

Digital Manufacturing Lab (3D Printing Unit)

3D printing or additive manufacturing has the potential to revolutionize the manufacturing sector and the way the products are build. The benefits of 3D printing include the design flexibility, time-to-market, mass customization, lower cost and much more. As the popularity of 3D printing is emerging in industries, the use of this lab by researchers, graduates and under-graduates is also increasing. The AMI has a range of 3D printers to meet a broad spectrum of educational, industrial, and medical applications.

3D Printers

1. ARCAM Metal 3D Printer
2. Stratasys Dimension Elite
3. Formlabs form 2
4. Zortrax Z200
5. Intamsys Funmat High Temperature 3D printer

ARCAM Metal 3D Printer

Arcam's Electron Beam Melting (EBM) machine create dimensionally accurate and 99.95% dense parts quickly and efficiently by leveraging a high-power electron beam for maximum melting capacity and productivity. The Arcam EBM process is performed in vacuum and at high temperature, producing stress-relieved components with material qualities superior to cast and comparable to wrought material. It has a large build tank volume with a maximum build size of 200 x 200 x 350 mm. The machine build rate speed is 55/80 cm³/hr with a beam scan speed up to 8000 m/sec.



ARCAM Metal 3D Printer

Stratasys Dimension Elite 3D Printer

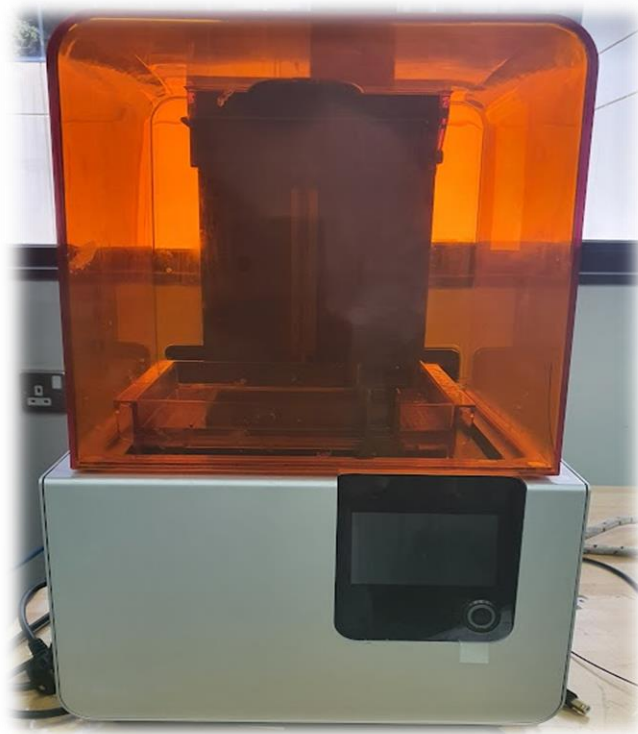
Stratasys Dimension Elite printer is an office friendly 3D printer which creates architectural, medical and engineering models with high precision and detailed print with a touch of button. The printer allows the users to print the parts in one piece or multiple parts in a single print, thus skipping the assembly line. It works using the technology of fused deposition modeling with a high-resolution accuracy of 178 microns and a build volume of 203 x 203 x 305 mm. The system uses special type of heated detergent to clean and eliminate the surrounding support material.



Stratasys Dimension Elite 3D Printer

Formlabs form 2

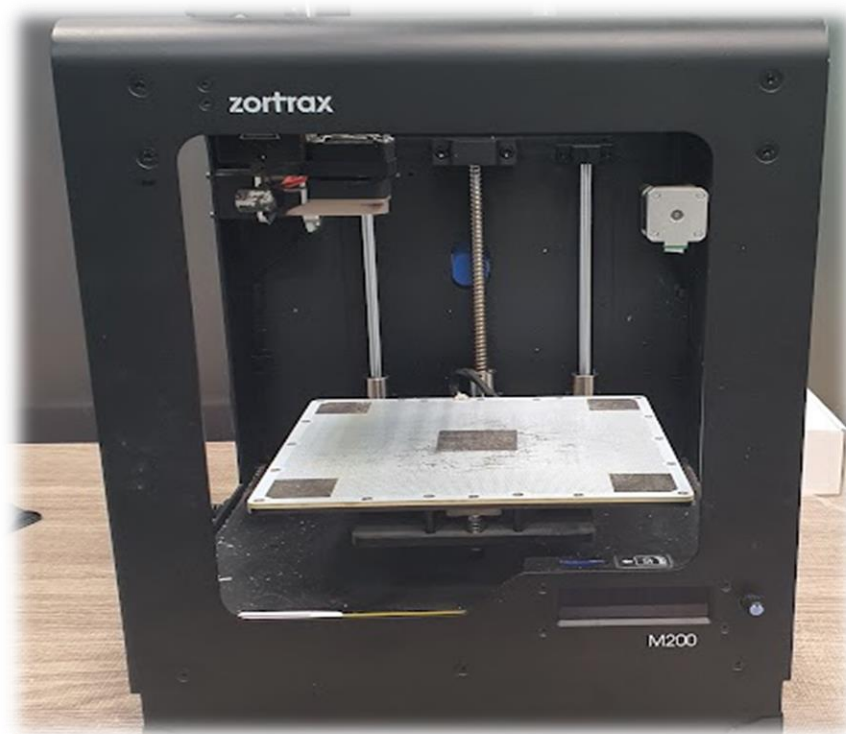
This 3D printer works on the principle of Stereolithography (SLA). It can deliver accuracy up to 25-100 μm and has a build volume of 145 x 145 x 175 mm. The material is a common transparent Acryl butadiene styrene resin. It has applications in the fields of jewelry, dentistry, medicine, aerospace engineering, automotive research, and architecture .



Formlabs form 2

Zortrax Z200

This 3D printer works on the principle of Fused Deposition Modeling (FDM). Its build volume is 200 x 200 x 180 mm, and it has an accuracy range of 25–300 μm . Z-ABS, Z-ABS 2, Z-PLA Pro, Z-PETG, Z-PCABS, and Z-ULTRAT are among the materials that can be used in this 3D printer. Its primary use is in educational prototypes. Besides, it can be utilized to produce low-cost models for applications in the medical, aeronautical, architectural, and automotive fields .



Zortrax Z200

Intamsys Funmat High Temperature 3D printer

This 3D printer works on the principle of Fused Filament Fabrication (FFF). It has a build volume of 260 x 260 x 260 mm with an accuracy range of 50-200 μm . The materials that can be used on this 3D printer are ABS, PLA, PC, NYLON, ULTEM, PEEK. It has benefits in high temperature applications including surgical guides, surgical implant, aerospace, automotive, gas and oil, and manufacturing.



Intamsys Funmat High Temperature 3D printer