# **Autodesk**



<u>Type</u> <u>Public</u>

NASDAQ: ADSK

<u>Traded as</u> NASDAQ-100 Component

S&P 500 Component

<u>ISIN</u> <u>US0527691069</u>

Software,

Industry Media & Entertainment,

Manufacturing & Industrial

Founded January 30, 1982; 38 years ago

Mill Valley, California, U.S.

Founders John Walker, Dan Drake

Headquarters 111 McInnis Parkway San Rafael,

94903 California, U.S.

Crawford W. Beveridge

Key people (Chairman)

Andrew Anagnost

(CEO)

**Products** See products

**Revenue \( \bigsilon \)** US\$2.57 billion (2019) (2019)

Total equity ▲US\$733 million (2019)[1]

Number of employees

10000(2019) 7,200(2018)

Website

www.autodesk.com

**Autodesk, Inc.** is an American <u>multinational software</u> corporation that makes software services for the architecture, engineering, construction, manufacturing, media, education, and entertainment industries. Autodesk is headquartered in <u>San Rafael, California</u>, and features a gallery of its customers' work<sup>[2]</sup> in its San Francisco building. The company has offices worldwide. Its U.S. locations are California, Oregon, Colorado, Texas, Michigan, New Hampshire and Massachusetts. Its Canada offices are located in <u>Ontario</u>, <u>Quebec</u>, and <u>Alberta</u>.

The company was founded in 1982 by <u>John Walker</u>, who was a coauthor of the first versions of <u>AutoCAD</u>. AutoCAD, which is the company's flagship <u>computer-aided design</u> (CAD) software and Revit software are primarily used by architects, engineers, and structural designers to design, draft, and model buildings and other structures. Autodesk software has been used in many fields, and on projects from the <u>One World Trade Center<sup>[3]</sup></u> to <u>Tesla electric cars</u>. [4]

Autodesk became best known for <u>AutoCAD</u>, but now develops a broad range of software for design, engineering, and entertainment—and a line of software for consumers, including <u>Sketchbook</u>. The manufacturing industry uses Autodesk's <u>digital prototyping</u> software—including <u>Autodesk Inventor</u>, Fusion 360, and the Autodesk Product Design Suite—to visualize, simulate, and analyze real-world performance using a digital model in the design process. The company's <u>Revit</u> line of software for <u>building information modeling</u> is designed to let users explore the planning, construction, and management of a building virtually before it is built.

Autodesk's <u>Media and Entertainment</u> division creates software for visual effects, color grading, and editing as well as animation, game development, and design visualization. <u>3ds Max</u> and <u>Maya</u> are both 3D animation software used in film visual effects and game development.

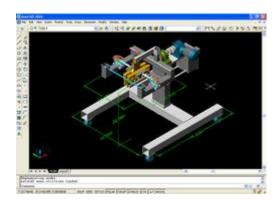
# **Contents**

- 1 Products
  - o 1.1 Platforms
  - o 1.2 Training And Certification
  - o 1.3 Architecture, engineering and construction
  - o 1.4 Genetic engineering
  - o 1.5 Manufacturing
  - o 1.6 Media and entertainment
  - o 1.7 Renderers
    - 1.7.1 Cloud rendering services
    - 1.7.2 Visualization tools
  - o <u>1.8 Discontinued products</u>

- 1.9 Maintenance-mode products
- o 1.10 Formerly owned and have since been divested
- 2 History
  - o <u>2.1 Corporate acquisitions</u>
- 3 Sustainability
- 4 See also
- <u>5 References</u>
- 6 External links

## **Products**

### **Platforms**



A screenshot of AutoCAD, Autodesk's flagship product.

Platform Solutions and Emerging Business (PSEB) division develops and manages the product foundation for most Autodesk offerings across multiple markets, including Autodesk's flagship product AutoCAD, AutoCAD LT, AutoCAD for Mac, and AutoCAD mobile app (formerly AutoCAD 360). Autodesk Suites, Subscription and Web Services, which includes Autodesk Cloud, Autodesk Labs, and Global Engineering are also part of PSEB. In what was seen as an unusual step for a maker of high-end business software, Autodesk began offering AutoCAD LT 2012 for Mac through the Apple Mac App Store. Also part of PSEB is the Autodesk Consumer Product Group, which was created in November 2010 to generate interest in 3-D design and "foster a new wave of designers who hunger for sophisticated software". The products from the group include Motion FX, and SketchBook. Users range from children, students and artists to makers and DIYers.

# **Training And Certification**

Autodesk offers certificates in two categories: Autodesk Certified User and Advanced Certified Professional.

 Autodesk Certified User- Verifies entry-level skills in key Autodesk products. Designed for students and instructors who wish to demonstrate basic proficiency. Curriculum, courseware, and exams offered for independent study or institutional integration. • Advanced Certified Professional- Validates more advanced skills, including complex workflow and design challenges. Designed for students seeking a competitive advantage in a specific product area.

### Architecture, engineering and construction

The Architecture, Engineering and Construction (AEC) industry group is headquartered in Boston, Massachusetts, in a LEED Platinum building designed and built using Autodesk software. Autodesk's architecture, engineering, and construction solutions include AutoCAD, and Revit, which is their flagship product for relational Building information modeling. The AEC division also develops and manages software for the Construction industry, including BIM 360, Advance Steel, and the NavisWorks (acquired 2007) product tools; the Infrastructure industry, including Civil 3D, and InfraWorks; and the MEP industry, including Fabrication CADmep. The Autodesk Services Marketplace offering helps its clients train their team in AEC Industry. Projects that have used software from the Autodesk AEC division include the NASA Ames building, the San Francisco Bay Bridge, the Shanghai Tower, and New York's One World Trade Center.

### **Genetic engineering**

<u>Autodesk Life Sciences</u> is an extensible toolkit for genetic engineering. It visualises DNA code (Molecule Viewer), and has a tool for writing DNA code (genetic constructor). The tool allows work on molecule-level, rather than nucleobase-level (A, C, G, T) constructs.

In 2018, all projects were suspended. [17]

# **Manufacturing**

Autodesk's manufacturing industry group is headquartered in <a href="Portland, Oregon">Portland, Oregon</a>. The company's manufacturing software is used in various manufacturing segments, including industrial machinery, electro-mechanical, tool and die, industrial equipment, automotive components, and consumer products. Products include Fusion 360, the Product Design & Manufacturing Collection, <a href="Autodesk Inventor, Inventor Nastran">Autodesk Inventor, Inventor Nastran</a> (formerly Nastran In-CAD), Inventor CAM (formerly Autodesk HSM and Inventor HSM), Inventor Tolerance Analysis, Alias products, Factory Design Utilities, <a href="Autodesk Vault, Autodesk CFD">Autodesk Vault, Autodesk CFD</a> (formerly Autodesk Simulation CFD), <a href="Moldflow">Moldflow</a>, Netfabb, FeatureCAM, <a href="PowerMill">PowerMill</a>, <a href="PowerShape">PowerShape</a>, and VRED.

#### Media and entertainment

Autodesk Media and Entertainment products are designed for digital media creation, management, and delivery, from film and television visual effects, color grading, and editing to animation, game development, and design visualization. Autodesk's Media and Entertainment Division is based in Montreal, Quebec. It was established in 1999 after Autodesk, Inc. acquired Discreet Logic, Inc. and merged its operations with Kinetix. In January 2006, Autodesk acquired Alias, a developer of 3D graphics technology. In October 2008, Autodesk acquired the Softimage brand from Avid. The principal product offerings from the Media and

Entertainment Division are Flame, Smoke, and the Media & Entertainment Collection, which include Maya, 3ds Max, Arnold, MotionBuilder, Mudbox, and ReCap Pro.

Much of <u>Avatar</u>'s visual effects were created with Autodesk media and entertainment software. Autodesk software enabled <u>Avatar</u> director <u>James Cameron</u> to aim a camera at actors wearing motion-capture suits in a studio and see them as characters in the fictional world of Pandora in the film. Autodesk software also played a role in the visual effects of <u>Alice in Wonderland</u>, <u>The Curious Case of Benjamin Button</u>, <u>Harry Potter and the Deathly Hallows Part 1</u>, <u>Inception</u>, <u>Iron Man 2</u>, <u>King Kong</u>, <u>Gladiator</u>, <u>Titanic</u>, and other films.

#### Renderers

Autodesk develops and purchased many specific-purpose renderers but many Autodesk products had been bundled with third-party renderers such as <a href="NVIDIA Mental Ray">NVIDIA Mental Ray</a> or Iray.

- Autodesk Raytracer (ART; aka RapidRT<sup>[21]</sup>) a simple path tracing renderer based on Opticore technology. [22][23]
  - Autodesk Real Time Ray Tracing (Autodesk RTRT; formerly Opus RTRT) a ray tracing rendering engine used in Autodesk Opticore Studio<sup>[24]</sup> and Autodesk Real-Time Ray Tracing Cluster
- Autodesk VRED an OpenGL/Raytracing real-time and offline renderer that supports direct NURBS ray tracing
  - RenderGin (formerly Augenblick MMV) a discontinued realtime NURBS ray tracing renderer the technology was merged into VRED.
- Autodesk Realtime Renderer (formerly VSR Realtime Renderer) a discontinued ray tracing renderer for Rhinoceros 3D.
- Arnold Renderer a CPU or GPU accelerated unidirectional path tracing renderer for animation and visual effects
- Turtle a primary texture-baking renderer in Maya LT; its baking technology was also used in Beast, a discontinued lighting middleware with baking tools.
- Maya Software a scanline/raytracing hybrid renderer in Maya
- 3ds Max Scanline a scanline/ray tracing/radiosity hybrid renderer in 3ds Max
  - Lightscape a discontinued radiosity renderer; its technologies were merged within Autodesk VIZ (later 3ds Max Design). [26]
- Maya Vector a vector renderer based on Electric Rain's RAVIX technology. [27]
- One Graphics System a GPU photorealistic/non-photorealistic renderer, aka Nitrous/Quicksilver<sup>[28]</sup> in 3ds Max and Viewport 2.0/Hardware 2.0 in Maya
  - o Maya Hardware a legacy GPU rasterize renderer in Maya 2017 or earlier.

### Cloud rendering services

- Autodesk Rendering (formerly A360 Rendering) a simple cloud renderer
- Lagoa MultiOptics a discontinued cloud renderer for visualization
- 3ds Max Cloud Rendering a technology preview cloud rendering system for Arnold on 3ds Max. [29][30]
- Azure Batch Rendering a cloud rendering system for Maya, 3ds Max and Arnold, which is provided by Autodesk and Microsoft. [31]

#### Visualization tools

- Autodesk ImageStudio (formerly Alias ImageStudio) a discontinued visualization tool based on mental ray, marketed for <u>Autodesk Alias</u>
- Autodesk Showcase a discontinued design visualization tool
- Autodesk Opticore Studio (formerly Opus Studio) a discontinued design visualization tool
- Autodesk VRED (formerly PI-VR VRED)
- 3ds Max Interactive a real-time visualization tool based on <u>Autodesk Stingray</u>, shipped within 3ds Max.
- Revit Live a discontinued real-time visualization service for Autodesk Revit

### **Discontinued products**

Some of Autodesk's "retired" products are listed here:

- Lightscape 3.2 Was the world's only <u>radiosity</u> rendering package at the time (1991) developed from work done by Donald Greenberg at the <u>Cornell University</u> Department of Computer Graphics. The problem with this part of Autodesk's history is that it was a time of discovery in computer graphics, and Cornell was one of the birthplaces for the technology. In this sense Lightscape was more than just another product, it was an essential part of the development of rendering technology generally, and part of its evolution. Additionally the software came from a university research department and represented the start of a development cycle that users the world over were watching closely. Regardless, Autodesk purchased rights to the software and promptly discontinued its sale. A primitive version of the radiosity renderer was incorporated into the companies 3d Studio Max product, while existing Lightscape customers and the product were simply dropped. Citation needed
- Volo View was a web-enabled review and markup tool from Autodesk for engineering data, including support for Autodesk's <u>DWG</u>, <u>DXF</u>, and DWF formats. Volo View enabled design teams to communicate ideas and review designs without access to AutoCAD software. Autodesk discontinued sales of Volo View on May 1, 2005. The latest version of the software, Volo View 3, worked with the following file formats: AutoCAD 2004, DWG and DXF; Design Web Format (DWF 6); Autodesk Inventor 7 IPT, IAM, and IDW and raster files. The functionality of this product is largely replaced by Autodesk DWF Composer (versions 1 and 2) later replaced by the free <u>Autodesk Design Review</u>. Autodesk has also released a free product called DWG TrueView. This product enables users to view and plot AutoCAD <u>DWG</u> and <u>DXF</u> files, and to publish these same files to the DWF file format.
- <u>Autodesk Animator Pro (DOS)</u> and <u>Autodesk Animator Studio (Windows)</u> were products
  designed for <u>cel-based animation</u> produced between the early-to-mid-1990s. At the time
  Autodesk was also advertising an Autodesk Media product similar in description to <u>Macromedia Director</u> but this product was never released to the public.
- Cyberspace by Autodesk was an early real-time 3D environment capable of producing basic phong shaded walkthroughs of DXF format models in "realtime". No textures were supported, and the system was able to support a maximum DXF model size of around 35 KB. [citation needed] A popular demo model of the Parthenon in Greece was shown around the United States in a tour of the portable demo system complete with virtual reality goggles.
- AutoSketch
- AutoShade

- AutoCAD Survey (Autodesk Survey)
- Civil Design
- AutoCAD Civil 3D Land Desktop Companion (AutoCAD Land Desktop)
- Autodesk Mechanical Desktop
- AutoCAD Freestyle, released in April 26, 2010 and discontinued January 31, 2011.
- Autodesk Fluid FX
- Autodesk Time FX
- Inventor Fusion was discontinued August 23, 2014 due to redundancies with Fusion 360. [32]
- Sketchbook designer has been discontinued as of November 1, 2012<sup>[33]</sup>
- Softimage was discontinued after the release of Softimage 2015 in April 14, 2014.
  - Face Robot
  - Lagoa Multiphysics
- Autodesk Stitcher Unlimited
- Autodesk ImageModeler
- Autodesk Movimento (formerly Realviz Movimento)
- Autodesk Combustion
  - Discreet Effect (formerly Illuminaire Composition)
  - Discreet Paint (formerly Illuminaire Paint)
- Cleaner Streaming Studio
  - Cleaner Live
  - o Cleaner
  - Cinestream (formerly EditDV)
- 3D software for game modification
  - o gmax
  - Maya PLE<sup>[34]</sup>
  - XSI Mod Tool
- Autodesk Topobase Client its feature was merged into AutoCAD Map 3D. 1351
- Autodesk Topobase Web its feature was merged into Autodesk Infrastructure Map Server. [35]
- Autodesk Opticore Realizer (formerly Opus Realizer)
- Autodesk Opticore Studio (formerly Opus Studio)
- Autodesk AutoCAD ecscad the product was replaced by AutoCAD Electrical.
- Autodesk Smoke Advanced<sup>[37]</sup>
- Autodesk Flint<sup>[37]</sup>
- Autodesk Inferno<sup>[37]</sup>
- AutoCAD Structural Detailing[38]
- tsElements for SolidWorks<sup>[39]</sup>
- FBX Converter
- FBX QuickTime Viewer
- Autodesk Scaleform Unity Integration [40]
- Revit variants
  - Autodesk Revit Architecture its features were merged into Revit itself. [41]
  - Autodesk Revit Structure its features were merged into Revit itself. [41]
  - Autodesk Revit MEP its features were merged into Revit itself. [41]
- Autodesk Ecotect Analysis [42]
- Buzzsaw<sup>[43]</sup> the service was replaced by BIM 360 Docs.<sup>[43]</sup>
- Mockup 360<sup>[44]</sup> the tool was replaced by A360 Viewer. [44]
- Autodesk Remote<sup>[45]</sup>
- Inventor Engineer-to-Order<sup>[46]</sup>

- Autodesk Advance Concrete<sup>[47]</sup>
- Autodesk Quantity Takeoff some features of the product were merged into Autodesk Navisworks Simulate. [48]
- Autodesk 123D
  - Autodesk 3D Print Utility its features were merged into the Meshmixer. [49]
  - Autodesk 123D CNC Utility
  - Autodesk 123D Sculpt+ (formerly 123D Sculpt and Sculpt 123D)
  - o Autodesk 123D Make its slice feature was now in "Slicer for Fusion 360" add-in. [50][51]
  - Autodesk 123D Catch (formerly Project Photofly)
  - Autodesk 123D Circuits (a.k.a. Circuits.io) its "Electronics Lab" feature was merged into <u>Tinkercad</u>. [52][53][54]
- Tinkerplay (formerly Modio)
- Autodesk plugins for Rhino<sup>[55]</sup>
  - o Autodesk T-Splines Plug-in for Rhino [56]
  - o Autodesk Shape Modeling Plug-in for Rhino [56] (formerly VSR Shape Modeling)
  - Autodesk Realtime Renderer (formerly VSR Realtime Renderer)
- Autodesk ForceEffect family<sup>[57]</sup>
  - Autodesk ForceEffect
  - Autodesk ForceEffectMotion
  - Autodesk ForceEffectFlow
- Autodesk Spark<sup>[58]</sup> the 3D Print API in Autodesk Forge was also discontinued. [59]
- Print Studio the tool was replaced by Netfabb. 601
- Autodesk Footwear CAM Software (formerly Delcam Crispin [61]) [62]
- Autodesk Delcam for Solidworks CAM Software
- Autodesk Delcam Dentmill CAM Software
- Autodesk Delcam Orthomill CAM Software
- Autodesk Artcam CAM Software
- Autodesk Partmaker CAM Software
- Autodesk Inventor Publisher the product was replaced by the presentation feature of Autodesk Inventor Professional. [63]
- AutoCAD Utility Design<sup>[64]</sup>
- PixIr for Desktop [65]
- Autodesk Showcase [66][67]
  - o Autodesk Real-Time Ray Tracing Cluster
- Autodesk Simulation Mechanical [68]
- Autodesk Homestyler<sup>[69]</sup>
- Autodesk Within its functionality was merged into Netfabb. [70][71]
- Autodesk ReMake the product was replaced by ReCap Photo in ReCap Pro. [72]
- Autodesk Gameware
  - Autodesk <u>Scaleform<sup>[73]</sup></u>
  - Autodesk Beast<sup>[73]</sup>
  - Autodesk HumanIK<sup>[73]</sup>
  - Autodesk Navigation<sup>[73]</sup> (the successor of Autodesk <u>Kynapse</u>)
  - Autodesk Population
  - Autodesk Cognition
- Lagoa<sup>1/4</sup>
- <u>Autodesk Stingray<sup>[75]</sup></u> (formerly Bitsquid) the product is now part of 3ds Max as "3ds Max Interactive".

- Autodesk Infrastructure Map Server<sup>[76]</sup> (formerly Autodesk MapGuide Enterprise Server)
- Autodesk Live Viewer<sup>[77]</sup> The presentation published by Autodesk Live (Revit Live) now comes with internal viewer<sup>[77]</sup> but its mobile publishing feature was dropped. [78]
- Autodesk Flow Design<sup>[79]</sup>
- AutoCAD variants
  - AutoCAD P&ID<sup>[80]</sup> the product was replaced by AutoCAD Plant 3D.<sup>[80]</sup>
  - AutoCAD Architecture (formerly Autodesk Architectural Desktop) the product was merged into AutoCAD itself. [81]
  - o AutoCAD Electrical the product was merged into AutoCAD itself. [82]
  - AutoCAD Mechanical the product was merged into AutoCAD itself. [83]
  - AutoCAD MEP (formerly Autodesk Building Systems) the product was merged into AutoCAD itself.<sup>[84]</sup>
  - AutoCAD Map 3D the product was merged into AutoCAD itself.
  - AutoCAD Plant 3D the product was merged into AutoCAD itself.
  - AutoCAD Raster Design the product was merged into AutoCAD itself. [87]
- Structural Analysis for Revit<sup>[88]</sup> the product was replaced by Robot Structural Analysis Professional.
- A360 Desktop<sup>[89]</sup>
- Autodesk InfraWorks 360 iPad app<sup>[90]</sup>
- Autodesk MatchMover (formerly RealViz MatchMover)
- Autodesk Composite (formerly <u>Autodesk Toxik<sup>[91]</sup></u>)
- BIM 360 Team (formerly A360 Team)
  - o P&ID Modeler for Revit deprecated to expand the use of the product. [93]
  - o Collaboration for Plant 3D (C4P) deprecated to expand the use of the product. [93]
- Autodesk Revit Extensions<sup>[94]</sup>
- Autodesk TruFiber the product was merged into TruComposites. [95]
- Autodesk TruLaser the product was merged into TruComposites.
- Autodesk TruPlan the product was merged into TruComposites.
- Autodesk Life Sciences' products<sup>[17]</sup>
  - Genetic Constructor<sup>[98]</sup>
  - Molecule Viewer<sup>[99]</sup>
- Alias SpeedForm its functionality was merged into other Alias products. [100]
- Alias Design<sup>[100]</sup>
- Revit Live<sup>[101]</sup>

## Maintenance-mode products

- Autodesk Constructware
- Autodesk Inventor Publisher Mobile Viewer
- FBX Review

# Formerly owned and have since been divested

- Autodesk Seek acquired by BIMobject AB. [102][103]
- Autodesk Pixlr acquired by 123RF. [104]

# History

Autodesk's first notable product was <u>AutoCAD</u>, a <u>computer-aided design</u> application designed to run on the systems known as "microcomputers" at the time, including those running the <u>8-bit CP/M operating system</u> and two of the new <u>16-bit systems</u>, the <u>Victor 9000</u> and the <u>IBM Personal Computer</u> (PC). This tool provided made it affordable for smaller design, engineering, and architecture companies to create detailed technical drawings.

Autodesk became a <u>public company</u> in 1985. John Walker did not enjoy the process of writing the prospectus, relating the process to "lying on the beach or juggling chainsaws". [105]

Release 2.1 of AutoCAD, released in 1986, included <u>AutoLISP</u>, a built-in <u>Lisp programming language</u> interpreter initially based on XLISP. This opened the door for <u>third party developers</u> to extend AutoCAD's functionality, to address a wide range of <u>vertical markets</u>, strengthening AutoCAD's market penetration.

Subsequent to AutoCAD Release 13, the company stopped supporting the <u>Unix</u> environment and the Apple Macintosh platform. After AutoCAD Release 14 (R13 was last DOS & Unix release), first shipped in 1997, Autodesk discontinued development under <u>DOS</u>, and focused exclusively on <u>Microsoft Windows</u>.

AutoCAD has grown to become the most widely used CAD program for 2D non-specialized applications. The native file formats written by AutoCAD, <u>DXF</u> and <u>DWG</u>, are also widely used for CAD data <u>interoperability</u>.

In 1989, Autodesk's sales grew to over \$100,000,000 after just four operational years. [108]

In the 1990s, with the purchase of Softdesk in 1997, Autodesk started to develop specialty versions of <u>AutoCAD</u>, targeted to broad industry segments, including architecture, <u>civil</u> <u>engineering</u>, and <u>manufacturing</u>. Since the late 1990s, the company has added a number of significant non-AutoCAD-based products, including <u>Revit</u>, a parametric building modeling application (acquired in 2002, from Massachusetts-based Revit Technologies for \$133 million), and <u>Inventor</u>, an internally developed parametric mechanical design CAD application.

In 2007, Timothy Vernor sued Autodesk (*Vernor v. Autodesk, Inc.*), alleging that he was entitled to resell "used" copies of AutoCAD software on <u>eBay</u>. He had obtained the software from an Autodesk licensee at an office liquidation sale. A federal district judge in <u>Washington state</u> denied Autodesk's initial motion to dismiss in early 2008. In February and March 2009, both sides filed motions for summary judgment addressing the issue whether the <u>First Sale Doctrine</u> applies to previously licensed software. The Court ruled in Vernor's favor, holding that when the transfer of software to the purchaser materially resembled a sale (non-recurring price, right to perpetual possession of copy) it was, in fact, a "sale with restrictions on use" giving rise to a right to resell the copy under the first-sale doctrine. As such, Autodesk could not pursue an action for copyright infringement against Vernor, who sought to resell used versions of its software on eBay. Autodesk appealed the decision to the <u>United States Court of Appeals for the Ninth Circuit</u>, which reversed the lower court ruling, denying Vernor the right to resale Autodesk software due to Autodesk's nontransferable licensing restrictions. In October 2011, the U.S. Supreme Court let stand the 9th Circuit Court of Appeals ruling.

Autodesk introduced its current logo at the <u>TED conference</u> in <u>Long Beach</u>, <u>California</u> on February 26, 2013. [114][115][116]

Autodesk announced the largest lay off in its history on November 27, 2017 with the lay off of 1,150 jobs. This is in addition to the almost 1,000 job cuts announced in January 2016. The number of Autodesk employees has shrunk from approximately 9,200 to 7,200 in less than 2 years. [117]

## **Corporate acquisitions**

- On October 16, 1992, Autodesk acquired Micro Engineering Solutions (MES) Inc., a developer and marketer of manufacturing CAD / CAM software. [118][119][120]
- On August 4, 1993, Autodesk acquired Ithaca Software, a 3D computer graphics company founded by Autodesk's former CEO Carl Bass and Garry Wiegand. [121][122]
- On December 10, 1996, Autodesk announced its plan to acquire Softdesk, a developer of architecture, engineering and construction software.
- On May 6, 1998, Autodesk acquired assets of Genius CAD-Software to strengthen the functionality of its core mechanical products.
- On August 21, 1998, Autodesk agreed to acquire Discreet Logic Inc. for about \$520 million in stock. [125]
- On April 22, 1999, Autodesk acquired VISION\* Solutions, a vendor of enterprise automated mapping/facilities management/geographic information systems (AM/FM/GIS) from MCI Systemhouse Corp. [126]
- On January 24, 2001, Autodesk acquired Gentry Systems, a supplier of specialized software tools
  and services in the electric utility industry. The asset were used to strengthen Autodesk's
  position in the utility industry. [126]
- On September 24, 2001, Autodesk acquired Buzzsaw.
- On February 21, 2002, Autodesk acquired Revit Technology Corporation, a developer of parametric building technology for building design, construction, and management.
- On August 6, 2002, Autodesk acquired CAiCE Software Corporation, a developer of surveying and engineering applications for transportation agencies and consultants; the product was released in 2003 as "Civil 3D".
- On December 18, 2002, Autodesk acquired the assets of truEInnovations, Inc. to create the application <u>Autodesk Vault</u>.
- On March 4, 2003, Autodesk acquired Linius Technologies, Inc. and purchased certain assets of a third software company—VIA Development Corporation.
- On February 24, 2004, Autodesk acquired MechSoft, Inc., the developer of the MechSoft product.
- On March 2005, Autodesk acquired the assets of COMPASS systems GmbH, to strengthen Autodesk's position in the European product data management market.
- On January 10, 2006, Autodesk acquired <u>Alias</u>, with its automotive styling and digital content creation applications such as <u>FBX file format</u>. [128]
- On August 6, 2007, Autodesk announced the acquisition of Skymatter Inc, developer of Mudbox. [129]
- On August 9, 2007, Autodesk Completes Acquisition of NavisWorks Limited. [130]

- On August 20, 2007, Autodesk announced that it completed the acquisition of technology and product assets of Opticore AB in Gothenburg, Sweden. Opticore is specialized in real time visualization primarily for the carmakers industry.
- On August 28, 2007, Autodesk announced the acquisition of PlassoTech, developers of <u>CAE</u> applications.
- On January 15, 2008, Autodesk completed the acquisition of Robobat, a France-based developer of <u>structural engineering</u> analysis applications. [133][134]
- On February 12, 2008 Autodesk announces that it completed the acquisition of the assets of Carmel Software Corporation.
- On May 1, 2008, Autodesk announced agreed to acquire Moldflow Corporation, a leading provider of injection molding simulation software. [135]
- On May 7, 2008, Autodesk announced that it completed the acquisition of <u>Kynogon</u> SA, the privately held maker of <u>Kynapse</u> artificial intelligence middleware. Paris-based Kynogon specialized in video game middleware and simulation.
- The same day, Autodesk also announced the acquisition of REALVIZ S.A. [137] REALVIZ's flagship products are "Stitcher" software for the creation of panoramas and 360 degree virtual tours, and "ImageModeler" software to produce 3D models from photographs.
- On June 26, 2008, a press release announced the acquisition of Square One Research and its flagship product, <u>Ecotect</u>. [138]
- On October 23, 2008, Autodesk announced the acquisition on Avid's <u>Softimage, Co.</u> business, developers of 3D application <u>Softimage</u> (formerly Softimage | XSI). [139]
- On December 15, 2008, Autodesk announced the acquisition of BIMWorld, plans to combine BIMWorld with Autodesk Seek.
- On December 17, 2008, Autodesk agreed to acquire ALGOR, Inc. for approximately \$34 million. [140]
- On December 2009, Autodesk announced the acquisition of VisualTAO (also known as PlanPlatform), an Israeli start-up that developed cloud-based web and mobile applications that enable users to view and edit AutoCAD files online. VisualTAO became part of PSEB, and the product was released during 2010 as "AutoCAD WS".
- On July 21, 2010, Autodesk announced the acquisition of Illuminate Labs, the maker of <u>Beast</u> (a global illumination middleware) and Turtle (a global illumination plugin for Maya) used for video game development.
- On February 17, 2011, Autodesk announced the acquisition of Blue Ridge Numerics, Inc., a leading provider of simulation software. [143]
- On March 1, 2011, Autodesk announced the acquisition of <u>Scaleform</u>, a UI middleware for video games. [144]
- On July 19, 2011, Autodesk announced the acquisition of PixIr, online photo editing and sharing service. [145]
- On August 1, 2011, Autodesk announced the acquisition of <u>Instructables</u>, a website and platform where users can share their ideas and collaborate with a variety of do-it-yourself projects. [146]
- On August 25, 2011, Autodesk announced the acquisition of Numenus, which optimizes CAD and construction processes by using <u>NURBS</u> technology.
- On November 6, 2011, Autodesk announced the acquisition of Grip Entertainment, which
  develops behavior control systems for computer-controlled characters in video games.
- On December 16, 2011, Autodesk announced the acquisition of Horizontal Systems, a provider
  of cloud-based BIM (Building Information Modeling) collaboration solutions for the AEC
  (architecture, engineering and construction) industry. [149]

- On October 4, 2012, Autodesk announced the acquisition of <u>Qontext</u>, Inc., an enterprise social collaboration platform to accelerate Autodesk's ongoing move to the cloud and expansion of social capabilities in the Autodesk 360 cloud-based service. [150]
- On March 19, 2013, Autodesk completed the acquisition of Firehole Technologies, a developer
  of design and analysis software for <u>composite materials</u>.
- On May 18, 2013, <u>Tinkercad</u> announced it had been bought by Autodesk. <u>[152]</u> Tinkercad is a browser-based 3D <u>solid modeling</u> tool for <u>rapid prototyping</u> known for its simple interface and entry-level ease of use. <u>[153]</u>
- On October 2, 2013, Autodesk signs agreement to acquire structural fabrication and detailing software- Advance Steel from Graitec. [154]
- On February 6, 2014, Autodesk completed the acquisition of <u>Delcam</u>, a UK based supplier of advanced CAD/CAM software for the manufacturing industry.
- On March 19, 2014, <u>Creative Market</u> announced it had been bought by Autodesk. <u>[156]</u> Creative Market is a platform for handcrafted, mousemade design content from independent creatives around the world.
- On May 2014, Autodesk acquired Within Technologies, a company founded by Siavash Haroun Mahdavi. [157]
- On June 25, 2014, Shotgun Software announced that it had been acquired by Autodesk. [158]
   Shotgun Software are the publishers of the popular "Shotgun" project tracking software for media and entertainment content creation.
- On July 11, 2014, Autodesk acquired Topolabs Technology, a company founded by James Page which pioneered the use of 3D toolpaths for FDM/FFF additive manufacturing systems.
- On August 27, 2015, Autodesk signs agreement to acquire SeeControl. [159]
- On April 18, 2016, Autodesk announced that it had acquired SolidAngle, creator of the Arnold rendering software. [160]
- On June 27, 2016, Autodesk acquired <u>CadSoft Computer GmbH</u>, creator of the <u>PCB design</u> software EAGLE, from Premier Farnell.
- On July 9, 2018, Autodesk announced that it had acquired Assemble Systems. [162]
- On November 20, 2018, Autodesk announced that it would acquire <u>PlanGrid</u>, a San Francisco-based provider of construction productivity software. [163]
- On December 20, 2018, Autodesk announced that it would acquire BuildingConnected, a San Francisco-based construction bid-management platform. [164]

# **Sustainability**

Autodesk CFD (formerly Autodesk Simulation CFD) includes modeling and thermal modeling tools for architectural and MEP applications. Common applications for environmental sustainable design include mechanical ventilation, external flow (wind loading), natural ventilation, and occupant comfort. Other energy applications include analysis for building energy, solar load, advanced energy and heating and cooling. [165][166] Autodesk introduced C-FACT, an open-source, science-driven approach to setting greenhouse gas reduction targets, which calls for greenhouse gas (GHG) reductions to be made in proportion to a company's gross domestic product (GDP). Unlike other carbon accounting methods, Autodesk's C-FACT measures carbon dioxide emissions that are proportional to a company's global GDP contribution. [167] Autodesk will derive its own targets using this approach through 2020.

In 2006, Autodesk sponsored a <u>PBS</u> program named  $e^2$  *Design*, which focused on green building design around the world, describing the leaders and technologies that drive sustainable design.