Personal electronics' next revolution: Home printers that make 3-D objects

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Just imagine: Instead of sending Grandma a holiday photo of the family for her fridge, you call up the image on your computer monitor, click "print," and your printer produces a three-dimensional plastic model ready for hanging on the holiday tree. Scenes like that — in which homes have 3-D printers that build solid objects on demand – are fast approaching reality, according to the cover story in the current edition of Chemical & Engineering News, the American Chemical Society's weekly newsmagazine.

In the article, C&EN Associate Editor Lauren K. Wolf explains that 3-D printers are on the verge of a personal revolution akin to the one that began in the 1970s and transformed computers from room-size machines to devices that fit on tables and now in pockets. A similar transformation is taking place in the world of 3-D printing, where machines are shrinking and the ability to create detailed objects from a variety of materials is growing. Engineers are now able to create objects out of a number of plastics, metals, ceramics and even foods like chocolate, sometimes with details as fine as a human hair.

The technology promises to foster revolutions in venues ranging from kitchens to hospital operating rooms. Some surgeons, for instance, envision printing bone grafts or replacement blood vessels with embedded proteins and cells that will help them fuse naturally. Chefs could print designer chocolates and gourmet meals with unique textures and tastes. "In 20 years, many people will have a 3-D printer in their kitchen for printing designer foods and other products," the article

quotes one scientist as saying.

More information: Personal Manufacturing: cen.acs.org/articles/89/i46/Pe … l-Manufacturing.html

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