

AddUp partners with AZO to offer autonomous metal powder management modules

AddUp and the German specialist in powder automation systems AZO have signed a partnership agreement to offer innovative solutions for the handling and recycling of powders used in metal additive manufacturing.

AddUp, a French machine manufacturer and producer of parts by metal additive manufacturing, offers a range of laser powder bed fusion (PBF) machines. These machines require metal powder supply systems, as well as systems for unused powder processing. AZO, a German company specializing in powdery material handling solutions, offers conveying, dosing, weighing, screening, storage and recycling systems for food, chemical, pharmaceutical and plastic industries.

AddUp partnered with AZO to develop and market a fully automated powder management module that meets the specific needs of metal 3D printing. The goal is multiple: it is to simplify the powder-loading and unloading operations on the machines, to avoid any risk of supply breakdown during production, and to guarantee maximum protection for operators.

Driven by their shared passion for 3D printing, the two partners have been working on this project since 2018. Today, they are launching an original solution in terms of ergonomics, productivity and safety. The system called "Autonomous Powder Module" is the first equipment compatible with all types of metal powders, whether reactive, cohesive, fine or medium particle size. It ensures the feeding of the machines without interrupting production and offers continuous sieving and drying functions to ensure the evenness of powder properties during manufacturing.

The answer to a real industrial need

All operations like (loading and unloading of powders, storage, sieving, drying and conveying) are carried out in an inert atmosphere, offering a maximum level of safety especially for air-reactive powders, such as certain titanium and aluminum alloys. The objective was to propose a system allowing operators to avoid contact with powders, thus adhering to the recommendations of AddUp in terms

AddUp

Since its creation in 2016, as a result of a collaboration agreement signed by Fives and Michelin in September 2015, AddUp has developed a unique expertise in additive metal manufacturing.

The company has invested in the design of 3D metal printing machines in the two most dominant complementary technologies on the market.

AddUp is an expert in Powder Bed Fusion (PBF), ideal for the manufacture of parts with very complex designs and improved performance especially with the use of fine powder, and in DED (Directed Energy Deposition) which is very relevant for the repair of parts and add-on function.

AddUp operates a fleet of nearly 40 machines at its Cébazat, Strasbourg and Salon de Provence sites in France.

This allows AddUp to accelerate the control of the process from an industrial point of view and thus improve the design and performance of its machines.

Finally, AddUp is organised to accompany customers throughout their journey, whether in the discovery, proof of concept, part production or technology integration phases in their workshops.

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of HSE (Hygiene-Security-Environment) and the requirements of the XP E67-006 standard.

The "Autonomous Powder Module" developed by AddUp and AZO was presented for the first time at the AZO booth at FormNext 2019. It is already used by an industrial company based in France, and will be offered by AddUp for customers of its "FormUp" machine range.



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AZO

Since more than 70 years, AZO is the expert when it comes to customized solutions in the field of raw material logistics and raw material automation powder handling. Thus, AZO also develops, designs and manufactures reliable and fail-safe systems for the feeding of 3D printers with plastics powders and granules as well as with metal powders. The ATEX design of the systems as well as inertisation in closed loop ensures operator, plant and product safety.

Printer feed systems can generally be divided into two sections: supply and processing of materials for storage & modular printing solutions. Hence Thus, the range of AZO systems covers all internal logistics of raw materials - from delivery to processing, all conveying technology from a single source.

The AZO systems consists of process equipment for storage, discharge, screening, cleaning, conveying, dosing, weighing, recycling and conditioning of various bulk materials and range from individual components such as screening machines. According to the customer requirements, AZO design simple, complicated and complex systems in accordance with the slogan smart - simple - safe. The capacities of an AZO system vary from a few kilograms to several tons per hour.

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