

Sector:	Education
Technology:	SLA® system and ThermoJet® printer



De Montfort University Leads the Way in Rapid Manufacturing

3D Systems installed its SLA® 7000 stereolithography system and a ThermoJet® solid object printer in one of the largest and most up-to-date rapid manufacturing research centers in the world.

The Center for Rapid Manufacturing was officially opened at De Montfort University in Leicester, England in July of 1999. The Center was established to carry out work for a Rapid Manufacturing Consortium, which comprises members from a number of leading companies, including ABB Alstom Power, Caradon plc, DaimlerChrysler AG, Flymo, Lotus Engineering, Siemens AG, Martin-Baker Aircraft Co Ltd., TWR and the Volvo Car Corporation.

"The scope of the consortium is rapid product development and manufacturing, which covers all aspects from initial concept through product development and production," explained Professor Phil Dickens, head of the university's Rapid Manufacturing Research Group. A major activity will be the training of engineers by the consortium members and technology transfer.

The consortium represents a long-term commitment between industry and the university, with the members offering research and education to overcome the shortage of skills required for rapid product development and manufacture. The consortium will also disseminate knowledge to a wider audience, including their suppliers and customers."

Empowered by the Latest Technologies

3D Systems' founder invented the stereolithography process in 1986, and the technology has been accepted worldwide as an effective method of producing concept models, rapid prototypes, functional test components and master patterns for tooling and production.

The SLA 7000 system installed at the Center for Rapid Manufacturing represents the latest and most powerful addition to the company's range. With the ability to build components in ultra-thin layers of just 0.025mm*, the SLA 7000 system is capable of producing parts with excellent surface finish and clarity for rapid manufacturing applications.

"We are moving away from mass production to custom production, where refinements and changes to products need to be made very quickly to meet market demand for more improvements and choice."

*Prof. Phil Dickens,
DeMontfort University*

The ThermoJet printer supplied by 3D Systems uses an approach similar to ink jet printing, with a print head that dispenses a plastic-like material in a layering technique to build a solid model.

The system queues and processes jobs from multiple CAD workstations sequentially, just like an office printer or plotter, and is particularly useful for the production of inexpensive 3-D models for design validation and communication during product development.

The Manufacturing Evolution

"We are moving away from mass production to custom production, where refinements and changes to products need to be made very quickly to meet market demand for more improvements and choice," said Dickens.

"We are already seeing rapid prototyping and rapid tooling used by companies. In ten to twenty years, rapid manufacturing may be so advanced that space missions will have materials, technology and CAD files on board to manufacture spare parts when needed."

The Center for Rapid Manufacturing will offer a range of educational programs, including both undergraduate and post-graduate courses. Additionally, a series of annual seminars will be held at both the university and consortium members' facilities.

3D Systems will continue to work closely with the university to develop applications for both its SL and ThermoJet technologies within the center, to best meet the requirements of the consortium members for the research and advancement of rapid manufacturing techniques.

* Layer thickness is dependent upon part geometry and other factors.



26081 Avenue Hall • Valencia, CA 91355 USA
telephone 661.295.5600 • fax 661.294.8406
toll-free 888.337.9786 • email moreinfo@3dsystems.com