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Company Profile

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OUR HISTORY

For over 20 years, Silmec has been at the forefront of producing high-precision components for gas turbines, specializing in precision drilling and advanced EDM machining.

Our commitment to excellence and innovation has made us a **trusted partner** in the global energy market.

With extensive experience in the industry, we have established ourselves as a leading supplier of gas turbine components, offering specialized drilling and EDM machining services to major players in the energy sector.

ISO 9001 Certified Quality Management

Silmec is proud to be ISO 9001 certified, ensuring that our drilling and EDM machining processes adhere to the **highest standards of quality management**.

This certification underscores our commitment to delivering precision-engineered components that consistently meet customer requirements and regulatory standards.

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Main activities

1. Manufacturing Inserts and Components for Gas Turbines
2. EDM machining on Blades and Vanes of Gas Turbines.

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1. Manufacturing Inserts and Components for Gas Turbines.

TYPE OF MATERIALS TREATED

The components we produce are obtained from sheets of the following nickel-based superalloys:

- Hastelloy X
- Nimonic 75
- Inconel 718
- AISI 321
- AISI 310
- HAYNES 25
- HAYNES 224
- HAYNES 214

The thickness of the sheets we process is between 0.15mm and 8.3mm.

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1. Production of spare parts for Gas Turbines.

Starting from the customer's design, Silmec takes care of all the production processes up to the realization of the finished component.

Especially:

- PRODUCTION OF CONSTRUCTION EQUIPMENT (forming molds, welding tools, control masks, etc.)
- EDM CUTTING AND DRILLING
- MOLDING
- WELDING
- DIMENSIONAL CONTROL

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1. Production of spare parts for Gas Turbines.

Rigorous Quality Control

- At Silmec, quality is paramount in everything we do.
- We have implemented rigorous quality control measures at every stage of the manufacturing process to ensure that each component meets our exacting standards.
- From material inspection to final product testing, our dedicated quality control team meticulously checks each component for dimensional accuracy, surface finish, and material integrity.

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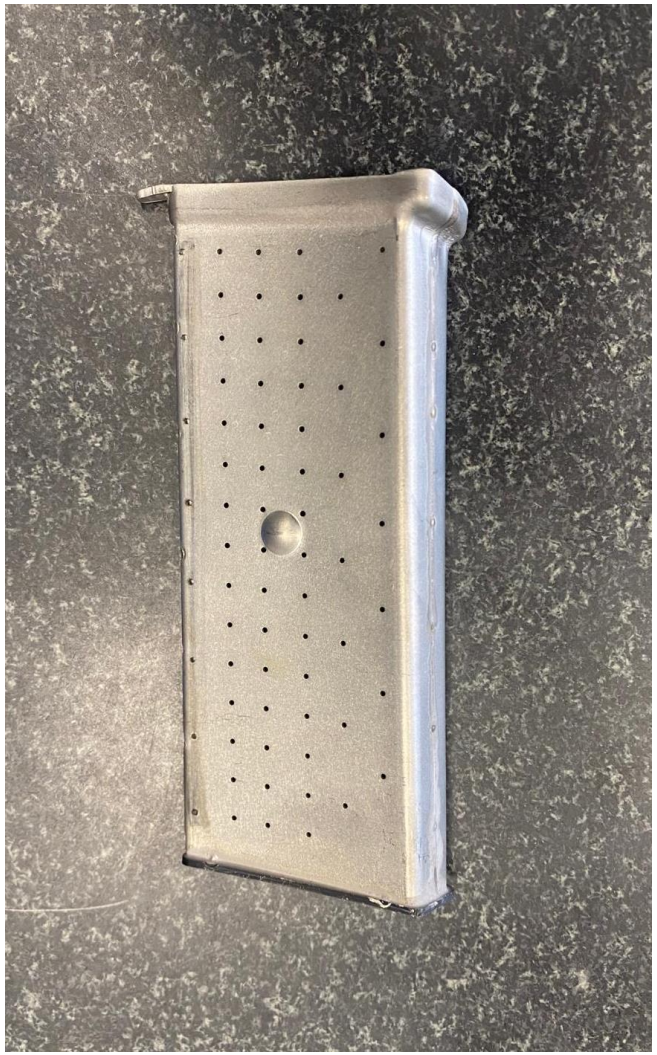

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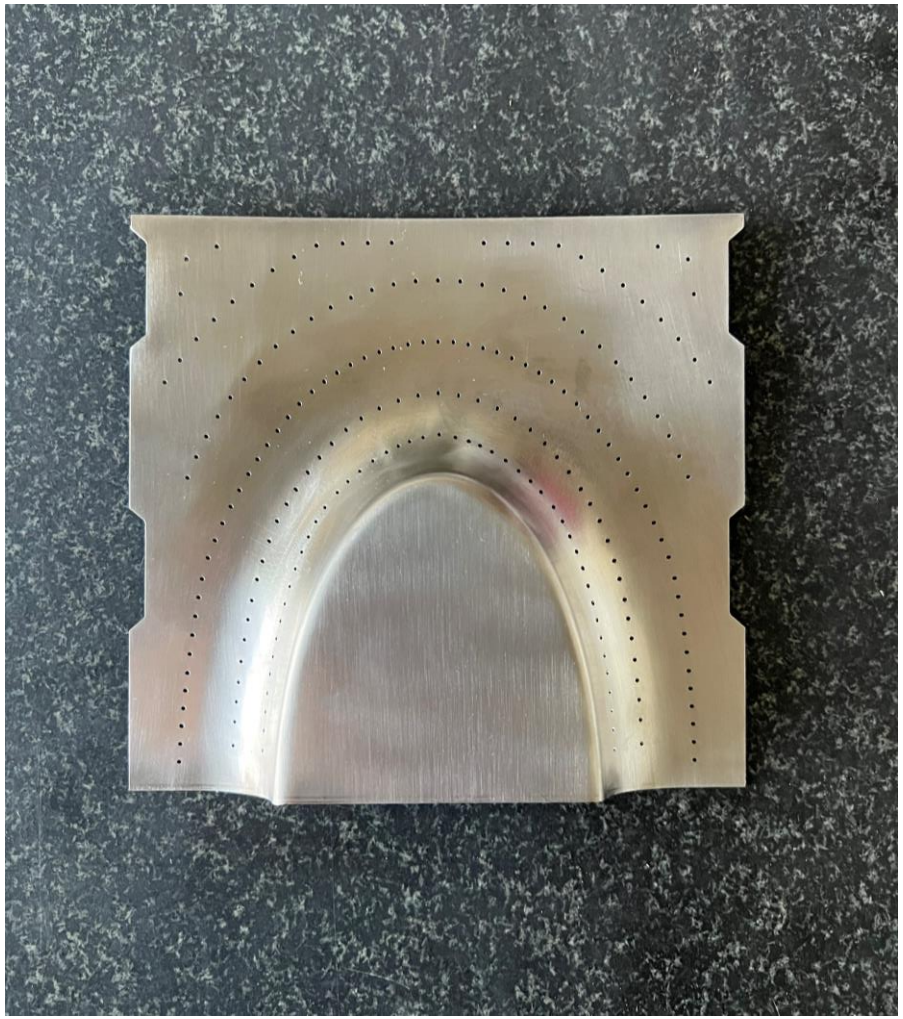

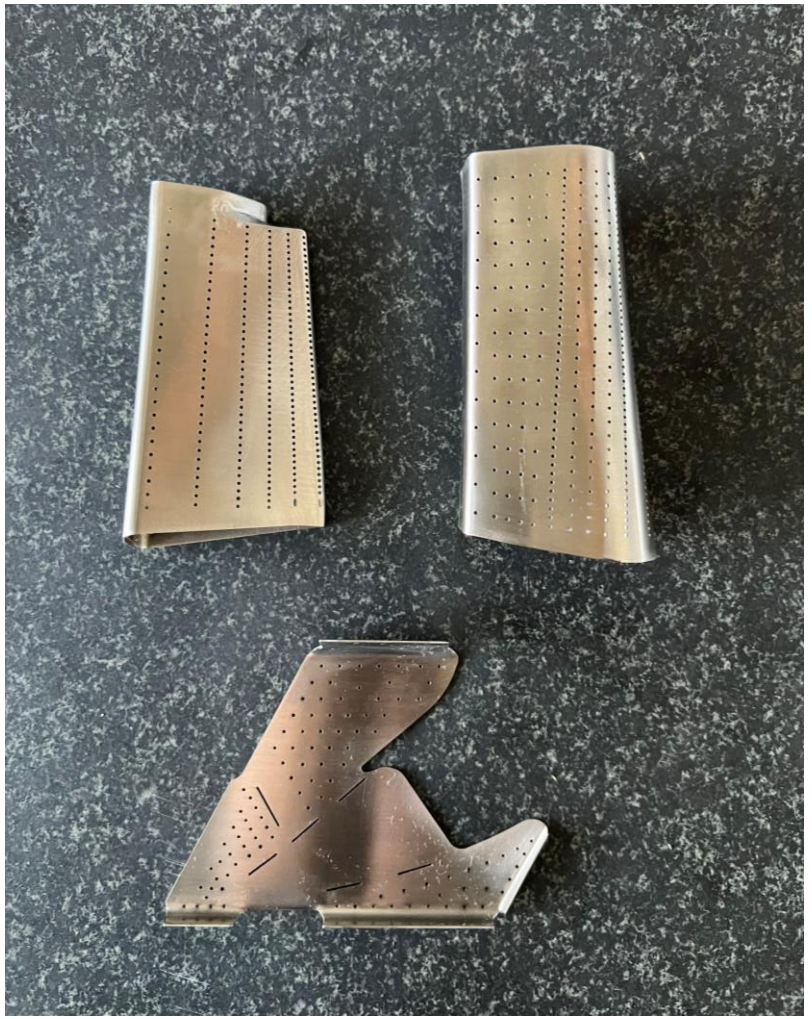

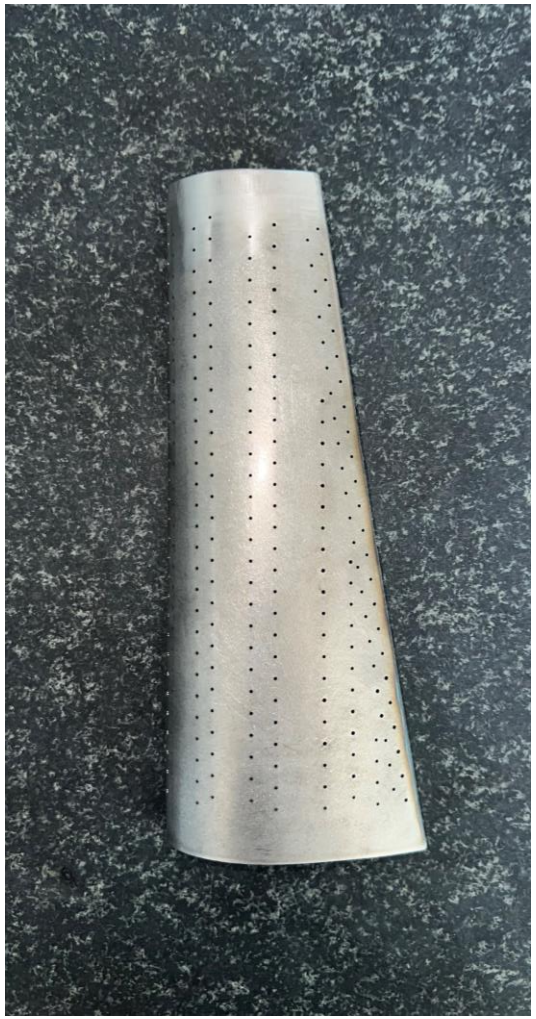

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2. EDM machining on Blades and Vanes of Gas Turbines.

- At Silmec, we specialize in precision drilling and advanced EDM (Electrical Discharge Machining) techniques. Our state-of-the-art facilities and skilled technicians enable us to deliver components with unparalleled accuracy and reliability.
- We perform **complex holes, shaped holes and holes with curved guides** on Blades, Sectors and components according to the drawing provided by the Customer.
- The realization of drilling programs and equipment necessary for the execution of the work are completely entrusted to our technical department.
- The width range of the drilled holes starts **from 0.5mm up to 5.5mm**, reaching depths up to **500mm**.

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2. EDM machining on Blades and Vanes of Gas Turbines.

MATERIAL TYPES OF CASTINGS PROCESSED

- HASTELLOY X
- FSX-414 Cast Cobalt Alloy
- Nimonic C-263
- Super Alloy Mar M 247
- MD 2

MACHINE FLEET

Our fleet consists of:

- **4 EDM Drilling Machines Model SY-CNC9070T**
- **1 EDM Drilling Machine Model CR1015**
- **1 Die Sinker EDM Model ED600CNC**
- **1 Die Sinker EDM Model S430S ZNC**
- **2 Wire EDM Model V650 GPlus**

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2. EDM machining on Blades and Vanes of Gas Turbines.

MACHINE FLEET

EDM Drilling Machine Model SY-CNC9070T

Max piece size	1.000x800x660 mm
Table size	900x700 mm
Maximum workpiece weight	1.000 kg
X-axis travel	900 mm
Y-axis travel	700 mm
W-Axis Travel (Guide)	500 mm
Z-axis travel (option)	600 mm
Drilling diameter	0.20-3.00/0.07-3.00/0.30-6.00
Tilting head angle (opt.)	NP
Rotary and/or tilting table	
Dielectric Liquid Capacity	200 L
HP Pump	Elettropompa a pistoni
Electrode change (option)	20(30) pos. Rotativo
Guide change (option)	12

Technical features(*)

Guide change (option)	12
Feeding	400 V
Maximum absorption	6 Kva
Filter Type	Cartridge
Dielectric Type	Demineralized water
Mandrel	EngineBrusless 1.000 rpm
Engines	Brushless on all axes
Intermediate Guide	Standard
Automatic demineralizer	Standard
Automatic pressure control	Standard
Maximum working current	30(60) A
Implant weight	3.000 kg
Plant dimensions	2.700x2.700x2.500 mm

(*) Information provided by SY-CNC SERIES INSTRUCTION MANUAL and CR TECHNOLOGY SRL website - www.crtechnology.it

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2. EDM machining on Blades and Vanes of Gas Turbines.

MACHINE FLEET

EDM Drilling Machine Model CR1015 Technical features(*)

Max piece size	1.100x600x600 mm
Table size	1.100x600 mm
Maximum workpiece weight	1000 kg
X-axis travel	950 mm
Y-axis travel	500 mm
W-Axis Travel (Guide)	420 mm
Z-axis travel (electrode)	640 mm
Drilling diameter	0.30-3.00 mm
Dielectric Liquid Capacity	80 L
Filter Type	Cartridge
Dielectric Type	Demineralized water

(*) Information provided by CR TECHNOLOGY SRL website - www.crtechnology.it

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2. EDM machining on Blades and Vanes of Gas Turbines.

MACHINE FLEET

Die Sinker EDM Model ED600CNC

Technical features(*)

X/Y axis travel	600x450 mm
Z-axis travel	400 mm
Table size	1.000x600 mm
Maximum workpiece size	1.450x890x470 mm
Maximum workpiece weight	3000 kg
Maximum Electrode Weight	250 kg
Implant weight	3.900 kg
Plant dimensions	2.110x2.580x2.575 mm
Dielectric tank capacity	1200 L
Required Filters	4
Dielectric tank dimensions	2.020x530x1.060 mm

(*) Information provided by CR TECHNOLOGY SRL website - www.crtechnology.it

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2. EDM machining on Blades and Vanes of Gas Turbines.

MACHINE FLEET

Die Sinker EDM Model S430S ZNC

Technical features(*)

Table Travel (X)	400 mm	**Max. Electrode Weight**	120 kg
Table Travel (Y)	300 mm	**Table Size (WxD)**	650 x 350 mm
Servo Travel (Z)	180 mm	**Machine Weight**	1200 kg
Second spindle travel (Z2)	250 mm	**Max. Working Current**	60 A
Max. Workpiece Dimensions (WxD)	945 x 510 mm	**Overall Power Consumption**	6 KVA
Max. Filling Height of Dielectric Tank	215 mm	**Weight**	320 kg
Distance Between Chuck to Table	20 - 450 mm	**Tank Capacity**	380 L
Max. Workpiece Weight	550 kg	**Filter Density**	20 µm
		Filter Elements	3 pc

(*) Information provided by OSCARMAX website - https://www.oscaredm.com/

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2. EDM machining on Blades and Vanes of Gas Turbines.

MACHINE FLEET

Wire EDM Model V650 GPlus	Technical features(*)
Max. workpiece size	1000 x 700 x 345 mm
Max. workpiece weight	800 kg
Travel of X/Y axes	650 x 400 mm
Travel of U/V axes	160 x 160 mm
Travel of Z axis	350 / 410 / 500 mm
	(Submerged height 310 mm)
Wire diameter	0.15 - 0.3 mm
Number of axes controlled	5 Axis AC servo motor
Maximum taper angle	±30°/ 100mm with wide diamond guide and nozzle
Machine size	2520 x 2720 x 2290 mm
Machine weight	4400 kg
Water tank capacity	850 L

(*) Information provided by CR TECHNOLOGY SRL website - www.crtechnology.it

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Years of experience in the sector and knowledge of the materials used for production have allowed us to create a highly qualified supply chain capable of guaranteeing strategic services such as:

- Brazing
- Coatings
- Additive manufacturing
- 3D Laser Cutting
- Airflow test
- 3D Scan
- FPI Test

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NEXT STEPS

In line with our commitment to innovation, Silmec is gearing up for **honeycomb cores** construction, crucial components for gas turbines market. Our ongoing research and development allows us to keep pace with the latest technologies and offer cutting-edge solutions to meet our customers' needs.

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Some informations about us

- **CEO, Technical and Production:** Gianluca La Terra Maggiore
- **CEO, Administration and Quality:** Ester De Marco
- **Sales:** Niccolò Valzan

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