readers for their interest in our customer magazine.

## Roto AL 300

# For aluminium windows with integrated offset edge

■ **Aluvision** In Southern Europe and South America in particular, manufacturers of aluminium profiles are reporting the return of window designs where the sash is resting on a frame with integrated offset edge. Roto has worked to meet this design trend.

When the window sash is closed, these window designs stand out because the sash looks like it is resting flush on the surface of the frame. However, the profile design calls for a special hinge geometry so that the sash can overcome the offset edge in the frame.



### Special hinge geometry

Roto Aluvision developed a solution with the required geometry based on the proven Roto AL 300 surface-mounted hinge side. The new hinge side created in this way can be installed on the left- and right-hand side and once again drastically expands the application range of the modular hardware system. Roto Aluvision specialists provide prospective customers with advice relating to both the design and the product.

"What Roto AL 300 represents is Roto quality for affordable aluminium windows with a good design," explains Matthias Nagat, Head of Roto Aluvision Range Marketing and Product Adaptation. "This is because, thanks to preassembled, clampable components, this hardware reduces the installation effort and installation time, regardless of which hinge side of the Roto AL 300 and which profile system the manufacturer uses." The new hinge side can be used in Tilt&Turn windows and Turn-Only windows with integrated offset edge up to a sash weight of 80 kg. In Turn-Only windows, this is implemented in combination with an adjustable rebate sash stay.

| Sectional drawing of a profile system with integrated offset edge



| Roto AL 300 stay hinge and stay bearing for profile systems with integrated offset edge

| Roto AL 300 pivot rest and corner hinge for profile systems with integrated offset edge



## Turn opening or parallel opening

# High-performance concepts for ventilation flaps

■ **Aluvision ventilation flaps are mainly in demand for sash widths of between 170 mm and 300 mm – an extremely limited installation space for the hardware with its often complex functions. Concealed hardware is often also requested.**

Nevertheless: Facade and window manufacturers can be confident that Roto will work closely with their profile suppliers to find a hardware solution that is as durable as it is high-performance.

### Turn-Only ventilation flaps

One example is the special hinge side designed specifically for a project for the system supplier Raico, for the most popular ventilation flap opening type – turning. Using a solution based on the Roto AL Designo, the travel and opening angle of the hinge side was limited in such a way that the ventilation flap virtually includes an integrated opening restrictor.

Another component developed for Raico uses a different approach. The opening of the ventilation flap is limited by a very short turn restrictor rod. These are just two examples of the many development projects throughout the world that Roto Aluvision supports each year.



Effective against sash warpage: Active locking points on the locking side of Turn-Only ventilation flaps

| For ensuring that Turn-Only ventilation flaps are tightly sealed and suitable for RC 2, even in confined spaces in the rebate of narrow sashes: the special corner drive for circumferential locking.



### Suitable for RC 2

The use of a special corner drive developed specifically for a profile makes it possible to set active locking points on the hinge side by means of a connecting rod. This enables ventilation flaps that are tightly sealed and suitable for RC 2, even in confined spaces in the rebate of narrow sashes. At the same time, active locking points counteract sash warpage – a problem that is often feared in practice.

### Actively counteracting sash warpage

Ceiling-height, one-piece or dark-coated ventilation flaps are susceptible to sash warpage due to the bimetallic effect. Active locking on the hinge side effectively prevents this issue. It pulls the ventilation flap back into the correct locking position during the closing process despite the tolerances caused by temperature fluctuations.

### For optimum opening characteristics

The narrow width of most ventilation flaps has an adverse effect on their kinematics and opening characteristics. Roto Aluvision has also found a solution for this problem: If, for example, flat strikers or strikers milled into the frame are installed, a very narrow sash can also be opened fully. Strikers and cams offset in the axial position are another possibility.

### Parallel inward-opening ventilation flaps

Parallel projecting scissor stays from the Roto PS Aintree product range and a Roto special corner drive were incorporated into a ventilation flap concept by FKN Fassaden. The project required an extremely easy-to-use, yet tightly sealed sash with a width of just 120 mm and a height of 1,500 mm.

The idea was to use a ventilation flap that is not turned but rather opened inwards using parallel projecting scissor stays. FKN was awarded the contract for production of the entire facade, including all Turn-Only windows and ventilation flaps, after providing samples for the project solution developed together with Roto. FKN Sales Manager Franz Ebert recalls:

**“The parallel inward opening ventilation flap impressed planners and investors.”**

The ventilation flaps then successfully underwent a continuous operation test in the accredited Roto test centre – the International Technology Centre (ITC) – in Leinfelden. FKN ultimately produced 1,675 ventilation flaps and 4,200 Turn-Only windows and installed them in the Marienurm in Frankfurt.

### (Almost) anything is possible!

Even for projects with high design requirements for ventilation flaps, aluminium facade and window manufacturers can work with the confidence that almost any functionality desired by planners can be realised through successful cooperation between their profile supplier and Roto. Advisers from Roto Object Business draw upon a wealth of experience in selecting proper hardware configurations to provide support for planning, prototype manufacturing, provision of samples and the start of production.

| Safe living and ventilation in the Marienurm in Frankfurt: The ventilation flaps can be opened by any room user. However, the Turn-Only windows are equipped with plugged escutcheon covers and can only be opened by authorised persons.

Photo: © Pecan Development GmbH



| In addition to 4,200 Turn-Only windows with Roto AL Designo concealed hardware, 1,675 parallel inward opening ventilation flaps were installed in the Marienurm in Frankfurt. These tightly sealed, easy-to-use ventilation flaps are equipped with parallel projecting scissor stays from the Roto PS Aintree range and special corner drives.



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## Roto Patio Inowa: Gentle closing, opening and movement

■ **Sliding** The key operational characteristics of the Roto Patio Inowa sliding system are the special closing movement of the sash perpendicular to the frame profile, the circumferential gasket and the active locking points in the mullion controlled via lever handle. This system features a wide variety of formats, ranging from small sliding windows behind a kitchenette to ceiling-height sliding elements.

The ceiling-height glazing of the sliding system, which is available around the world in all frame materials, floods rooms with daylight and creates a transparent facade design. The concealed hardware technology also enables particularly slimline frame profiles to be produced. The hardware components neither protrude into the opening nor are they visible on the sash.

In the first half of 2020, the “brains” of the Roto Patio family caught the attention of the market thanks to a number of innovations. Now, further product features ensure even greater benefits for the user.

### SoftClose

The SoftClose function of the Roto Patio Inowa causes the sliding sash to be gently braked, automatically pulled shut and closed. This provides a substantial increase in operating convenience and user safety, since the function virtually eliminates the possibility of improper operation or operating errors. The user locks the sliding sash by turning the handle lever. The key component is a gas spring made of steel. It is tensioned when the sash is opened, storing energy for subsequent automatic closing of the sash. Two new additional variants complement this soft closing function.

### SoftOpen

The SoftOpen function briefly brakes the sash after opening and then pulls it automatically into the open final position. The gas spring functions as an energy storage device here as well, since it becomes tensioned when the sash is closed. The stored energy is released when the sash is opened, ensuring that it is softly braked and therefore does not strike against the frame.

SoftOpen and SoftClose can be combined and installed together in sliding sashes using the Roto Patio Inowa hardware system up to a sash weight of 200 kg. The benefit of this combination is that the mechanically controlled and braked opening and closing of the sash ensures that it functions properly at all times, as it minimises the danger of improper operation and prevents the sash striking against the frame during opening or closing.





The Roto Patio Inowa SoftClose, SoftOpen and SoftStop are installed concealed at the top of the sash. The activator acts as a counterpart and is positioned visibly at the top of the frame, in the guide track.

### SoftStop

At a sash weight of 200 kg or above, the opening and closing forces are extremely high, meaning that the SoftStop function is recommended for higher weight classes. This function likewise helps ensure gentle closing of the sash by braking the element in the same way, but does not automatically pull the sash shut or close it. The cushioned closing movement means that heavy sashes do not uncontrollably collide against the frame. In addition, SoftStop assists users by slightly reducing the force required to close the sash. This means that users can move and close even heavy sashes at a sensible and deliberate speed.

Installation accessories: The tensioning tool is used to activate SoftClose, SoftOpen and SoftStop.



### Tensioning tool

Each function can be activated during manufacturing of the sliding door using a tensioning tool. If it is necessary to activate the Soft function once element assembly has been completed in the project, this can only be performed using a tensioning tool. The sliding sash can of course also be operated without the Soft function activated.

### Suitable for universal use

The control unit of the sliding hardware is integrated into SoftClose, SoftOpen and SoftStop, and can be easily installed in frames made of PVC, timber, timber-aluminium and aluminium. This means that, thanks to the low complexity, only a few items are needed to cater for all frame materials – representing a cost saving for window manufacturers. In the same way as the Inowa application range, sliding systems can be manufactured in diagrams A, A', C, C', K and K'. Each system can run both on the inside and on the outside.

In timber and PVC, a sash rebate width of between 710 mm and 2,000 mm is possible. The sash rebate height ranges from 600 mm to 2,500 mm. The aspect ratio of sash height to sash width is 2:1. For timber and timber-aluminium solutions, the enhanced threshold designed in accordance with DIN 18040 ensures day-to-day accessibility.



SoftClose component with integrated control unit



### Easy to install

All three Soft functions are installed concealed at the top of the sash in all frame materials, using existing drilling jigs. In PVC and aluminium elements, no routing work is necessary. However, for timber frames, profile-specific routing work may be required.

The activator, which does not depend on the specific profile, acts as a counterpart and is installed visibly at the top of the frame, in the guide track. Packing plates are included for height compensation. A varying number of these can be screwed in depending on the profile.

### Standard-compliant

The continuous operation properties of the sliding door in accordance with DIN EN 13126-16:2019-07 are of course maintained when using a SoftClose, SoftOpen or SoftStop function; the same applies to the opening and closing function tested for 20,000 movement cycles in accordance with Class H3. All three function variants work reliably and with no malfunctions in a temperature range of between +80°C and -20°C.

### No change to burglar protection in accordance with RC 2

Installing any of the three functions does not change the position of the locking points. Depending on the relevant function, the only change is that the control unit is replaced with the corresponding Soft component with integrated control unit.

The burglar inhibiting properties likewise remain completely intact. No new evidence of testing is required: Roto Patio Inowa ensures RC 2 security in accordance with DIN EN 1627 for parallel retraction sliding doors.

In addition to the special Inowa strikers in the mullion, the V locking cams hook securely into the security strikers screwed into place around the frame when the sash is closed, thereby preventing quick jemmings. Thanks to the lockable lever handle, the hardware cannot be either moved or unlocked from the outside. The drilling protection, which is invisible from the outside and is installed in the groove, prevents the espagnolette from being drilled out.



The reworked centre closing part of the Roto Patio Inowa now features just four screw points. The benefit of this is quicker installation and releasing of the centre fixing by simply screwing the component into the element.

### Maximum cost-effectiveness in production

The number of screws required in all Inowa assemblies has been reduced from six to four. This means that the control unit, centre closer and roller unit can now be installed even faster. Additional economical bonus: existing drilling jigs can be reused for installation of these three assemblies in frames made of PVC, timber and timber-aluminium.

### Same profile installation space

The optimised components – control unit, centre closer and roller unit – fit into the same profile installation space as the existing Inowa range. This means that sliding door manufacturers do not need to make any profile adjustments and can continue to benefit from the same high tolerance compensation that is characteristic of Roto Patio Inowa products.

In addition, the number of screws required for the roller unit of the Roto Patio Inowa has been reduced from six to four.



### Other installation innovation

Before now, installers have needed to operate the lever handle repeatedly in order to release the centre fixing. This manual effort is now no longer necessary: The centre fixing is released simply by screwing the components into the element. This results in a substantial reduction in handling time which will pay off for installers in the long term.

The objective of the product optimisation process has clearly been reached: Increased ease of installation and reduced complexity. This represents the best possible time and cost savings that can be achieved from progress in product development.

### Tightly sealed

The circumferential lockings ensure an even, high gasket compression. The sealing of the sliding elements equipped with Roto Patio Inowa can be flexibly reinforced even further via individually extendable locking points and aluminium cladding, even in high-rise buildings.

In properties and regions with extreme weather situations, the hardware technology delivers the highest grade of sealing and meets the requirements of air permeability class 4 (DIN EN 1026/12207) and driving rain impermeability class 9A (DIN EN 1027/12208).

The impressive sealing closure also provides optimum insulation, which in turn reduces heating or cooling costs, depending on the time of year. A further advantage is the noise and sound insulation, which is particularly important for buildings located close to roads or airports.

### Easy to handle

The innovative closing movement of Roto Patio Inowa perpendicular to the frame profile means it is not necessary to lift the sliding sash. As the entire structure is mounted on rollers, the elements are extremely easy to move, with the high-quality material pairing preventing any annoying scraping noises. The smooth-running rollers also enable practically effortless and frictionless opening, sliding and closing of the elements, which can weigh up to 250 kg. Ease of handling is improved thanks to the simple handle operation.

### Even higher sash weights expected soon

Demand for increases in sash weight is growing in tandem with increased enthusiasm of users across the world for the convenient handling, excellent sealing properties and burglar inhibiting security of the Roto Patio Inowa. Roto is working to make these improvements a reality in the foreseeable future. You can soon look forward to a new dimension of sliding!



➤ **Roto Patio Inowa: find out more about the intelligent hardware with hidden technology for tightly sealed parallel retraction sliding doors**

[www.roto-frank.com/en/roto-patio-inowa/](http://www.roto-frank.com/en/roto-patio-inowa/)

## Rábaablak Kft., Hungary

# Roto Patio Inowa for 92 mm timber profile

■ **Timber** The Hungarian timber window manufacturer Rábaablak and Roto are linked together by 16 years of shared history. Again in 2020, the collaboration between these two partners is memorable: Gábor Kapui, Zoltán and Tamás Berghoffer, the owners of Rábaablak, wanted to make use of Roto Patio Inowa, and were not disappointed.

“In the near future, we want to expand our range to include a sliding system, in which we will use profiles with a depth of 92 mm and triple glazing,” explains Zoltán Berghoffer, who is responsible for Sales and Marketing, with an audible sense of anticipation. “This will enable Rábaablak, as the first manufacturer of such a system in the world, to prove that a tightly sealed and energy-efficient timber sliding system with this level of profile thickness is possible and, of course, convenient to operate.”

### A focus on weights

The focus of development is on operating convenience and the weight of the moving sash. Roto Patio Inowa – the smart sliding hardware for tightly sealed systems preferred by Rábaablak – ensures simple operation of sashes with a sash weight of up to 200 kg. Depending on the timber type and glazing, the use of profiles with a depth of 92 mm with sash widths of over 1,500 mm can result in slightly exceeding this weight class.

Berghoffer takes a pragmatic view and asks: “Who is to say that the sash of a sliding system needs to have the same format as the fixed element? And is it truly necessary for a sliding system to enable a passage of more than 1,500 mm?”

### Hardware, gasket, threshold

Rábaablak has in any case decided to offer the 92 mm profile variant of the sash with a maximum width of 1,500 mm. As a result, partners Roto and Deventer have needed to adapt hardware, threshold and gaskets to the planned design of the Hungarian timber window manufacturer. According to Category Manager Aleksander Vukovic, enthusiasm for the solution by Rábaablak grew as work got under way. “It is our job to help innovative partners to realise the exact window concept that they need in their markets. And we have since become convinced that the new product concept from Rábaablak could soon become extremely popular, including on the international level.”

### Tests in ITC Leinfelden

The project will reach an exciting stage in the coming weeks: the first sliding windows with a 92 mm profile from the production facility in Rábapaty have reached the International Tech-



| The owners of Rábaablak Kft., from left to right: Gábor Kapui, Tamás Berghoffer and Zoltán Berghoffer

nology Centre (ITC) at the Roto headquarters in Leinfelden-Echterdingen. Here, they will have undergone all tests concerning sealing and burglary inhibition by the end of September. Gábor Kapui, who primarily handles production technology, is relaxed about this: “We have taken great care in our design and production. I am therefore certain that our test sample will meet the requirements we have set out.”

### Market launch in September

Once the tests have been successfully completed, the Hungarian window producer will begin marketing its new sliding system. “We will prove that Rábaablak is once again ahead of the competition,” states Zoltán Berghoffer with a grin.

And what was the deciding factor for investing time and money in this particular project? “As usual, we had a good gut feeling about it,” says Tamás Berghoffer. This statement is particularly surprising as he is responsible for finances and accounting. “My work certainly revolves around numbers, but I am first and foremost a timber window manufacturer, and I am ambitious about – and enjoy – constant development of our product range.”

### Always offering more than the rest

So far, the “gut feeling” of these three experienced window manufacturers has always served them well. Since the foundation of the company, they have concentrated on producing high-quality windows. They started in 2004 with profile thicknesses of 68 mm. “However, as that slowly became the standard for Hungarian window manufacturers, we have gradually changed over to 92 mm profiles,” states the passionate sales representative Zoltán Berghoffer. “We naturally wanted to do the same with our sliding systems, and we would prefer to use Roto Patio Inowa, as this hardware functions in an ideal way as far as we are concerned. Intuitive operation and tight sealing are a perfect fit for our concept of premium sliding systems.”

### Collaboration between technological leaders

The collaboration between the companies Deventer, Gutmann, Leitz and Roto resulted in the IV92 system for sliding elements made of timber with the Roto Patio Inowa hardware. IV92 forms the basis for other products, which is how Rábaablak will now be using it as the first manufacturer in Hungary to do so. “We have come to appreciate the IV92 system as a

practical solution,” explains Kapui. “All system components and production tools are ideally coordinated and are provided by strong project partners and technological leaders. This means we can very quickly move forward with series production.”

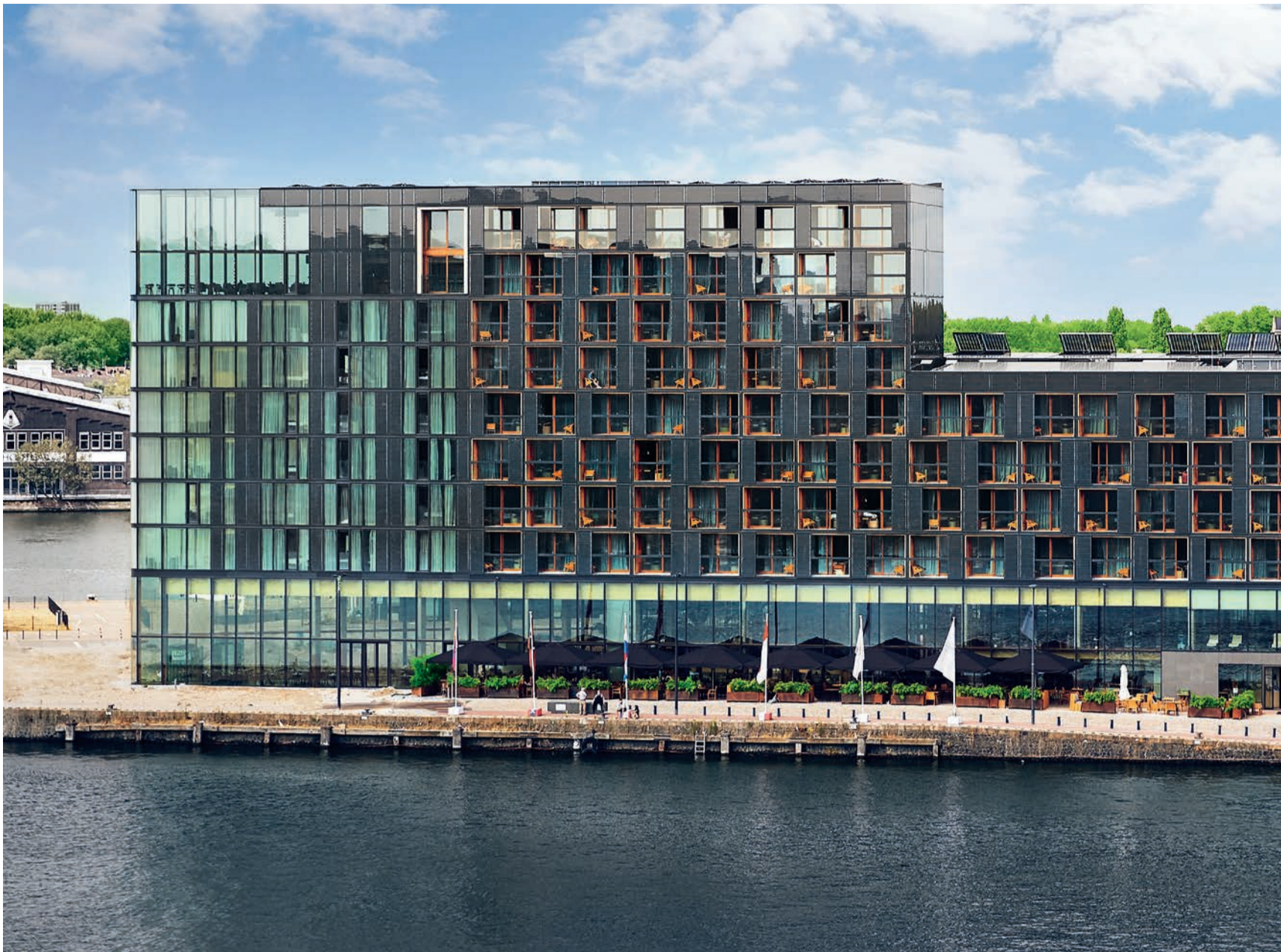
### Into the future with confidence

The strategic focus of Rábaablak is clear: to become the market leader in timber windows with innovative products. But what are the particular challenges for the company resulting from this strategy overall? “They are numerous, and new ones arise all the time,” responds Kapui, one of the partners of the company. “And we are very honest about that: In order to develop our internal processes to adapt to our increasing production quantities, we regularly call in specialists from Roto Lean. When you already have a connection with a partner with expertise in optimising production logistics or introducing a shop floor management system, for example, you should also be able to benefit from that expertise.” Whether for product development or production optimisation, Rábaablak values the wide variety of support it enjoys from Roto in any case, and looks forward to at least another 15 years of collaboration.

[www.rabaablak.hu](http://www.rabaablak.hu)



| More attractive homes with timber sliding systems from Rábaablak: The Hungarian manufacturer produces a tightly sealed system with 92mm-thick profiles, and the Roto Patio Inowa and sealing profiles from Deventer have been individually tailored to match them.



The 4-star hotel Jakarta in Amsterdam: Where once ships set sail for Jakarta, there is now a green oasis in the centre of Amsterdam. The hotel offers 200 luxurious rooms. Its interior design is inspired by Indonesian influences.  
Photo: Hotel Jakarta, Amsterdam

Ceiling-height, easy-to-open sliding doors: guests at the hotel enjoy convenient access to their balconies and brightly lit rooms  
Photo: Hotel Jakarta, Amsterdam

## Holland Houtwerk and Timmerfabriek Overbeek, the Netherlands

# Roto Patio Life for an energy-neutral hotel

■ **Timber** For more than 25 years, the company Holland Houtwerk has represented modern timber construction. Planning for the energy-neutral Hotel Jakarta in Amsterdam included, among other things, 176 timber sliding doors, primarily in order to provide lighting and ventilation of guest rooms. Roto Patio Life ensures tight sealing and operating convenience.

The design of the hotel is characterised by lots of glass and the decision to use recyclable construction materials. A tropical garden inside the hotel draws the attention of guests to the ecological standards of the building. Once they have reached one of the rooms or suites, they experience the interplay of maximum transparency, comfortable timber and interior design.

### A sliding system for energy efficiency and comfort

The triple-glazed window sashes can be opened easily and – in order to achieve the desired level of energy efficiency – can be tightly sealed when closed. Both the Tilt&Turn balcony doors and the large sliding systems were produced for Holland Houtwerk by the Timmerfabriek Overbeek woodworking factory in Haaksbergen in the Netherlands. The doors are made of larch wood, sourced exclusively from Europe. The Roto Patio Life sliding hardware was installed in elements with a width of approx. 3,500 mm, which can be easily opened wide and reliably closed tight.

### Roto Patio Life hardware and comfort threshold

“This hardware was the perfect choice for the energy-efficient sliding doors in Hotel Jakarta,” explains Gerry Claassens, Manager for Customers and Markets for Roto Benelux. “The hotel guests enjoy ease of use of the large elements, the comfort of the extremely small threshold and the huge amount of natural light. The hotel benefits from the contribution made by the triple-glazed elements to ensuring a windproof, energy-efficient building envelope.”

### Well-thought-out operating concept

Conventional hardware technology often means that opening large Lift&Slide elements requires substantial physical effort, Claassens explains. “Before the door or window can be slid to

the side, the entire sash must first be lifted. Roto Patio Life dispenses with the need for this effort, since instead of lifting the sash, the gasket is lifted directly via the handle, and simply lowered again when closing the door or window.” This makes heavy sliding elements with sash weights of up to 400 kg extremely easy to operate. It is possible to equip window elements with Roto Patio Life at system widths of up to 6,500 mm.

### Reducing energy consumption

Roto Patio Life ensures tight sealing, thereby reducing heat losses to a minimum. There are two main reasons for this: The horizontal gasket components are actuated using the handle and reliably seal the door. For the threshold, Roto uses a mix of heat-insulating materials that provides ideal isothermal efficiency and prevents unwanted cold bridges. The room temperature directly at the threshold remains above 10°C, even when the outside temperature drops to -15°C during the cold season. This prevents condensation.

### No trip hazards as standard

Conventional thresholds also often represent potentially dangerous trip hazards – particularly for small children and older persons. They can easily become an impassable barrier for wheelchair users. By contrast, the innovative Roto Patio Life comfort threshold with its flat roller track dispenses with trip hazards.  
[www.hollandhoutwerk.nl](http://www.hollandhoutwerk.nl) [www.tifaoverbeek.nl](http://www.tifaoverbeek.nl)

### Sliding door made of European larch wood with Roto Patio Life hardware and comfort threshold

- U-value of 0.8 W/m<sup>2</sup>K (size 3.5 x 2.45 m)
- Airtightness class A4 in accordance with EN 12207
- Driving rain tightness 650 Pa in accordance with EN 1027
- Burglary inhibition class 2 NEN 5096
- Equipped with triple-layered safety glass
- Easy operation



Minimal barriers and tightly sealed: A balcony door with Roto Patio Life sliding hardware and comfort threshold



## Favourite of every window manufacturer

# The new V locking cam

■ **Tilt&Turn** Following further development, the V locking cam combines the design strengths of its predecessor with the functional requirements of modern windows and cost-effective manufacturing processes. The result: A master in its class.



| Roto NX V locking cam

Its easy integration into any production process and its fully automated processability make it a cost-effective favourite of every modern window manufacturer. And it is, of course, compatible with all frame materials as well as window shapes and sizes.

In contrast to other conventional solutions, the new V locking cam is not designed as a rolling cam. Its intentionally small amount of movement, flat guide and large contact area on the faceplate ensure the best possible stability, sealing and burglary inhibition.

### Quick installation

Thanks to its modified sleeve shape, the V locking cam absorbs more rebate-clearance tolerances than standard components available on the market, even in the delivery state without additional adjustments. This provides ideal support for quick and easy installation of any window element.

Its rebate clearance range can also be expanded by means of a height adjustment. This enables the V locking cam to compensate for production or installation tolerances and makes it easier to precisely insert the sash into the frame. The advantage: building elements can be installed quickly, even in challenging installation situations.

### Use standard tools

These time savings are also facilitated by the use of a standard commercial 4 mm hex key for adjustment – a standard tool used by every window installer to adjust numerous other hardware components such as pivot rests or stay arms. The hex key supplements the existing special tool and is also used for adjusting the P and E locking cam.

### Exact adjustment

The V locking cam fine-pitch thread incline has been optimised from 0.8 mm to 0.5 mm. This enables the height and gasket compression to be adjusted with greater precision. In addition, a marking indicates the position of the gasket

compression during adjustment at a glance. Height and gasket compression are adjusted at the same time.

### Permanently tight and safe

The minimal movement of the V locking cam and its robust design ensure consistent gasket compression: the V locking cam runs into the security striker. Here the sash is pressed against the frame via the gasket, thereby ensuring a high and even gasket compression. The hinge side supports this effect, whereby the window itself remains tightly closed, even under prolonged wind load. This provides the best possible minimising of energy losses.

Burglary attempts on the window element are made more difficult thanks to the resistance class of the window element, as the V locking cam engages behind the security striker. This and the robust design ensures maximum burglary inhibition, even in the standard version of the window.

### Long-term stability

Since the V locking cam rests on the faceplate across its entire surface and is precisely guided, there is an even distribution of force, resulting in less wear of the component.

A key feature of the V locking cam is the form-fitting, stable connection between its individual components: the sleeve and stepped bolt are connected to each other via a fine-pitch thread and even riveted together. The locking cam itself is firmly installed in the faceplate or the connecting rod. This means that it always fits perfectly without wobbling in its position.

### Protection against corrosion

The unparalleled surface quality of the V locking cam is provided by the further developed Roto Sil Level 6 for the best possible corrosion protection in accordance with Class 5 according to DIN EN 1670. The properties even exceed the requirements of the DIN EN 13126-8 standard and provide the component surface with exceptional hardness and abrasion resistance.

Why is that so important? Corrosion resistance must be ensured above all where hardware components are subject to mechanical stress or are riveted together. This is the only way that hardware as a whole can meet the highest corrosion protection requirements in the long term and substantially reduce the risks of corrosion for window manufacturers and window users.

### Roto Sil Level 6



- Optical seal
- Chromium VI-free passivation
- Corrosion protection system with microcrystalline structure
- Base material: steel

| Roto Sil Level 6 stands out by virtue of being particularly tough and resistant to wear, therefore ensuring corrosion protection even in areas under extreme stress.



➤ **Video of the new V locking cam**

<https://www.youtube.com/watch?v=1UiEgA6X0OY>



Künzli Holz AG, Switzerland

# Roto NX for ideal window design



■ **Timber** Künzli Holz AG and Roto have enjoyed a “lively partnership” for almost forty years, according to the description of the special relationship given by Beat Egloff, Manager of Window Construction at Künzli. With Roto NX, too, his team intends to remain at the forefront in terms of design and quality.

For years, Künzli Holz AG has exclusively sold windows with triple glazing. The new Roto NX hinge side T with a load-bearing capacity of 150 kg as standard is therefore more than up-to-date, according to Peter Graf, Project Manager of Window Construction. At the same time, there is demand for larger and larger sash formats in the Tilt&Turn sector as well. The fact that Roto NX is suitable for sash heights of up to 2,800 mm with no additional components makes it the perfect for the company’s requirements. Graf is therefore convinced: “Anyone who, like us, wants to construct good Tilt&Turn windows efficiently and cost-effectively will not be able to ignore Roto NX.” This range offers exceptionally good design and innovations, providing the technical basis for meeting all the latest trends.

## Roto NX lever-operated espagnolette Plus

The Künzli window construction team, for example, is extremely satisfied with the Roto NX lever-operated espagnolette Plus. Its one-piece connecting rod and the uniform position of the strikers in the active and passive sash make installation easier, according to Graf. Since the espagnolette is delivered in opening position, the fixing screw is immediately accessible.

## “This espagnolette is as quick to crop as it is to install.”

An additional benefit, in the specialist opinion of Graf, is that the rocker for the new lifting mishandling device can be used on the right or left and is already preassembled. “Since we very much like to use the Roto NX lifting mishandling device, a detail like this saves us an appreciable amount of time during production.”

## Save time – for example with EasyMix

“The VT espagnolette with the new EasyMix system provides greater efficiency and cost reductions during production, as well as savings in storage,” adds Egloff. Since the faceplate and gearbox / lock casing are delivered disconnected at a backset of 25 or higher, the number of components that need to be stockpiled is reduced.

## “The screw-free click installation works extremely well.”

So far, all Roto NX components have passed the field test at Künzli Holz AG with flying colours, according to the Manager of Window Construction.

## Roto NX hinge side T

The two timber window specialists are audibly enthusiastic about the Roto NX hinge side T. “Right from the first presentation at the Fensterbau Frontale 2018 trade fair, we were convinced: The new hinge side is visually phenomenal. We were happy to change over immediately, as the first timber window manufacturer in Switzerland to do so,” recalls Egloff. As the first users, they accepted there would be one or two “learning loops” to overcome with their partner as part of this process.

However, since the Roto employees in Switzerland responsible for the partnership had long since proven themselves to be absolutely reliable, Künzli was happy to “go down that road” in the first half of 2019. Working closely with the timber window manufacturer’s software company, the master data for Roto NX were imported and adapted to meet the requests of the first users. From the start of 2020, Tilt&Turn windows have only been produced using Roto NX with the titanium surface in the Davos production facility. Since then, Egloff has learned:

## “The feedback from our demanding customers has been absolutely positive.”

| Above: The Vaillant Arena in Davos. The windows in the gable area are equipped with Roto NX. Photo: Marques Architekten AG (architecture), Ruedi Walti, Basel (photograph)

| Right: Town house in Adliswil. The Tilt&Turn windows are equipped with Roto NX. Photo: Pfister Schiess Tropeano & Partner Architekten AG (architecture), Gähler und Partner AG (general planning), Nightnurse Images GmbH (visualisation)



## Changeover with full service

Egloff gives top marks to the support from Roto in Switzerland and from the specialist departments in Leinfelden during the changeover process. “Künzli has worked with Roto for almost four decades, and let me say that we are very demanding of our partners,” explains Egloff. “We are extremely ambitious when it comes to the quality of our windows and our customer service. This means that we also demand a great deal from our suppliers.” However, the changeover to Roto NX once again proved that the company’s partnership with Roto remains extremely viable for the future, even after so many years.

## “Roto responds to any questions quickly and competently.”

Any requests by the timber window specialist were of course reliably catered for every time. “Our contact persons at Roto are also extremely technically proficient. For this reason, we are happy to keep in close contact with them.”

## The Roto product range remains ahead of the pack

All in all, Egloff’s assessment of the changeover to Roto NX is positive. And he goes further than that: “The Roto product range enables us to meet any customer requirements, even in the future.” Since the introduction of the Roto Patio Alversa universal hardware for parallel sliding and Tilt&Slide doors, for example, this has also seen regular use at Künzli. The company produces approximately 100 sliding systems each year, equipped with the Roto Patio Alversa | PS variant and integrated night ventilation.

## “The combination of Künzli window design and Roto technology sets the benchmark.”

Egloff is convinced of this. For many years, the company in which he has been a loyal employee for 15 years has stood for extraordinary service. “Architects and builders who have an extremely detailed and precise idea of how their windows should look come to us. And we do everything we can to meet any wishes, no matter how extraordinary.” There is no question that any individuality in design requires technology to match. “However, thanks to Roto, we have yet to reach the limits of our capabilities.”

[www.kuenzli-davos.ch](http://www.kuenzli-davos.ch)



| Headquarters of Künzli Holz AG, Davos



| Beat Egloff, Manager of Window Construction, Künzli Holz AG, Davos



| Peter Graf, Project Manager of Window Construction, Künzli Holz AG, Davos

## Schtandart, Russia

# A flying start with Roto NX

■ **PVC** “Roto is one of our most important partners in our day-to-day work, as well as for our future direction,” explains Director Evgeny Kotov from the Russian window manufacturer Schtandart. The two companies agree on their objectives: consistently achieving the best possible quality with good design.

In his assessment, the Roto NX hardware product range is more than capable of meeting these requirements. “It truly is the ‘Tilt&Turn range shaping the industry once again’ on the market. Roto certainly delivered on its promises.” From 2015 onwards, Tilt&Turn windows from Schtandart have been equipped with Roto NT. The company first discovered Roto NX at the Fensterbau Frontale 2018 trade fair.

### Starting at the Fensterbau Frontale

“At the time, we spent a long while taking an extremely close look at the individual components at the Roto trade fair stand,” Kotov recalls. Immediately after the trade fair, Schtandart began considering when and how to inform their own customers of the benefits of Roto NX, and when they should start changing over production to the new hinge side P. When it came time to do so in July 2019, the company was able to quickly and smoothly change over because, according to Kotov:

**“Our hardware dealer TBM, Roto and Schtandart complement one another in a perfect partnership.”**

Since then, demand for Schtandart windows with Roto NX has risen steadily. For this reason, Kotov is optimistic: “2020 could be a respectable year for Schtandart despite the restrictions due to the coronavirus pandemic, because our more than 800 retail partners are impressed by the windows and design we are able to offer using this hardware.” They particularly appreciated the flexibility of formats, glazing and often high sash weight resulting from that, which the hinge side P 130 can bear as standard.

### Setting a new benchmark

Schtandart produced and sold approximately 280,000 Turn-Only and Tilt&Turn windows in 2019. As a result, the quality and

design of the Roto NX hinge side P 130 has set a new benchmark in the Russian market. Since the company also manufactures its own insulating glass, the issue of energy efficiency also plays an important role in marketing the windows. “The proportion of windows we sell with triple glazing is increasing substantially,” reports Kotov, “which is why, for example, it is valuable for us that hinge side P is available for a sash weight of both 130 kg and 150 kg.”

The time saving for production made possible by Roto NX generally suits the expansion plans of Schtandart well, Kotov explains. “This hardware product range ensures quick working and minimises sources of errors in production and installation. This is important for a company that wants to grow.” As an expert, Kotov also values the reduced storage space and production logistics requirements thanks to the reduction in parts variety:

**“Economical manufacturing – Roto NX opens up new opportunities.”**

In addition, the costs and effort required for maintaining the master data are lower thanks to the reduced parts variety, Kotov adds. “That may be a smaller detail, but we can measure that this effect pays off for us as well.”

### Impressive results with Roto NX

Roto NX has made a valuable contribution to the positioning of Schtandart in the Russian window market. “This confirms for us that Roto is absolutely the right partner to have on our side,” Kotov emphasises. Features such as integrated night ventilation, attractive design of the stay bearing and pivot rest, and also the new Roto Sil Level 6 surface are important for helping Schtandart differentiate themselves in the perception of their customers.

“Roto NX and the Roto brand as a whole suit the goals of our company,” summarises Kotov, “since our retail partners rely upon being able to acquire windows from us that are leading in function and quality. And we rely on the fact that our hardware dealer TBM and Roto will make every possible effort to provide us with perfect technical and logistical support. So far, neither have disappointed us.” [www.schtandart.com](http://www.schtandart.com)



In the “Love and Pigeons” residential building in Moscow, 580 Tilt&Turn windows by the window specialist Schtandart ensure light and ventilation for the interior.

Schtandart provided 776 Tilt&Turn windows for the “Heart of the Capital” residential tower block in Moscow.



The “Picasso” residential tower block in Moscow accommodates 393 flats. 2875 Tilt&Turn windows used in the tower block were produced in the Schtandart production facility.



➤ **Economical, safe, convenient, design-oriented: Roto NX at a glance**

[www.roto-nx.roto-frank.com/en](http://www.roto-nx.roto-frank.com/en)



Evgeny Kotov, Director, Schtandart window factory





| Aluminium building elements made to measure in domestic production facilities for individual building projects  
Photo: Aluminium Industries, Victoria



| Growth segment: high-quality PVC windows with European opening types  
Photo: Energy Efficient Windows

## Fenestration Solution Australia

# Window production increases in Australia

■ **Hardware dealers** "I believe that, following the natural disasters we've experienced in our country this year, window manufacturers will be seen in a new light in future," says **Shane McDuff, Managing Director of Fenestration Solution Australia (FSA) in Melbourne.**

FSA has been supplying Australian window manufacturers with components for many years. In the past, companies followed two strategies to stand up against the price-aggressive competition in China. Some producers concentrated on supplying traditional, simple timber windows at a favourable price. Others underwent continuous further development to become experts in high-quality, made-to-measure aluminium and PVC windows used in individual building projects. "The majority of standard PVC windows used in Australian housing construction used to come from China ready for assembly," explains McDuff.

### Painful insights

2020 hit the Australian construction industry hard in several ways: 1. The very simple timber windows used widely throughout the country were completely destroyed by fire. 2. The compensation home-owners received from their building insurers following house fires was vastly inadequate for enabling them to switch over to PVC or aluminium windows that comply with the Bush Fire standard, which would be safer in the event of another fire. This means they would have to use their own savings. 3. The extreme dependence on Chinese pre-production of many building elements and constructions has the potential to paralyse Australian construction projects during crises such as the corona pandemic. For McDuff it's obvious:



| The company, founded in 2008, has worked together with Roto since 2011 and supplies window manufacturers throughout Australia as well as New Zealand.

**"Australia must refocus on its own efficient building element producers."**

Delivery times of several months for windows that are urgently required for rebuilding houses after bush fires are considered to be unacceptable, as many families are still without homes. This problem is the result of insufficient production capacity in the country and the fact that Chinese manufacturers were forced to halt production shortly after the fires due to the coronavirus pandemic. According to McDuff, it may not be possible to recover from the decline in housing construction caused by the drop in window imports in the first quarter of 2020.

### Greater demand placed on Australian manufacturers

The fact that private and commercial builders are responding to experiences such as these is being confirmed by an increasing number of window manufacturers and customers of FSA. Their order books have been filling month on month, as financially strong Australians are now opting increasingly for more effective aluminium and PVC windows produced in their own country. McDuff is convinced:

**"More home-owners than ever before are demanding high-quality windows."**

FSA is also benefiting from this. As a hardware dealer, the company has already been procuring and supplying high-quality components for windows and doors for many years. These originate predominantly from European manufacturers. "Roto is one of our most important partners," reports McDuff, "especially when it comes to aluminium window construction." Taking into account the fact that manufacturing timber windows is becoming increasingly expensive and difficult due to national logging regulations, it is quite possible that Australian home-owners will also be opting for high-quality PVC windows with European opening types in future. "Profile systems and hardware from Europe will then be in greater demand than ever."

### Promising start with Roto Patio Inowa

Systems with hardware such as Roto Patio Inowa, whose operating convenience and sealing far exceed the previous standard in Australia, have sparked particular interest among Australian manufacturers.

**"This year, FSA is in demand as an ambassador for innovations such as Roto Patio Inowa."**

In major towns and metropolitan areas in particular, interest in thermally insulated and soundproof windows that meet the European standard is increasing continuously. The majority of these are currently still made with aluminium profiles that are manufactured in Australia. But renowned European system suppliers of PVC profiles are also attracting increasing attention.

Until now, PVC sliding systems with Roto Patio Inowa came predominantly from China. The tried-and-tested typhoon safety of the sliding systems has sparked particular interest and is being actively advertised with the sale of high-quality apartments, according to McDuff. "The comfort provided by Roto Patio Inowa is appealing to an increasing number of families who are looking to build a family home. Since these families represent a particularly attractive target group for our customers, we are actively supporting the introduction of the intelligent sliding hardware for tightly sealed sliding systems."

### Extensive storage in Melbourne

FSA procures Roto products from both Leinfelden and Singapore. The level of stock on hand is high, as the delivery times of five to six weeks are considerable. "Demand, however, is constant, so keeping a high level of stock does not represent too high an economic risk," explains McDuff. "Both manufacturers and retailers who made the decision to work with 'European windows' are remaining loyal to this market segment and FSA. Together with them and with strong partners such as Roto, we are shaping and developing the market. We're striving for both an increase in quality and satisfied home-owners."

Is FSA therefore expecting even greater demand? "Definitely," nods McDuff. "However, it's not erratic, but organic growth that we want. Our regular customers feel a connection with FSA, not only because of our high-quality products, but also because of our exceptionally comprehensive services. These should remain our trademark, which means ensuring that the team's planning capacities keep pace with turnover."

[www.fsa-aus.com.au](http://www.fsa-aus.com.au)



| Shane McDuff, Managing Director, Fenestration Solution Australia

## Gardengate S.A., Portugal

# Growth plans with Roto Door



■ **Door** How does a company successfully implement a plan to make itself into one of the five largest manufacturers of aluminium gates and doors in Portugal? “With good ideas and professional partners,” says Daniel Costa – Chairman of Gardengate S.A. since the company’s foundation.

At the start of 2007, the Porta XXI Group, a well-known company in the Portuguese supply industry, founded its own production company for building elements made of aluminium and timber under the name Gardengate S.A. in the city of Braga, near Porto. Costa was given the task of developing the company into a valued supplier of distributors in Europe and North Africa. He clearly understood exactly what is meant by that, as his team, working with a 20,000 m<sup>2</sup> production floor, now manufactures products for customers in Belgium, Germany, France and the Netherlands, as well as for customers outside of the European Union, in Algeria, the United Kingdom, Mauritania and now Colombia. With nearly 400 employees, Gardengate is the largest employer in the Adaúfe industrial estate. A clear goal for 2020: developing Gardengate into one of the five leading manufacturers of aluminium doors and gates in Portugal.

### Proven: Roto Door

Roto is a valued partner at the side of Gardengate. “We buy door hinges and locks from there,” Costa reports, “and we have made virtually all innovations in the Roto Door range over the recent years available to our customers.” The product range includes mechanical, mechanical-automatic and electromechanical multipoint locking systems for cylinder-operated and lever-handle-operated doors. Roto has always provided support for introducing every product, whether the Roto Safe H|Fasteo, the Roto Safe E|Eneo CC, the Roto Safe C|Tandeo or the Roto Safe C|C600, into production via individual adaptations and a wide range of services.

Delivery by Roto has been extremely carefully timed, enabling most hinges and locks to be put directly onto the production line the moment they are received by the Gardengate door professionals in Portugal. Costa stresses that Gardengate is a modern company with a high level of automation, and praises the services provided by Roto:

**“Roto perfectly adjusts its product adaptations and logistics to meet our needs.”**

### Premium: Main doors with Roto Solid C

Since the introduction of the concealed Roto Solid C door hinge last year, Gardengate has worked hard to expand the segment of particularly high-quality main doors with modern designs. With its load bearing capacity of up to 140 kg, this corrosion-resistant door hinge enables the manufacturing of particularly durable, large and heavy main doors of resistance class RC2. “This suits our plans perfectly,” Costa explains.



| Gardengate has worked with Roto Solid C since September 2019.

Gardengate sold a total of around 20,000 main doors in 2019, and the premium segment with concealed hardware technology has grown steadily, Costa observes. His opinion of the latest entry in the Roto Door range is accordingly very positive:

**“The Roto Solid C door hinge is an innovation that precisely meets the demands of the market.”**

With all of its strengths and advantages, the concealed door hinge helps Gardengate to manufacture low-maintenance products with a high level of quality and reliability. In the experienced manager’s opinion, this forms the best basis for continuing success. “The goal we pursue with some of our best customers is clear: In three years, we should be selling at least 1,000 doors per year from the premium range.” It is not particularly important whether this growth is achieved steadily or suddenly. “We are in a position to very quickly adapt our capacity to meet high levels of demand. The same is true of Roto.”

### Impressive: Reliability, service, innovation

So, does it seem likely that the close collaboration with Roto will continue? “Absolutely,” Costa nods. “We rely on the high level of reliability provided by Roto, and we benefit from the comprehensive service in the area of logistics and above all the high level of innovation from our partner. These are valuable characteristics, particularly when venturing into new territory and focusing on growth.”

[www.gardengate.com.pt](http://www.gardengate.com.pt)

| High-quality aluminium main doors from Portugal: Gardengate has put its trust in Roto for years.

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| Daniel Costa,  
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➤ Overview of the entire Roto Door range

[www.roto-frank.com/nc/en/main-entrance-apartment-doors](http://www.roto-frank.com/nc/en/main-entrance-apartment-doors)