

SEONG YUN TECH

Case Study

Rapid prototyping capabilities became a major competitive advantage.

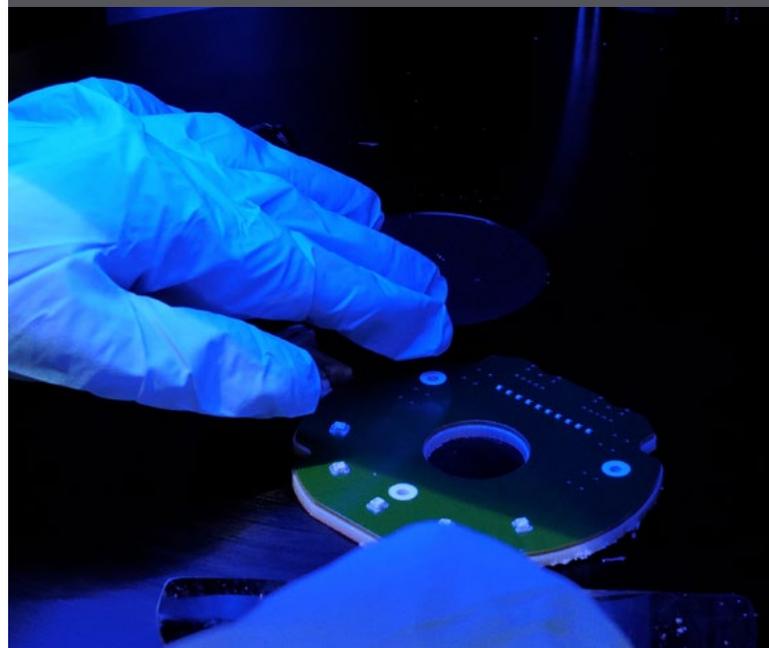
Established in 2010, SEONG YUN TECH is a manufacturer and distributor specializing in semi-permanent makeup machines and needles. The company was established with the aim of resolving dissatisfaction within the semi-permanent makeup treatment field. At the time of the company's establishment, semi-permanent makeup machines from Germany, Taiwan, and China were prevalent in the South Korean cosmetic market, and users often had complaints about quality and after-sales service. SEONG YUN TECH took this opportunity to launch its business. Our strategy was to fill the gaps in the market by providing high-quality products at a reasonable price and with reliable and quick after-sales service. We design and manufacture products directly at our headquarters, which has led us to be favorably reviewed in the market as a supplier of customized products that meet our customers' needs. Moreover, we expanded the business to an original equipment manufacturer and an original design manufacturer for large quantities. The exclusive after-sales service team handles follow-up management after customers receive the products, leading to customer satisfaction.

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The time and cost requirements for small-quantity batch production with machining and molding were very burdensome. In order to solve this problem, we decided to introduce Stratasys J55™ Prime.

Dongmin Lee

CEO, SEONG YUN TECH



SEONG YUN TECH strengthens its leadership in manufacturing personalized semi-permanent makeup machines by using 3D printers





Prototype for the verification of FIXER design and functionality printed with Stratasys J55 Prime

Timing of innovation in planning products and the prototyping process

By reading the needs of the market, our strategy enabled us to advance successfully into international markets. As the business continued to grow, we sensed that a new turning point was necessary to move forward towards more ambitious goals. As the number of customers increased, so did the product line-up. As a result, issues that did not seem to be a problem when the quantity was low, emerged as urgent targets for improvement. In particular, it was necessary to improve the prototyping process.

From its foundation in 2010 to 2015, SEONG YUN TECH requested prototypes from an external mock-up company like other companies did in the same industry. It usually took a month to prototype, and 2-3 months to receive the final prototype after modifications. It was a complicated and time-consuming process to show the first prototype to a client and to incorporate modifications. This issue could not be solved while continuing to use machining and molding. Instead, we found a suitable new alternative to shorten the prototyping process.

Since a semi-permanent makeup machine is a customized small-quantity batch product, it is very important to properly reflect the customer's needs. The General Manager of SEONG YUN TECH R&D Center, SungHoon Choe, said, "In the past, there were delays in production

because multiple changes in design happened following customer's requests at the early stages of production. Even with these modifications, customers frequently complained about the grip after the product was shipped." Since a semi-permanent makeup machine is a device that customers hold in their hands to perform treatment, accommodating the customers' demands is important above all else. However, it was difficult to respond to customers' requests promptly with the existing prototyping process.

In addition to the appearance of the product, some aspects of the manufacturing products were also improved. General Manager Choe said, "In order to shorten the deadline, there were many cases where making case moldings, machining components, and developing the PCB boards were carried out simultaneously. Assembly issues that were not apparent in the drawings were sometimes found during the actual manufacturing process. We sometimes had to re-produce part of the packaging materials due to packaging-related issues during the actual packaging process since we communicated with outsourcing companies only with 2D drawings of the packaging material."

The contradiction between traditional methods and additive manufacturing

With the knowledge that innovative manufacturing methods should be developed and implemented according to the business size, SEONG YUN TECH reviewed various traditional methods such as wood machines and small NC machines. However, an internal evaluation showed that prototyping with traditional methods could not solve the issues of time, cost, and inefficiency. Therefore, we changed our concept and found the answer in additive manufacturing.

After reviewing the diverse technologies, products, and materials available for 3D printers, we chose the Objet30 Pro printer from Stratasys because its high precision makes it suitable for prototyping semi-permanent makeup machines, and its ease of use enabled us to handle the device proficiently right away.

After introducing the 3D printer, SEONG YUN TECH immediately saw the benefits. When we

had a new idea for a product, we would design and print it right away. The efficiency and speed of decision-making increased by allowing us to confirm the feasibility of products directly, without allowing ideas to slip away.

There has been a major change in our sales method since we started using the 3D printer. Unlike the days when we met customers with only 2D drawings, we have been able to meet customers with actual physical prototypes that customers can see and touch. The efficiency of the manufacturing process reached an unprecedented level. General Manager Choe also said, "We could save time and reduce costs by minimizing trial and error throughout the product development and manufacturing process, ranging from planning and designing to producing and packaging."



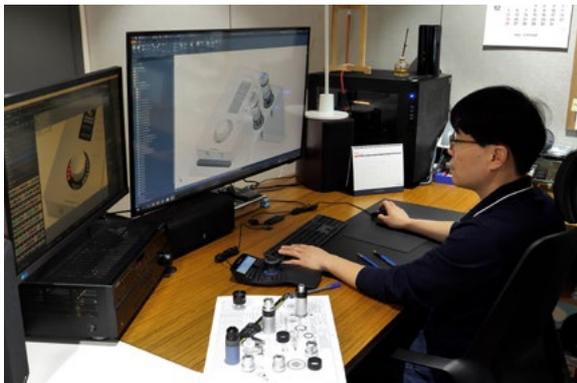
Components printed with PolyJet™ technology demonstrate outstanding durability and precision

Innovation based on additive manufacturing

SEONG YUN TECH was highly satisfied with the 3D printer, which led to procedural innovations in all aspects of sales, planning, and production, enabling the introduction of new equipment. In 2020, we decided to introduce a 3D printer with full-color and multi-material capabilities and chose the J55 Prime from Stratasys for additive manufacturing-based expansion.

By making full use of the J55 Prime, SEONG YUN TECH has once again increased its sales and manufacturing capabilities. The prototypes printed with a full-color 3D printer received a very favorable response from customers. Unlike the monochromatic models in the past, customers could encounter prototypes that delivered the same color and texture as the actual products, and they were very satisfied. The full-color 3D printer played a prominent role in prototyping after sales were successful, especially in the ergonomically optimal implementation of grip, which is the most important aspect of user

experience, according to the customer's needs in the early stage of prototype development. In addition, integration with the rendering software KeyShot was recognized as a function that raises the value of full-color 3D printer to the next level. General Manager Choe said, "The previous rendering software for the existing products was a separate tool with a 3D printer. However, the J55 Prime prints out exactly what is shown on the monitor with the support of 3MF. This is a very surprising advantage." He also said, "What I felt when using the J55 Prime for the first time was similar to the sensation I experienced when I used a color 2D printer for the first time after having previously used black-and-white printers. The J55 Prime was definitely different in terms of its rapid printing speed, post-process, and operational convenience."





VeroUltra™ used in the Stratasys J55 Prime implements extreme color realism.

After the introduction of the 3D printer, the cost of prototyping significantly decreased from KRW 10 million to KRW 100,000. Even when design changes are necessary, nothing else is needed except the cost of materials.

The length of the manufacturing period was also reduced from a month to two or three days. As a result, the customer could receive the product faster and give feedback. The manufacturing schedule was drastically shortened as additional requests from the customer were reflected in the design, and then the modified model was produced and delivered to the customer in two to three days.

Dongmin Lee, the CEO of SEONG YUN TECH, said, “Using Stratasys’ 3D printers delivered tremendous synergy in product development, and these printers have been essential for the company’s development. We experienced that expanding into additive manufacturing enhances the agility of product planning and manufacturing. We are considering applying 3D printers for some small-quantity batch products in the future and will definitely use 3D printers from Stratasys.”

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