



# Developing a New Growth Engine

Uju Industry is a Korean company that specializes in the design and production of architectural models, like display homes, for leading construction companies. It used to rely upon traditional manual technicians, but this posed great challenges when Uju Industry tried to break into new markets, such as figurines and diorama miniatures.

“

Using VeroClear™, we can express even the gentlest curves and bends without leaving any fine grains.”

Yu Ju-yeong  
CEO, Uju Industry





## Challenges Led to Opportunities

Years ago, Uju Industry received a peculiar order — build an apartment house model for fish in the shape of a dome with holes all over it. However, a model with this complexity and irregularity was impossible to build manually. As a result, Yu Ju-yeong, CEO of Uju Industry, started to consider new technologies for this task — eventually deciding on 3D printing.

Uju Industry had experimented with 3D printing in the early 2010s, but the Digital Light Projector (DLP) systems that they first used came with many post-processing challenges. The surfaces of models made with DLP printers had many layers, and the technicians needed to spend a lot of time polishing them with putty and sandpaper. For models with large surfaces, this was troublesome but doable. But for smaller models with complex and irregular shapes, post-processing was unimaginable.

Because many of the models that Uju Industry

produced had fine and elaborate details, Yu Ju-yeong felt the need to find a new 3D printing technology that could keep the lamination thickness below 0.3 mm, allowing technicians to simply spray paint the surface and eliminate laborious post-processing.

After considering a variety of alternatives, Yu Ju-yeong decided on the Stratasys® Objet30 Pro™. This high-end printer — compact enough to fit on top of a desk — can create realistic models with specialized properties. It prints as many as eight different materials including clear (VeroClear), high-temperature (RGD525™) and simulated polypropylene (RGD450™ and RGD430™) and yields smooth surfaces with impeccable accuracy on even the smallest moving parts. With a roomy size (294 x 192 x 148.6 mm), it can print the large models that Uju Industry often needs to create and provides a layer size as low as 16 microns. It is perfect for Uju Industry's challenges.

# Nothing Is Too Difficult

The moment Uju Industry introduced the Objet30 Pro, the engineers started to experiment with the many materials that the system could print — such as VeroBlue™ and VeroGray™ — and finally decided on the use of VeroClear. With its lamination thickness of 16 microns, VeroClear was the perfect material for Uju Industry's architectural models, figurines and miniatures. “Using VeroClear, we can express even the gentlest curves and bends without leaving any fine grains,” explained Yu Ju-yeong.

## Innovative Design Method Inspired by 3D Printing

A key to Uju Industry's success is its innovative design method. With the Objet30 Pro, Uju Industry designs the models in a way that minimizes post-processing. The engineers divide the design into several parts and each part is then printed out separately. Afterwards, the parts are assembled together. Using this method, no support material is needed, and the surface mode can be set to glossy at the highest level. Even a large-volume, high-quality model can be printed with fine detailing.

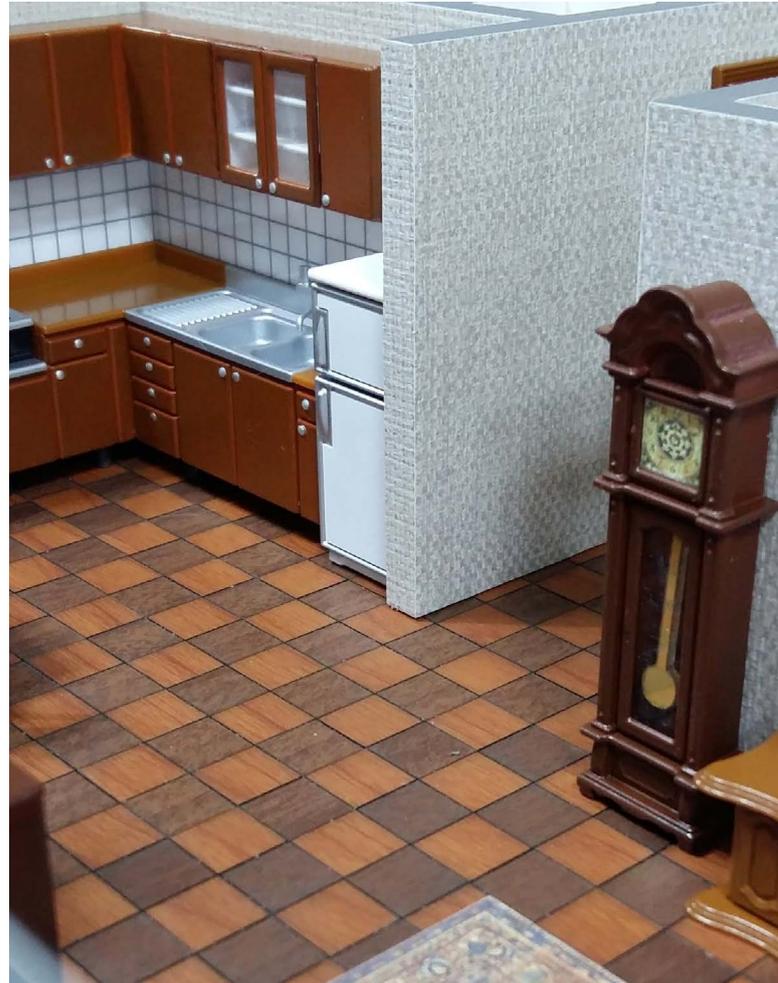


# Expand Business Opportunities

These days, design figurines from renowned artists are being sold for millions of Korean won — and the growing fan culture is expanding into a craze for diorama miniatures. Thanks to its Objet30 Pro, Uju industry has successfully entered this new market in spite of its limited human resources.

This expansion was unimaginable in the earlier days when Uju Industry relied on human hands and acrylic materials and making one miniature took more than ten days. “Now, all you need to do is press the button,” smiled Yu Ju-yeong. “This greatly appeals to the model makers.” Furthermore, thanks to 3D printing, repetitive work at Uju Industry has been drastically decreased. Once a model has been completed, its size can be easily adjusted. This means that Uju Industry can cater to customers’ changing needs with much more ease.

Besides seeing significant cost savings with the new production mode, the level of operational efficiency has greatly improved. The fire extinguisher model, one of Uju Industry’s signature jobs, used to take as many as seven days to complete. Now with the Objet30 Pro humming in their office, the model is ready for review after half a day.



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