

## EPMA names winners in its 2018 Powder Metallurgy Component Awards

During the opening Plenary Session at the Euro PM2018 Congress and Exhibition, Bilbao, Spain, October 14–18, 2018, the European Powder Metallurgy Association (EPMA) revealed the winners of its 2018 Powder Metallurgy Component Awards. The awards are open to companies who manufacture components made by various Powder Metallurgy processes including metal Additive Manufacturing.

The award in the Additive Manufacturing category was presented to Rosswag GmbH, Pfinztal, Germany, for its Forgebrid® process. The production method combines open die forging and Laser Beam Powder Bed Fusion (LB-PBF) processes, benefitting from the advantages offered by each process. To manufacture a component, a basic body is conventionally forged and machined to produce a plane surface. Onto this surface, the functionally optimised section of the component is added using LB-PBF.

Using this combined method enables Rosswag to preserve resources and thus save production costs, in addition to reducing machining time and the consumption of coolants and lubricants. Moreover, the material remnants produced during sawing and forging of the component base can be recycled into

metal powder for use in the Additive Manufacturing process.

Rosswag stated that the forged component area offers excellent mechanical-technological properties, especially with regard to fatigue strength. The complex segments of the part, produced by metal AM, are then manufactured in such a way as to add value which could not be achieved by conventional manufacturing. The hybrid production process is therefore an ideal method to meet safety requirements and still achieve functional optimisation of the component.

The winner in the PM Structural Component category was Gevorkyan, s.r.o, Vlkanová, Slovakia, for a driving flange designed in cooperation with a leading power tools producer. According to its designers, the part is brand new and has never been produced using any other technology. The part was originally developed for CNC machining from conventional bars, however, by adopting PM technology for its production, Gevorkyan stated it was able to achieve a significant reduction in price in comparison to machining.

In the Hot Isostatic Pressing (HIP) category, the development of a near-net shape component for use in the nuclear power sector was the



Winners in the other EPMA award categories - Top: PM Structural Component. Middle: HIP Award. Bottom: Metal Injection Moulding [Courtesy EPMA]

winner. The component, a reactor coolant pump impeller, has a large dimension and complex geometry, which both pose significant production challenges.

The award for a metal injection moulded component was presented to AMT PTE Ltd, Singapore, for its one piece nozzle for automotive applications. The judges stated that the MIM nozzle featured a good finish with complex internal channels and was manufactured in a sustainable and economical way. The product was said to have opened up an entirely new application for MIM process capability, and AMT stated that it was the most complex part that it has produced to date.

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Rosswag GmbH received the Additive Manufacturing award for its Forgebrid® component [Courtesy EPMA]