UnionTech
Create Your Imagination

UnionTech and 3D Printing Help C-TECH to Produce Car Modification Parts

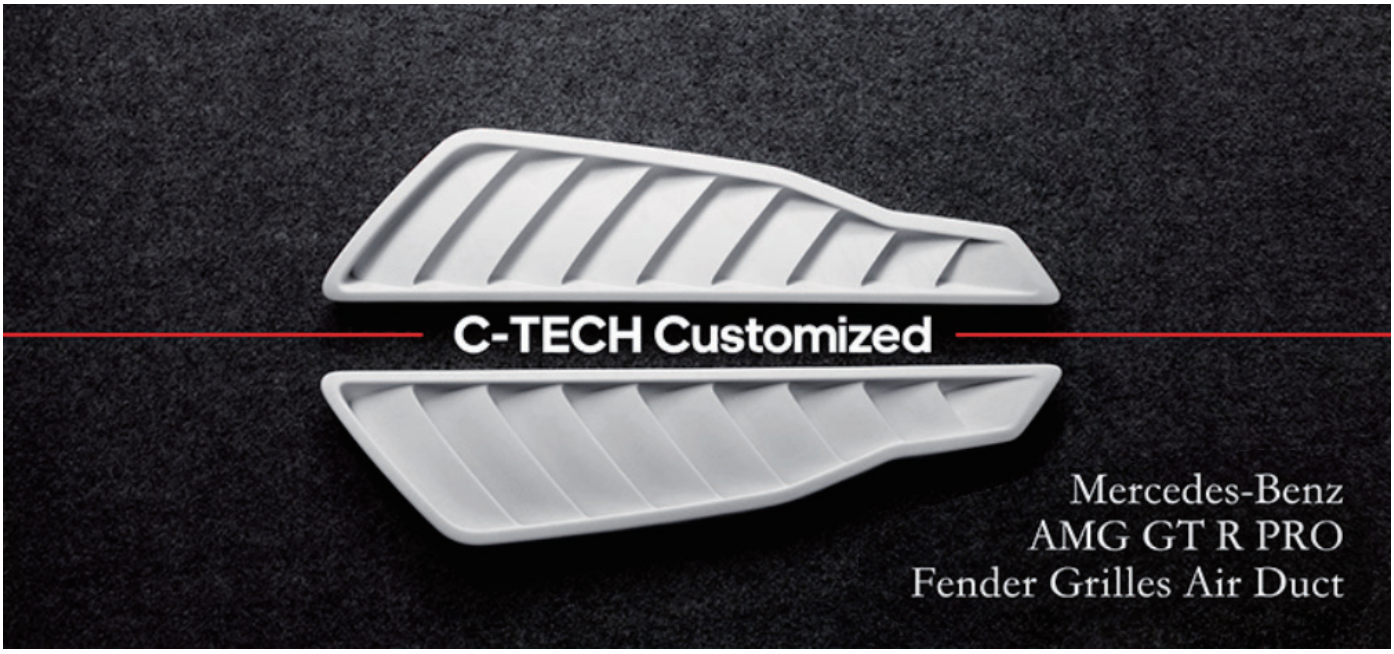
Case Study

Customers
· C-TECH

Challenges
· Small batches of complex parts
· Ultra-high precision requirements
· Large-size parts
· Highly transparent parts
· Complex model assembly
· Complete production in a few days

Solutions
· Lite 600 and RSPro 2100 SLA 3D printers
· High-performance photopolymer resin
· Highly transparent resin material
· Polydevs software for data processing
· Innovative post-processing method

Benefits
· Growth in production efficiency
· Reduced manufacturing costs
· Improvements in stability and reliability
· High strength and light weight
· High precision and smooth finish



C-TECH, a car customization company headquartered in Canada, provides professional car customization design and development services. Using UnionTech's 3D printing machine and technology, C-TECH can quickly manufacture small batches of complex customized car parts, thereby greatly improving production efficiency, reducing costs, and providing a more satisfactory car modification experience.

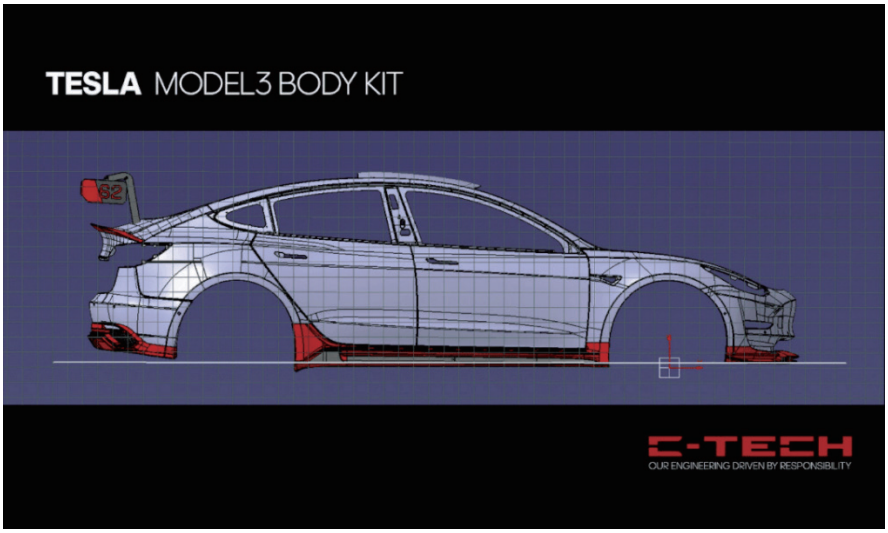
Usually the number of parts required for a car modification is small, so the traditional mold production method is not suitable. Small batch customization has brought many problems to car owners and refitting factories, such as high cost, long production time, and immature technology. 3D printing technology not only solves these problems, but also improves the stability and reliability of the product.

The arc of the eight blades on the guide style grid is different from the arc of the front fender, and the size and angle of each blade are different. Each blade is individually designed and manufactured by UnionTech SLA 3D printing technology, and has been spray-painted and colored.

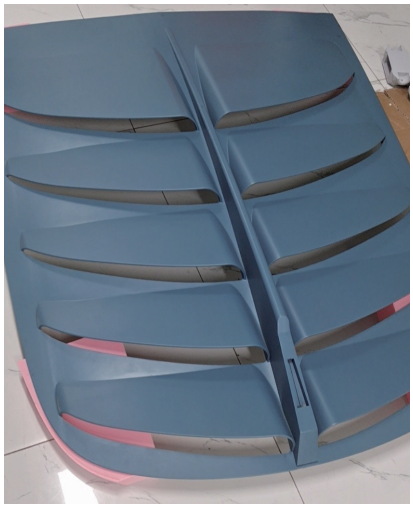
1.Rapid production

The traditional car modification process is to design parts first, then develop and produce molds, then manufacture, and finally test the parts to determine whether they can meet the requirements. If any part of the model fails to meet the requirements, the design or mold needs to be revised. This process is time-consuming and costly.

Applying 3D printing technology to the car modification process not only saves the process of mold development, but also reduces time and capital investment. The traditional car modification cycle is usually more than 45 days, and 3D printing can complete the process in 1-7 days, which can greatly improve efficiency.



In F1, the shark fin at the rear of the car can comb the airflow above the hood and improve the aerodynamic efficiency of the rear wing. Combined with the prototype, C-TECH designed the air spoiler shark fin scheme in the shape of the sword. And through the optimized design of the structure, the stability and reliability of the products in use are ensured while retaining the opening function of the tail box.



It only took 5 days to complete the manufacturing and assembly.

2.Reduced costs

Now with 3D printing, we not only do not need to produce molds, but also do not need to assemble. We only need to scan and design, and then we can use 3D printing technology to make a complete customized car part. This largely saves us assembly costs, labor costs, time costs and material costs.

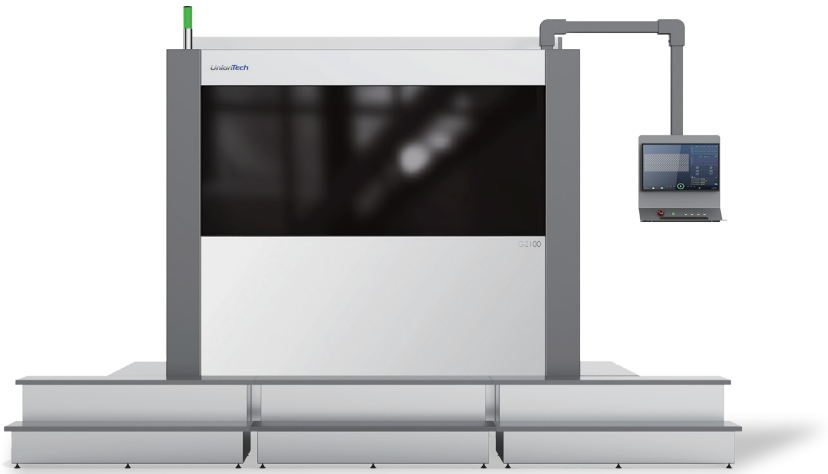
—— Carson, Senior Engineer of Automotive Customization

3.High precision

3D printing has ultra-high resolution, accuracy, and surface finish to meet the needs of the automotive modification market. Using UnionTech technology, C-TECH modified an IMAX8.

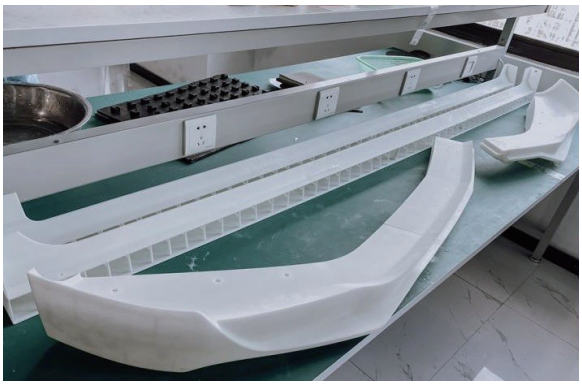
Data obtained through detailed scanning

Lite600



RSPro 2100

RSPro 2100 can print up to 2100mm x 700mm x 800mm. This innovative three laser scanning additive manufacturing system is perfectly suited for the industrial production of large, high quality finished parts as well as mass part production. Beside the large build volume, it also features in high printing accuracy, carbon fiber reinforced recoater, closed loop control strategy, automatic control of surface level, and more.



The front and rear enclosures are designed with fixed holes, 3D printing with high precision, and screw holes are tightly fitted and perfectly matched.

The two side skirts and the full surround have been printed and cured.

The front and rear enclosures are installed successfully.

4.Transparent parts

UnionTech's high-transparency 3D printing materials can meet the high-transparency requirements of car lights. After post-treatment and polishing, it can be comparable to PMMA material. It is suitable for appearance verification and assembly verification. In addition, it is also suitable for spraying and electroplating processes, and can be used for internal components of automobile headlights.

5.Investment casting

UnionTech is one of the first companies to apply SLA 3D printing technology to investment casting. The combination of 3D printing technology and traditional investment casting has been rapidly developed and applied in recent years. For example, turbochargers often used in car modification can also be manufactured through 3D printing technology.

About C-TECH

C-TECH provides professional engineered automotive custom design and development services, and it is a loyal fan of UnionTech. Since 2016, C-TECH has introduced OEM supporting front-end professional engineering technology and industry standard vehicle regulations development verification methods and procedures. Using multiple technical methods including digital design, engineering development, and intelligent production, while providing high-quality engineering technical services for the pre-installation market, it also develops and produces professional-grade industrial products for the after-sales market, adding unlimited possibilities to automobiles. With professional strength, C-TECH promotes the timely synchronization of the after-sales market and forward-looking technology to ensure product compliance and homogeneity with the original parts.

About UnionTech：UnionTech, established in 2000 and headquartered in Shanghai, China, is a leading manufacturer and solution supplier of AM (Addictive Manufacturing) in the world. With a geographical exposure in more than 33 countries, UnionTech has developed specialized international product lines and high-end cost-effective technical solutions for a wide variety of industries. In 2017, UnionTech founded a fully-owned subsidiary in Darmstadt, Germany, aiming to better provide customized industry-specific solutions to the customers in Europe. The goal of UnionTech is to meet the needs of customers and pave the way to a global success by developing innovative technologies and efficient models.

UnionTech

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