

Middle East & Africa Computer Aided Engineering Market Size and Forecast (2021 - 2031), Regional Share, Trend, and Growth Opportunity Analysis Report Coverage: By Component (Software and Services), Software Type [Finite Element Analysis (FEA), Computational Fluid Dynamics (CFD), Multibody Dynamics, and Optimization and Simulation], Deployment Model (On-Premise and Cloud-based), and End Use Industry (Automotive, Defense and Aerospace, Electronics, Medical Devices, Industrial Equipment, and Others)

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Abstracts

The Middle East and Africa Computer Aided Engineering (CAE) market is projected to grow significantly, reaching approximately US\$ 1,001.8 million by 2031, up from US\$ 555.1 million in 2024. This growth represents a compound annual growth rate (CAGR) of 9.3% from 2025 to 2031, driven by various factors including large-scale infrastructure projects, economic diversification, and advancements in digital technologies.

Executive Summary

Countries within the Gulf Cooperation Council (GCC), especially Saudi Arabia and the UAE, are heavily investing in extensive infrastructure and industrial projects, such as NEOM and the legacy developments from Expo 2020. These initiatives necessitate the use of advanced computer-aided engineering tools for civil, structural, and energy system simulations. The oil and gas sector, a cornerstone of the regional economy, relies on simulation technologies to enhance operational safety, optimize complex machinery, and simulate flow and thermal dynamics in challenging environments.

In addition to the oil and gas industry, the region is undergoing economic diversification as part of initiatives like Saudi Vision 2030 and UAE Vision 2021. These plans aim to reduce reliance on oil and promote innovation-driven sectors, including aerospace, defense, and renewable energy. However, challenges such as a shortage of skilled professionals and high software costs persist. To combat these issues, partnerships with global technology providers and investments in education are being pursued, gradually improving the situation.

Digital Transformation and AI Integration

The Middle East is rapidly adopting advanced digital and AI-driven technologies. For instance, on May 13, 2025, Cisco announced strategic initiatives to bolster the AI revolution in both the U.S. and the Middle East. These initiatives position Cisco and its partners at the forefront of the Gulf region's digital transformation, providing robust infrastructure and secure AI capabilities. As industries, particularly in energy, infrastructure, aerospace, and manufacturing, increasingly turn to simulation and modeling for efficiency and innovation, the integration of AI-driven solutions becomes crucial. Cisco's involvement enhances regional digital capabilities, facilitating faster and smarter simulations that empower enterprises and governments to optimize designs, reduce costs, and achieve national development objectives.

Market Segmentation

The Middle East and Africa CAE market can be segmented by various criteria:

By Component: The market is divided into Software and Services, with Software holding the largest share in 2024.

By Software Type: This includes Finite Element Analysis (FEA), Computational Fluid Dynamics (CFD), Multibody Dynamics, and Optimization and Simulation, where FEA is the leading segment.

By Deployment Model: The market is categorized into On-Premise and Cloud-based solutions, with On-Premise solutions dominating in 2024.

By End Use Industry: Key sectors include Automotive, Defense and Aerospace, Electronics, Medical Devices, and Industrial Equipment, with Automotive being the largest segment.

Cloud Infrastructure and Innovation

As organizations demand scalable, high-performance computing environments for complex simulations and data-intensive research, cloud infrastructure has become

essential for innovation and operational efficiency. Recent investments highlight the importance of advanced cloud platforms in driving technological progress. For example, on July 11, 2025, OpenAI was revealed to be the client behind Oracle's US\$30 billion-per-year cloud computing contract, emphasizing the scale of infrastructure needed for AI workloads. OpenAI's lease of approximately 4.5 gigawatts of data center power illustrates the growing reliance on high-performance cloud solutions.

Enhanced cloud infrastructure allows CAE providers to offer scalable computing resources necessary for complex simulations, data analysis, and design optimization, thereby accelerating product development cycles and fostering innovation across various industries. As cloud platforms evolve, their integration with CAE tools enables organizations to leverage greater computational power and flexibility, transforming engineering workflows and expanding the market potential for CAE solutions globally.

Country Insights

Regionally, the CAE market is segmented into the United Arab Emirates, Saudi Arabia, South Africa, and the Rest of Middle East and Africa, with the UAE holding the largest market share in 2024. The UAE's strategic investments in sectors such as aerospace, defense, advanced manufacturing, and renewable energy drive the adoption of simulation technologies. Initiatives like the Mohammed Bin Rashid Space Centre and infrastructure projects related to Expo 2020 necessitate high-fidelity simulation tools for design and validation. The UAE's focus on AI, cloud infrastructure, and readiness for Industry 4.0 creates a conducive environment for CAE technologies to flourish across both traditional and emerging sectors.

Competitive Landscape

Key players in the Middle East and Africa CAE market include Dassault Systèmes SE, Siemens AG, PTC Inc, Autodesk Inc, Hexagon AB, Bentley Systems Inc, Altair Engineering, Inc., Ansys Inc, Satven, and Technosoft Engineering Projects Ltd. These companies are employing various strategies such as expansion, product innovation, and mergers and acquisitions to enhance their market presence and deliver innovative solutions to their customers.

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