Rapid Prototyping Gets Faster

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DEVELOPMENTS TO WATCH

Rapid Prototyping Gets Faster And Cheaper

Since the late 1980s, rapid prototyping (RP) has evolved from a tool for making factory molds and dies to a low-volume technique for making finished parts, and even consumer product prototypes. One type of RP machine turns computer models into functional parts by creating thin layer upon layer of powdered metal or plastic, fusing each layer into a solid. This so-called sintering is done by scanning a laser back and forth within the part’s often-intricate outline. But with most such machines, it takes hours to build a large 3-D shape.

Behrokh Khoshnevis, a professor of industrial and systems engineering at the University of Southern California, says he has a better idea. Instead of sintering a layer by scanning it with a laser beam, his system quickly fuses the whole layer under an oven-like electric or gas heater. The powder outside the part’s outline doesn’t solidify because it gets treated in advance with a special liquid. Khoshnevis says his patented approach can polish off each layer in less than 15 seconds. And it doesn’t need a laser, which can cost tens of thousands of dollars. He has licensed the process and hopes to see products as early as next year.

By Neil Gross
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