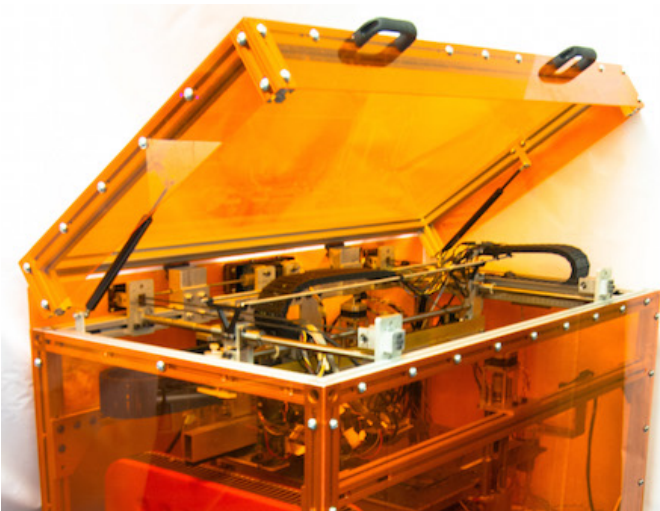


MIT 3D Prints With Up to 10 Materials At Once

Written by Marco Attard
27 August 2015

MIT Computer Science and Artificial Intelligence Lab (CSAIL) researchers present the MultiFab-- a 3D printer able to print objects using up to 10 materials, as well incorporate other, finished objects into the design.



"Multi-material" 3D printers already exist, if in the shape of industrial machines able to print able to use up to 3 materials at a time. The Multifab claims to be superior to such devices through the use of 3D scanning and machine vision technologies.

As CSAIL put it, the MultiFab constantly receives feedback from a 40-micron 3D scanner and a camera array while printing, allowing it to adjust and re-calibrate materials and the printing process on the fly. The scanning also allows the incorporation of finished objects, such as circuits and sensors, in the printed object.

Actual printing comes through the mixing of microscopic photopolymer droplets before shooting through inkjet-style printheads, instead of traditional extrusion technologies.

The printer was built using off-the-shelf parts and cost around \$7000-. However it requires the addition of heavy duty computing prowess for the crunching of "dozens of gigabytes" of data 3D scanning generates. That said, CSAIL believes the technology is scalable for both commercial and consumer applications, with one such user case being big-box stores housing a Multifab printer for use by casual hobbyists and small-business owners.

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"Picture someone who sells electric wine-openers, but doesn't have \$7,000 to buy a printer like this," the researchers say. "In the future they could walk into a FedEx with a design and print out batches of their finished product at a reasonable price."

Go [Multifab 3D Prints a Record 10 Materials at Once, No Assembly Required](#)