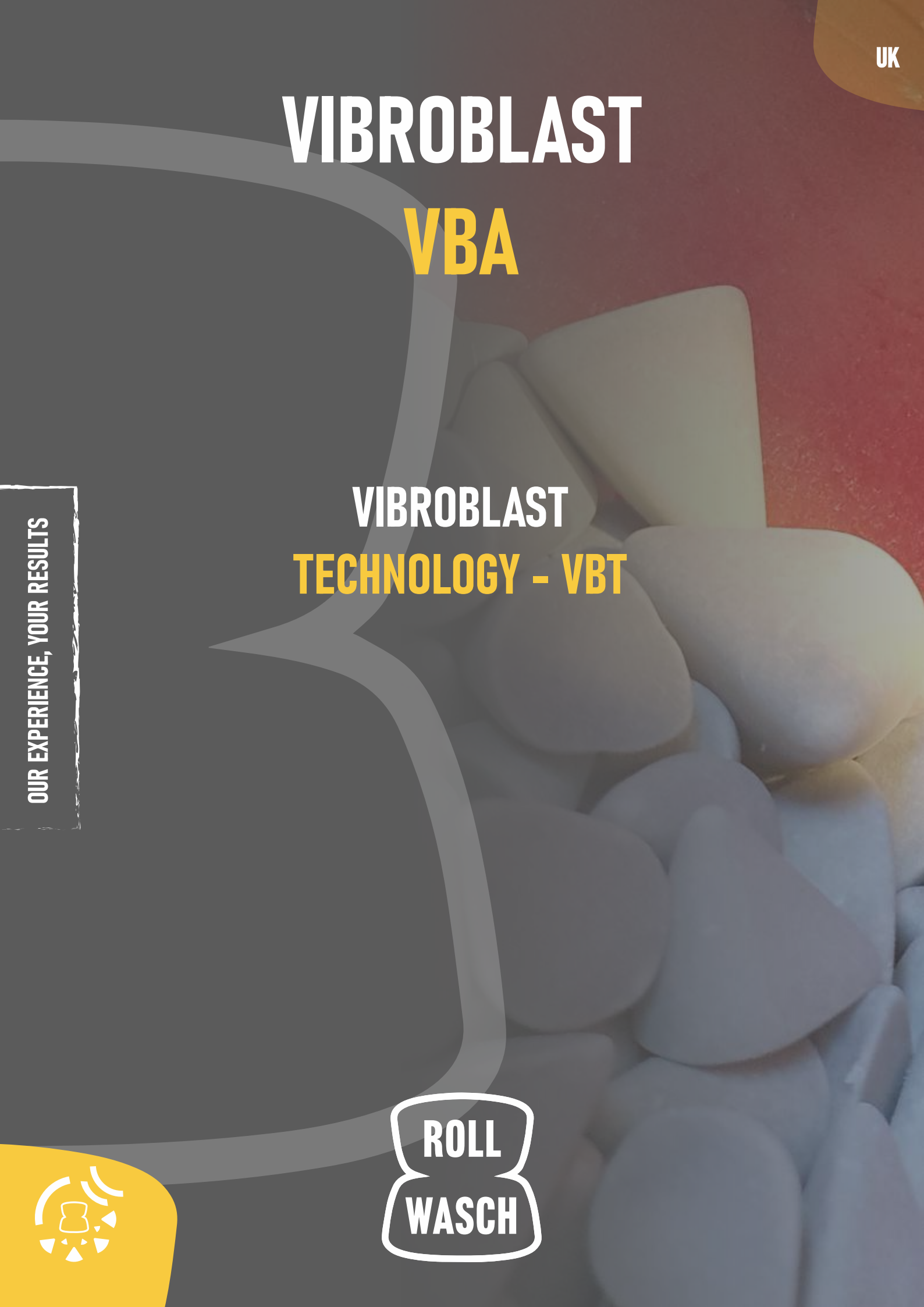
UK

VIBROBLAST

VBA



VIBROBLAST

TECHNOLOGY - VBT

OUR EXPERIENCE, YOUR RESULTS

ROLL

WASCH

Rollwasch® introduces a new surface finishing technology: the **VibroBLAST** technology, result of three patent applications, of about eight years of research activity, in addition to the close collaboration with sandblasting, suction and air filtration specialists. Everything, strictly "made in Italy".
A patent on the **VibroBLAST** process, a patent on the specific use for the **Additive Manufacturing** sector, a patent dedicated to the special QuattroFinish or **QF media**.
A line of solutions dedicated to the **POST PROCESSES** of **Additive Manufacturing**, developed with careful experimentation and specific tests for **3D printing** applications.

VIBROBLAST

Technology

¿Donde VibroCHORREADO?

Où TriboSABLAGE?

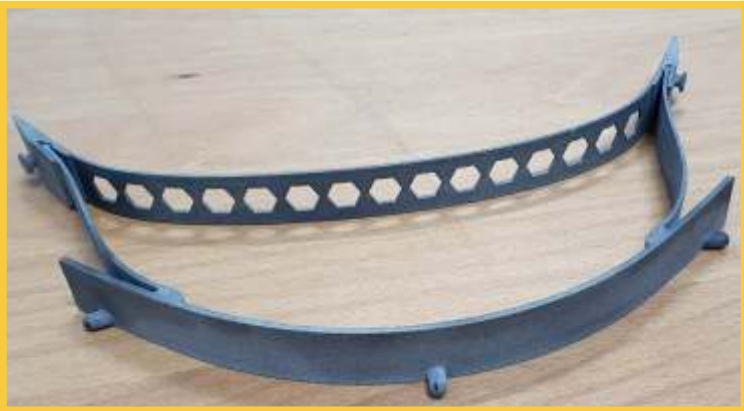
Where VibroBLAST?

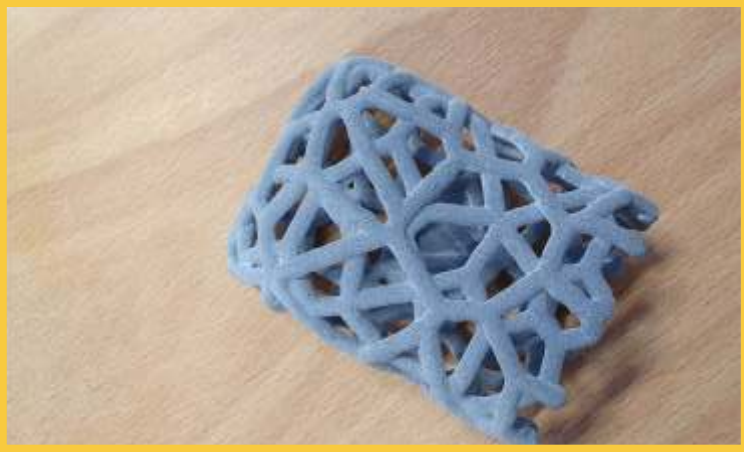
Wo VibrationsSTRAHLEN?

Dove VibroSABBIATURA?

Onde VibroJATEAMENTO?

Although this technology contains ALSO solutions dedicated to the **POST PROCESSES** of **Additive Manufacturing**, it offers advantages to the most varied sectors of use, both for metal components and in polymers and also in other materials, not necessarily manufactured in Additive , but die-cast, injection-molded, milled, laser-cut, water-cutting, oxy-fuel cutting, hot stamping, forging, etc.
The next seven pages show some examples of component types and related additive and subtractive manufacturing techniques - the components shown are for guidance only and Rollwasch makes its own test laboratory available for practical demonstrations.






ADDITIVE MANUFACTURING

POLYMERS - PA12

VibroBLAST AIR - VBA-DP

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ADDITIVE MANUFACTURING

POLYMERS - PA12

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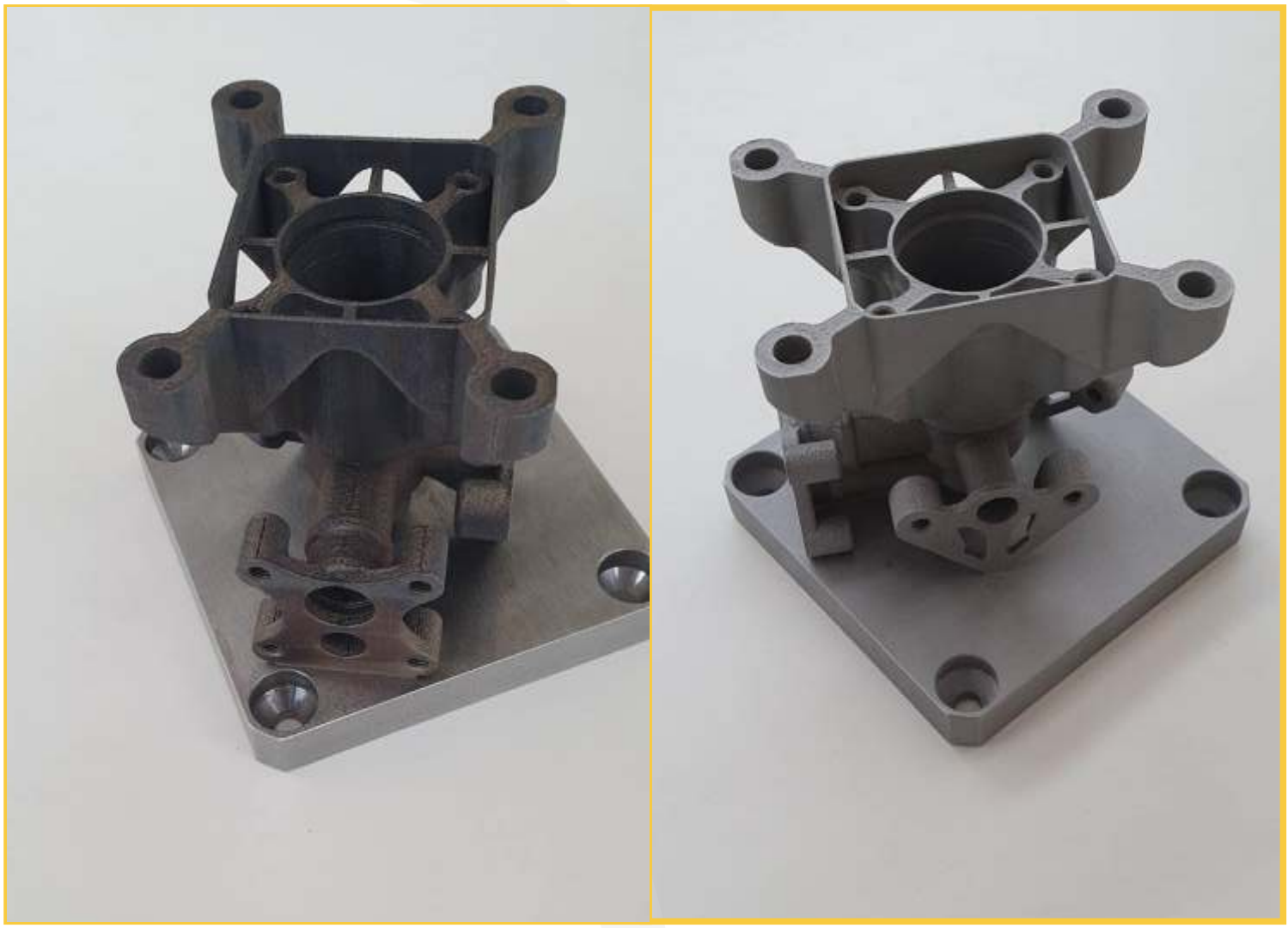
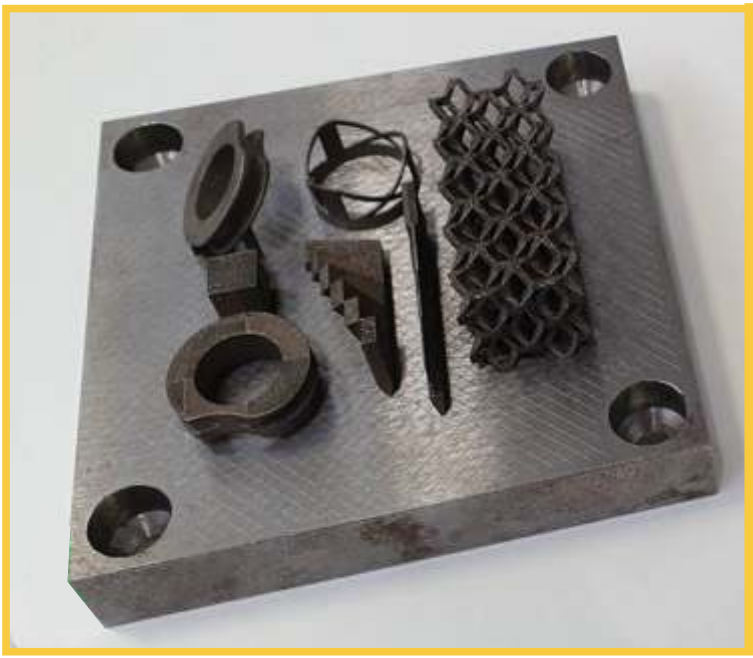
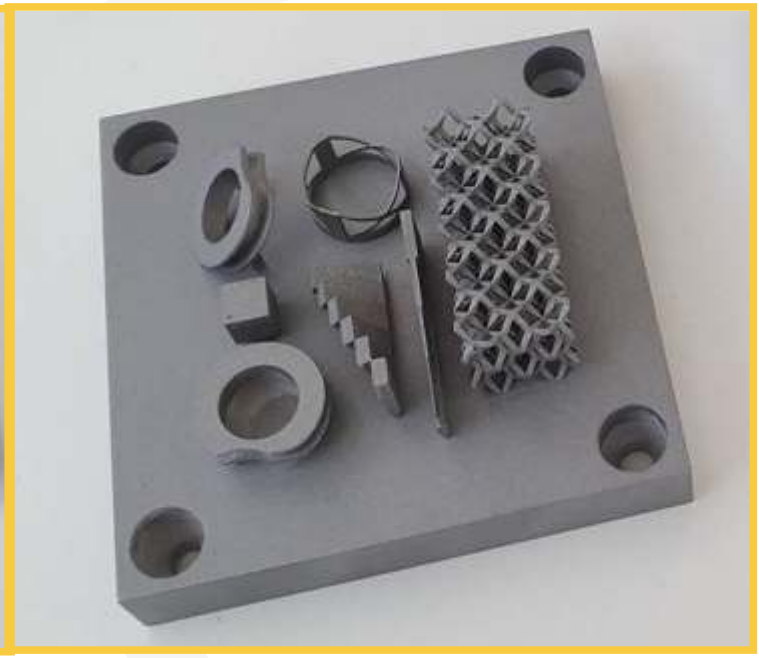


ADDITIVE MANUFACTURING

METALS

VibroBLAST AIR - VBA-DP





ADDITIVE MANUFACTURING

METALS

VibroBLAST AIR - VBA-DP

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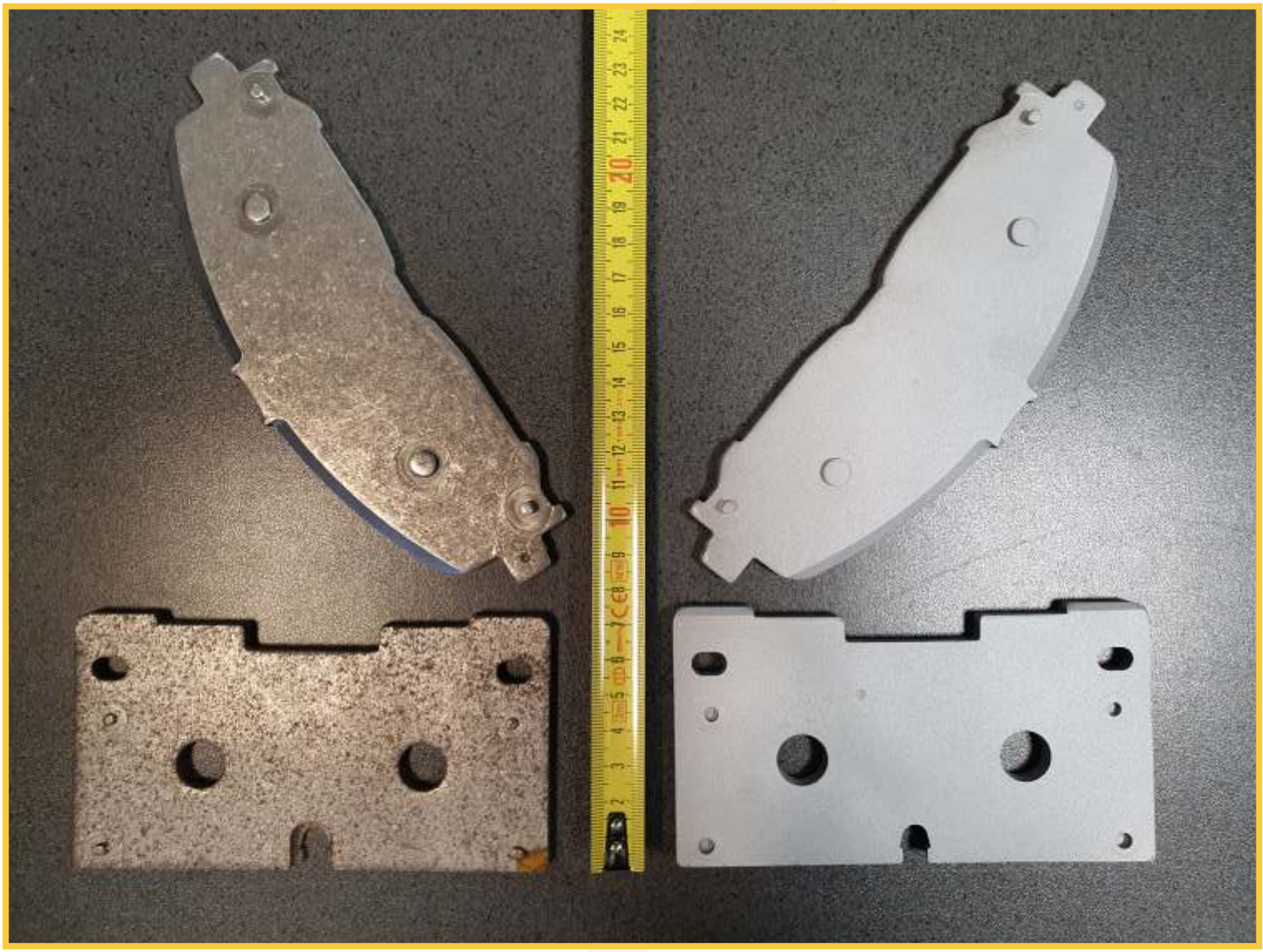
Technology

HOT FORGING

METALS

VibroBLAST AIR - VBA-DP



HOT FORGING

METALS

VibroBLAST AIR - VBA-DP

¿Por qué VibroCHORREADO?

Pourquoi TriboSABLAGE?

Why VibroBLAST?

Warum VibrationsSTRAHLEN?

Perché VibroSABBIATURA?

What distinguishes the VibroBLAST process compared to a normal sandblasting or vibratory finishing process? And why choose this «hybrid» process, or this technology resulting from the synergy of two well known techniques?
This tutorial will illustrate, in the next slides, at least 10 of the most important reasons for choosing this type of technology instead of those notes. In any case it is very important to point out that, although this technology ALSO contains solutions dedicated to POST PROCESSES and FINISHING of Additive Manufacturing, it offers advantages to the most varied sectors of use, both for metal components and polymers and also in other materials, not necessarily manufactured in Additive, but die-cast, injection molded, milled, laser cutting, water cutting, oxy-fuel cutting, hot stamping, forging, etc.

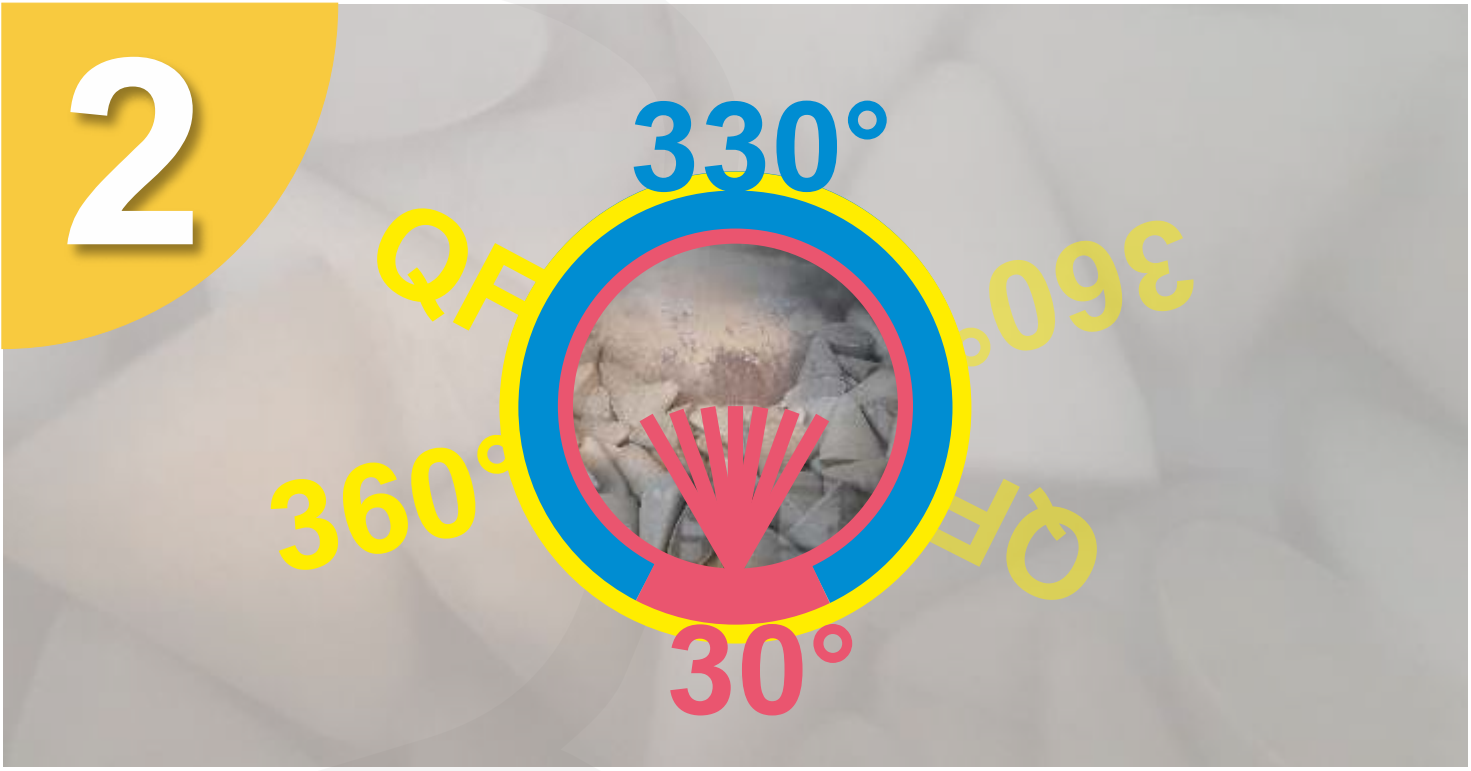
1

The first element of choice is to use **VibroBLAST** technology for mass finishing processes of surfaces, whether metallic, plastic or of any other nature. Some components that must not receive blows or dents, are made by hand one by one with the classic blasting booths with gloves, pistol etc.
Other components, sandblasted with rotating or barrel-driven machines, are limited to those components that are not altered or damaged by the movement of the parts against one another.
The components treated with **VibroBLAST** processes, thanks to the presence of special resilient vibratory finishing media (**QF**), offers excellent results.

VIBROBLAST

Technology

2



In a **VibroBLAST** process, with vibro-sandblasting items, sandblasting media type «white corundum 60" and vibrofinishing media type **QF70EN5** (plastic ellipsoid formulation N5, slightly elastic) at each complete turn of the pieces in the circular tank, corresponding to 360 °, for about 30 ° they are hit by the blasting jet, while for the remaining 330 ° the pieces are finished by the same corundum conveyed by the **QF70EN5** vibratory finishing media which, in turn, become impregnated with abrasive and continue to transport it onto the surfaces of the workpieces. The same thing, where possible, can occur in the case of treatment of a volume of pieces in «piece by piece» mode and without vibratory finishing media, provided that this process does not involve alterations or scratces and dents. The drag and rubbing function of the abrasive on the surfaces of the pieces makes the difference with a normal sandblasting or vibratory finishing process.

3

SN
Side
Nozzle

Another reason for choosing a **VibroBLAST** process is determined by the availability of an unprecedented comprehensive range of solutions. The machines have sandblasting nozzles on the corolla - **SN (Side Nozzle)**.

A further choice, within the **VibroBLAST-AIR** range, is possible between machines such as **VibroBLAST AIR DP** (vacuum), and those **VibroBLAST AIR PR** (pressure); this last line of machines offers the possibility of also using metal grits as a "medium" for sandblasting / shot blasting.

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Technology

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At **Rollwasch**® we produce machines with a level of automation suitable for all needs, including Industry 4.0.
All **VibroBLAST** series machines are equipped with a microprocessor with color Touch Screen panel and, if required, it is possible to request the optional **WiFinishing** version, which can be connected remotely and wirelessly with a windows or Android tablet.

All the software loaded on our machines are made internally and, where necessary, can benefit from ad hoc customizations.

The machines for polymers can be completed with antistatic bulbs - optional accessory «**AS**».

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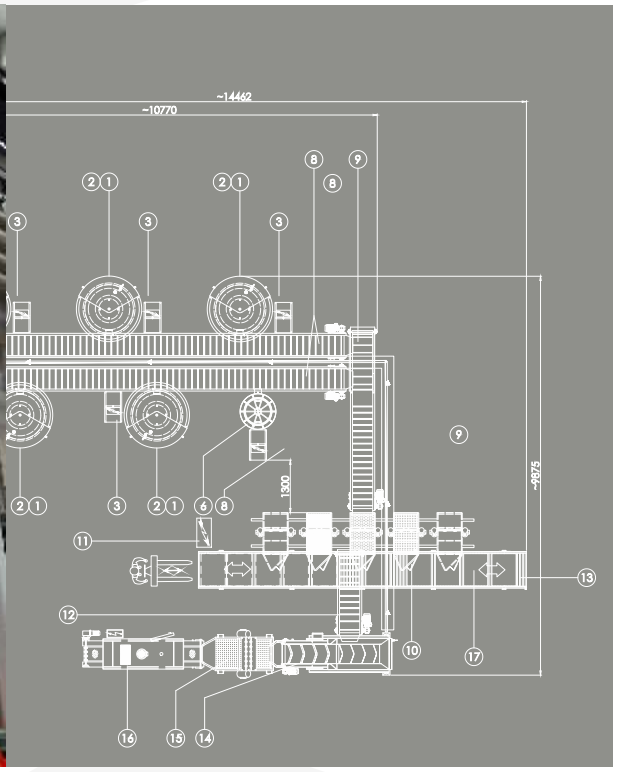

At **Rollwasch**® we develop even complex engineering solutions, to manage part / media selection operations, automatic reloading (with pneumatic transport devices, for example), media classification (small to medium-large usable) and many other functions with absolute respect for the rules most elementary safety and ergonomics.
Our vibrofinishing media recovery and storage tanks (for example QF), complete with highly reliable pneumatic valves, can recharge a **VibroBLAST** machine in a matter of seconds, before loading the pieces to be machined, so as to supply a sort of «air bag» that absorbs during the loading phase.

VIBROBLAST

Technology

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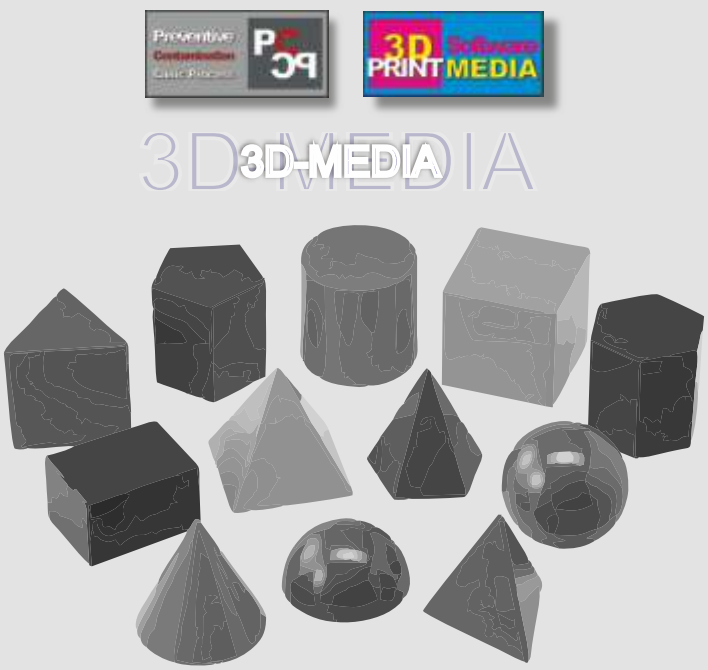
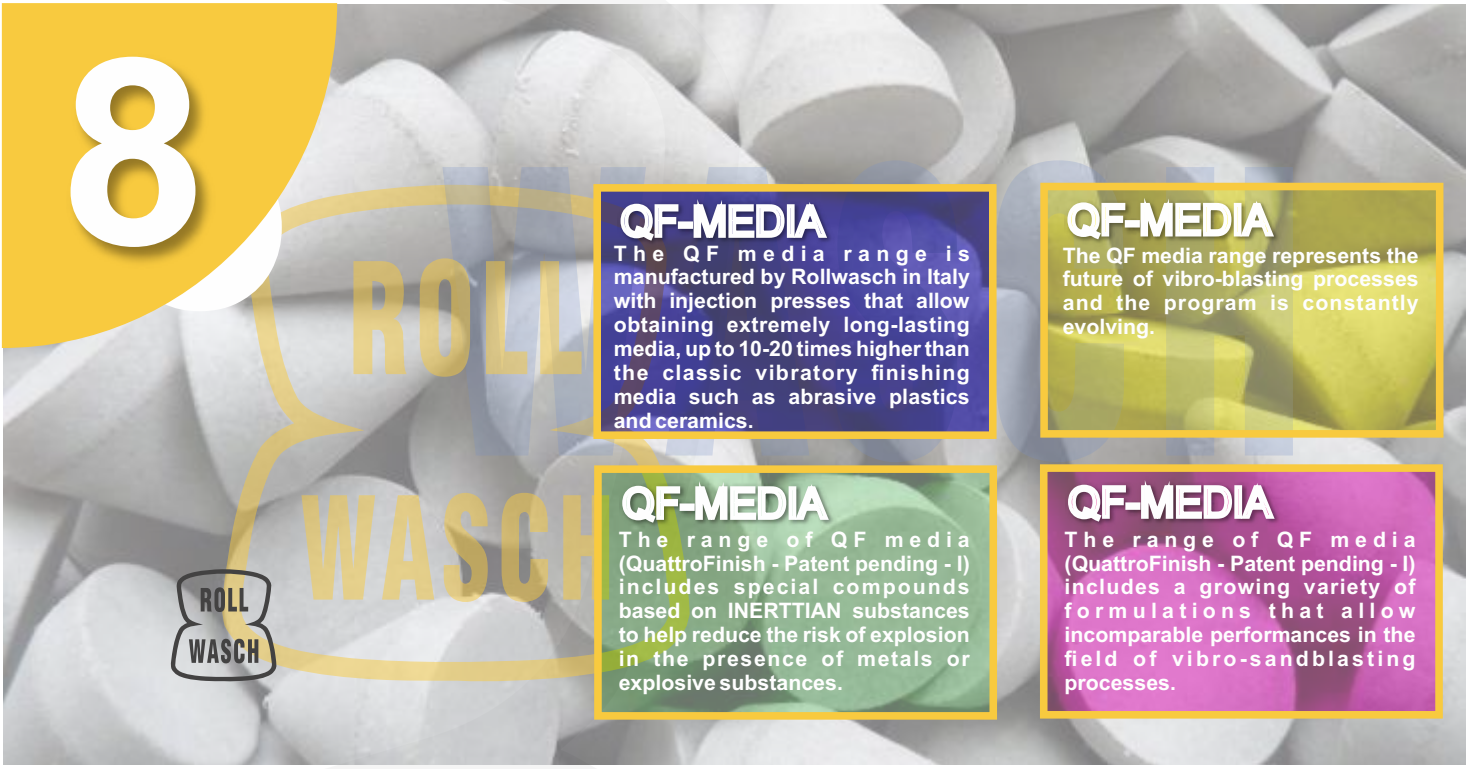
The range of machines VibroBLAST Air [DP] DCK is designed to assure a wide MULTITASKING process suitable for POST-PROCESS Selective Laser Sintering machines after SLS.
The Smart Recovery technology foresees the additive powders recover (in this case polymers), and is specifically designed for Additive Manufacturing.
Starting from a SLS cake before the un-packing or de-caking operation, normally made by hand and followed by hand or rotary barrel blasting, the new range of machines VibroBLAST Air [DP] DCK can automatically provide:
1. un-packing or de-caking
2. additive powder recover and automatic vibro-selection with possible option of ultrasound, for top efficiency
3. vibro-blasting of the sintered components afterwards
4. if required, additional smoothing of the components

7



A further feature of the patents that allowed the creation of the VibroBLAST series of solutions consists of the **PREVENTIVE CONTAMINATION CLINIC PROCESS**. This version of machines allows sandblasting, for example, PEEK components with PEEK powders and with PEEK vibrofinishing media made by the same user, thanks to a library of 3D drawings of various shapes and vibrofinishing media measurements.
This type of process makes it possible to avoid that any material of a different nature from that of the same polymer that makes up the components to be treated, can pollute or be included in the surfaces of the same.

Technology



At **Rollwasch**® we produce **QuattroFinish** abrasive and vector preforms, more commonly known as **Media QF**. These media are available in multiple formulations and compositions and allow the achievement of qualitative goals never known before the birth of VibroBLAST systems. Careful studies and research have led **Rollwasch**® technicians to develop unprecedented solutions for both safety and the environment, significantly reducing the production of waste, thanks to the exceptional durability of the **Media QF**, equal to 10-20 times more compared to traditional plastic or ceramic abrasive media.

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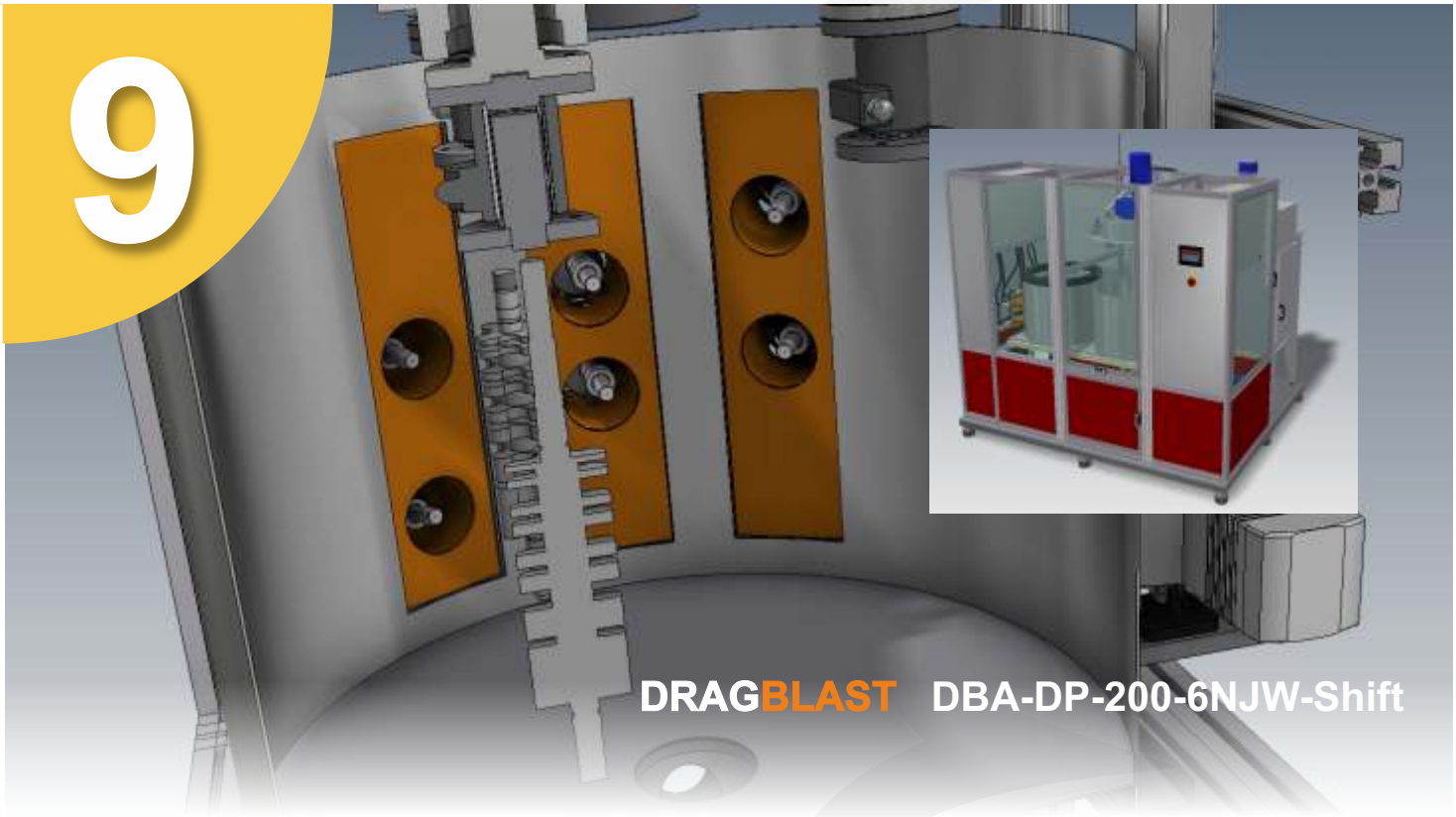

DRAGBLAST DBA-DP-200-6NJW-Shift

The DRAGBLAST technology, evolution of VibroBLAST solutions (patent pending), offers a truly new world of potential benefits, mainly thanks to the Carving Finish (Patent pending) range of finishing machines and automatic systems.

The two-sided angular displacement of the complete rotating head of drag finishing machines working with DRAGBLAST technology is therefore able to offer unexpected advantages both from the point of view of finishing precision and competitiveness.

Technology

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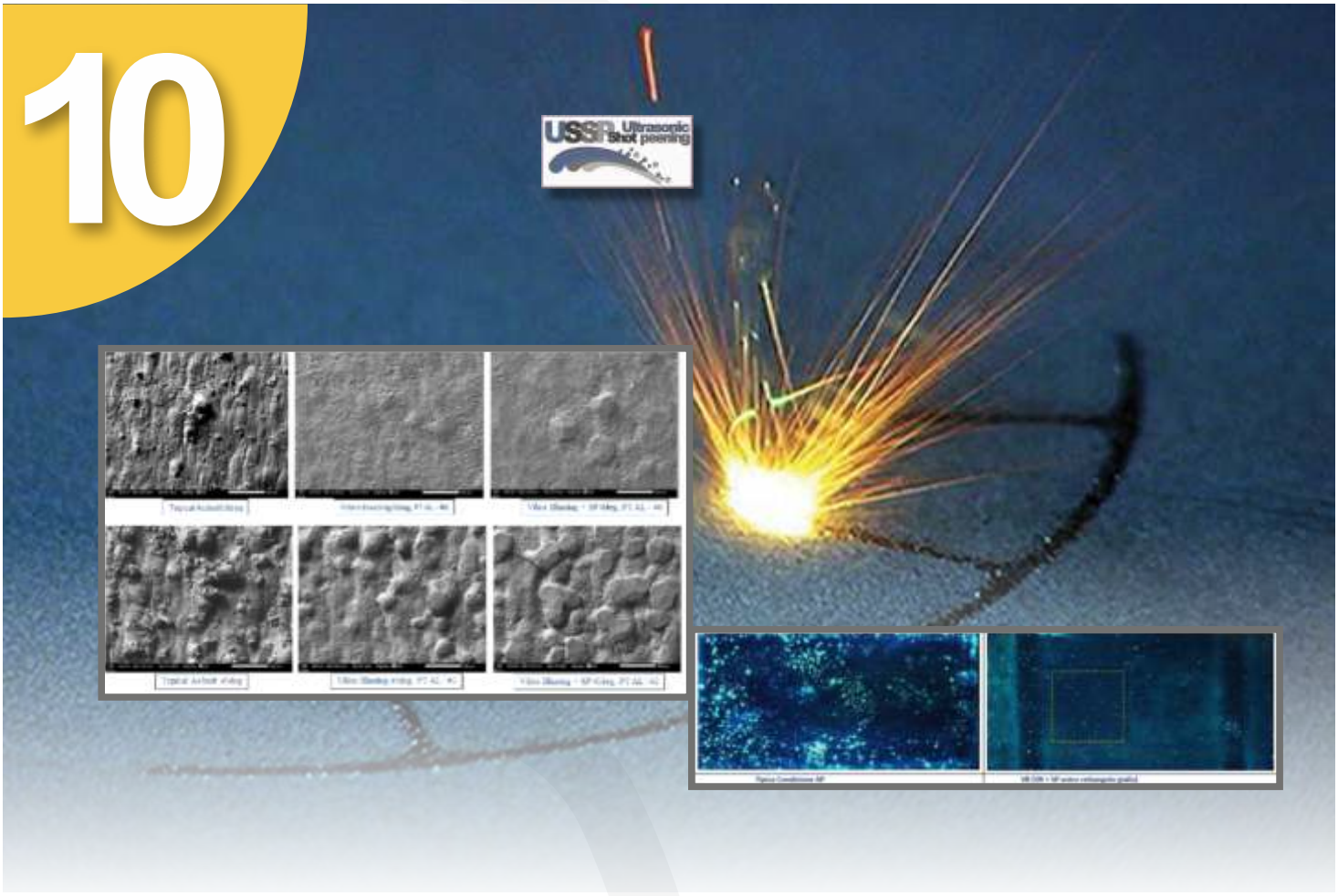

Very interesting results are emerging from the samples after **VibroBLAST** process and its subsequent combination, limited to a 30 x 30 mm area of Ultrasonic controlled **Shot Peening**. The positive effect was detected with a roughness tester where the surface, already optimized around 4.0 µm RA levels, if sandblasted by hand with the same pressure and the same shot peening media used in the VibroBLAST process, resulted in an increase of roughness up to 5.2 µm RA!
The **USSP** solutions program, - UltraSonic Shot Peening, in this example, is reporting one of the most extraordinary results of multidisciplinary tests run by Rollwasch® team, with its specialist ultrasound partners and the laboratory of an aerospace manufacturer.

Rollwasch® introduces a new surface finishing technology: the **VibroBLAST** technology, result of three patent applications, of about eight years of research activity, in addition to the close collaboration with sandblasting, suction and air filtration specialists. Everything, strictly "made in Italy".
A patent on the **VibroBLAST** process, ideal for foundry, hot stamping, sheet metal, forging, machining, in addition a product for the specific use in the **Additive Manufacturing and in the Medical** sectors, a patent dedicated to the special QuattroFinish or **QF media**. A line of solutions dedicated to the **POST PROCESSES** of **Additive Manufacturing**, developed with careful experimentation and specific tests for **3D printing** applications.

VIBROBLAST

Technology

At **Rollwasch**® we have planned our present and future activities, in order to be able to take constant and planned steps forward to develop a strategy of gradual market revolution, in two main directions:

1. Automation, reduction of bottlenecks in AM post-processes, replacement of manual activities with automatic processes;
2. Reduction of pollution and unnecessary costs related to waste and disposal;

Finally, we are able to propose unprecedented solutions (e.g. Preventive Contamination Clinic Process) and 3D Media.

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OUR EXPERIENCE, YOUR RESULTS

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