Rapid prototyping

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Rapid prototyping technologies and approaches

Rapid prototyping technologies and approaches are another powerful technological resource in product development. These approaches rely on a variety of techniques, but typically aim to produce a physical model of a concept quickly so that it can be evaluated and explored earlier in the development cycle. For example, the use of polymer resins and computer-controlled shaping equipment can quickly move from a CAD concept to a physical replica of the idea.

In the manufacturing arena, productivity is achieved by guiding a product from concept to market quickly and inexpensively. Rapid prototyping technology aids this process. It automates the fabrication of a prototype part from a three-dimensional (3-D) CAD drawing. This physical model conveys more complete information about the product earlier in the development cycle. The turnaround time for a typical rapid prototype part is a few days. Conventional prototyping may take weeks, or even months, depending on the method used. Rapid prototyping can be a quicker, more cost-effective means of building prototypes as opposed to conventional methods.