



**FerroECOBlast®**  
EUROPE

*since 1964*

**ADVANCED SURFACE TREATMENT TECHNOLOGY**

[ferroecoblast.com](http://ferroecoblast.com)

AIR BLASTING | SHOT PEENING | WET BLASTING | PAINT STRIPPING | DRY ICE & DRY SNOW CLEANING  
SODA BLASTING | ULTRA HIGH PRESSURE WATER JETTING | ENAMELING & COATING SOLUTIONS

Our philosophy is tracking the novelties and constant development through innovations and research, which enables us to put ourselves on the top of the suppliers of **technological solutions in air blasting, shot peening and industrial surface cleaning technologies.**

We are present on all important exhibitions in the world and we attend and held lectures about surface treatment technologies and solutions.



AIR BLASTING | SHOT PEENING | WET BLASTING  
PAINT STRIPPING | DRY ICE & DRY SNOW CLEANING  
SODA BLASTING | ULTRA HIGH PRESSURE WATER JETTING  
ENAMELING & COATING SOLUTIONS

**FerroČrtalič**  
is a leading company  
in development  
solutions and  
production  
machinery in the  
Surface treatment  
technologies.



We are located in the heart of Europe in the territory with the most innovative technical knowledge.

**Our global footprint** 



With over 50 years of know-how, tradition of innovation and excellence, we are trusted and well-known business partner in the global market.

# Main reasons to choose FerroČrtalič

- Over 50 years of know-how, tradition of innovation and excellence
- More than 1.000 successfully installed custom made solutions worldwide
- Highly motivated, educated and experienced team
- Our own laboratory and research center
- Prompt after sales activities
- Satisfied customers in the most demanding global companies



**By constant research  
and development we  
shape the surface  
treatment industry**

The company was established in 1964 as a private workshop, but has through the years developed into a well-known global company. Today FerroČrtalič is one of the leading manufacturers of surface treatment systems world-wide and our name is based on 50 years of know-how, a tradition of innovation and excellence.



**We are  
a problem solver**

Our approach to guidance is to advise and suggest the most suitable equipment for our customers; thereby we help them to always remain one step ahead of their competition. We successfully achieve that with constant improvement and upgrading of knowledge and the use of the most modern technologies in our processes. The company FerroČrtalič specialises in engineering complete custom made solutions for unique and most demanding challenges in the surface treatment industry. Our primary goal is to help our partners all over the world to solve problems regarding surface treatment and to improve the growth of their companies.



**We are dedicated  
to a superior  
customer  
experience**

Our satisfied customers are particularly appreciative of the fact that each project is designed and made to suit their special needs and is applicable in their unique processes. Superior added value distinguishes FerroECOBlast solutions from competition on the market. We always strive to go beyond written minimal conditions since we are aware that in the eyes of our customers only excellence is good enough. We understand excellence as top level designed and 100% reliable equipment. We are **committed to overcome the expectations** of our customers, our concern is long-term satisfaction with us and our products.



# 5

## steps to COMPLETE SOLUTION

We are specialised in providing a complete solution i.e. a complete engineering from idea, testing, research, application development, production to assembly, training/education and after sales activities.

### IDEA & TESTING

Good allocation of human resources and synergy in teamwork (sales and technical department) is the key to creative ideas and the ability to implement them.  
Various types of blasting cabinets that we have at our disposal are used for test purposes to find the best possible combination of blasting procedures, right choice of equipment and accessories for our customers.

### RESEARCH & DEVELOPMENT

We are fully dedicated to constant research and development of surface treatment technologies, in close cooperation with many renowned universities and institutes world wide.  
In addition to modern production, our own in-house laboratory for research and control of surface treatment processes guarantees 100% quality of treated surfaces. Our own laboratory provides saving time and money for a customer when designing his equipment.

### PRODUCTION & ASSEMBLY

Our production is up to date, assembled by robotised equipment and robot cells, which are also more and more implemented in the surface treatment projects for our customers.  
All manufactured parts are put together in a serial assembly line. This includes the assembling of housings, implementation and testing of electrical, mechanical and pneumatic components as well as a final validation of the product in our own laboratory.

### INSTALLATION & TRAINING

For our customers worldwide, we provide supervision of installation and training performed by our highly skilled engineering team.  
This way, the machines are incorporated into the customer's production process with precise high quality of the final assembly enabling smooth commissioning and start-up.

### AFTERSALES ACTIVITIES

Be assured that we stand behind our equipment at all times. We are taking our service and support efforts to the same high standards that are set for our products.  
FerroECOBlast provides ongoing service and support for your surface treatment equipment throughout its life cycle and beyond. Our objective is to maintain a long term relationship and become a trustworthy partner in the event of required support for different reasons in order to solve a problem or other issues and on more complicated projects we always use Internet connection with our installations worldwide, with the view to reduce deadlock time on minimum.

We manage the following technologies and procedures:

## SAND/SHOT BLASTING



»The machine is very good as it completely fulfils all technological requirements and working results. The construction of the machine and the material used assure long life and minimal necessary maintenance. We are very satisfied with the equipment and we recommend FerroČrtalič machines.«

Andreja Košir, President of the board, Elan

## SHOT PEENING & PEEN FORMING

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 technology of shot peening.

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.

**Shot peening** is often used in aircraft repairs to relieve tensile stresses built up in the grinding process and replace them with beneficial compressive stresses.

Shot peen forming is an extremely flexible cold forming process derived from shot peening and enables forming of complex shapes, where the use of conventional methods would require a lot of machining resources and power consumption. Peen forming is used to form the most complex curvatures of aluminium wing skins in manufacturing of airplanes.

**Peen forming** is often more effective in shaping curvatures rather than rolling, pressing or bending. Also saddle forms may be achieved therewith. Peen forming is so flexible it can further modify the shape once being formed.



»With this solution, we were able to obtain much more, because we also sandblast the surface of certain components that are later painted. We reduced operating time by 60-70% and there is improvement in quality.«

Tomaž Avsenek, general manager, Albatross Fly (Pipistrel Group supplier)



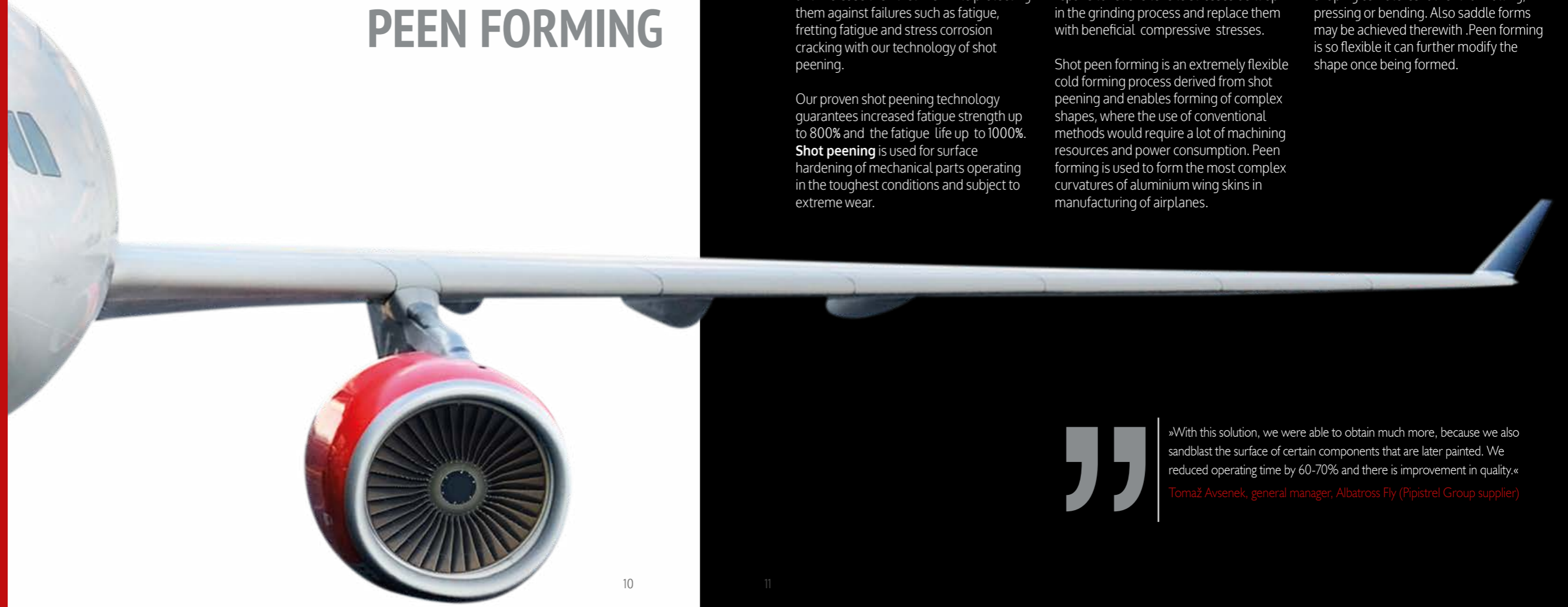
Our professional sand/shot blasting equipment assortment consists of only the most efficient, highest quality, ecologically oriented products that are continuously field tested in various configurations all over the world.

Our main concern is the ecological aspect of sand/shot blasting technology, therefore all our products conform to highest ecological and technical EU standards.

Sand/Shot blasting as a finishing process, has been successfully utilised on metal, glass, ceramic, stone, plastics etc, and may be used for:

- deburring
- derusting
- roughening
- texturising
- etching
- descaling
- polishing
- paint stripping
- deflashing
- cleaning
- adding value to the product.

Sand/Shot blasting is a safe, non hazardous and non chemical process. Sand/shot blasting is widely used in almost every industry.





## SODA BLASTING

Soda (sodium bicarbonate) is a soft blast medium that is ideal for sensitive substrates where removal of base material is not acceptable. The soda blasting process can be used as dry or wet blasting process, where water serves as a dust suppressant and the hydraulic action of a wet system can improve cleaning of grease and oil.

Soda blasting is a process in which sodium bicarbonate is applied against a surface using compressed air. Soda blasting can eliminate the need to use toxic cleaning chemicals and can enable less down time because many cleaning operations can be accomplished while machines and processes are in operation.

We offer dry and wet soda blasting equipment distinguished by countless possibilities of process automation. Soda blasting is the quickest way to remove all kinds of coatings, without damage to metal, glass, chrome or warping thin sheets of metal.



## ULTRA HIGH PRESSURE WATER CLEANING

Tough, hazardous and contaminated materials can be removed safely from any kind of surfaces with UHP water blasting. In close cooperation with our partners, we complemented our product range of ecological surface treatment equipment with equipment of Ultra High Pressure water blasting, also known as UHP water jetting. UHP water blasting differs from the conventional high pressure water cleaning in that it uses much higher water pressures which require a special high pressure water pump, hydraulic and control systems.

UHP water blasting is fast, efficient and the most ecological process. It uses NO CHEMICALS, NO ABRASIVES, only WATER at ultra high pressures. With UHP water blasting no potentially contaminated dust particles is released into the air, which is of key importance when dealing with highly hazardous contaminants, including in radioactive decontamination process.

UHP water blasting is a widely used process for the removal of material, coating or contamination from the surface of a work piece. Very hard coatings are essentially eroded from the substrate by the ultra high pressure water droplets while brittle coatings are fractured and broken into fragments.

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»Time of cleaning was up to 30 minutes, now it's only about 5 - 10 minutes. Tools and other parts of the machines are now virtually 100% cleaned. This cleaning process is very suitable for treatment of various tools and equipment in the pharmaceutical industry.«

Alojz Staniša, Head of maintenance work unit, KRKA



## DRY ICE CLEANING & SNOW BLASTING

Cleaning with dry ice blasting/cleaning equipment is not just highly efficient but also ecological to the greatest extent, as remarkable cleaning results are achieved without chemicals and secondary waste. Dry ice cleaning is a cleaning process without remains of cleaning media, no water and there is no possibility of developing microorganisms. This type of cleaning technology is very similar to sandblasting, where a medium is accelerated with a pressurised air stream to impact a surface to be cleaned.

### Advantages of dry ice cleaning:

- Dry ice transforms into harmless natural gas carbon dioxide
- No water - no possibility of developing microorganisms
- No dust or sand deposits
- No chemicals
- Without damaging the surface
- Environmentally friendly
- Removes different coatings
- The only result of cleaning with dry ice is a cleaned work piece and dry removed material.

For the complete solution, we can also provide you with the equipment for making dry ice (Pelletizer) and CO<sub>2</sub> recycling unit (Recovery Unit)

For cleaning of very sensitive and delicate surfaces, also Snow blasting technology can be the right solution.

Snow blasting is similar to Dry ice blasting/ cleaning, except during snow blasting, liquid CO<sub>2</sub> is converted into very small solid CO<sub>2</sub> snow particles which have a temperature of -78.5°C.

# ► FIELD OF

# APPLICATION

## metal industry

- **SAND / SHOT BLASTING**
  - Removing rust and old layers from the metal surfaces prior painting
  - Preparing metal surfaces for bonding/gluing, rubberising, vulcanisation
- **LIGHT ABRASIVE CLEANING**
  - Cleaning tools and moulds

## enamelling and coating

- **BOILER PRETREATMENT**
  - Automatic sandblasting of boilers prior to enamel 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**

## power industry

- **SHOT PEENING**
  - Shot peening of components, gears, shafts
- **SANDBLASTING**
  - Surface treatment solutions for composite materials
- **SODA BLASTING**
  - Ecological paint stripping with soda blasting
- **DRY ICE CLEANING**
  - Ecological paint stripping with soda blasting

## automotive

- **CLEANING OF CASTINGS**
  - Cleaning of foundry products for automotive industry
- **DEFLASHING PLASTIC COMOPONENTS**
  - Light abrasives of sensitive and precise parts with dry ice and dry snow
- **REMANUFACTURING**
  - Remanufacturing with dry ice cleaning and soda blasting
- **OLDTIMER RESTAURATION**
  - Vehicle restauration with sandblasting, dry ice cleaning and soda blasting
- **SANDBLASTING / DEFLASHING**
  - Sandblasing applications for deflashing of precise castings

## aerospace

- **SHOT PEENING**
  - Shot peening of landing gear components
  - Shot peening of turbine blades and components
- **PAINT STRIPING**
  - Ecological paint striping with soda blasting UHP striping
- **INTERIOR CLEANING**
  - Cleaning of interior with dry ice, without water and chemicals
- **PEEN FORMING**
  - Peen forming of wing skins and fuselage shells
- **CLEANING PRIOR TO REMANUFACTURING**
  - Remanufacturing of airplane components

## other industry solutions

- **DECONTAMINATION CLEANING**
  - UHP decontamination of radioactive constructions during decommissioning of nuclear plants
- **RAILWAY MAINTENANCE**
  - Blast rooms are ideal for preparation of large metal surfaces i.e.coaches before coating
  - Ecological cleaning of railway axles prior to magnetic flux inspection
- **ELECTRICAL AND ELECTRONICAL 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 and reduce your overall production costs.

All our automatic sand/shot blasting machines are completely engineered, designed and tailor-made in our company, for customer's specific surface treatment requirements.

We made hundreds of high performance, efficient, cost effective applications of semi-automatic, fully automatic and robotic sand blasting machines throughout the Europe and the rest of the world.

Basic automation of sand blasting cabinets is made of various linear units and turntables, which are usually controlled with a PLC and operated with a touch screen. Also manipulation and handling of work pieces can be automated with conveyors or robotic arms.

The highest level of automation in sandblasting is made with industrial robots, which can perform repetitive, heavy, dirty, and dangerous tasks in hazardous environments and increase productivity and efficiency with robotic sand blasting.

**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.**

Particularly in regards to large-volume manufacturing, it is essential that manual work is automated as much as possible, as well as the disposal of automated all surface treatment processes as follows:

- sand blasting
- dry ice cleaning
- shot peening
- soda blasting
- ultra high pressure cleaning



»The equipment you have delivered you have fulfilled the expectations we have and the number of handling damages have been reduced. FerroCrtalic is a small company in the forefront of technology with high flexibility and with an ability to solve technical problems. What convinced us were the very developing meetings with an open minded to our questions and problems.«

Sven-Erik Svensson, Owner, Technology Development, Zinktechnik AB

# SHOT-PEENING FULLY CONTROLLED PROCESS

Based on 50 years of experience, special robotic shot peening systems are developed specifically for treating large jet engine parts during the production and overhaul process.

This type of machines allows controlled and repeatable shot peening of different kind of metal or alloy engine parts with two different peening media sizes, with regular blasting head and special rotary lance head.

Complete machine solutions are based on the custom made blasting chambers designed specially to achieve ideal working conditions for shot peening process.

These are designed and constructed with sound absorbing materials taking under consideration strict health regulations and providing safe working environment for operators.

Modern 6 axis robot manipulators are used for high precision manipulation of blasting head. All working movements and parameters are fully controllable and repeatable suitable for shot peening process and providing the ability to create reports for particular jobs.

Supervision and management of the complete system and process functions are performed via a SCADA control

system, which is closely linked to industrial PLC with built-in system. Programming robotic modules and manual handling are executed through FlexPendant mobile HMI with all inbuilt features for safe operation during manual programming and service actions.

Fully robotic tested and verified shot peening solution are a guarantee for the exact peening quality regarding to the customers requirements with the highest level of effective working procedure.



»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 FerroCrtalic's approach, professionalism and ability to solve surface treatment problems in such a demanding industry as shot peening. Our cooperation with FerroCrtalic is very successful and the results are showing efficient technological solution. We wanted to let you know that we greatly appreciate the effort of FerroCrtalic's especially your technical service. Your great customer service is highly appreciated.«

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

# BOILER BLASTING MACHINES

FerroECOBlast Boilerblast machines are high-tech industrial machines, designed and made for mechanical surface preparation of water heaters prior to enamelling process.

Chemical surface preparation procedures before enamelling are still present in many facilities, even though they are not environmentally friendly. The biggest issues/problems are expensive equipment, water tightness, high energy consumption, unhealthy working conditions, and also neutralisation devices, which must be used for waste water after-treatment...

**Our sandblasting technology successfully replaces ecologically non-conforming processes of chemical surface pre-treatment!**

Main advantages of sandblasting over chemical preparation are:

- Fully controlled surface treatment
- No submerging in deep tanks of chemicals
- No waste water treatment/chemical preparation
- Less space needed for blasting installations

- Lower investment cost
- Lower operational and maintenance cost
- Shorter depreciation time

Enamelling of water heater's interior is very demanding and does not allow any errors or shortcuts in the technological procedure. Therefore the preparation of surface before enamelling is extremely important. Since the water heaters are previously welded into one piece, only automated sandblasting procedure can be used. Depending on the daily produced quantity of water heaters, we have three types of boiler blast machines in our production programme. Usually water heaters are rotated and blasted with special nozzles with vertical movement. If needed, rotating nozzles can be used.

Detection station is used for water heater size recognition to eliminate the possibility of human error. Pressure blast machines are specially designed and equipped with multiple outlets.

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»We are very satisfied with the solution, provided by Slovenian company FerroČrtalič d.o.o., since it helped us achieve the wanted result. Our cooperation was very successful and the result was a very efficient technological solution. I would definitely recommend this company to others, because cooperation with them will bring successful results.«

**Dimitar Golodov, Vice Director  
Production and Technical Issues  
Eldominvest**

For big volume boilers (up to 3.000 l) we produce **SINGLE-BOILER** machines.

For smaller capacities (10-30 boilers/h) we produce **ORBITAL shotblasting** machines.

For higher capacities (40-120 boilers/h) we produce **THROUGH-FEED shotblasting** machines.



# ENAMEL AND TEFLON COATING PRETREATMENT SOLUTIONS

We provide innovative solutions regarding preparation of surface prior to enamelling and teflon coating process. Furthermore we upgraded our range of machinery with complete enamel powder solutions.

In order to form a mechanically strong, adherent seal or coating to the metal, surface has to be adequately prepared - free of any grease, rust, dirt and other impurities. Surface must have appropriate roughness so enamel particles can bond better. Numerous tests that we made in our company showed that abrasive blast cleaning as pre-treatment process in combination with powder enamelling

process results in the best possible quality and economical effect. We provide new innovative solutions regarding:

- Enamelling pre-treatment
- Teflon coating pre-treatment
- Automatic powder enamelling booths

Along with solutions for boilers and microwave ovens pre-treatment, we also provide surface preparation machines for pots and pans. In order to provide complete solution to our customers, we also provide with our partners **ENAMEL POWDER BOOTHS** with Full automatic and robotic applications.



## CUTTING EDGE TECHNOLOGIES

# ULTRA HIGH PRESSURE WATER JET APPLICATIONS (UHP)

Tough, hazardous and contaminated materials can be safely removed from any kind of surfaces with Ultra High Pressure water blasting.

Ultra High Pressure water blasting is a fast, efficient and the most ecological process. It uses NO CHEMICALS, NO ABRASIVES, only WATER at ultra high pressures.

FerroECOBlast can supply you with complete solutions for decontamination with Ultra High Pressure water blasting.

Our engineers are available to assist you with finding the right solution for your specific needs in high pressure water cleaning or decontamination with Ultra High Pressure water blasting.

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»Our further requirements will meet products from the same manufacturer, because the products, the way of doing business, and the deadlines suit our requirements.«

George Kotze, Production Supervisor, Sandoz



## BASIC PRODUCTION PROGRAM

Beside custom made solutions, our basic production program consists of numerous equipment, which can be used in many different fields. Basic program includes:

### MOBILE BLAST MACHINES

Mobile sandblasting machines can be used with different blast media: organic and mineral, corundum, steel shots, glass beads, copper slag, special plastic abrasives and other abrasive material.

They are especially suitable for field work and for blasting in confined blast rooms. With the added pressure regulator it is possible to blast at low pressures, which is necessary for cleaning facades, graffiti, with a dry or wet process.

Mobile sandblasting machines are delivered fully assembled with remote control and completely Personal protective equipment and they are ready and they are ready for immediate work.

### BLAST CABINETS

Ergonomically designed ecological blast cabinets, made for professionals by professionals. Various ranges of standard blasting cabinets upgradeable by long list of accessories and add-ons providing ideal customisable solution for low and medium complex surface treatment installations.



### BLAST ROOMS

Ecological industrial blast rooms for most demanding abrasive blasting suitable for all sizes and shapes of work pieces. The sole law- conformant solution for the cleaning of large objects is blasting in closed systems with abrasive recycling and filtration - Air filtration and recuperation - ABRASIVE ECOLOGICAL BLAST ROOMS.

### DUST COLLECTORS

Professional - high quality dust collectors. The new generation of CENTRO dust collectors and abrasive recycling filter systems are a result of continuous development and improvement of our products for sandblasting purposes in most various applications.

### ABRASIVE RECOVERY & RECYCLING SYSTEMS

Systems for economical abrasive recovery and recycling. Abrasive recycling systems are designed for collection, transportation and recycling of all kinds of abrasives by means of compressed air or mechanically with the use of electrically driven components. They are designed for Industrial purposes in the toughest conditions and can be connected to the blast rooms or work as standalone equipment.

### EQUIPMENT, MEDIA AND ACCESSORIES

We offer our clients all the necessary personal equipment, a variety of blasting media and blasting accessories for the safe and efficient day to day work with our sandblasting systems, which is constantly in stock in our warehouse.

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»Due to our excellent experiences with FerroČrtalič in the past, the new investment into the blasting chamber was also entrusted to FerroČrtalič.«

Branko Pecolar, Technical manager, Nieros

## BASIC PRODUCTION PROGRAM

Beside custom made solutions, our basic production program consists of numerous equipment, which can be used in many different fields. Basic program includes:

### WET BLASTING

- **Wet blasting technology** provides extremely consistent and reproducible surface treatment to clean, degrease, descale, etch or satin polish various products of varied geometry and material (from plastic & soft metals to steel, titan and exotic materials) without the use of harsh chemicals or dusty mechanical action.
- FerroECOBlast **wet blasting tech** is a solvent- and dust-free blasting process that employs an operator-safe abrasive solution, comprising of a special mix of water and media, sometimes also with specific additives. It's an important technology for fast and effective, controllable cleaning and especially surface preparation before PDV coatings or HVOF spray coatings.
- It's specially designed for the **treatment of sensitive surfaces** of aeronautical parts, descales and final finishes automotive parts, precise cutting tools, and delicate medical instruments, plus plastic and carbon parts, because of precise control of power impact (removing a layer by layer).



### MOBILE / VACUUPRESS

- VACUUPRESS machines are very effective mobile and compact pressure blast machines with integrated filter recovery unit, which is made for blasting without dust. Blasting position can be on flat surfaces, vertical or horizontal. The machine is also suitable for blasting of structural iron or steel plate edges with special brushes, which are designed for blasting of inside and outside edges. Those machines are made for industrial use and suitable for all kind of blasting abrasives, including steel grit. Blasting system can be pressure type or injection type.
- In addition, the basic VACUUPRESS machine could be upgraded on the PORTABLE SHOT PEENING MACHINE, which is very sought in the aviation field.



### MEDICAL SECTOR

Precise sandblasting is very important in the medical branch too - for surface preparation of medical and dental implants. In the dental industry is crucially important to improve better bone-to-implant contact and only exact and controlled abrasive blast treat on the surface of implant achieve desired roughness profile. When producing medical implants classically or by 3-D sintering/melting method, always need to clean or prepare the surface proper way, without any outside contamination. We develop special equipment for Medical sector following latest standards in the medical sector, and in addition, we apply with our machines unique recycling systems, where all abrasive is collected, precisely cleaned, controlled and reused in a 3-D printing process.



### BLAST ROOMS

To reach law-conformant solutions for the cleaning of large objects, blasting in closed systems with recycling and filtration is obligatory - result: ECOLOGICAL BLAST ROOMS. For over five decades we have been trusted by respectful domestic and foreign companies with the manual, automated or robotic Blast-Room solutions worldwide, where high-quality product and economical working process with low consumption are very important.



### CUSTOM MADE

Company FerroCrtalic is a solution developing company, which manufacturing custom-made solutions in different industry sectors and for a different use. Mainly we design, develop and produce machines that are researched directly to our customers' needs. Those solutions are high tech and freshly researched for that exact problem. Constant research and developing of new surface treatment technologies with the help of our customers that push our limits and help us improve in our specialized solutions and also finally get the suitable and cost-effective product, which gave more value for our client's business.



### PAINT STRIPPING

Paint stripping is a huge issue in today's world and with our equipment can be even more effective and less dangerous for people and objects. We provide solutions for customers to strip paint from workpieces without chemicals. With plastic blasting and suitable filter systems, media is restored and dust is extracted. As per our technological development, we designed an even more cost-effective solution with no harm to the environment whatsoever and is done by means of ultra-high pressure water jet for stripping paint from the workpiece.



# RESEARCH & DEVELOPMENT PROJECTS

Our company is permanently present with professional and research articles on many International Conferences in Europe, Middle East, Asia etc.

Each of our lectures surprises present professionals with the latest news and high level of innovations, which improve quality, accelerate production and reduce costs of their products with our newest solutions and processes of surface treatment.

## EU Project CleanER - Cleaning Engineering for Remanufacturing

[2012 - 2015]

The project was launched in the frame of **Erasmus** in 2012 for three years and the topic theme was How to **define**, efficiently **create** and **analyze** technical cleanliness in the process of **Remanufacturing** automotive components. This Project was one

of our most important research projects, developed with eminent EU Institutes and Universities (**Fraunhofer Institute, Technical University Bayreuth, Ljubljana University and five German SME**) where we were a leading partner on the whole project.

## Advanced shot blasting technology for processing of boiler internal surface before enameling

[2010 - 2016]

We have become an important global supplier of equipment for preparing the surface before vitreous enameling and providing complete enamel application lines - on key solutions. In the last years, we participate in many International Enameling

Conferences in Colon, Italy (Florence), Croatia, Slovenia, China... A European research Project about Enamel adhesion and techniques was executed on 2014 - 16 and our Professional Handbook was printed out for operators in enameling business in 2017.

## Shot Peening Aeronautical and Automotive Projects

[2014 - 2017]

We build the biggest robotized shot peening cell in the region. We participate in the EU Research project (2017-2019) for integration of Shot Peening special measurement components in future advanced equipment. Peening Research Project is **Improvement**

**of Springs Shot Peening** from the classical (regular) to the high-temperature (Hot Shot) peening process, where we expect new knowledge and extraordinary solutions for future manufacturing processes.

## International EU Research Project Core 4.0

[Horizon 2020]

The Project runs from 2015 - 2018 between main consortium partners Renault, Fagor and Tecnalia from Spain, and our task is a development of totally new cleaning system for removing cores (De-Coring) with Ultra High Water Jet (UHP). The result is our Prototype of Universal robotic Decore cell, which cleans

with ultra-high pressure 500-3000 bar complex diverse casting, precise Deburring - softening edges, removing cores from complex cavities, inside blasting of complicate casting parts, surface uniformity of high-quality casting.

## Research Project Sensi Snow Blast

[EU Eureka, 2016-2020]

Developing system Sensi-Snow blast should be used for industrial cleaning of most sensitive parts with DRY-Snow. The process is environmentally friendly and doesn't leave any trace or residues.

Is suitable for cleaning electrical cabinets, electrical boards, electrical appliances and for cleaning plastic before painting in the automotive industry.

## Internal Project for Advanced Shot Peening of Automotive Gears

In the time-frame 2017-2020, we are researching and Developing one of the most efficient ways for shot peening of gears to prolongate their lifetime on the fastest and most economical way.

# MILESTONES

- 1964 Company Črtalič was established like a garage workshop by Jože Črtalič.
- 1975 Bojan Črtalič takes over active management of the company.
- 1978 First patent for a special air valve for blasting machine.
- 1992 Company FerroČrtalič d.o.o. was established by Bojan Črtalič.
- 1994 Migration of company headquarters and production to a new location on Sela, Dolenjske Toplice.
- 1998 Acquisition of ISO 9001 certificate.
- 2000 Silver medal for filter-recycling unit CENTRO 2/2 ECO on International Salon of Inventions in Geneva, Switzerland.
- Golden medal on INPEX XVI -America's largest invention show in Pittsburgh, where we introduced AIR BAG sealing system.
- Silver medal on INPEX , USA, for very effective and simple mix-chamber for sand with flow adjuster and patented cascade system.
- Silver medal in Geneva, Switzerland for mix-chamber for sand with flow adjuster.
- 2002 Registered trademark FerroECOBlast ® Europe.
- 2003 Shot Peening certificated training (level 1) for our technical department.
- 2003 - 2004 Company was placed in the group of fast-growing Slovenian companies GAZELA 2003 and GAZELA 2004.
- 2004 Jernej Črtalič (Bojan's son) establishes his own company Blast Tehnik, Surface Treatment service oriented company.
- 2005 Established FerroČrtalič Srbija.
- 2010 Established FerroEcoBlast RRC, Research and Development Center.
- 2011 Our company 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.
- 2013 Mojca Črtalič Andolšek become new General Manager of the company.
- Silver award for innovative solution - Robotized blasting line CLP type ZINK - 2 ROBO 4 ECO (The Chamber of Commerce of Dolenjska and Bela krajina).
- Signed long-term cooperation with National Institute of Chemistry and EN FIST-Centre of Excellence in the field of research and development of special materials in the process of surface treatment.
- 2014 Celebrates 50 Years of the company FerroČrtalič.
- 2013 - 2017 Certificated training for Shot Peening (level 1 - 3) of our team organized by Electronics Inc.(EI Shot Peening Training) and MFN, both Nadcap Partner in Education.
- 2015 New advanced Shot Peening cell for testing and works assembled in Žužemberk, Slovenia.
- Extension of our capabilities for 1200 m<sup>2</sup> with new build production hall.
- 2016 Developed and manufactured one of the most advanced shot peening cell for aviation industry
- 2018 Successfully transitioned from ISO 9001 - 2008 to ISO 9001 - 2015 version.
- In process for NADCAP certification

**FerroECOBlast®**  
EUROPE  
*since 1964*

maintenance & service department

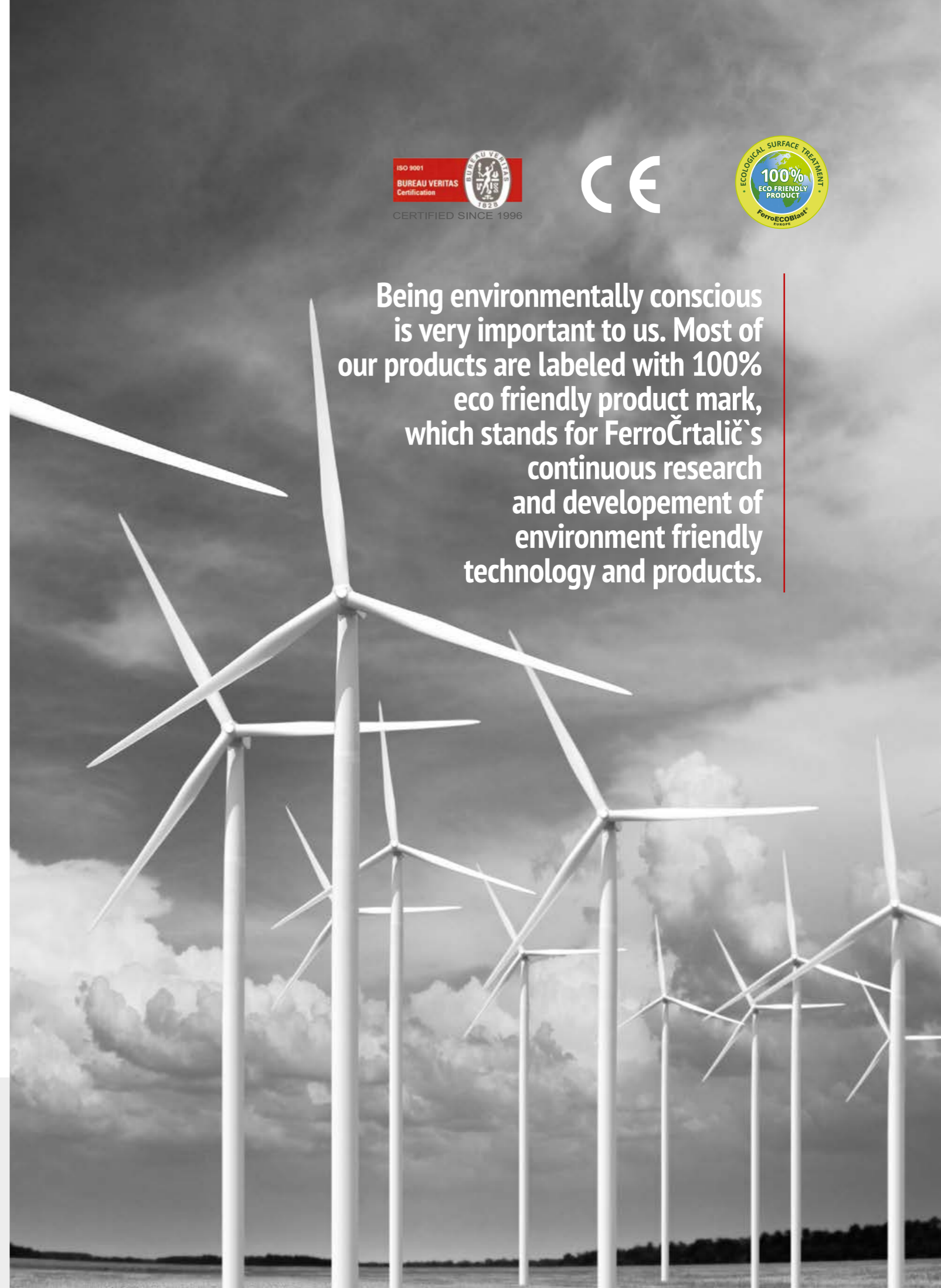
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CERTIFIED SINCE 1996



Being environmentally conscious is very important to us. Most of our products are labeled with 100% eco friendly product mark, which stands for FerroČrtalič's continuous research and development of environment friendly technology and products.



AIR BLASTING |  
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WET BLASTING |  
PAINT STRIPPING |  
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**FerroČrtalič d.o.o.**

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