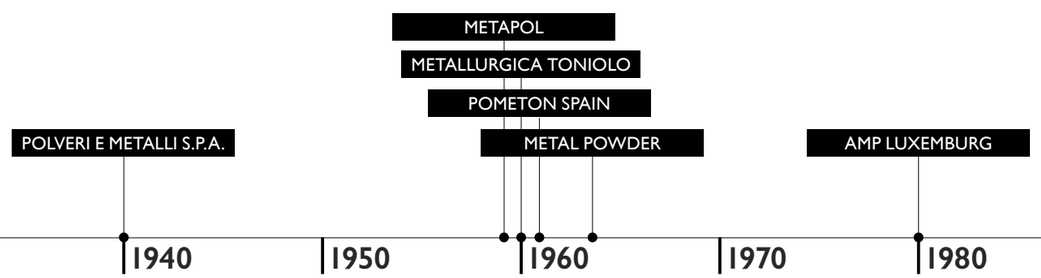

Pometon
Plus
Think it, Print it
Pometon

FOUNDED IN 1940, **POMETON SPA** IS TODAY THE LARGEST EUROPEAN PRODUCER OF COPPER POWDER (ELECTROLYTIC AND ATOMISED) AND A QUALIFIED PRODUCER OF ABRASIVES IN STAINLESS STEEL, FERROUS AND NON-FERROUS POWDERS. POMETON PRODUCES IRON, BRONZE, BRASS, TIN AND ZINC POWDERS, AS WELL AS DIFFUSION BONDED , IRON AND BRONZE PREMIXES AND READY-MADE PRODUCTS FOR SPECIFIC CUSTOMER NEEDS.

Pometon has more than 80 years experience in Powder Metallurgy. Our metallic Powders are used in a plethora of industries ranging from sintering, friction, diamond tools and carbon brushes to name but a few. On account of Pometon's strategic vision, it has invested heavily into R&D and as a result Pometon has the unique ability to customize the composition of metallic powders to meet individual customer needs. Over the last few years, given our excellent reputation in the market for customer service, quality and know-how, Pometon's customers were requesting us to specifically produce metallic powders for 3D printing.

Due to the growing requests from the market, in December 2019, the company made a strategic decision to leverage its intellectual capital in metallic powder technology, and established a new division, called Pometon Plus to produce metallic powders for 3D printing.

HISTORICAL DEVELOPMENT



APPLICATIONS
WE SERVE

- SINTER
- CARBON BRUSHES
- FRICTION
- CARRIER
- JEWELRY
- DIAMOND TOOLS
- METALWORKING
- CHEMICAL

ADDITIVE MANUFACTURING

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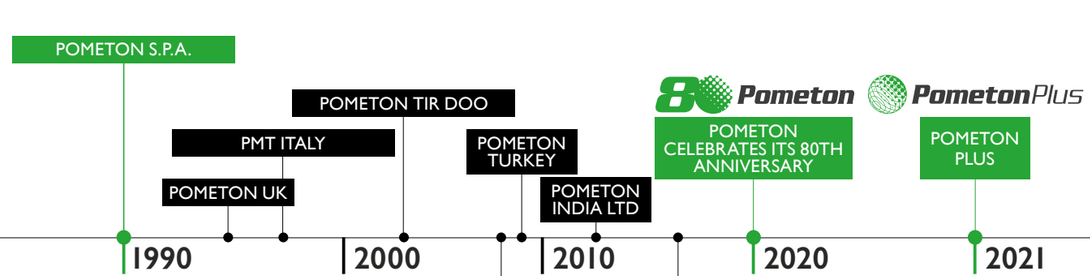
Pometon's subsidiaries are in UK, Spain, Germany, India, Turkey, Korea with a second production facality located in Serbia. Having achieved high levels of product innovation and continuous improvement, with a quality management system conforming to ISO 9001, ISO 14001, ISO 45001 certifications, Pometon works with all the major automotive brands, with the best global players in the chemical industry, and it's expanding in the aerospace and electronics sectors. Located near Venice, Italy, Pometon works in partnership with the most prestigious Universities worldwide. Thanks to its specific production processes and its cutting-edge R&D dept. Pometon has strategic know-how to meet clients' needs and can develop unique be-spoke powders ensuring consistant quality.

With the development of new powders for additive manufacturing, our new Pometon Plus division and R&D Center in Maerne will allow for continued support and innovation for our clients.



PometonPlus

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POMETON PRODUCES PREMIUM-QUALITY POWDERS OPTIMIZED SPECIFICALLY FOR METAL ADDITIVE MANUFACTURING.
WITH MORE THAN 80 YEARS OF METALLURGICAL EXPERTISE IN THE MOST CRITICAL APPLICATIONS, CUSTOMERS CAN TRUST THE DEPTH OF KNOWLEDGE AT **POMETON PLUS** PRODUCTS WITH CONFIDENCE.

PometonPlus: Pometon expands its expertise, professionalism and sustainability into this new product line.

Pometon produces premium-quality powders optimized specifically for metal Additive Manufacturing. With more than 80 years of metallurgical expertise in the most critical applications, customers can trust the depth of knowledge at **Pometon Plus** products with confidence. Whether direct energy deposition (DED), laser powder bed fusion (L-PBF), or electron beam powder bed fusion (EB-PBF), or any other additive technology, our powders are optimized to the meet the requirements of any specifc manufacturing the intended process and are quality checked by our material testing labs, and shipped with digital certificates of conformance.

Pometon Plus Advantages

Pometon Plus Powders

- Pometon Plus can produce customised AM Powders for the following families
- Copper and Copper Alloys
- Steel and Stainless Steel and Alloys
- Cobalt-Chromium and Alloys
- Nickel-Chromium and Alloys
- Titanium and Titanium Alloy
- Aluminium Silicium and Aluminium Alloys

Powder quality

- **Shape:** Spherical, to improve flowability
- **Surface:** Free from satellites, porosity free particles
- **Particle size:** custom made for additive applications, to be used with all type of 3D printing machines
- **Chemical composition:** high purity, due to the total absence of O2 or oxides that favours the interaction with laser/electron beam

Technology

- Vacuum Induction Melting and inert gas Atomization
- Electrode Induction Melting and inert gas Atomization
- Complete inerted post processing

Added Value to AM

- Material co-design. Development and production in partnership with customers
- Cutting edge, fully equipped in-house Laboratory
- Highly experienced materials scientists for dedicated applications technical support

Network

Research & Development

CLIENT NEEDS ARE OUR NEEDS

The **Pometon R&D Centre** - equipped with latest technology, is the heart of our product development and is undertaken by our team of experienced Research Engineers who work in close collaboration with our customers.
Metal powders for the 3D printing industry, need an high degree of customization and Pometon is at the forefront of the development of such specialized powders.
We encourage our customers to collaborate with us at our research facilities where we will provide them with technical assistance by developing the best performing metal powders for meet their specific needs.

CHEMICAL ANALISYS

ASTM standardized methods are used to certify the chemistry of AM powder including oxygen, nitrogen, hydrogen, carbon and sulfur. Materials are guaranteed to a specification or grade.

O, N and S, C Analyzers

Avio 200 ICP optical emission spectrometer

Inductively coupled plasma optical emission spectrometry (ICP-OES)

POWDER MORPHOLOGY AND PARTICLE SIZE

Metallography experts analyze the powder for shape and morphology, as well as internal microstructure of printed samples to correlate the effect of the AM processes on material properties.

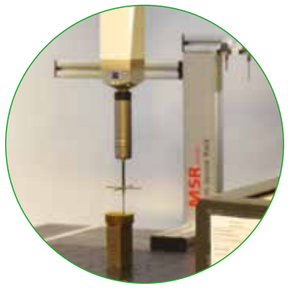
Optical microscope correlated to the scanning electron microscope

Laser difraction particle size analyzer

PHISICAL & MECHANICAL PROPERTIES

In-house testing capabilities for AM printed bars to measure the tensile properties after each step in the process. Additional testing methods are applied to characterize the mechanical behavior of AM materials.

Sintering vacuum furnace



Coordinate measuring machine

Mechanical testing machine (100Hz Fatigue Test)

X-RAY Crystallographic Analysis (XRD)

Automatic macro/micro hardness tester

Helium pycnmeter

PHYSICAL PROPERTIES

Powders tailored to AM processes are obtained by optimizing properties such as flow rate, apparent density and particle size distribution through atomizing and processing techniques.

Powder rheometer

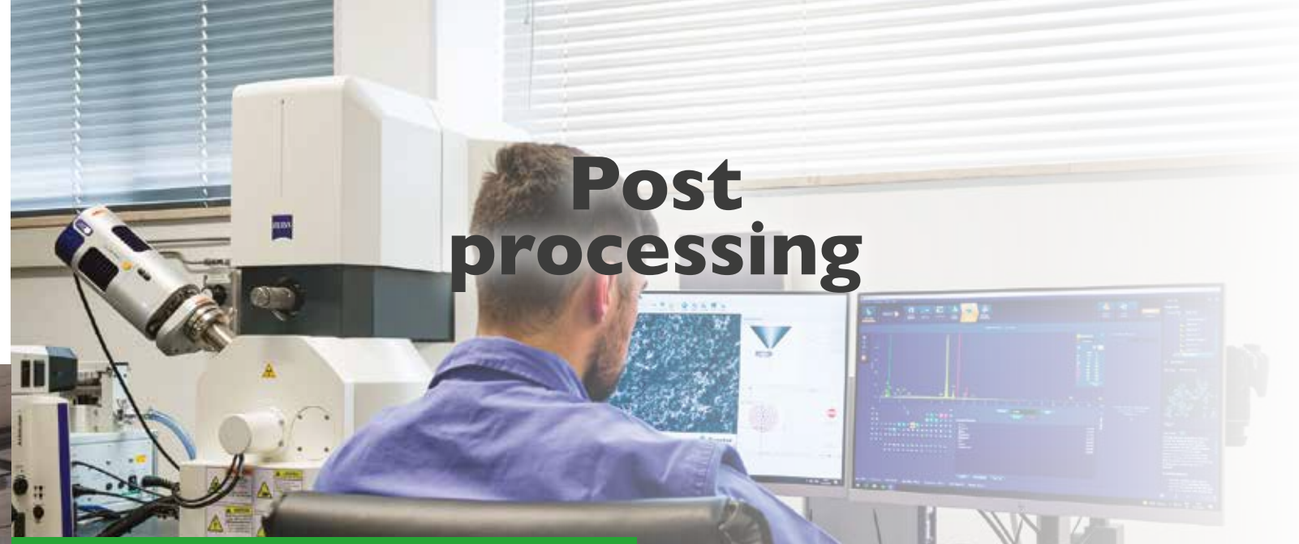
Dilatometer

Thermogravimetry Differential scanning calometry and thermal analysis (TG-DSC-DTA)

AM Manufacturing Technology

GAS ATOMISATION PROCESS- SPHERICAL POWDERS - **VIGA** & **EIGA** TECHNOLOGY

Pometon has over 80 years experience in the construction of atomisation plants. Our **VIGA** & **EIGA** gas atomizers encompass both the company's historical and sate-of-art know-how.



Post processing

SIEVING

Multi-frequency sieving, utilising an extended sieving area and high volume sieving capacity, capable of producing powders with meshes down to a few microns.

BLENDING

Square edge blender produces homogenized powders.

PACKAGING

High capacity dosing machine for different types of containers controlled by high precision scales.

Dedicated solutions have been developed to avoid contamination of the plants and to guarantee the integrity of the powders and their traceability. Each container of powder is individually identified as a batch, as well as the equipment and the operator who produced the batch.

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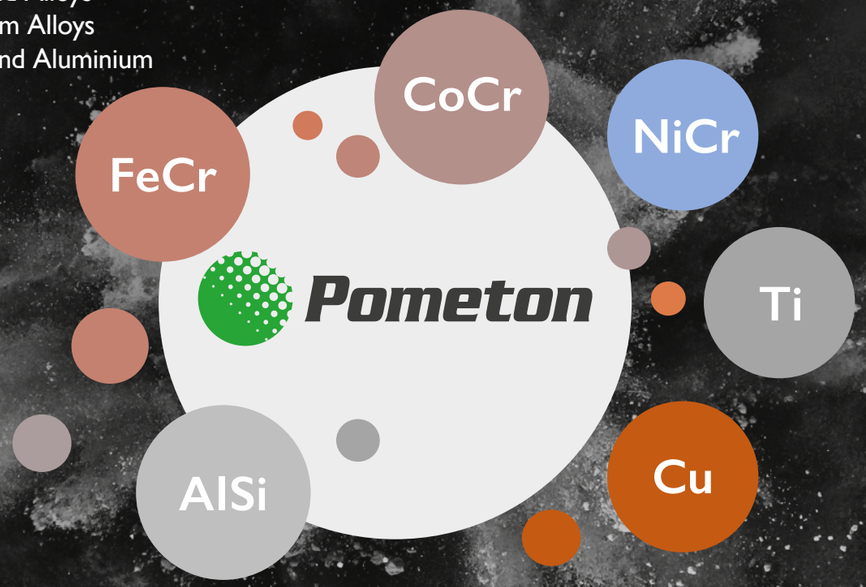
Powder for AM

POMETON PLUS, A LINE OF PRODUCTS TO CREATE YOUR IDEA

Pometon provides our AM powders customers the freedom to being able to design their products with the support of our experts which gives the certainty of being able to realize their design ideas & concepts.

Pometon Plus can produce customised AM Powders for the following families

Copper and Copper Alloys
Steel and Stainless Steel and Alloys
Cobalt-Chromium and Alloys
Nickel-Chromium and Alloys
Titanium and Titanium Alloys
Aluminium Silicium and Aluminium Alloys



Our primary focus is to exceed client requirements developing specific materials for AM powders. Our attitude is to partner with our customers by growing their business with customized alternative solutions. For this reason we are able to develop and produce dedicated materials specifically for AM applications on your 3D printing machine.

Our powders are designed for AM and process specific

PBF-LB (Laser Powder Bed Fusion) - also referred to as **SLM, DMLS, DMLM, L-PBF**
PBF-EB (Electron Beam Powder Bed Fusion) - also referred to as **EBM**
DED (Directed Energy Deposition) - also referred to as **DMD, LMD, LMF**

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Powders Packaging

All powders are packaged in sealed polymeric containers, with internal liners to accurately avoid contact of the powders with the atmosphere and to protect from moisture absorption. All powders are stored in air-conditioned areas.

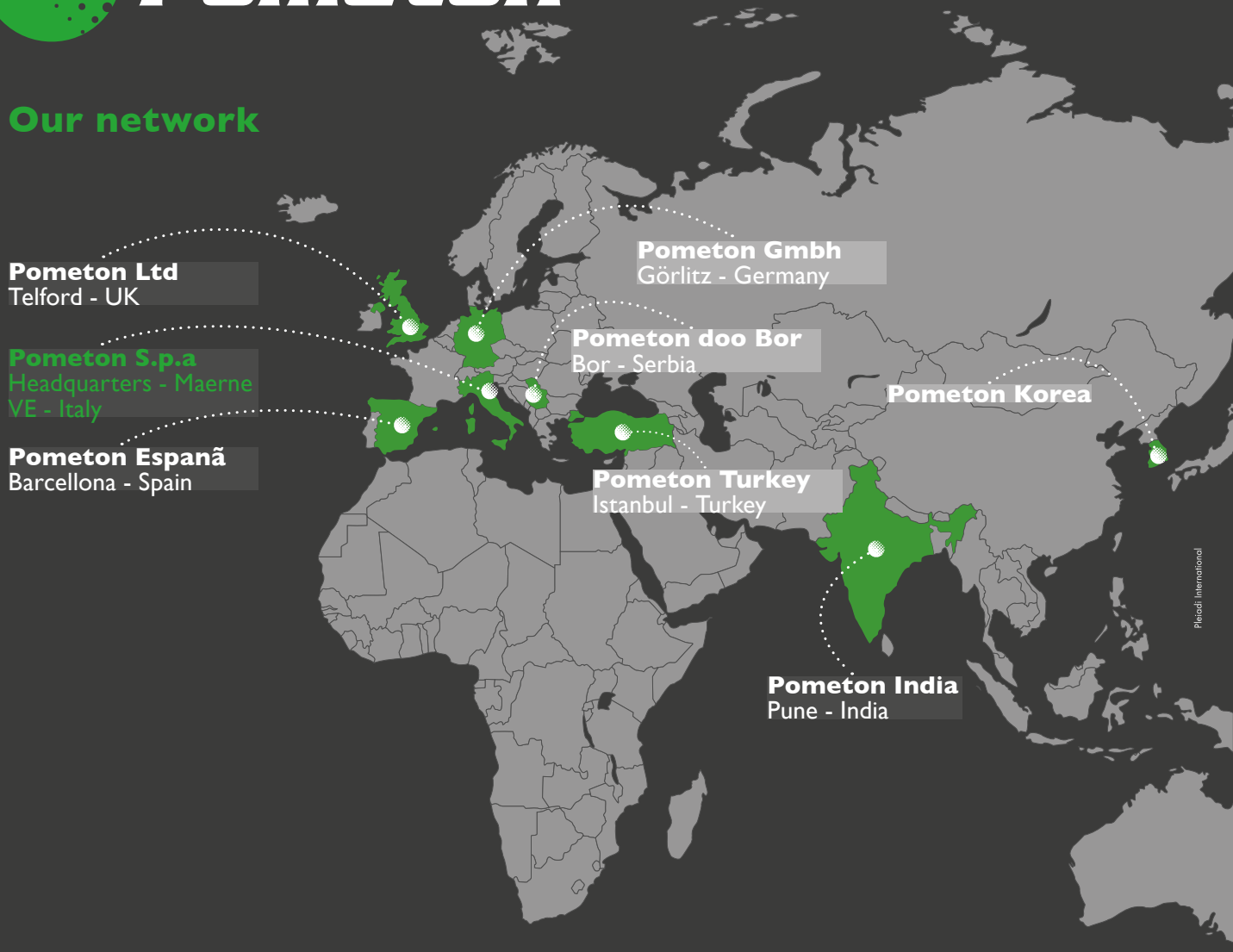
Powder Quality

Shape: Spherical, to improve flowability | **Surface:** Free from satellites, porosity free particles | **Particle size:** custom made for additive applications, to be used with all type of 3D printing machines | **Chemical composition:** High purity, due to the total absence of O2 or oxides that favours the interaction with laser/electron beam

Our powders are print-tested, quality-controlled, and tested in our labs prior to market release to ensure high quality, for reliable and consistent system parameters. Our new AM facility and R&D Center in Maerne allows for continued support and innovation for our clients.

Pometon

Our network



Quality Safety & Environment

Pometon recognizes its social responsibility to the Earth and its commitment to our local community, which is important for the sustainable future of our company. We are committed to improve every day and endeavor to create an environmental that is better than regulations. This philosophy makes Pometon a eco-compatible partner to our customers. Continuous improvement to the health and safety parameters of our working environment is our commitment to our employees.

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ISO 9001
Quality Management Systems
CERTIFIED

ISO 14001
Environmental Management
CERTIFIED

ISO 45001
Occupational Health and Safety Management
CERTIFIED

www.pometon.com