



CASE STUDY
SAF

**Revolutionizing
Agriculture:
RAUCH Harnesses
SAF™ and FDM®
Technologies for
Innovative Equipment
Manufacturing**



A Reputation for Innovation Manufacturing

If agricultural engineering is in the RAUCH company genes, innovation is its very DNA. From its early 1900s inventions for harrows and plows, to its first bestseller — a fertilizer-spreader— in the 1930s, to the modern machinery they manufacture now, this family-run firm sits firmly on the leading edge of the agricultural technology industry.

When it comes to agricultural equipment, RAUCH is known worldwide for innovation and excellence. With more than 170 patents to its credit, not to mention numerous Agritechnica Innovation Awards from the German Agricultural Society (DLG), the company has earned myriad honors at national and international exhibitions. Its Germany-made products, respected for their quality, reliability and durability, are currently exported to farmers and agricultural contractors in 43 countries.

If only Franz Rauch, the master blacksmith who started it all, could see them now.

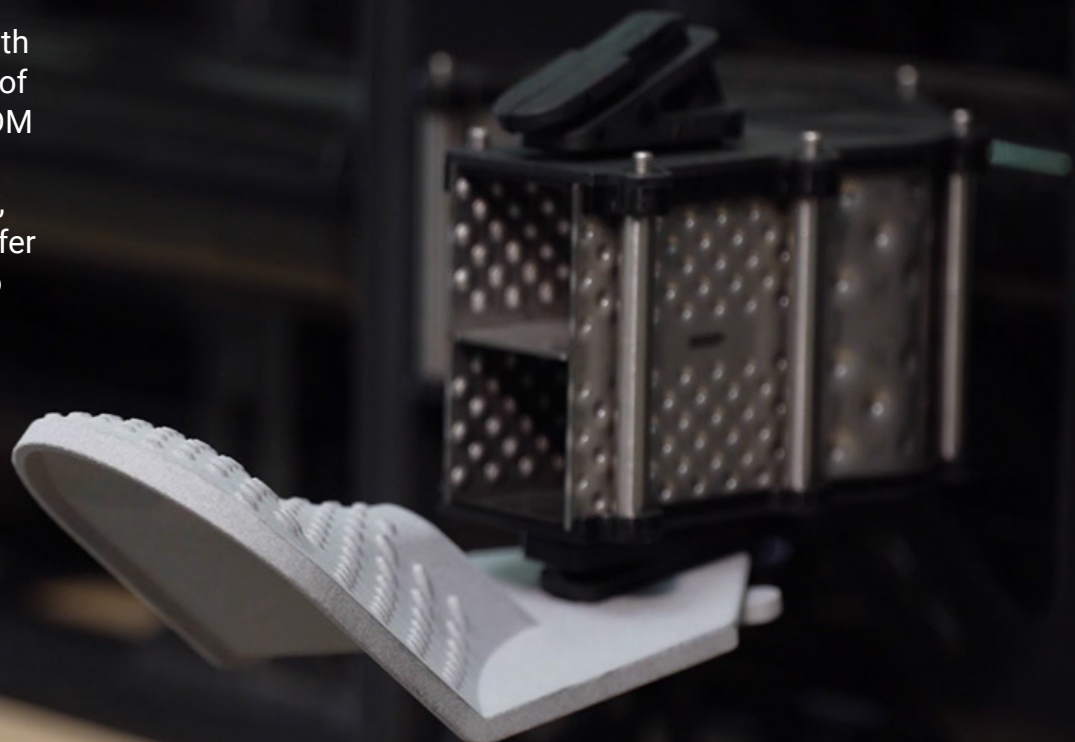
A century on from their official founding in 1921, RAUCH today still has some of his direct descendants — five generations later — at the helm. And as it was in the very beginning, they remain relentlessly focused on advancing their products, and their processes, with an eye toward the future.

“We are driven by innovation to achieve the impossible in agricultural engineering,” says Managing Director Volker Stöcklin. “Our mission is not only the manufacturing of machines, but also the innovation of the products, the innovation of the function for our customers.”

In fact, adds Stöcklin, their devotion to innovation is what makes RAUCH stand out from the crowd. And Stratasys plays a role in their distinction.

“Through our collaboration with Stratasys and the integration of their cutting-edge SAF and FDM technologies, we are setting new standards in the industry, ensuring every solution we offer is not only innovative but also sustainable.”

Volker Stöcklin,
Managing Director



Lightening-fast Prototypes, Courtesy of Stratasys®

To pursue its creative and groundbreaking ideas, RAUCH has leveraged Stratasys® FDM® and SAF™ technology. The company is a longtime user and Stratasys solutions play a key role in their endeavors.

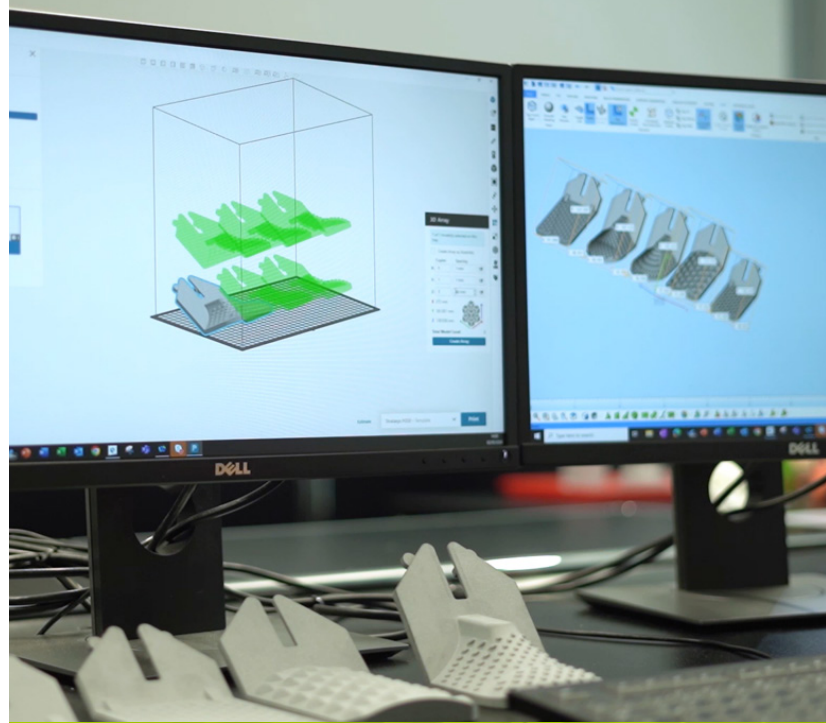
“Working with Stratasys on FDM, which we’ve been using for many years, and now SAF technology, has created new opportunities for us,” says Pascal Vorbach, Electronics developer and user of SAF technology at RAUCH. “In addition to SAF, we are also using FDM for early-stage prototyping. The fast and cost-effective production helps us with initial testing and validation.

“With SAF technology, we can produce highly detailed prototypes within 24 hours. Our rapid development cycle allows us to meet the stringent requirements of modern agriculture”.

Pascal Vorbach,
Electronics Developer at RAUCH

Mechanical resistance. Higher UV stability. Faster availability of functional prototypes or spare parts. These top the list of application requirements that RAUCH manufactures with the Stratasys SAF H350™ 3D printer, using PA11 and PA12 materials to boost performance and sustainability, while lowering the cost of volume production and delivering reliability, repeatability and industrial grade accuracy. The recent addition of SAF PP – the first real polypropylene additive manufacturing solution in powder-bed fusion technology – to their materials mix will help take RAUCH’s accuracy and aesthetics to the next level.

Currently, RAUCH primarily employs Stratasys SAF technology to print first samples or visual samples “to get a feel for the parts and possibly also to install them,” Vorbach explains. Doing so has netted the company a true trifecta of positive outcomes: “Material costs have been reduced,” he says, “the printing speed has increased, and the stability of the materials has improved.”



A Peek Behind the Scenes

"We can manufacture prototype parts from sheet metal very well ourselves," Stöcklin explains of their manufacturing process. "More and more plastic is being used, which is validated through 3D printing before series production, printing ideas and concepts, as well as near-series versions."

For all of these things, RAUCH needs flexible, durable and high-strength parts; Stratasys's additive manufacturing solution makes it possible. "Very precise and high-load-bearing parts can be produced," says Stöcklin, who also points to their ability to achieve a rapid development speed.

Of course, additive manufacturing is not new for RAUCH, which has been 3D printing for 15 years, according to Stöcklin. Their use of the technology intensified 7 or 8 years ago, he says, when they acquired the Stratasys Objet30 Prime, a legacy product, and achieved over 10,000 operating hours.



Earth First: A Priority on Sustainability

With two core competencies — exact metering and precise spreading — RAUCH manufactures fertilizer spreaders, seed drills and winter spreaders as an OEM provider for an international customer base. And through it all, they're keeping impacts to the earth top of mind.

A growing focus on sustainability and environmental awareness has led to pioneering advances in plant nutrition and fertilization efficiency to foster food production while reducing emissions. The energy for the production site is fed in from a combined heat and power plant in the neighborhood. The supply runs via a biogas plant, which is part of the company's commitment to the sustainable production of its machines.

Their technical partnership with Stratasys is critical to this evolution. "It is an important element for us to be able to realize even more crazy ideas," says Stöcklin of their Stratasys tool kit. "This could revolutionize agriculture."

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