

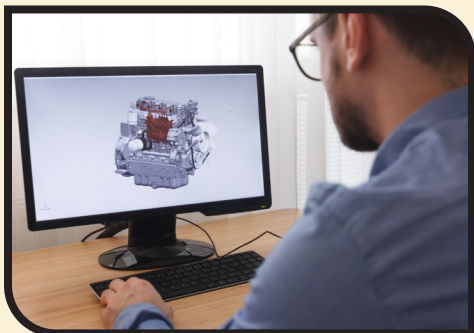
CONCEPT 3D design is the process of using software to create a mathematical representation of a 3-dimensional object or shape. The created object is called a 3D model and these models are used for computer-generated (CG) design.

BACKGROUND

A pioneer of 3D graphics is Ivan Sutherland, the creator of Sketchpad. This revolutionary program helped to create the first 3D objects - 3D is what it is today thanks to Sketchpad. Sutherland, along with his colleague David Evans, opened the first ever department of computer technologies at the University of Utah.

APPLICATION

There are many ways we use 3D design in everyday life. A model can be created automatically (with the help of a 3D scanner), or manually by a 3D modeler (using special computer programs). Often, 3D designing refers to the process when a designer creates a 3D model using software.

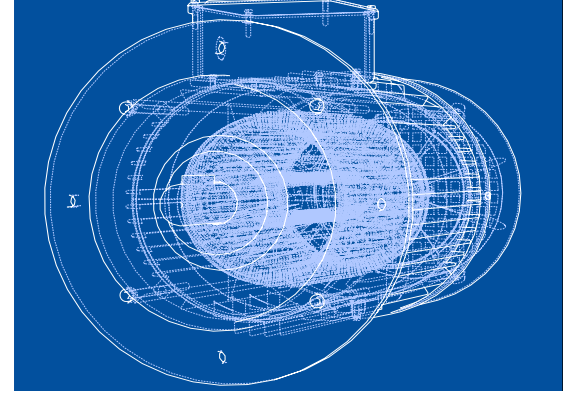


EXAMPLES

There are many types of 3D design methods used across the manufacturing, architecture, building, construction, media and entertainment industries including:

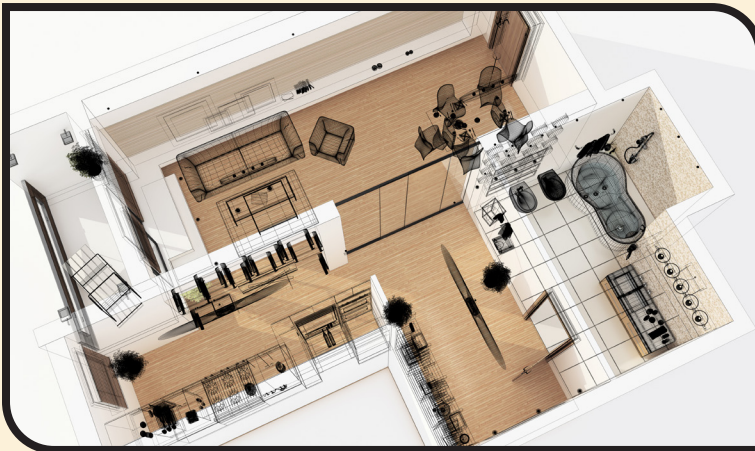
- 3D CAD
- 3D Modeling
- Visual Effects
- Virtual Reality
- Product Design
- BIM (Building Information Modeling)
- Generative Design
- CAD/CAM

Make sure it measures up



REAL WORLD CONNECTIONS

- 3D CAD is used by architects, engineers and other professionals; 3D CAD provides an extra dimension to precisely visualize and share designs.
- 3D modeling uses software to create 3D models.
- Visual effects (VFX) artists create compelling effects, believable 3D characters and stunning environments for film, TV and games.
- Virtual reality (VR) replaces the real world with a simulated one in 3D. Transforming a 2D design into an interactive, immersive digital model.
- Manufacturers and product designers use 3D graphic design programs to design products, automobiles, factories, buildings and industrial equipment.



- BIM (Building Information Modeling) is a 3D model-based process that helps professionals more efficiently plan, design, construct and manage buildings and infrastructure.
- Generative design uses computer algorithms to make thousands of optimized designs, along with the data to prove which designs perform best.
- CAD/CAM uses computer software to both design a product and program manufacturing processes.



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