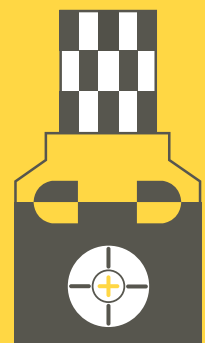


Company Profile

english



RAVITEX®

powered by

SINTERLEGHE

Satisfy your needs. Inspire our quality.

Company Profile

english

p. 2 Who is Sinterleghe

p. 4 Vision

p. 6 Values

p. 8 Mission

p. 10 Quality

p. 18 Patents

p. 22 History

p. 26 Global Network Partners

Sinterleghe is a Lean Enterprise supported by enabling technologies of 4.0 industry that designs, produces and sells dressers, electrodes changers and dressing tools.

Our products, worldwide patented, are approved and purchased from the most important automotive plants and are used for the automatic change and dressing of electrodes for spot welding guns.

Sinterleghe ambition is to supply to all partners and customers advanced technological solutions with high quality products and a fast lead time.

Who is Sinterleghe

Leader in design, production and sales of dressers, electrodes changers and hard metal cutters to dress resistance welding electrodes.

Founded by **Eugenio Tedeschi** in 1989, Sinterleghe has grown thanks to its own development of a Know-How that has allowed to diversify its offer getting to **high quality standards**.

Thanks to its persistence Sinterleghe has conceived new **design solutions** up to become **patents**. This is an added value for the company that has made innovation and technological evolution its strengths.

Today Sinterleghe is a reference partner for big international groups in the automotive production.

The whole know-how and value stream, design, production, sale, accounting is centralized at the headquarter in Anzola d'Ossola (VB), Italy.

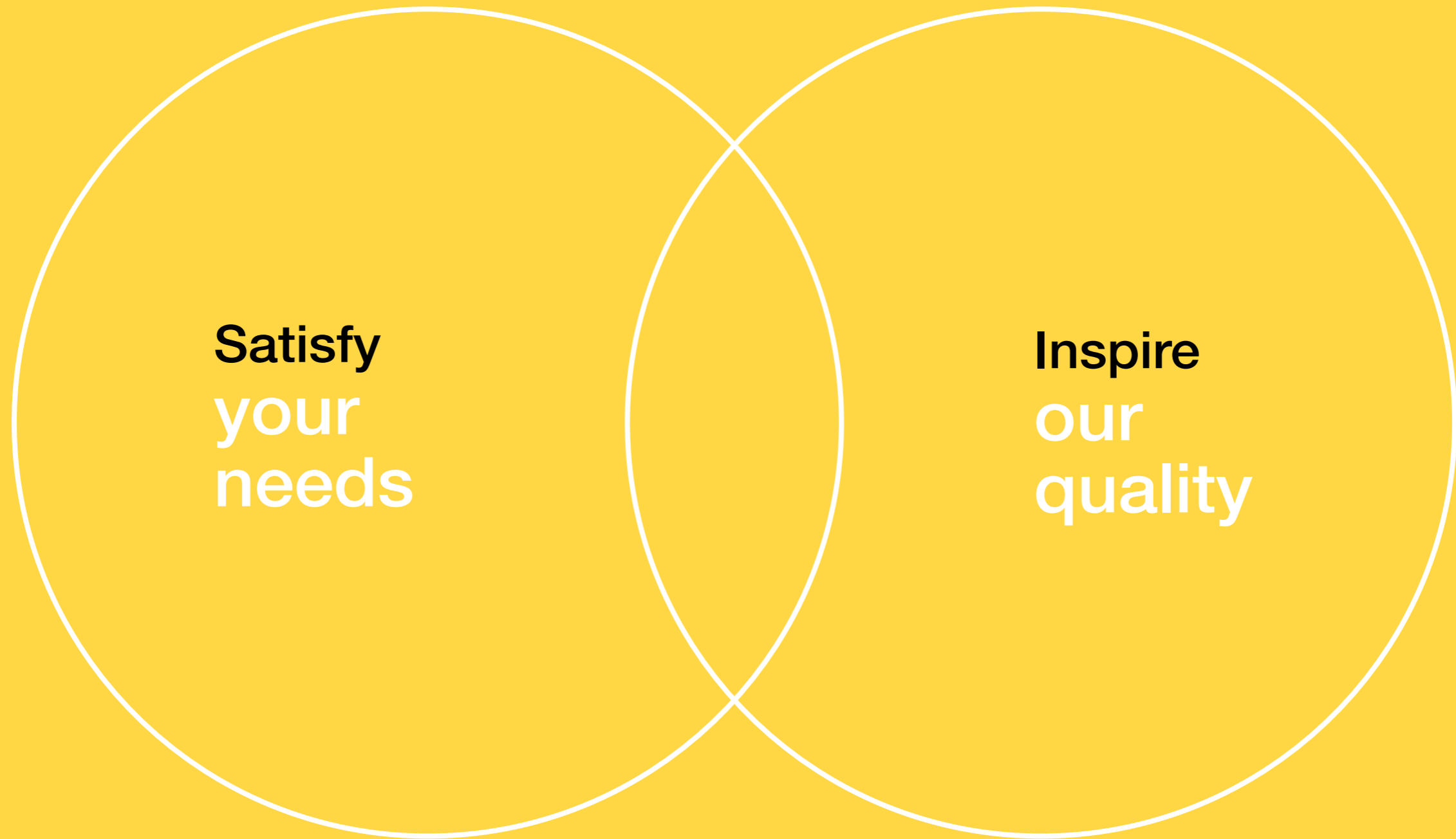
Our products, identified by the registered trademark **Ravitex®**, are sold on 4 continents through our Ravitex® Global Network Partners, which guarantees pre- and post-sales support.



Our products are known and used everywhere worldwide with our trademark Ravitex®

RAVITEX®

Vision



Values

Safety



Health and safety of our employees are the business priority

Ethics



Transparency, fairness, honesty

Respect for people



We welcome human resources regardless of their gender, age, race, nationality, religion, psychophysical conditions and socio-economic

Ongoing training



We encourage the development of multidisciplinary skills with the creation of multifunctional teams, in which high-level performance grow in a culture of honesty, authenticity and healthy conflict with the goal of value and develop new skills

Ongoing improvement



We believe that the main characteristic of an improvement is its constant implementation in the environmental, economic and social fields

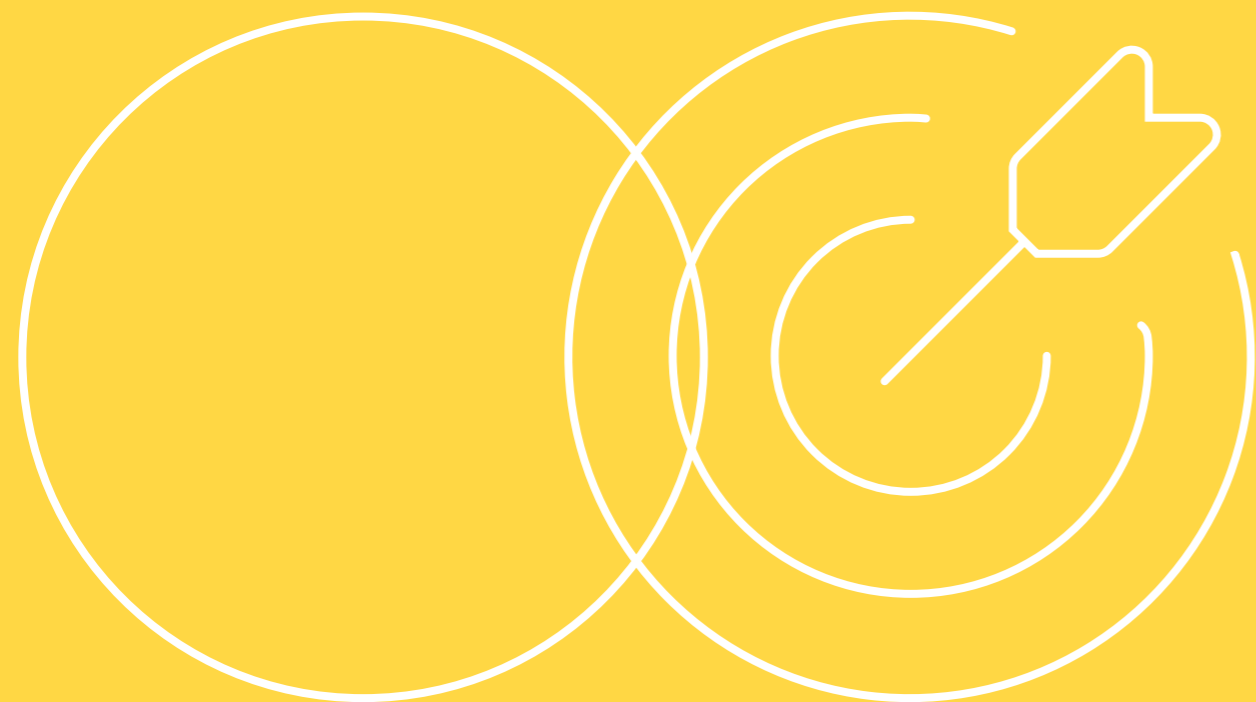
Communication



The communication, in all its forms, is the main tool to interact with others, transparency represents truthfulness and quality. For this reason, we implement and we share visual systems such as the Matrix business strategy A3X, planning visual board, skill matrix, where you can compare through clear data/facts and track KPIs



Your needs.
Our mission.



One Mission, an unequivocal goal




Mission: dominate the know-how to produce and evolve applications in the field of dressing and automatic electrode change integrating them with all the potential of industry 4.0 with the unequivocal goal of creating value for all our stakeholders.

Sinterleghe has strengthened its growth on the global market through the **design and manufacture of technologically advanced products**. The key point of Sinterleghe is the **development of new products** and **technological innovation**.

The proof are our **patents** and the **markets**, 90% of which is represented by export to the main player in the automotive sector, VW AG group in the first place.

Since 2017, significant investments have been made to transform the business organisation in a **Lean Enterprise**. Especially investments concerned new infrastructures, technologies 4.0 industry production, training and new hires.

A daily commitment

- | | | |
|-----|---|---|
| 01. |  | Maintain an ongoing improvement of our products monitoring all the data that will ensure constant growth in the environmental, economic and social field |
| 02. |  | Value our internal process to manage the incoming demand |
| 03. |  | Make products and projects for our stakeholders being sure to follow our quality and economic sustainability ethic |
| 04. |  | Supply to all our partner and customers high quality products with competitive prices and a fast lead time |
| 05. |  | Keep a positive attitude to support our stakeholders and their request of high quality, safety, respect for the environment and economic sustainability |

Your
needs.
Our
quality.



Quality: our focus

Sinterleghe has developed business and organisational skills to improve its quality, competitiveness and performance, working on process innovation and knowledge growth.

Quality of a product or a process is represented by:

- 01.** Be compliant to our customers' needs
- 02.** Shared supervision of the process
- 03.** Problem solving
- 04.** Repeatability of the process also for large series
- 05.** Preventive maintenance for all our machines and tools
- 06.** Unique performances on the market

Ravitex® technology: goal orientated

Thanks to investments on infrastructures, production facilities and staff training, Ravitex® technology has been developed. Our brand is a warranty of quality and singularity of purchased products.

Sinterleghe internationally is placed at the top for competitiveness, speed and reliability.

Ravitex® technology has enabled innovative product development, able to improve **efficiency** and **quality** of **welding lines**.

Our aim of increasing production capacity, quality, safety and respect for the environment, has been pursued and achieved through the implementation of the most advanced technologies and equipment for the production of Dressers, electrodes Changer and cutters that allowed to **elevate their performance**.

In Sinterleghe's plant of Anzola d'Ossola, has been made a Test Area with robot, welding gun and all Ravitex® products. Here we test our products and we also **train** technical staff (agents, dealers, maintenance staff, etc.) through **practical demonstrations**.



Goals achieved with Ravitex® technology

01. Longer electrodes life
02. Hard metal cutter life: 60.000 dressing cycles
03. Less than 30 seconds to change and dress an electrode
04. Cutter constantly cleaned and suction of chips without dispersion to the ground
05. Reduction of line downtime
06. Creation of special shape hard metal cutters for every type of tip dresser brand and a short lead time
07. Reduction of injuries risk for the replacement of electrodes and cutters
08. Optimisation of welding point after dressing

Follows



Increased production capacity



Increased quality



Increased safety



Environment respect



Increased profitability of welding line

Why choose us as a partner

Sinterleghe puts its experience, knowledge and professionalism at customer service.

The goal is to meet the most advanced needs in the dress and change of electrodes' sector by the development of a business process reengineering and redesign that passes through technological innovation and constant development of product and process.



Technological innovation

Sinterleghe's design ideas have become patents, an important guarantee for consumers that testifies the **originality** and **quality** of Ravitex® products.



Experience and know-how

Collaboration with the major automotive players worldwide has allowed Sinterleghe to develop a **solid know-how** and **in-depth knowledge** of the market reference.



High quality

Ravitex® products meet the needs of the most advanced lines of production achieving high goals in terms of reduction of process costs, increase in production capacity, quality and respect for the environment.



Customer care

Ravitex® products come from a careful analysis of our customers' needs, enabling a relevant customer experience and with a high rate of customisation.



Services focused on needs

An excellent customer care is Sinterleghe focus, by offering assistance, support, training and professional advice. Our aim is to satisfy our customers and achieve the highest quality level.



Technical service

The technical staff is very well trained to solve any type of problem and very supportive helping out using Ravitex® products.



Spare parts support

The spare parts supply is highly professional. We respond to each customer needs efficiently and quickly, maintaining our high-quality standards. We also have stock of our components located at our branches and partners.



Technical training

Sinterleghe organises professional courses (e.g. equipment operation, maintenance & application, etc.) with the target of acquire specific technical skills. For this purpose, at the Anzola d'Ossola headquarters, an equipped area has been set up with robots, welding guns and all Ravitex® products.

Ravitex® products: the result of investment, innovation and quality

Ravitex® products feature are based on our worldwide customer needs. Their performance is the result of intellectual innovations and process quality.

The use of CNC machines enabled for 4.0 industry, allow the product quality constancy thanks to process control. The use of robots for their enslavement guarantees a high flexibility of production capacity. This approach has led to internal and outsourcing process optimisation, reducing delivery times.

All mechanical machining is carried out at the Anzola d'Ossola (VB) plant thanks to the high productivity CNC machines. The process is managed and controlled from a single management software. A metrology room, with controlled temperature, guarantees complete dimensional control of the entire production range.

List of brands where Ravitex® RX patent EP 2193003 cutter can be installed

Europe: Sinterleghe, Aeg, Brauer, Lutz, Abb, Gem, Amdp, Exrod, Rotec-Tooling

USA: Semtorq, Stillwater, Retek

Japan: Kyokutoh, Obara

Brasil: Kappen

Korea: KDC

The hard metal three blades can be adapted to every type of bush.

Machine plus (dressers & electrodes changer)

Compact dresser and changer with 3 patented components integrated

Less programming time on the robot

Highest number of electrodes kept in a magazine with 30% smaller overall dimension comparing to our competitors

Possibility of simultaneous charging of the electrodes

Patented release system that allows extraction of the electrodes clockwise and counterclockwise

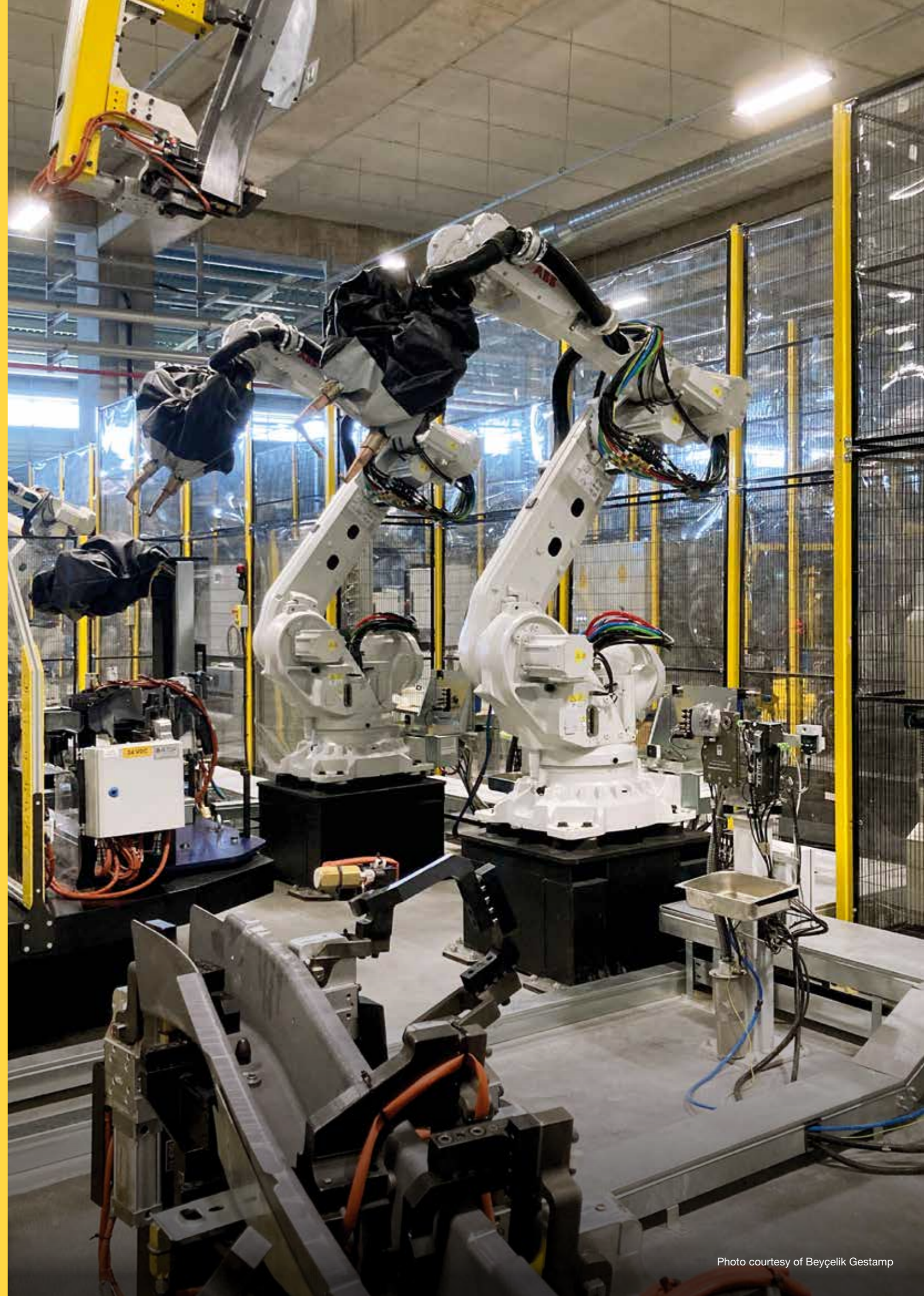
Industry 4.0-friendly solution for replacement and continuous electrode power supply up to 500 electrodes



They trust us



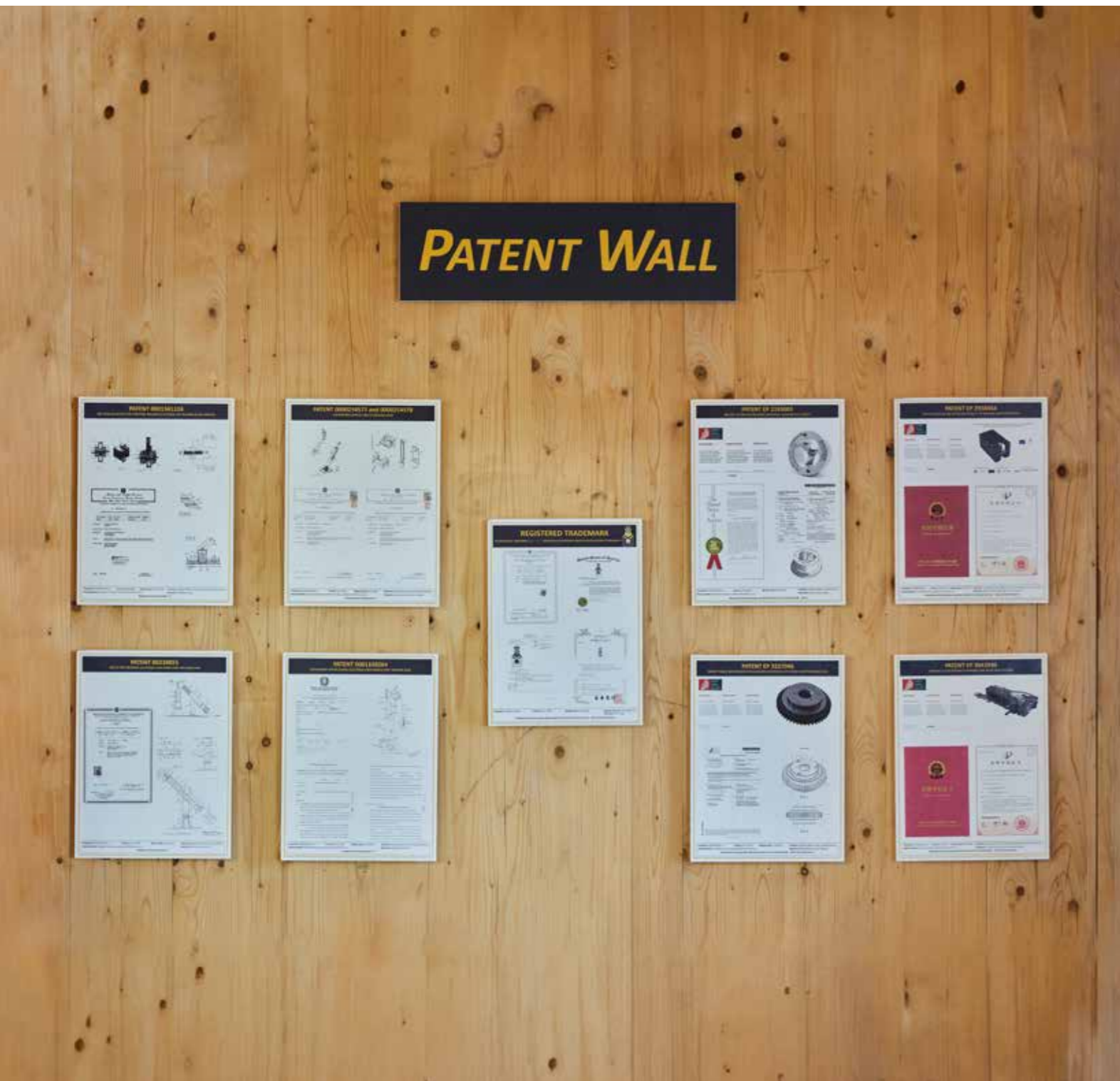
Your
needs.
Our
patents.



Solutions that become patents

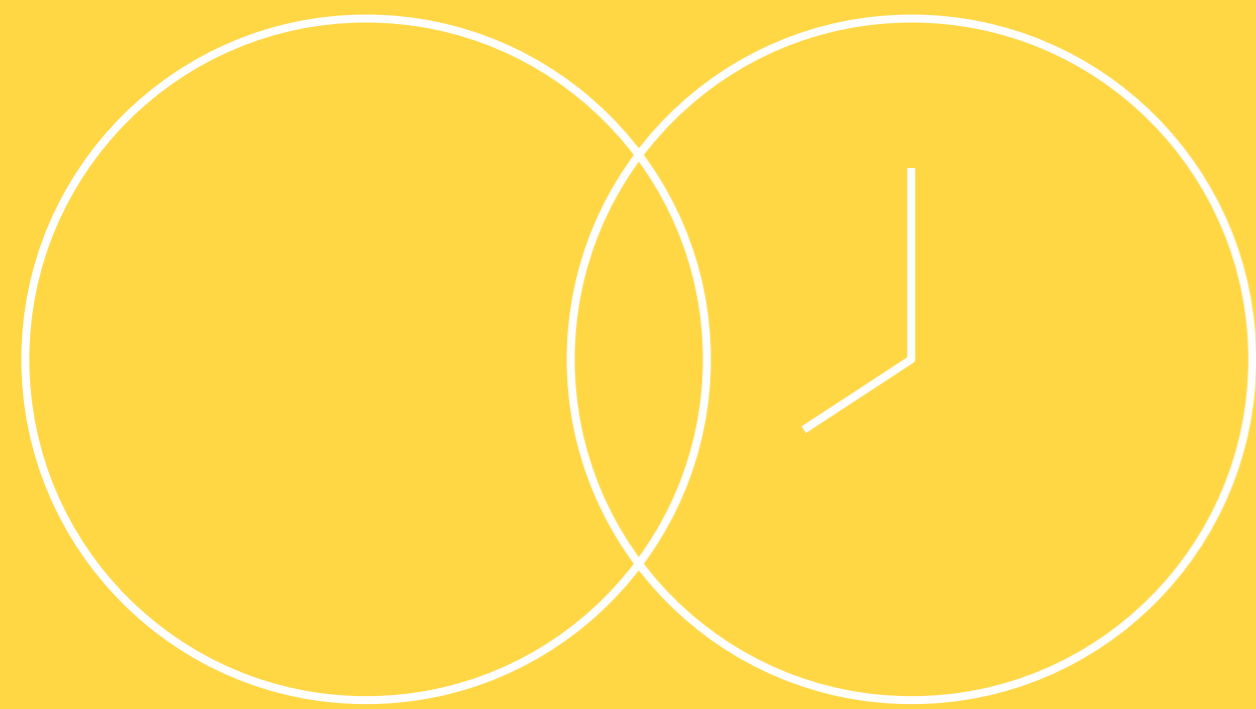
The ability to listen to the needs of its customers is demonstrated by 9 patented technological innovations that meet their requests and certify Sinterleghe's know-how in the industrialisation of product and process and in the research and development fields.

Sinterleghe keeps designing solutions that becomes patents, thanks to its perseverance in realising the ideas. Our patents protect the talent and the company know-how and are a warranty for all those who seek authenticity and quality of the products purchased. This is an added value that only original author and manufacturers can give.



- | | | |
|------------|--|---|
| 01. | Registered trademark Ravitex® | Our logo has been created to identify the company's products through a registered trademark |
| 02. | Patent No. 00239855 | Unit for dressing electrodes carried by a gripper stationary part of an automated plant of spot welding |
| 03. | Patent No. 0000254577, 0000254578 | Support device of a head for dressing electrodes of a welding robot |
| 04. | Patent No. 0001338264 | Device for electrodes replacement on spot welding robot |
| 05. | Patent No. 0001361126 | Sensing device to check welding electrodes or wire guide torches in welding systems |
| 06. | Patent EU: EP2193003; USA: US 8449231; Brasil: PI 0811814 | Cutter for dressing resistance welding electrodes |
| 07. | Patent USA: US 10,618,129 B2; Korea: 10-2111186; China: ZL 201380079531.8; Mexico: N° 375854; Canada: 2,922,869; EU - Japan - Brasil - India - Thailand: being released | Automated adaptive maintenance system for welding guns' electrodes |
| 08. | Patent EU: EP 3043949; China: CN 105722632B; USA - Japan - Brasil - Korea - Canada - Mexico - India: being released | Power supply device for the electrode's capsule |
| 09. | Patent EU: EP 2938454; China: CN 201380074366.7; USA: US 9417192; Japan: J6266776; Mexico: 362326; Korea: 10-2059711; Canada: 2899534; Brasil - India - Thailand: being released | Optical device to detect the quality of welding guns' electrodes |
| 10. | Patent EU: EP 3227046; China: CN 107206537; USA: US 15533363; Japan: J6564038; Brasil: PI 0811814; Korea - Canada - Mexico - India: being released | Device for electrodes replacement on spot welding robot |

Your needs.
Our story.



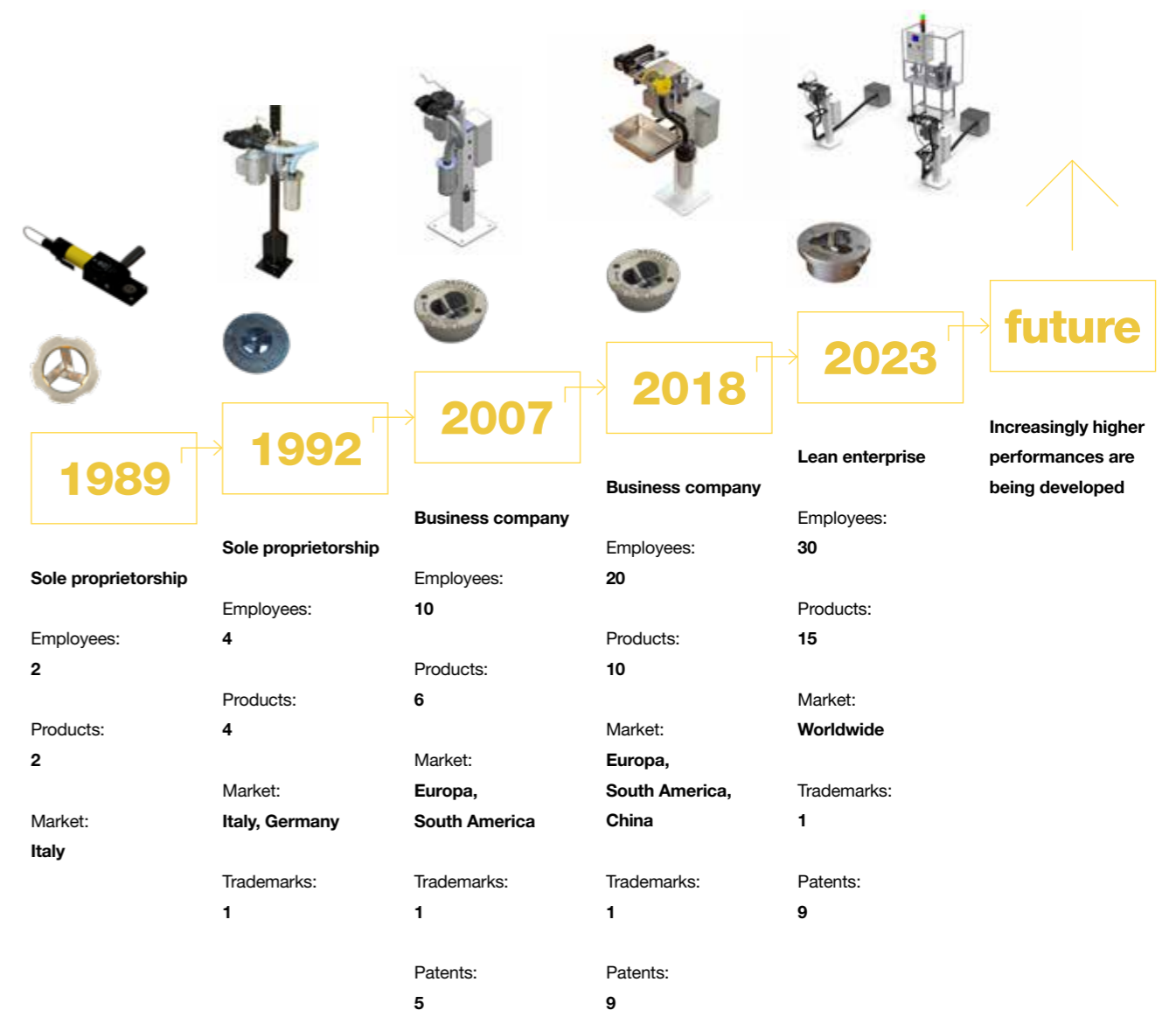
A story that speaks of future

Speak of Sinterleghe, means speak of the path followed during the years to become the company of today.

Continuous research of improvement is what this path is made of. This is what makes Sinterleghe continuously improving, succeeding and bringing value not only to the company itself and its customers, but the stakeholders too. Valuing talent and ideas of each member of the team is a powerful tool to evolve the entire organisation and create economic value.

Founded in 1989, Sinterleghe, has developed and internalised its own know-how, the design, the supply chain and the sale. This has allowed the company to grow and differentiate its offer by reaching high quality standards.

The performance of Sinterleghe products has allowed the sale on a worldwide level to the most important cars manufacturers and qualify as worldwide leader.



1872 _ Tedeschi's family founds the sawmill. From 1948 all their descendants have founded many companies in the field of sintering and carbide processing, among them Sinterleghe



1989 _ Eugenio Tedeschi founds Sinterleghe in Turin (Italy)

1992 _ Registration of Ravitex® brand and logo

1998 _ ISO 9002 Certification

1999 _ Foundation of Ravitex Ltda in Brasil

1998-2007 _ Deposited 5 patents



2000 _ Foundation of Ravitex GmbH in Germany

2001 _ ISO 9001 Certification

2006 _ Built first part of the new building in Anzola d'Ossola (VB), where it uses to be located the Tedeschi's sawmill

2010 _ Partnership with Shanghai Faith in China. First commercial deal in Asia

2011 _ SMARTDRESS Project coordination under the 7th research program and technological development SMEs

2013-2018 _ Deposited 4 Worldwide patents

2016 _ Expansion of the Anzola d'Ossola plant (VB)

2017 _ Volkswagen AG group approves Sinterleghe's product Worldwide

2018-2022 _ To transform the business from entrepreneurial to managerial, have been invested millions to purchase CNC and to form a team



2021 _ Launch of the Ravitex Global project Network Partners, grant of use of the Ravitex brand in Turkey

2023 _ Sinterleghe is a Lean Enterprise supported by enabled 4.0 technologies



Satisfy your needs _ Development of resistance welding technologies

1973

Use of electrodes, 400 welding points used to assemble and lighten the body of motor vehicles

1980-1990

Spot welding robots are used, **it is necessary to restore the diameter** of the electrodes in less time

1990-2000

The body is made of galvanized sheet metal, **it is necessary to remove the brass deposit** from the welding lens of the electrodes

2000-2010

Reduction of production cycle times, **it is necessary to extend the life** of the electrode to avoid interruption of production

2010-2020

Diffusion of high-strength sheets, the frequency of dressing increases, waist of the electrode is reduced, **it is necessary to reduce electrode replacement times**

2021-...

Use of aluminum sheets: to lighten the weight of electric vehicles and support the quality and efficiency of spot welding lines, **it is necessary have more efficient technologies** in the dressing and automatic electrode change field

Inspire our quality _ Evolution of Sinterleghe technological solutions

Worn electrodes are revived manually with a rasp



1992 _ To restore the diameter of the electrodes, a pneumatic manual dresser and a hard metal cutter are designed



1994 _ To remove the brass deposit from the welding lens, it has been designed a **three blades hard metal cutter 3TL**, used by BMW AG in the ED39 project at the Dingolfing plant (Germany)



2007 _ To extend the life of the electrode has been designed and patented a three blades hard metal cutter RX to remove less material. By 2022 have been sold more than 80,000 pieces worldwide



2013 _ To reduce replacement times of the electrodes is designed and patented the Sigma tip dresser & changer. By 2022 have been sold more than 10,000 pieces worldwide



2023-... **More efficient technologies** have been industrialised through a process and product redesign.

- RX cutter: dresses and polishes the electrode simultaneously
- Sigma tip dresser & changer: solution for continuous external loading up to 500 electrodes to power 2 to 4 devices simultaneously
- Other innovative devices are being developed, will be commercialised from 2024



Global Network Partners

Check your Country's partner: www.sinterleghe.it.

To become part of our sales organization, send e-mail to: ravitex.sales@sinterleghe.it

Partner: USA and Canada

J. H. BENNETT & CO., INC
22975 Venture Drive
48376 Novi - Michigan

Mr. Bill Vincent
Tel: +1-810-610-7804
bvincent@jhbennett.com

Branch: Germany and Benelux

RAVITEX GMBH
Wieselacker 7A
35041 Marburg a.d. Lahn

Mr. Umberto Adami
Tel: +49 178 5670938
umberto.adami@ravitexgroup.com

Partner: Sweden

SVETSRADET AB
Soldatgatan 14
18534 Vaxholm

Mr. Stefan Borg
Tel: +46 (0)8-6732330
stefan.borg@svetsradet.se

Partner: India

NATASHA ENTERPRISES
211, DLF Towers, 15, Shivaji
Marg, Delhi-110015

Tel: +91 11 42263403
Mob: +91 11 42283196

Mr. Roshan Taunk
rt@natashaenterprises.co.in

Partner: Spain and Portugal

BAMBU TECHNOLOGY S.R.L.
Avda. Mare de Deu de Montserrat, 21
08970 Sant Joan Despi / Barcelona

Mr. Humberto Ferrer
Tel: +34 932 035 540
hfc@bambutech.com

Partner: China

SHANGHAI FAITH CO., LTD.
No. 258 Xinzhuan Road
Songjiang District
201612 Shanghai

Mr. Lin Xia
Tel: +86 5852 7451
Fax: +96 5852 7461
xl@faithmfg.com.cn

Partner: Mexico

AUTOMATICS S.A. DE C.V.
Miguel Hidalgo 33 Col. El Colorado
Municipio de El Marques
76246 Queretaro

Ing. Victor Morales Rebollo
Tel: +5221 442 141414
victor.morales@automatics.com

Branch: Brasil

RAVITEX LTDA
Rua Fabio de Almeida Magalhães 207
05135-370 Jardim St Elias - São Paulo

Sr. Massimo Fornasari
Tel. +55 11 39 03 0969
Mob: +55 11941354044
ravitex.brasil@ravitexgroup.com

Partner: Argentina

TÜNKERS DE ARGENTINA S.A.
Velez Sarsfield 1516
1879 Quilmes - Buenos Aires

Sr. Raul Giacché
Tel: +54 11 2100-2900
Mob: +54 911 5801-9949
info@tuenkers.com.ar

Partner: Turkey

RAVITEX BILEME EKIPMANLARI LTD ŞTI
Alaaddin Bey Mh. 616. Sk. Zer5 Plaza Ofis B11
16120 Nilüfer / Bursa

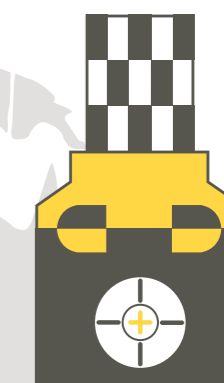
Mrs. Menekşe Kardeş
Tel: +90 538 057 97 89
info@ravitex.com.tr

Main site: Italy

REGISTERED OFFICE
Corso Luigi Einaudi, 18
10129 Torino
P.IVA IT05719370016

Administration: accounting@sinterleghe.it
Sales: ravitex.sales@sinterleghe.it

HEADQUARTERS AND PRODUCTION SITE
Via alla Sega, 10
28877 Anzola d'Ossola (VB)
Tel: +39 0323 837862



RAVITEX®

Global Network Partners

"Best in class" supplier of 4.0 solution
in the field of electrodes dressing,
electrodes changing
and welding spot effectiveness

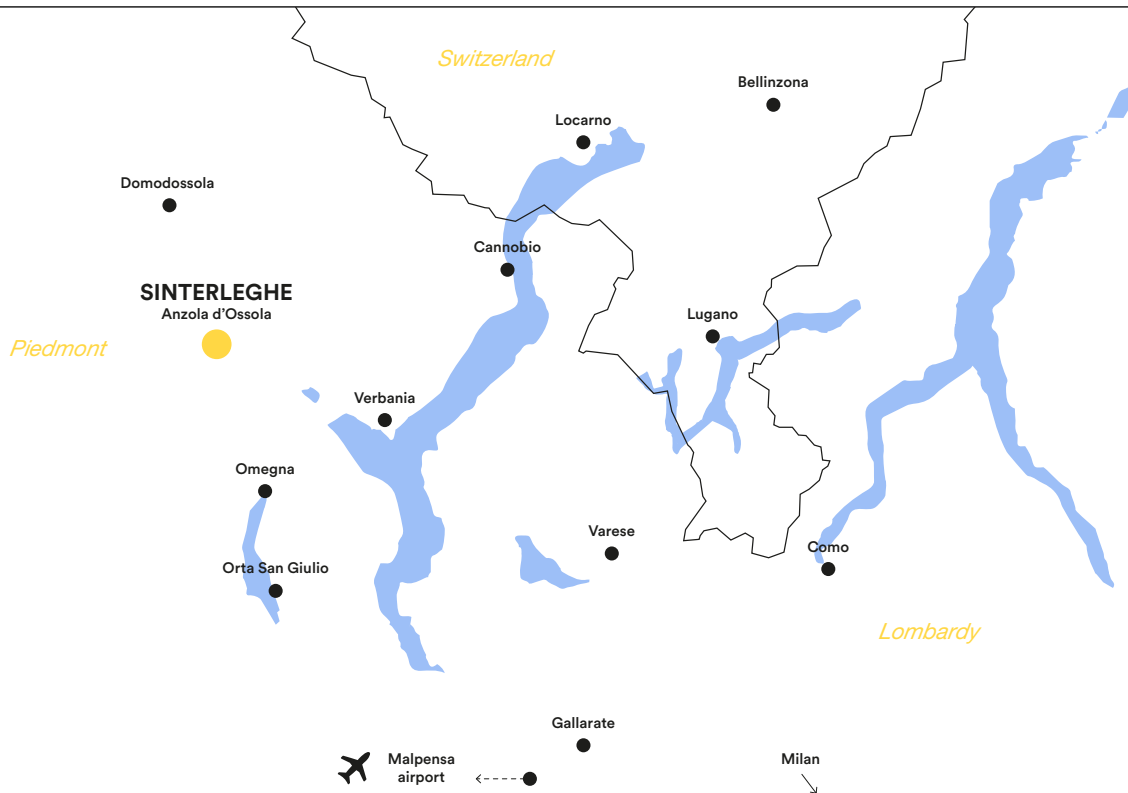
Request for quotation and/or assistance

Date: Company and address:

Name/surname: Tel: E-mail:

<input type="checkbox"/> Request of quotation <input type="checkbox"/> After sale <input type="checkbox"/> Test sample	<input type="checkbox"/> Single blade cutter <input type="checkbox"/> RX.2 hard metal three blades cutter	<input type="checkbox"/> Tip dresser <input type="checkbox"/> Tip dresser & changer
Welded metal sheet: <input type="checkbox"/> Zinc steel <input type="checkbox"/> Usibor <input type="checkbox"/> Aluminium	Use: <input type="checkbox"/> Robot welding guns <input type="checkbox"/> Stationary welding guns	I/O module: <input type="checkbox"/> Profinet <input type="checkbox"/> Ethernet <input type="checkbox"/> Devicenet <input type="checkbox"/> Other. Specify: <input type="checkbox"/> Not needed

Where we are and how to reach us



Our Headquarters is 70 km from Malpensa airport, motorway A4/A26 exit "Anzola d'Ossola"

Sinterleghe S.r.l.

www.sinterleghe.it

Registered office

Corso Luigi Einaudi, 18
10129 Torino - Italy
accounting@sinterleghe.it

**Headquarters
and production site**

Via alla Sega, 10
28877 Anzola d'Ossola (VB) - Italy
Tel: +39 0323 83 78 62
ravitex.sales@sinterleghe.it