3D PLATFORM

Additive Manufacturing Workbench.

Large Format.

Industrial Strength.

Superior Speed and Print Quality.

Starting Under $30,000.

www.3DPlatform.com

Why Choose 3D Platform

Make your biggest ideas reality.

BIG

- Fused Filament Fabrication (FFF) type 3D printer with large **1 m x 1 m x 0.5 m build area**
- **74X larger** build area than the standard desktop 3D printer
- Expanded **built-in storage** drawers and cabinets for useful additive manufacturing tools and materials

Folding Gantry

- Fits through a standard door
- Conveniently locate where you want—office, factory, etc.

ECONOMICAL

- Capitalize on the **open market advantage**, low purchase price, and operating costs
- Up to **90% savings** using open market materials and software

Case Study: Gas Tank Demos

Material Cost Comparison: Open Market vs. Proprietary System

Study based upon the printing of one gas tank demo per week x 50 weeks per year = **50 tanks per year**. Open Market Advantage: $468 material per tank = **$23,400 material per year**. Proprietary System: $4,680 material per tank = **$234,000 material per year**.

ACCURATE

- NEW SurePrint™ Servo Technology delivers **superior print quality** and cuts print time in half
- Closed-loop control provides positional feedback every 1.25 microns, enabling **fast and reliable printing**
- Print layer resolutions down to **70 microns**

Cut Print Time in Half with SurePrint Servo Technology

ROBUST

- **Industrial strength** mechatronics delivers **superior performance** and reliability
- SIMO® Series actuators and Constant Force™ anti-backlash lead screws and nuts provide **rugged, industrial framework**

The Open Platform Advantage

Maximize innovation and value.

OPEN MARKET MATERIAL DIVERSITY

- Flexibility to choose from a **wide variety** of open market materials such as:
  - Flexible and rubber-like properties
  - Electrically conductive
  - Filled—bronze, wood, carbon fiber, etc.
  - Food contact safe
  - And many more
- Ongoing material science advancements provide a pipeline to rapid innovations

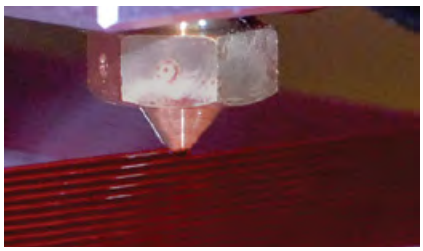
STATE-OF-THE-ART MOTION CONTROL

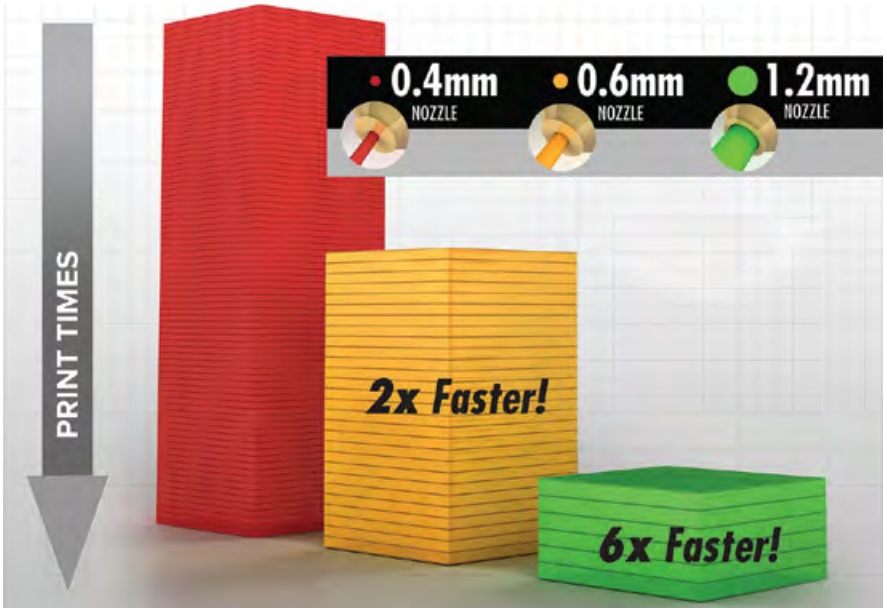
- Printers utilize **industrial strength** SIMO® Series linear actuators and Constant Force™ lead screws and nuts from PBC Linear®
- SurePrint™ Servo Technology
  - 85% more motor torque **cuts print time** in half
  - Closed loop system **improves print quality** and reliability
  - Sophisticated control similar to a car's traction control and anti-lock brake system
- Go green!
  - 60% reduced energy consumption
  - 50% lower running temperature

Constant Force lead screws and nuts provide superior print quality versus traditional belt and pulley systems.

BEST IN CLASS HARDWARE

- Ability to access and adopt the newest **extruder options** on the market
- Flexibility to change nozzles: small diameter used for fine layer resolutions; large diameter for fast printing and strong parts
- Print **6 times faster** with larger size (1.2 mm) nozzle

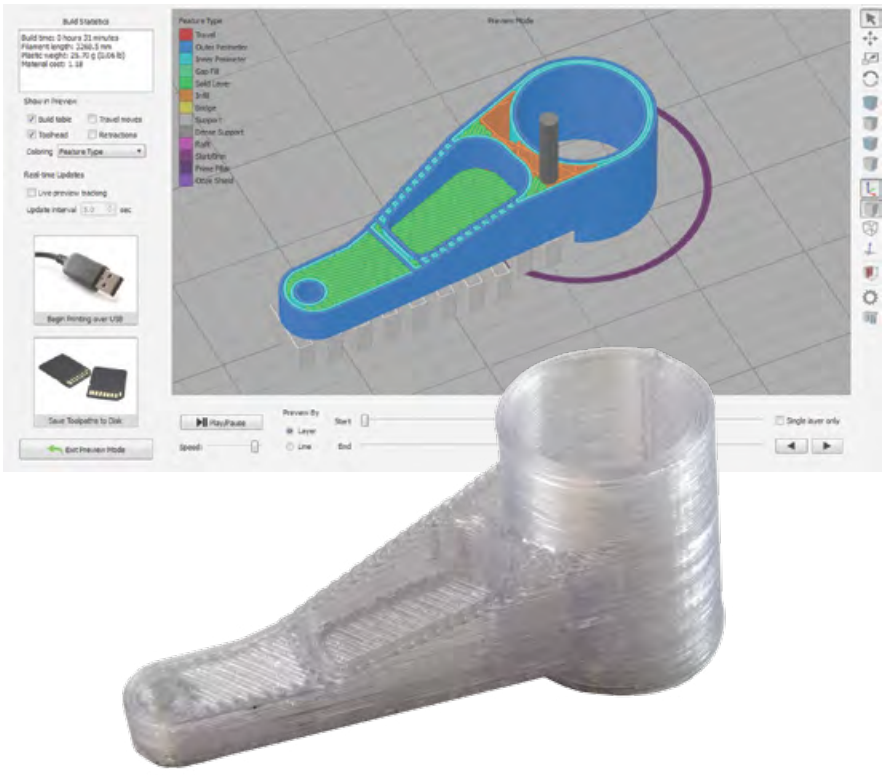




CUTTING-EDGE SOFTWARE

- Best-in-class **open market** 3D printing software
- Includes detailed print previews
- Advanced print algorithm
- Benefits in design and printing speed
- Enables **higher quality** prints

Software shown in example: Simplify3D®



3D Platform Solutions

Design without limits.

PROTOTYPING

3D Platform provides **full-scale** printing capabilities.

No need to scale down or print multiple parts that require assembly.

Cut time to market with rapid design iteration.

Key Advantages:

- Diverse open market material selections enable **90% savings** vs. proprietary materials
- Superior **fast print** speed of 70-100 mm/sec enabled by SurePrint™ Servo Technology
- Print up to 6x faster with larger nozzle sizes

Gas Tank
Material Cost: $450

Rim
Material Cost: $100

Bumper
Material Cost: $832

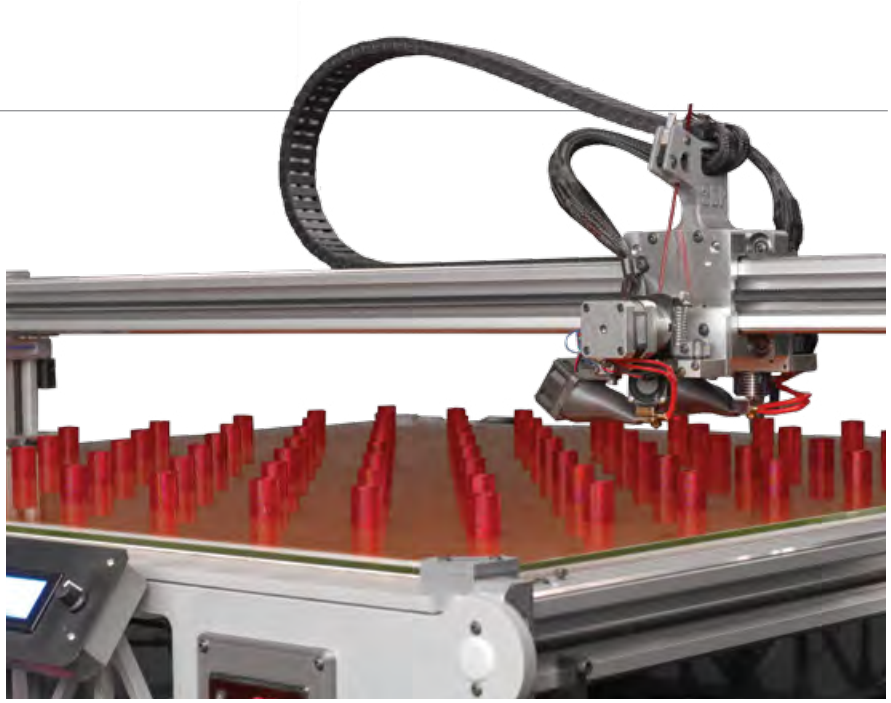
PRODUCTION

The large build area enables users to **mass-produce** end-use parts.

Print **fully functional** parts quickly with multiple nozzle diameter options, and **cost effectively** with open market materials.

Key Advantages:

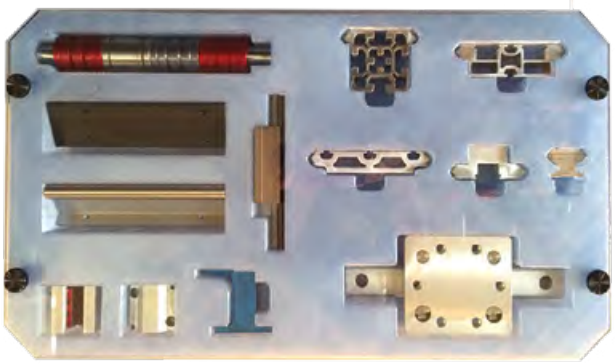
- Advanced capabilities:
  - Embed inserts: fasteners, electronics, sensors, etc.
  - Core modeling
- Open market software allows for core modeling—creating **different process zones** within a printed object—optimizing strength and weight



100 Cylinders
Material Cost: $25

Actuator Bracket
Material Cost: $20

Shadow Board
Material Cost: $60



Example of core modeling. Dense infill assigned to support the heavy objects in the shadow board.

3D Platform Solutions

Design without limits.

PERSONALIZATION

3D Platform enables users to print **full-scale objects** that are customized to fit their needs.

Custom 3D printed objects are commonly derived from 3D scans and are often applied in the medical, fashion, education, and entertainment industries.

Key Advantages

- Diverse open market materials enable printing when unique physical properties are desired
  - Flexible
  - Pliable
  - Strong and rigid
  - Mix of the above
- Advanced capabilities:
  - Integration of inserted objects, such as fasteners, electronics, sensors, etc.
  - Core modeling optimizes strength, weight, and print times

Prosthetic Hand
Material Cost: $60

Full Body Print
Material Cost: $400

CREATIVE

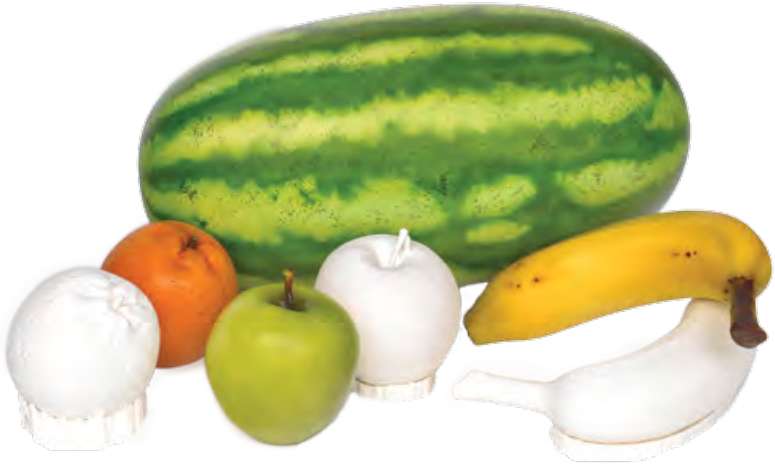
3D Platform enables 3D artists to unleash their creativity and bring big ideas to life.

Large build area allows for **full-scale** printing, without scaling down or multiple parts that require post-print assembly.

Key Advantages:

- Advanced capabilities:
  - Embed inserts: fasteners, electronics, sensors, etc.
  - Core modeling optimizes strength, weight, and print times
- Diverse open market materials enable printing when unique physical properties are desired
  - Flexible
  - Pliable
  - Strong and rigid
  - Mix of the above

Frankenstein Head
Material Cost: $240



Fruit
Material Cost: $40

Expanded 3D Printing Capabilities

Case Study

REINFORCED CHAIR

Advanced processes in 3D printing, such as inserts, core modeling, and multiple materials, can expand the capabilities of a 3D printer. Incorporating non-printed elements, such as fasteners, electronics, switches, sensors, or even metal substructures, into a printed part expands the spectrum of usability—resulting in fully functional models and prototypes.

The Challenge

3D print a chair that is sturdy enough to use.

The Solution

- Print a full-size chair using PLA with steel inserts to provide structural reinforcement
- Model-in the space for inserts within the 3D design, allowing for placement of the steel during printing
- Place stainless steel braces into the print at each programmed pause, then resume printing

The Result

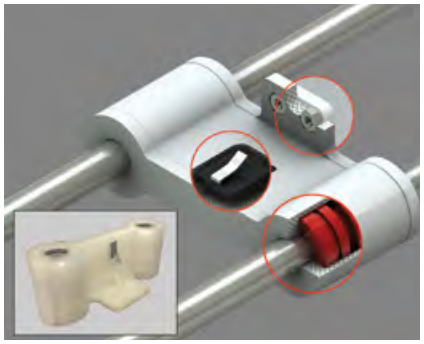
- A fully functional, steel reinforced, 3D printed chair

OTHER APPLICATION EXAMPLES

Electronics

Nut and bolt combination

Linear bearings, nuts, and sensor



Industrial Strength

- Robust SIMO Series actuators from PBC Linear® provide **smooth** and **accurate** motion control
- Constant Force™ anti-backlash lead screw and nut enables quick start, stop, and change of direction

Standard Features

- **Dual extruders** are capable of utilizing **3 mm** or **1.75 mm** filament (3 mm recommended), multiple nozzle diameters available
- **Filament sensors** pause printer when filament runs out—providing added print security

CUT PRINT TIME IN HALF!

3D PLATFORM SurePrint™ Technology

- Reduced print time
- Enhanced print quality

Borosilicate Glass

- Heated build platform

Folding Gantry fits through a standard door and allows you to conveniently **locate where you want**—office, factory, etc.

Industrial Workbench

- Solid hardwood work area
- Industrial built-in storage drawers and cabinets for useful additive manufacturing tools and materials

3DP WORKBENCH

3DP 3D PLATFORM

Technical Specifications

PRINTER SPECIFICATIONS

Printer Type	Fused Filament Fabrication (FFF)
Build Volume	1000 mm x 1000 mm x 500 mm (39.3 in x 39.3 in x 19.6 in)
Build Platform	Heated borosilicate glass; 145°C maximum temperature
Layer Resolution	Down to 70 microns (0.0027 in)
Build Speed	70-175 mm/sec
Build Materials	• Open market materials • 3 mm (≒2.88 actual) or 1.75 mm diameter filament • Melt point below 295°C
Extruder Type	Dual head, high volume extruders
Nozzle Diameter	0.6 mm standard—other sizes optional; 0.4 mm, 0.8 mm, 1.0 mm, 1.2 mm
Certifications	CE Certification
Power Input	208-220 V, 15 AMP, 60 Hz
Ambient Operating Temp.	15° - 32°C (60° - 90°F)

PHYSICAL DIMENSIONS & WEIGHT

Overall Width	1473.2 mm (58 in)
Overall Length	2286 mm (90 in)
Overall Height	1320.8 mm (52 in)
Approx. System Weight	540 lbs

SOFTWARE PLATFORMS

Simplify3D®

Simplify3D is an easy-to-use program used to import, repair, slice, preview, and print all from the same application. Simplify3D provides detailed print preview capabilities allowing for detailed analysis of a model prior to printing. Simplify3D is available for purchase at www.simplify3d.com.

Repetier Host & Slic3r

Repetier Host is a free, open market software used to operate your 3D printer – with controls for temperature, speed, flow, and movement. It includes an interface with Slic3r, which is used for processing files, cutting a model into horizontal slices–called layers–generating tool paths to fill them and calculating the amount of material that will be extruded. The program is available for download at www.repetier.com.

Note: Repetier Host and Slic3r are used in conjunction and can be downloaded simultaneously from the Repetier Host website Simplify3D is used singularly to process files and operate the printer.

ABOUT 3D PLATFORM

3D Platform is a leading manufacturer of industrial-strength, large-format 3D printers. 3DP's second-generation 3D printer, the 3DP Workbench, is an industrial strength additive manufacturing workbench that offers a large build area of 1 m x 1 m x 0.5 m.

Based in Roscoe, Illinois, 3D Platform is committed to utilizing their expertise in mechatronics and linear motion to design and construct the best-in-class large format 3D printers while maintaining affordable flexibility with open market software and control solutions.

3D Platform™ | 1-779-771-0000
6402 E. Rockton Rd | Roscoe, IL | 61073 | USA
marketing@3DPlatform.com
www.3DPlatform.com

3DP-001-r4 [3-2016, 2000]