OUR BUSINESS

Vision

ARTEC will be the preferred supplier of complete coating solutions and systems with high productivity and quality for the Thermal Spray Industry.

Experience

ARTEC is the engineering expression of the Unitedcoatings Group (lead by Nelso Antolotti) with experience in surface treatment applications since 1973.

History

Originally ARTEC was an independent Engineering company building equipment and offering services for various applications in the Thermal Spray industry.

1996 Luigi Coppelletti founded ARTEC, which designed and developed thermal spray equipment. The company started up its activity with 8 employees in Varano de Melegari – Parma and it had immediate success on the market due to its flexibility and its engineering experience.

2000 Since 2000 the company has seen continuous growth in its turnover, thanks to its international expansion. Up to now ARTEC has provided more than 50 spray facilities which have been working in several applications (IGT, aeronautic, biomedical, automotive, wear and corrosion resistance, food, paper and textile).

2008 ARTEC became a SpA (Ltd) company and joined the Unitedcoatings Group. By joining the Unitedcoatings Group which was originally a small engineering company, ARTEC started to supply reliable systems, service and know-how to the market fulfilling the needs of state of the art coating shops to improve their productivity and quality worldwide. The company now has more than 40 employees with a high percentage dedicated to R&D. Its staff consists of senior engineers who are experts in mechanic, electronic and fluid dynamics.

2011 Due to its continuous growth, ARTEC opened its new headquarters in Rubbiano di Solignano (Parma).

TODAY ARTEC is a leading company in Engineering and Manufacturing Thermal Spray Solutions and Systems. The company now offers its products all over the World thanks to its sales & service network.
ARTEC develops and design production processes for Thermal Spray and related technologies according to customer needs and bring our own experience and know-how into the perfectly customized coating solution.

Development of processes in house.
Technology transfer to the customers.
Supply of turn-key equipment and services.
Training and qualification of the personnel.
Qualification of the components.
Start of production with guarantee on quality and productivity.
Supply of spare parts and materials.

ARTEC S.p.A., a member of Unitedcoatings Group is an Italian leading manufacturer of complete coatings solutions for Thermal Spray, diffusion coatings and related processes.

Long term experience since 1973
Our professional team with long experience puts the focus on engineering a process specific design for your equipment reflecting flexibility, reliability productivity.

Right solution for your business
Our experts in Thermal Spray, Mechanics, Electronics and Fluid Dynamics using the latest software technology give you the right solution for your business.

Ready to fit your technology roadmap
Our thorough investigation will give you the ultimate solution you are looking for. Our solution will match your specific industrial requirements to ensure a perfect fit into your strategy you are pursuing.

Outstanding quality/cost ratio
Highest quality in project work, products and components, automation, ergonomics, safety and health in the workplace is your guarantee that the solution we offer will perform exactly or even beyond your expectations. We put the focus on process and component design with high level quality/cost ratio. We know and work on every single level of the whole Thermal Spray process.

We guarantee quality and productivity
ARTEC develops all processes in house, transfers technologies to the customer, supplies turn-key systems, offers high quality components and spare parts, provides services and training of the personnel to enjoy exceptional service from the beginning to a lifetime after-sale service. So, if you need to start up production with guarantee on quality and productivity, you are probably looking for us.
OUR PRODUCTS

Portfolio

**CabCoat Processes**
Air Plasma Spray (APS)
High Velocity Oxygen Fuel (HVOF)
Flame Powder/Wire Spray
Arc Spray Processes

ARTEC’s thermal spray CabCoat processes are designed to work under normal conditions. Coating equipment are set up as individual production units or as integrated part of a complete manufacturing line.

**ShellCoat Processes**
Low Pressure Coating System (LPCS)
Vacuum Coating System (VCS)
Controlled Atmosphere Plasma System (cap. 5)

For high-end applications ARTEC’s plasma spray ShellCoat processes are designed to work in chambers either in vacuum or with controlled atmospheres.

A typical coating equipment consists of core items, handling elements and peripheral components. ARTEC offers everything from core items up to peripheral components in one customized package or as stand-alone component integrated into existing coating equipment. These include:

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<th>HANDLING</th>
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<td>JAM box</td>
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ARTEC has developed specific solutions for the integration of Spray Core items. Combining these with special designed and state of the art handling and peripheral components gives the customer the overall coating process he is looking for.
EasyCoat solutions are based on extremely compact, reliable, and state of the art high quality components giving the customer a ready-to-use device for specific coating needs.

EasyCoat has integration of powder feeders and basic handling systems to achieve higher productivity in typical small volume processes.

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<td>Flame Powder</td>
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<td>Flame Wire</td>
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<td>Arc Spray</td>
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MasterCoat solutions are complete high tech versatile equipment compositions to realize multi process systems with full integration of all core items, handling and peripheral components.

MasterCoat can integrate all coating processes in ARTEC portfolio already implemented or as upgrade version for further expansion.

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<tr>
<td>APS, extendable to HVOF</td>
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<td>HVOF liquid fuel, extendable to APS</td>
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<td>HVOF gas fuel, extendable to APS</td>
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<td>HVOF gas and liquid fuel, extendable to APS</td>
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<td>APS and HVOF integrated</td>
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**ViewArtec software**

**Everything under control**

The Supervisor is composed by the controller cabinet with the powerful integrated software (ViewArtec).

A camera could be installed in the working area thus the operator can keep all process under control on the service monitor.

**ViewArtec** software, developed by ARTEC, gives the complete control of the equipment with a touch screen user friendly interface; a complete flexibility is given by keyboard, mouse and function buttons.

**“Production”** page allows the operator to check all the information connected with the process in progress (power level, gas pressure and flow, cooling water temperature/flow, air pressure, fuel flow and more).

Software matches continuously all the parameters with alarm levels, prompting an error message in case of values out of control range. This makes all the operation more consistent and increases the reliability of the gun.

**“Tracking”** page allows to monitor the current process and the historical trend. Process parameters can be recorded and stored. Specific software has been developed for all equipment.

**“Recipes”** are the key to success for a good quality coating, the software can upload more recipes in sequence in order to perform different coatings on the same work piece minimizing setup.

**“Multitorch”** feature to use different types of torches on the same system, switching from one to another with a simple click.

**“Recording”** feature to record the I/O parameters related with different processes/recipes and workpieces.

**“On-line service”** activate the integrated remote diagnostic modem. In this way the Supervisor can be run remotely via internet connection. This tool can help in solving eventual problems as well as upgrade the software in all the elements that compose the system.

**“Video camera”** a camera could be installed in the working area thus the operator can keep all process under control on the service monitor.
**SPRAY CORE - Torches**

Complete set of water cooled torches designed and produced by ARTEC. Improved design compatible with most common systems.

- **PEGASUS-A**
  F4 Improved Version Plasma Torch
  (60 kW)

- **CASTOR-N**
  Internal Plasma Torch
  (25 kW)

- **CASTOR-R**
  Internal Plasma Torch with Rotating Head
  (30 kW)

- **CASTOR-P**
  Internal Plasma Torch with Oscillating Head
  (30 kW)

- **POLAR**
  High Power Plasma Torch
  (100 kW)

- **VEGA**
  HVOF Liquid Fuel Torch

**SPRAY CORE - Powder feeder**

**Constant feed rate with high precision**

High precision in powder feeder systems is a mandatory feature to get a good overall result.

Volumetric powder feeder designed and developed by ARTEC uses rotating disk technology to ensure a steady flow of powder which is carried by carrier gas (Ar, N₂).

Supervisor software controls powder feed rate changing the speed of the rotating feeder disk. Powder feeder are equipped with touchscreen displays for local settings, also Profinet network connection is available for automatic remote control.

Stand alone powder feeders can be integrated in all existing thermal spray system on the market.

Hoppers with 5l or 1.5l capacity are available in different version due to Plasma or HVOF application.

**New Hopper 4 l**

The New Powder Hopper has been designed and developed by ARTEC for reliable material feeding in thermal spraying as well as in Laser Cladding, cold spray or powder welding technology. The new design of spreader / suction pads and stirrer guarantee extreme long lasting time (more than 4000h). An heater jacket is available to keep the flowability of preheated powder.
HANDLING ELEMENTS

**Tilting table**

**Free to move**

Some coating processes need particular handling of the work piece that can be performed by a tilting table. The tilting table has 2 axes which can be directly driven by the robot control as external axes. ARTEC is able to create the tilting table that best suits your needs, fully customizable: size, weight, handle, spindle (single or multi-chuck), and more... Generally the tilting table can rotate from 10 to 300 rpm and tilt from 0° to 90°.

As option the tilting table can be extended to a multifunction spray lathe.

**Carousel**

The carousel has been designed to save time and improve productivity

The carousel has been designed to carry the work pieces inside and outside the sound-proof booth that performs the coating, reducing machine downtime to bare minimum; while a piece is under coating another one could be positioned to be ready, it saves time and improves productivity. Do you need something special for your business? Custom solutions are our main business. We have already experienced on Carousel with 2, 3, till 12 positions, customized on demand.

**Sting**

Horizontal continuous rotation axes with programmable position totally controlled by CNC interface, water cooling for Vacuum Systems suitable for ShellCoat LPCS.

**Multispindle**

Custom solutions are our main business. We have already experienced on Multispindle with 4, 6, 12, till 25 positions, customized on demand.
ARTEC sound proof booths guarantee proper protection against noise, powder, gas, electromagnetic radiations and heat produced by the gun.

Different standard booths are available, from simple concept with single door, to fully automated version, complete of double wall/sliding doors for separate loading - unloading. Loading/unloading could be done manually, or with crane L-shape door, L-door, or automatic by a robot or axis.

Due to the continuous pursuit of high productivity, our spray booth can be equipped with two sliding doors operated by pneumatic cylinders: the first door covers the outside of the loading/unloading area and the other creates a mobile membrane between the loading/unloading area and the inside of the machine. The Supervisor controls the opening and closing of the sliding doors in a synchronized manner, preventing potentially hazardous situations for the health and safety of the machine operator.

The use of high quality components allows to guarantee standard acoustic emission ≤ 78 dB(A).

Inspection glasses are also available, made on temperate glass with special UV protection.

Sound proof booths are built in conformity with EU and US rules.

**Customized solutions**
They can be designed according to the customer purposes.

A typical thermal spray booth works together with other sub-systems (controls, ventilations, filtration) to provide effective control and protection from hazards.

Booth ventilation is mandatory to:
- Remove unburned combustible and potentially explosive gas
- Metal dust and gasses that could affect coating quality
- Prevent potentially harmful inhalation by the workers.
- Remove heat generated by the flame that could increase booth temperature to hazardous level

The Filter system must be designed carefully, dust collector dimension, suction capacity of the motor and filter size are all parameters to be evaluated in concert to get a good result.

Proper filtering is mandatory to meet worldwide operator safety and environmental regulation;

Dust collectors and ventilation fans must be designed upon the specific thermal spray process parameters.

ARTEC can count on the collaboration of engineers with decades of experience on environmental issues.
ShellCoat LPCS
PERIPHERAL ELEMENTS

Vacuum Chamber

Designed to answer all customer needs, vacuum chamber can be realized in several dimensions.

Internal dimensions depend on the installed manipulation equipment, moreover, all the construction materials (motors, robots, o-rings, horizontal axes, etc...) are suitable for very high vacuum conditions.

Mounted horizontally or vertically depending on the plant type, in any case, vacuum chamber is designed to give you the maximum productivity through low operation cost and time saving.

ShellCoat VCS
VACUUM CHAMBER

Vacuum Chamber
ARTEC’s unique design of a simplest architecture for low pressure coating systems (ShellCoat LPCS) to coat blades and vanes is proven in daily production. The simple architecture combined with advanced automation gives the possibility to save costs in both, maintenance and operation. Investment cost for such a machine is reduced.

ShellCoat VCS

ShellCoat – VCS is a vacuum coating system designed for batch-mode operation with a robot and a part magazine inside the chamber. The cylinder-type chamber is mounted horizontally with large access door in the front.
ARTEC’s intelligent design of a completely automated CabCoat production process including grit blasting and wire spraying of synchronizer rings is proven in daily production. The integration of grit blasting and wire spraying in a one-booth concept gives the possibility to run production on extremely high volume (mass production) with low costs.

ARTEC’s modular design of CabCoat production processes offers unique possibilities to combine different coating applications proven in production from large to small components even in one spray cell to increase the flexibility of the equipment the customer has invested in.
Grit blasting and shot peening are critical to quality for surface preparation and finishing before and after the thermal spray coating. New generation blasting systems by ARTEC guarantee the best results through advance automation and enhanced process control. Our Systems guarantee shorter setup time thanks to Quick change over tools and Easy to store and recall recipes, controlled by HMI.

Main Characteristics of our equipment:
- High repeatability though continuous control of the process
- Vacuum or Pressure blasting system
- High repeatability Robots or Interpolated Axis system for handling blasting guns and parts
- Automatic, semi-automatic or manual loading / unloading of the workpieces
- Blasting cabin protected with innovative rubber protection
- Automatic refilling of the media
- Grain size control during the process with sieving systems
- Dedicated filtration system with self-cleaning cartridges
- Suitable for all kind of abrasive

Do sprayed particles have exactly the properties you expect?

PROCESS MONITORING OSEIR SprayWatch® can be integrated in the software for process monitoring. It measures and monitors the critical spray parameters such as particle temperature, velocity, quantity and distribution.

Installing the SprayWatch® system in your production and development can lead to drastic saving in time, work, test pieces and produced scrap.

We are OSEIR SprayWatch® preferred marketing partner.
Powders and Spare parts
ARTEC provides complete set of powders and spare parts service designed for extended life and assure increased productivity. Genuine spare parts ensure production continuity and repeatable coating quality. Moreover our spare parts catalogue is complete for most common spray guns on the market.

Training
How to get the best from your spray system? Our customer training/support program gives you a real turnkey system.

Calibration service
Worldwide assistance. We give our costumer maximum support, Remote control (on-line service), Trouble shooting.

Worldwide Distribution
We want to establish direct contact with the customer, so we have created a worldwide distribution network made up of professionals with long experience in coating technologies. Our agents together with our engineers will satisfy even the most demanding customer.