

Description

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COMPUTER AIDED DESIGN

COMPUTER AIDED MANUFACTURE

LASER CUTTER

THE BIG PICTURE



KEY WORDS

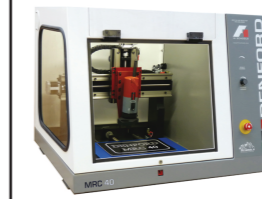
CAD/CAM

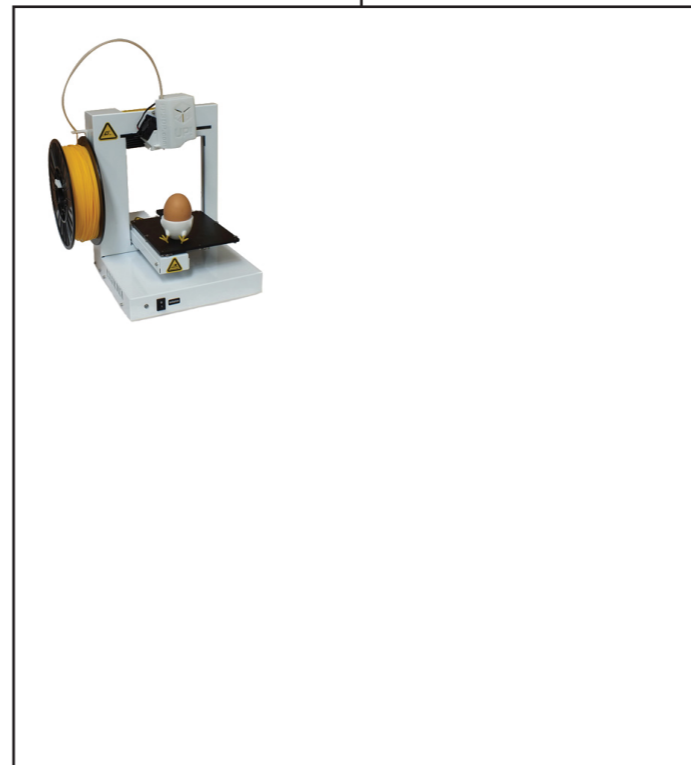
CNC ROUTER

CAD ADVANTAGES

CAM ADVANTAGES

3D PRINTER





CAD DISADVANTAGES

CAM DISADVANTAGES

Name

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Description

CAD (computer-aided design) software is used by architects, engineers, drafters, artists, and others to create precision drawings or technical illustrations. CAD software can be used to create two-dimensional (2-D) drawings or three-dimensional (3-D) models.

COMPUTER AIDED DESIGN

Google Sketch-Up

Techsoft 2D Design

Adobe Illustrator

Autodesk Inventor

Description

CAM (computer-aided manufacture) is the use of computer software (CAD) to control machine tools and related machinery in the manufacturing of workpieces.

COMPUTER AIDED MANUFACTURE

3D Printer

Laser cutter

Vinyl Cutter

CNC router

LASER CUTTER



1. Place the material on the honeycomb bed.
2. Focus the laser on the material.
3. Ensure that the settings for cutting and engraving are correct.
4. Send file across
5. Ensure extraction unit is on

THE BIG PICTURE

KEY WORDS

computer numeric control

manufacture

design

CAD/CAM

CAD ADVANTAGES

more accurate than hand-drawn designs

you can save and edit ideas quickly

you can view designs in 360 degrees

you can add colour and material easily

CAM ADVANTAGES

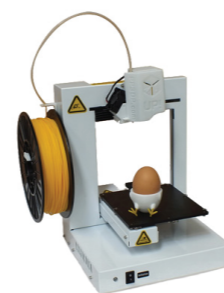
results are consistent (always the same)

Speeds up production of low-volume products

able to work 24/7 with no stopping

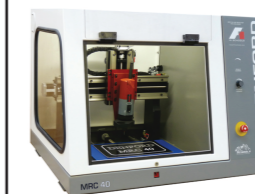
complete dangerous tasks/processes

3D PRINTER



1. Start with making a virtual design of the object.
2. Convert design file to 3D printing file
3. Final model now sliced into layers.
4. Put glue on printer bed to ensure slices 'stick' to base.
5. Send file to print - 3D printer prints each layer (slice)

CNC ROUTER



1. Setting the datum.
2. Attaching material to bed.
3. Tool paths.
4. Cutting depths - brittle material.
5. Cutting speeds.

CAD DISADVANTAGES

Software is expensive so initial costs high

Staff need to be trained how to use software

CAM DISADVANTAGES

can create unemployment

initial machine costs are very high

Name