

# Partnering with Perkūnas Studio: Industrial SLA 3D Printing Sets a Benchmark for Large-Scale Model Creation

## Case Study



3D printed artistic model display

In the world of 3D-printed models and artistic exhibition pieces, precision defines quality, and efficiency determines competitiveness. Perkūnas Studio, based in Kaohsiung, Taiwan, has spent more than a decade building deep expertise in product prototyping, character model development, and large-scale exhibition installations. Its portfolio spans artistic sculptures, prototype development, commercial displays, and co-branded merchandise. Today, it is recognized as one of Taiwan's leading studios in the model-making industry.

When a studio committed to uncompromising craftsmanship partners with UnionTech's Industrial SLA 3D printing technology, the result is a comprehensive upgrade in quality, efficiency, and cost structure.



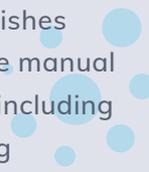
## Challenges: FDM limitations constraining creative execution

Before partnering with UnionTech, Perkūnas Studio relied primarily on FDM printing equipment for large-scale model production. While FDM met basic forming requirements, its technical limitations became increasingly evident as the studio pursued higher precision and superior surface quality:

Pronounced layer lines significantly reduced detail fidelity



Rough surface finishes required extensive manual post-processing, including filling and sanding



Increased labor input drove up production costs and extended delivery timelines



These bottlenecks not only affected the final model quality but also pushed up overall project costs. When undertaking more complex, high-end projects, the pressure became substantial. To address capacity constraints, the studio once outsourced large-scale model production to suppliers in mainland China. However, cross-regional production of oversized exhibition pieces introduced unavoidable risks.

“Quality control for large models is extremely challenging,” Mr. Rui-Liang Hong, General Manager of Perkūnas Studio, explained. “It is pretty hard to guarantee surface finishing, assembly precision, and paint consistency. During transportation, deformation and compression damage are common risks, and oversized shipping costs are both high and unpredictable. These uncertainties undermine production stability.”

It became clear that outsourcing was not a sustainable solution. Faced with the combined demands of high precision, improved efficiency, delivery control, and stable cost structures, upgrading the production process was inevitable.



## Why UnionTech: meeting the three core requirements of precision, efficiency, and cost control

After evaluating multiple equipment providers, Perkūnas Studio selected UnionTech’s Industrial SLA 3D printing systems. The decision was straightforward: UnionTech uniquely addressed the studio’s most critical requirements for large-scale exhibition model production – stability, precision, efficiency, and cost controllability, in a single integrated solution.

As a leading brand in Industrial SLA 3D printing, UnionTech brings extensive experience in professional model production. Its system stability, laser spot control precision, and overall operational reliability make it particularly well-suited for large exhibition pieces where precision detail is paramount.



Model components produced by an industrial SLA 3D printer



## Significant improvement in large-scale model development efficiency

Large exhibition pieces require more than simply being printable. They require sustained, stable, and high-fidelity production.

UnionTech equipment integrates industrial-grade AI intelligent algorithms and multi-sensor systems to ensure precise energy control, accurate data reproduction, and stable scanning path execution throughout long-duration prints. This significantly enhances the forming quality of large models. As a result, the entire development cycle from design validation, prototyping to final presentation has been significantly shortened. Project timelines for large installations are now markedly accelerated.

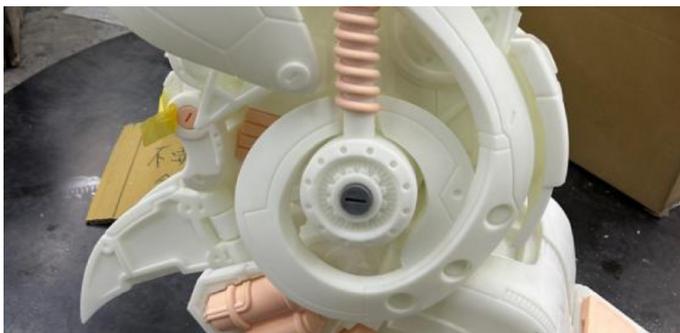
“For large models, print success rate and equipment stability are critical,” Mr. Hong commented. “After comprehensive evaluation, we concluded that UnionTech was the optimal solution. The equipment’s performance since installation has fully validated our decision. Every print is reliable, and we now deliver our work to clients with greater confidence and on schedule.”



## Effective reduction in production costs

Traditional large exhibition model production often involves mold-making, manual sculpting, assembly, and extensive surface correction – processes that are time-consuming and material-intensive. UnionTech’s SLA technology, with its high material utilization rate and integrated workflow advantages, reduces large-model printing costs by approximately 50%–70%.

At the same time, the higher forming efficiency increases overall production speed by 1–2 times. This allows Perkūnas Studio to respond more rapidly to client demands and maintain a stronger time-to-market advantage, especially for time-sensitive exhibitions.



Detail and finished model display printed by an industrial SLA 3D printer



## Smart control and simplified operation

UnionTech systems feature highly integrated software programming, equipment operation, and cleaning workflows. The user-friendly design significantly reduces manual intervention, allowing the team to focus more on creative work rather than equipment management.



## Ideal for small-batch and customized production

Perkūnas Studio specializes in customized models and exhibition pieces. In small-batch production scenarios, SLA technology achieves an ideal balance between efficiency, consistency, and surface quality, making it the optimal solution for its business model.

Because UnionTech's technological strengths precisely aligned with Perkūnas Studio's operational needs, this collaboration represents more than an equipment upgrade – it marks a comprehensive enhancement of professional standards and delivery capability.



UnionTech Lite800 industrial 3D printer



## Lifecycle support: converting equipment capability into real productivity

UnionTech's role has extended far beyond equipment delivery. The company provided sustained, in-depth technical support to ensure the successful integration of SLA technology into Perkūnas Studio's production environment.

From installation and parameter calibration, UnionTech's technical team traveled to Taiwan and remained on-site for nearly a week to assist with system commissioning, and ensure optimal operating conditions before official production launch. Following commissioning, UnionTech continued to monitor user experience and provide operational guidance, parameter optimization. This enabled the studio's team to rapidly build up the team to quickly build internal expertise and maximize system performance.

This production-oriented support model – evolving from equipment supplier to long-term operational partner – ensured implementation confidence and laid a solid foundation for deeper future collaboration.



## Results: simultaneous optimization of quality, efficiency, and cost

With the full deployment of UnionTech's SLA systems, Perkūnas Studio's production model underwent a significant transformation. Large-scale model projects are now handled entirely in-house using UnionTech equipment, delivering measurable improvements across multiple dimensions:

Finer surface finishes and significantly enhanced detail fidelity



Substantial reduction in post-processing and painting time



Higher overall production efficiency and more stable delivery schedules



Greater cost control, enabling pursuit of higher-standard projects



Finished large-scale 3D-printed art model display

These improvements have enabled Perkūnas Studio to break through previous development bottlenecks and further strengthen its leading position in Taiwan's model-making industry. Clients increasingly recognize the elevated craftsmanship and professionalism reflected in the finished products, leading to more high-standard and high-value project opportunities.



Detail display of a 3D-printed artistic model



## Technology empowering creativity without craft constraints

Perkūnas Studio's transformation – from being constrained by manufacturing limitations to achieving systematic operational upgrading – reflects its long-standing commitment to excellence, supported by UnionTech's comprehensive support in efficiency, cost optimization, and system stability.

Looking ahead, UnionTech will continue to advance innovation in 3D printing technology and expand its application-driven services. By delivering increasingly refined equipment solutions and comprehensive professional support, the company remains committed to helping cultural, creative, and manufacturing enterprises transcend traditional process limitations. Through this empowerment, ideas can be realized with greater efficiency and precision, unlocking the full potential of 3D printing across an ever-expanding range of industries.



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