



# Denim and Fashion





# Company

**Since 1982** we offer to our customers innovative laser solutions which are able to satisfy the specific market's requirements and to revolutionize the whole production process, by replacing traditional technologies. Thanks to our know-how and non-stop investments, we provide laser systems that guarantee significant performances in terms of productivity, cost, operational efficiency, sustainability, and final quality of the product.

The complete range of laser systems developed by our **R&D department** is able to satisfy the application needs of our customers in highly specialized markets, including: Plastic Converting, Lighting, Visual Communication, Textile, Interior Design, Automotive, Graphic Arts, Converting, Labelling, Flexible Packaging, Folding Carton, Furnishing, Metal processing and Electronics.

## VISION

*We work so that our innovative solutions help find new opportunities and new business for customers.*

*"Revolutionary Generation": this is SEI Laser.*





Our laser systems are entirely designed and manufactured **in Italy**. SEI Laser has five R&D departments and three production sites. Mechanical, electronic, software, laser designs, engineering & ergonomics of the machines, the laser application process, and the inclusion in the production work-flows are driven by teams of highly specialized technicians, who are able to respond promptly to customer requests and to establish technological revolutions.

Cutting-edge technologies require commitment and constant research. Our history has its foundations in loyalty and mutual esteem with customers. This alchemy has allowed us to establish strong relationships which have lasted for decades and that are constantly renewed.





# Textile processing



Manufacturers, fashion houses and consumers of the textile industry follow a trend which is more and more oriented to sensitive issues such as garment customization and environmental protection.

Laser technology can be used to decorate, mark, engrave, cut and tear the fabric to give a finished garment special effects such as a faded and worn look or an elegant design.





Thanks to laser the discoloration of the garment occurs quickly because of the use of both the “light energy” and heat. The aesthetic results are stunning and can be replicated from a garment to another.

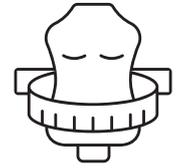
SEI Laser has been on the market for years with its revolutionary laser solutions with above-average productivity, which are able to recreate some extremely natural finishing effects.





# Matrix Textile | ROLL-TO-ROLL, ROLL-TO-GARMENT AND FINISHED GARMENT PROCESSING

The Matrix Textile system represents the synthesis of technological excellence, flexibility and production innovation for the finishing of fabrics directly on roll.



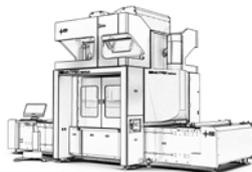
One of the main features of Matrix System matches with the ease of transformation of the creative spark into a product of simple realization and high profitability. Matrix System allows to recreate on denim some finishes which are usually impossible to get with traditional solutions.

- Some elements are needed to develop the process:
- Two-dimensions pattern with sizing development,
  - Graphics and images to realize thanks to laser technology.

The graphics are transposed in the form of finishes applied directly on the 3D model, adapted to the sizes according to the established rules and automatically translated into "laser parameters", which are sent to the machine.



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Possibility to realize a project on the computer intuitively, by setting some flexible management-parameters which instantly become machine commands.

The ease of use of EnGenius proprietary software allows to virtually pack the garment and to adapt on the latter the default graphics. The three-dimensions design development is applied to the standard size and it adapts itself automatically to all the other sizes.

This process does not accept mistakes and it optimizes the prototyping of the garment. While using EnGenius, every characteristics of the garment can be seen: fabric, graphic, washing, and accessories.



The laser of Matrix Textile has an unreachable definition: it goes as far as the meticulous decoration of complex images, since the beam of light is concentrated in an area which measures less than a millimeter.

Many of the current laundry techniques can be anticipated or even replaced thanks to Matrix System work: production is faster, more sustainable and affordable.

Matrix Textile introduces some revolutionary processing ways: cutting and marking take place simultaneously, through a single laser machine which saves investments for both the cutting room and laundry. As a result, the total processing cycle is reduced and delivery times become extremely competitive.



Thanks to Matrix System, is now possible to reduce the production chain to the lowest terms and, consequently, the need to go back to traditional laundry activities.

Consumers can now buy sustainable garments without sacrificing the creativity of fashion trends.





# Flexi Denim | FINISHED GARMENT PROCESSING

**Flexi Denim** is the innovative range of laser solutions designed by SEI for the digital finishing of clothing and jeans. These systems replace the traditional techniques of bleaching, abrasion, decoration, marking, engraving and cutting, ensuring maximum quality and productivity.

## Main features

- Adjustable productivity and automation;
- State-of-the-art laser technology and performances;
- Ease to use;
- Possibility of delocalized design of laser processing;



## CONFIGURATIONS



### FLEXI DENIM 2C

*Double conveyor to optimise production time*



- High definition and natural gradation effects;
- Lower energy consumption costs if compared to traditional laser solutions;
- Higher productivity if compared to traditional laser machines;
- Remote diagnostic and customer care;
- Compliance with the latest Industry 4.0 protocols;
- Ecologically sustainable: zero emissions, zero water;
- Operator safety and ergonomics.



**FLEXI DENIM 2M**

*Double Mannequin*

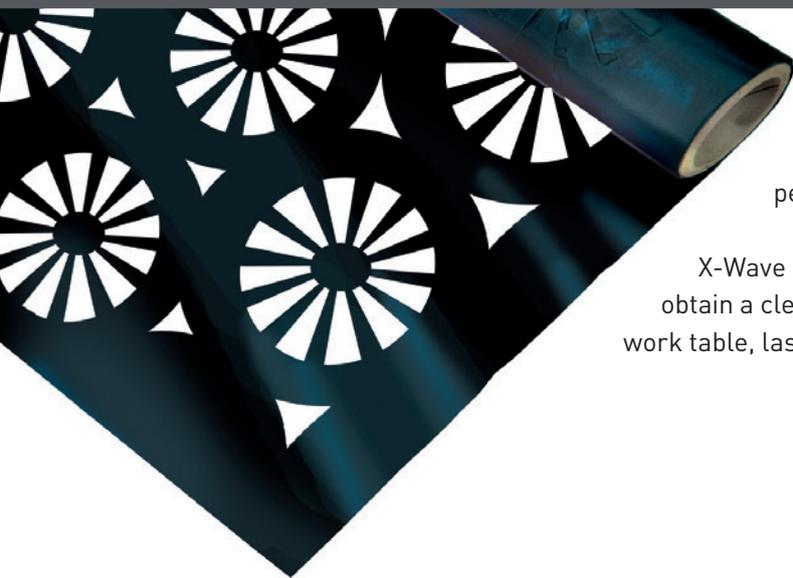


**FLEXI DENIM FLAT**

*Single Static Table*

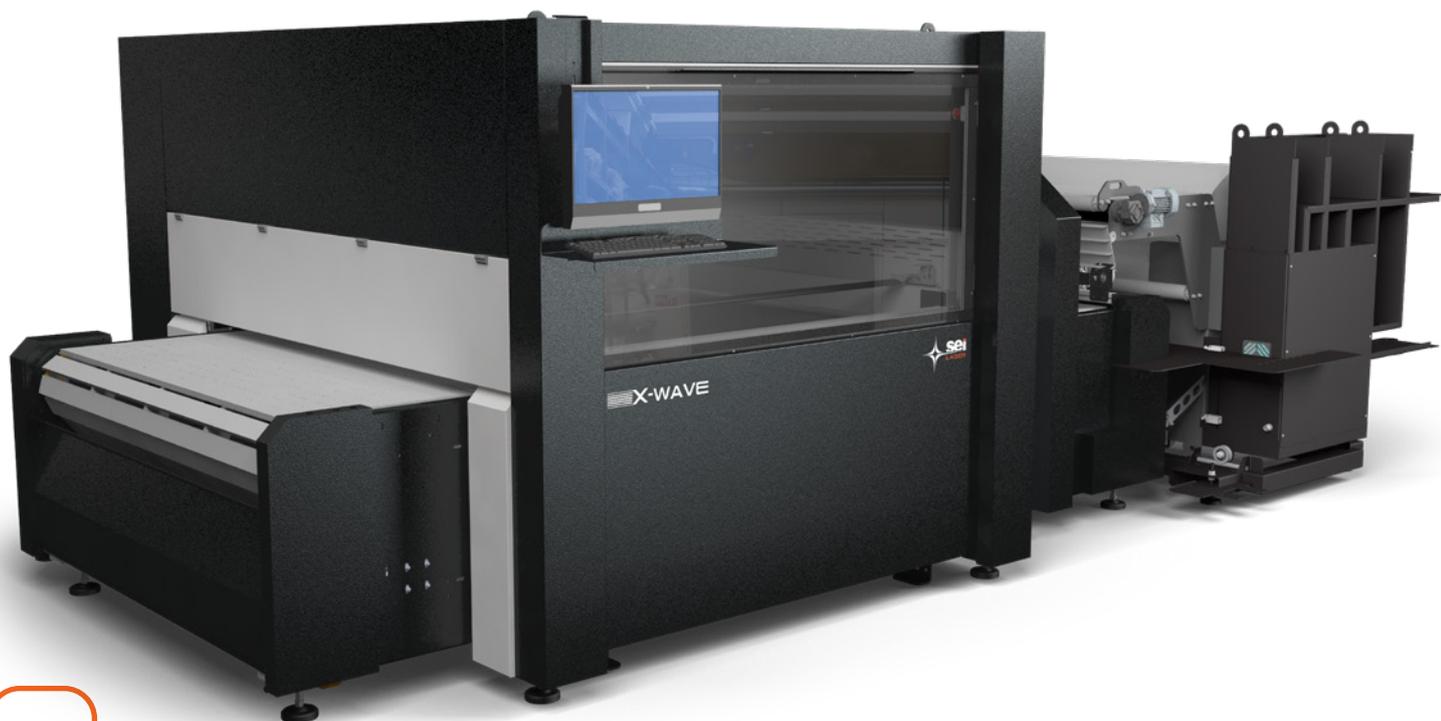


# X-Wave Conveyor | FABRIC ROLLS PROCESSING



X-Wave Conveyor is the laser solution designed by SEI for cutting, perforate and decorate rolls of fabric characterized by high performance in terms of definition and productivity.

X-Wave Conveyor is equipped with a set of technologies to obtain a clean cut, which involve the optical system, transport, work table, laser source control, smoke extraction.

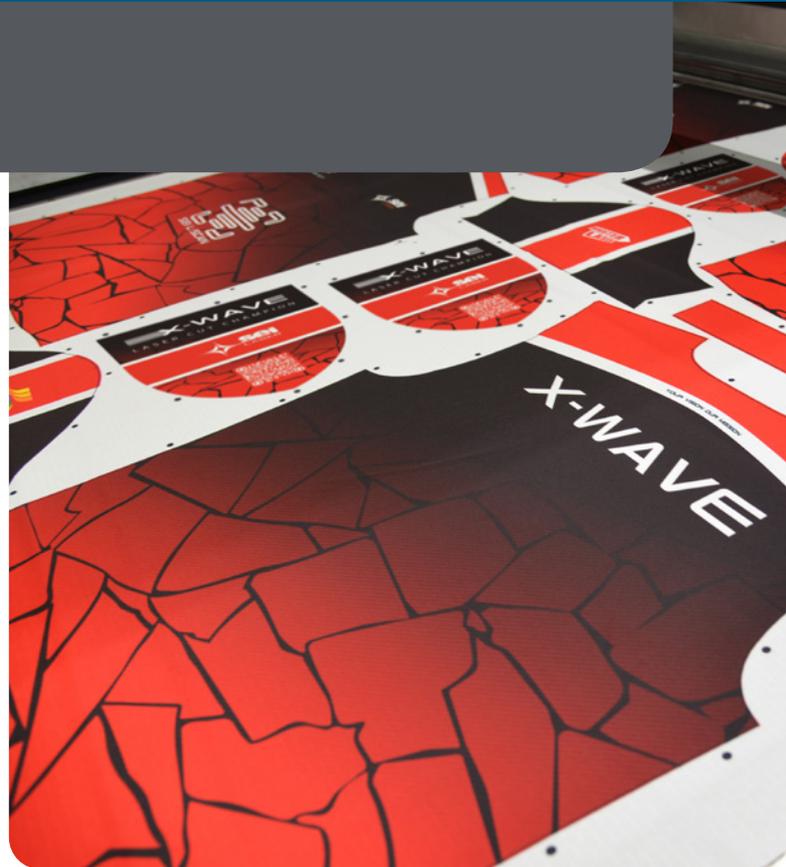




X-Wave Conveyor allows programmable or “window” working mode automatic, step or fly.

X-Wave Conveyor registry cut with:

- Linear scanner vision system;
- Vision system with camera on laser head.





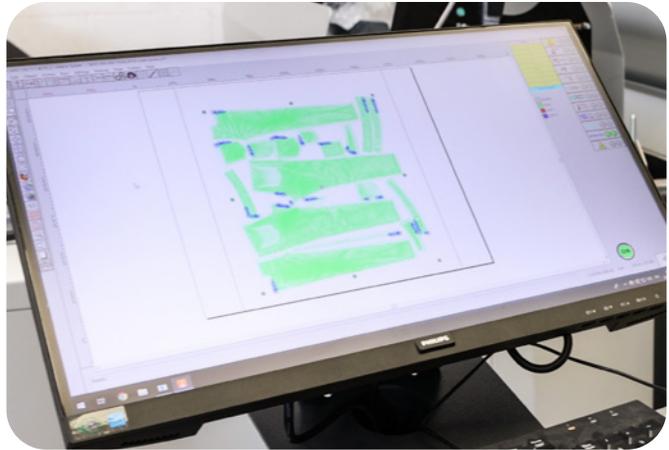
# Icaro Software

All SEI Laser systems use the proprietary Icaro CAD/CAM software developed by SEI Laser, extremely intuitive and user-friendly.

The easy import of placement files, from CAD or PDF, AI, EPS, JPG and the customized setting of machining parameters, make Icaro a powerful multifunction software.

The key features of the Icaro software are:

- Operator interface dedicated to processing;
- Management of laser and process parameters libraries;
- Management, manipulation and assignment of laser parameters to raster graphic files;
- Automatic management and assignment of work parameters to graphic layers;
- Optimization of laser paths;
- Bravo SEI module, on the fly or step;
- Integration with commercial nesting software;
- Local or remote diagnostics of the whole system;
- Interconnection with digitized business work-flows.



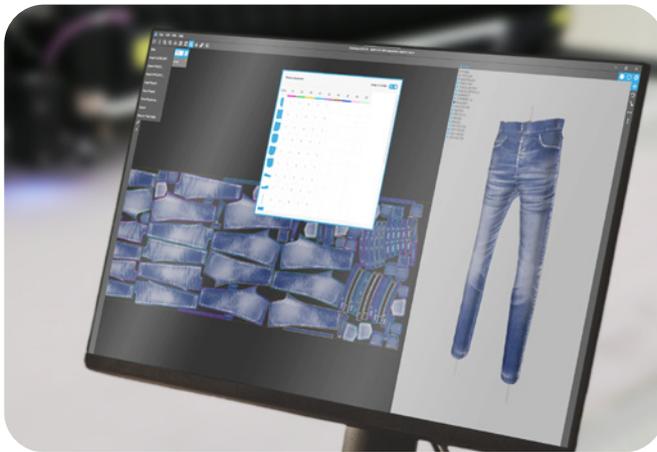
Icaro Software interfaces with the SEI vision system, consisting of the SEICAMERA application software and matrix or linear cameras that allow the registry cut through the acquisition of markers or reference patterns thanks to:

- Rototraslations of the figure to be cut;
- Dimensional compensation (stretching, skew, folds, etc.).

The process takes place “in line” even “on the fly”, with the laser head chasing the sliding of the material.



# EnGenius Software



EnGenius is the 2D/3D graphic modeling and customization software for SEI Laser Denim&Fashion systems.

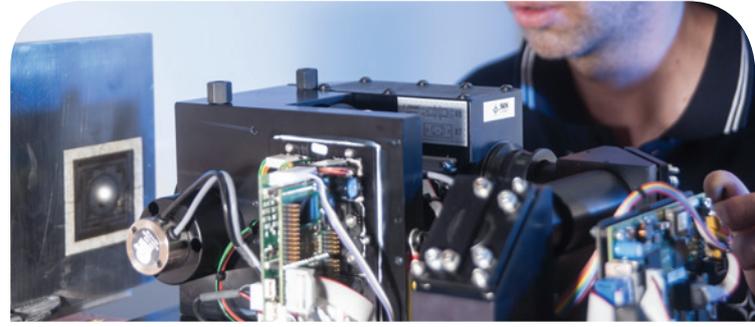
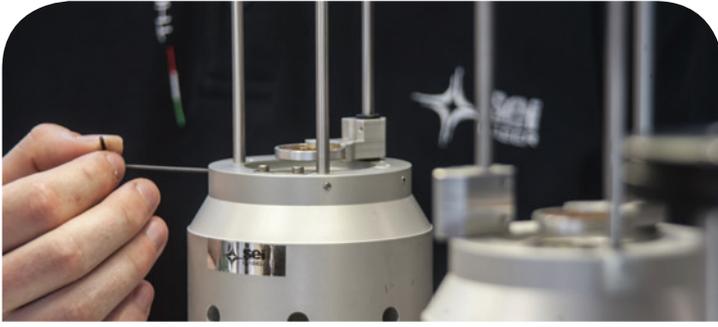
The ease of use, the realistic interface and the specific tools for the world of clothing make it an indispensable tool in the design, prototyping and manufacture of denim garments, both for roll-to-garment systems (Matrix) and for finished garment processing systems (Flexi).

EnGenius fits easily into the design and prototyping processes thanks to the import of

models in standard interchange formats generated by all the CAD software of the clothing world.

The key features of Icaro software are:

- 2D/3D what-you-see-is-what-you-get interface;
- Editing and transforming graphic files in 2D&3D mode;
- Specific tools for denim processing effects;
- Automatic size development;
- Manage of graphics like "pattern" with congestion of the points;
- Placement of part identification labels with customizable texts;
- Tools for creating a 3D model starting from a real garment;
- Management of laser libraries, manipulation and assignment of laser parameters to raster graphic layers and integration with Icaro software;
- Optimization of graphic layers according to the laser parameters used;
- Integration with commercial nesting software and preview of machining placements.



# WHY SEI Laser?

## WE ARE THE LASER CHAMPIONS

*With more than 40 years of experience we are pioneers in the design and manufacture of laser systems. SEI designs and builds our own scanning heads and electronic controls, from hardware to firmware to software.*

*With proprietary R&D expertise in laser and optics, SEI has full control over our systems and tune every system to meet each applications' needs, including labels...*

*We are not just laser integrators!*

## WE ARE DIGITAL

*Every SEI Laser system can be integrated into automated digital control production processes, and it's in compliance with the Industry 4.0 certification. All SEI Laser systems are certified to satisfy the following requirements: control by CNC and / or PLC; interconnection with the company IT system thanks to remote loading of instructions and / or part program.*

*Thanks to the user-friendly human-machine interface, using SEI's lasers is easy to learn, intuitive, and safe for any operator.*

## WE BELIEVE IN IMPORTANCE OF SERVICE SUPPORT

*SEI Laser, thanks to its wide range of technical support services and its strong presence on all continents of the world, ensures a quick, effective and tailored response to the different customer needs. In addition to technical support on-site, SEI Laser offers a valued remote assistance. In real-time communication between SEI's engineers and the customer, allows the operator to be guided step by step in technical operations like personalization of the processing parameters or problem diagnostics and troubleshooting.*



## WE GUARANTEE THE BEST QUALITY ON THE MARKET

*SEI guarantees the highest accuracy and precision through maximum control of the laser beam (4-axis system). Achieve the highest quality of cutting, kiss-cutting, marking and scoring without any material discoloration or burning and at highest processing speeds for maximum throughput.*

## WE HAVE THE LARGEST APPLICATIONS KNOWLEDGE

*SEI Laser offers a complete range of laser solutions that can be configured with different options, interfaces and automation to meet specific market and application demands. Commercial print & graphic arts, LED backlight, folding carton, labels, metal processing, wood, flexible packaging, leather, plastic, denim & fashion, industrial and technical textile are some of the main markets and applications in which SEI has a wealth of experience and know-how.*

## WE CARE ABOUT THE ENVIRONMENT

*With SEI's eco-friendly laser solutions, there's no longer any need to dispose of traditional dies, and material waste is reduced to the minimum.*





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