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**Renishaw helps with cost effective 3D printing of the world’s most expensive metal**

[Renishaw](https://www.renishaw.com/en/renishaw-enhancing-efficiency-in-manufacturing-and-healthcare--1030?gad_source=1&gclid=CjwKCAiAxKy5BhBbEiwAYiW--x-mYMpHDwKuvBOBUCpJhbKPJVQaQB7655p0qgvZZ91fjfqoR51vrxoCNC4QAvD_BwE&utm_source=REC890&utm_medium=PR&utm_campaign=REC890_efficiency&utm_id=reduce+waste&utm_term=manufacturing&utm_content=Earned) has enabled Cookson Industrial, a UK-based leader in precious metal additive manufacturing (AM), to significantly reduce the cost of 3D printing platinum rhodium, one of the world’s most expensive metals. Cookson Industrial can now produce platinum rhodium components on Renishaw’s RenAM 500S Flex AM system with exceptional material efficiency. High-temperature corrosion-resistant parts, for industries like glass fibre manufacturing, can now be viably manufactured with AM .

[Cookson Industrial](https://www.cookson-industrial.com/?utm_source=REC890&utm_medium=PR&utm_campaign=REC890_efficiency&utm_id=reduce+waste&utm_term=manufacturing&utm_content=Earned), a division of Cooksongold and a subsidiary of HM Precious Metals, brings over 30 years of expertise in the design and production of precious metal alloys. The company set out to redefine platinum rhodium’s use in additive manufacturing. However, with platinum rhodium prices averaging £80,000 per kilo, minimising material waste was crucial to making production commercially viable.

To meet this challenge, Cookson Industrial selected Renishaw’s RenAM 500S Flex, a laser powder bed fusion system designed for research and development applications. Renishaw’s AM engineering team worked closely with Cookson Industrial to adapt the system to the specific demands of platinum rhodium production. As standard, the RenAM 500S Flex is capable of achieving powder waste levels as low as 1.5 per cent. However, to align with Cookson Industrial’s requirements, customisations were needed to reduce it to less than 0.5 percen

“Achieving near-zero wastage of platinum rhodium powder was a top priority,” said Jason Morgan, Senior Applications Engineer at Renishaw. “We collaborated with Cookson’s engineers to identify and eliminate potential ‘powder traps’ within the system, followed by rapid testing and redesigns to minimise waste while maintaining performance.”

Renishaw’s customisations included modifying internal system components to prevent powder accumulation, such as removing overflow bellows and optimising the rear overflow vent. Additional measures included chamber redesigns and the creation of specialised casings and covers, resulting in a 95 percent reduction in powder waste. Now, the RenAM 500S Flex allows Cookson Industrial to retrieve nearly all platinum rhodium powder, amounting to significant cost savings.

“Renishaw’s technology and expertise were crucial to this R&D success, enabling us to make platinum rhodium parts on a commercial scale,” commented Nikesh Patel, Head of Cookson Industrial. “The ability to minimise powder loss not only brings down our production costs but also makes large-scale production feasible, saving millions over the machine’s lifetime.”

“This success paves the way for Cookson Industrial to explore new applications for platinum rhodium AM, including catalysts and aerospace engine nozzles,” Renishaw’s Morgan added, “Our collaboration with Cookson Industrial highlights Renishaw’s commitment to supporting customers in every step of their AM journey, especially when working with novel materials.”

For further information on Renishaw’s RenAM 500 Flex AM system, visit the [product page](https://www.renishaw.com/en/renishaw-enhancing-efficiency-in-manufacturing-and-healthcare--1030?gad_source=1&gclid=CjwKCAiAxKy5BhBbEiwAYiW--x-mYMpHDwKuvBOBUCpJhbKPJVQaQB7655p0qgvZZ91fjfqoR51vrxoCNC4QAvD_BwE&utm_source=REC890&utm_medium=PR&utm_campaign=REC890_efficiency&utm_id=reduce+waste&utm_term=manufacturing&utm_content=Earned).

**-ENDS-**

**Notes to editors**

**About Renishaw**

Renishaw is a world leading supplier of measuring systems and manufacturing systems. Its products give high accuracy and precision, gathering data to provide customers and end users with traceability and confidence in what they’re making. This technology also helps its customers to innovate their products and processes.

It is a global business with over 5,000 employees located in the 36 countries where it has wholly owned subsidiary operations. The majority of R&D work takes place in the UK, with the largest manufacturing sites located in the UK, Ireland and India.

For the year ended June 2024 Renishaw recorded sales of £691.3 million of which 95% was due to exports. The company’s largest markets are China, USA, Japan and Germany.

Renishaw is guided by its purpose: Transforming Tomorrow Together. This means working with its customers to make the products, create the materials, and develop the therapies that are going to be needed for the future.

Further information at [www.renishaw.com](http://www.renishaw.com/)