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

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

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 worldwide and our name is based on 50 years of know-how, a tradition of innovation and excellence.

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 this 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.

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.

Main reasons to choose FerroČrtalič

- 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
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.

5 steps to COMPLETE SOLUTION

**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 worldwide.

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:

**SHOT PEENING & PEEN FORMING**

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)

Shot peening 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 so flexible it can further modify the shape once being formed.

Andreja Košir, President of the board, Elan

**SAND/SHOT BLASTING**

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 utilized 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 technology is non-hazardous and non chemical process.

Sand/shot blasting is widely used in almost every industry.
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.

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.

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.

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.

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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For the complete solution, we can also provide you with the equipment for making dry ice (Pelletizer) and CO₂ recycling unit (Recovery Unit).

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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 CO₂ is converted into very small, solid CO₂ snow particles which have a temperature of -78.5°C.
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.

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

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

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

automotive
- CLEANING OF CASTINGS
  - Cleaning of foundry products for automotive industry
- DEFLASHING PLASTIC COMPONENTS
  - 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 restauratio with sandblasting, dry ice cleaning and soda blasting
- SANDBLASTING / DEFLASHING
  - Sandblasting applications for deflashing of precise castings

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
CUTTING EDGE TECHNOLOGIES

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

»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’s especially your technical service. Your great customer service is highly appreciated.«

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

CUTTING EDGE TECHNOLOGIES

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.

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.

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

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.

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.

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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.
**BASIC PRODUCTION PROGRAM**

Besides 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.

- **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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**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.

- "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, Neros

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Goodyear | Dynacast | Bu Drive | Renault | Swarovski
Carl Zeiss | Akrapovič | General Electric USA | Elan
Fraunhofer Institute | Krka | Volvo | Novartis | Zinkteknik | Norclean
Eti Makina | Makim | Pratt&Whitney | Gree Home Appliances
Jain Irrigation Systems | Elan Marine | Arab Contractors
National Steel Fabrication Egypt | Zastava Oružje | Ferromatrix
Eldom invest | Caproni | Cimos | Onet
Kozloduy Nuclear Power plant | and many more...

1978 First patent for a special air valve for blasting machine.
1998 Acquisition of ISO 9001 certificate.
1999 Silver medal on fair MOS 99 – Slovenia.
2000 Bronze medal for innovation on fair IENA, Nürnberg, Germany.
2000 Silver medal for filter-recycling unit CENTRO 2/2 ECO on International Salon of Inventions in Geneva, Switzerland.
2000 Golden medal on INPEX XVI – America’s Largest invention show in Pittsburg, where we introduced AIR BAG sealing system.
2000 Silver medal on INPEX, USA, for very effective and simple mix-chamber for sand with flow adjustor and patented cascade system.
2000 Silver medal in Geneva, Switzerland for mix-chamber for sand with flow adjustor.
2003-2004 Organization of international conference on dry ice
2009 Company was placed in the group of fast growing slovenian companies – GAZELA 2003 and GAZELA 2004
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
2012 Agreed long-term cooperation with University of Ljubljana - Faculty of Mechanical Engineering, Jožef Stefan Institute and Fraunhofer Institute (Germany) in the field of research on the newest technologies in the field of surface treatment.
2013 Silver award for innovative solution - Robotized blasting line CLP type ZINK - 2 ROBO 4 ECO (The Chamber of Commerce of Dolenjska and Bela krajina)
2013 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.
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.