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An Increasingly Complex World

by Riccardo Giovanetti - WeRoll magazine



The fundamental idea behind WeRoll was to create a magazine capable of describing the fascinating complexity of the world of rotational moulding. This technology brings together different realities, often united by the goal of innovating and proposing new functional solutions for the world we live in.

This new issue continues this journey, recounting the stories and visions of the leading figures in the world of production, design, materials and research from multiple points of view.

One of the most surprising and interesting aspects of this technology is therefore its intrinsic ability to interpret the concept of mass production in many ways.

With Bauen’s children’s furniture collection, rotational moulding proves itself capable of meeting the production needs of a small start-up that has become a successful brand, carving out a significant space for itself among the giants of the sector.

But technology can also hold surprises when we move from small scale to large scale mass production: today, manufacturers of high-quality polymers are able to offer an enormous range of colours and mixtures that would have been unimaginable just a few years ago.

Furthermore, rotational technology is not just about numbers but also a vehicle for representing the poetic side of many products: this is the mission of Satyendra Pakhalè, who interprets plastic in highly iconic forms and dynamics.

But every link in this chain is imbued with profound qualities, as demonstrated by the stories of those who produce high-quality equipment, moulds and innovative systems for automating and robotising production.

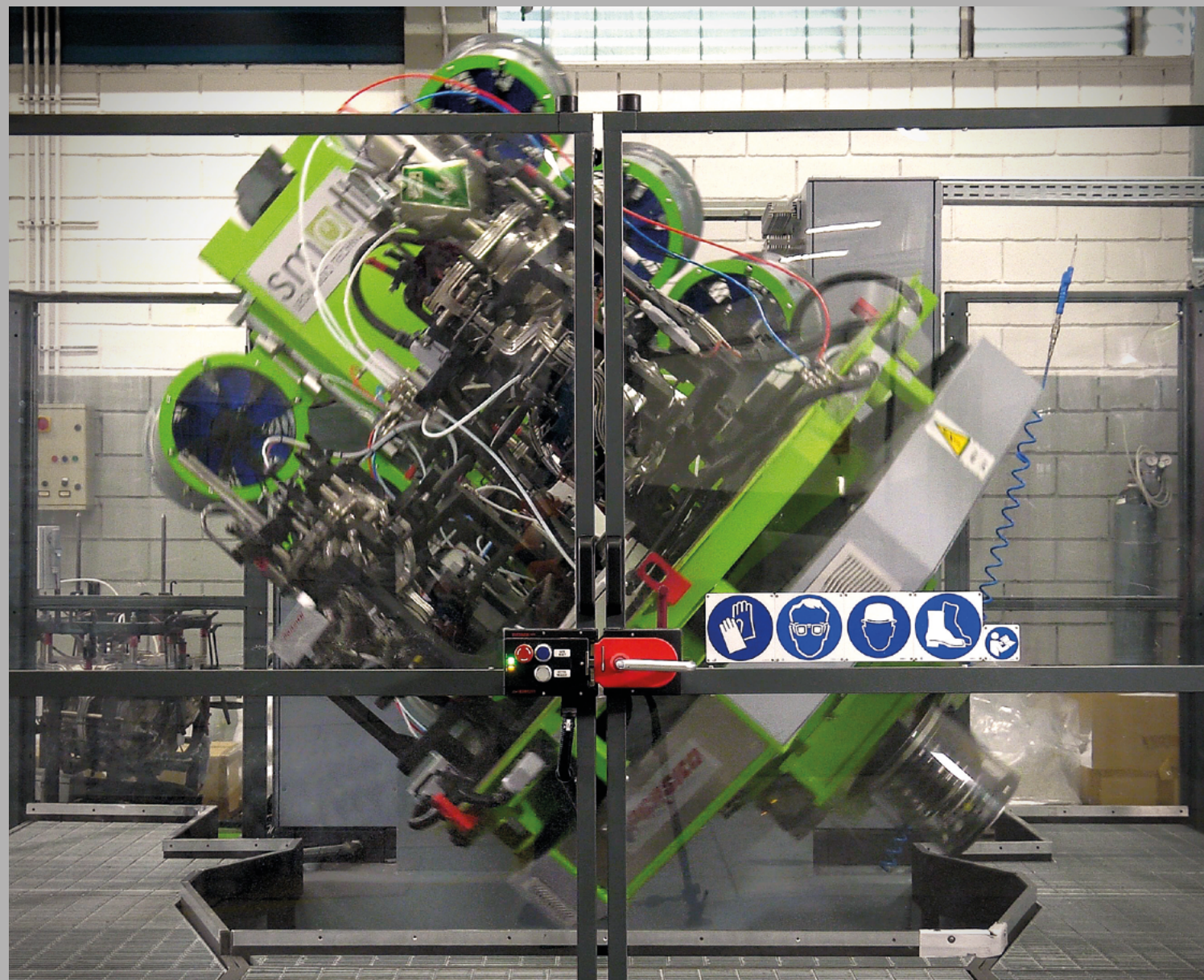
All this has a strong impact on the world we live in and, as in the case of Mobilitum, becomes an opportunity to propose a new model of urban mobility that is detached from traditional polluting logic.

It was said that the world is beautiful because it is diverse. But today, this world adds a level of complexity and depth that makes it increasingly special.

Enjoy reading!

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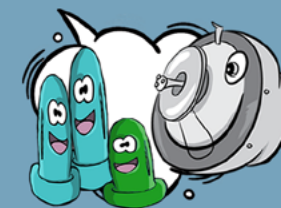
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1. Telling the Product

Bauen

Bauen Kids, Fairfield, CT, USA

Toughest Materials, Cleanest Design



www.bauenkids.com

Text by Roberto Gonne

Bauen was born from a series of considerations that the three founders, Lynn, Cass, and Tim, made when they became parents and began to closely observe the children's furniture available on the market. Noticing that much of the furniture for young children was of poor quality in terms of materials, design, and safety, they came up with the idea of developing their own furniture collection based on entirely new design criteria. Guided by the motto "No Compromises Allowed", the three founders of Bauen developed a collection of children's furniture using rotational moulding to create excellent products with high-quality construction details and design solutions. While traditional children's furniture derives its form primarily from the adult world, the Bauen collection reverses this approach to offer a new generation of products designed and manufactured to best combine aesthetics, functionality and durability.

Tailor-Made Products for Children

The design of these rotationally moulded products is the result of a long process that began with careful and thorough observation of how children use furniture during different stages of the day, whether they are playing, studying or interacting with their peers. This analysis gave rise to a series of ideas that slowly took shape in a detailed project. Truly innovative products are unprecedented. The Bauen table and chair were inspired solely by the designers' research and ideas about what children's play sets should be like. Their main aspiration was to offer a valid response to the many parents who seek quality and reliability in the furniture that surrounds their children, with solutions that stand the test of time and guarantee safety both indoors and outdoors.



“Our team spent countless hours observing how children actually use their play furniture and the surrounding environment.”





Developing the Product

A Conversation with Cassidy Rouse, CEO Bauen

How did your project evolve from initial idea to final realization?

"When we began developing our products, we didn't know what materials or manufacturing processes we would use. We were focused on designing the one playset we'd chosen for our children. And we wouldn't compromise on how we realized this vision."

Design is a key factor in the success of your products: what are the elements you particularly focused on during the design process?

Our team spent countless hours observing how children actually use their play furniture and the surrounding environment. A few key themes emerged. The first is durability: children destroy things. They kick, paint, and throw things down the stairs. Many parents we spoke to were on their third or even fourth play furniture set because all the previous sets had broken. We wanted Bauen to be the last play set you ever buy. Then there's the indoor-outdoor concept: many families had multiple play furniture sets: one for outdoors and one for indoors. We wanted a product durable enough for the patio and stylish enough for the playroom.

Were there any other considerations that led you to design this collection for children?

Of course, we can't forget the issue of anti-tip protection. Children don't sit on chairs like adults do. They stand, lean on them, and even ride them like horses. Unfortunately, traditional chairs tip over easily. So, instead of limiting our children's imagination and





“Children don’t sit on chairs like adults do. They stand, lean on them, and even ride them like horses. So rather than try to restrict our kids’ imaginations and movements, we designed a patent-pending anti-tip design that dramatically increases stability. Play on!”



So rather than try to restrict our kids' imaginations and movements, we designed a patent-pending anti-tip design that dramatically increases stability. Play on! Last but not least, we wanted to dramatically improve the assembly experience. Let's face it, assembling furniture is a real hassle. We wanted the assembly process to be fun, interactive, and tool-free. We went a step further and made it possible to disassemble the product if you want to take it with you or store it for later.

What were the reasons that led you to adopt rotational molding technology to create your products?

Our collaboration with Plasticraft proved successful for a wide range of reasons. Our team did not have extensive experience in rotational moulding, and we appreciated Plasticraft's 35 years of experience in manufacturing world-class products. We also view every partner and supplier as an extension of our business. The Plasticraft team truly shared our vision of creating a one-of-a-kind product, rather than thinking about how it had been done in the past. We are exploring new territory together. Finally, as a company that sells directly to consumers, Plasticraft offers a holistic solution covering production and order fulfilment, simplifying our business and helping us deliver products to our customers quickly and accurately.





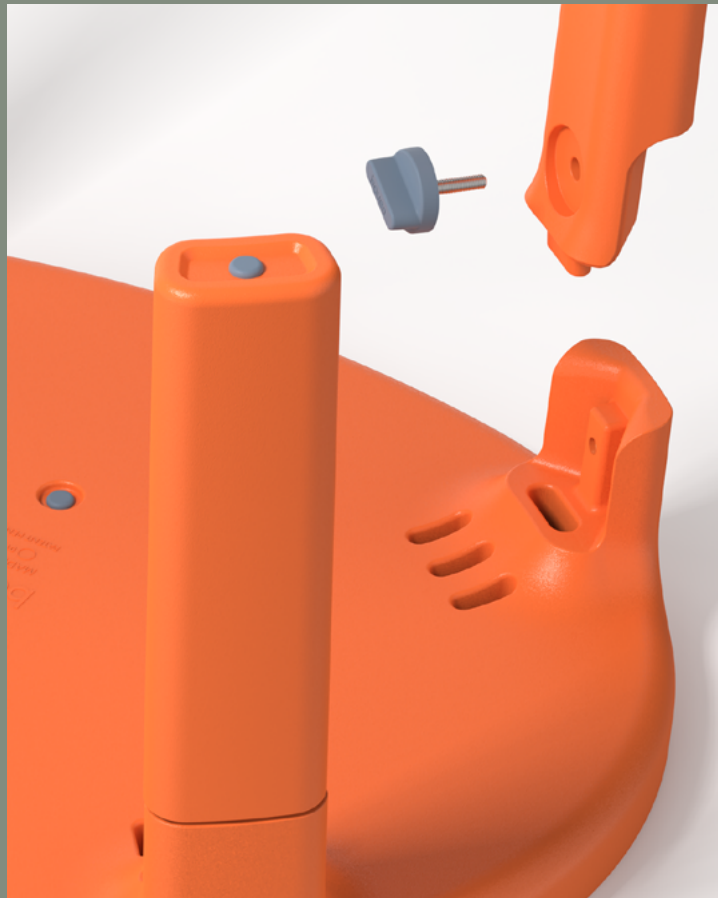
Iconic knob locking system enables simple, tool-free assembly.



Products designed with rounded edges to promote safe play.



Chair loop back and outward leg draft improves mobility and stability.



Raised table edge protects against spills.



2. Inside Matter

Przemysław Orlik

OREX ROTOMOULDING, Chybie, Poland

Precision In The Process



www.orex-rotomoulding.com

Interview by Elena Chechet

OREX ROTOMOULDING, is about to celebrate its 30th anniversary. How has the company managed to grow and evolve over this long period?

Thirty years in business is not only an anniversary — it's a story of passion, commitment, and continuous development. The company was founded by my father, a true pioneer in the industry, who laid the foundations for what the company is today. As a second-generation representative, I've been involved in the company's life since childhood — you could say I grew up surrounded by the machines and designs that later became my profession. In the beginning, our main focus was on developing technology and building machines. At the same time, for almost 20 years, we also produced rotomoulded plastic products ourselves. This experience proved invaluable — it allowed us to better understand our customers' needs, challenges, and expectations toward the machines they use. With that insight, we could refine our technology and make our machines even more user-friendly and efficient.

You are certainly a company projected into modernity, but at the same time you don't forget the importance of historical memory...

One milestone in our company's history was relocating our headquarters. For many years, we operated in another city, but now we are proud to work in a historic building that once served as a sugar factory for over 140 years. We continue to restore and modernize the facility, combining its heritage with our forward-looking vision. This site holds great significance for us — its unique character perfectly reflects our philosophy of respecting tradition while embracing the future.

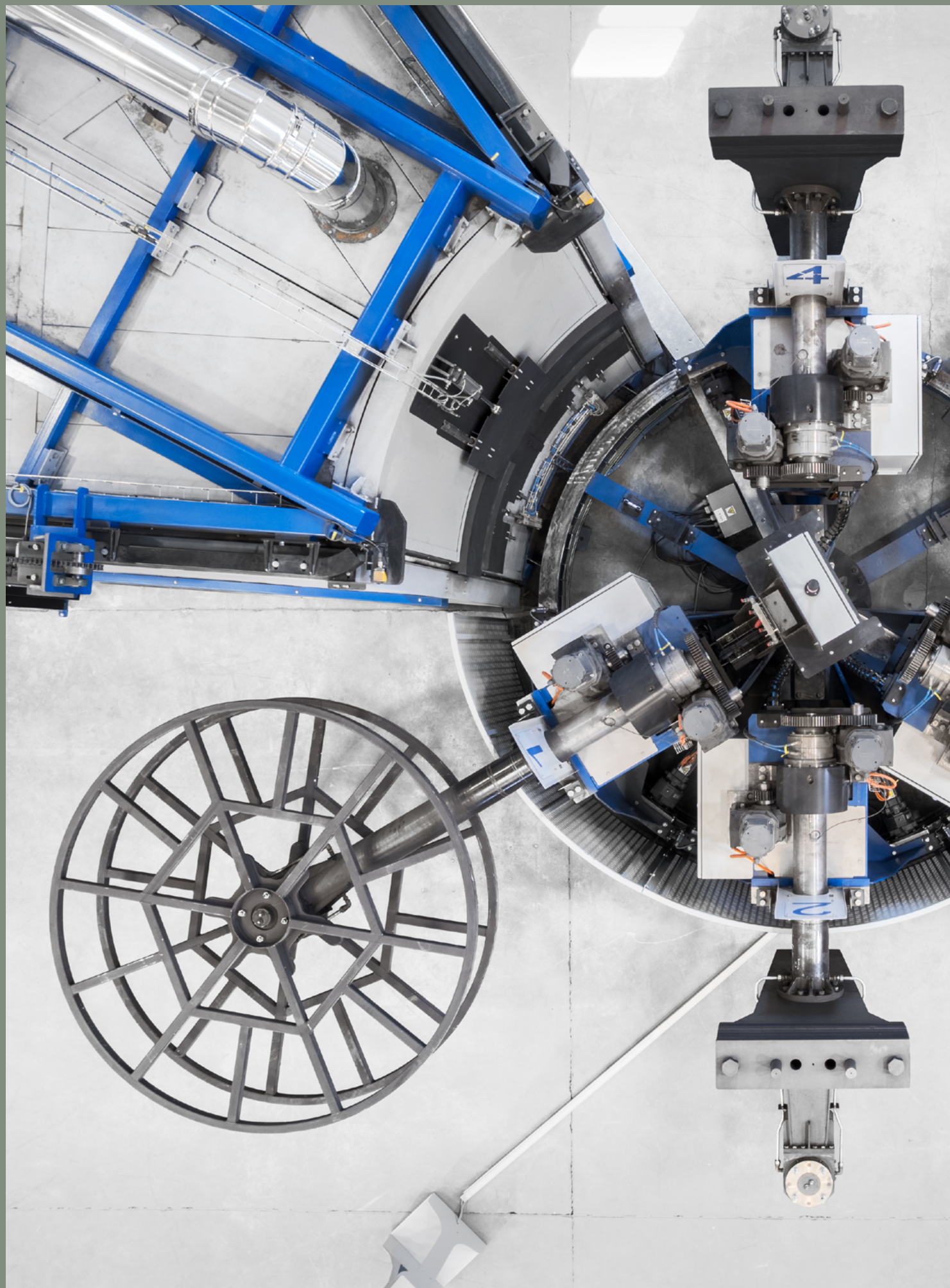




“Our goal has always been not only to supply machines but also to support our partners by offering complete rotomoulding solutions.”

“...as the first and only company in the rotomoulding industry, we use the most advanced control and drive systems, such as SIEMENS Servomotors. These ensure exceptional precision, smoothness, and repeatability of movement while reducing energy consumption — a key step toward full automation.”



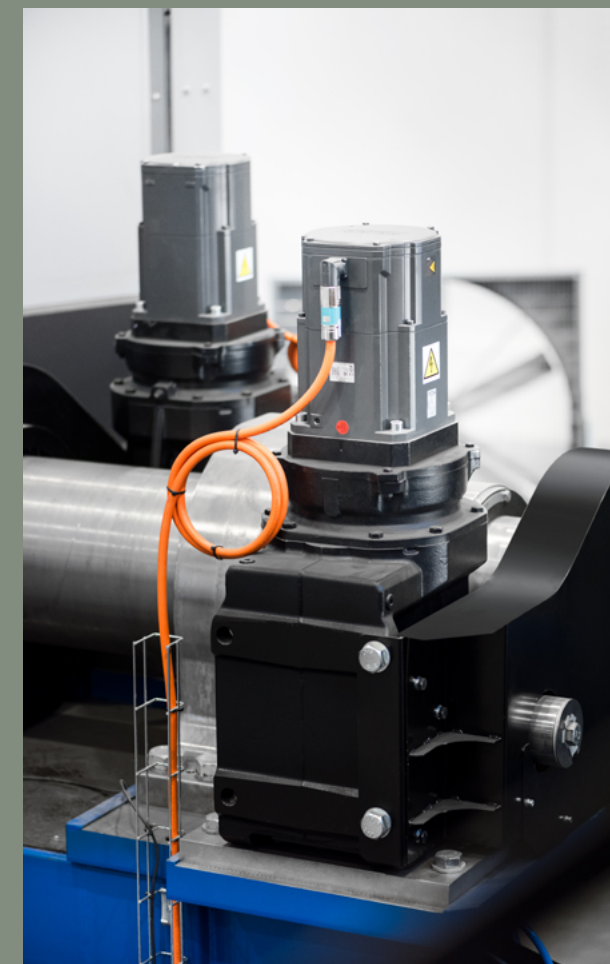


OREX ROTOMOULDING, is not only a leading manufacturer of rotomoulding machines but also a provider of comprehensive services supporting its partners from the concept phase to the finished product. How does this work in practice?

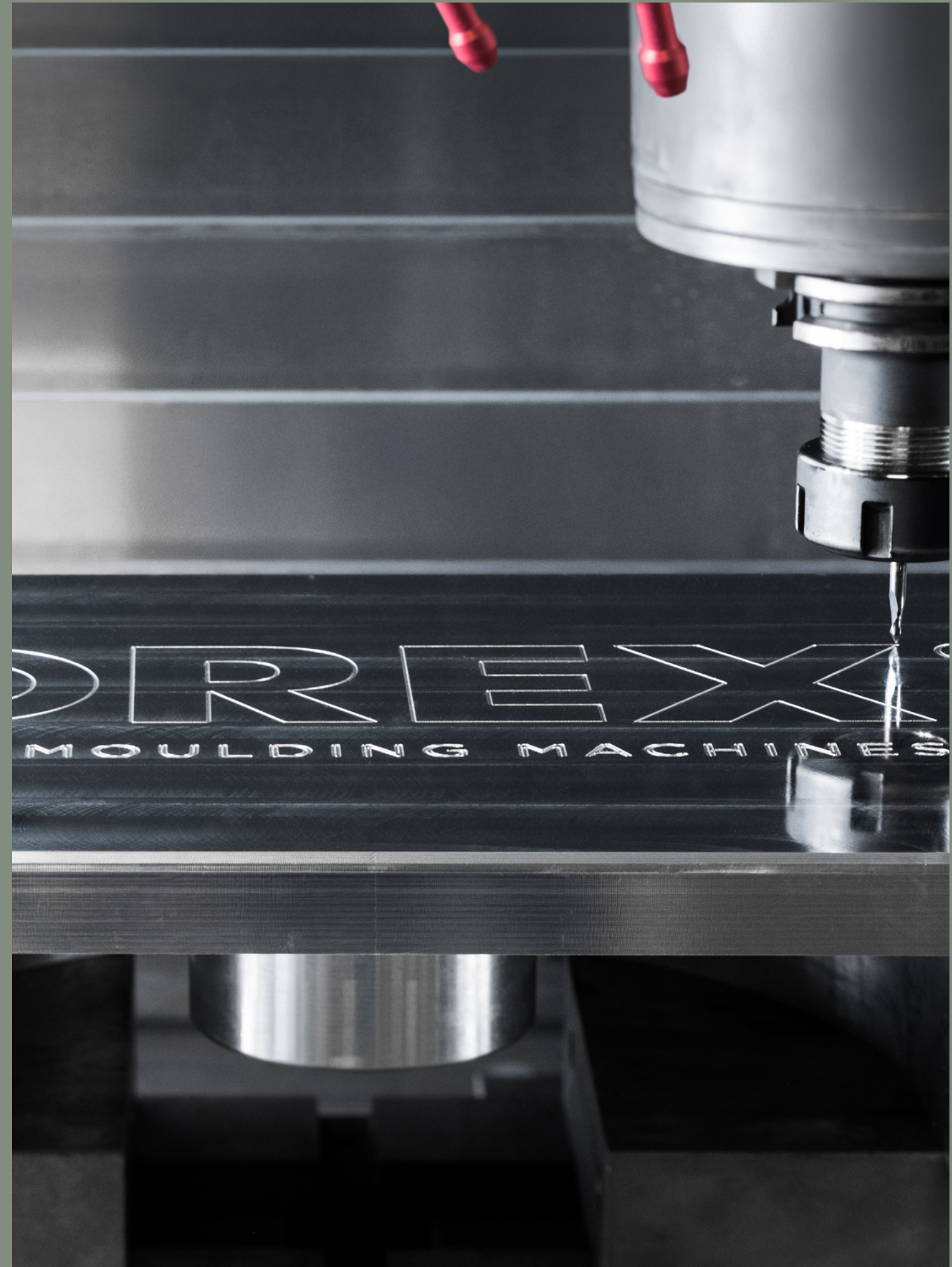
Our goal has always been not only to supply machines but also to support our partners by offering complete rotomoulding solutions. The company assists customers at every stage of the production process — from product analysis and technical consulting to selecting optimal machine parameters, launching production, and optimizing process cycles. Thanks to our extensive experience and in-house design department, we can create customized machine configurations tailored to the specific needs of each plant and product type. Our support also includes technical training, after-sales service, and assistance in selecting appropriate materials and moulds. Moreover, as the first and only company in the rotomoulding industry, we use the most advanced control and drive systems, such as SIEMENS Servomotors. These ensure exceptional precision, smoothness, and repeatability of movement while reducing energy consumption — a key step toward full automation.

Your consistent development efforts have led to OREX ROTOMOULDING's strong presence across many European and global markets. Could you tell us more about your strategy in that field?

Our expansion strategy is based on long-term relationships with business partners and a flexible approach to the specific needs of each market. Since the very beginning, we have consistently invested in technological advancement, product quality, and the professional development of our employees. This



“I believe in the possibility of profoundly innovating the world of rotational moulding by introducing not only machines with higher performance in terms of quantity, but also offering the possibility of moulding with better quality.”





strategy enables us to compete not only across Europe but globally. A key part of our approach is treating each customer individually — we strive to understand local conditions and adapt our offer and logistics accordingly. Only this approach allows us to deliver rotomoulding solutions that truly meet the expectations of specific industries and markets.

We are also fully aware that our growth must be sustainable. That's why we focus on innovations that improve production efficiency, reduce raw material consumption, and minimize environmental impact. This not only strengthens our competitive edge but also reinforces our reputation as a reliable international partner.

How important is participation in international events that drive this sector for you?

We believe that one of the best ways to build our brand is through participation in rotomoulding conferences and trade fairs. In recent years, we've significantly increased our involvement and received excellent feedback — our brand recognition continues to grow. We would like to thank the associations that organize these valuable events, creating opportunities to exchange ideas with rotomoulders and suppliers from around the world.

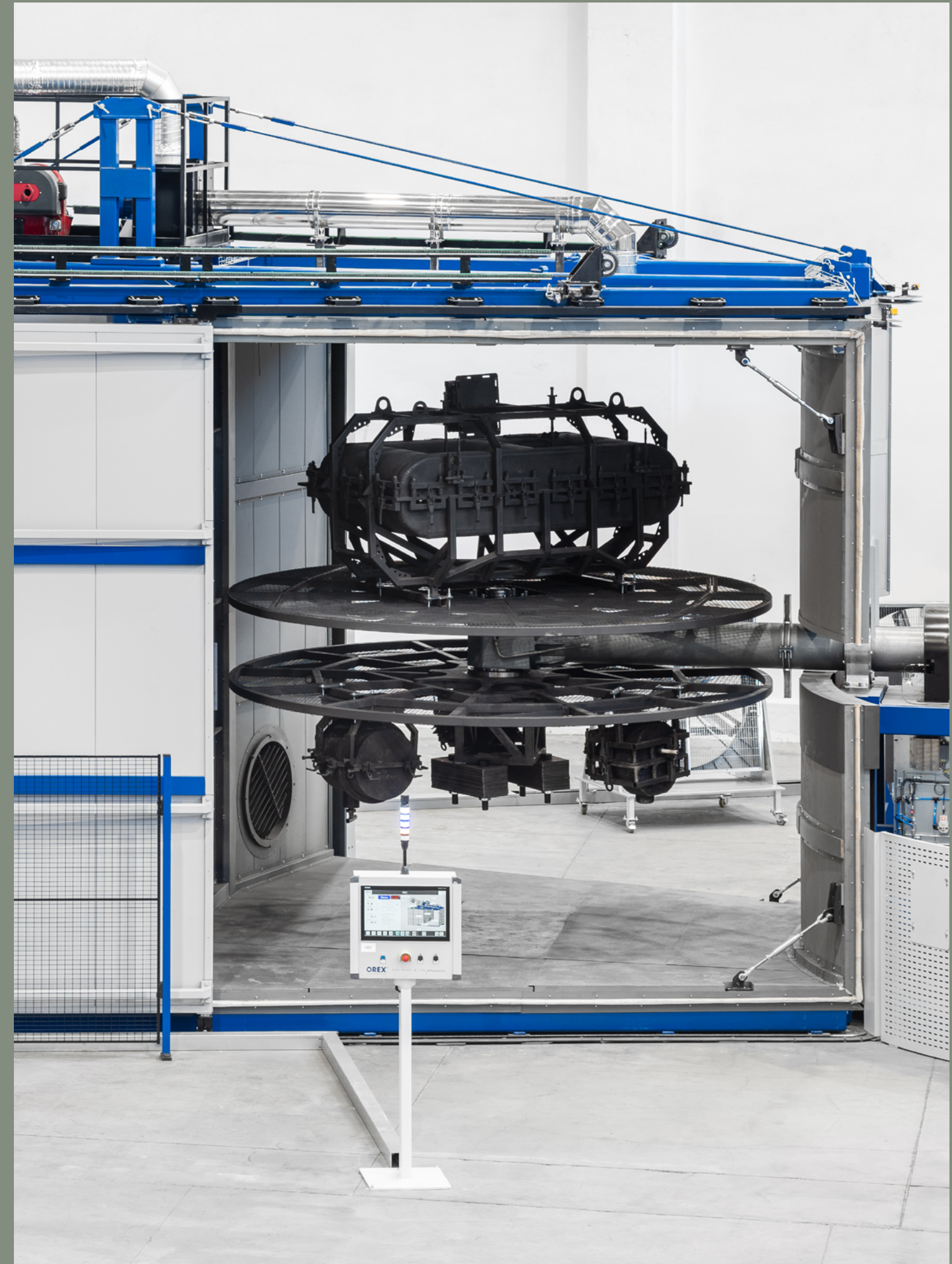
Looking 10–15 years ahead, what do you think the future of rotomoulding will look like?

The future of rotomoulding will be shaped primarily by technological innovation, sustainability, and automation. We're already seeing the growing importance of eco-friendly materials — in the coming years, the use of recycled raw materials, biopolymers, and technologies that enable multiple product life cycles will become essential.



“Smart control systems, real-time monitoring, and process data analysis will lead to greater precision, repeatability, and energy efficiency.

Product customization will also play an increasingly important role.”





Another major trend will be the digitalization and automation of production. Smart control systems, real-time monitoring, and process data analysis will lead to greater precision, repeatability, and energy efficiency. Product customization will also play an increasingly important role. Customers are increasingly looking for tailor-made solutions — both functional and aesthetic — and rotomoulding, with its flexibility, is perfectly suited to meet that demand.

Finally, we foresee closer collaboration between manufacturers, material suppliers, and research institutions. Future innovations in rotomoulding will result from strong synergies between technology, science, and industrial practice.

We are fully aware of these coming changes — that's why we are already preparing our company by investing in know-how, automation, and solutions that support the use of artificial intelligence.

Reducing energy consumption is one of the key challenges in the rotomoulding industry. What is your approach to this issue?

For us, optimizing energy use is not just an economic matter — it's an essential element of responsible and sustainable development. At OREX ROTOMOULDING,, we continuously invest in technologies that enhance the energy efficiency of our processes.

In recent years, we have modernized our machinery by introducing new ovens with improved insulation, heat recovery systems, and precise control of temperature and cycle times. These upgrades have significantly reduced energy losses and improved process stability. At the same time, we are exploring renewable energy options, including photovoltaic installations that will soon help power our facility. Real-time monitoring of energy consumption also plays a crucial role — data from our production systems allows us to quickly identify areas for further optimization.



In recent years, the rotomoulding industry has entered new market niches with innovative products. Is there still room for further growth?

Definitely. Rotomoulding still holds tremendous potential — both in terms of new applications and in material and design innovation. While some markets are mature, we're seeing growing interest in rotomoulding solutions for emerging sectors such as electromobility, energy storage, water infrastructure, precision agriculture, and urban equipment. Publications such as WeRoll and ARMO's industry magazines showcase countless examples of industries successfully leveraging the potential of rotomoulding. We see the industry's future in functional innovation — combining different materials, integrating technical components in a single process, and developing products that support sustainable development and modern living. New challenges are constantly emerging, and rotomoulding offers the flexibility to address them. That's why we firmly believe the best years for this technology are still ahead.

In which industrial sectors are your machines most commonly used?

Our rotomoulding machines are used across a wide range of industries — from automotive and transportation to agriculture, construction, municipal services, and recreation. We're also seeing increasing demand in innovative fields such as electromobility, energy storage, chemical equipment manufacturing, and water and wastewater management. In these areas, rotomoulding delivers components with high strength and durability while maintaining exceptional precision and repeatability.





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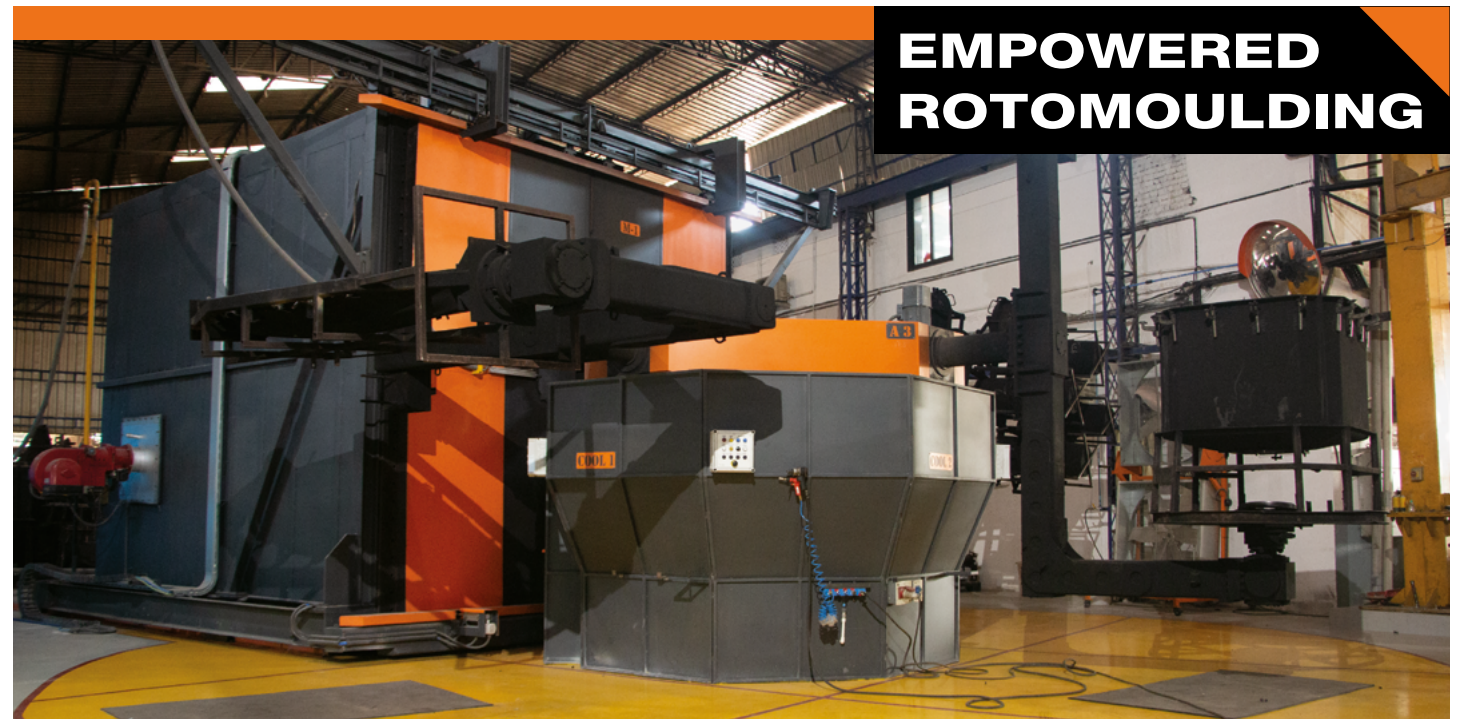
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3. Design Protagonists

Satyendra Pakhalé

Satyendra Pakhalé Associates, Amsterdam, Netherlands

Cultural Nomad



www.satyendra-pakhale.com

Text by Riccardo Giovanetti

Satyendra Pakhalé is a key figure in contemporary design, having developed successful projects across numerous industries. Trained in India and Switzerland, Pakhalé founded his studio in Amsterdam, the Netherlands, in 1998 and has established himself as a leading figure in the fields of design, art, and architecture. His approach to design transcends conventional boundaries, merging high technology and traditional craftsmanship, industrial production and craftsmanship, and functionality with poetic meaning. Over the course of 30 years, Pakhalé has honed his design craft through a myriad of innovative projects for leading clients and industries. He has shared his insights through conferences around the world and, most notably, served as founding dean of the Master in Design for Humanity and Sustainable Living at the Design Academy Eindhoven.

Satyendra Pakhalé's work could be described as symbolic, warm, personal and his objects have energetic physical presence halfway between soft and hard, between flesh and object, between craft and industry. He seems to be mindful with a thought of how to create contemporary objects which seamlessly blend old & new, artisan & highly industrialized. To his designs he adds spiritual perspectives, a diversity of strong cultural influence, particularly relevant in today's multicultural society.

The Sophisticated Elegance of Plastic

Ghoda Chair is a furniture object with an energetic physical presence halfway between soft and hard, between flesh and object, between craft and industry. Evolved from Satyendra Pakhalé's most iconic work yet – the B.M. Horse family created in 2000 as limited





The creative process behind many of Satyendra's products often involves an initial phase where the designer engages directly with the materials and technology, creating preliminary prototypes to understand the shapes in detail and define the best solutions to translate an idea into reality.



editions in bronze – the Ghoda Chair refers to its 'sensuality' and 'spaghetti-lost-wax-casting-process'. Now industrially produced by Qeeboo in recyclable polyethylene through rotational moulding, Ghoda Chair becomes protagonist in any indoor or outdoor space. Ghoda Chair is refreshing in its sensuality, re-eroticizing the world, as it were. This makes it very much 'present' in space – almost like an object that has always been there, that has come from the distant future and the past at the same

Much More Than Just a Simple Seat

An easy chair enabling a comfortable, reclined posture, it can be used as a solo piece or in large groups, in domestic or public spaces, and in both indoor and outdoor settings. Fish Chair is one of the icons of contemporary design, a product that has defined a style and introduced a new way of thinking about seating for domestic environments. Its shape recalls the world of fish and plays on the relationship between the object's interior and exterior. Taking advantage of the ability to rotomold two layers of different colors, Fish Chair offers an interesting contrast between the internal cavity and the object's external skin. The creative process behind many of Satyendra's products often involves an initial phase where the designer engages directly with the materials and technology, creating preliminary prototypes to understand the shapes in detail and define the best solutions to translate an idea into reality. From this perspective, rotational molding represents a significant opportunity for Satyendra to unleash his creative vision, while also allowing him to move beyond the concept of limited editions and embrace mass production. Many of his projects are often based on the evolution from traditional materials such as bronze or wood to the multiple possibilities offered by rotomolded polyethylene.



For Satyendra, technology never represents a limitation, but rather a real opportunity. His innate curiosity drives him to explore the possibilities offered by a given technology before developing a new project.





Panther, Rethink the Idea of Sitting Down

Panther is a monumental, symbolic seat and chaise longue, a significant example of Satyendra Pakhalé's unique design approach.

This multifunctional seat was designed to celebrate Moroso's golden jubilee in Italy. Pakhalé created a piece that invites the user to experiment with different positions—sitting, reclining, and lying—and thus exudes playfulness. A typological innovation, Panther combines three seating positions in a single sinuous form that also evokes a leaping panther. It is a versatile object that offers a different and innovative vision of how to relate to seating, a totemic object that invites the user to use it freely and continuously.

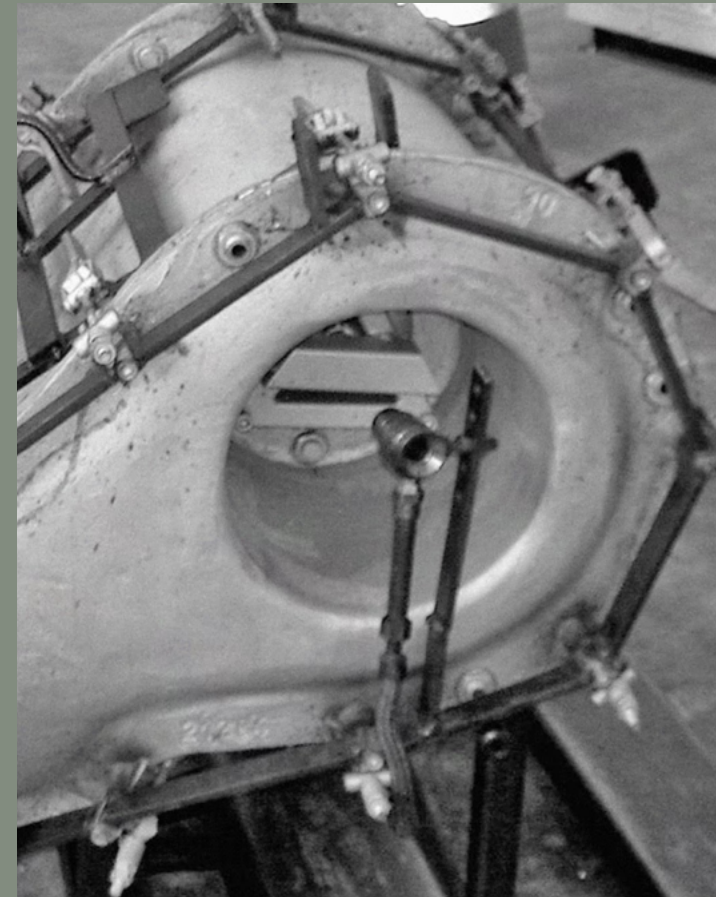
Using technology to Redesign the Domestic Landscape

For Satyendra, technology never represents a limitation, but rather a real opportunity. His innate curiosity drives him to explore the possibilities offered by a given technology before developing a new project. Thanks to its unique flexibility and the ability to produce in small or large series, rotational molding represents for Pakhalé an interesting way to transform an experimental idea into a concrete object. The transition to plastic allows his creations to become accessible to many and durable: a fundamental aspect that makes many contemporary design products more democratic and accessible.

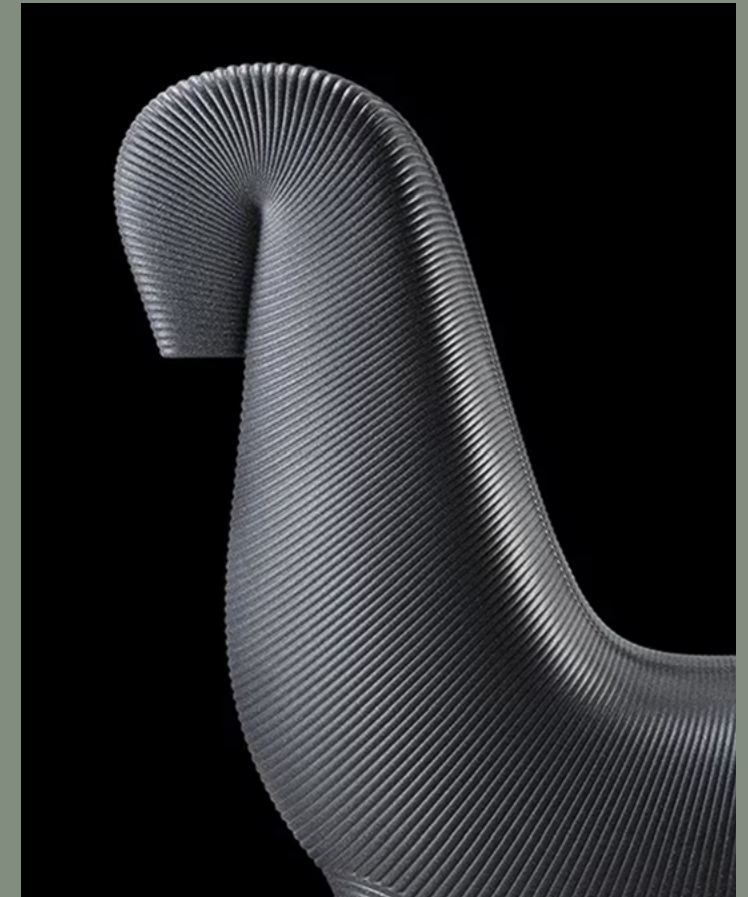




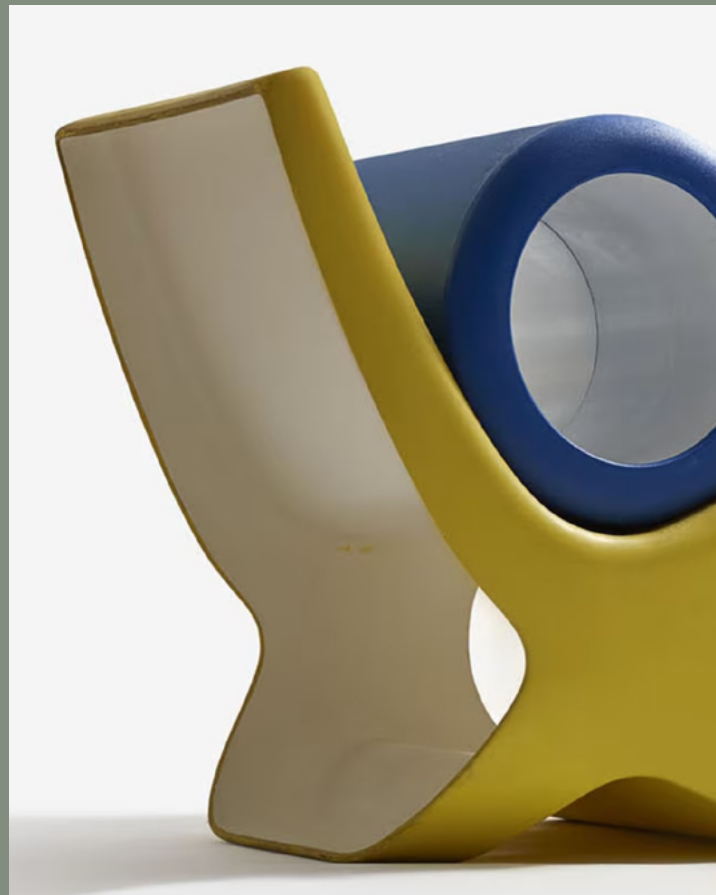
Ghoda Chair is characterised by its particular three-dimensional surface.



Rotational molding allows for the creation of complex shapes with articulated surfaces.



The laser cutting of the rotomolded body highlights the chromatic contrast between the interior and exterior.



Anthropomorphic and soft shapes characterize the products designed by Pakhalè.



4. Innovative Processes

Alex Lanfranchi - Mario Riva

Poliplast, Casnigo, Italy

Green And Customised Polymers



Text by Elena Chechet

One of the major challenges facing the rotational moulding industry today is the ability to generate energy to make the production process as self-sufficient as possible. What is your approach in this regard?

The production of energy from renewable sources is a key element of our business vision. With our new photovoltaic plant in Pontedera, we have not only achieved complete energy self-sufficiency, but we also produce a surplus of electricity amounting to approximately 20% of the energy generated. This important result is the outcome of a long process of sustainable development that we began years ago and which has led us to currently have 14 electricity production plants located in northern and central Italy. Our network comprises 10 hydroelectric plants and 4 photovoltaic plants that generate 24 megawatts of installed power, 60 million kW of electricity produced per year, with a saving of 42 million kg of CO2 not released into the environment each year.

The second key element of your green approach is the growing production of recycled polymers. How does your new plant for sorting and processing second-life plastic work?

Our new production plant allows us to significantly improve the quality of recycled polymers. Generally, this type of plastic has the limitation of being recycled and processed without detailed separation by colour, which mainly results in a black polymer. We have therefore introduced a new fibre optic separator that allows us to divide waste plastics according to their colour. This gives us a wide range of recycled polymers in different colours, suitable for multiple applications.





“There is also a growing awareness among end consumers towards purchasing products made from recycled plastic that can be recycled again at the end of their life.”



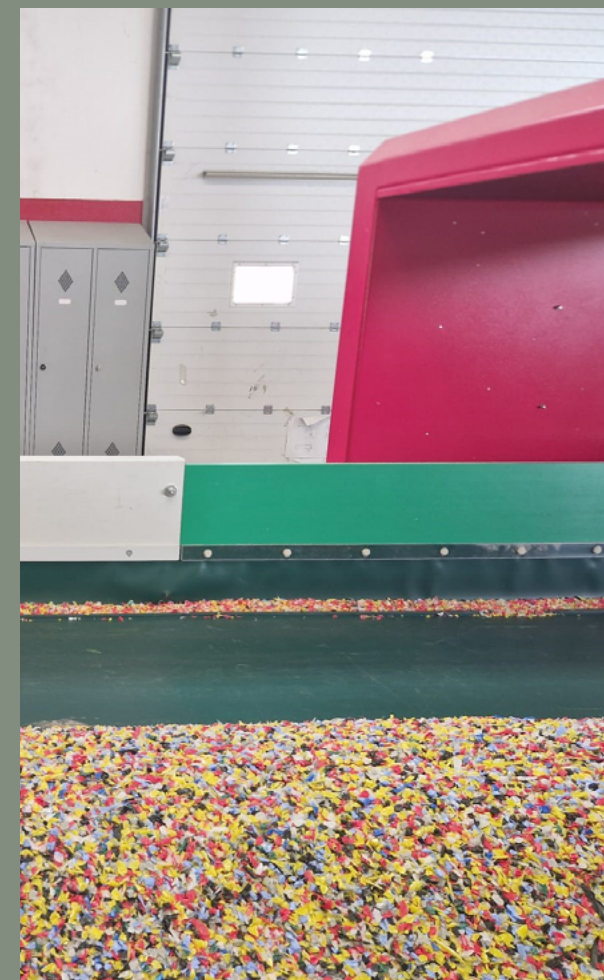
Furthermore, the process of regenerating second-life plastics is further refined through a tank that separates metal components from polymers, thus obtaining a more refined and high-performance product. Finally, the introduction of a waste plastic crushing plant allows us to process medium and large plastic pieces as well.

In which sectors are recycled polymers mainly used for rotational moulding?

There are several types of rotomoulded products in which the use of recycled polymers represents a mandatory and rewarding added value: for example, in the production of street furniture, waste collection bins or outdoor playground equipment, where local authorities require that products be made with a certain amount of recycled polymers. In other cases, the use of recycled polymers is not mandatory, but it certainly represents added value that differentiates one product from another.

How important is it for a company to manufacture a new product using recycled plastic?

For many companies, the use of recycled polymers does not stem from the need to comply with a law that requires it, but rather from a strategic desire to communicate certain values related to the sustainability of production processes and respect for the environment. There is also a growing awareness among end consumers towards purchasing products made from recycled plastic that can be recycled again at the end of their life. On the other hand, it is equally clear that the role of governments and national authorities is fundamental in giving further impetus to the use of recycled plastics: when it becomes mandatory for a certain product to be rotomoulded in



“Today we have around 700 colours available, covering all the specific needs of rotomoulders. At the same time, we offer a complete mixing service that allows powders to be mixed to create ‘tailor-made’ products for specific applications...”





recycled plastic, this rule is accepted and considered a new standard by all manufacturers.

What percentage of recycled polymers are currently present in your product range?

To obtain Plastica Seconda Vita certification, our products contain at least 30% recycled material. This percentage increases for other applications, where it reaches 60 or 70% of the polymer material used. In some cases, we even use polymers containing up to 98% recycled material. All our materials are based on the use of recycled polymers through an industrial process in order to guarantee consistent quality.

On the other hand, the use of polymers from domestic separate waste collection presents a number of limitations and risks for rotomoulders: in particular, the difficulty of separating polyethylene from polypropylene during the waste collection and sorting phase, with consequent problems during moulding.

Another key feature of your production is the wide range of colours you offer....

Today we have around 700 colours available, covering all the specific needs of rotomoulders. At the same time, we offer a complete mixing service that allows powders to be mixed to create 'tailor-made' products for specific applications: this involves a greater degree of complexity within our production chain, as each component must be carefully measured, ensuring consistency and precision in supplies. It is an important challenge that we have decided to take on in order to guarantee an increasingly comprehensive service to our partners by directly managing part of the processes that were previously carried out by them.

Do you see this trend towards increasingly customised plastics as a clear market trend?

We believe it is important to stay one step ahead by offering a range of materials that differ from the more generic ones based simply on black or white. Our highly customised approach is probably unique internationally, allowing us to differentiate ourselves from raw material manufacturers who offer a limited set of colours. The world of rotational moulding is moving towards increasingly complex and sophisticated moulded products, so offering a wide range of colours is certainly an innovative and winning choice.

This particular approach makes you something of a 'plastics tailor'....

This certainly corresponds to our corporate mission of always standing out by offering not only a set of high-quality polymers but also an efficient and personalised service. The main challenge now and in the near future lies precisely in our ability to offer 'something extra' to accompany the development of the entire sector towards high-quality products.

We believe that rotational moulding still has a lot of untapped potential: the world around us is full of products made with other materials and technologies that could be improved both aesthetically and functionally if redesigned using rotational technology. We want to accompany this constant evolution of the market with high-performance materials accompanied by efficient and innovative service.



5. Visionary Entrepreneurs

Edwin Renzen

Mobilitum, Bilthoven, Netherlands

Innovating Urban Mobility



www.mobilitum.com

Text by Sarah Morrison

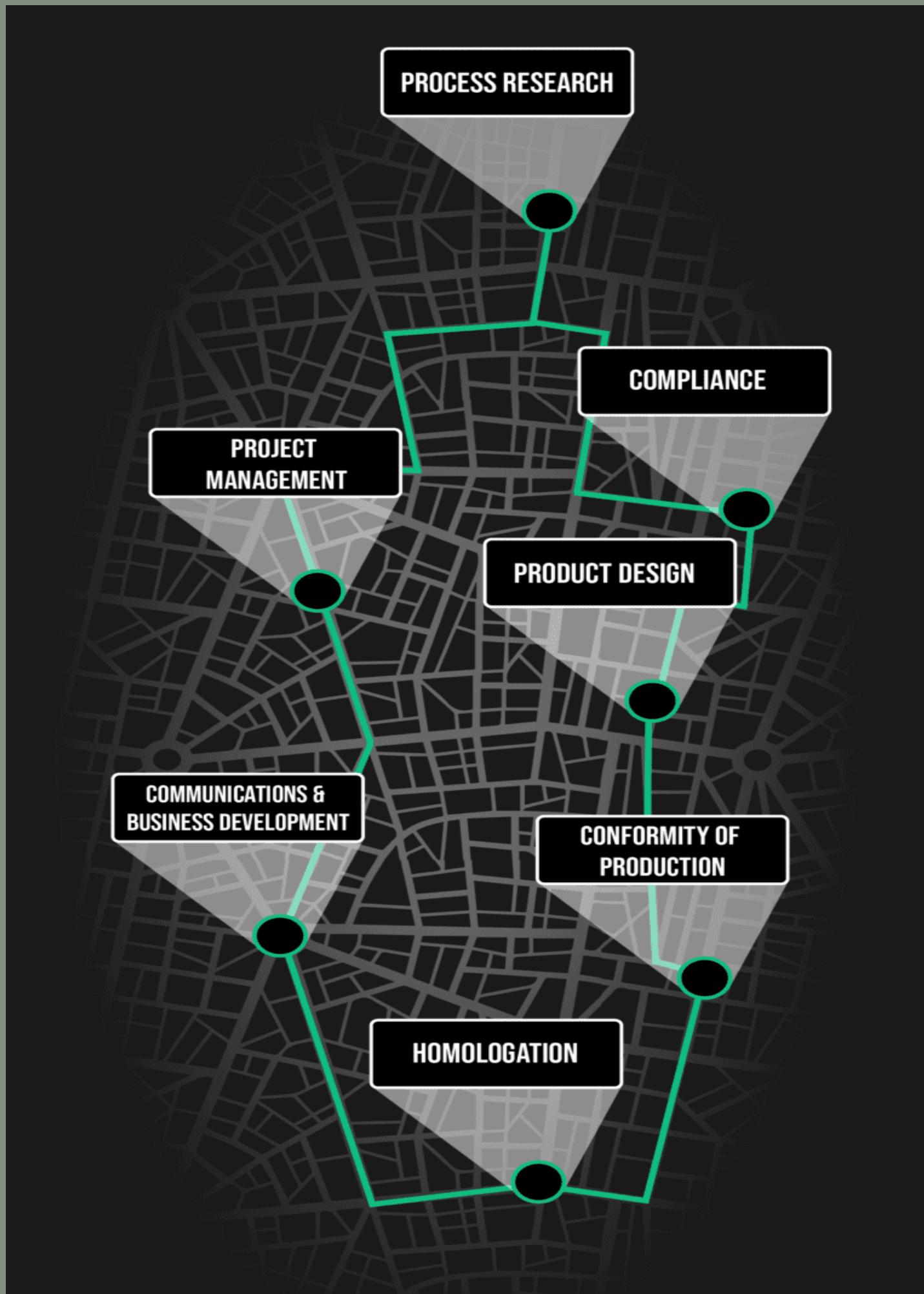
Mobility is a key element of our lives. Its evolution, in modes and means of transportation, has been shaped by various factors - needs, expectations, and constraints - embedded in our social, economic, technological, political, and environmental spheres. In a rapidly urbanizing world, the quality of life experienced by the people living in the cities will determine the quality and sustainability of our future. In this respect, technological advances and innovative approaches addressing the sustainability of urban mobility are of outmost importance for resource use, public health, environmental protection, and economic growth. Edwin Renzen is a key entrepreneurial figure in the European urban mobility landscape: thanks to his insights, Mobilitum was founded, a company that, over a decade in business, has contributed to renewing the way people move within urban spaces.

A Family of Sustainable Transport Vehicles

Mobilitum's production encompasses three vehicle types, all born from the idea of offering innovative solutions for transporting people and goods from one place to another in metropolitan areas. The Stuyf Cargo is a versatile, electric light truck developed for use in densely populated urban areas, particularly suited to last-mile operations. With a range of 43 or 86 km, the battery provides enough energy for a full day's work. This makes the Stuyf Cargo ideal for tasks requiring numerous stops, such as package delivery.

The Stuyf Pickup is an electric light truck originally developed with and for municipalities. The Pickup has numerous applications thanks to its unique roto-molded construction. It can be used for waste collection, cleaning, landscaping, and maintenance in





“Technological innovations are happening almost at the speed of light. In 20 years, we will be 50 years ahead of ourselves in terms of technology. Mobilitum wants to make a substantial contribution to this new world with its technological achievements”.



low-traffic urban centers, or for cleaning departments in holiday resorts. Finally, there's the BSO, an electric bus with a roto-molded front compartment that can transport up to 12 children, picking them up from school and returning them to their homes.

Not Just Products, But Services Too

Sustainable urban mobility is a complex ecosystem that, for Mobilitum, goes beyond the simple definition of the main means of transport and also includes a range of ancillary services, such as periodic maintenance, training courses, the possibility of customising the vehicle according to specific needs. The fundamental objective of these vehicles is to enable easy movement, avoiding the congested situations typical of city traffic. "Cities are reflecting residents' need for liveability with the introduction of zero-emission zones and numerous other initiatives. This is where we come in. My approach is always: where it becomes too crowded for other types of transport, we offer the solution," explains Renzen. For this reason, the rotomoulded HDPE structure of these vehicles allows them to be interpreted in multiple ways through a series of iconfigurations. According to Edwin Renzen, the entire range of zero-emission last-mile mobility products is still in its infancy. "Most applications are still in their early stages and need to mature. The current market is essentially a large test bed where the most suitable logistics solutions have yet to be developed." Looking ahead, he says the rapid pace at which technological developments are coming in the automotive world will radically change the entire playing field. "Technological innovations are happening almost at the speed of light. In 20 years, we will be 50 years ahead of ourselves in terms of technology. Mobilitum wants to make a substantial contribution to this new world with its technological achievements".



Sustainable urban mobility is a complex ecosystem that, for Mobilitum, goes beyond the simple definition of the main means of transport and also includes a range of ancillary services...





The Stuyf Cargo is a light electric vehicle developed for use in dense urban areas.



The rotomolded compartment is equipped with seat belts and can carry up to ten children.



The Stuyf Pickup is a light electric vehicle originally developed with and for municipalities.



Stuyf Cargo replaces motorized vehicles for transport in urban areas.

6. Global Vision

Guocai and Sharon Zhu

Rising Sun, Wenling, China

Giving Shape to Ideas



Interview by Elena Chechet

Sharon, how was your company born and how has it evolved over the years?

The company has undergone several evolutionary phases over its more than twenty years of operation. In the early years, from 2003 to 2008, while we specialized in the production of rotomolded products, we realized how difficult it was to find machinery that guaranteed quality performance. Therefore, my father, a naturally curious person, decided to deepen his knowledge of rotomolding technology by analyzing the systems produced by local companies with the aim of identifying critical points and introducing new innovations. Thus, in 2010, we assembled a team of mechanical engineering experts and local universities to explore cutting-edge solutions for the production of a new generation of quality machinery. From that moment on, a long growth path began, leading us to create a complete range of reliable machinery that has been highly appreciated in China and around the world. In this evolutionary context, we have also grown with the aim of providing an increasingly comprehensive service to our partners, offering integrated systems specifically designed to meet the specific needs of rotomolders.

How did you join the company and what contribution have you made over the years?

Since joining the company in 2019, after graduating, I have worked to strengthen our international presence, establishing extensive collaborative relationships with industry associations and universities such as Hubei Minzu University. The goal is to gradually expand our global presence on the main continents through a network of collaborations, and today we are already





“First, green and sustainable manufacturing will become a key driving force. The rotational molding industry will continue to make substantial advances in renewable materials, energy-efficient processes, and environmental performance throughout the product life cycle.”



present in over 90 countries worldwide. At the same time, we believe in the importance of basic training, which is why we have developed close collaboration with universities to train specialized and competent technicians for the rotational molding industry.

Your research and development center is one of the pillars of your business: how is it organized?

Our R&D system is personally led by my father and integrates both our in-house engineering team and our academic collaboration teams. The university teams primarily offer theoretical support and specialized analysis, while our internal engineers take that data and apply it in real-world settings—refining technologies and implementing practical solutions. This dual-track approach ensures that our innovations are both scientifically sound and commercially viable. Notably, we are the first—and currently the only—company in China to have established an industry-academia collaboration platform dedicated to rotational molding. This initiative has laid a solid foundation for ongoing research and the effective transformation of academic findings into industrial applications.

If you try to imagine the future ten to fifteen years from now, what are the trends that, in your opinion, will most characterise the world of rotational moulding?

As often happens, the future evolution of the sector will be characterised by a multiplicity of key factors that are deeply interconnected. First, green and sustainable manufacturing will become a key driving force. The rotational molding industry will continue to make substantial advances in renewable materials, energy-efficient processes, and environmental performance

throughout the product life cycle.

Second, the use of high-performance engineering plastics will become more widespread. To meet the demands of sectors such as aerospace, new energy vehicles, and advanced medical applications, rotational molding will increasingly incorporate materials like Nylon (PA), Polycarbonate (PC), and PEEK.

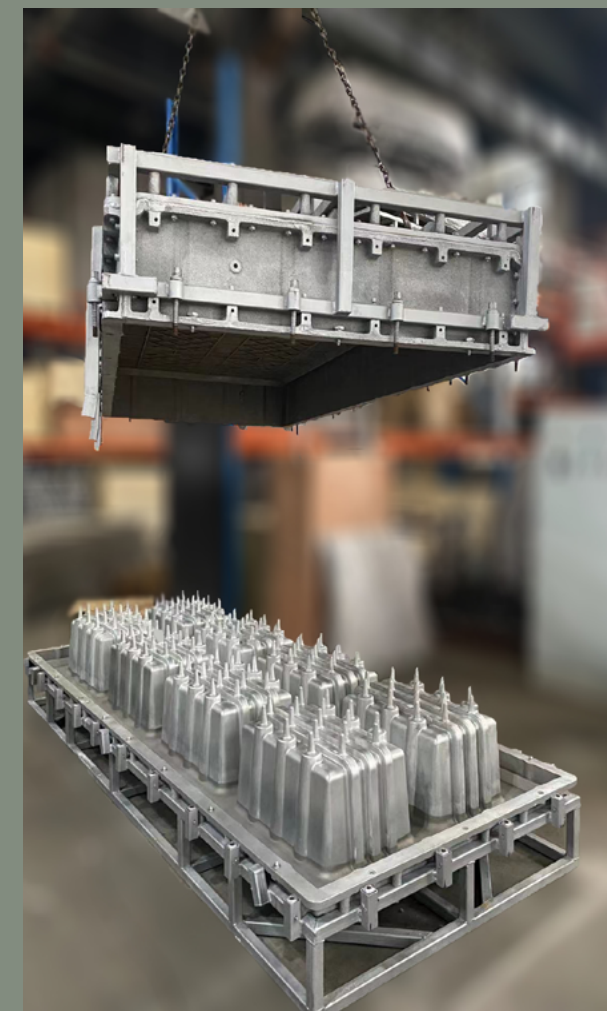
Third, intelligent manufacturing and management—especially with the support of AI—will play an increasingly important role in optimizing, predicting, and controlling production processes in real time.

Fourth, there will be a growing demand for functional integration and lightweighting. In industries such as EVs, energy storage, and aerospace, rotomolded parts are evolving beyond simple containers or enclosures to become multifunctional components—combining structural support, thermal management, and fluid or media storage in a single solution.

Fifth, the adoption of automation and robotics will accelerate. Tasks such as loading and unloading, powder feeding, demolding, trimming, drilling, and post-processing will be handled by robotic systems. This shift will significantly enhance production efficiency, reduce labor costs, and ensure more consistent product quality.

And then globalization and localized service will advance in parallel. In the future, companies must not only have a global supply chain perspective, but also the ability to provide deeply localized services. This is something we are already actively pursuing—staying close to our markets and offering customized solutions.

Technological evolution has also been important to bring rotational molding out of the shadow of a basic technology with which only simple products can be made. Today the degree of sophistication of products is very high... which is your opinion from this point of view, mainly looking to the automotive sector?





In recent years, we've seen a clear trend—both in domestic and international markets—toward increasingly complex rotomolded products. To me, this is a very positive sign. It indicates that rotational molding technology is gradually penetrating a wider range of applications in everyday life, moving beyond its traditional role in water tank manufacturing.

Take the automotive sector, for example—which we define broadly to include not only passenger vehicles but also components for construction and heavy machinery. In recent years, we've supported clients in building multiple production lines for fuel tanks and hydrogen cylinders used in engineering equipment. While market fluctuations do occur from time to time, the long-term outlook remains highly promising.

More and more vehicle manufacturers are turning to plastic solutions for fuel tanks, water tanks, and urea tanks, replacing traditional metal components. This shift allows them to achieve both lightweighting and recyclability—goals that are increasingly essential in modern vehicle design. In terms of processing methods, rotational molding offers clear advantages in producing these parts with complex shapes and high durability.

At the same time, continued advancements in rotomolding materials are opening up new possibilities for the process. All of this is incredibly exciting to witness and be part of.

In recent years the rotational molding industry has progressively occupied various market niches with new products: is there room for further growth in the sector?

We firmly believe that the rotational molding industry holds immense growth potential. On one hand, rotomolded products are well-suited for

mass production, offering the combined benefits of lightweighting and recyclability, which align perfectly with global sustainability goals. On the other hand, compared to other plastic processing methods, rotational molding offers unique flexibility in forming and design freedom—advantages that are difficult to replicate or replace.

Through our on-the-ground visits to various countries, we've identified a wide range of untapped market needs. In many of these regions, the only thing missing is the right opportunity to unlock demand. Once that trigger is in place, we believe these markets can be fully activated.

Sustainability of production processes is certainly one of the key issues for the rotational moulding industry. How do you address this important challenge within your company?

We strongly embrace the principles of sustainable development. In terms of materials, we actively promote the use of renewable and recycled plastics. Energy-efficient processing is another key focus of our ongoing optimization efforts. We've independently developed electric heating ovens equipped with intelligent temperature control and waste heat recovery systems, which have significantly reduced energy consumption. We now rely entirely on solar power to meet all our operational energy needs. With the help of wireless in-mold temperature monitoring systems, we are able to fine-tune process parameters in real time saving both energy and raw materials. Furthermore, sustainability is integrated from the product design phase to its manufacturing. We follow a "lightweight + long lifespan" philosophy, using structural optimization and material enhancement to reduce product weight while maintaining performance and extending service life.



7. Telling ARMO

Ronny Ervik

Nordic ARM - Nordic Association of Rotational Moulders

Interpreting Current Trends



Interview by Corinne Lambert

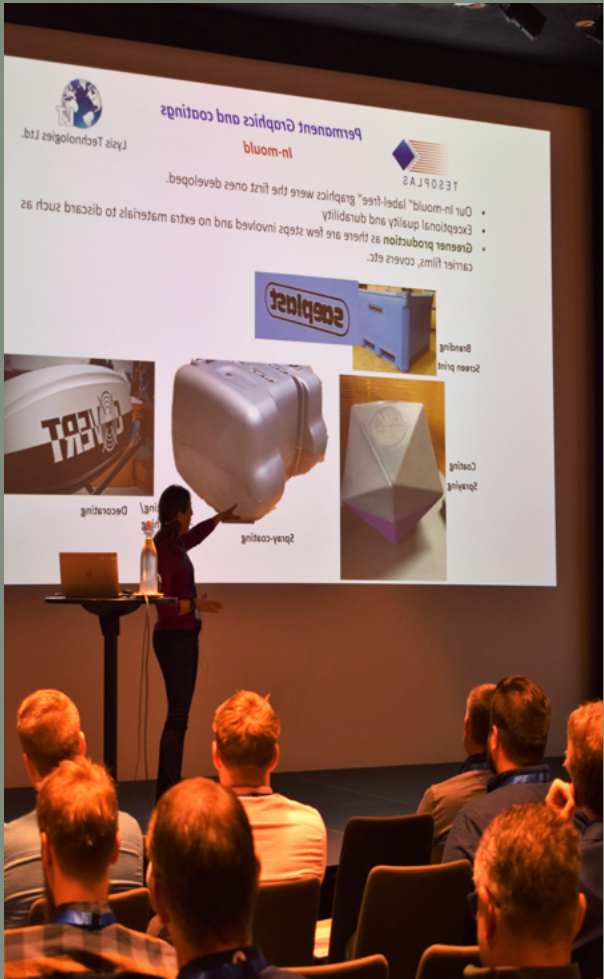
Ronny, you are the head of the Board of Nordic ARM, the association that brings together Northern European companies operating in rotational moulding. When was it founded and what is its purpose?

The Nordic Association of Rotational Moulders Nordic ARM was founded in 2007 by a small group of enthusiastic rotational moulders. The Nordic Association of Rotational Moulders (Nordic ARM) was established to provide a forum where manufacturers, suppliers, consultants and others from the rotational moulding industry in Iceland, Denmark, Norway, Sweden and Finland could come together to: exchange information, promote the market in rotomoulding and encourage the use of rotomoulded products in new applications. Tom Samuelsen, Matz Svensson and I have been board members since 2007 and are still board members with the same enthusiasm as back in 2007. In addition we have Tore Brandstadmoen and Dadi Valdimarsson on the board, and both of them are fantastic contribution to our association.

What types of companies are members of your association?

We have currently 40 members in the Nordic ARM. Most of them are moulders from the Nordics and Baltics, but also some international members, mostly suppliers. I think we represent approximately 75% of the Nordic/Baltic moulders. can also be beneficial for leapfrogging entry into new markets and opportunities.

You are busy organising your next conference, scheduled for January 2026 in Stockholm: what will be the main topics covered at this event?





“We will need to produce faster, at lower cost with improved quality. And I think that the industry will manage this very well. The moulders needs to be aware of new technology coming to the market, and it is our job to inform our members of the evolution.”



Indeed. We are already now 60 registered for the conference. We expect approx. 120 to register within mid January. This conference is firstly for the moulders to learn and gain knowledge how to improve business, get inspiration to take on new processing tools, optimise products and more. Secondly to meet all the suppliers in the market, and discuss with them technical and commercial news. And last but not least meet old friends and competitors from the rotomoulding family, socialise and have great fun.

If you try to imagine the future ten to fifteen years from now, what are the trends that, in your opinion, will most characterise the world of rotational moulding?

Scary question. It's not easy to predict the future... However, in summary, I believe there are some key elements that will clearly emerge in the coming years. First, there will be a decrease in the number of traditional gas ovens with an increase in directly heated molds. Then, we will see a progressive increase in the number of robots and automated systems, resulting in fewer operators.

Rotomoulded products will be more complex, with better distribution of wall thicknesses, produced faster, and with less waste and scrap. As for materials, we will have products with recycled PE or bioPE, while I don't think we'll see many new materials in rotational molding - perhaps PET? Artificial intelligence will improve processing, quality control, and will be able to reduce product thicknesses using data simulation. Finally, I believe there will be fewer small companies focusing exclusively on rotational molding. I think we'll see more rotational molders integrating their offerings with products for injection molding, blow molding, 3D printing, and thermoforming. However, in 15 years, I hope to still be active at Nordic ARM to see these changes.



What are the main challenges that this sector has to face in order to further develop the technology?

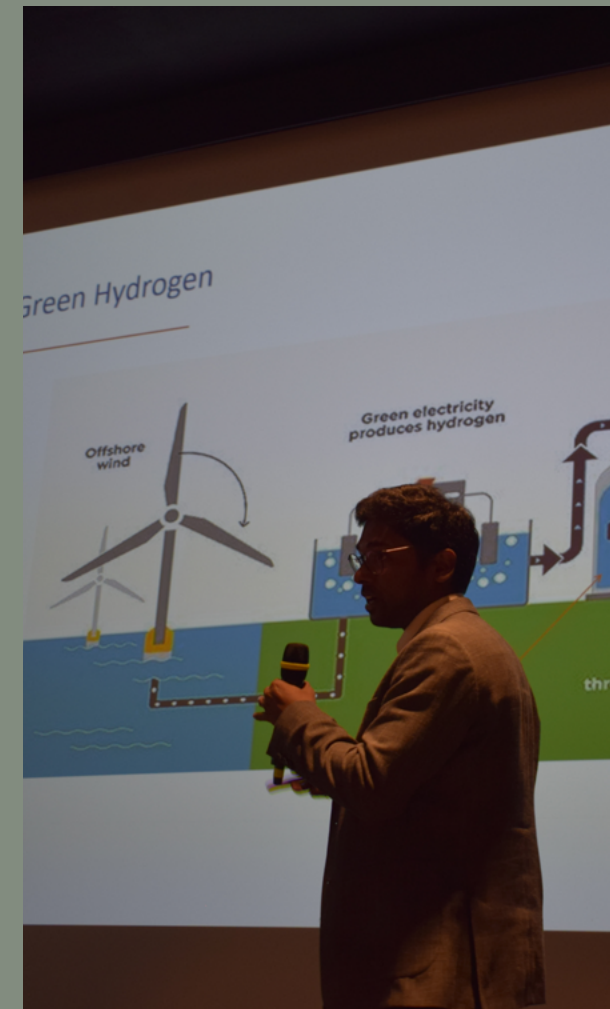
We will need to produce faster, at lower cost with improved quality. And I think that the industry will manage this very well. The moulders needs to be aware of new technology coming to the market, and it is our job to inform our members of the evolution.

In recent years the rotational molding industry has progressively occupied various market niches with new products: is there room for further growth in the sector?

Yes, I see almost every day products in metal or wood, I would like to seen as rotomoulded. I have good hopes that we in the near future can produce either 3D printed prototypes or 3D moulded moulds that can be used as prototype moulds or even production moulds. This can hopefully make it easier to make a go / no go decision for new products.

In today's highly globalised world, how important is the sharing of information between the different associations involved in rotational moulding?

My personal opinion is that this is very important. The Nordic and Baltic moulders are not often competing with moulders from other parts of the world. There are larger competition from other plastic processing techniques, like blow moulding and twin sheet forming. To be competitive we will need to share information to be able to process faster, lighter and with improved quality.

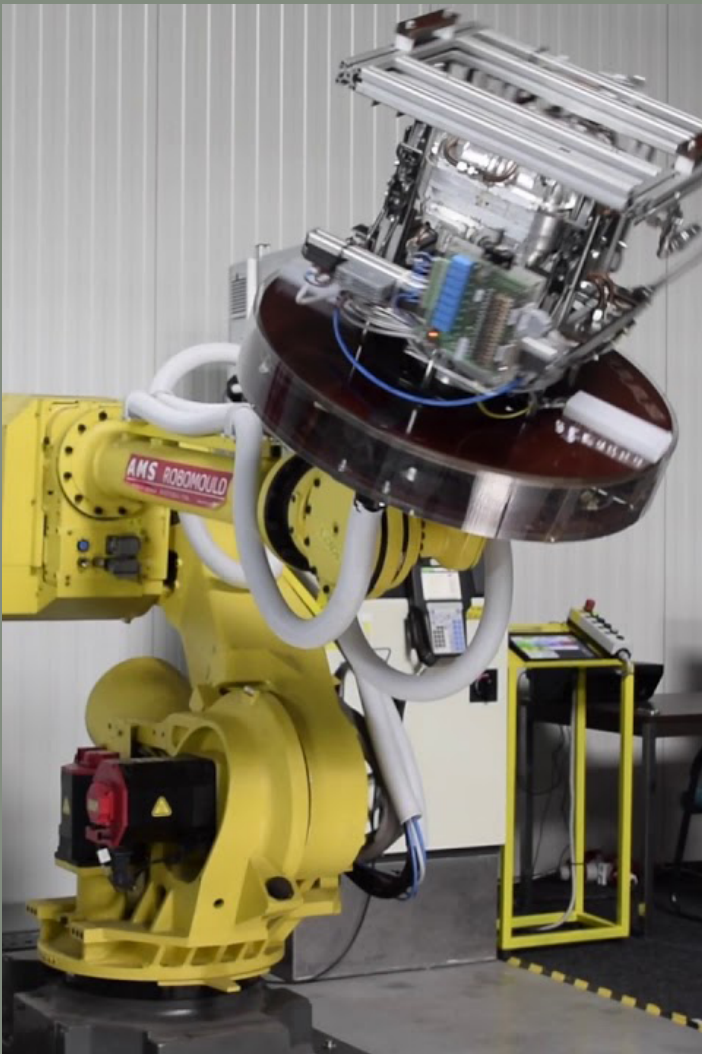


8. Key Companies

AMS Robotics

Bilzen, Belgium

The Evolution of Automation and Robotics



www.amsrobotics.com

Profile

The automation of production processes and the adoption of robotic systems are gradually revolutionising production methods through rotational moulding. From production based on a strong manual presence, automated rotational moulding allows for greater efficiency and a significant increase in plant productivity. With over 20 years of specialised experience in automation and robotics, AMS Robotics has built a reputation for excellence, offering innovative, reliable and customised automation solutions in a variety of industries.

The Multiple Potential of Robomould Technology

Robotic plastic moulding delivers high-precision heat and material control, allowing part designs to benefit from reduced materials consumption and finished part weight without sacrificing strength or durability. The main focus is on automated rotational moulding and Hydrogen H2 Liner manufacturing technology. Through Romoulding is possible to automate parts of the process to help reduce overall production times and improve cycle times. Using individual heating elements integrated into the aluminum tools, robomoulding allows for precise heating of different zones. Electric heating elements also eliminate the need for large heating and cooling chambers, thereby reducing energy consumption. The process also enables Robomould to manufacture more precise parts with greater complexity by closely controlling the heat distribution, allowing for thinner, more consistent wall thicknesses and reduced overall weight. This ability to better control wall thickness is a distinct advantage in that it allows for designed-in wall thickness variation in specific areas. Additionally, multi-layer parts are possible and practical with a wider range of polymers.



8. Key Companies

XM Tech

Malo, Italy

From The Initial Concept To The Final Mould



Profile

Quality isn't a label; it's a process of attention, tools, and technical expertise. The final value of a rotationally moulded product is inextricably linked to the quality of the moulds and the preliminary stages of project analysis, prototyping, and modeling. XM Tech is one of the leading companies in the mould manufacturing sector, offering a comprehensive service capable of transforming an initial idea into a real product. Driven by a constant desire to offer reliable solutions even in the face of the most difficult challenges, XM Tech has progressively grown over the years through the adoption of the best technologies to satisfy every need in mold production.

Facility and Capabilities

The development of each mould follows a precise methodology at XM Tech that starts from careful technical design aimed at defining every construction detail to optimize production.

The company produces casting and CNC-milled moulds from aluminum blocks offering various types of finishes. Cutting-edge 5-axis milling machines allow XM Tech to ensure rapid delivery of high-quality moulds, starting from a CNC-milled block. Direct collaboration with the foundry and ongoing research into specialty alloys ensure high-quality casting moulds. Thanks to ongoing investments in software and machinery, mould production is achieved with short lead times and high efficiency.



9. International Events

ARMO

Affiliation of Rotational Moulding Organisations

Calendar



Nordic ARM Conference 2026

Stockholm, Sweden Jan 27 – Jan 28, 2026

The biannual Nordic ARM Conference is a must-attend event for anyone involved in rotational moulding. Whether you're looking to stay ahead of the latest innovations, connect with leading suppliers of machinery, moulds, materials, release agents, and accessories, or gain insights into industry trends - this conference is the place to be!
www.nordicarm.org



StAR Annual Rotomoulding Conference & Trade Show 2026

Delhi, India Feb 2 - Feb 4, 2026

From 2 to 4 February 2026, StAR will hold its annual conference in Delhi. The event will be accompanied by a trade fair offering opportunities to meet with companies and participants.
www.starasia.org



ARMO General Conference

Baveno, Italy Apr 26 - Apr 28, 2027

ARMO is pleased to announce that its next general conference will be held in Baveno, northern Italy, from September 26 to 28, 2027. More details and information on this major event dedicated to the world of rotational molding will be available soon.
www.armo-global.org



10. Affiliates

	AFR - Association Francophone du Rotomoulage	www.rotomoulage.org
	ARM - Association of Rotational Molders	www.rotomolding.org
	ARMA - Association of Rotational Moulders Australasia	www.rotationalmoulding.com
	ANIPAC - The Mexican Plastic Association	www.anipac.org.mx
	ARMSA - Association of Rotational Moulders Southern Africa	www.armsa.co.za
	ARM-CE - Association of Rotational Moulders Central Europe	www.rotational-moulding.de
	StAR - Society of Asian Rotomoulders	www.starasia.org
	Nordic ARM - Nordic Association of Rotational Moulders	www.nordicarm.org
	BPF - Rotational Moulders Group	www.bpf.co.uk
	IT-RO - Italia Rotazionale	www.it-ro.it
	RPC-CPPIA	www.crotomolding.com
	Rotopol Association	www.rotopol.pl



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