

LARGE-SCALE ADDITIVE AND SUBTRACTIVE MANUFACTURING SOLUTIONS

EXPLORING THE WAY OF MANUFACTURING IN THE FUTURE

ABOUT US



Shanghai Kuying Technology Co.,Ltd. is a high-tech company specializing in the development of large-scale 3D printing solutions.

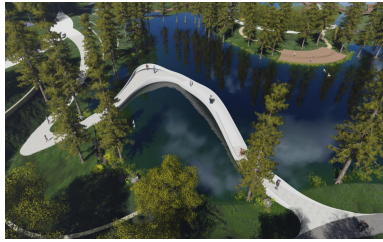
We adhere to the concept of "Exploring the way of manufacturing in the future",and based on the innovation mode of "Additive and subtractive manufacturing + New materials research and development + Intelligent control",specialize in the development of large-scale 3D printing intelligent equipment,3D printing extruders,control systems, materials and slicing software,help manufacturing enterprises to reduce costs and improve efficiency.

Our large-scale additive and subtractive manufacturing solutions are widely used in architectural landscape,aerospace,shipbuilding,rail transportation,energy,automobile,medical and other fields.



COMPANY HISTORY

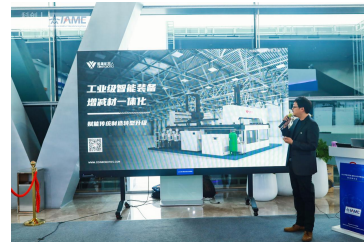
COMPANY HISTORY



'Chengdu Yimahe Park 3D Printing Bridge' Completed



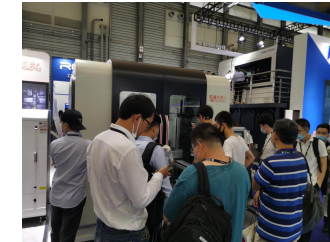
BGAM Won the Innovation Product Award



5-AXIS MILLING AND ADDITIVE MANUFACTURING INTERGRATED MACHINE (BGAM) was Officially Released



Large-scale Additive and Subtractive Manufacturing Solutions for Composite Mold was Officially Launched



SMALL GANTRY THREE-AXIS 3D PRINTER (SGAM) Completed Its First Public Appearance



Won the Third Prize of Global Additive Manufacturing Innovation Competition

2021.02

2020.09

2020.09

2020.09

2019.07

2019.12

2018.05

2018.08

2019.01

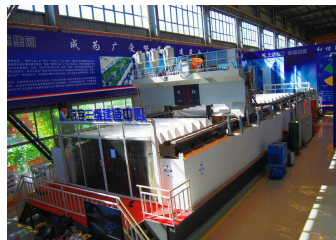
2019.06

2019.07

2019.12



Kuying Established



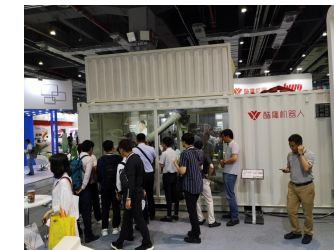
25-meter-long Giant Gantry 3D Printer delivery completed



Shanghai Taopu 3D Printing Bridge Completed, which is Reported by National Documentary "MADE IN SHANGHAI"



The Second 3D Printing 'Bridge Fujian Quanzhou 3D Printing Bridge' Completed



BIG ROBOT ADDITIVE MANUFACTURING SYSTEM (BRAM) was Officially Released



Kuying was Awarded "HIGH TECH ENTERPRISE"

INTELLECTUAL PROPERTY RIGHTS

As of June 2021,
kuying has owned
intellectual property rights

65

14

Invention
Patents

11

Utility Model
Patents

3

Appearance
Design Patents

4

Software
Copyrights

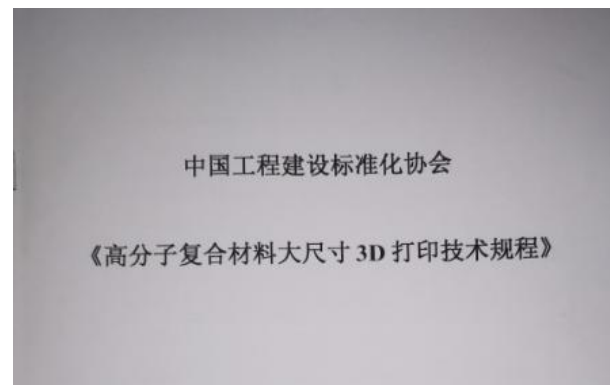
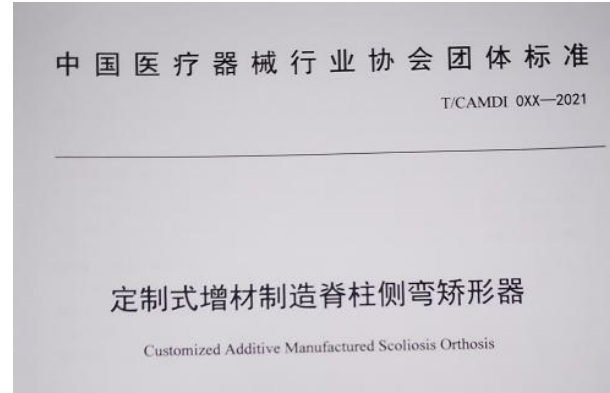
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Trademarks



Kuying has always been committed to promoting the development of a number of industry standards.

- ◇ Led the group standard "customized additive manufacturing scoliosis orthosis" of China Association for Medical Device Industry.
- ◇ Participated in the editing of China additive manufacturing industry yearbook (2020) of China additive manufacturing alliance.
- ◇ Participated in the compilation of the standard "technical specification for large-scale 3D printing of polymer composites" of China Engineering Construction Standardization Association.



LARGE-SCALE MOLD MANUFACTURING

EQUIPMENT

BGAM

- ◇ Large working space, 10m x 4m x 2.5m
- ◇ Extra-high speed gantry, 50m/min
- ◇ High-flow extruder, 50kg/h
- ◇ 3D printing and CNC in the same machine
- ◇ Large mold, architectural landscape, creative furniture



MATERIALS

HIGH TEMPERATURE RESISTANCE SUPPORT AUTOCLAVE FORMING



ASA-GF

*for mold production
not higher than 80 °C*



ABS-CF

*for mold production
not higher than 80 °C*



PC-CF

*for mold production
not higher than 120 °C*

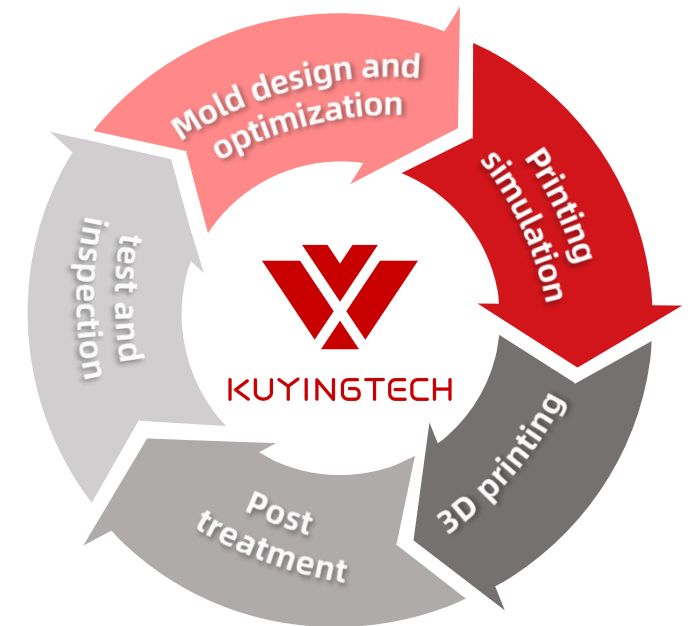


PEI-CF

*for mold production
not higher than 180 °C*

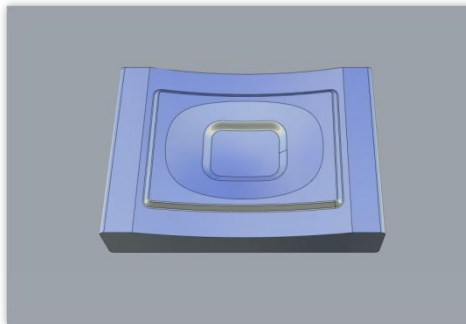
SOLUTION

LARGE-SCALE ADDITIVE AND SUBRACTIVE MANUFACTURING SOLUTIONS



3D Printing Aircraft Porthole Mold

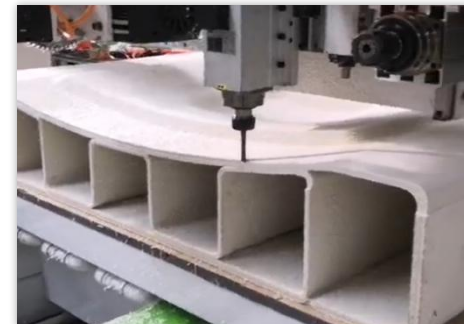
Our 3D printing technology can be used in the manufacture of aerospace parts mold, taking the production of aircraft porthole mold as an example, the whole mold can be printed and formed in about 10 hours, and then after post-processing, all production processes can be completed within 24 hours, which can greatly shorten the mold manufacturing cycle.



Model processing



3D printing



CNC



Overturning

3D Printing Wind Power Blade Mold

On the manufacturing of wind power blade mold (taking 50m blade mold as an example), according to calculation, our solution can save at least 30% of the manufacturing cost and manufacturing cycle.



3D printing



CNC



Laying heating pipes



Assemble

3D Printing Large-scale Mold

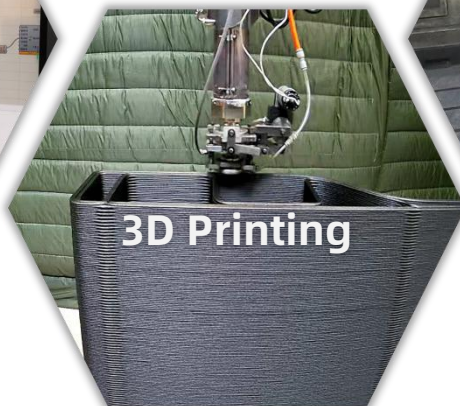
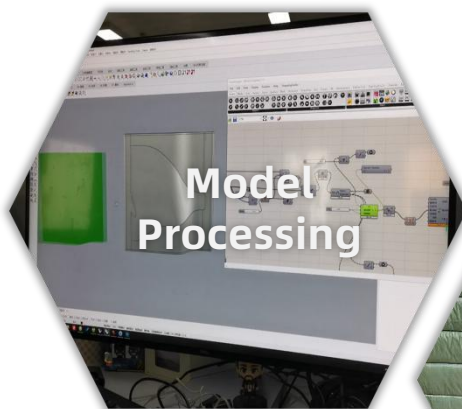
Kuying provides different kinds of normal temperature forming mold, medium temperature forming mold (PC-CF, temperature resistance 120 °C) and high temperature forming mold (PEI-CF, temperature resistance 180 °C).

The mold can withstand high temperature and 0.6MPa pressure without deformation, which can be used for autoclave forming. Compared with the traditional metal mold manufacturing process, our 3D printing solution for large-scale composite mold has the advantages of shorter production cycle, lower cost and higher material efficiency.



3D Printing Autoclave Mold

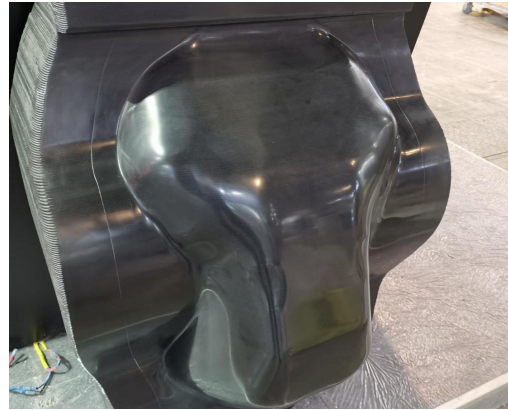
Our solution has successfully assisted the upgrading and R&D of formula car of TJU racing team of Tongji University, realized the rapid production and manufacturing of racing car parts molds, and promoted the development of racing car, thus helping the team to achieve outstanding results in international competitions.



3D Printing
Racing Endplate Mold



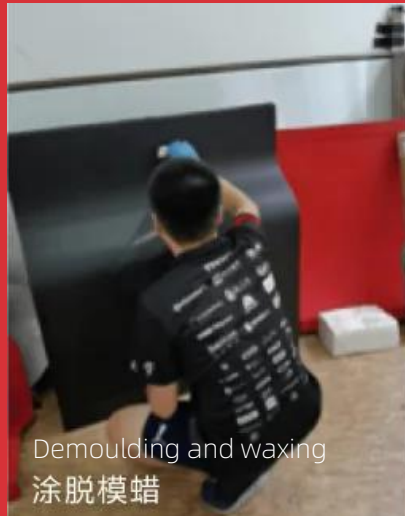
3D Printing
Racing Seat Mold



3D Printing
Racing Nosecone Mold



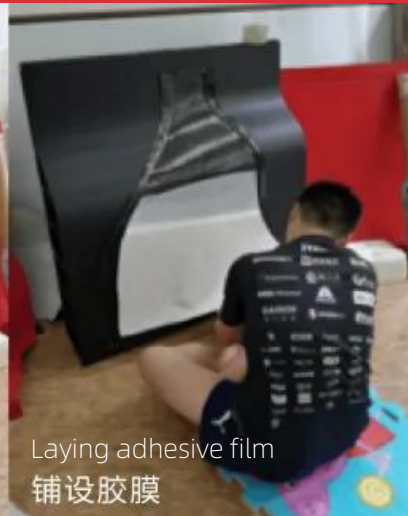
LARGE-SCALE MOLD MANUFACTURING



Demoulding and waxing
涂脱模蜡



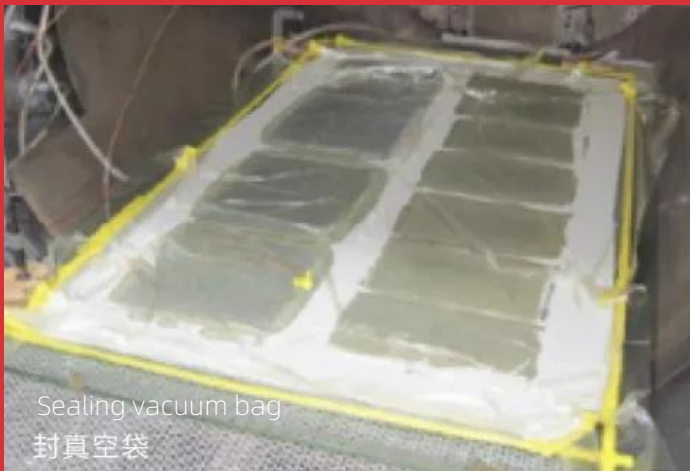
Prepreg
层压预浸料



Laying adhesive film
铺设胶膜



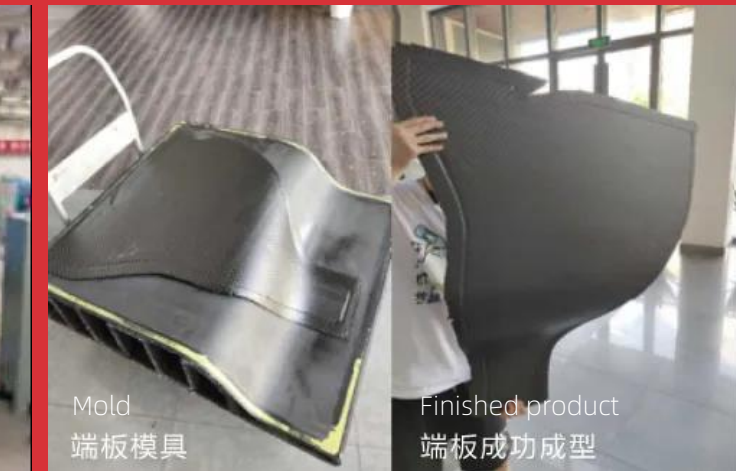
Laying intermediate materials
铺设夹芯材料



Sealing vacuum bag
封真空袋



Into autoclave
进热压罐



Mold
端板模具

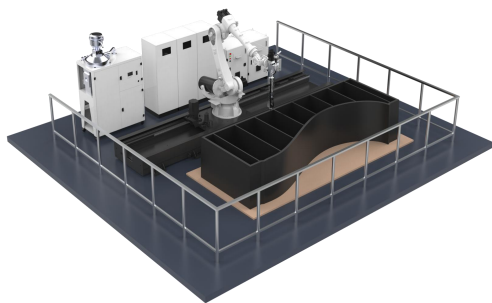
Finished product
端板成功成型

ARCHITECTURAL LANDSCAPE

EQUIPMENT



BGAM



BRAM

MATERIALS

**PELLETS INSTEAD OF FILAMENTS
SUITABLE FOR OUTDOOR SCENES**



ASA-GF

*Good weather resistance
Good printability*



PP-GF

*Good weather resistance
Good printability*



PETG

*Transparent and odourless
For furniture manufacturing*

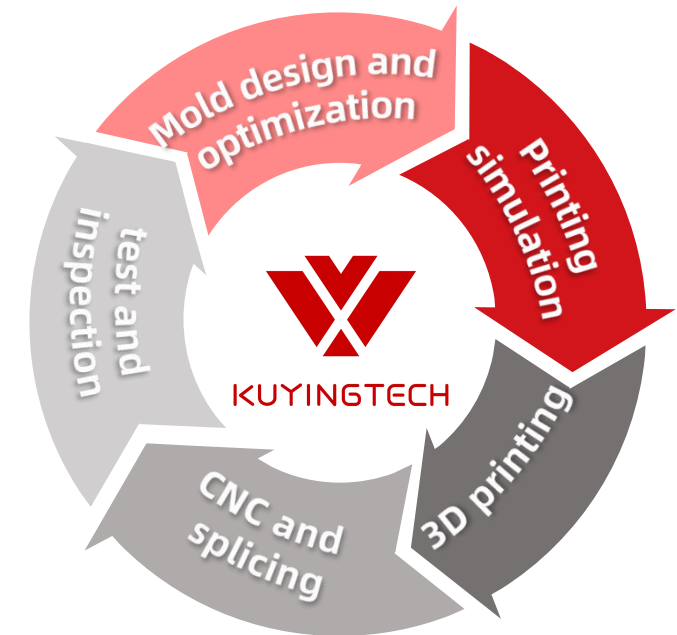


PETG-GF

*Good printability
For building formwork*

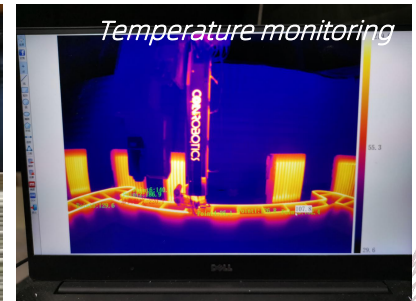
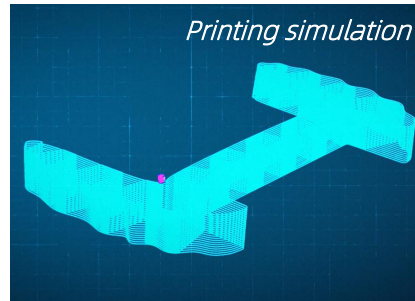
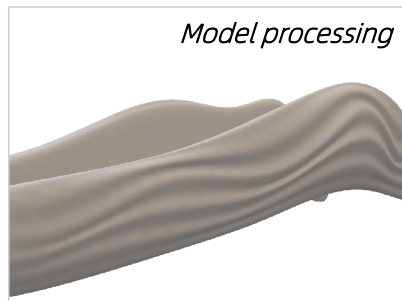
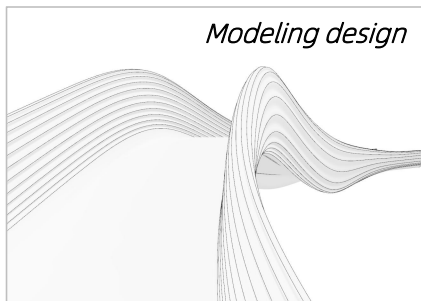
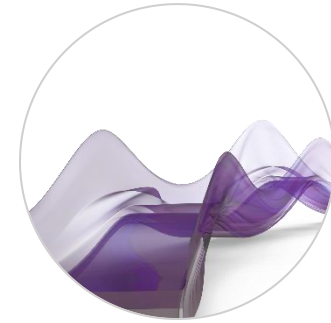
SOLUTION

**LARGE-SCALE
ADDITIVE AND SUBTRACTIVE
MANUFACTURING SOLUTIONS**



3D printing Landscape Bridges

Kuying's large-scale additive and subtractive solution has been successfully applied to several 3D printing bridge project,our 3D printing bridge has perfect production technology and mature business model.



Shanghai Taopu 3D Printing Bridge



SIZE	15.25m x 3.68m x 1.1m
EQUIPMENT	BGAM
SPEED	20 kg/h (max)
MATERIAL	ASA-GF
PRINTING TIME	30 days
WEIGHT	6 tons
COMPLETION	2019.1

Fujian Quanzhou 3D Printing Bridge



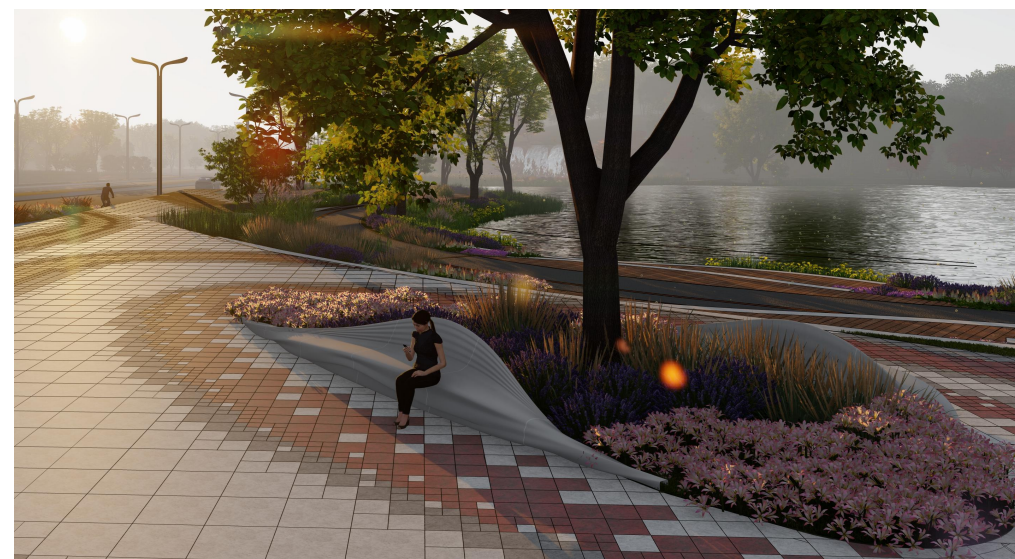
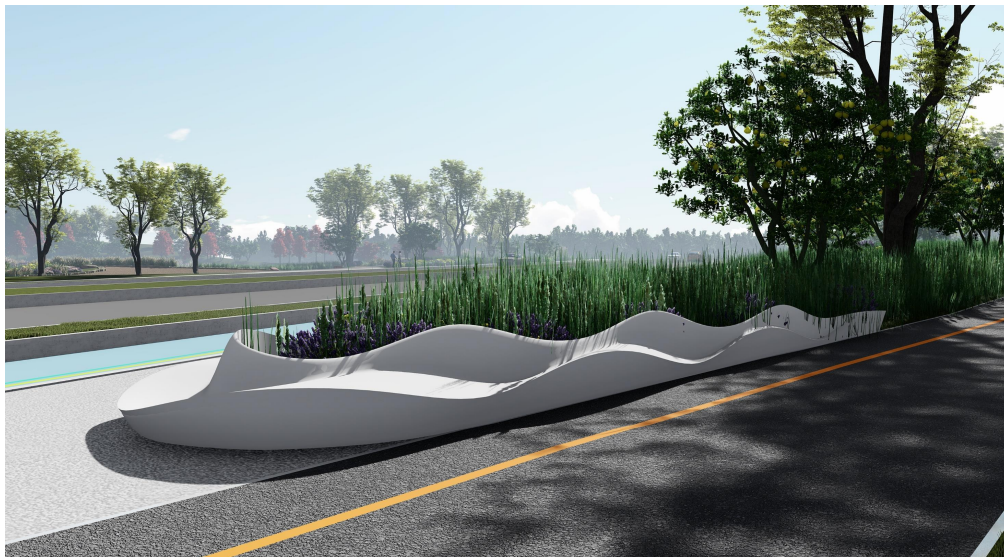
SIZE	17.5m x 3.2m x 3.2m
EQUIPMENT	BGAM
SPEED	20kg/h (max)
MATERIAL	ASA-GF
PRINTING TIME	35 days
WEIGHT	12 tons
COMPLETION	2019.6

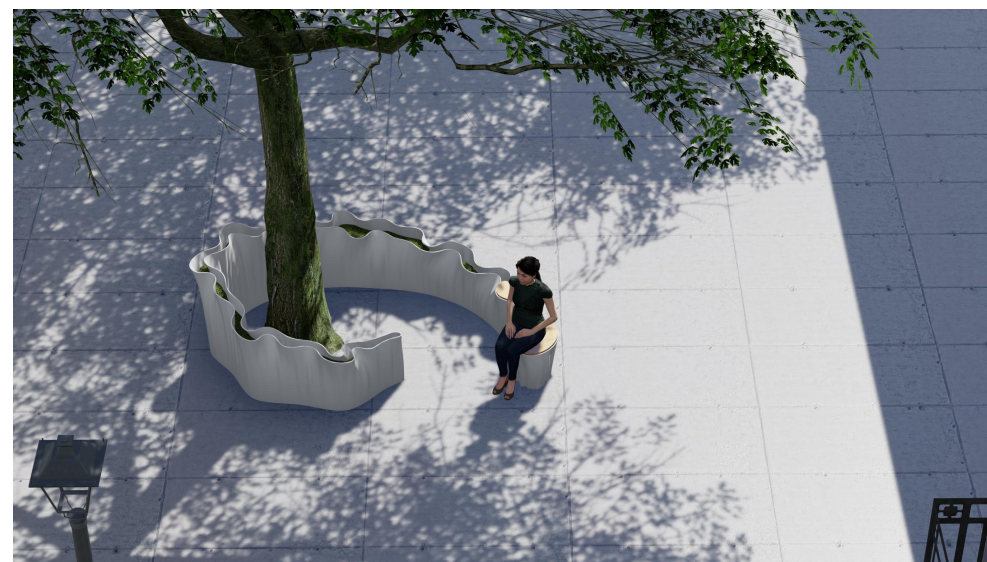
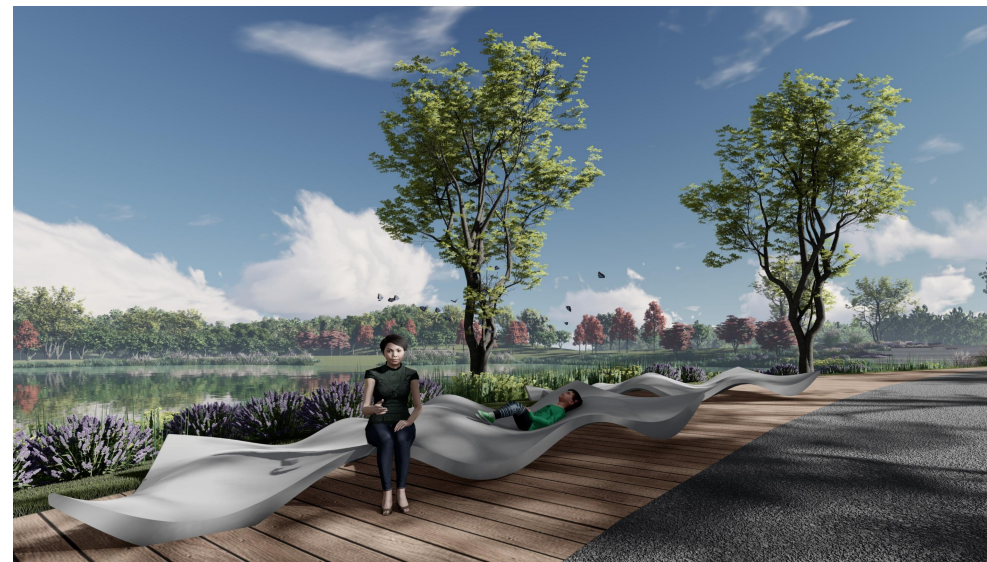
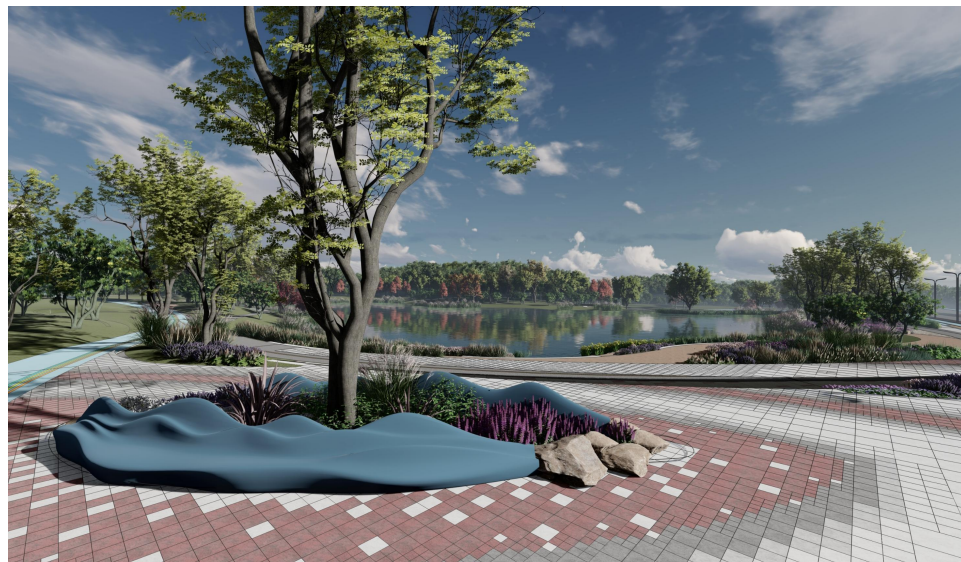
Chengdu Yimahe Park 3D Printing Bridge

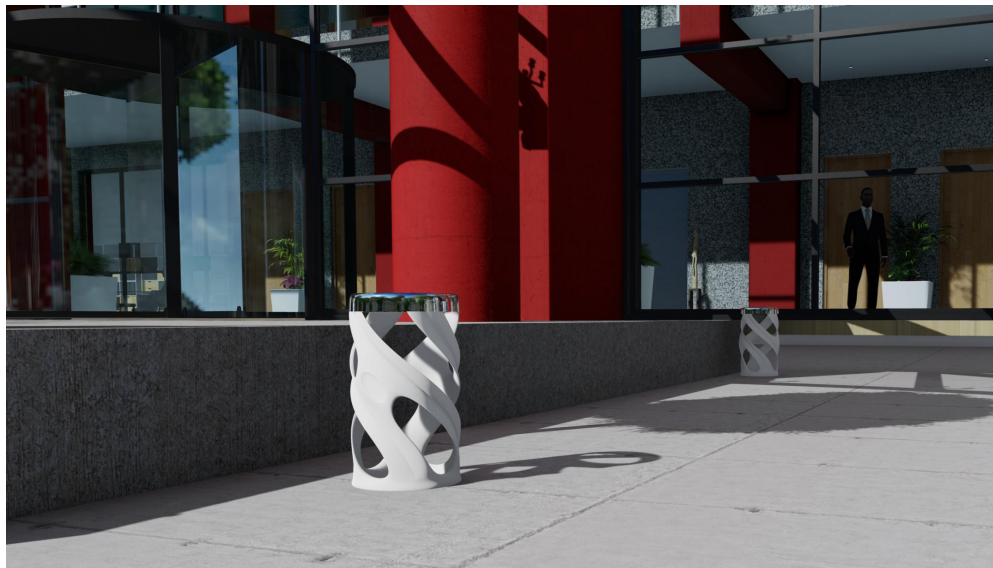


SIZE	22.5m x 2.6m x 2.7m
EQUIPMENT	BGAM
SPEED	20kg/h (max)
MATERIAL	ASA-GF
PRINTING TIME	35 days
WEIGHT	12 tons
COMPLETION	2021.2









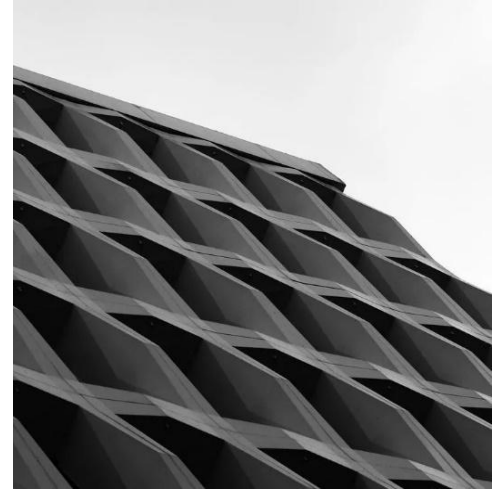
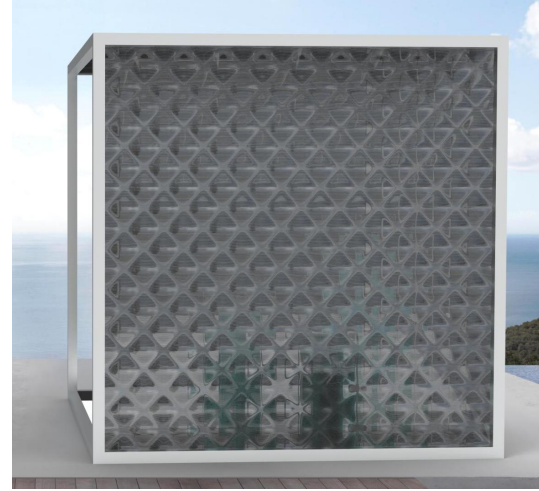
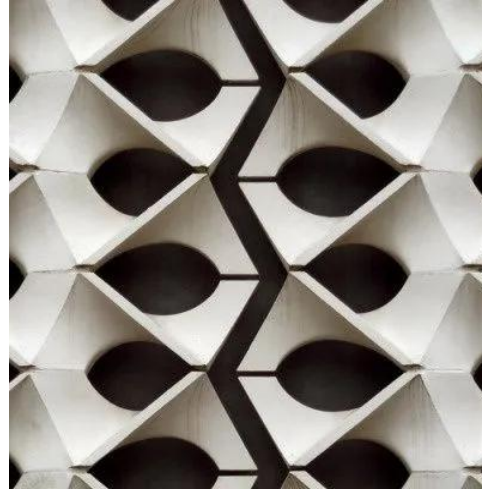
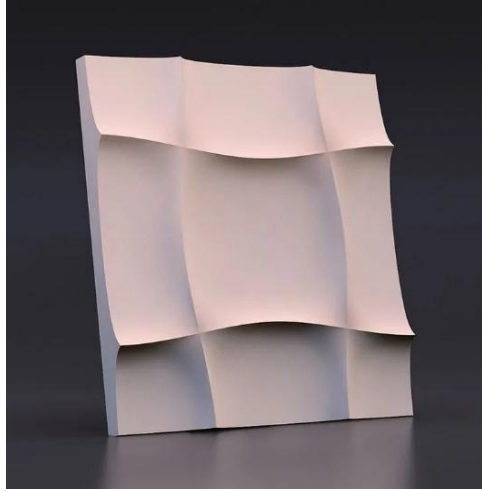
3D Printing Building Template

Through 3D printing building template, a variety of unique architectural decoration modeling can be designed and realized, which provides a larger space for the choice of three-dimensional modeling for architectural designers. It can be widely used in residential buildings, walls, tunnels, subway stations, large shopping malls and other industrial and civil buildings.





ARCHITECTURAL LANDSCAPE



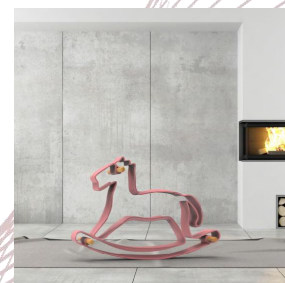
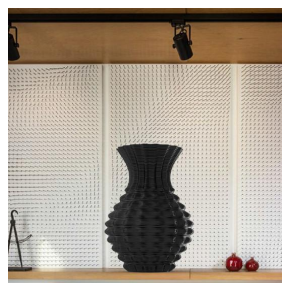
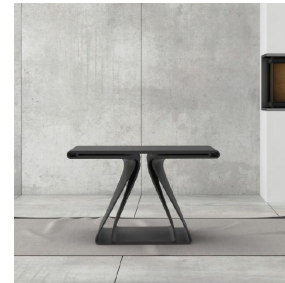
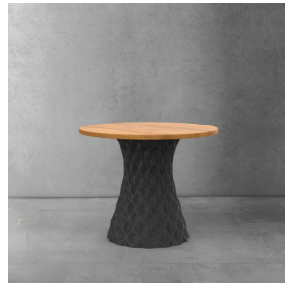
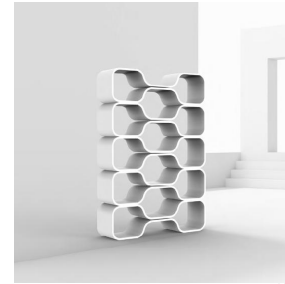
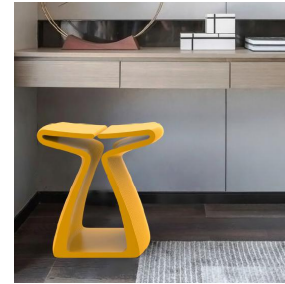
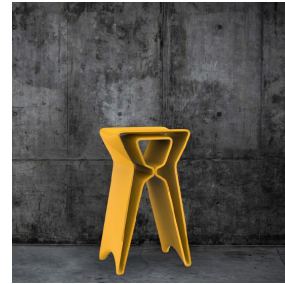
3D Printing Creative Furniture

Our large-scale 3D printing technology can realize all kinds of complex shapes, curved surface modeling and other furniture modeling difficult to open the mold. At the same time, the advanced rapid prototyping process will not produce waste materials, which can greatly reduce the cost, and be more efficient and environmentally friendly.





ARCHITECTURAL LANDSCAPE





EQUIPMENT

SGAM

- ◇ Standard working space, 1m x 1m x 1m
- ◇ Extra-high speed gantry, 50m/min
- ◇ Latest MKX extruder, 1kg/h
- ◇ Automated workstation
- ◇ Medical aids, industrial tools, etc.



MATERIALS

PELLETS INSTEAD OF FILAMENTS HIGH COST PERFORMANCE

PP

- ◇ High toughness
- ◇ High rigidity
- ◇ Good dimensional stability



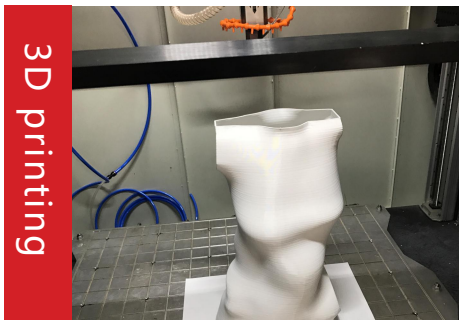
SOLUTION

LARGE-SCALE ADDITIVE AND SUBRACTIVE MANUFACTURING SOLUTIONS



There are more than 3 million scoliosis patients in our country, and the rate is increasing at an annual rate of 300000.

ADVANTAGES



- Human body 3D scanning, fast and convenient, high precision.
- Simple process.
- Automatic printing production, short production period.
- Low cost, greatly reduce the dependence on manual production.
- All previous correction data in the whole treatment cycle are saved to form a big data closed loop, which is used for traceability, reduction and correlation analysis, and has high data analysis value.

	3D printing Scoliosis Orthosis	Traditional Scoliosis Orthosis
PROCESS	Less	More
customized	Yes	No
AUTOMATION	High	Low
CYCLE	4h	2days
WEIGHT	Light	heavy
MATERIAL	PP	Gypsum+PE
LABOR	Less	More
COST	Low	High

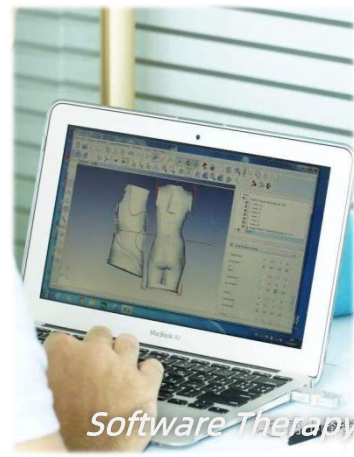
3D Printing Scoliosis Orthosis

Kuying's unique 3D printing technology of pellet can directly and automatically print and produce the scoliosis orthosis after 3D scanning of the human body, so as to realize the rapid forming of scoliosis orthosis.



3D Scanning

Accurate acquisition of human 3D data



Software Therapy

Digital modification and optimization of 3D model



Model Processing

The model was optimized by kuying's slicing software



3D Printing

3D printing based on digital model



Scoliosis Orthosis

Process according to the wearing requirements



Scoliosis Orthosis



Orthopedic Process



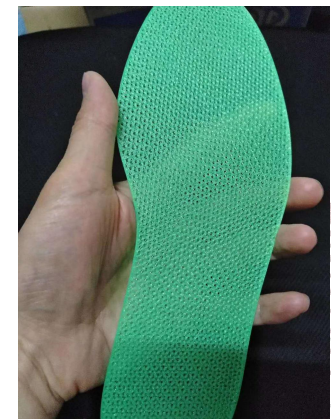
Lumbar Orthosis



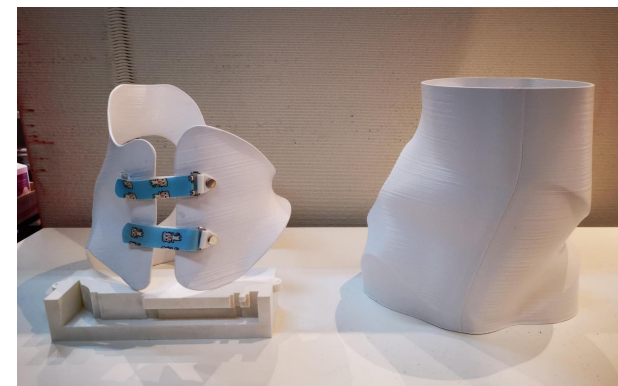
Tibial Fixation Protector



Prosthetic Protector



Personalized Foot Pad





TECHNOLOGICAL STRENGTH



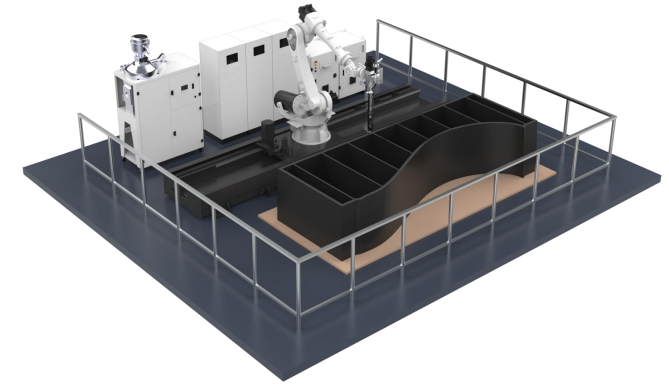
5-AXIS MILLING AND ADDITIVE
MANUFACTURING
INTERGRATED MACHINE
(BGAM)

- Large working space, 10m x 4m x 2.5m
- Extra-high speed gantry, 50m/min
- High-flow extruder, 50kg/h
- 3D printing and CNC in the same machine
- Large mold, architectural landscape, creative furniture



SMALL GANTRY
THREE-AXIS 3D PRINTER
(SGAM)

- Standard working space, 1m x 1m x 1m
- Extra-high speed gantry, 50m/min
- Latest MKX extruder, 1kg/h
- Automated workstation
- Automotive parts and models, medical aids, industrial tools, etc.



BIG ROBOT ADDITIVE
MANUFACTURING SYSTEM
(BRAM)

- Standard workspace 1m x 1m x 1.3m
- Automatic feeding system
- Customizable length of the seventh walking axis
- Overall process temperature monitoring
- Large mold, architectural landscape, creative furniture



3D Printing Extruders

Kuying continuously optimizes advanced technology, independently developed a number of 3D printing extruders with high flow extrusion technology, with a number of independent intellectual property rights and patented technologies, specially designed for pellet materials, suitable for a variety of thermoplastic polymer materials.

3D Printing Extruders



Customized 3D printing extruders for high performance composites

- Extrusion up to 50kg per hour
- Heating system can support 400°C printing temperature
- The optimal printing accuracy is ± 0.1 mm



Patented High-speed tapping technology

- Excellent printing shaping result
- Up to 10 beats per second
- Clapper self-cooling anti-sticky technology

TECHNICAL DATE

Extruder	MKX	K10	K20	K50
Extrusion output	1kg/h	10kg/h	20kg/h	50kg/h
Material size	1.75mm	3mm	3mm	3mm
Material type	pellet	pellet	pellet	pellet
Nozzle size	$\Phi 0.6-2\text{mm}$	$\Phi 5-10\text{mm}$	$\Phi 5-10\text{mm}$	$\Phi 5-15\text{mm}$
Net weight	10kg	50kg	150kg	300kg
Available materials	ABS,ASA,PA6-GF,PA6-CF,TPU,PP	ABS-CF,PC-CF,PEI-CF,ASA-GF,PETG		

Materials for Architectural Landscape



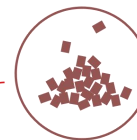
Materials for Mold



Materials for Automobile



Materials for Medical



MATERIALS

Kuying has a mature material supply system. We have developed and tested a variety of thermoplastic polymer materials to provide customers with the most cost-effective materials while meeting their needs for material performance.

- ◇ Pellets instead of traditional filaments
- ◇ High cost performance
- ◇ High heat resistance
- ◇ High stability performance

Control System



Kuying introduced Germany BWO numerical control system, integrated motion control, 3D printing control, five-axis processing control, printing environment control, process monitoring and other control systems, independently developed the 3D printing APP, five-axis processing APP, and process monitoring APP based on BWO CORE, can customize industrial APP according to customer application scenarios.



BWO/VECTOR C/ CT

Suitable for CNC machine tool control



BWO/VECTOR MC

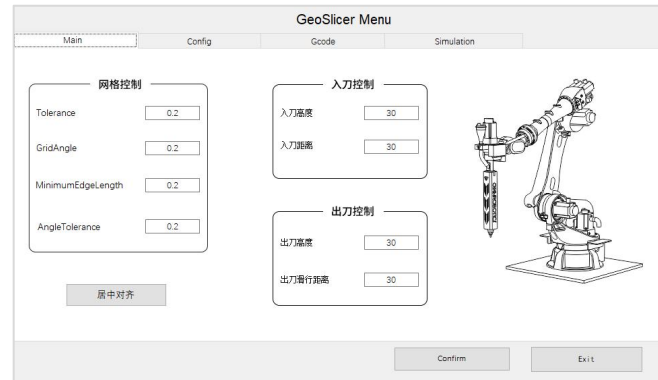
Suitable for robot control



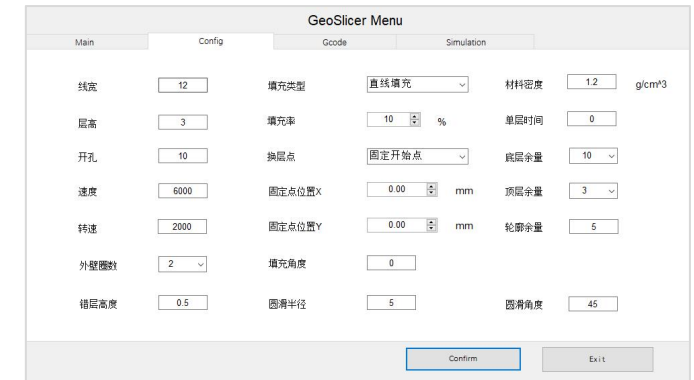
SLICING SOFTWARE

The Slicing software developed by kuying based on rhino plug-in supports a variety of filling algorithms and slicing modes. It can develop industry specific process module plug-ins for different industries.

- ◇ User interface, provide a variety of process parameters adjustment
- ◇ The G code is generated automatically, which supports the layer by layer simulation and point by point simulation of trajectory animation
- ◇ Support a variety of 3D file formats



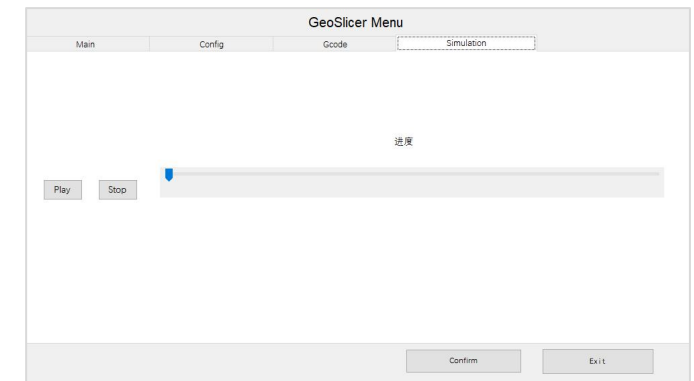
Model Processing



Adjustment of Process Parameters



G Code Generation



Simulation

THANKS
THANKS

