

Roto Inside

Issue no. 40

Roto Window and Door Technology customer and partner information



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Roto NX

Best corrosion protection thanks to Roto Sil Level 6



■ **New at Roto** A large number of window manufacturers are planning to switch their own production processes to Roto NX for 2019. By doing so, not only are they putting their faith in the global market leader's Tilt&Turn range shaping the industry once again, they are also counting on hardware with a surface quality which is as outstanding as it is unparalleled. This is because Roto Sil Level 6 is setting new benchmarks for corrosion protection and surface quality in Tilt&Turn hardware. Roto is the first manufacturer to work with a new coating technology which ensures the greatest reliability for Roto NX, even when there are high corrosion protection requirements.

From 2019 onwards, Roto NX will be supplied with Roto Sil Level 6 as standard. Hartmut Schmidt, Director of Product Innovation in the Roto Window and Door Technology Division, explains the background to this: "We would like to offer our customers the best corrosion protection they could possibly wish for. This is why we looked for a technology which makes it possible to provide a permanently durable surface, even for connection elements under high stress in Roto NX hardware. We have now found this technology. With Roto NX and Roto Sil Level 6, window manufacturers therefore offer their customers hardware that is setting new benchmarks when it comes to reliability and durability."

A new dimension of corrosion protection

Compared to the conventional surfaces of Tilt&Turn hardware on the market, Roto Sil Level 6 stands out by virtue of being extremely tough and resistant to wear. Electroplating connection elements under high stress, such as rivets and bolts, with this coating means that the groundbreaking Roto NX Tilt&Turn range not only meets the requirements of the highest corrosion class in accordance with DIN EN 1670 (class 5), it even exceeds the standard requirements of DIN EN 13126-8. Roto Sil Level 6 also offers special protection for sliding elements which are subject to increased wear.

Good made even better

Schmidt speaks of perfect symbiosis between the proven Roto Sil surface and the innovative Roto Sil Level 6 surface. "On long parts, it has been proven that Roto Sil ensures outstanding corrosion protection. But we have to realise that corrosion resistance must be ensured above all where hardware com-

ponents 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. Rust can form even in the non-visible areas of hardware, requiring time-consuming and expensive damage repair on the window. Roto therefore paid attention to these exact trouble spots." Roto NX is therefore innovative when it comes to the surface too, as Roto Sil Level 6 is once again reducing the risks associated with corrosion for window manufacturers. "It has been proven that, thanks to Roto Sil Level 6, Roto NX Tilt&Turn hardware is much less sensitive to scratches and surface damage than hardware from other manufacturers," according to Schmidt. "With Roto Sil Level 6, Roto is again making what is good even better."

Always the right decision

The new surface was presented for the first time at the Roto Trade Press Day on 14th November. Schmidt reminded attendees at this event that Roto already provides a ten-year performance warranty for all Roto NX components, which is possible thanks to the high corrosion resistance. The company will once again fulfil its role of technological leader with Roto Sil Level 6, which surpasses the requirements of DIN EN 13126-8 in helping to prevent corrosion around rivets, bolts and sliding elements which are subject to stress. Schmidt is certain that "all window manufacturers who change over to Roto NX are choosing a future-proof hardware product range in all respects. Thanks to Roto Sil Level 6, Roto NX is also setting new standards of efficiency, security, comfort and design. This means that Roto NX is always the right decision."

Surface design of a connection element



- 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.



➤ All you need to know about Roto Sil Level 6:

roto-nx.com/en

In conversation



| An interview with the Chairman of the Board of Directors at Roto Frank AG, Dr Eckhard Keill

Roto Inside: Dr Keill, in 39 issues of Roto Inside we have spoken at this point about movements in the international markets and your thoughts on this. Perhaps today we should talk about you personally, since from 1st January 2019, you will be devoting yourself to a new role.

Dr Keill: That's not entirely correct. On 1st January, the organisational structure of the Roto Frank Group will firstly be re-arranged. In the course of this process, my role will then also change. But that is perhaps the least interesting thing about this process.

Roto Inside: In recent days, there have been reports in the press about three largely independent groups and the founding of a holding company. What provoked these changes and how would you summarise them in a few words?

Dr Keill: For many years, Roto has been working on restructuring the organisation in order to lay the foundations for maximum focus on customers. In our opinion, lean organisations that do not get bogged down in complexity are best placed to focus their work on their customers. This is why Roto has started to establish a process organisation. In the second step, we are giving more responsibility to the business units previously known as divisions because, as is well known, they are committed to serving different customer groups. The impetus for this second crucial step in the organisational development was provided when the third division began to be set up, or to put it better in the more up-to-date terminology, when Roto Professional

Service GmbH was set up. The companies in this organisation are dedicated to a target group that is new for Roto, namely end consumers. It therefore makes sense to be active within the Roto Frank Group with three largely autonomous groups in future, each of which serves different customer groups.

The newly founded holding company, for which I will serve on the Board of Directors, will then be responsible for tasks such as the entire strategic corporate development, the corporate design, the corporate identity and corporate communications, as well as the patent and legal system.

Roto Inside: Will the customers of the three divisions / groups retain their usual contacts?

Dr Keill: Not just that. They will continue to benefit from a high-quality range of products and services. Roto has relocated just a few non-operational roles in the holding company. In future, what customers will notice is that their supplier, Roto, is continuously increasing its focus on their needs.

The major divisions, which have existed for a long time now, with the brands of Roto and Deventer as well as Roto and Columbus will continue their business activities without any changes. Only the legal form and the company name of the Roof Window Division are changing, as this company withdrew from the market for solar modules some years ago. The company name has been changed to reflect this. Roto Professional Service GmbH, referred to within the company as "the third Roto division", is a recently established group, with the foundations being laid for it in 2017 and 2018 by the acquisition of Wollenberg and Keller. This division is set to grow in the next few years and provide services relating to windows and doors in coordination with window and door manufacturers who use Roto hardware technology.

Roto Inside: From Chairman of the Board of Directors at Roto Frank AG to the Board of Directors of Roto Frank Holding AG – permit me a second attempt: what does this mean for you personally?

Dr Keill: In my new role, I will be taking care of the tasks outlined above with a small team of employees – this will be my

only duty, which will allow me to work intensively. I think it is an extremely appealing prospect to be able to continue working on the strategy and plan for the development of the group, putting my over 13 years of operational responsibility at Roto Frank AG to good use, without having to bear responsibility for operational requirements at the same time.

Roto Inside: In future, how will the management responsibilities in the Window and Door Technology Group be defined?

Dr Keill: A new Chairman of the Board of Directors will be appointed and the process managers and directors will report to this person. I will cover this position alongside my other responsibilities until the role is filled. It also holds true here that all countries, markets and customers will continue to be handled by managers who have been in their roles for years. The only difference is that these managers will soon have a new supervisor. Michael Stangier will remain responsible for finances.

Roto Inside: This all sounds as though maximum continuity is being ensured ...

Dr Keill: In fact, I can't imagine any situation which would be better suited to retaining expertise in the company and developing the stability and viability of the Roto Group. You've already asked me twice now if we can perhaps talk about me personally today. Perhaps you can give me a few personal words?

I can look back on fantastic years of working as part of a strong team. Together, we have made great leaps in developing Roto and I feel connected to Roto in a special way. I know that all three groups are well placed and bright minds in these groups are in charge of the company's future. I am extremely grateful for the opportunity I now have to devote myself to strategy and growth in particular. That is an exciting task. From 2019 onwards, there will be four units at Roto, which will be able to dedicate their focus to their customers and special tasks. I expect that this will pave the way for Roto's continued successful development. The international trade press, who we notified a few days ago, will therefore have just as much to report on as you. The Roto groups will continue to create momentum on the market while focussing on the needs of each of their customers. I am certain of this.



International exhibition

Roto Aluvision at the BAU 2019 trade fair

■ **Event BAU in Munich is one of the most important international meeting points for everyone involved in designing aluminium facades and windows. This is why for the 2019 trade fair event Roto will also be putting together a multilingual team of expert advisers who can respond to questions about property-specific hardware solutions. The Roto aluminium specialists can be found in Hall C1, Stand 319 at the trade fair from 14th to 19th January 2019.**

Close exchange with architects, facade designers and system providers characterises the work of the Roto Aluvision business area all year round. During the BAU trade fair in Munich, many threads come together. "With our discussions at BAU, we often pave the way for successful projects on the part of our customers," explains Jordi Nadal, Managing Director of Roto Aluvision Europe and Americas, to Roto Inside, "or we bring the preparations that lasted many months to a good conclusion. This is why this trade fair is extremely important to us, and thorough preparation

goes into it. In Munich, Roto aims to inspire and will leave no questions unanswered. This allows us to establish and maintain fruitful relationships with system providers, metal constructors and clients. A task which is very close to our heart."

Wide range – comprehensive service

A large product range for aluminium windows and doors and the extensive scope of services offered by the Roto Object Business make Roto a valued partner of design engineers, system providers and metal constructors.

"In Munich, if we manage to successfully convey the comprehensive advice offered by the Roto Group and how it can assist a manufacturer, in prototype construction for example, we can expect many exciting jobs to be commissioned in the months to come," reports Nadal, taking a look back at previous trade fairs. "Many visitors to the trade fair are also curious because of the fact that the Roto Group now offers an extraordinary number of quality-relevant components for aluminium windows, with its hardware, handles, locks, glazing methods and sealing profiles. Roto has a lot

to show once again at BAU 2019 – new products from the standard range as well as project-specific special solutions."



| Jordi Nadal, Managing Director of Roto Aluvision Europe and Americas

Seamless changeover

Roto NX keeps all its promises

■ **New at Roto** Only use in practice can prove whether a new hardware product range will keep the promises made by its manufacturer. Jens Graner has been using Roto NX in practical applications for some time now and spoke about his experiences with this product range. His company, Jens Graner GmbH, is among the pioneers when it comes to changing over to the new system. The company, founded in 1991, introduced Roto NX components into the production of PVC windows back in autumn 2017. "A complete success," states owner Jens Graner. "This hardware product range is innovative and impressed our team. The same can be said about the support we received from Roto."



Happy cockpit crew:
Olaf Lutze from Roto Regional Sales,
Graner Head of Production Lutz Kolbe and
Roto Application Engineer Thomas Gießler
(from left to right)

The Roto NX mechanical balcony door bullet catch enables height adjustment of up to 7 mm on the sash component.



Problem-solver: the Roto NX hinge side P with a load bearing capacity up to a sash weight of 130 kg.

Jens Graner GmbH has been using Roto NT in its PVC window production since the turn of the millennium. For this reason, and due to the impressively good support received from Roto "in normal operations", he and his management team agreed to the proposal of beginning to change over to Roto NX even before the official market launch in 2017.

"Every new launch is preceded by intensive tests on new products as well as tests on the changeover processes in window production," explains Andreas Eilmes, an experienced member of the product adaptation and range marketing team. He supervised the changeover process at Jens Graner GmbH. "We want to ensure that a product range such as Roto NX can become widely adopted and that the changeover process can be customised for every window manufacturer around the world, while remaining as simple and fast as possible. Each changeover process is slightly different for the simple reason that each window manufacturer has their own way of working, but Roto does everything in its power to prepare its teams of advisers as best as it can before sending them to the customer. Experience is a valuable asset here."

Start after just three months

Lutz Kolbe, Head of Production at Jens Graner GmbH, recalls: "Roto presented the product concept to us in July 2017 and showed us sample parts which impressed us." This was followed by preparations for initial assembly, data provision and on-time initial delivery for trial production up to October. Weekly consultations designed for direct communication ensured seamless changeover as well as tailored support from Roto. Employees of Jens Graner GmbH were trained and the start of production was supervised and monitored for a whole week.

"The Roto design engineers that were present constantly posed critical questions to find out whether and how the changeover could be made even quicker and easier," noted Kolbe. "But if you're already using the Roto NT modular system, then taking the step towards Roto NX is possible without any hassle." Jens Graner GmbH uses the Roto NX hinge side P for PVC windows with a sash weight of up to 130 kg, the Roto NX balcony door bullet catch, the Roto NX high backset espagnolette with EasyMix system and the Roto NX lifting mishandling device. Lutz Kolbe's conclusion: "Roto NX keeps all its promises."

Roto NX components impress

"All components allow for outstanding processing," emphasises the experienced Head of Production, "and the number of different components required in production involving many variants has been considerably reduced. The number of common parts has increased. In this respect, we can confirm that as a manufacturer, switching to Roto NX will take the load off in-house production logistics, produce more variants on the same line in less time and will simply result in greater efficiency overall."

Businessman Jens Graner is also convinced that this will be more efficient for customers, too. His around 40 employees specialise in handling major projects. His company is having to produce Tilt&Turn windows and balcony

doors with high sash weights for an increasing number of orders. "This is why the hinge side P is a component of great relevance to us. Our production line is now able to handle elements up to 130 kg with ease."

Well equipped for the future

He is certain that the demand for Roto NX components designed specifically for more security and comfort will increase in future. The innovative new vertical tilting concept and the "TiltSafe" components are currently being incorporated into Graner's production process. Kolbe sums up by stating that, in his opinion, the demand for an innovative Tilt&Turn hardware system "shaping the industry once again" has been well and truly met by Roto NX.

And the service quality during the changeover period? Graner states that he is extremely happy with this. Andreas Eilmes underlines: "It goes without saying that pioneers like Jens Graner receive intensive support from many Roto specialists for a long time. We wanted to put the changeover process to the test. But, in general, we support every manufacturer when beginning to work with Roto NX, from the design process to the start of production. This involves closely analysing and taking account of the individual characteristics of every manufacturer and their production processes. Roto can be relied on when it comes to the changeover process. That's a promise."

"The number of common parts has increased. In this respect, we can confirm that switching to Roto NX will take the load off in-house production logistics and will simply make companies more efficient overall."

| Lutz Kolbe, Head of Production at Jens Graner GmbH



Everything you need to know about Roto NX:

roto-nx.com/en

Roto Kalsdorf factory

Great production depth – optimised processes

■ **Event** Over 50 journalists from 17 different countries visited Kalsdorf, Austria, for the Roto Trade Press Day on 13th and 14th November. During their visit there, they saw for themselves the factory with the greatest production depth in Roto's production network. "Needless to say, Roto's other factories also machine steel and carry out final assembly of many components from Roto's range. But in addition, we also have our own PVC Injection Moulding department, a Zinc Die-Cast Production department, an Electroplating department and a brand-new powder coating system," explains Alois Lechner by way of introduction. He has been working at Roto for 45 years, becoming Managing Director of Roto Frank Austria GmbH in 2006.

| Common parts and large series are manufactured in an extremely efficient semi-automatic process in lock production. As before, the smallest series are produced the most efficient way – manually.



"This special attribute plays a key part in ensuring short delivery times, which benefit Roto's customers across the whole of Europe." Roto Inside accompanied Christian Lazarevic, Head of Production and designated successor to Alois Lechner, together with the press representatives, on a factory tour. More than 80% of all components for a Roto Door hinge side or a Roto Door lock are produced by the factory in Kalsdorf. A brief glance at the statistics reveals that, despite extremely low stock levels, virtually 100% of all orders received are ready for shipping within just five working days. This is testimony to an optimised production process and excellent performance "behind the scenes".

Greater flexibility thanks to in-house tool construction

When asked, Lazarevic confirmed that Roto's Tool Construction department certainly contributes a great deal towards constantly maintaining the production quality of all systems and keeping the response time commendably short, even with extremely small quantities. "We are able to provide or rework tools faster than any other supplier because of the close interaction between the machine operators and their colleagues. Here there is

no such thing as 'Yes, but...'. Everyone pulls together and focuses on two things: the quality and the customer."

Setting new benchmarks

High quality, including in terms of finish, is ensured by a modern, in-house electroplating system and a new, recently commissioned powder coating system. "We are proud of both these things because these systems take us one step closer to achieving our aim of making our production processes environmentally friendly and resource-efficient," explains Lazarevic. Since 2017, Roto's Kalsdorf factory has been involved in a pilot study carried out by the Austrian Research Institute for Sustainable Technologies, AEE Intec. Can the combined force of industrial waste heat and solar power increase the resource efficiency of electroplating processes? Roto's Kalsdorf factory is working together with researchers to find an answer to this question. "We are also proud of our electroplating system because it makes us a leader when it comes to surface quality and corrosion protection."

| Multitalented powder coating system: this system coats components made from steel, zinc die-cast, aluminium and other metallic base materials (image on the right).



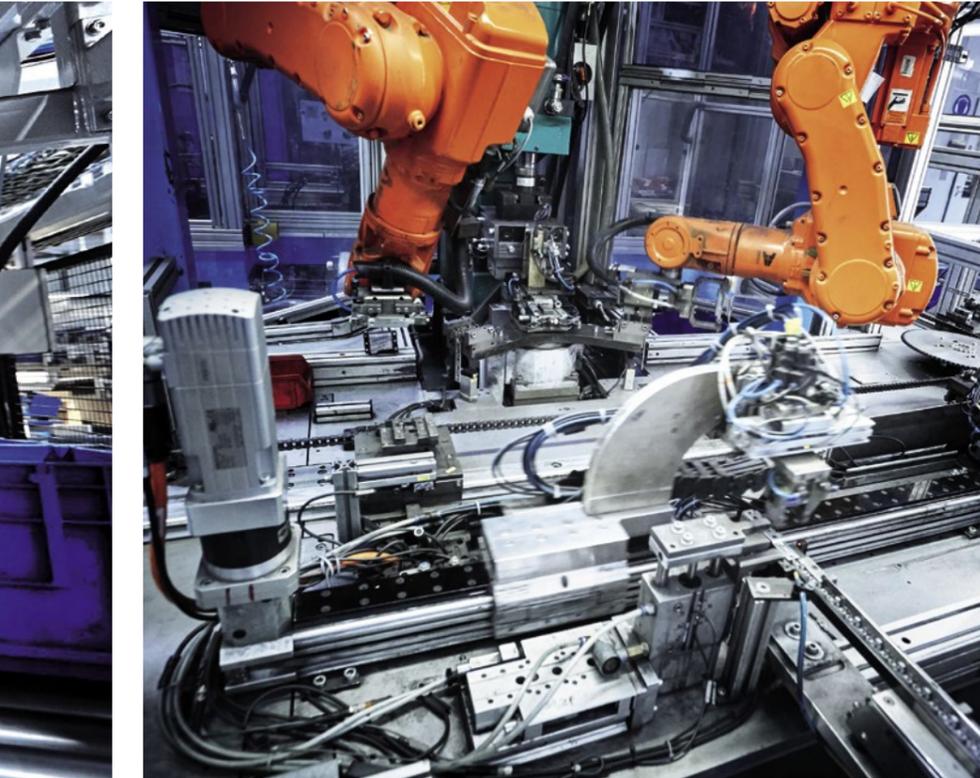
| The Tool Construction department in Kalsdorf manufactures all tools for zinc die-cast and PVC injection moulding production. The set-up times in production have once again been significantly reduced thanks to the founding of the Roto technical centre. The objective of this new competence centre is to develop tools which are even quicker to retrofit than previous generations.



| Modular tool systems for long parts in steel machining also increase flexibility. Just one tool set and a little conversion work are all that is required to produce several different variants of floating mullion parts. Progressive tools, which are produced from several modules in the external set-up process, are also proving their strengths.

The fully automatic production of Tilt&Turn hinge sides is by far the most automated production process in Kalsdorf. The components, which are assembled fully automatically to produce a finished part here, come directly from zinc die-cast production, PVC injection moulding and steel machining.

Roto zinc die-cast in the Kalsdorf factory: a new generation of systems and tools have managed to half set-up times and significantly reduce lead times, especially in small-scale production.



Rack goods and bulk goods made from steel and zinc are electroplated in the Electroplating department. The process is controlled with such precision that there is no interim storage before or after electroplating.

Roto relies on laser punching technology both in the fabrication of products for special customer requirements and in the creation of prototypes. The laser adopts the component data directly from the design software.

Christian Lazarevic (left) has been Head of Production at the Kalsdorf factory since 2015. On 1st January 2019, he will succeed Alois Lechner (right) as Managing Director of Roto Frank Austria GmbH. Lechner is going into retirement, leaving the company after 45 years of service.

Traditionally open to new ideas

Lazarevic is of the opinion that Adolf Finze would certainly also have been pleased by equipment such as that visited by the press. In 1868, the inventor founded a wire nail factory which he relocated to Kalsdorf in 1893, laying the foundations for Roto Frank Austria GmbH. On 28th September, anniversary celebrations were enjoyed by staff and their families to mark the “birth” of Roto Frank Austria GmbH. “Even though we spoke about more than 150 years of history on this day, the only thing that is historical here in Kalsdorf are the buildings. Our systems and machines are among the most modern in Roto’s production network. Roto has never yet experienced technological stagnation.”

Two competence centres at one site

Roto Frank Austria – nowadays, this name not only stands for the factory with the greatest

production depth in the Roto production network, but also for the “Roto Door” range. From the design to the finished product, most of the hardware technology required for main doors is produced in Kalsdorf. “The fact that such an important product development centre operates successfully at the site has a lot to do with our ability to produce prototypes extremely quickly with our tool constructors, our in-house Mould Construction department and the latest systems technology,” explains Lazarevic. “The almost 400 employees at the site appreciate the variety of tasks and opportunities which are offered to every single one of them.”

Modern tool technology from Roto’s technical centre

To enable Roto to meet customer requirements for an increasing range of variants and, as a result, smaller order quantities of individual parts, specialists from tool technology and

production process control were brought together in Roto’s technical centre in Kalsdorf. “Here we have created another competence centre, if you like, whose work benefits many of Roto’s customers. The specialist staff there bear joint responsibility for keeping the lead times for orders as short as possible at Roto.” Integrating fully and semi-automatic machines in the production of locks and main door hinges has made it possible to once again significantly increase the factory’s productivity. “By using the latest modular system technology, we are aiming to utilise all possibilities for further increasing Roto’s flexibility,” explained Alois Lechner to the visitors after their tour through the production area. “Flexibility while ensuring consistent quality at all times – this has already come to characterise Roto around the world. And so it should remain, especially when customer requirements continue to increase.”



More than 100 different coloured powders can be used in the new powder coating system. Extremely small series are coated manually in a separate booth.

Government funding €65 million for investments in burglary protection

■ Homeowners who would like to better protect their windows and doors and retrofit them with certified security components continue to be supported by the government in Germany. The government has granted cheap loans again in 2018 which are intended to pay for this type of retrofitting work.

This year, a loan amounting to €65 million in total was provided, €15 million more than the previous year. The funding is set to be continued in 2019 as well.

Dr Ingrid Hengster, Member of the Board of Directors of the KfW Bank Group, which manages the provided funds and grants loans on behalf of the government, speaks of a "high demand for KfW grant funding" and "major relevance" of government funding for improved structural burglary protection.

Homeowners who would like to make their house more secure and carry out the necessary conversions as they age can also access loans from a second funding programme, for example for installing electronic aids on windows, roller shutters and doors. In 2018, the KfW had €75 million at its disposal for providing loans for conversions aiming to create accessible housing for senior citizens.

Source: www.kfw.de/KfW-Konzern/Newsroom/Aktuelles/Pressemitteilungen-Details_482624.html



| Karim Bouzrara, owner of BVS: "Our stock levels are an essential component in our success. This is because, after a break-in, we must move quickly to secure a house again. We grab the parts we need from our shelves and get going."

Retrofitting and refurbishing

Expertise is called for

■ **Aluminium** The desire of many homeowners for increased burglary protection gave a boost to a market segment that was previously growing without being noticed: the retrofitting and refurbishment service for windows and doors. Roto Inside spoke with Karim Bouzrara, owner of BVS Bouzrara Verschluss- & Sicherheitstechnik from Langenfeld, who has been solely dedicated to the retrofitting and refurbishment of building elements for 30 years. Matthias Nagat, Head of Aluvision Range Marketing and Product Adaptation at Roto, also took part in this discussion. He has been collaborating with specialists, such as the company from Langenfeld, for almost two decades.

Roto Inside: Mr Bouzrara, nowadays many homeowners desire increased burglary protection. What advice would you give them?

Bouzrara: In fact, it is usually not until a break-in actually occurs that the people affected and their neighbours invest in burglary protection. For this reason, we recommend retrofitting windows and balcony doors with durable hardware technology in the rebate, especially with a sufficient number of mushroom cams. All professionals know that locks and deadbolts screwed onto the sash and frame profile cause problems in the long run and have little to do with comfort and absolutely nothing to do with good design. For years now, we have been providing RC 2 or RC 3 security for retrofitting in the rebate for PVC, timber and aluminium windows. We have been able to save on advertising expenses for a long time now because happy customers are constantly recommending us to other people. Our most important advertising medium is our precise work.

Roto Inside: At present, are your ten fitters solely charged with retrofitting burglar inhibiting hardware?

Bouzrara: No. We also take care of refurbishing aluminium windows. In many buildings, inadequate maintenance and care will cause the windows to malfunction at some point. Everyone has their car serviced but very few people invest in maintenance for windows. Despite this, high-quality windows can be overhauled. Expensive window replacement can be avoided thanks to much cheaper hardware refurbishment and the installation of new gaskets. Class RC 2 and RC 3 burglary protection is also achieved in this type of refurbishment through installation of the plug-in Roto security cams from the Roto AL system.

Roto Inside: How can the customer tell that they have a trustworthy refurbishment professional in front of them?

Bouzrara: From the expert advice they give and their working methods. This is a business for people who are extremely precise and use qualified personnel. We are familiar with all hardware and we are usually able to tell from an initial inspection which hardware system and installation costs will achieve an impressive outcome during refurbishment. When things get tricky, we work together with our suppliers to find a solution. We offer the ideal response for everyone who demands security and comfort from windows and external doors.

Roto Inside: Mr Nagat, how complicated do things become when BVS cannot find the perfect refurbishment solution itself?

Nagat: Mr Bouzrara's team is made up of experts. They leave few questions unanswered. But if BVS cannot find a solution by itself, Roto may well have developed this kind of solution for refurbishment over recent years. If the entire hardware in the window needs to be replaced, we develop a configuration for a property which elevates old windows virtually to the level of security and comfort of new windows. In the case of aluminium windows, this solution is based on Roto AL or on Roto AL Designo concealed hardware where high demands are made of the design. BVS is so versed in this process that hardware is replaced straight away on site while operations are ongoing. This really excites many customers and elevates the image of the window industry in our opinion. People who invest in high-quality windows and have them maintained on a regular basis can count on retrofitting or thorough restoration to be possible even after 20 years.

Roto Inside: Are you expecting that service requirements will continue to increase?

Nagat: Absolutely. It goes without saying that the industry wants to sell new windows, but you have to accept the fact that, to be honest, complete replacement makes the most sense when the windows are very poorly insulated and the facade has to be redesigned anyway. In many small refurbishment projects, which merely involve restoring safe and convenient operation of windows or retrofitting burglar inhibiting components, specialists such as Karim Bouzrara and his employees are sought after.

Bouzrara: Yes, businesses like ours are in demand. But sophisticated hardware systems are equally important. Roto AL and Roto AL Designo are designed in such a way that we can retrofit plug-in mushroom cams in the connecting rod with great simplicity. The same applied to Roto ALU 400i hardware, which is now no longer available. If I come across a window with this product range installed, I can offer inexpensive retrofitting because it can be carried out in next to no time. When we fully replace hardware on an aluminium window and Roto AL is compatible with the profile system, we particularly like to install this product range because we have been completely won over by its quality. If refurbishment is necessary, then it must be done correctly and with high-quality hardware.

| Matthias Nagat, Head of Range Marketing and Product Adaptation for Roto Aluvision, is convinced: "A growing number of specialists like Karim Bouzrara and his staff will be needed."

| Mobile workshop: "We don't take any sashes away with us. Retrofitting and conversion take place on site. Fast and often enough during ongoing operations in offices, hotels or hospitals."





Around 2000 windows were refurbished in this office and hotel complex.



Equipped with hardware from the Roto ALU 100 system (in the above image) in 1989, the windows are now being refurbished with sets from the Roto AL range. The largest Turn-Only sashes are approximately 1495 mm wide and 1768 mm tall. Each of these sashes weighs around 110 kg. The majority of the refurbished sashes are approximately 803 mm wide and 1768 mm tall with a weight of around 70 kg.



The hinges of the Roto ALU 100, installed in 1989, have different dimensions to the hinges from the Roto AL hardware system used for the refurbishment. This is why the overlap needed to be routed on some sashes to allow them to be turned and positioned cleanly.

Hardware refurbishment with Roto AL

For a long window service life

■ **Aluminium DO Deutsche Office AG rents out almost 34,000 square metres of its “Business In-West” office and hotel complex in Ratingen, Germany. It relies on good service and robust maintenance in order to offer the tenants a premium property with a great deal of comfort and security in the long term. The around 2000 aluminium windows in the buildings were extensively overhauled after almost 30 years.**

As is the case in many buildings from the 1980s, the windows as a component were still in good working order. The Roto adviser that was consulted believes that, with new hardware and a new gasket between the profile and glass, they will continue to function reliably for another 25 years, without compromising on comfort and security.

Roto AL is replacing Roto ALU 100

Roto AL quickly proved to be an impressive and efficient hardware alternative to Roto ALU 100, which is no longer available. The window manufacturer used this hardware. A positive side effect of hardware refurbishment is that nowadays all windows are suitably protected against incorrect operation thanks to the TiltFirst technology. The tenants in the office space and guests to the hotel are able to tilt the window sashes but cannot turn them open fully.

Old replaced with new in one and a half hours

The steps involved in refurbishment work became established quickly. Neither office work nor the running of the hotel were affected in any significant way. Dismantling of the window sashes and transport to the on-site workshop, installation of a temporary window, cleaning of the sash and frame profiles, replacement of the hardware and reinstallation of the sashes – after just a short time, the team from installation company Franz Brauer, based in Rheinberg, Germany, needed no more than one and a half

hours per window for all the work required. The hardware replacement itself took virtually no time at all.

Removing the old hardware only took five minutes per window. Cleaning proved more time-consuming and complex, especially when it came to the groove base, as it had to be performed manually and with the utmost diligence.

Tilt-Before-Turn opening with Roto AL TiltFirst

Roto AL in the TiltFirst opening version (Tilt-Before-Turn opening) has ensured safe and convenient handling of the windows since the refurbishment. The following components were used from the product range:

- The hinge side for sashes up to 130 kg,
- Tilt-Before-Turn locking components with integrated mishandling device on the top corner drive,
- Tilt-Before-Turn geared-handle, lockable,
- Tilt-Before-Turn scissor stay and
- A number of locking points adapted to the sash dimensions.

A Tilt-Before-Turn additional stay arm was also fitted to the top of the large elements. This must be used from sash widths of 1300 mm and above.



Since the conversion, all windows have been protected against incorrect operation thanks to the TiltFirst technology. The bronze-coloured handles with lockable olive button are a custom-made design to match the brown-painted aluminium window profiles.



➤ **More information about the TiltFirst window handle version:**

www.roto-frank.com/en/roto-line/technology



Roto NT rebate corner hinge E5 for timber windows

Tough steel core

■ **Timber** Timber windows for public buildings should be just as durable and should function just as reliably as windows in detached houses. These properties are sought after by buyers and sellers alike. Roto is now helping window manufacturers meet this demand with the new Roto NT rebate corner hinge E5. This steel rebate corner hinge significantly improves the resistance of a timber window to even extreme mechanical stress. The functional safety of the serviced window is maintained for many years.

Wherever there is concern that an open window sash may be pushed open beyond the usual opening angle, either carelessly or on purpose, despite regular maintenance, premature wear of the hardware may occur and, in the long term, cracks may form in the rebate corner hinges. Roto NT users can virtually eliminate this risk in future by equipping the relevant sashes with the new Roto NT rebate corner hinge E5. This features the same geometry as the standard version and can therefore simply replace the normal rebate corner hinge for the critical windows of an order. Depending on the installation conditions, the robust buffer effect of the Roto NT rebate corner hinge E5 can be further increased through being used in combination with the Roto turn restrictor 355 with final position damping and spring-loaded stop.

Robust hardware plus reliable maintenance

Durability tests have proven that the resistance of a Turn-Only or Tilt&Turn sash can be considerably increased once again by using the Roto NT rebate corner hinge E5. This is good news for all those who want to provide a supply of fresh air by opening windows – several times a day – in public rooms such as classrooms, hotel rooms and offices.

Open, close, tilt, open, close – a timber window that is installed in a building that is open to the public and used by various different users benefits from particularly robust hardware equipment, which is where the Roto NT rebate corner hinge E5 comes into play. Nevertheless, in future it will also hold true that timber windows and balcony doors under high loads should be checked at least once a year, with this interval even being reduced to every six months in schools and hotels. This allows signs of wear to be detected in good time and any risks associated with this wear to be eliminated by replacing the components affected.



➤ **More information about hinge sides for timber, PVC and aluminium windows:**

www.roto-frank.com/en/roto-nt/hinge-sides

GlassBuild America 2018

The best of two continents

■ **Event** More than 8600 companies from the building element industry got together from 12th to 14th September at GlassBuild America in Las Vegas, Nevada. Roto North America also exhibited at and sponsored this major trade fair. Widely acclaimed: the Roto Patio Inowa tightly sealed sliding system with its locking mechanism, which is still largely unknown in America, and the compatible components from Roto's modular system.

Many visitors to the trade fair recognised the enormous potential of the Roto Patio Inowa system for their customers: concealed hardware technology, simple and convenient operation and hurricane-proof. A visitor to the trade fair described the system as offering "first-class scorpion defence" thanks to its circumferential gasket. Roto Patio Inowa was exhibited at Roto North America's trade fair stand in an aluminium window from Columbian manufacturer ESWINDOWS as well as in the "Smartslide Inowa" system by the manufacturer Chelsea Building Products from Pittsburgh. This company therefore demonstrated an attractive solution for smaller manufacturers who do not extrude their own profiles.

Growing interest in sliding systems

In North America, European sliding systems have not yet become widely established, explains Jürgen Schairer in an interview with Roto Inside. He is responsible for the technical application of European Roto hardware systems for the American market. However, interest in these systems has been on the rise for some time now. For 2019, Roto expects that the demand for sliding windows will skyrocket among established American system providers and that many manufacturer-specific sliding systems will be launched. "This makes Roto an extremely sought-after partner for development and dialogue at present. The Roto Patio range, with its innovative sliding hardware for all profile materials, is not only attracting a great deal of attention at trade fairs."

Attractive new developments

Drawing visitors to Roto Frank of America's stand at the trade fair were the new door handles for larger sliding systems, reports Chris Dimou, President and CEO of Roto Frank of America. "In Las Vegas, we saw for ourselves how Roto, as a globally active company, finds solutions that are perfectly tailored to the requirements of window manufacturers on the American continent. One example of this is Roto's products for increasingly



larger and heavier window sashes. Today, Roto Frank of America already offers hardware solutions that many American manufacturers will urgently demand soon."

America meets Europe

Fabricators of Roto hardware technology on the North American continent, such as Canadian manufacturer Cascadia Windows & Doors, are already benefiting from the international nature of Roto's development work. One example of this is a Cascadia window, which combines components from Roto's X-Drive hardware system for outward opening windows, espagnolette with lock and concealed hinges.

Hardware technology for heavy sashes

"Nowadays, Roto Frank of America offers various solutions which combine components from America and Europe whose designs have been tried and tested. Our customers value these solutions thanks to the high quality of the materials used, their above-average corrosion protection and their tested functional reliability but also due to their elegant design. For example, outward opening windows up to a sash weight of 150 kg can be manufactured on the basis of Roto's modular hardware system," explains Dimou. "This is excellent news for all manufacturers who want to offer their customers windows in large formats and with heavy glass."



| Chris Dimou, CEO, Roto Frank of America, Inc.



| Jürgen Schairer, Application Manager, Roto Frank of America, Inc.



After the around 3000 athletes and their companions departed, the apartments in the Olympic Village, Buenos Aires, began to be sold off.

Turning, tilting, sliding, outward opening – all elements are operated using window handles with the Roto Line design.



In 2018, iWin SA supplied around 3000 building elements for the Olympic Village in Buenos Aires.



iWin SA, Argentina

Impressing with Roto Line and Roto FS Kempton

New at Roto The 3rd Summer Youth Olympic Games were held from 6th to 18th October 2018 in Buenos Aires. More than 3000 young athletes from 206 countries competed for medals in around 200 competitions and 28 sports. They were accommodated in a newly constructed Olympic Village. Now that the athletes have left, the apartments built there are providing modern housing near the centre of the Argentinian capital. Window manufacturer iWin – also based in Buenos Aires – impressed the design office in charge with an attractive design for windows and fixed glazings. Friction scissor stays from the Roto FS Kempton product range and a window handle recently developed by Roto play a significant role in this regard.

An approximately 100-hectare site, featuring many major access roads and easy to reach by public transport, is located in the heart of Buenos Aires. In addition to the Olympic Village, this is where many new homes and commercial properties are to be constructed and attractive green spaces created in the next few years. In the medium term, the aim is to create a modern new district around the Olympic Village.

Santiago David L'Abbate is pleased that iWin, the company founded by his father in 2013, which he now manages jointly with his brothers, was awarded an attractive contract right at the start of this city development project: "The team of architects from Criba SA developed the buildings for the Olympic Village and, with our offer for around 3000 PVC windows, we were able to really impress. However, criticism was levelled at the window handle we initially proposed for the outward opening windows."

Attractive handle design for all windows

Help came promptly, and from Roto. Roto's team at Fermax in South America made it its top priority to press ahead with an application of the Roto Line MK2 Cockspur window handle for outward opening windows, tailored to the PVC profiles used by iWin. As a result, iWin was able to achieve a cohesive and harmonious handle design for all window types with models from the Roto Line design range. Architects CRIBA SA were convinced and iWin was awarded the contract. Around 840 sliding systems with Roto Inline hardware and 900 fixed glazing elements were manufactured. 90 Turn-Only windows and 180 Tilt-Only windows were equipped with Roto NT, 990 outward opening windows with Roto FS Kempton and all elements with Roto Line window handles.

L'Abbate explains the significance of this contract by stating that "previously, we were able to manufacture approximately 3500 elements per month with our 80 employees working in two shifts. So almost a whole month of work went into the elements for the Olympic Village. This is why we are truly grateful to Roto for responding to our request promptly. And we will now always have the new handle in stock, as outward opening windows make up around five percent of our total production."

Robust with intuitive operation

The window professional thinks it is beyond question that the quality of the new Roto Line MK2 Cockspur handle is impressive. The quality of the new addition to Roto's range is equivalent in every aspect to that of Roto Line handles already used by iWin for Sliding systems and Tilt&Turn windows, and the handle also proves just as reliable and safe to use. The many young guests from a number of different countries and cultural backgrounds obviously found opening all window types simple, states L'Abbate. During the Olympic Games and the weeks that followed, there were no malfunctions that necessitated a service call from iWin.

New contracts thanks to high quality and Roto's support

Anyone who proves themselves in a project of such importance for Buenos Aires must surely be able to count on being awarded subsequent contracts, don't you think? L'Abbate smiles: "We really hope that will be the case. However, we are currently working on increasing our production capacity to up to 6000 elements per month, if possible, by 2019 – also with the support of Roto. Since iWin was founded in 2013, we have been given with many opportunities, which we seized. As a family-run company, we are perhaps particularly flexible and high-performing. In any case, my father, my brothers and I will do everything we can to continue on the path we have begun so successfully with Roto."

Roto Line MK2 Cockspur window handle

The Roto Line MK2 Cockspur powder-coated window handle for outward opening windows is tested in continuous operation with 10,000 cycles in accordance with DIN EN 13126-2. It complies with corrosion class 5 in accordance with DIN 1670. The modular design of the frame components allows for multiple overlap heights. Thanks to its two screw axes, this window handle is also suitable for retrofitting to windows that have already been installed.



Roto Line is one of Roto's three ranges of handle designs. The harmonious line layout, combined with high-quality components, ensures convenient handle operation.

Roto Line handles are compatible with:

- Turn-Only / Tilt&Turn windows and doors,
- Tilt&Slide / Lift&Slide and Fold&Slide systems in special designs,
- Outward opening windows in cranked and non-cranked designs and
- timber, PVC and aluminium frame materials.

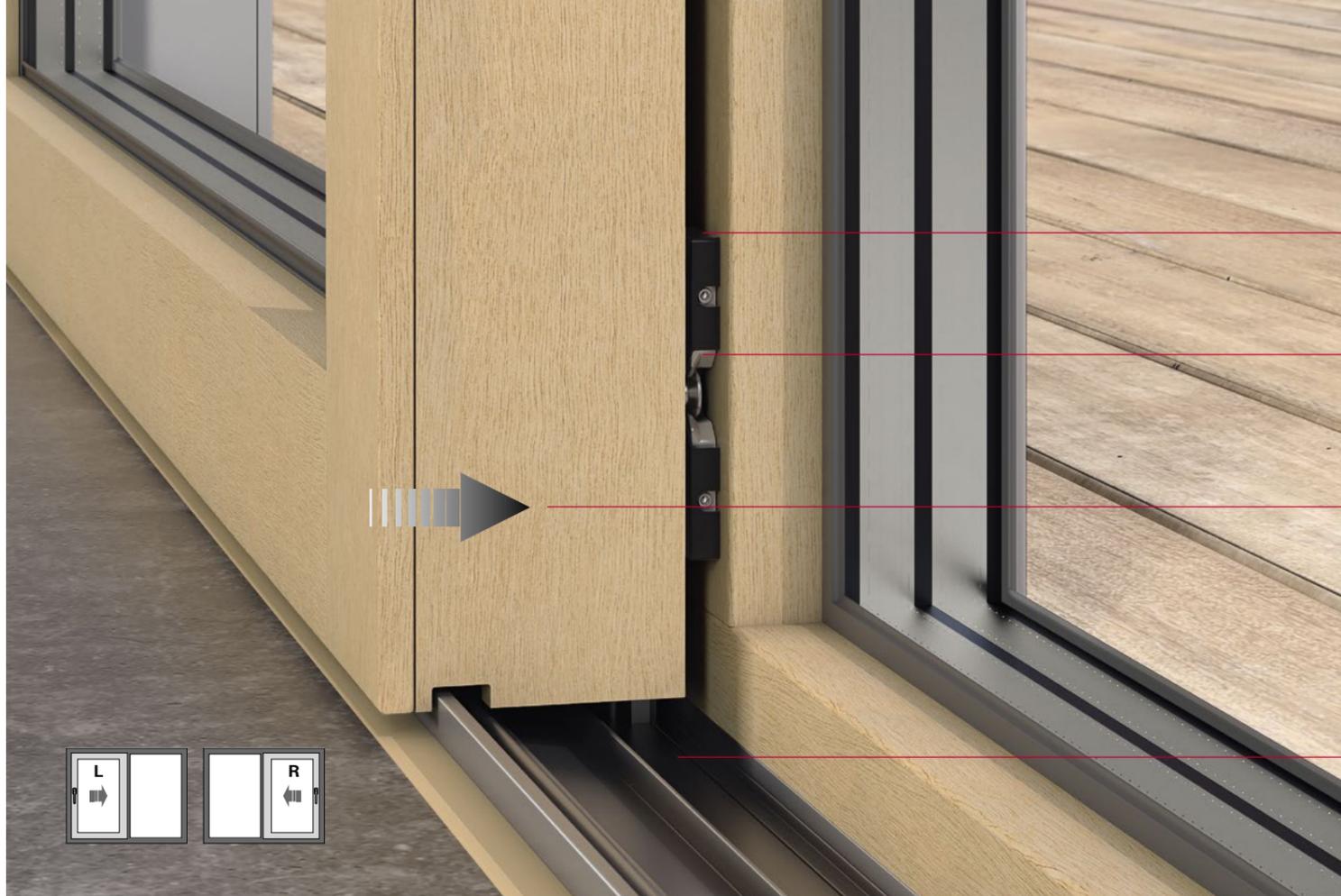


Santiago L'Abbate is working together with his brothers Emanuel and Juan to develop iWin, the company founded by their father, into one of Argentina's largest manufacturers of high-quality PVC windows.



➤ **Roto window handles – visible highlight of windows:**

www.roto-frank.com/en/handles



Circumferential gasket

Active locking points including in the mullion

Innovative closing movement perpendicular to the frame profile

Accessible in accordance with DIN 18040 thanks to the enhanced threshold

Technological partnership for Roto Patio Inowa

Good feedback for industrial cooperation from initial user

■ **Timber** Collaboration between Gutmann, Leitz, Roto, Deventer and Homag is making it easier for manufacturers of timber-aluminium windows and doors to start producing tightly sealed sliding systems up to a sash weight of 250 kg. The tightly sealed solution with Patio Inowa for sliding windows and doors, which is ready for immediate use, is based on intensive technical coordination between these manufacturers. The specialists from window construction company Erich Schillinger contributed their expertise for efficient implementation in production. Roto Inside spoke to Managing Director Wilhelm Schillinger, who took a look back on the successful start of pilot series production in July.

"I was won over by the fact that the gasket, hardware, profile, threshold, aluminium casing and routing unit required for production have been precisely coordinated by the five manufacturers," recalled Schillinger when we first spoke in 2017. "I was therefore willing to produce an exhibit for the 'Fensterbau Frontale' 2018 trade fair and to be the first company to get ready to put it into series production." In his opinion, manufacturers of timber windows can actually begin producing and marketing Inowa sliding systems in next to no time if they have access to the components and tools of the cooperating industry through Roto sales.

The better alternative

"The components provided enable systems to be produced with a sash width of up to 1500 mm and a sash height of up to 2500 mm. The maximum frame external width is 3000 mm for Diagram A and the frame external height is 2600 mm," outlines Schillinger. "We therefore cover a large part of the demand for sliding systems. And all this with a superior product. For me, it is quite clear that Patio Inowa is the better alternative to standard Lift&Slide systems. If particularly large and heavy sashes weighing between 250 and 400 kg are required, then we still use Roto Patio Life."

Tightly sealed, even under high stress

And what benefit does the Patio Inowa system offer builders? "The precise coordination of the individual components enabled even tighter sealing to be achieved, even though the closing pressure was reduced to the benefit of convenient operation," explains Schillinger. "The innovative closing movement of the hardware perpendicular to the frame profile makes this special technical feature possible and also means that the sash no longer needs to be lifted. All locking points, including those in the mullion, are actuated actively." Smooth-running rollers result in practically effortless, silent and frictionless

opening, sliding and closing of the elements. The concealed hardware technology also makes it possible for slimline timber profiles to be produced. The system's enhanced threshold enables accessibility in accordance with DIN 18040.

Decide today – start production tomorrow

The test certificates that are required for approval of a Patio Inowa sliding system are available, adds Aleksander Vukovic, who is in charge of the cooperation project for Roto. The hardware has been available since November 2018. The provision of the required tools and components is also safeguarded, confirms Schillinger. "As a window manufacturer who wants to offer innovative sliding technology, it's simpler than ever before with Patio Inowa. Decide today, start production tomorrow. That is, of course, a slight exaggeration but I think that a manufacturer will be able to start production eight to ten weeks after starting the project with Roto." Roto will actively assist with marketing the new tightly sealed Patio Inowa sliding windows and doors, explains Vukovic: "In particular, we will dedicate ourselves to diligently speaking to architects and providing them with all the information they need."



➤ Information about Roto Patio Inowa hardware can be found at:

www.roto-frank.com/en/roto-patio-inowa

| In 2016, Erich Schillinger Fensterbau GmbH commissioned a new CNC-controlled machining centre. This can also be used to produce the profiles for the tightly sealed Patio Inowa sliding system.



| Today, Edith Chrobok and Wilhelm Schillinger manage the business, founded by their grandfather in 1911, which has been exclusively producing windows, facades, main doors, sliding doors and conservatories in timber and timber-aluminium since 1980.





Production began in Roto's Noginsk factory in 2009.

An interview with Viktor Melikhov

A strong brand helps in the crisis

■ **Why Roto?** In the past few years, the Russian market has undergone major changes unlike any other market on the European continent. Window manufacturers in the country also faced major challenges. Many companies have withdrawn from the market. However, Roto Frank AG made the decision to maintain its entire scope of services for Russian customers, and is even extending these services. Viktor Melikhov, Roto Managing Director of Russia, Belarus and Central Asia, explained to Roto Inside how his organisation has supported the specific success strategies of the individual customers.

Roto Inside: Mr Melikhov, the number of window manufacturers in Russia has dropped to roughly 1200 to a maximum of 1500 since 2010. Which window manufacturers remain active and what makes Roto appeal to them?

Melikhov: The Russian market has, in fact, been declining for years. Unfortunately this situation did not change in 2018 either. According to preliminary estimates from experts, the quantitative decline of the market is set to continue in 2019. Enormous consolidation is taking place in the market as a result. Large companies are becoming even larger. As for me, I expect that this development will continue for the next two to three years.

The manufacturers who remain on the market are mainly those who have a good strategy and use efficient production technology. These companies are planning for the long term. Just like Roto. We at Roto Russia are also currently focussing on further increasing the quality of our products and production processes. By making all our processes reliable and stable, we will be well prepared for when the market starts to grow again.

At the same time, the country's major window manufacturers are working on increasingly thinking of a product and service as a whole. Nowadays, they offer their customers comprehensive support, from the initial enquiry through to maintenance. The service quality has also improved, even once the warranty period has come to an end.

It goes without saying that, at present, window manufacturers and their customers are highly conscious of pricing when making purchases. But we are also recording a trend towards considering costs with a long-term view. At the end of the day, good quality is always the cheaper alternative. This is why many manufacturers consider Roto to be a like-minded partner, especially when it comes to producing durable, high-quality windows. In this segment, Roto has by far the largest share of the market. Roto has also defended its leading position in Russia across all product segments with a stable market share.

Roto Inside: Which of Roto's features and characteristics do Russian window manufacturers particularly value?

Melikhov: Roto is a system provider with a complete range of products for windows and systems of any opening type. All hardware solutions from a single source – this is extremely important for many manufacturers. However, the strength of the brand also plays a significant role. Russian window manufacturers impress their customers by talking about the quality and suppliers of their components. If the customer

then becomes sufficiently familiar with the brand and supplier, this increases the window manufacturer's chances of making a successful sale.

The growing importance of strong component brands is immense in our complicated, declining market. And over the past few decades, Roto has managed to become well known and present throughout the entire country. In this respect, Roto is one of the strongest brands in Russia.

Roto Inside: How can Roto help customers ensure high quality?

Melikhov: We set an example of what we recommend. Quality assurance is a fixed element of Roto's philosophy. We don't make any compromises when it comes to quality-related issues. This means that Roto delivers the best possible quality, which is achieved at every single workplace – in the Noginsk factory 50 km east of Moscow and at the customer's premises by service and sales.

Because Roto's expert consultants are present across the country, this lays the foundations for optimum delivery and collaboration right from the outset. Roto's technology and sales specialists are present in all major cities and in virtually every region from west to east. This is so we can offer high-quality support, which will continue to remain one of our main focuses. Close to our customers – this is and will remain Roto's motto, including in Russia.

Roto Inside: What trend are window manufacturers expecting to revive the Russian market? Which Roto products are playing a pivotal role here?

Melikhov: Unfortunately our customers here are dependent on general macroeconomic developments. Government programmes in construction and the granting of property loans are having an impact on the market. The population's purchasing power plays a pivotal role. We are unable to influence these factors.

However, we can encourage customers to make purchases with intelligent and attractive products. Large and heavy entrance doors, Tilt&Slide designs and Lift&Slide systems, especially aluminium ones, have potential in Russia. Customers with purchasing power still like spending their money on unusual solutions.

Many window manufacturers are taking this into account and are using this as a way of compensating for the extremely low margins in the competitive market for simple Tilt&Turn windows.



Customers value Roto as an expert partner in the development of exclusive products. This is reflected in the growth of precisely those Roto hardware product ranges and components which can be used to create special solutions. In this segment, collaboration with architects, engineers and property developers is also becoming increasingly important.

Roto Inside: What do your customers think of the fact that Roto is represented in Russia with its own production site, even after many years of market decline? What benefits does the production site in Noginsk bring?

Melikhov: Roto is the only window hardware manufacturer on the Russian market to have its own production site in the country. Our customers appreciate this. After all, it's our production site in Noginsk that makes Roto's delivery performance outstanding. Products manufactured here reach customers within two days of the order being placed. In a nutshell: from the point of view of Russian window manufacturers, there are many good reasons to work with Roto. Even or especially in times of difficult market conditions.



Viktor Melikhov, Managing Director of Russia, Belarus and Central Asia

Added value wins over the production trade

Smart roofers hear increasingly often “click”

■ **Roof windows** “Roof windows are essentially a European product, with Germany, France and the United Kingdom being the main markets. In these markets, the tradespeople who work with the roof windows usually decide on the choice of brand, i.e. roofers, joiners and carpenters. This means that decisions are made by people who consider time to be money. They need to be certain that we will help them to work quickly and reliably and eliminate errors.” This is how Stephan Hettwer describes the market conditions which caused Roto’s team in Bad Mergentheim to look for a new product concept, coming up with RotoQ four years ago. As Director of Customers and Markets in Roto Roof and Solar Technology (DST), Hettwer is responsible for product management and marketing and for global sales of Roto roof windows.



| Put in place, slide, “click”: you can hear all elements of the flashing engage, so you can be sure that installation has been completed without any errors.



| Fit, engage, “click”: the clever plug-in system of the RotoQ for tool-free installation of flashing, sash panels and window handle.

“Roto has been performing international surveys on its customers and non-customers for more than six years in order to obtain an exact record of which factors have a crucial impact on the decision to purchase a roof window in which market,” he reports. “From this, it became apparent that one aspect is considered particularly important in the major markets previously mentioned: ease of installation.”

RotoQ is setting benchmarks

This is easy to see. After all, reliability in trade depends on factors such as the ability to install a solid roof window quickly and without making any errors. Hettwer sums up the observations made by DST Sales since the market launch of RotoQ as follows: “Professionals show their curiosity when we talk about tool-free click installation.” In 2014, Roto launched the first pivot window from this product range. “At the time, we achieved a new dimension of ease of installation. Today, RotoQ is setting benchmarks and we are working on making further models increasingly attractive for professionals thanks to their ease of installation.”

Testing goes beyond scrutiny

The full strength of the product concept is demonstrated when it succeeds in convincing fabricators to agree to a sample installation of RotoQ. Even though tradespeople often prefer to stick with what they know when choosing which building elements to buy, they cannot deny the benefits offered by click installation. The “easiest to install roof window” on the market in the opinion of the DST specialists therefore brings its inventors much joy. “Once a tradesperson has experienced how quickly a RotoQ can be installed with low risks, they will become an enthusiastic customer. This is because the most important aspect for their purchasing is still ease of installation.”

Safety and reliability

The tool-free click installation of a RotoQ roof window gives fabricators both safety and reliability. Firstly, for a roofer, it is not an appealing prospect to have to use tools to secure external screws on a pitched roof, states Hettwer. Secondly, it is well known that guaranteed error-free installation plays a crucial role in ensuring that a window continues to work reliably and safely in the long term. “If there are any complaints, they are usually caused by an error made during installation. This is why RotoQ provides audible conformation of whether the individual components of the flashing and the sash panels have been installed correctly. If no ‘click’ is heard, it is possible to check straight away whether there are any problems and, if so, what this problem is, before proceeding any further.”

Ease of installation brought to perfection

Supported by the success of the launch of RotoQ, Roto also developed additional assembly aids for the new Designo Quadro in Bad Mergentheim. The “Kurt” and “Karl” carrying and transport aids simplify handling on construction sites, even for large-scale roof windows. “We work together with customers and non-customers alike to regularly test all models for their optimisation potential, especially with regard to their ease of installation,” reports Hettwer as a last point. “This has made us an ideal partner in the eyes of professional customers. Nowadays, we are aware that trade businesses which precisely calculate the installation expenses per window clearly appreciate the strengths of RotoQ.”



| Fabricators have a secure hold on the Designo R6 / R8 Quadro roof window as “Kurt” and “Karl” lend a hand: “Kurt” is a crane and carrying loop that is preassembled ex works and “Karl” is a perfectly compatible newly developed carry strap.

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↗ “Click” now – RotoQ installation video:

youtu.be/NdU3FrV8Rul



| Stephan Hettwer, Director of Customers and Markets Roto Roof and Solar Technology