

Computer-Aided Engineering Market Research Report by Component (Software, Services), by Deployment Model (On-premise Solutions, Cloud-based Solutions, Hybrid Solutions), by Simulation Type (Static Simulation, Dynamic Simulation, Linear & Nonlinear Simulation, Real-time Simulation), by Technology [Finite Element Analysis (FEA), Computational Fluid Dynamics (CFD), Multibody Dynamics (MBD), Discrete Element Method (DEM), Smoothed Particle Hydrodynamics (SPH), Boundary Element Method (BEM), Meshless Methods], by End-User Industry (Automotive, Aerospace & Defense, Electronics, Energy & Utilities, Healthcare & Medical Devices, Consumer Goods, Industrial Equipment, Transportation, Mining, Infrastructure, Others), and by Region (North America, Europe, Asia Pacific, South America, MEA) Forecast till 2035

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Dynamics (MBD), Discrete Element Method (DEM), Smoothed Particle Hydrodynamics (SPH), Boundary Element Method (BEM), Meshless Methods], by End-User Industry (Automotive, Aerospace & Defense, Electronics, Energy & Utilities, Healthcare & Medical Devices, Consumer Goods, Industrial Equipment, Transportation, Mining, Infrastructure, Others), and by Region (North America, Europe, Asia Pacific, South America, MEA) Forecast till 2035

Market Overview

The global computer-aided engineering market is projected to reach USD 28,787.42 million by 2035, growing at a CAGR of 9.3% (2025-2035). Computer-Aided Engineering (CAE) is the use of computer software to support engineering tasks such as analysis, simulation, design optimization, and validation of products. It helps engineers predict performance, improve efficiency, and reduce the need for physical prototypes.

One of the most significant factors leading to the global Computer-Aided Engineering (CAE) market increase is the demand for automation that is rising continuously, along with the adoption of the simulation-driven design. The requirement for reduced product development time, cost-effectiveness, and the reliability of the product, where companies are motivated to use advanced simulation tools right from the design stage, is the primary reason behind the accelerated use of simulation technologies. Other reasons, such as outsourcing to developing countries, strict government safety and environmental regulations, and the arrival of AI-powered simulation platforms, also contribute to the overall positive trend of CAE adoption.

Key Company Development

SimScale has made remarkable progress through strategic partnerships and the introduction of new products. In December 2024, it joined hands with PTC to assist startups with free access to its simulation platform and collaborated with Hexagon to launch an advanced SaaS tool for nonlinear structural analysis. In May 2021, it facilitated CAD editing on its platform, while in March 2020, it opened up collaboration features for enterprises and reinforced its presence in cloud-native CAE solutions.

Major Players

Major competitors in the global computer-aided engineering market include Siemens AG, Autodesk Inc., Hexagon AB, Dassault Systèmes, PTC Software, Bentley Systems, Inc., ESI Group, Aveva Group, and SimScale.

Report Attribute Details

- Market Size 2035: USD 28,787.42 Million
- CAGR (2025-2035): 9.3%
- Base Year: 2024
- Market Forecast Period: 2025-2035

Market Segmentations

- By Component: Software - 9.0%, Services - 9.8%.
- By Deployment Model: On-premise Solutions - 6.2%, Cloud-based Solutions - 13.7%.
- By Simulation Type: Static Simulation - 6.9%, Dynamic Simulation - 8.2%.
- By Technology: Finite Element Analysis (FEA) - 8.1%, Computational Fluid Dynamics (CFD) - 11.0%.
- By End-User Industry: Automotive - 8.1%, Aerospace & Defense - 9.6%.

Regional Insights

North America's CAE market is experiencing a profound rise, which is mainly driven by the breakthroughs in simulation technologies and the escalating demand of the imposing sectors such as automotive, aerospace, and electronics. Despite the problems caused by expensive software and the lack of qualified personnel, the adoption of cloud-based CAE platforms in this region has created favorable conditions for startups and SMEs. The North American CAE market is led by the U.S. at USD 2,639.7 million in 2024, with Canada contributing USD 341.6 million.

Europe's CAE market still shows positive growth characteristics, with the most significant demand coming from the development

of advanced driver assistance systems, autonomous driving, and the transition to electric vehicles. The development of lightweight materials and the use of digital twins are contributing to the growth of the CAE market in the automotive and aerospace sectors. Germany dominates the European CAE market with USD 1,017.7 million, followed by the UK at USD 653.3 million and France at USD 522.6 million.

Asia Pacific is becoming a major player in the CAE market, supported by the successful application of Industry 4.0 and the growing use of simulation-based product testing. The implementation of smart manufacturing is speeding up the use of the technology as companies are looking for more efficient design and engineering processes. China drives the Asia-Pacific CAE market with USD 1,866.7 million, while Japan follows with USD 549.0 million in 2024.

South America's CAE market is gaining traction, especially in Brazil and Argentina, where the automotive industry is a major driver. AETHRA Componentes Automotivos illustrates the regional trend by using CAE solutions to refine automotive component design, shorten development cycles, and improve quality. The aerospace sector is also beginning to adopt CAE tools for simulation and optimization.

The Middle East and Africa are witnessing growing interest in CAE solutions, propelled by AI-driven simulation and large-scale infrastructure projects. The region faces challenges around cost and limited access for smaller firms, yet opportunities lie in sustainable design and green infrastructure projects. Governments' focus on energy-efficient systems is expected to further accelerate CAE adoption across industries.

Table of Contents:

TABLE OF CONTENTS	
1 EXECUTIVE SUMMARY	.23
2 MARKET INTRODUCTION	25
2.1 DEFINITION	25
2.2 SCOPE OF THE STUDY	25
2.3 RESEARCH OBJECTIVE	25
2.4 MARKET STRUCTURE	26
3 RESEARCH METHODOLOGY	27
3.1 OVERVIEW	27
3.2 DATA FLOW	29
3.2.1 DATA MINING PROCESS	.29
3.3 PURCHASED DATABASE	:30
3.4 SECONDARY SOURCES	:31
3.4.1 SECONDARY RESEARCH DATA FLOW	:32
3.5 PRIMARY RESEARCH	:33
3.5.1 PRIMARY RESEARCH DATA FLOW	:34
3.5.2 PRIMARY RESEARCH: NUMBER OF INTERVIEWS CONDUCTED	.35
3.5.3 PRIMARY RESEARCH: REGIONAL COVERAGE	35
3.6 APPROACHES FOR MARKET SIZE ESTIMATION	:36
3.6.1 CONSUMPTION & NET TRADE APPROACH	.36
3.6.2 REVENUE ANALYSIS APPROACH	.36
3.7 DATA FORECASTING	.37
3.7.1 DATA FORECASTING TECHNIQUE	37
3.8 DATA MODELING	38
3.8.1 MICROECONOMIC FACTOR ANALYSIS	:38
3.8.2 DATA MODELING	:39
3.9 TEAMS AND ANALYST CONTRIBUTION	.40
4 MARKET DYNAMICS	43
4.1 OVERVIEW	43

4.2 DRIVERS.44	
4.2.1 INCREASED DEMAND FOR AUTOMATION AND GROWING ADOPTION OF SIMULATION DRIVEN DESIGN	44
4.2.2 GROWING DEMAND FOR FASTER PRODUCT DEVELOPMENT.44	
4.2.3 EXPANSION OF INDUSTRY 4.0 AND SMART MANUFACTURING.45	
4.3 RESTRAINTS46	
4.3.1 DATA SECURITY AND IP PROTECTION CONCERNS .46	
4.3.2 HIGH SOFTWARE AND LICENSING COSTS46	
4.4 OPPORTUNITIES.48	
4.4.1 RISING DEMAND IN ELECTRIC AND AUTONOMOUS VEHICLES 48	
4.4.2 ADOPTION OF ARTIFICIAL INTELLIGENCE IN CAE TOOLS .48	
4.4.3 RISING DEMAND FOR SUSTAINABLE AND LIGHTWEIGHT DESIGNS .48	
4.5 TRENDS50	
4.5.1 ADOPTION OF CLOUD-BASED CAE SOLUTIONS 50	
4.5.2 INTEGRATION OF CAE INTO THE PRODUCT LIFECYCLE MANAGEMENT (PLM) PROCESS SOURCE 50	
4.6 COVID-19 IMPACT ANALYSIS 51	
4.6.1 IMPACT ON OVERALL ICT .51	
4.6.2 IMPACT ON CAE MARKET 51	
4.6.3 IMPACT OF MARKET DEMAND 51	
4.6.4 IMPACT OF MARKET PRICING.51	
5 MARKET FACTOR ANALYSIS52	
5.1 VALUE CHAIN ANALYSIS .52	
5.1.1 INFRASTRUCTURE ENABLERS .52	
5.1.2 SOFTWARE DEVELOPMENT 53	
5.1.3 SYSTEM INTEGRATION AND APPLICATION SPECIFIC CUSTOMIZATION53	
5.1.4 VALUE ADDED SERVICES/SERVICE PROVIDERS53	
5.1.5 CUSTOMERS/END USERS54	
5.2 PORTER'S FIVE FORCE ANALYSIS .55	
5.2.1 THREAT OF NEW ENTRANTS.55	
5.2.2 BARGAINING POWER OF SUPPLIERS .56	
5.2.3 THREAT OF SUBSTITUTES 56	
5.2.4 BARGAINING POWER OF BUYERS 56	
5.2.5 INTENSITY OF RIVALRY 56	
5.3 MARKET SWOT ANALYSIS 57	
5.4 MARKET PESTEL ANALYSIS.57	
5.4.1 POLITICAL .57	
5.4.2 ECONOMIC.57	
5.4.3 SOCIAL 57	
5.4.4 TECHNOLOGICAL .58	
5.4.5 ENVIRONMENT.58	
5.4.6 LEGAL 58	
5.5 MARKET AND TECHNOLOGY TRENDS ANALYSIS .59	
5.5.1 MULTI-PHYSICS AND MULTI-SCALE SIMULATIONS 59	
5.5.2 INTEGRATION WITH ADDITIVE MANUFACTURING (3D PRINTING) 59	
5.5.3 VIRTUAL REALITY (VR) AND AUGMENTED REALITY (AR) IN CAE .60	
5.5.4 INCREASED FOCUS ON SUSTAINABILITY .60	
5.6 COMPANY CAE SOLUTIONS AVERAGE SPEND ANALYSIS .60	
6 GLOBAL COMPUTER-AIDED ENGINEERING (CAE) MARKET, BY COMPONENT.62	

6.1 INTRODUCTION.62
6.2 SOFTWARE.63
6.3 SERVICES 63
7 GLOBAL COMPUTER AIDED ENGINEERING(CAE) MARKET, BY DEPLOYMENT MODEL .64
7.1 INTRODUCTION.64
7.2 ON-PREMISE SOLUTIONS65
7.3 CLOUD-BASED SOLUTIONS .65
7.4 HYBRID SOLUTIONS 65
8 GLOBAL COMPUTER AIDED ENGINEERING(CAE) MARKET, BY SIMULATION TYPE.66
8.1 INTRODUCTION.66
8.2 STATIC SIMULATION .67
8.3 DYNAMIC SIMULATION.67
8.4 LINEAR AND NONLINEAR SIMULATION.67
8.5 REAL-TIME SIMULATION .67
9 GLOBAL COMPUTER AIDED ENGINEERING (CAE) MARKET, BY TECHNOLOGY.68
9.1 INTRODUCTION.68
9.2 FINITE ELEMENT ANALYSIS (FEA).69
9.3 COMPUTATIONAL FLUID DYNAMICS (CFD) .69
9.4 MULTIBODY DYNAMICS (MBD).70
9.5 DISCRETE ELEMENT METHOD (DEM) 70
9.6 SMOOTHED PARTICLE HYDRODYNAMICS (SPH) .70
9.7 BOUNDARY ELEMENT METHOD (BEM) .70
9.8 MESHLESS METHODS 70
10 GLOBAL COMPUTER AIDED ENGINEERING (CAE) MARKET, BY END-USER INDUSTRY 72
10.1 INTRODUCTION.72
10.2 AUTOMOTIVE73
10.3 AEROSPACE & DEFENSE 74
10.4 ELECTRONICS 74
10.5 ENERGY & UTILITIES 74
10.6 HEALTHCARE & MEDICAL DEVICES74
10.7 CONSUMER GOODS 74
10.8 INDUSTRIAL EQUIPMENT.75
10.9 TRANSPORTATION75
10.10 MINING.75
10.11 INFRASTRUCTURE 75
10.12 OTHERS75
11 GLOBAL COMPUTER-AIDED ENGINEERING MARKET, BY REGION 76
11.1 OVERVIEW76
11.2 NORTH AMERICA.77
11.2.1 US92
11.2.2 CANADA 94
11.2.3 MEXICO .95
11.3 EUROPE98
11.3.1 GERMANY 112
11.3.2 UK .115
11.3.3 FRANCE .116
11.3.4 RUSSIA 118

11.3.5 ITALY.120
11.3.6 SPAIN122
11.3.7 REST OF EUROPE123
11.4 ASIA PACIFIC .125
11.4.1 CHINA140
11.4.2 INDIA .142
11.4.3 JAPAN.143
11.4.4 SOUTH KOREA145
11.4.5 MALAYSIA .147
11.4.6 THAILAND149
11.4.7 INDONESIA.151
11.4.8 REST OF ASIA PACIFIC153
11.5 SOUTH AMERICA .155
11.5.1 BRAZIL.169
11.5.2 ARGENTINA .171
11.5.3 REST OF SOUTH AMERICA 172
11.6 MIDDLE EAST & AFRICA 174
11.6.1 GCC COUNTRIES.189
11.6.2 SOUTH AFRICA.191
11.6.3 REST OF MIDDLE EAST & AFRICA 192
12 COMPETITIVE LANDSCAPE 195
12.1 INTRODUCTION.195
12.2 COMPANY MARKET SHARE ANALYSIS, 2024 (VALUE).196
12.3 COMPETITOR DASHBOARD.197
12.4 KEY RECENT DEVELOPMENTS & GROWTH STRATEGIES 198
12.4.1 KEY RECENT DEVELOPMENTS & GROWTH STRATEGIES .198
13 COMPANY PROFILES201
13.1 SIEMENS AG.201
13.1.1 COMPANY OVERVIEW.201
13.1.2 FINANCIAL OVERVIEW202
13.1.3 PRODUCTS/SOLUTIONS/SERVICES OFFERED.202
13.1.4 KEY DEVELOPMENTS204
13.1.5 SWOT ANALYSIS 206
13.1.6 KEY STRATEGIES206
13.2 AUTODESK INC207
13.2.1 COMPANY OVERVIEW.207
13.2.2 FINANCIAL OVERVIEW208
13.2.3 PRODUCTS/SOLUTIONS/SERVICES OFFERED.208
13.2.4 KEY DEVELOPMENTS209
13.2.5 SWOT ANALYSIS 210
13.2.6 KEY STRATEGIES210
13.3 HEXAGON AB.211
13.3.1 COMPANY OVERVIEW.211
13.3.2 FINANCIAL OVERVIEW212
13.3.3 PRODUCTS/SOLUTIONS/SERVICES OFFERED.212
13.3.4 KEY DEVELOPMENTS214
13.3.5 SWOT ANALYSIS 215

13.3.6 KEY STRATEGIES	215
13.4 DASSAULT SYSTEMES	216
13.4.1 COMPANY OVERVIEW	216
13.4.2 FINANCIAL OVERVIEW	217
13.4.3 PRODUCTS/SOLUTIONS/SERVICES OFFERED	217
13.4.4 KEY DEVELOPMENTS	218
13.4.5 SWOT ANALYSIS	219
13.4.6 KEY STRATEGIES	219
13.5 PTC SOFTWARE	220
13.5.1 COMPANY OVERVIEW	220
13.5.2 FINANCIAL OVERVIEW	221
13.5.3 PRODUCTS/SOLUTIONS/SERVICES OFFERED	221
13.5.4 KEY DEVELOPMENTS	222
13.5.5 SWOT ANALYSIS	223
13.5.6 KEY STRATEGIES	223
13.6 ANSYS, INC.	224
13.6.1 COMPANY OVERVIEW	224
13.6.2 FINANCIAL OVERVIEW	224
13.6.3 PRODUCTS/SOLUTIONS/SERVICES OFFERED	225
13.6.4 KEY DEVELOPMENTS	226
13.6.5 SWOT ANALYSIS	227
13.6.6 KEY STRATEGIES	227
13.7 BENTLEY SYSTEMS, INC.	228
13.7.1 COMPANY OVERVIEW	228
13.7.2 FINANCIAL OVERVIEW	229
13.7.3 PRODUCTS/SOLUTIONS/SERVICES OFFERED	229
13.7.4 KEY DEVELOPMENTS	230
13.7.5 SWOT ANALYSIS	230
13.7.6 KEY STRATEGIES	231
13.8 ESI GROUP	232
13.8.1 COMPANY OVERVIEW	232
13.8.2 FINANCIAL OVERVIEW	233
13.8.3 PRODUCTS/SOLUTIONS/SERVICES OFFERED	233
13.8.4 KEY DEVELOPMENTS	234
13.8.5 SWOT ANALYSIS	234
13.8.6 KEY STRATEGIES	235
13.9 AVEVA GROUP LTD	236
13.9.1 COMPANY OVERVIEW	236
13.9.2 FINANCIAL OVERVIEW	236
13.9.3 PRODUCTS/SOLUTIONS/SERVICES OFFERED	237
13.9.4 KEY DEVELOPMENTS	238
13.9.5 SWOT ANALYSIS	238
13.9.6 KEY STRATEGIES	239
13.10 SIMSCALE	240
13.10.1 COMPANY OVERVIEW	240
13.10.2 FINANCIAL OVERVIEW	240
13.10.3 PRODUCTS/SOLUTIONS/SERVICES OFFERED	240

13.10.4 KEY DEVELOPMENTS 241

13.10.5 SWOT ANALYSIS 242

13.10.6 KEY STRATEGIES 243

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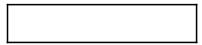
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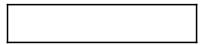
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