

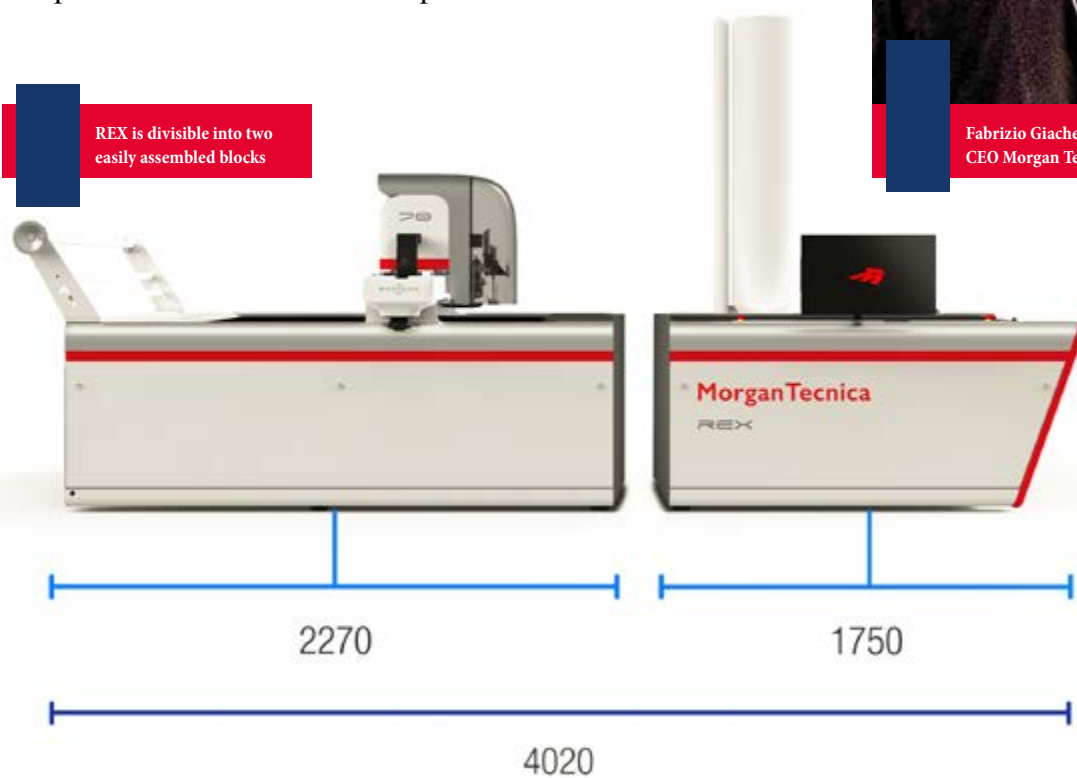
# Sustainable, compact, and China-free

**Fabrizio Giachetti**, CEO of Morgan Tecnica, unveils the new cutting machine, REX, which ensures advanced performance, reduced consumption, and complete independence from Made in China productions



REX is divisible into two easily assembled blocks

Fabrizio Giachetti, CEO Morgan Tecnica



## Future prospects

«Our REX machine, previewed at ITMA Milan, has been on the market since January, and the current delivery time is approximately 90 days» commented Fabrizio Giachetti. «Currently, the Fashion market is experiencing a slowdown due to international factors and the uncertainty surrounding the advent of Industry 5.0, which has created a sort of standstill. However, we anticipate a recovery in the second half of 2024 and are confident of achieving positive results in other sectors as well, such as Furniture, Accessories, and Automotive».

In a perspective of constant innovation and continuous improvement, Morgan Tecnica launches new products or versions with an average of three years. «In the development of the new REX cutting machine, our R&D department has adeptly identified the necessary features for the success of the new automatic cutting in the market. The challenges from 2020 onwards have prompted us to make decisions that have proven successful from a marketing standpoint».

### THE DEVELOPMENT PATH

«The initial goal was to improve the performance of our Next 2 Delta cutting machine while simultaneously adopting components that would make us resilient to geopolitical events, ensuring security both in the present and in the future». Sourcing electronic components in the recent past has indeed been challenging. «We have all become aware of how dependent we are on China and the resulting slowdowns: regardless of the product's quality, if the components are

missing, production is compromised. We needed a change in strategy, with different suppliers».

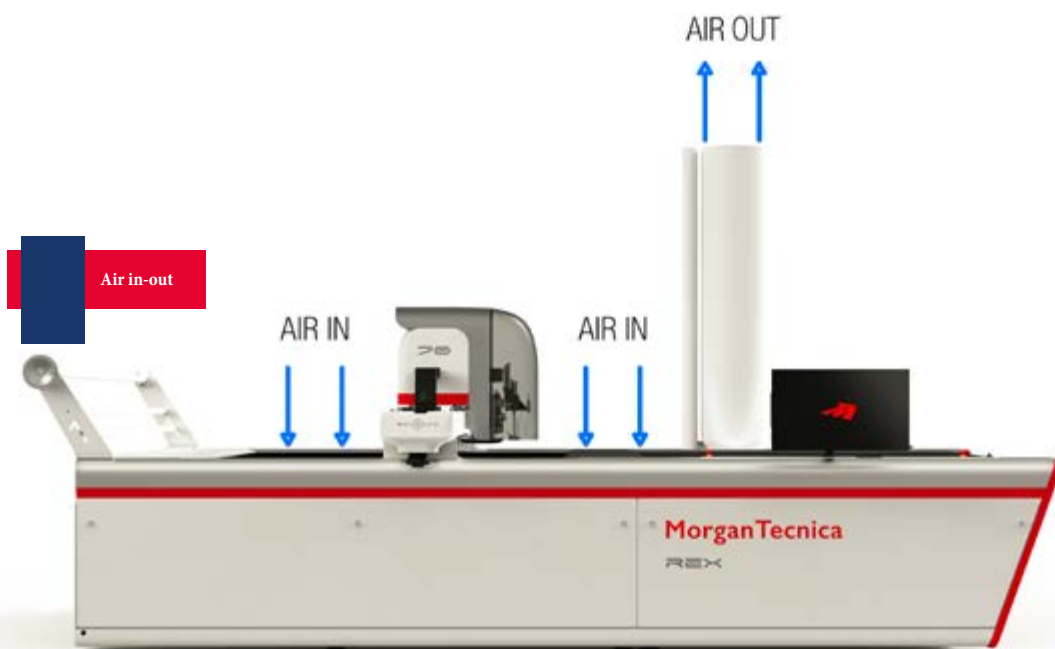
There was another significant factor: «For a certain period, maritime costs increased tenfold, while air costs increased more moderately. So, we designed a machine that could be transported by air, more compact and divisible into two easily assembled blocks without compromising performance and quality».

Finally, there's a greater sustainability aspect. «We committed ourselves to

creating a high-performing, sustainable solution with lower consumption, in line with the Green Deal directives». REX has two sustainable patents for considerable energy savings, with a 50% reduction in consumption compared to traditional cutting machines in the same range.

### INNOVATION MADE IN EUROPE

In the REX, Chinese components make up less than 1%, while 70% is Made



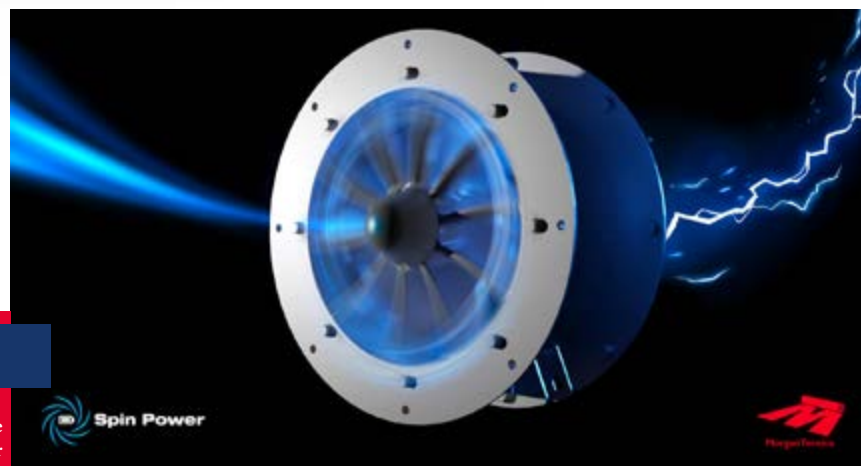
in Europe. This is especially true for electronics, which protects against tariff uncertainties or geopolitical situations that complicate their availability. «In addition to ensuring our security, this decision has been attractive from a marketing standpoint. We have formed a partnership with Bosch Rexroth, a German company that has invested in achieving independence in semiconductors in recent years. All components we purchase are 100% Made in Europe: this attests to our commitment to reliability and ensures uncompromising quality».

### COMPACTNESS AND MODULARITY

Thanks to its reduced size and the ability to be divided into two parts, REX can be transported by air. «This allows our customers to choose the shipping option that best suits their needs, and we can offer fast delivery at an affordable price».

The total length is about one meter shorter than previous models. The machine can be shipped without disassembling the technological part, such as the cutting area, the main axes of the machine, and the cutting head. «Furthermore, thanks to a new fan inside the machine, we have been able to reduce the size of the suction tank: this has improved suction efficiency and allowed us to install a power of approximately 40% lower».

Wind turbine Spin Power



### THE TWO SUSTAINABLE PATENTS

To ensure sustainability performance with the lowest possible energy consumption, Morgan Tecnica has filed patent applications for three patents, two of which focus on sustainability.

The first, ERS (Energy Recovery System), eliminates energy waste and recovers energy similar to what happens during the braking process of hybrid cars. Whenever the motors decelerate, the dispersed energy is recovered and put back into circulation, «thanks also to the “Smart Energy Mode” functionality of Bosch Rexroth. This dampens peak consumption and gives the machine strong energy efficiency».

The second patent arises from the fact that all cutting machines use large aspirators, responsible for most of the energy consumption, to immobilize the

fabric during the cutting operation, creating an airflow that is expelled upward through the exhaust chimney. Morgan Tecnica has therefore invented a small wind turbine, Spin Power, which harnesses that airflow to generate electricity.

«We had estimated that ERS and Spin Power would result in a 40% energy saving, but the forecast has proven to be conservative: the savings in some cases exceed 50%». All this translates into lower bills and significant tax breaks thanks to the benefits associated with Industry 5.0, as envisaged by the National Recovery and Resilience Plan (PNRR) that will soon come into force – it is thought – also retroactively.

### THE THIRD PATENT

Automatic cutting systems are designed to process a large number of shapes,

and among these, some may require special precautions. Since there is currently no algorithm that can preemptively and definitively recognize a problematic shape, operators tend to reduce the overall cutting speed, and consequently, productivity suffers.

«We have developed a collaborative approach that combines operator experience and automatic procedures. When the operator encounters a problematic shape, they simply input it into the Morgan ADB (Active Database) with a single click, and corrective attributes are applied. The user can decide whether to create a personal local database or share it via Morgan Tecnica – which securely filters shapes and attributes – with other ADB users who have registered for a specific subscription».

# The added value of software Made in Morgan

**Federica Giachetti**, President of MorganTecnica, spoke to us about the centrality of software: the brain of an efficient and organized cutting room and high-performing machines

Federica Giachetti firmly believes that there can be no efficiency without good organization. «That's why back in April 2008 – just two months after the founding of Morgan Tecnica Spa – we established a software house, Morgan Dynamics Srl, located in the same headquarters in Adro (BS), which develops all our software. Recently, we have also invested in enhancing the internal development team to strengthen the proposal of Made in Morgan software products, which make our complete solutions for the cutting room more competitive, integrated, and modular, from design to cutting», she explained.

«Our vision is centered on the efficiency of the entire process, from Design to Cutting, the result of deep and specific know-how fueled by tireless R&D activity. My brother and I inherited this experience from our father, Franco Giachetti, who was one of the leading experts in cutting room organization and technology. We have never just been manufacturers of products, machines, or software: we design and implement solutions for the entire process, aiming to improve control even through effective data exchange among various actors. We aim to increase production efficiency while minimizing raw material and resource consumption».

Federica  
Giachetti,  
President  
Morgan Tecnica



## THE BRAIN OF THE CUTTING ROOM

The old Cut Plan or Cut Order Planning, now renamed Morgan Mastermind, goes far beyond cutting order planning: it is an organizational and control tool for the entire process, a “gray eminence” serving the cutting room, overseeing and coordinating all activities involved to save fabric and achieve maximum production efficiency. «This software, in which we are absolute leaders, gathers the technological legacy of our father, who had developed a first idea back in the 1980s with the technology of that time».

It is a complex but user-friendly software. Modular and versatile, it adapts to different production realities and ensures tangible and concrete results. «Textile companies know how

important fabric saving is, which is their highest expenditure item. With Mastermind, actual fabric savings can be demonstrated, often exceeding 10%: we offer individual simulation tests rather than generic demos so that everyone can measure the system's results on their own orders and specific data».

Mastermind analyzes and processes each work order, calculating various processing options and quantifying fabric consumption and laying and cutting times in advance. Additionally, it manages the distribution of instructions for CAD, with size assortments for placements; fabric warehouse, with an optimized roll picking list; spreaders and automatic cutters, with spreads to be laid out and placements to be cut.

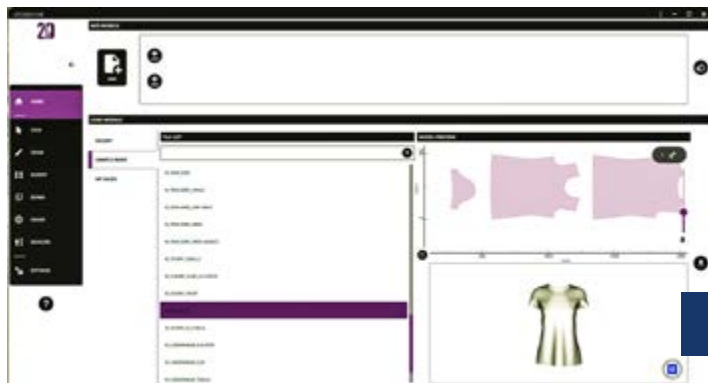
## Morgan Schoolbox

«We wanted to invest in the users of the future with a tailor-made package for schools, which typically have limited resources and difficulty engaging students in activities that stimulate their creativity, bringing them closer to the world of work» explains Federica Giachetti. «In the Morgan SchoolBox, we offer a special Educational license for teachers at a symbolic price, and an unlimited number of free stations for students, which can also be installed on personal devices for working from home. Additionally, if schools organize internal competitions to have students design new models, we include the best ones in the Sample Bases: this provides students with an international showcase, as their work displays the author's signature and contact information».

## 2Delight

A new feature related to the 2D CAD: 2Delight, the software version designed for the Furniture, Automotive, and Accessories Industries. «2Delight improves efficiency and precision in the design processes within these sectors, meeting their specific needs and requirements».





Sample Bases



My Bases

MAST3R MIND

2D  
2DESIGN

2D  
2CAPTURE

2D  
2TETRIX

### THE NEW 2D CAD

2Design, the new 2D CAD, is the result of decades of experience and know-how in model creation and pattern making, but also of the vision of an integrated process from Computer-Aided Design (CAD) to Cutting.

«Almost all CAD systems currently in use were conceived over 20 years ago, which is like a geological era in terms of computer technology» explained Federica Giachetti. «Furthermore, most CAD workstations in use today have not been updated for many years, mainly due to the excessive costs involved. This exposes users not only to inconvenience, inefficiencies, and communication difficulties with external parties but also to the risk of incompatibility with new hardware and operating systems, sometimes leading to system failures. Additionally, recent mergers and acquisitions among CAD providers have reduced market offerings, leading to new rules and increased service costs for existing users. Therefore, we believe the market is ready to embrace an alternative that, often at a lower cost than updating an old workstation, offers a new, modern, more efficient software solution, open to dialogue with other systems, and with an economical and transparent after-sales service policy».

2Design is designed to facilitate the entry of new users, many of whom come from other CAD systems, significantly shortening their learning curve, and enabling them to benefit from all the advantages of a more modern and innovative work tool.

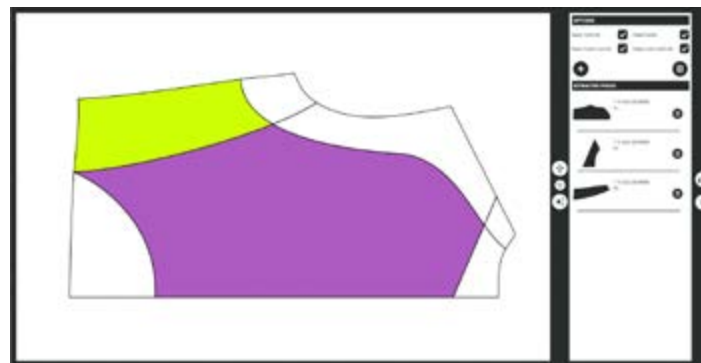
### How does the use of AI fit into this project?

«It is essential to make the new user feel effectively and consistently supported,

both during the learning phase and afterward, while also reassuring them about the costs of these services. In addition to traditional on-site training courses, we offer more affordable online courses, free video tutorials integrated into the software, and the virtual assistant Morgana, a product of the latest Artificial Intelligence technology. Free and integrated into the program, it is available 24/7 and answers any questions regarding the software's use, in all languages in which the software is published».

### How else does 2Design facilitate new users?

«2Design offers a large database of patterns, called Sample Bases, of tried and tested bases, subdivided by type and with 3D preview, which the new user can draw on freely. My Bases, on the other hand, is for more experienced users who have - or want to create for themselves - their own archive of bases to use as a reference for future collections, choosing whether or not to keep the direct link to the base of origin, to manage even massive changes».



### Is 2Design compatible with other systems?

«Unfortunately, some CAD manufacturers have chosen not to use, or use imperfectly and incompletely, the available standard formats for sharing models and patterns, favoring the use of proprietary native files. This forces the market to make often mandatory purchasing choices in order to communicate with their clients or partners. In contrast, 2Design uses standard formats even for internal data transmission: for example, between our CAD and our cutting system, we use the ISO standard format, without favoring files from our software over those from other sources. The hope is that all CAD

manufacturers embrace the same policy of openness, allowing the market to choose freely».

### How is Morgan's 2D CAD package composed?

«In addition to 2Design for pattern making, there are: 2Capture, which, from the click of a smartphone, automatically digitises patterns economically, quickly and accurately and makes them available to any CAD in a standard format; 2Tetrix, which, also working together with MasterMind and with a powerful automatic nesting algorithm, creates more efficient markers to be sent to cutting machines».

# Optimal service for full customer satisfaction

In terms of Operations, significant changes are taking place at **Morgan Tecnica**: streamlined production, following Lean Manufacturing principles; new supplying dynamics, with a focus on rationalizing the Supply Chain; and a completely revamped service. **Nicola Donini**, Director of Operations, shared this with us

**N**icola Donini commented: «Our most important game is played when we finalize the installation and after-sales service». He manages all operational aspects at Morgan Tecnica: production, including planning and procurement, inbound & outbound logistics, operational quality, machine installation, and related service. This global perspective allows him to have full control over the entire company cycle.

## THE RENEWAL OF THE SERVICE

«Our business card is the way we assist customers using our machines. That's why we're moving forward with a project that allows us to offer a completely revamped service». Donini explained that from March 2024, began the renewal of the Service department, which was divided into two macro-areas, delineating the two separate worlds of Customer Care and Customer Service, followed and managed by two different managers. «We were guided by the beacon of total customer satisfaction. Therefore, we structured a more comprehensive service, including a series of targeted activities such as specific training for installers and customers». This theme sheds light on the utmost

Nicola Donini,  
Operations Director







A shot of Morgan Tecnica's production department

importance, for those who use the machines, of having internal skills to perform maintenance or simple repairs in real-time.

#### **SERVING CUSTOMERS**

«In the area of Customer Care, we have also created the MorganTecnica Academy, a great innovation that provides not only an internal training school, but above all one outside the company. We have 5 branches, many distributors, and installers scattered all over the world. Our mission is to specialize them in every type of machine that characterizes Morgan Tecnica's complete offering». «We will continue to deal with what I call "the firefighting department", that is, the Customer Service that intervenes in case of installation-related issues». For Morgan Tecnica, it is essential to carefully manage interventions that can be carried out over the phone. «We have structured ourselves to ensure high-level telephone assistance, with immediate response, to solve any query that comes from every part of the world». The customer now has the certainty of being assisted in the best possible way and in the shortest possible time.

#### **THE INTRODUCTION OF LEAN PRODUCTION**

Even before addressing the Service and the post-sales approach, Donini considered it essential to renew the entire logistics-production aspect. «Change, first and foremost, must be cultural. What I have learned from my work experiences is that Corporate Culture is not just an element of the game: it is the game itself. To be successful, there must be the collective will of the organization, and above all, within that organization, there must be the same values, which will guide the change».

The Lean philosophy has been implemented with the aim of reducing the Lead Time of orders and providing the highest quality service possible. «The markets are becoming increasingly competitive: those who order a machine need to receive it

quickly. For this reason, Morgan Tecnica has also set up predictive work, through a system that predicts the extent of sales, in order to be faster in delivery. This is a celerity that is difficult to achieve in an industry with a high incidence of customised installations».

The 2023 innovation, which brought the new Director of Operations, is the creation of two dedicated product lines – one for cutting machines and the other for laying machines – capable of guaranteeing precise Lead Time and a rhythm, called Takt Time, in line with market objectives. Takt Time requires synchronized assembly stations, for a continuous and balanced production flow.

#### **THE KEY ROLE OF LOGISTICS**

Even more important than production is the logistics in the broad sense, which must be adequate and follow the right production pace. «In 2024, we will focus on the entire Supply Chain, with the aim of cooperating with suppliers who deliver punctually, when the process requires it, surpassing the concept of "buy and stock". For this, specific audits need to be conducted to assess if a supplier is qualified in this regard».

The concept is to move warehouses closer to suppliers, thus ensuring that materials are stored directly by third parties to avoid storage within Morgan Tecnica.

«To set up this model, the necessary path is a Supply Chain 4.0, therefore a portal with suppliers that becomes a communication channel through which everything can be managed: order, order confirmation, delivery, and delivery postponement».

Morgan Tecnica also intends to reduce the management complexity of purchasing materials needed for production, thanks to a path of industrialization and standardization of the product. This involves a process of rationalizing the supply chain, with an outlook of increasingly closer collaboration with suppliers, who are increasingly becoming true working partners.