Steam Up 2gether – Lesson 02

Basic Concepts of 3D Drawing & Printing Implementation

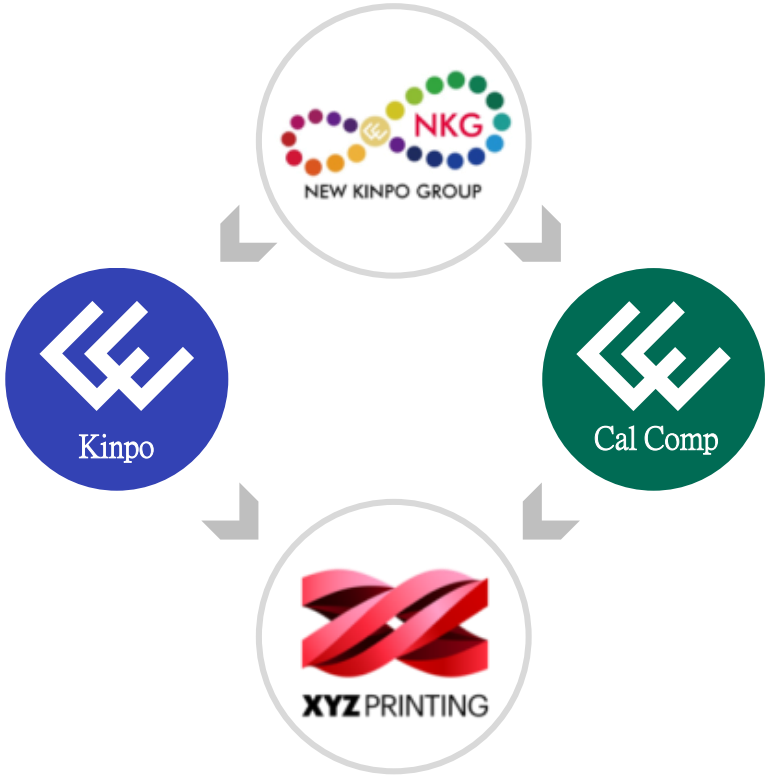
Nick Hsu

Product Planner:
Responsible for product planning and promotion of desktop 3D printers to many countries.

Bournemouth University (UK):
MSc Marketing Management

About us

XYZprinting which founded in 2013 is a subsidiary of New Kinpo Group. The HQ and RD center are located in Taipei and with 7 global branch offices.



Ambition

XYZprinting dedicates to offer the best 3D printing solutions and industry-leading expertise to help manufacturers transform the workflows in design, engineering and manufacturing.

Class Outline

01 3D printing introduction

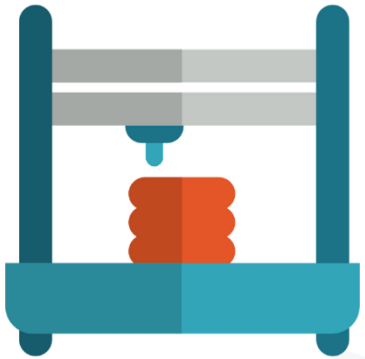
02 3D printer and material introduction

03 3D Pen Cool and material introduction

04 Review the software operation

The advantages of 3D printing

- Reduce labor cost
- Unlimited use of Shapes and Geometry
- Freedom of Creative Designs & Customization
- Faster production
- Risk Reduction
- Practical Product Testing
- Sustainability



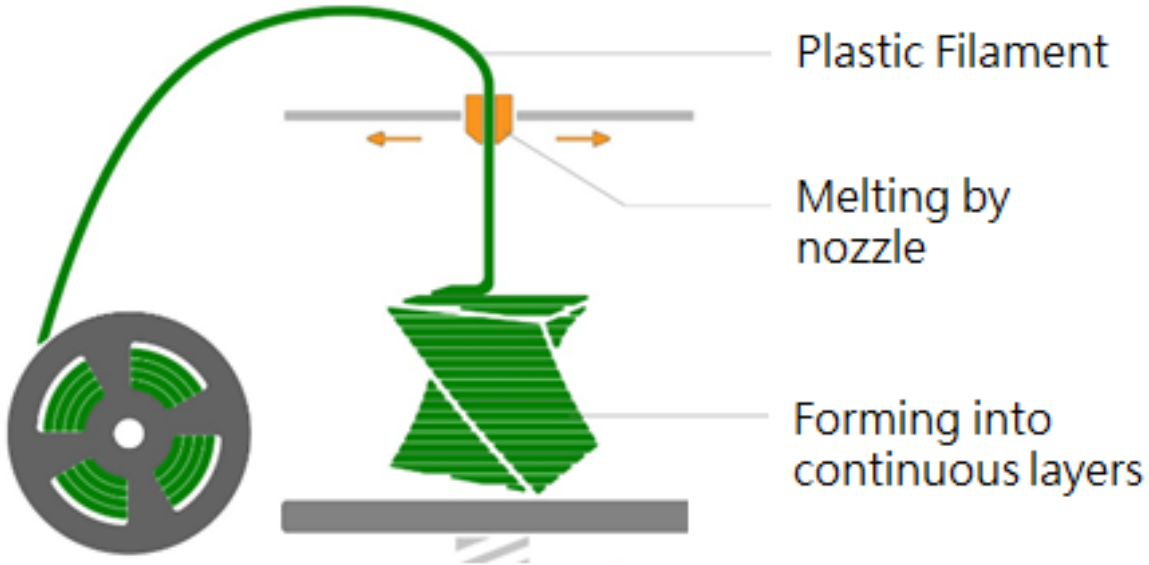
The Technologies of 3D printing

3Dprinting

- **FDM (Fused deposition Modeling)**
- SLA (Stereolithography)
- DLP (Digital Light Processing)
- Binder Jetting
- SLS (Selective Laser Sintering)

FDM (Fused deposition Modeling)

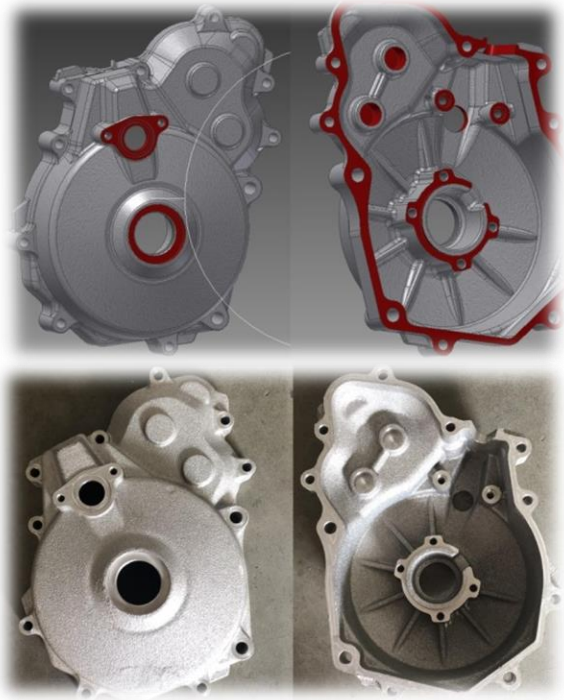
The material of FDM is filament. Through melting the filament by heading printing head, the filament will be printed layer by layer on the print bed. FDM is the most widely used 3D Printing technology and is often the first technology people are exposed to.



FDM Video

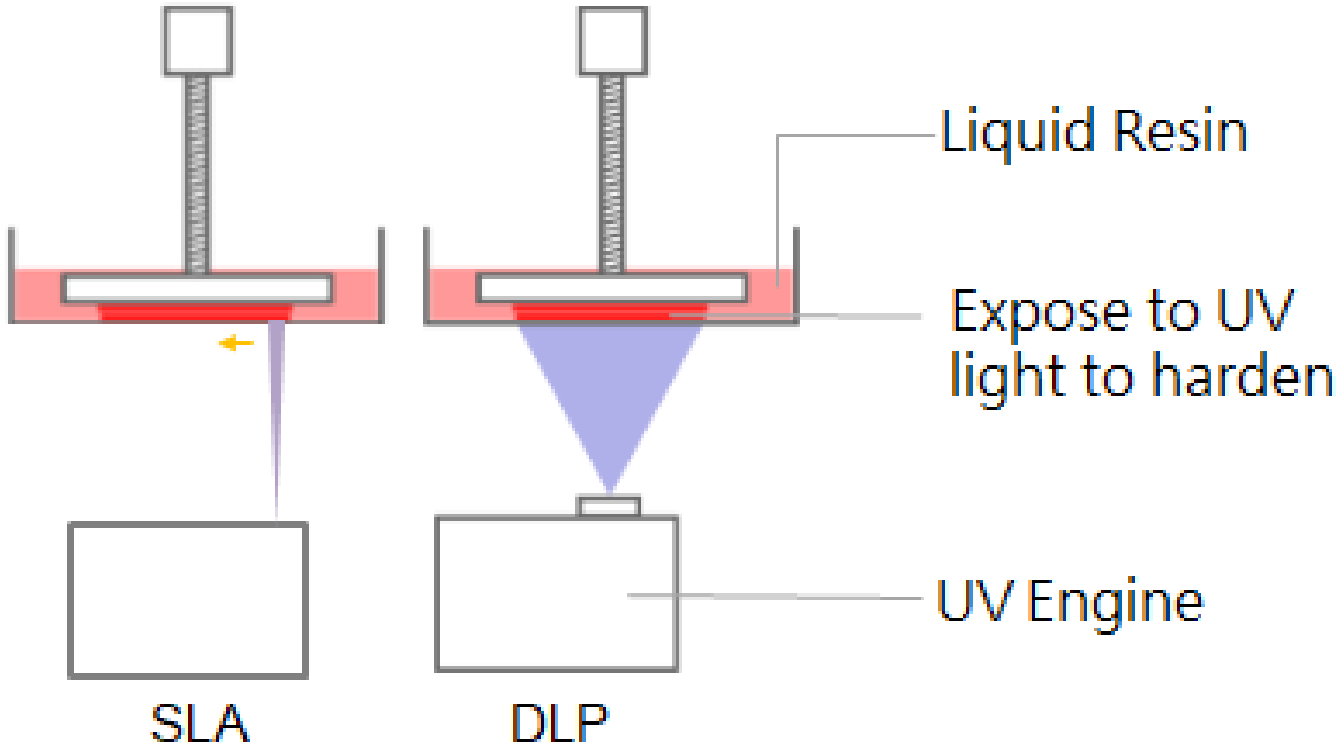

Your 3D Printing Solution
Send us your .STL file, We will advise you accordingly!

FDM Application

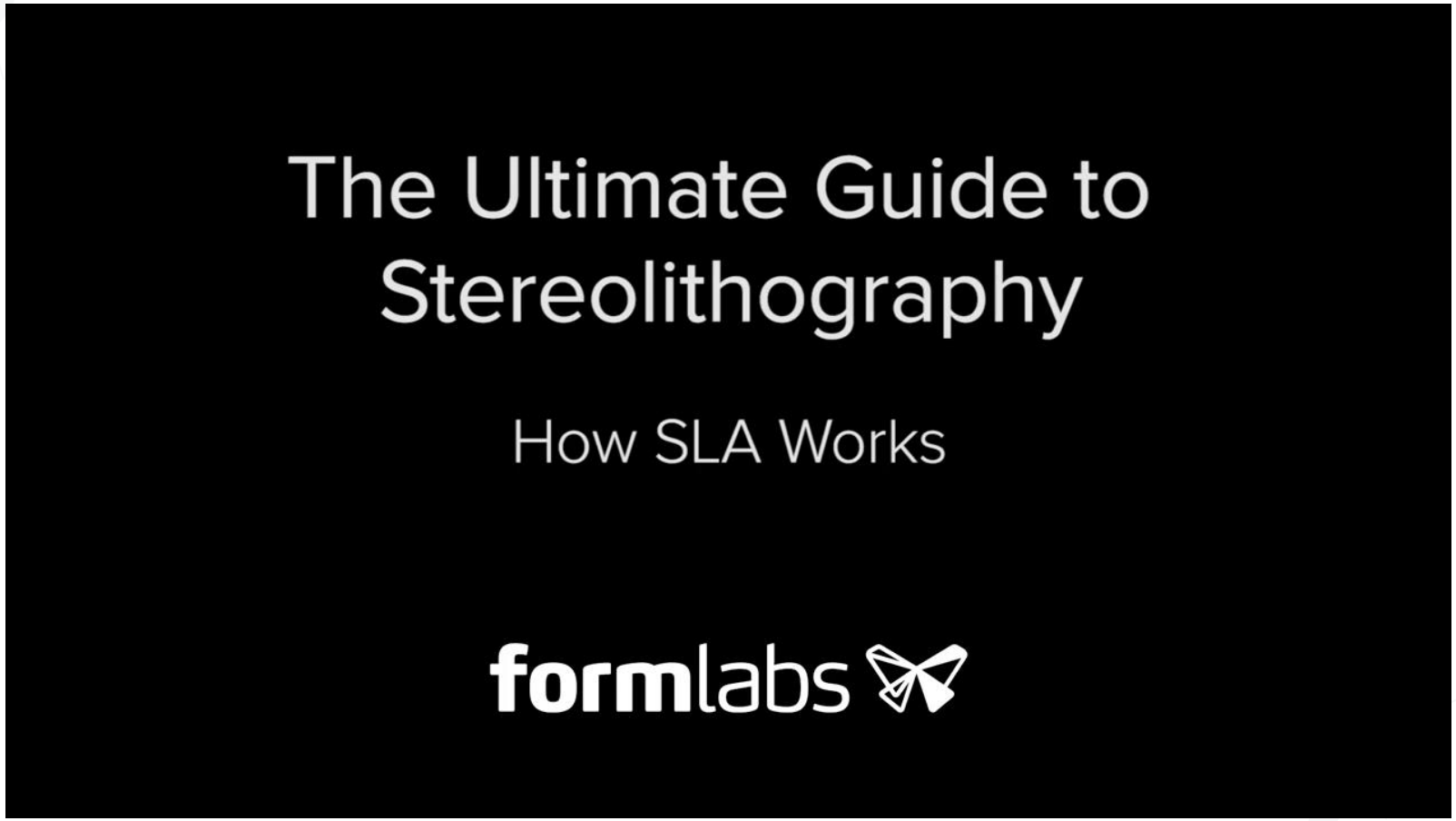


Off-road Motorcycle Design Verification

SLA / DLP



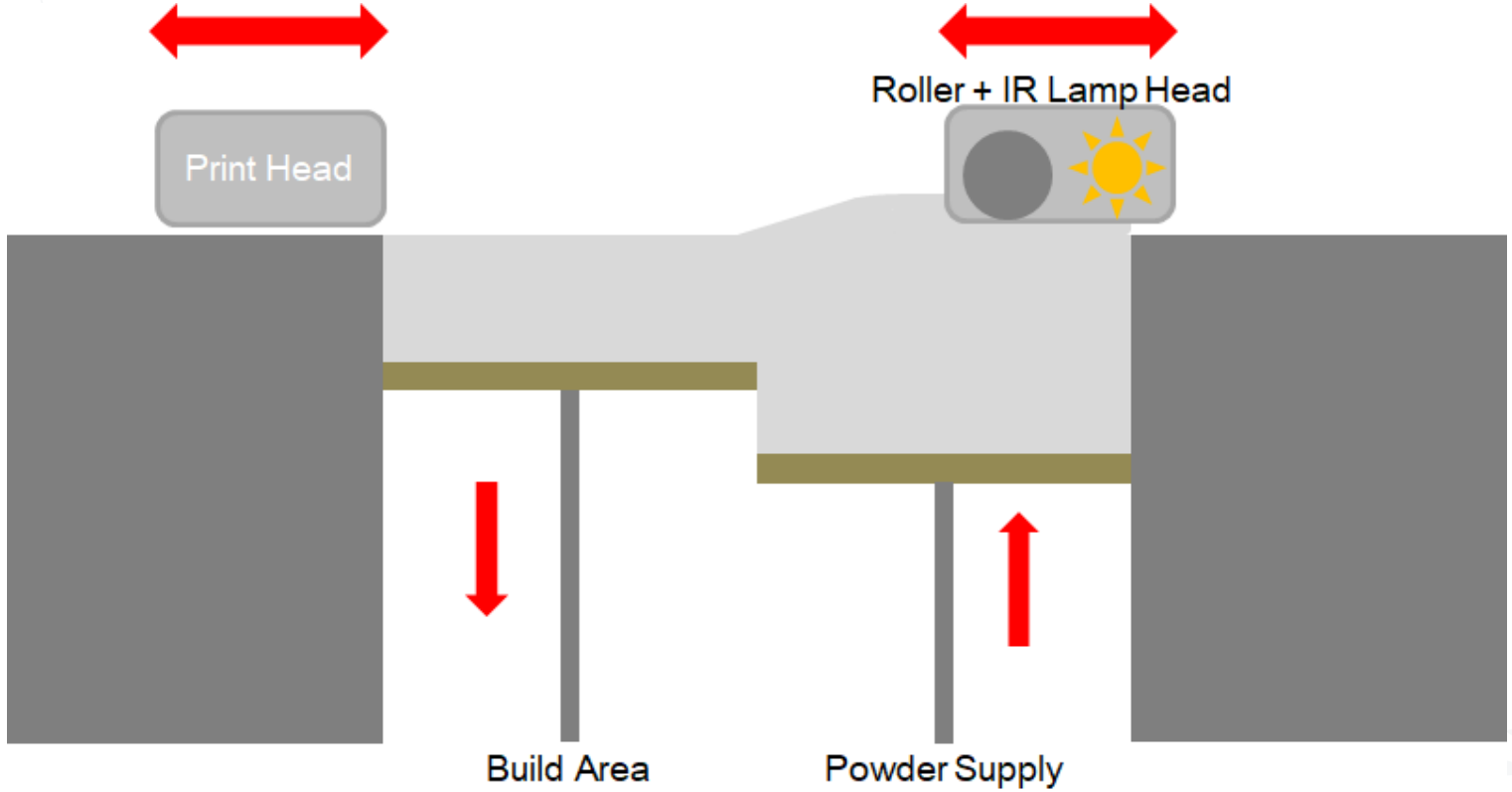
SLA / DLP Video



SLA / DLP Application

Dental samples and Wax lost casting for jewelry

Binder Jetting

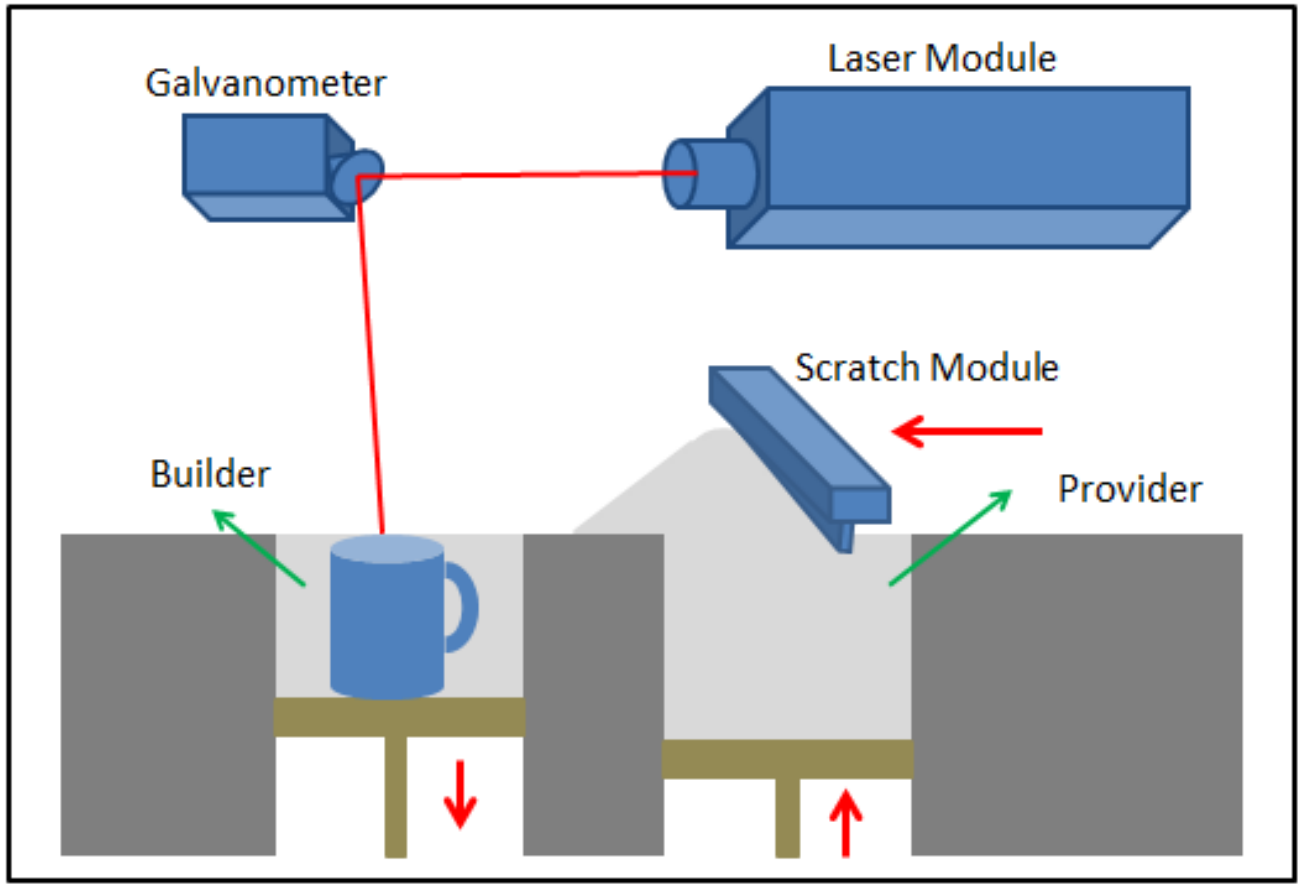


Binder Jetting Video

Binder Jetting Application

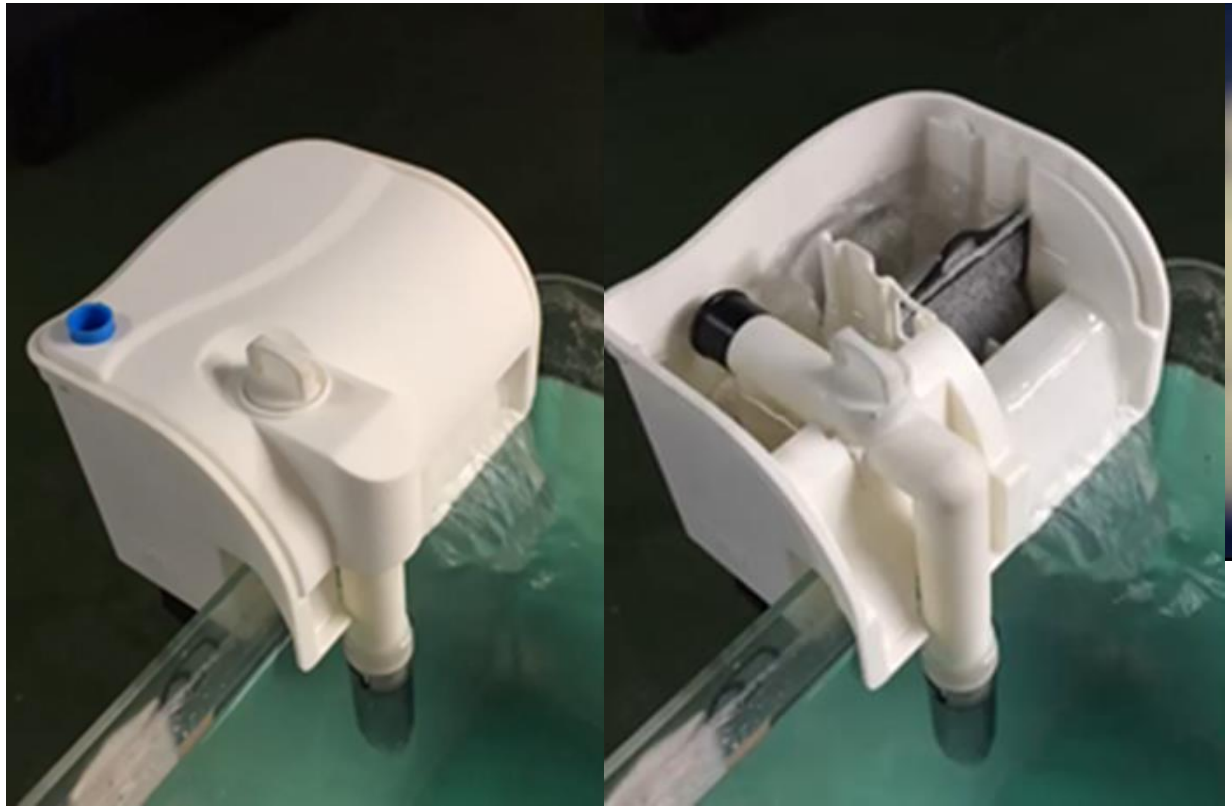
Japanese painting art: Ukiyo-e

SLS


Galvanometer
Laser Module
Scratch Module
Builder
Provider

SLS Video

SLS Application



Filter prototype for aquarium

Pop quiz – Complete in Corelab

Which benefits does 3Dprinting have?

(A) Lower Costs
(B) Enhance efficiency
(C) Support complex structure
(D) All of the above.

Pop quiz – Complete in Corelab

Which is the most widely used 3D Printing technology?

(A) SLA
(B) FDM
(C) Binder Jetting
(D) SLS

da Vinci Jr. Pro X+

Designed for Makers, by Makers

More info about printer

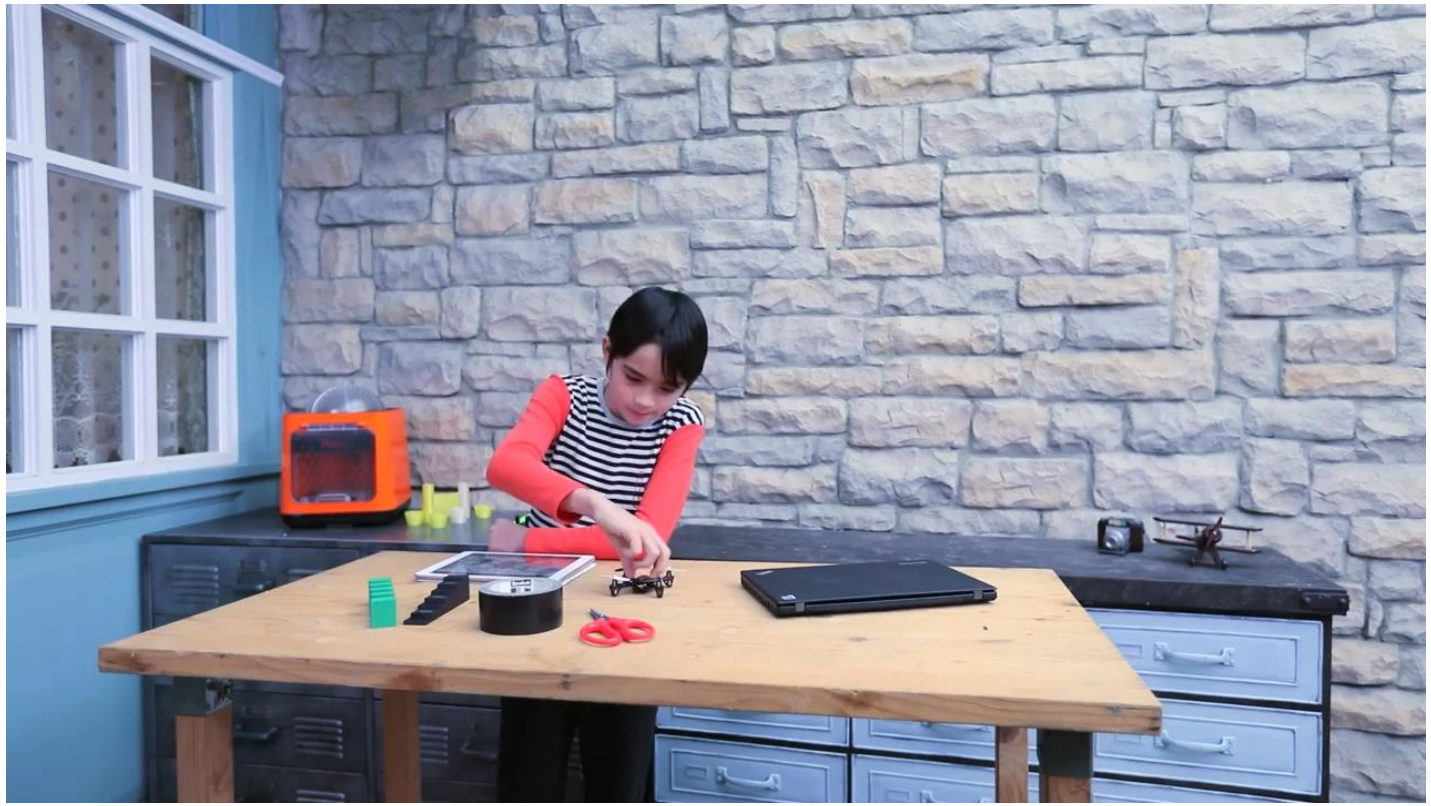
Features:

- FDM technology
- Bigger print volume: 17.5 x 17.5 x 17.5 cm (6.9" x 6.9" x 6.9")
- Hardened Steel Nozzle (Max nozzle temp of 260˚C)
- Heated print bed
- Support third party filament
- Auto Calibration
- Support Multiple Language

FDM printers Video

da Vinci Jr. Pro X+

FDM printers Video



da Vinci nano

Material - PLA

- Tough structure
- Compostable
- Bio-degradable
- Various colors
- Melting Point: 210 ˚C

Material - Antibacterial PLA

- The Antibacterial Effect
- Child Friendly: Complies with RoHS regulations.
- Compostable and Bio-degradable
- Melting Point: 190 ˚C

3D Pen Cool

Discover Creativity

Features:

- An intuitive design, big buttons and its compact size
- Safe Printing: da Vinci 3D Pen Cool has lots of safety features specifically designed for children 6 years and above. It uses non-toxic filament (PCL) that prints with low heat and leaves no mess
- 3D Coloring Book: Encourage Creativity

More info about 3D pen

3D Pen Cool Video

Material - PCL

- Safe to Handle: Polycaprolactone (PCL) is a compostable polyester with a low melting point of around 70 ˚C.
- Compostable and Bio-degradable

Pop quiz – Complete in Corelab

What is the advantage of Anti-PLA?

(A) compostable and Bio-degradable
(B) Against germs and infections
(C) Complies with RoHS regulations
(D) All of above.

Pop quiz – Complete in Corelab

The melting point of PCL material is about 100 ˚C

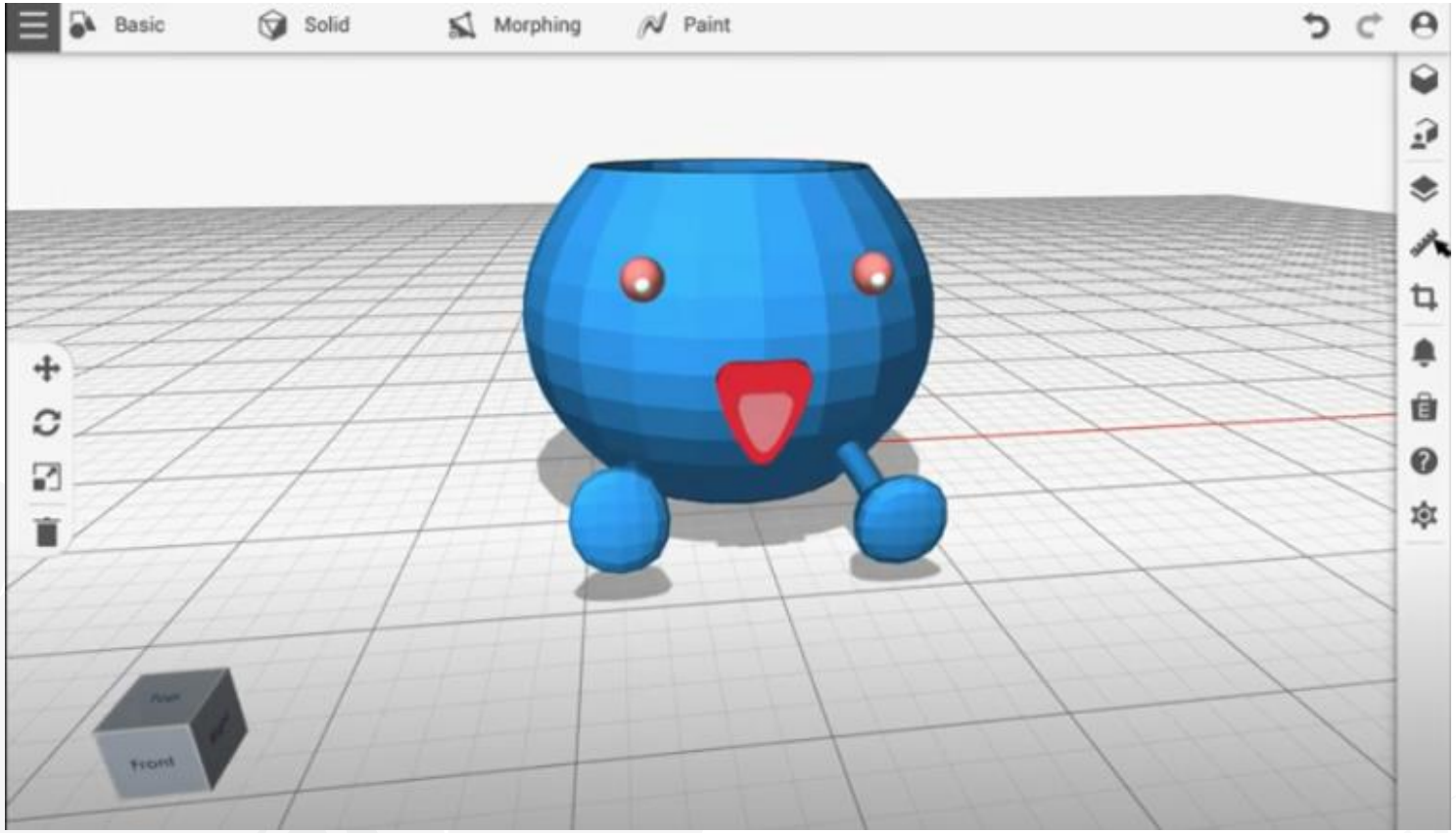
(A) Yes (B) No

Pop quiz – Complete in Corelab

What sorts of material belong to Eco-friendly? (Multiple Choice)

(A) ABS (B) PLA (C) Anti-PLA (D) PCL.

Tutorial Video: Plantpot



Tutorial Video

Week 1

Student of the Week Contest

Who can Participate : All STEAM Up Students

Topic this Week:3D Printing Sustainability Project

Project Format

Photo/Video + Description + Hashtag
#STEAMup
#Studentoftheweek

Deadline

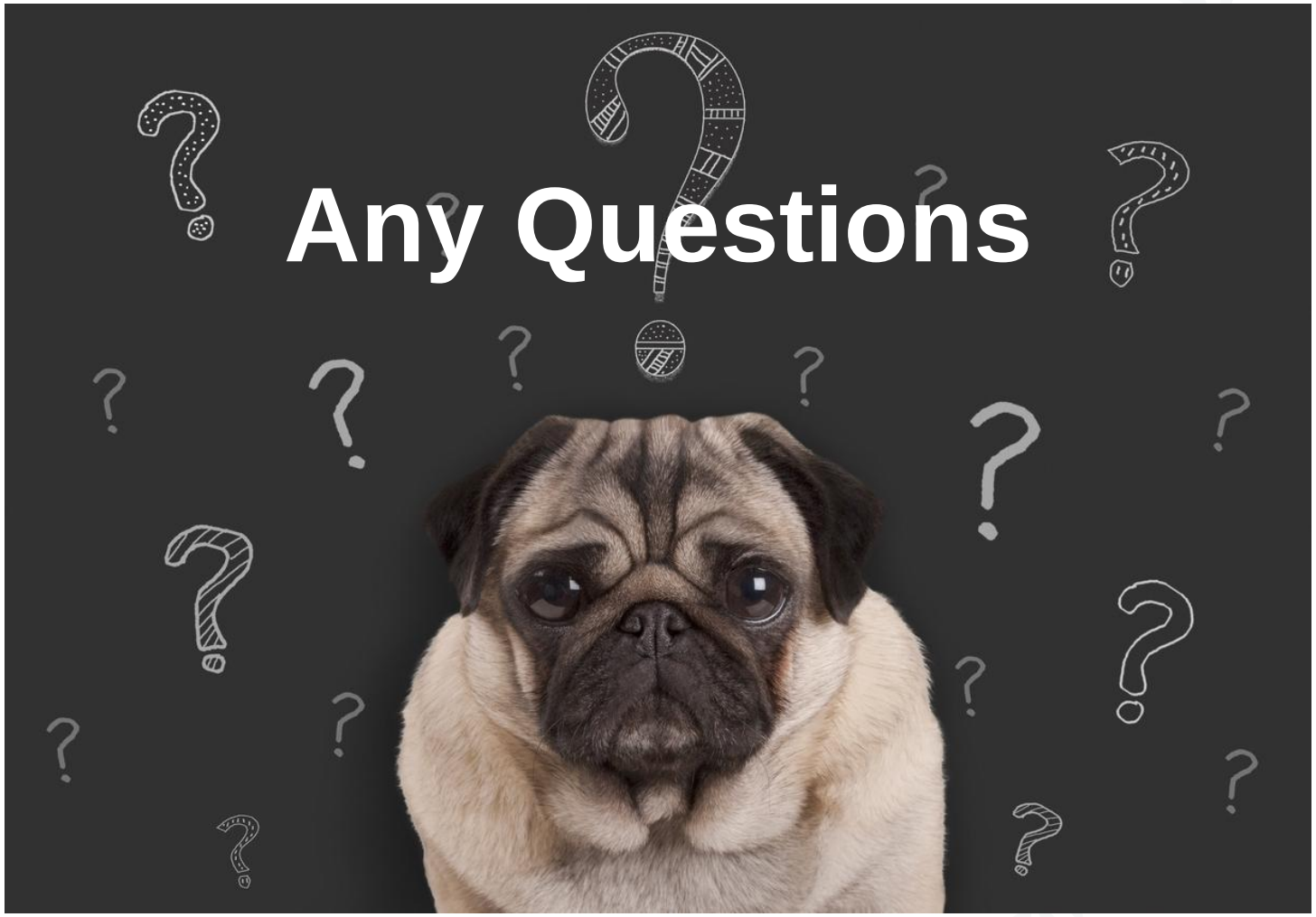
July 20th

1. Use Design Thinking Process to create a 3D model related to sustainability topic

2. Upload your design to Facebook and write down your design thinking process

3. We will select 3 most imaginative with creative design, and also most likes and shares. The winners will obtain a 3D Printing Pen and your own 3D model creation from XYZprinting

Prize: 3D Pen


Any Questions

Thank You !

Nick Hsu

nickhsu@xyzprinting.com