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## Realism in Detail

### Schiner 3D Repro Brings Ultra-Realistic, First-of-Their-Kind 3D Printed Snow Globes to Life with the Stratasys® J750™

When 3D modeling, scanning and printing specialist Schiner 3D Repro added customized 3D printed snow globes to its product portfolio, the company knew ultra-realism was key to securing customer interest. To cost-effectively produce one-off customized models for customers, the company turned to 3D printing, but the key to success was finding a technology that could offer high-resolution printing, true-to-life colors and a wide range of materials to achieve maximum aesthetic realism.

Of particular importance to private and corporate customers was the ability to produce detailed complex geometries and sharp edges, as well as full color and texture mapping to create the figures within the snow globes — which only measure a few centimeters high and require super-fine detail to convey.

To meet these requirements, Schiner 3D Repro turned to the Stratasys J750 — the world's only full-color, multi-material 3D printer. Since deploying the J750, the company has met its quality objectives and accelerated production speeds, making savings of up to 85% in time possible compared to other methods of model production.



“

The precise edges, vivid color definition and smooth surface finish achievable with the J750 are therefore vital to ensuring the high-end standard our customers are looking for.”

Jörn-Henrik Stein

**CEO, Schiner 3D Repro**



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## Realism That Comes to Life

Invented in 1900 by Austrian Erwin Perzy, the snow globe is now known across the world as a beloved souvenir and gift for adults and children alike.

Bought by customers from all over the world, Schiner 3D Repro snow globes are unique products that marry old traditional craftsmanship with disruptive new technologies. Specializing in 3D modeling, construction, scanning and printing, the company turned to additive manufacturing to produce the figures inside the traditionally crafted spheres — creating first-of-their-kind 3D printed snow globes.

With long-standing expertise in 3D printing technologies, Schiner 3D Repro decided to invest in a Stratasys® J750™ 3D printer in 2015, when the solution was first introduced to the market. Convinced by the unique full-color, multi-material offering of the PolyJet™-based 3D printer, and seeing the potential for new business opportunities, CEO Jörn-Henrik Stein and his team decided to integrate the technology within the business.

When, over a year ago, Schiner 3D Repro conceived the first-of-its-kind idea to 3D print snow globe figures for corporate and private customers, the company knew it needed a technology to ensure its customers' exacting quality demands were upheld. With requirements to produce very small, detailed and complex models in full color at high speeds, the Stratasys J750 3D printer was the optimum fit to produce the snow globe figures, whether it be for customized one-off jobs or larger orders.

### Benefits/Value:

- Significant reduction in production time of up to 85% possible compared to other manufacturing methods — both for one-off customized orders and larger orders
- Ultra-realistic 3D printing produces models with layer thickness as fine as 0.014 mm
- Vivid colors and the stability of PolyJet materials proven for longevity

“

The J750 3D printer is an asset to our business operation as it delivers ultra-quality 3D printing at speeds we could not achieve otherwise.”

Jörn-Henrik Stein

**CEO, Schiner 3D Repro**

Snow globe figures are encased in a glass sphere — magnifying the small figures and showing every detail. The J750 allows precise edges, vivid color definition and smooth surface finish.





Custom orders for corporate accounts mean Schiner 3D Repro receives orders between 1 to 3,000. The Stratasys® J750™ allows the company to be flexible and ensure fast turnaround times, regardless of the job size.

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### Detail at High Speeds

Schiner 3D Repro manufactures snow globes for various industries and customers — from new product launches for well-known industry brands, to merchandising and events. With orders that range from between 1 to 3,000, the company's expert staff need to be flexible enough to undertake custom orders and ensure fast turnaround times, regardless of the job size.

“We work on a lot of different jobs simultaneously — specifically since the snow globes only make up one aspect of our business offering,” says Stein. “The J750 3D printer is an important asset to our business operation as it delivers ultra-quality 3D printing at speeds we could not achieve otherwise.

200 snowglobe figurines that can all be different, in one go, and in under 24 hours. With other manufacturing methods, this can take much longer. We estimate that the time savings using the J750 can equate to almost 85%.”

Adding to the time savings is the company's use of the intuitive GrabCAD Print software, enabling a much more streamlined design-to-part workflow. Simplifying the path from CAD or scan data to additive manufacturing, GrabCAD Print allows Schiner 3D Repro to get professional-quality 3D printed figures for snow globes much faster and simpler, independent of order size.

Due to its large build tray, we can produce around

## Material & Color Possibilities

Snow globes are comprised of a water solution enclosed in a glass ball that also houses a figure glued to the base of the structure. For the figure's manufacture, several elements need to be addressed to ensure a high-end product that looks and feels well-made.

"The challenge for snow globe figures is not only that they are very small, but they are also encased in a glass sphere — magnifying the small figures and showing every detail as if under a microscope," says Stein. "The precise edges, vivid color definition and smooth surface finish achievable with the J750 are therefore vital to ensuring the high-end standard our customers are looking for."

A large proportion of the snow globe figures 3D printed by Schiner 3D Repro are of people and products which need to look realistic and mirror the real-sized person or object. Having access to the J750's full color spectrum of up to 500,000 colors and diverse range of materials allows advanced texture mapping — including patterns such as wood, fur and fabric — and color gradients, so the figures have lifelike features, even in small sizes.

"As the figures are encased in a water solution, we had to run several tests to ensure the color and material of the 3D printed figures would not wear or fade after a short period," continues Stein. "We have been using the J750 for over four years now, and the colors and materials look as good as the day they were produced."



Having access to the J750's full-color spectrum of up to 500,000 colors and six different materials allows texture mapping and color gradients, so figures offer lifelike features, even in small sizes.

### Stratasys Headquarters

7665 Commerce Way,  
Eden Prairie, MN 55344  
+1 952 937-3000 (Intl)  
+1 952 937-0070 (Fax)

[stratasys.com](http://stratasys.com)  
ISO 9001:2015 Certified

1 Holtzman St., Science Park,  
PO Box 2496  
Rehovot 76124, Israel  
+972 74 745 4000  
+972 74 745 5000 (Fax)

