3Faktur automates post-processing workflow with HP Automatic Unpacking Station

HP Automatic Unpacking Station helped 3Faktur reduce manual labor, increase efficiency, and reclaim more non-fused powder, resulting in faster time-to-part production.

Data courtesy of 3Faktur

Industry

Industrial Machinery Manufacturing

Objective

To automate the post-processing workflow and reduce labor costs.

Technology I Solution

HP Automatic Unpacking Station

Approach

3Faktur implemented HP Automatic Unpacking Station to automatically unpack parts from the build chamber and reduce manual labor for their rapid prototyping, and additive manufacturing of larger batches.

Material

HP High Reusability PA 12

Data courtesy of 3Faktur

Introduction


Data courtesy of 3Faktur

3Faktur is a German-based 3D printing service provider specializing in the additive manufacturing of industrial-grade plastic parts. They offer a wide range of services, including rapid prototyping, series production, and in-line quality control for their customers.

3Faktur specializes in small-batch manufacturing, with 5% of their services devoted to prototypes and the bulk of their work involving the production of end-use components up to 4,000 units per batch approximately. They use additive powder technologies, particularly HP's Multi Jet Fusion printing technology, and are the first commercial customer in Germany to use the HP Jet Fusion 5200 Series 3D Automatic Unpacking Station. 3Faktur has over 800 active customers in the engineering and medical space and serves the most innovative companies all over Europe in the automotive, high-tech, medical, engineering, and aviation industries.

3Faktur is a leading provider of 3D printing services, and their focus on small batch production and use of additive powder technologies make them a valuable partner for companies that need high-quality, custom-made plastic parts.

Challenge

3Faktur was faced with a significant hurdle in reducing labor costs associated with post-processing. Post-processing is a major bottleneck in additive manufacturing, and it is a manual process that can take up to two hours per batch, depending on the size and complexity of the parts. This not only strained their existing operators, who were overworked, but it also made it difficult to find and recruit new operators.

In 2020, as 3Faktur prepared to purchase their fourth printer, they found themselves printing four full batches per day, making it an ideal time to invest in the HP Jet Fusion 5200 Series 3D Automatic Unpacking Station (AUS). They were spending an average of 30 minutes on manual unpacking for every job, amounting to 2 hours per day.

Adding to the hurdle was the difficulty in finding workers in the Jena area, where the factory is located. With numerous retailers requiring similar workforce profiles, 3Faktur faced fierce competition for skilled employees. This further reinforced their need to explore automation solutions to overcome these challenges.

Solution

The HP Jet Fusion 5200 Series 3D Automatic Unpacking Station (AUS) provided a range of benefits for 3Faktur, addressing their labor and efficiency challenges:

- Reduced operator time: It reduced operator time to just 5 minutes per batch, resulting in a time savings of 1 hour and 40 minutes per day.
- Increased cost efficiency and production capacity: Operators could be redirected to different tasks, increasing cost efficiency and enabling them to handle higher levels of production.
- Reduced need for additional workers: The reduced operator time meant that 3Faktur would not need to hire additional workers as production grew, which was particularly advantageous given the difficulty in finding new employees.
- Compatibility with multiple printers and powder reclamation: The company successfully utilized the HP Jet Fusion 5200 Series 3D Automatic Unpacking Station for both their HP Jet Fusion 5200 and 4200 3D printers, with minimal differences in the unpacking experience.
- Improved post-processing steps: The HP Jet Fusion 5200 Series 3D Automatic Unpacking Station also improved the subsequent post-processing steps, as the parts were already much cleaner.
- Handling increased demand: With increasing demand, 3Faktur was confident that their current workforce could handle the growth, generating more revenue per employee.
- Usage in production: Currently, 70% of production goes through the HP Jet Fusion 5200 Series 3D Automatic Unpacking Station. However, some exceptions include thin parts that might break or jobs with a mix of large and small parts.
- Optimized pre-processing workflow: To optimize the process, 3Faktur adjusted their pre-processing workflow to decide in advance which parts to put in each build, depending on whether they would be unpacked or not. This required a bit more work upfront but proved to be worth the effort.

HP Jet Fusion 5200 Series 3D Automatic Unpacking Station proved to be a worthwhile investment for 3Faktur, especially given their focus on small parts and having more than four printers. This innovative solution not only enhanced their overall efficiency but also contributed to reducing labor costs, positioning the company for continued growth and success in the competitive 3D printing market.

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