

The limited usefulness of home 3d printing

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3d printing is a manufacturing process that has been around for thirty years. Just recently, the patents expired for (FDM) or Fused Deposition Modeling. The FDM manufacturing process works by depositing a bead of melted plastic in the desired shape of a product. This technology is cheaper and has allowed the public to access the power of 3d printers. For as little as \$300 anybody can own a 3d printer. These small printers enable a homeowner to fix things that require small custom parts.

A printer can print out any model that fits in its print area. Unfortunately, home 3d printing is limited because it can only print plastic. The two main plastics home 3d printers use are ABS and PLA. Both plastics have strengths and weaknesses. ABS is stronger and lighter than PLA but smells when printing. The fumes that are given off while printing ABS have not been fully tested for carcinogens and can be harmful.

PLA gives off no harmful fumes and is easier to print, but it is not as strong as ABS. Furthermore, the use of plastics limits the things you can create because the manufacturing process is not food safe. The 3d printed items can trap bacteria in the ridges created in the manufacturing process. Overall, 3d printing at home is not beneficial to the average household. The printers are only really useful to people that have a need to rapid-prototype. These people already have access to printers through universities and maker spaces. While some people can benefit from rapid prototyping in the home, it will be a while more before the average consumer is printing a new plate before dinner.