Desktop Engineering®
www.deskeng.com
THE COMPLETE COMPUTING RESOURCE FOR ENGINEERS

Rapid Prototyping: The Future is Now

Low-end pricing breakthroughs and new application areas define an evolving future for rapid prototyping technology.

Figure 1: Dimension from Stratasys uses ABS build materials from sealed cartridges. It is the industry's first 3D printer priced under $30,000.

Loren Werner

The rapid prototyping (RP) industry is poised for major marketplace expansion. Old limitations associated with high price points for entry-level machines and RP parts, and the need for skilled machine operators, are dropping away as paradigm shifts in pricing, usability, and applications take RP in new directions. Evolving customer requirements are shaping these new directions for rapid prototyping. Motivated by the tremendous demand among design engineers for solid concept models, Stratasys, for example, has introduced the industry's first networked, desktop 3D printer *(see Figure 1)* that sells for less than $30,000.

Today, many RP equipment vendors are redefining their businesses as accelerating manufacturing. The RP industry's largest hardware supplier, 3D Systems, for example, finds five areas in which its customers require products:

- Solid concept models used for communication among design engineers.
- Prototypes used in low volumes for testing concepts and form-and-fit factors.
- Patterns for tooling and short-run manufacturing.
- Tools—either indirect prototype tools or direct patterns for injection molding tools.
- Actual finished parts.

PARADIGM SHIFT — COMMODITY PRICING FOR CONCEPT MODELERS?

By breaking the $50,000 price barrier with its $29,900 Dimension machine, Stratasys has made desktop 3D printing more accessible to the 1.7 million 3D CAD seats in the industry today. Making 3D concept modelers affordable allows designers to use these tools much earlier in the design process to review and refine parts under development.

The Stratasys Dimension machine actually bridges the gap between pure concept modelers and some classes of rapid prototyping equipment. The key to that neat trick is in the materials. Desktop concept modelers in the $50,000 range, such as those available from 3D Systems and Z Corp. build 3D parts with relatively fragile wax-like substances. Because Dimension builds parts in durable ABS plastic, its users can not only evaluate concepts, but also do snap fits (form-and-fit testing) as well—applications traditionally reserved for more costly rapid prototyping machines.

Lower price points raise the prospects of far-reaching effects. Someday soon perhaps, a salesman might send an STL file to Kinko's the night before a presentation and then pick up the 3D part at Kinko's on the way to work the next morning. As production volumes rise, 3D concept modelers become affordable enough for small office/home office environments.

For information on Dimension
1-866-721-9244
info@dimensionprinting.com
www.dimensionprinting.com