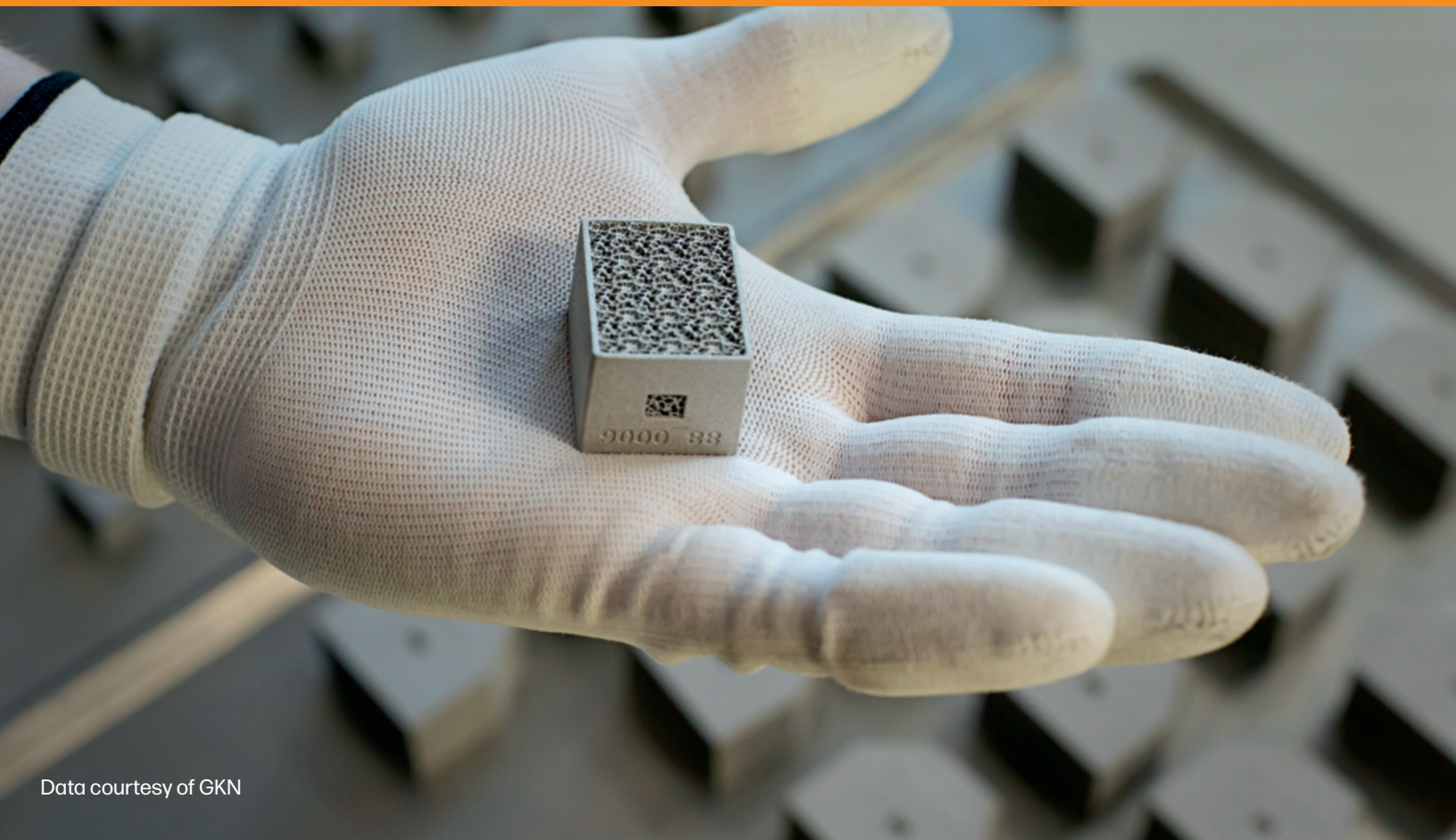


Schneider Electric, in partnership with GKN Powder Metallurgy and HP Metal Jet technology, improves efficiency and lowers labor costs in large electrical plants by mass producing innovative 3D-printed metal parts at scale

International energy and automation expert Schneider Electric is utilizing the innovations of HP Metal Jet technology, in partnership with material producer GKN Powder Metallurgy, to mass produce a new electrical circuit board filter that is more efficient, more sustainable, and reduces the switchboard footprint, offering a unique, competitive advantage.





Data courtesy of GKN

Introduction

HP is partnering with GKN Powder Metallurgy, the world's leading producer of materials and products using powder metallurgy technologies, and Schneider Electric, a world-leader in digital automation and energy management, to deploy unique HP Metal Jet applications for 690V switchboards especially used in oil and gas, railways and marine projects.

Industry

Industrial

Objective

To produce efficient, durable and sustainable filters that reduce gas, pressure, and heat impact, even in challenging environments and small spaces.

Technology | solution

HP Metal Jet technology
HP Metal Jet S100 Printing Solution

Sector

Machinery and Equipment

Approach

GKN Powder Metallurgy, Schneider Electric and HP bring their respective expertise to partner in delivering quality parts at scale, while lowering costs and meeting precise technical specifications.

Material

HP Metal Jet SS 316L

Challenge

Schneider Electric is the global leader in the digital transformation of energy management and automation. The company produces switchboards for large-scale oil and gas factories. There are four different types of filters built into these switchboards. These filters may be small – you can fit them all together in your hand – but they’re a vital part of the safety mechanism.

Schneider Electric previously designed and produced filters for their 690V switchboards using conventional manufacturing processes, however, the company continues to innovate and overcome limitations in process and performance.

Together with HP’s team, they began using cutting-edge additive manufacturing to design and produce more effective filters.

Solution

Schneider Electric partnered with GKN to finalize the design for the new filters and industrialize production together. As a result, they managed to lower the costs significantly compared to other solutions, and benefited from a robust process, a high machine productivity and a great surface finish.

“The very complex design can only be produced with additive processes. The part replaces an assembly of several elements and is also much more robust than the alternative. HP Metal Jet technology offers the ideal solution to solve the problem,” says Simon Hoeges, Director Technology and Manufacturing Engineer, GKN Additive.

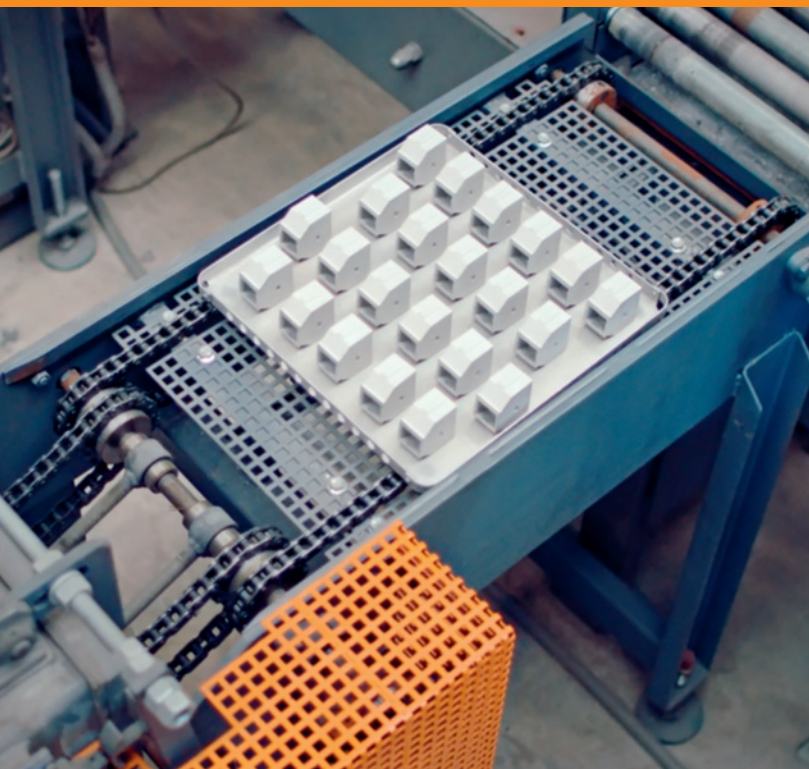
GKN has been partnering with HP for more than four years in metals and even longer in plastics.

They currently have HP printers running in serial production in two different plants that are fully integrated into their quality systems.

Thanks to their filtering know-how and Schneider Electric’s electrical expertise, as well as HP’s support, they came up with a unique and innovative design fulfilling all requirements on processability, quality, and functionality.

“HP’s Metal Jet technology has proven to be the only AM technology to achieve part cost targets through production efficiency. It is ideally placed in the paradigm of production speed and detail resolution to solve the commercial and technical requirements to make this application a success,” added Simon Hoeges.





Data courtesy of GKN

Results

With HP Metal Jet technology, Schneider Electric was able to create a more efficient and sustainable product, with a 20% reduction in the carbon footprint of their 690V switchboards and a significant cost reduction.

The results have been transformative. Schneider Electric launched its new solution in April 2021 and has already won a number of large-scale projects with this innovative offer.

“HP’s Metal Jet technology are now considered as real options for serial part manufacturing. We plan to leverage HP’s Metal Jet technology across Schneider Electric lines of business to bring new added value to

our products and to our customers,” says Guillaume Fribourg, Metallic Materials and Processes Expert in Energy Management BU at Schneider Electric.

GKN now sees Metal Binder Jetting and the HP Metal Jet S100 Printing Solution as a key growth driver for its Metal Additive Manufacturing division. Thanks to the high production rates of HP’s Metal Jet technology the entry barrier to serial production can be significantly reduced and new possibilities and opportunities can be explored.

For more information, please visit hp.com/go/3Dmetals

Connect with an HP Metal Jet expert or sign up for the latest news about HP Metal Jet Printing hp.com/go/3DmetalsContactus

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