

**Water Technologies from GE**  
 Helping conserve one of our most precious natural resources. imagination at work  
 See what's possible On | Off



SEARCH:

- 2 FREE ISSUES
- FREE NEWSLETTER
- CUSTOMER SERVICE
- FREE DIGITAL ISSUE



- HOME
- CURRENT ISSUE
- ARCHIVE
- COLUMNS
- WEBLOG
- PREDICTIVE MARKETS
- |

TOPICS

- Biotech
- Business
- Computing
- Energy
- Nanotech
- Security
- Software
- Telecom / Internet
- Transportation
- Expanded List**

**MAGAZINE**  
 2 FREE TRIAL ISSUES  
 SUBSCRIBE



**FREE DIGITAL ISSUE**  
 GIVE A GIFT  
 RENEW

**MIT INSIDER**  
 FREE SAMPLE ISSUE  
 SUBSCRIBE



**SEMICONDUCTOR LETTER**  
 FREE SAMPLE ISSUE  
 SUBSCRIBE

➔ [TOPIC > BUSINESS > MANUFACTURING & LOGISTICS](#)

## Inkjet goes 3D

Technology Research News February 11, 2004

Just as color printers are becoming status quo, a new technology may enable something more—three-dimensional desktop printers.

Three-dimensional printers use high-intensity lasers to harden extremely thin layers of liquid plastic or melt and fuse metal or plastic powders to build up three-dimensional forms, and are used in industry for both rapid prototyping and manufacturing. Lasers are relatively expensive components, however.

Researchers from the University of Southern California have fashioned a printer that makes three-dimensional forms without the use of a laser.

Instead of using a laser beam to selectively melt material, the researchers' selective inhibition sintering method uses an inkjet nozzle to treat portions of a powder with an anti-sintering agent like saltwater so that it resists melting, then exposes the entire form to high-intensity heat.

The selective inhibition sintering method is faster than laser methods, uses less energy, and uses much cheaper components, according to the researchers.

The researchers used their prototype 3D printer to build forms using layers one-tenth of a millimeter thick. Each layer can be completed in as few as 15 seconds. The prototype is accurate to within two-tenths of a millimeter, and could be improved using a commercial quality printhead, according to the researchers.

The technology has been licensed to build a commercial machine, and could be used practically within a year, according to the researchers. The work appeared in Issue 1, 2003 of *Rapid Prototyping Journal*.

- NEWSFEEDS
- ORDER REPRINTS
- WRITE A LETTER TO THE EDITOR

▼ ADVERTISEMENT ▼

Logout

▼ AD

imag



Roll

Wa  
Te  
fro

Help  
one  
preci  
reso

See

On

SPONSC

[RHT 200](#)