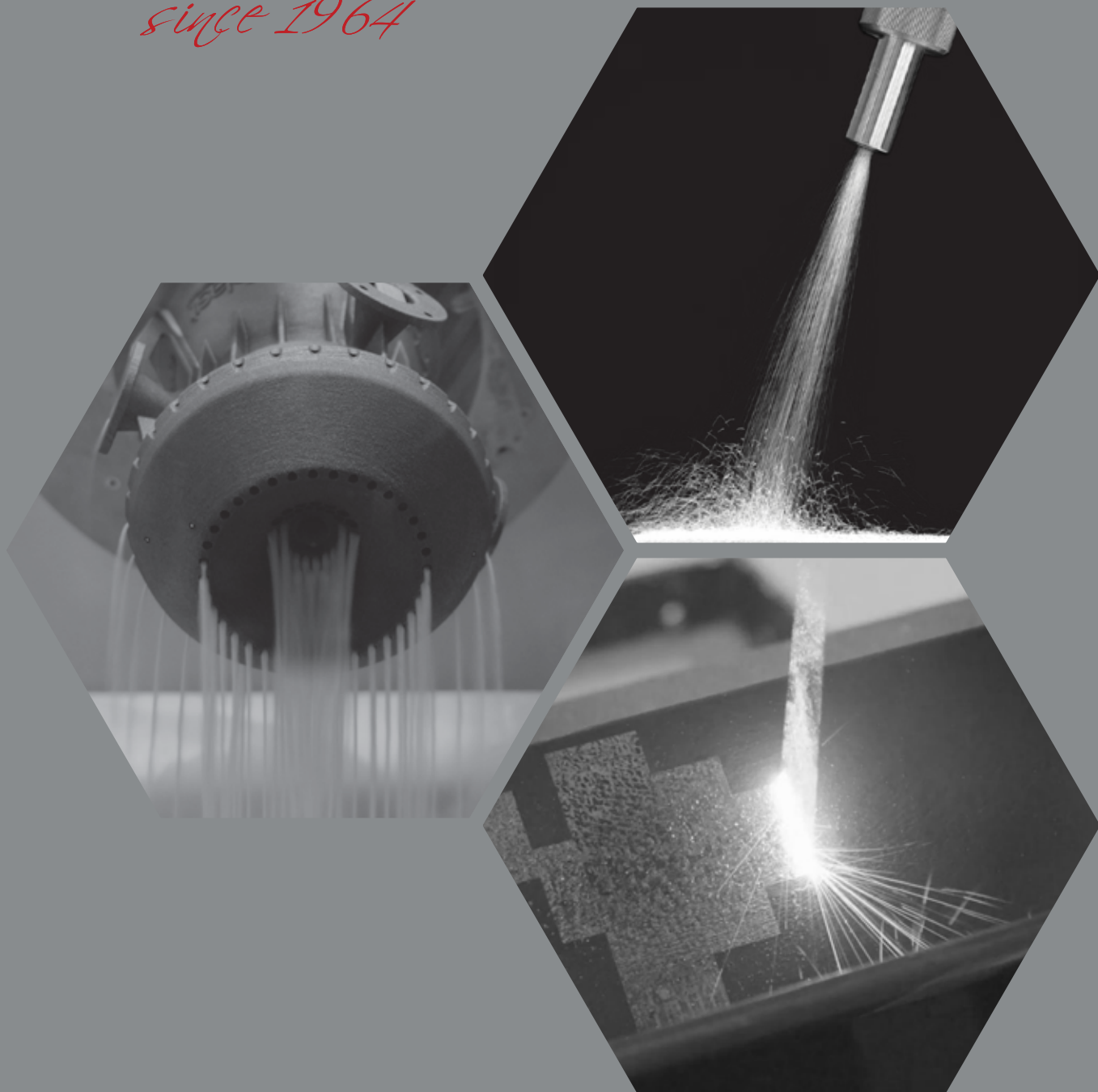


FerroECOBlast®
EUROPE
since 1964



ADVANCED **SURFACE**
TREATMENT TECHNOLOGY



FerroECOBlast is a leading developer of solutions and producer of machinery for surface treatment technologies.

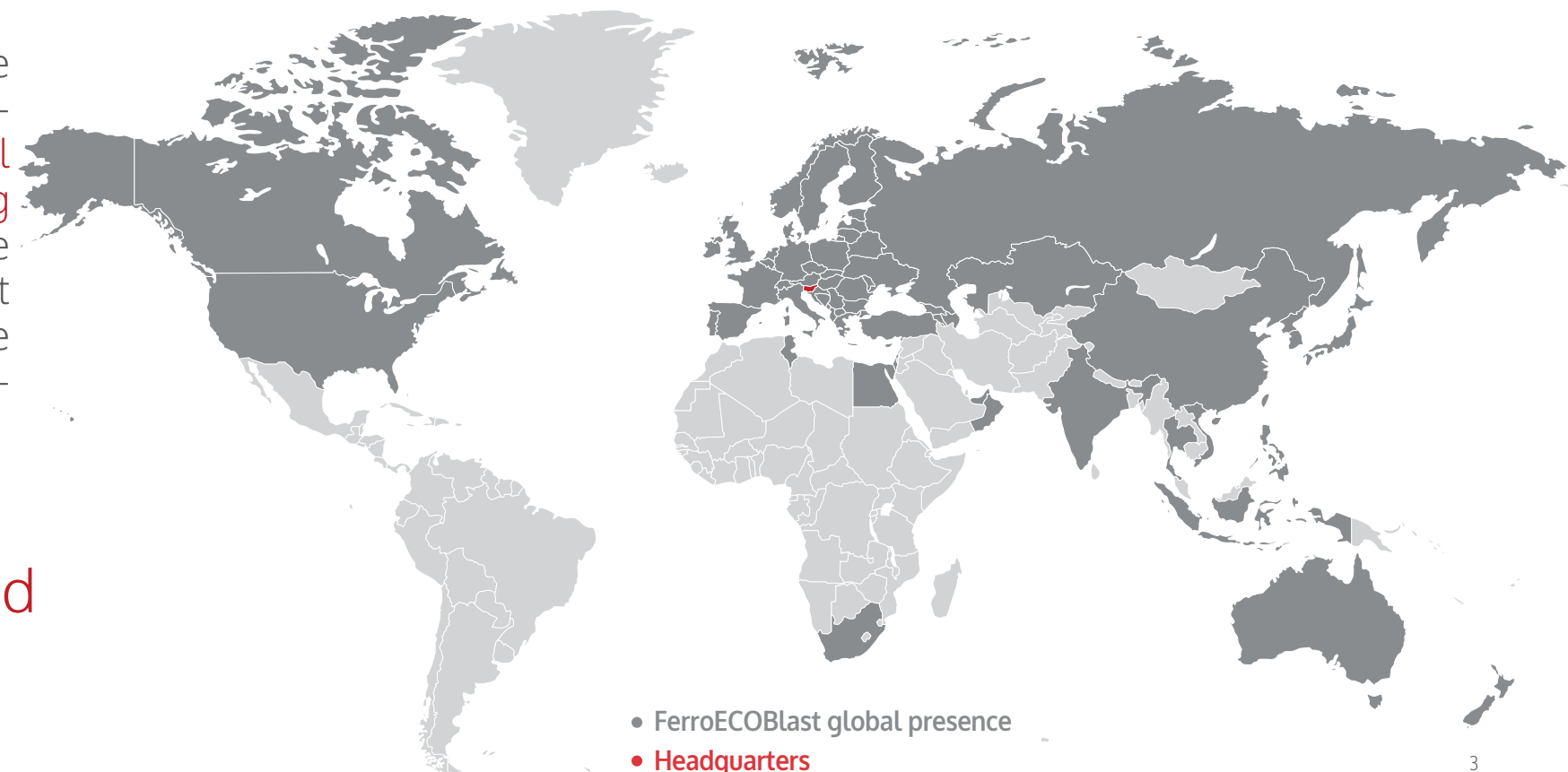
FerroECOBlast philosophy is to stay abreast of novelties and pursue constant development through innovations and research, which enables us to position ourselves among the top suppliers of **technological solutions in air blasting, shot peening and industrial surface cleaning technologies**. Customers from all over the world reduce costs, improve quality and satisfy their customers by incorporating FerroECOBlast equipment into their processes. We are present at all major trade shows around the world and hold lectures on surface treatment technologies and solutions.

With over 60 years of know-how, tradition of innovation and excellence, we are a trusted and well-known business partner in the global market.



Located in the heart of Europe, in the area with
the most innovative technical knowledge.

Our global footprint ◀



Main reasons to choose FerroECOBlast

- Over 60 years of know-how, tradition of innovation and excellence
- More than 10,000 successfully installed custom-made solutions worldwide
- Highly motivated, educated and experienced team
- On-site laboratory and modern research center
- Advanced service and testing center
- More than 100 different abrasives and a wide range of spare parts in stock
- Excellent after sales activities 24/7
- Satisfied customers in the most demanding global companies

The company was founded in 1964 as a private workshop, and over the years it has grown into a world-renowned company. Today FerroECOBlast is one of the world's leading manufacturers of surface treatment systems and our name is based on 60 years of know-how, a tradition of innovation and excellence.

**Reshaping the
surface treatment
industry with
constant R&D**

Our consulting approach is to advise our customers and recommend the most suitable equipment. FerroECOBlast specialises in developing complete customised solutions for unique and demanding challenges in the surface treatment industry. Our main goal is to help our partners around the world solve surface treatment problems and improve the growth of their businesses.

**Smart
solution
provider**

Satisfied customers particularly appreciate that each project is designed and made to their specific needs and applicable to their unique processes. We always strive to go beyond the minimum requirements set out in writing, as we are aware that only the best is good enough in the eyes of our customers.

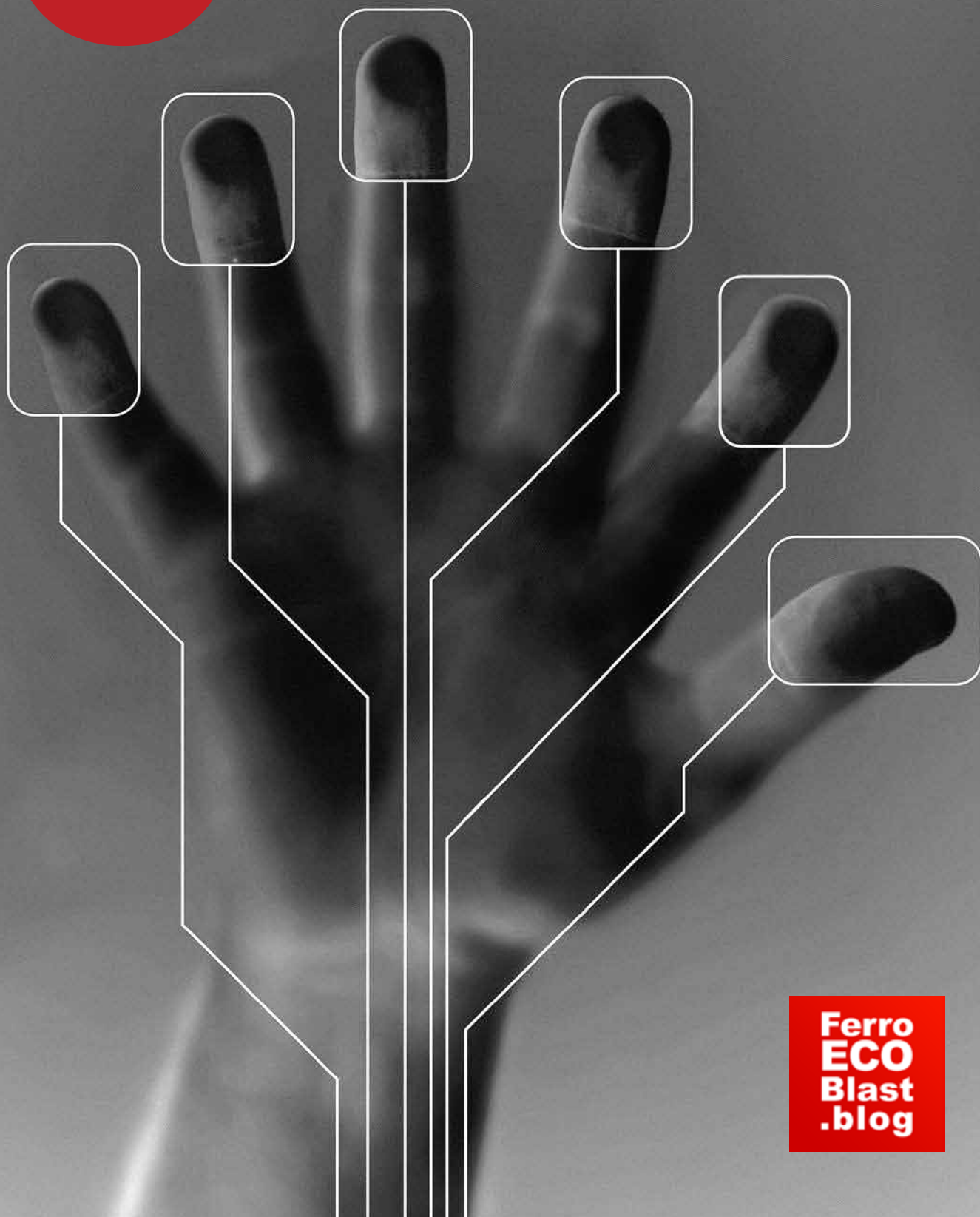
**Dedicated
to a superior
customer
experience**

Focused on reducing your
direct maintenance costs,
improving the reliability
of your equipment and
increasing your profit.



Research & development are strong words with a powerful meaning! They are the backbone of our company and the driving force behind our technological superiority.

6 steps to a COMPLETE SOLUTION



Specializing in delivering complete solutions: a complete engineering service – from idea, testing, research, application development, production to assembly, training/education and after sales activities

IDEA & TESTING

Based on a half century of experience, knowledge and a good distribution of human resources and synergies in teamwork (sales and technical department) are the key to creative ideas and the ability to implement them.

RESEARCH & DEVELOPMENT

Very dedicated to the continuous research and development of advanced solutions in the field of surface treatment technologies. Close cooperation with many renowned universities and institutes around the world gives our customers only the best and most reliable solutions with the highest added value.

PRODUCTION & ASSEMBLY

State of the art production facilities consists of robotized equipment and robotic cells, which are also increasingly used in our customers' surface treatment projects. All manufactured parts are carefully assembled and tested under our strict control in our company.

INSTALLATION & TRAINING

For customers all over the world, FerroECOBlast offers installation supervision and training by our highly qualified engineering team. In this way, the machines are integrated into the customer's production process, and the high quality of the final assembly allows a smooth commissioning and start-up with a long-term operation without jams.

AFTER SALES ACTIVITIES

Our goal is to maintain a long-term relationship with our customers and become a trusted partner for whenever you might need assistance in solving a problem or other issues for various reasons. Our highly competent technical team provides 24/7 ongoing service and support of your surface treatment equipment throughout its life cycle and beyond.

SERVICE & SUPPORT

FerroECOBlast test center, is equipped with robotic, automatic and manual machines. We provide our customers the services of shot peening, airblasting and fiber laser cleaning, texturing and marking of their products according to their specifications. More than 100 different abrasives and a wide range of spare parts and protective equipment are in stock in our warehouse.

**Ferro
ECO
Blast
.blog**

APPLIED TECHNOLOGIES

AIR BLASTING

FerroECOBlast professional air blasting equipment assortment consists of only the most efficient, high-quality ecologically oriented products that are continuously field tested in various configurations all over the world.

Most important concern is the ecological aspect of abrasive blasting technology, therefore all our products conform to highest ecological and technical EU made to the standard for verification. Air blasting is a safe non hazardous and non chemical process, which is widely used in almost every industry

3D PRINT POST-PROCESSING

The additive manufacturing industry, which is increasingly gaining ground in serial production, also requires an equally efficient post-processing process, part of which we cover with our products from the Addiblast program. Machines from this segment are intended for operations after 3D printing, which are de-powdering, powder recovery & conditioning, and surface treatment of 3D printed products.

Addiblast solutions combine manual and fully automated de-powdering and surface treatment processes, allowing customers to carry out these operations quickly, efficiently and in an operator-safe working environment. By using our solutions, operating costs are significantly reduced, saving on raw materials used in the additive manufacturing industry and also saving time, enabling serial production as a result.

SHOT PEENING

Shot peening technology is used to improve the mechanical properties of the most loaded metal parts, significantly reduce weight and extremely extends corrosion resistance.

It is especially used in aircraft and automotive repairs to relieve tensile stresses built up in the machining process and replace them with beneficial compressive stresses.

Add more value to your high-tech products and increase their lifetime while protecting them against failures such as fatigue, fretting fatigue and stress corrosion cracking with our shot peening technology.

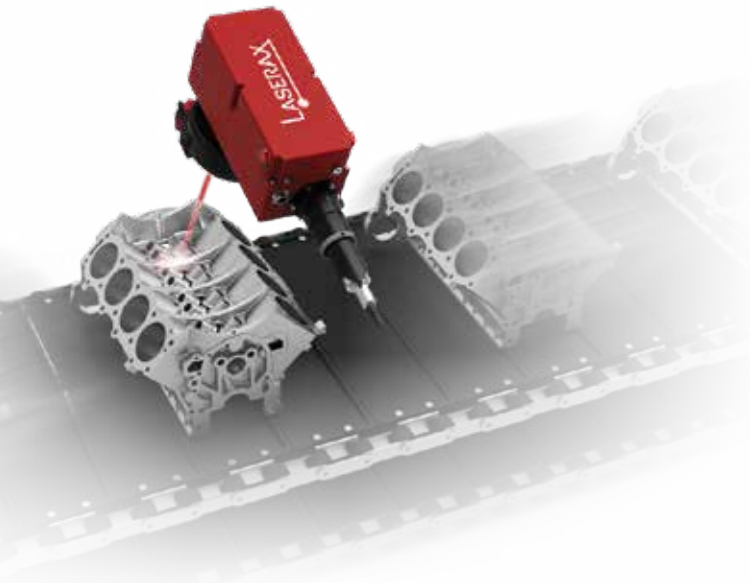
Our proven shot peening technology guarantees increased fatigue strength up to 800% and the fatigue life up to 1000%. Shot peening is used for surface hardening of mechanical parts operating in the toughest conditions and subject to extreme wear.

APPLIED TECHNOLOGIES

LASER CLEANING, TEXTURING & MARKING

With the most advanced and powerful 300W pulsed fiber laser, we develop the technology of laser surface treatment: coating removal, cleaning, surface texturing and product marking. Customers entrust us with their products for testing purposes, or we perform tests, develop and produce a suitable solution (robotic/automatic) or provide a service according to their requirements.

The 3D laser head enables the execution of various tasks at different focal distances (± 70 mm) in a single step - meaning, that different Rz values, marking, and removing coatings on complex surfaces are not a problem. We invite you to test your wildest ideas with our laser equipment because every such process is significantly environmentally friendlier compared to conventional technology and many times change classic designs with totally advanced solutions.



DENTAL & ORTHO IMPLANT SOLUTIONS

One of today's rapidly growing industries is the manufacturing of implants for dental and orthopedic use. Our company follows the needs of this industry with our machines for the surface treatment of these products with the aim of controlled roughening the implant surfaces for better osseointegration.

In addition to the requirements for high-quality surface treatment and reproducibility of results, product and process traceability is most important aspect. Our machines enable the recording and tracking of the process for each individual product in accordance with INDUSTRY 4.0 principles and newest medical standards with recording in the database, and control via web applications.



ENAMELING & COATING SOLUTIONS

For the most demanding water-and solar-heater manufacturers of boilers worldwide we are supplying fully automated In-line and Off-line machines for surface preparation and also for electrostatic powder enamelling with all the necessary components for enamel recycling and reuse, as well as ecologically sophisticated full filtration.



ULTRA-HIGH-PRESSURE WATER CLEANING

UHP water jetting is a fast, efficient and the most ecological process for cleaning surfaces or removing cores and deposits on molds or castings. UHP water blasting does not release potentially contaminated dust particles into the air, which is critical when dealing with highly hazardous contaminants, including radioactive contamination, paint stripping or de-coring casts.



DRY ICE CLEANING & SNOW BLASTING

Cleaning with dry ice/snow blasting/cleaning equipment is not only highly efficient but also highly ecological, as remarkable cleaning results are achieved without water, chemicals and secondary waste and without damaging the surface. For this process we use solid CO₂ pellets at a temperature of -78.5°C, which can be produced in our Pelletizers and sprayed out with Blasters.

FIELDS OF APPLICATION

metal industry



- **AIR BLASTING**
 - Removing rust and old layers from metal surfaces prior to painting
 - Preparing metal surfaces for painting, bonding/gluing, rubberising, vulcanisation
 - Visual improvement and surface unification
 - Controlled surface roughening
- **LIGHT ABRASIVE CLEANING**
 - Cleaning of tools and moulds
 - Surface unification

aerospace



- **AIR BLASTING**
 - For surface preparation prior to coating, metalization and heat treatment
- **PAINT STRIPPING**
 - Removing paint without damaging the base material before NDT inspection
- **SHOT PEENING**
 - Adding strength and reducing the stress profile of components
- **COATING REMOVAL**
 - Removing coating before repairs and repaints

automotive

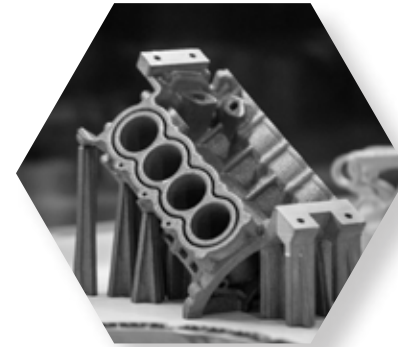


- **CLEANING OF CASTINGS**
 - Cleaning of weldet or foundry products for the automotive industry
- **DEFLASHING OF PLASTIC COMPONENTS**
 - Light abrasives of sensitive and precise parts with dry ice and dry snow
- **LASER CLEANING, TEXTURING AND MARKING**
 - Fast, reliable, safe and repeatable process
- **AIR BLASTING / DEFLASHING**
 - Air blasting applications for deflashing of precise castings

power industry

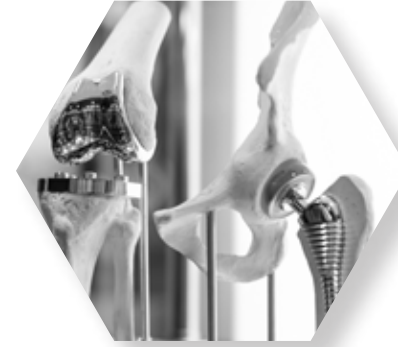


- **SHOT PEENING**
 - Shot peening of components, gears, shafts
- **AIR BLASTING**
 - Surface treatment solutions for composite materials before gluing and painting
- **SODA BLASTING**
 - Ecological paint stripping with soda blasting
- **DRY ICE CLEANING**
 - Ecological dry ice cleaning of components



additive manufacturing

- **DE-POWDERING**
 - Depowdering of metal powder materials from LPBF, EBM, BJP systems and polymer powders from SLS, MJF systems
- **POWDER COLLECTION & RECYCLING**
 - Recycling of all metal powders including reactive ones such as titanium, aluminium, Inconel, stainless steel, copper...
- **AIR BLASTING**
 - Surface finishing, smoothing, texturing of additive manufacturing parts



implant industry

- **AIR BLASTING**
 - For SLA process (Sandblast, Large Grit, Acid Etch)
 - Surface roughening before acid etching
 - Better osseointegration of implant
 - Verified process
 - Media: titanium oxide, biomaterials, aluminium oxide, calcium phosphate, ceramic beads...



enameling and coating

- **AUTOMATIC MACHINES FOR BOILER PRETREATMENT**
 - Automatic sandblasting of boilers prior to enamel coating
- **ORBITAL AND IN-LINE MACHINES FOR SURFACE TREATMENT PRIOR TEFLON AND CERAMIC COATING**



other industry solutions

- **DECONTAMINATION CLEANING**
 - UHP decontamination of radioactive structures during decommissioning of nuclear power plants
- **RAILWAY MAINTENANCE**
 - Blast rooms are ideal for preparing large metal surfaces
 - Ecological cleaning of railway axles prior to magnetic flux inspection
- **ELECTRICAL AND ELECTRONIC INDUSTRY APPLICATIONS**
 - Cleaning of components with dry ice

ROBOTIC & AUTOMATED TREATMENT SOLUTIONS

Increase your plant productivity, flexibility and efficiency and reduce your overall production costs with FerroECOBlast robotic & automated surface treatment solutions.

With FerroECOBlast robotic & automated surface treatment solutions, you can increase your plant productivity, flexibility and efficiency to reduce your overall production costs. All our automatic air blasting machines are completely engineered, designed and custom made in our company, exactly to customer's specific surface treatment requirements. We have carried out hundreds of high-performance, efficient, cost-effective applications of semi-automatic, fully automatic and robotic air blasting machines worldwide.



Custom, tailor-made robotic and automated solutions for complete ecological surface treatment installations are a guarantee for the optimum surface treatment quality with the highest level of economic feasibility.



Basic automation of air blasting cabinets is achieved through various linear units and turntables, which are usually controlled with a PLC and operated with a touch screen. Manipulation and handling of workpieces, too, can be automated with conveyors or robotic arms. The highest level of automation in air blasting is achieved with industrial robots, which can perform repetitive, heavy, dirty, and dangerous tasks in hazardous environments and increase productivity and efficiency with robotic air blasting.

”

»FerroECOBlast's machinery and after sales support has proven their values and knowledge. Based on our experience with them, we purchased another machine from them. FerroECOBlast is our preferred and first supplier for surface treatment machinery, and we would recommend it to any company which needs either shot peening, blasting or other surface treatment machinery.«

Oleksandr Bilyk, CEO, Sigmatech

COMPUTER CONTROLLED SHOT PEENING SOLUTIONS

Based on experience from 1964 and FAA-approved in-house shot peening specialists, custom-made solutions for shot peening are designed to meet AMS requirements and comply with NADCAP certification of production process for structural, engine and landing gear components.

This type of machines allows controlled and repeatable shot peening of different kinds of metal or alloy engine parts with two different peening media sizes, with a conventional blasting head and special rotary lance head. Complete machine solutions are based on the custom-made blasting chambers specially designed to achieve ideal working conditions for the shot peening process.

Machines are designed and constructed with sound absorbing materials taking under consideration strict health regulations and providing safe working environment for operators. Supervision and management of the complete system and process functions are performed via SCADA control system, which is closely linked to industrial PLC with a built-in system.



Programming of robotic modules and manual handling are executed through FlexPendant mobile HMI with all in-built features for safe operation during manual programming and service actions.

Tested and verified fully robotic shot peening solutions are a guarantee for the exact peening quality according to the customers requirements with the highest level of effective working procedure.



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»We wanted to say thank you for the great efforts & technical support you gave us about the product. We can say that we are greatly satisfied with the product that we bought from your company. We are very satisfied with FerroČrtalič's approach, professionalism and ability to solve surface treatment problems in such a demanding industry as shot peening. Our cooperation with FerroČrtalič is very successful and the results are showing efficient technological solution. We wanted to let you know that we greatly appreciate the effort of FerroČrtalič, especially your technical service. Your great customer service is highly appreciated.«

Evrin AFSAR, Mechanical Engineer, Turkish Engine Center (TEC), Pratt & Whitney THY Technic Engine Maintenance Center

POST-PROCESSING FULLY CONTROLLED PROCESS

Born from more than half a century of experience, Addiblast is the answer to the problems of the future.

MARS03 is designed as a fully automated solution for removing excess powder from extremely complex metal structures. The whole system is explosion-proof and complies with the ATEX Directive, so the use of titanium and aluminium powders is not a problem as the system can produce and maintain a controlled, inert atmosphere, keeping oxygen levels below 2 percent.

The combination of the MARS03 de-powdering station and STAR02 powder recovery and conditioning unit is a world-class innovation. It enables a closed-loop inert atmosphere workflow, maintaining oxygen level well below 2%. This feature prevents contamination and oxydation of the powder during de-powdering and conditioning and raises powder reusability to new levels.

Solutions like these are helping the field of additive manufacturing move further towards mass production, while reducing cost per part, bringing great added value for the most demanding industries such as aerospace and medicine.

MARS depowdering stations are available in all sizes of today Build-Plates.



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»ADDIBLAST provide us great support with their post-processing machines for the additive manufacturing (AM) industry. Their solutions have exceeded our expectations, both in development and support terms. They offer a wide range of AM machines and cover all post-processing segments (de-powdering, powder recovery, conditioning and surface treatment of 3D printed parts). Working closely and fostering smooth and prompt communication with the ADDIBLAST team, we can always count on their support. As our trusted professional partner, they share our passion for new technologies.«

Mario Šinko, CEO, MARSi group

IMPLANT FULLY CONTROLLED PROCESS

Increase osseointegration with reliable and precise automated surface preparation.

We have designed a fully automatic machine for the surface treatment of implants. It is called DENTALBLAST 900 and is one of the most advanced machines for surface preparation of dental implants in the world. Its unique design and working process allow high and repeatable production for abrasive blasting of dental implants.

The key benefit of this machine is a continuous working process and repeatability of the blasting process. When implants are loaded, a three-axis manipulator loads each one on the satellite for blasting. One gripper is installed for positioning the implant while a second one is used to place a protective cap around the implant to protect the implant holder during blasting. One of the many advantages of this machine is that it features precise recycling of media of media with a vibration sieve classifier that separates abrasive media precisely by size.

All parameters are controlled through the user-friendly FerroSmartPanel. In case of failure, alarms and warnings appear on the screen. The Dentalblast 900 is a one-of-a-kind machine and currently the most sought-after machine in the dental implant industry. Also available with remote control on Mobile phone.



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»We purchased a machine from FerroECOBlast for blasting dental implants for SLA process. We were looking for a modern solution on the market and FerroECOBlast was the only one that combined industrial blasting process in modern, state of the art design that fit our factory design. We would recommend their DentalBlast solutions to any other implant manufacturers that require repeatable and traceable blasting process.«

Graziano Cavallet, Director, Dental Tech



STANDARD PRODUCTION PROGRAM

Beside custom-made solutions, our core production program consists of numerous pieces of equipment which can be used in many different fields. Our core program includes:

»My lifestyle is to blast, to be sturdy and strong, to be passionate about materials, to be gentle with surfaces and to drive performance, to be unforgettable.«
FerroECOBlast Europe



BLAST CABINETS

Ergonomically designed ecological blast cabinets, made by professionals for professionals. Various series of standard blast cabinets, which can be extended by a long list of accessories and add-ons, offer an ideal, customizable solution for simple and medium-complex surface treatment installations.



MOBILE BLAST MACHINES

Particularly suited for on-site work and for blasting in confined blast rooms. With the additional pressure regulator it is possible to blast at high and low pressure, with all types of blasting abrasives, depending on your needs. We can support you with a dry or wet technique and all kinds of necessary personal protective equipment.



BLAST ROOMS

Ecological industrial blast rooms for most demanding abrasive blasting operations, suitable for all sizes and shapes of workpieces. The only law-compliant solution for cleaning large objects is blasting in closed systems with abrasive collecting, recycling and filtration – air filtration and recuperation, in abrasive ecological blast rooms.



PAINT STRIPPING

Paint stripping is a big issue in today's world and with our equipment it can be even more effective and less dangerous for people and objects. Based on our technological development, we provide solutions for stripping paint with plastic blasting. We have developed an even more cost-effective solution that does not pollute the environment in any way, using an ultra-high-pressure water jet to remove paint from the workpiece.



WET BLASTING

Wet blasting technology provides highly consistent and reproducible surface treatment for cleaning, degreasing, descaling, etching or satin finishing of various products of different geometries and from different materials (from plastics and soft metals to steel, titanium and exotic materials) without the use of harsh chemicals or dusty mechanical processes.



FILTER & RECYCLING UNIT

Professional, high-quality dust collectors. The new generation of CENTRO dust collectors and abrasive recycling filter systems is the result of continuous development and improvement of our products for sandblasting purposes in a wide range of applications.



SODA BLASTING

We offer dry and wet soda blasting systems stable or portable, that feature countless process automation options. Soda blasting is the fastest way to remove all types of coatings without damaging metal, glass, chrome or warping thin sheet metal. Particularily disirable for cleaning complicated tools/ molds in the pharmaceutical and food industry as well as for the restoration of old-timers.

LATEST RESEARCH & DEVELOPMENT PROJECTS

Through professional and research articles, our company has established a permanent presence on many international conferences in Europe, America, the Middle East, Asia, etc.

Each of our lectures surprises attending professionals with the latest news and high level of innovations, which improve quality, accelerate production and reduce costs of products thanks to our latest surface treatment solutions and processes. Innovations are written in our genetic code.

Development project - Eureka 2019 ImplantBlaster [2020 - 2023]

Development project for the research of the integrated processing of orthopedic implants from roughening and with a strong emphasis on the technology of cleaning the surface after sandblasting, with the aim of reducing abrasive residues in the surface of the implants under the minimum.

Internal R&D project - Shot peening 3D printed parts [2020 - 2023]

In the project, we studied the effects of shot peening on products made with additive manufacturing technology. Recently, additive manufacturing technology has seen impressive development and the products are used in many end products such as aircraft, medical implants... Our research project demonstrates the level of improving the mechanical properties of 3D printed parts compared to conventional ones.

Development project - Digital transformation of business [2020 - 2021]

In the period 2020 - 2021, the company started the implementation of a long-term project of digital transformation of business. Phase 1 the main objectives of which were to ensure adequate technical equipment or renovation, which is necessary for digital business and production, and Phase 2, digital transformation of key production and business processes, were successfully implemented with the support of the European Fund for Regional Development (public tender "Incentives for digital transformation of SMEs (P4D-C19)").

Research Project - Sensi Snow Blast [EU Eureka, 2016 - 2020]

Sensi-Snow blast should be used for industrial cleaning of the most sensitive parts with an environmentally friendly process. Suitable for cleaning electrical cabinets, control panels, electrical equipment and for cleaning plastics before coating; based on preliminary tests and obtained parameters and recipes, so there is no damage on very sensitive components.

»FerroČrtalič d.o.o. was awarded with recognition of German Ministry of Economics and Technology for the best international project CleanER in the field of new technologies for surface preparation.«
German Ministry of Economics and Technology



SERVICE & TESTING CENTER

Our company features a high-tech center equipped with the latest technology. The center consists of 4 units: 3D printer, laser for cleaning and roughening, precise and controllable air blasting unit, robotic shot peening center and laboratory for surface inspection.

3D print post-processing

A 3D printing room with the most advanced 3D printer based on the SLS method, which can print according to the SLS method is located, which can print high-precision products from the PA12, PP, PA 11 and TPU materials to maximum dimensions of 250x250x300mm. The printer is used for the production of products for our own needs and for the production of prototypes, for the purposes of development and research of the Addiblast product line, and for the implementation of hundreds of 3D printing applications for our external customers.

Laser cleaning, texturing & marking

Laser surface treatment ensures a uniform surface over the entire treatment area and perfect repeatability, something which cannot be claimed for other texturing and cleaning technologies. We offer low-volume services on small-batch products and testings of all laser applications to all interested customers facing a challenge with selective cleaning, marking, or pre-preparation of metal surfaces before welding, adhesive bonding, coating application, etc., we are here for you.

Blasting / Peening

Providing on time service of Air Blasting and Shot Peening for our valued customers in our Service technology center. Customers can choose from manual, automated to robotized surface treatment on their parts performed by highly knowledge engineers with FAA approved Shot Peening certificates Levels 1,2 and 3. You can do your own test before deciding to buy a machine.

Tech lab

The laboratory is equipped with all the calibrated measuring equipment, which we need to analyze the quality of our processes and products. It contains an optical microscope for inspecting the quality of surfaces, an electronic endoscope for checking hard-to-reach parts of products, roughness and other measuring devices such as flow measurement, coating thickness, noise level, etc... For special analyses we cooperate with world-renowned laboratories.



MILESTONES



1964

Company Črtalič is started as a one of the first garage workshop by Mr. Jože Črtalič

In the year 1974 his son Mr. Bojan Črtalič join father's private company and in

1992

established company FerroČrtalič d.o.o.

2002

Registered trademark FerroECOBlast® Europe

1998

Extensive production/export and acquisition of ISO 9001 certification

2013

Mrs. Mojca Črtalič Andolšek, daughter of Mr. Bojan Črtalič becomes the new Managing Director

2017

Our team is certified for shot peening (level 1-3) training

2015

Extension of our capabilities for 1200m² with a newly built production hall

2018

Successfully transitioned from ISO 9001 - 2008 to ISO 9001 - 2015 version

2021

Extension of our warehouse to match the size of our today's business facility

2020

First UL-certified machine for US market

2022

Registered new trademark Addiblast® for 3D Post processing/depowdering solutions and equipment

Where technology, nature and family values meet



ISO 9001
ISO 14001
BUREAU VERITAS
Certification
N° SI009115



FerroECOBlast®
EUROPE

AIR BLASTING

LASER CLEANING & TEXTURING

SHOT PEENING

DENTAL & ORTHO IMPLANT SOLUTIONS

UHP WATER JETTING

3D PRINT POST-PROCESSING

WET BLASTING

ENAMELING & COATING SOLUTIONS

PAINT STRIPPING

DRY ICE & DRY SNOW CLEANING

SODA BLASTING

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