

Custom snacks on-demand with 3D printing



We've already seen an exercise machine that [3D prints chocolate](#) according to how much users have worked out, and [pancakes 3D printed](#) with the diner's face on it. Currently in the early stages of development, Finland-based [VTT Technical Research Centre](#) is using 3D printing to develop smart vending machines that will be able to produce completely customizable snacks.

Consumers will be able to choose from a variety of flavors and textures, such as crispy, crunchy or soft, to build their own multi-layered food on-demand. Having started with starch and cellulose-based products, researchers are now looking into the viability of printing protein concentrates from plants such as oats and fava beans, and whey from dairy. Healthfulness is an important part of the final product.

Technically, the ingredient mix must be able to flow enough to be used in the printing process, and as an emerging technology, additional research is ongoing. VTT's scientists believe that industrial-scale production is still a few years away because equipment as well as materials must be developed.

With 3D printing now available for everything from [cars](#) to [action figure toys](#), are the only limitations our imagination?

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