

TECHNICAL  
TEXTILES  
CONVERTING  
MACHINES



# zemat

Technology Group

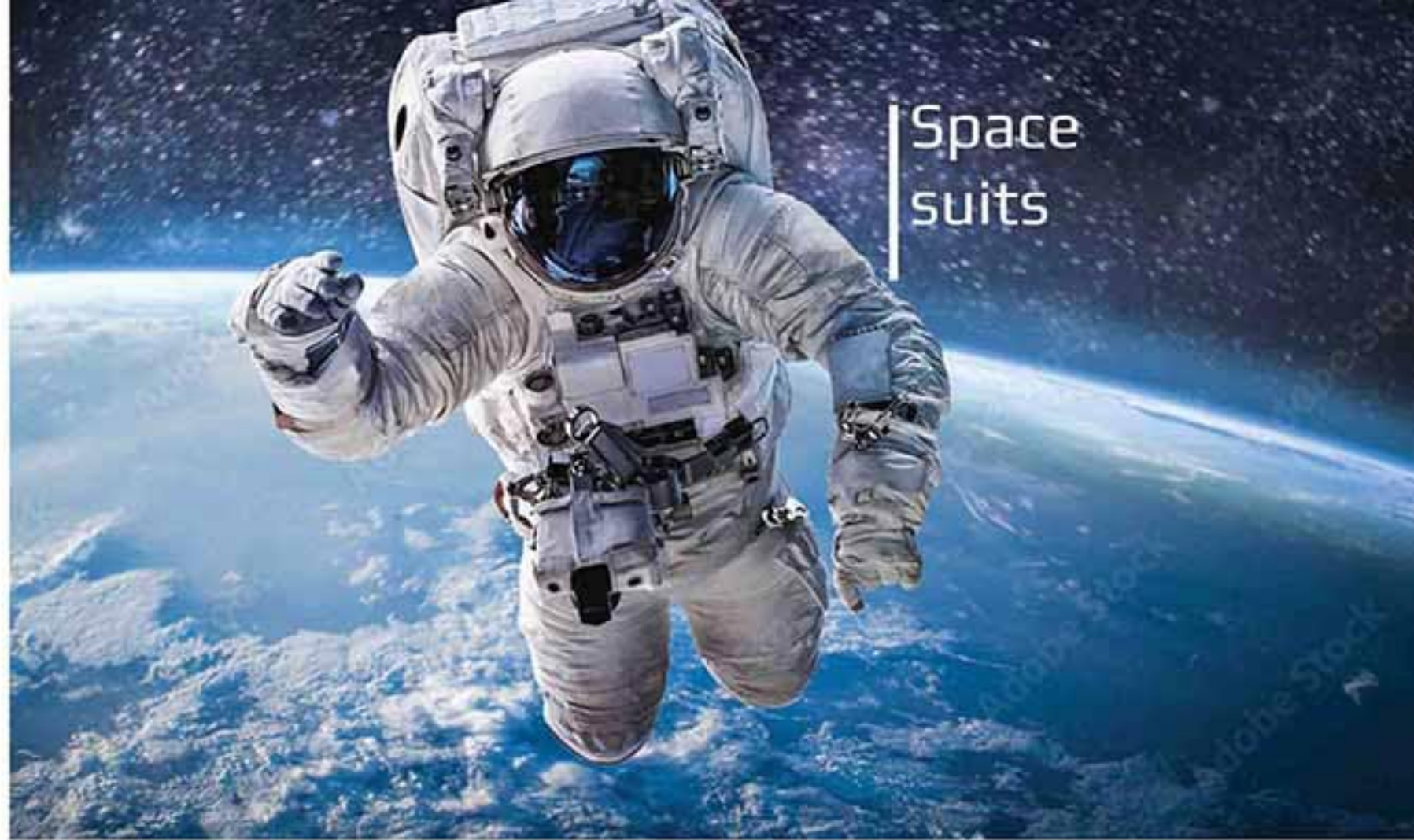
Advanced technology of technical textiles helped the human race reach the Moon. We are targeting Mars and beyond. However today, our planet, Earth is in dire straits because of global warming and it needs our attention. At **Zemat Technology Group** we are striving to create technology for converting of technical textiles which is eco-friendly, efficient and leaves very little or no carbon footprint. The technology of High Frequency and IR welding plays a key role in this development.

Zemat Technology Group is at the forefront of the **most advanced technical textiles converting technologies, including equipment for cutting, bonding, sealing, welding and packaging** to develop and deliver the best quality, efficiency and fabrication cost saving solutions.

Our philosophy is based on technical superiority and service with a "no nonsense" policy. We are passionate about providing the best manufacturing solutions for the most demanding and innovative industrial companies. Our company is a **leading global designer and manufacturer** of machines and devices incorporating thermoplastics welding, sealing, including the **Solid State RF welding technology, integrated automation projects, digital cutting technologies and corrugated box making solutions**. In our development, design and production process we implement over **65 years of expertise in the High Frequency Welding** and sealing (also known as Radio Frequency or Dielectric sealing), a technology that uses electromagnetic energy to form a permanent bond in modern polymers and technical textiles, as strong as the original thermoplastic material.

We strongly believe that providing on-time right technology and machines, we will enable your company to further improve its manufacturing process, **save manufacturing cost, lower the environmental impact**, while helping to strengthen your corporate identity.

# TECHNOLOGY WITH THE HUMAN TOUCH



Space  
suits



Life  
boats



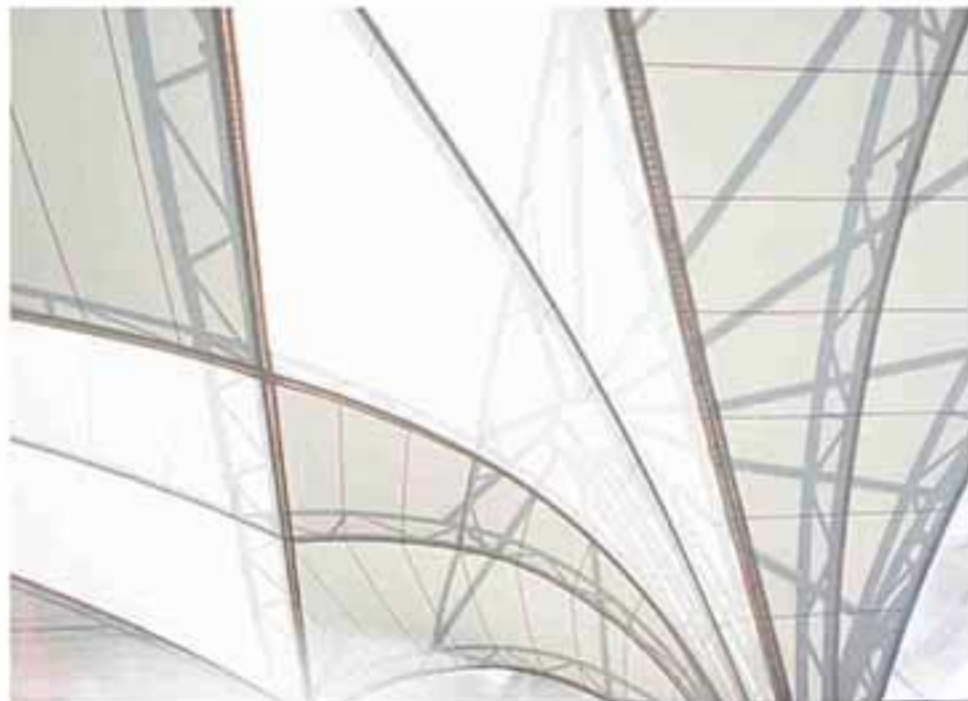


# GANTRY HIGH FREQUENCY WELDING MACHINES FOR TECHNICAL TEXTILES



Programmable X-linear or **3-AXIS 360° rotation** CAM solutions for the most complex and demanding jobs.

Applying the highest quality CAD/CAM standards, we design and build gantry style machines for industrial projects where **precision, accuracy and reliability** is a must. Automatic HF welding with power outputs up to **30 kW** and linear welds or rectangular welding platens and customized work table sizes.



**MAGNA 3D**  
The only true 3-AXIS 360° rotation  
HF welder in the market today



## MAGNA S

Compact design suspended HF welding head with power outputs up to 25 kW and 180° manual rotation. These machines provide economic and ergonomic solutions for complex shape projects where 360° material handling access is required.





**SIMPLA**



**Most popular stand alone universal High Frequency welder/sealer.** Built with C-frame design with optional **FREEWELD™** system, FlexEL™ 'soft' multilayer welding bar or special Impulse electrode for welding non-HF weldable fabrics. The machine can be fitted with wide pressing plate to be used with curved, round or special shape tools and variety of fabrics and films. Swing arm touch screen operation provides exceptional ergonomics and control for the operator. Equipped with **High-Q Gen4 efficient HF generator** which delivers up to 20 kW of output power, advanced programming functionality, including **ATS™ & WCS™ systems, VPN remote access.** It can be used as a straight bar HF welder (1200 mm / 47") or a platen sealer up to 300 mm (12") wide.

# SIMPLE SOLUTIONS FOR PRECISION HIGH FREQUENCY WELDING

Moveable compact HF machine for complex jobs where accessibility to special reinforcement welds on large structures is the key. Take this machine by the hand and let it work wherever you need on your production floor. **Z-cut in the column allows for easy fabric guiding and overlaps.** Powerful yet small, sturdy yet flexible, strong yet lightweight. The new generation of the most versatile High Frequency welders.





# LONG STRAIGHT SEAMS REQUIRE PRECISION LINEAR HF WELDING MACHINES

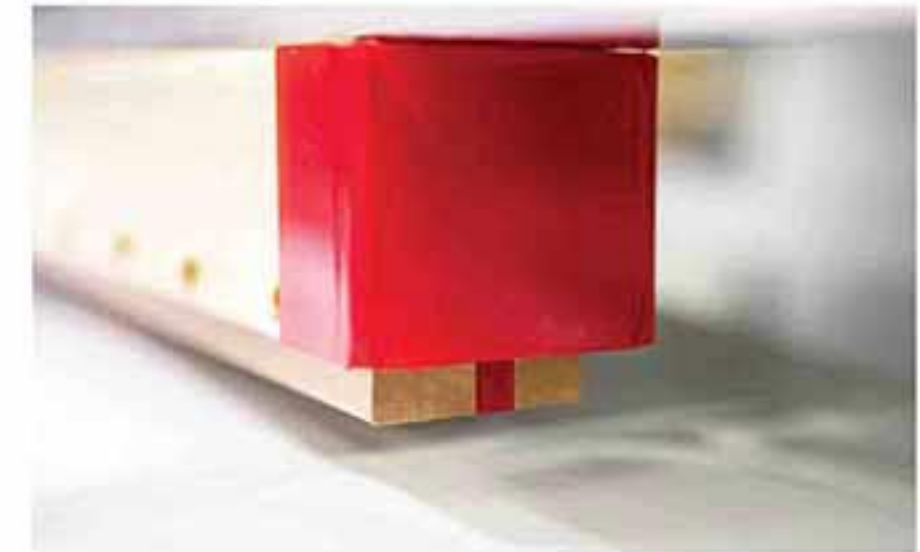
The most technologically advanced HF traveling head track welder in the market today with proprietary and unique **FREEWELD™** and **AXYZMove™** systems. **TARPA PRO** is designed specifically for production of large format tensile structures, membranes, oil & gas storage tanks, tents, truck covers, swimming pool liners, billboards, etc.

The work table is made of Magnetic Stainless Steel for ease of fabric placement and aligning and can be up to 100 m (300') long, with multiple HF welding heads on a single track. **ECO-HF Gen5 energy efficient HF generator**, touch screen and joystick operation, precise temperature stabilization, VPN remote access, **WCS™ Weld Control System** and patented **EMECS (Electro Magnetic Emission Control System)** make this a superior HF welding machine.

Custom tooling/electrodes design, in-house R&D, global technical service support and highest safety protocols are our key trade marks.



AXYZMove™ System



FREEWELD™ System



Laser Guides

# HIGH POWER CUSTOM BUILD HF MACHINES FOR DEMANDING INDUSTRIES

AUTOMOTIVE | MEDICAL | AVIATION | MARINE

The quality of automobile, airplane, motor-boat or yacht is measured by the perfection of its manufacturing – all the small details which build up the brand's end effect, the final look and functionality. We are passionate about **providing the most efficient and ECO-friendly manufacturing solutions** for the most demanding and innovative manufacturing companies. The same is applied for medical industry machines, rehabilitation equipment or hospitality industry.

Applying highest quality standard, we design and build customized High Frequency machines for large and small projects (with worktables as large as **2500x4000 mm / 98x160"**) incorporating the traditional HF welding (up to 100 kW and downstroke pressure of 50 T), as well as Solid State technologies (200 W to 10 kW) for ultimate sealing and bonding process control. All machines have advanced process programming functionality, VPN remote diagnostics, **ATS™ Auto-tuning** and **WCS™ System** and all necessary safety and **EMC systems**.





zemat  
TECHNOLOGY  
BY GUY



**HELPING TO DELIVER  
THE HIGHEST STANDARDS  
OF FINAL PRODUCT  
MANUFACTURING**



**OPTIMA**



Many products require highly specialized manufacturing techniques, tools and automation, i.e. pneumatic and manual lumbar support systems, medical accessories, car seats embossing, fashion enhancement products. Our **OPTIMA series** rotary turntable HF welders with **2-4-6-8 work stations** and single or multi-head HF welding capabilities provide unsurpassed productivity and efficiency. Continuously evaluated quality systems ensure strict control of production specifications and timeliness as well as full manufacturing process validation.

Many of the HF welders and sealers we build are powered by our proprietary Solid State **RFT Gen-7 HF generator** with unique **DMS™ (RF Dynamic Matching System)**. Our QC system is compliant with Medical Device Quality System Regulations 21 CFR 820 for **Class I, Class II and Class III medical device and components manufacturing** - allowing you to perform High Frequency RF welding on various materials within **ISO Class 7 and 8 clean room** which are suitable for sterilized medical environment.



## SHUTTLE HF MACHINES FOR THE MOST COMPLEX APPLICATIONS

AUTOMOTIVE | MILITARY | MEDICAL  
SAFETY | PACKAGING AND OTHER

The most versatile flat table HF welding machines with **10-60 kW power output** and 2-50T pressure and custom made work table sizes. These machines are widely used by various industries, including: automotive interior finishing, military gear, ballistic & safety vests, embossing, rehab orthosis, DVT braces, oxygen delivery gear, etc. Our ability to design and fabricate not only customized machines but also **specialized tooling (electrodes, feeders, pick-and-place systems)** enhances the manufacturing systems, providing cost reducing solutions by using scalable, simplified **modular equipment design**. We can integrate fully automatic or manual process machines with single or double shuttle operation.

Applying the **highest quality and safety standards** we provide the process control system for the standards of continuous auditing of the manufacturing process required by the automotive, medical and military sector. Our machines may be equipped with controller and software, capable to calculate **Process Capability Factors (Cp and Cpk)** which are a part of the Statistical Process Control usually required by end customers.





**SIGNA  
DUO**



## DEPTA NX | Standard HF generator DEPTA NXT | Solid State HF generator

New generation of small, multipurpose foot/pneumatic High Frequency welders with switchable work table and gooseneck support. Precision production jobs require **small footprint, tailor made, compact HF welding and sealing equipment**, where quick change-over is required. In our machines we implement the traditional radio frequency HF technology with **ATS™ (Auto-tuning)** or **Solid State RF Generator with DMS™ (Dynamic Matching System)** for high control and precision of output power 1.2-5 kW.

The proper tooling is as important as the machine itself. We design and make **flat die or 3D tooling for complex welding shapes** and multistage sealing operation to satisfy the most demanding production requirements. Universal use in various industries from medical, military to automotive applications where **speed, precision and HF weld accuracy** is the key.

# SMALL FOOTPRINT UNIVERSAL HF WELDERS





**SIGNA 4**



**RINGA**

RINGA HF machine welds the plastic grommets which reinforce the eyelet connection and are weather and tear resistant.

From flat welds with power changeover system for medical applications to 3-dimensional shapes for safety and sporting goods industry to PVC eyelets welding – our multipurpose customized HF machines will perform **the most complex tasks in the manufacturing process**. Precision controlled ECO-HF energy efficient HF generator (4-6 kW) with pneumatic or servo-drive press provides **stable work cycle environment and flexibility for the operator**. Custom made electrodes and dies ensure quality and efficiency.

# MULTIPURPOSE CUSTOMIZED COMPACT HF MACHINES FOR DEMANDING MANUFACTURING CYCLE



**CORNA**





# INVISIBLE SEAMS FOR CLEAR PVC FILMS AND PROJECTION SCREENS



**CRYSTAL  
ECO**



Our unique HF technology for making **INVISIBLE** seams for crystal clear PVC film allows to create new dynamic enclosures for patios and winter gardens. The same technology with different set of tools is used to make flat, invisible seams for cinema and AV projection screens. CRYSTAL PRO is a traveling head HF welder with **6 meters long work table** and CRYSTAL ECO has stationary welding press and manually moveable work table.



**CRYSTAL**



**SUPRA  
MAX**

## **STRETCH CEILINGS MADE EASY**

SUPRA series High Frequency Stretch Ceiling welders have universal application for both: **PVC film welding** and **Harpoon welding** with the use of special patented IAW™ (Inverted Airplane Wing) shape tooling. The machines make **straight line or curved shapes** HF welding effortless and accurate, creating thin and almost invisible seam with the strength of the original film. Attaching harpoon to the edge of the shape is **easy and efficient**. Standard electrode is 670 mm long and work table on Supra PRO can be modified depending on individual needs.



**SUPRA PRO**



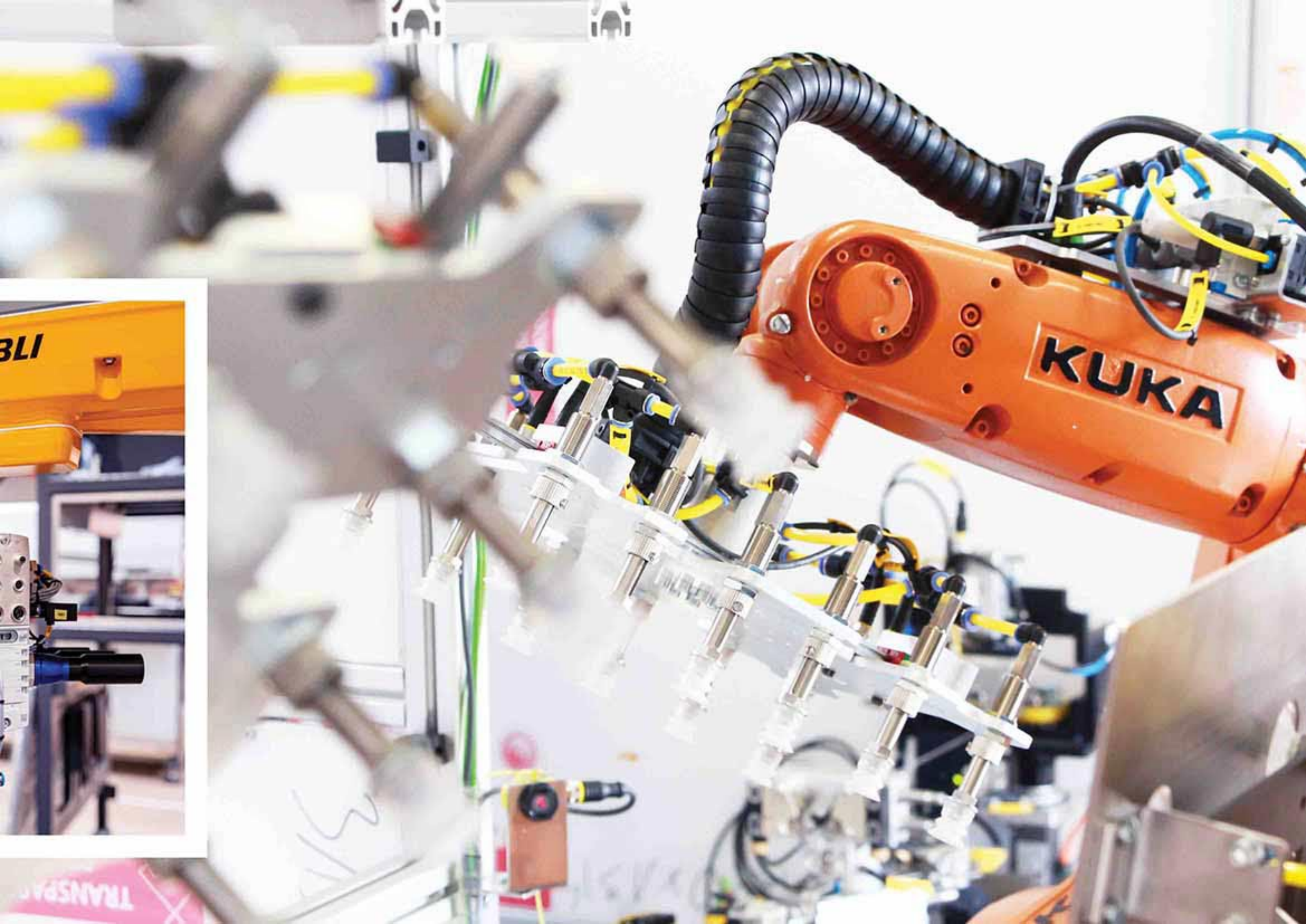
# INTELLIGENT **ROBOTIC SOLUTIONS** WHERE THE HUMAN TOUCH GIVES LIFE TO TECHNOLOGY



The present demanding industrial production environments require the use of the most **advanced multi-axis and SCARA robotic systems**. Our company designs and builds fully automatic manufacturing solutions based on the robotic technology, **VR visual recognition modules, precision servo-drives and IQC intelligent quality control systems**.

From work cycle support systems to fully automatic production lines the robotic and automation solutions increase productivity, eliminate human error and create eco-friendly work environment. We specialize in **integration of High Frequency welding and sealing technology with robotic systems**.







# IMPULSE HEAT SEALING AT ITS BEST! PERFECT **BLINDS, PERGOLAS,** **AWNINGS AND BANNERS**

The best sunshades, awnings, pergolas, window blinds or advertising banners require aesthetic and strong welds/seams. PULSA series impulse heat sealers with lengths from 1-7.2 meters provide various weld widths (6-25 mm) with top and bottom multipoint heating temperature control, precision pressure and time settings.



**Pulsa SUPRIM** is the most advanced automatic thermo impulse sealing machine for welding all kind of technical textiles with precision controlled welding parameters and automatic functions for folding, overlapping, hem pockets, reinforcements, zippers and profiles. The multi step sealing control process creates the best looking and strongest seams with ease and simplicity of use and full operator ergonomics.

**Pulsa PRO** has unique design incorporating traveling impulse welding head on a long track 4-25 meters long with easily changeable impulse welding bars of various lengths and widths. Heating temperature for upper and lower weld bars as well as overlap weld cycles are controlled with touch screen and fully programmable.



**PULSA  
PRO**



**PULSA  
SUPRIM**

# MAKE CUSTOM SHIPPING BOXES FOR YOUR TECHNICAL TEXTILES PRODUCTS

boxmat.tech



Every product, industrial or commercial, made with technical textiles needs to be packaged and shipped to the final customer. Whether you are manufacturing various lengths of window blinds, protective garments or awnings you need **special size, custom made corrugated shipping boxes**. We have a solution for you: **BOXMAT on-demand box making machines**.

All you need to make a custom size box for your product is our machine and corrugated sheets. **Within seconds you can make 5 or 150 boxes depending on the need**. With the use of a touch screen you choose the preprogrammed style of the box you need and enter desired dimensions of the box, place the corrugated board into the machine and press **START**. The machine will do the rest, including applying the glue and even printing a logo of your company or name and symbol of the product.

# CUTTING SOLUTIONS FOR TECHNICAL TEXTILES

randix.tech



**RANDIX**  
DIGITAL CUTTING SYSTEMS

Whether converting technical textiles or manufacturing final product you need reliable and easy to use cutting table. **Randix digital modular plotters** are a perfect solution for the demanding textiles' industry. Versatile flat bed and conveyor tables with integrated configuration of cutting tools and laser modules for specialized technical textiles and composite materials.

The **Plug-and-Play Changeover System for cutting tools** is an innovative approach to turn the basic cutting table into the most sophisticated digital cutting machines utilizing all technologically feasible cutting and marking tools. Our flatbed plotter - with **conveyor or static surface** - offers full cutting flexibility for wide range of modern industrial fabrics, films and non-wovens.





The Zemat Technology Group has always made the environmental sustainability a top priority, producing **eco-friendly machines within an eco-friendly facility**. We promote environmental protection. We carry out activities respecting the environment, to leave a clean and pleasant world for future generations.

Sustainability is not a niche topic — for our company it's one of the main goals as well as **leaving as small carbon foot print on our planet as possible**.

We save resources with the use of durable products and parts, while always striving to achieve efficiency and sustainability which makes business sense, because for many users of our machines the profitability of the company has the highest priority. **Our engineers and designers are tirelessly working on achieving the best efficiency of our machines so the power consumption to operate them will be the least.**

We are a modern, quality oriented, primary European manufacturer with over **65 years of experience in designing and manufacturing** various machines using advanced technology for thermoplastics welding and sealing. Our global reach is supported by wide network of distributors and service centers on every continent with **thousands of machines operating worldwide**. Setting the standard in customer support, we have several technical service teams providing service calls directly to our customers' locations, nationally and internationally, as well as telephone or video conference technical service and support 24/7.

**MOBILAB**

**In terms of the EU Environmental Safety Regulations, our company has a Certified MobilAB laboratory and Quality Control Unit**, using state-of-the-art testing equipment for electro-magnetic energy disturbances, providing inhouse and remote testing. Each machine built by Zemat Technology Group has not only the CE mark - which is included with the technical documentation we provide to you - but it's fully tested and receives environmental mark before it leaves our factory.

**CE/UL Conformity** - The machines in every quote are in conformity with CE rules and equipped with CE mark.

**zemat**

Technology Group

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