

ADAPTABILITY:

Design-Freedom and Flexibility with 3D printing



OVERVIEW

Bernay Automation's vibrating bowl is a workpiece feeder designed to bring parts into a workstation in a defined position and frequency. The vibrating bowl is customized to fit any production line in any industry, such as; cosmetics, pharmaceuticals, automotive, agri-food, and electronics. Their main challenge was to sustainably, economically, and quickly customize the corkscrew funnel part of the vibrating bowl.

Bernay Automation turned to 3D printing for its high-quality, sustainable material and superior manufacturing possibilities. With Sculpteo's online 3D printing service, they could streamline their production process and reduce time to market, material, and energy for creating their successful products.

The Challenges:

1. Customize the vibrating bowl's corkscrew funnel part with quick, easy, and reliable manufacturing.
2. Sustainable process and material with high mechanical performance.



Bernay Automation has been manufacturing vibrating bowls and distribution solutions since 1982. They have developed tremendous expertise and offer services in flexible and agile 2D and 3D robotic bin picking solutions.

Bernay Automation manages the distribution of products to arrive in the correct position and at the desired rate on an assembly or packaging line. Vibrating bowl, plate elevator, conveyor, centrifugal feeder, vibrating platform, or robotic cell integrating vision system, with many solutions available: they can meet their client's industrial needs.

[Bernay Automation](#)

"We discussed with the Sculpteo team on the PA 11 material in a clear and precise manner. The team has met our expectations. Our goal is to provide our customers with tools with low environmental impact and good mechanical properties, so that is why we have been using PA11."

- Pascal Bigot, Designer, Bernay Automation

On-demand Manufacturing

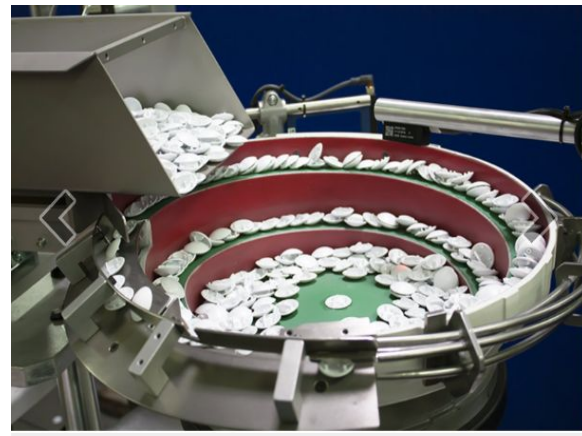
Thanks to 3D printing, Bernay Automation can rapidly create a prototype to test, iterate and manufacture leveling the cost of producing customized parts like the corkscrew funnel. The company can take advantage of creating multiple customizable corkscrew funnels and printing them within the same machine.

Traditionally, Bernay Automation's corkscrew funnel tool was very labor-intensive to build by hand. With additive manufacturing, Bernay Automation reduced the amount of labor needed and time from weeks to days. Since molds and welding are no longer required to produce the corkscrew funnel, they can meet all of their client's customization needs while significantly simplifying their production process and maintaining their competitive edge.

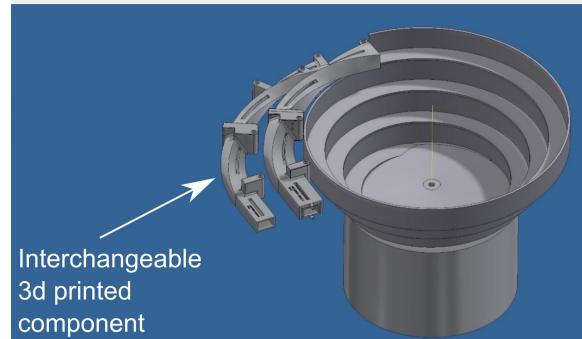
Powder Bed Industrial 3D Printing

Bernay Automation chose the Multi Jet Fusion (MJF) technology and PA 11 material that is 100% plant-based to produce their corkscrew funnel, which significantly reduced the weight of this part since it was previously hand-made with metal. Creating a sustainable production process and products is one of Bernay Automation's core values. With additive manufacturing, it is possible to develop efficient production processes that reduce material necessary for high functionality, also reducing the energy required to create parts. Bernay Automation's corkscrew funnel maintained the same high mechanical performance as their previously produced metal part with PA11. The main benefits of powder-based technologies over traditional manufacturing are surface quality, lightweight, and accuracy, while still maintaining high mechanical properties and agility.

A further advantage of 3D printing is that parts are easy to reproduce. Once developed, the corkscrew funnel can be produced again at any time. 3D printing enables Bernay Automation to scale its devices quickly in terms of produced units and the production of other types of funnels.



Corkscrew Funnel attached to vibrating bowl



Interchangeable
3d printed
component

Corkscrew Funnel with interchangeable 3D printed parts

Material Spotlight: PA11

PA11 is 100% bio-based polymer made from castor oil with exceptional high toughness. As a powder based technology, the surface finish is uniform and smooth to the touch without visible layers. Available in unfinished form in both white (SLS technology) and black (Multi Jet Fusion technology), PA11 is a versatile polymer with excellent mechanical properties.

Both SLS and Multi Jet Fusion PA11 technologies offer a variety of finishing options from dyeing to chemical smoothing, giving the quality and aesthetics of injection molded plastics.

[Learn more about PA11.](#)
