

Press Release



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Powder handling in additive manufacturing for the first time automated and from one source

AMP+ guarantees efficiency, sustainability and occupational safety in the SLM process

Within the corporate network **AM Powder Plus (AMP+)** the companies **assonic** Dorstener Siebtechnik GmbH, **Solukon** Maschinenbau GmbH and **ULT** AG provide an integrated solution for automated part and powder handling in the SLM process (selective laser melting) for the first time. The end-to-end process combines the safe, automated depowdering of AM components with qualified processing and recycling of surplus metal powder. Unmelted powder is collected, sifted, dried and then returned in its original state to the production process. The solution guarantees a safe, dry process atmosphere as well as ensuring compliance with occupational health and safety regulations.

Each of the three participating companies contributes its specific and industry approved knowhow:

Assonic develops and manufactures high-end sieving machines whose screens are excited by ultrasound at frequencies of between 30 and 38 kilohertz. In addition, low-frequency vibration of the specially designed screening media ensure highly efficient sieving processes. By introducing fresh powder and deployment of a drying method developed jointly with ULT, the process leads to consistently high powder quality, which is indispensable in quality-assured metal PBF production.

This conditioning knowhow meets with *Solukon's* extraction and powder removal technology. Since its launch in 2013, *Solukon* has acquired customers such as Daimler, AUDI, MTU, Lockheed Martin and the Ariane Group, for whom the *Solukon* machines automatically remove powder from AM components almost without any manual work. Thanks to programmable rotation of the parts, these systems are far superior to manual methods and make an important contribution to the industrialization of AM production with their high quality, reproducible cleaning results.

ULT as third partner contributes its air treatment knowhow to the overall solution. High-tech extraction and filtration technologies ensure continuous cleaning of inert gases, which are mandatory in PBF manufacturing processes. In addition, *ULT* offers solutions for highly efficient air-drying, a key function for the stable operation of metal PBF systems. When the fine metallic powder materials absorb humidity, they become unusable for sensitive PBF systems, especially as they tend to form clumps and oxidize. In addition, the extraction and filter technology ensures compliance with occupational safety regulations, explosion protection practices and clean workplace solutions along the entire process chain, including post-processing.

The combined expertise of the *AMP+* partners are the building blocks of the overall solution: efficient powder preparation, automated powder removal and a comprehensive approach to air preparation and conditioning. *AMP+* now offers industrial users worldwide integrated solutions that are also available as individual modules – and implements them in turnkey projects.

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