

Global Computer-aided Engineering Market Size study & Forecast, by Deployment (Cloud, On-premise), by Type (Finite Element Analysis (FEA), Computational Fluid Dynamics (CFD), Thermal Analysis, Multibody Dynamics, Others), by End-user (Automotive, Medical Devices, Industrial Equipment, Defense & Aerospace, Electronics, Others) and Regional Analysis, 2022-2029

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Abstracts

Global Computer-aided Engineering Market is valued at approximately USD 5.75 billion in 2021 and is anticipated to grow with a healthy growth rate of more than 10.0% over the forecast period 2022-2029. Computer-aided engineering is the method of simulating performance by adopting software in order to enhance product designs or aids in solving engineering complications across various sectors. This encompasses testing, modelling, and process improvement for manufacturing goods, equipment, and techniques. In addition, various businesses are installing private cloud through the hyper-converged infrastructure (HCI) platform, which presents new storage and computing services, in turn, is projected to bolsters the market expansion. The rise in proliferation of IoT and 3D printing, increased outsourcing of manufacturing processes to emerging economies, coupled with the rising inclination towards cloud-based computing are the key factors that are stipulating the market demand across the globe.

The increase in the sales and production of energy-efficient aircraft and commercial aviation is further fueling the demand for computer-aided engineering in the global market. The Deloitte report 2020 stated that China produced over 1,900 commercial aircraft in 2020, which is an increase of 1,450 aircraft over 2019. Additionally, according to the Federal Aviation Administration aerospace, it is estimated that there are about 34,000 civil aircraft in operation worldwide by the year 2036. In addition, electrical

battery-powered airplane engines and low-emission aircraft with wing-mounted solar panels are being designed using computer-aided engineering techniques. This program has produced the most advanced passenger aircraft as well as the most ecologically friendly next-generation aircraft designs. Consequentially, the high usage of CAE in designing aircraft and commercial aviation is expected to propel the demand for these solutions during the forecast period. Moreover, the rising investment in the development of digital technologies, as well as the increasing proliferation of digital twins for processes and objects are presenting various lucrative opportunities over the forecasting years. However, the lack of technical expertise and high installation costs are hampering the market growth throughout the forecast period of 2022-2029.

The key regions considered for the Global Computer-aided Engineering Market study include Asia Pacific, North America, Europe, Latin America, and the Rest of the World. Europe dominated the market in terms of revenue, owing to the growing automation in the manufacturing sector and the increasing developers of virtual vehicles and high presence of connected car providers. Whereas, the Asia Pacific is also expected to grow with the highest CAGR during the forecast period, owing to factors such as rising concerns about greenhouse gas emissions, increasing government spending on manufacturing industry development, as well as growing automation of industrial equipment in the market space.

Major market players included in this report are:

ESI Group
Siemens AG
Hexagon AB
Aveva Group
SimScale
ANSYS, Inc.
Altair Engineering Inc.
Autodesk, Inc.
Bentley Systems, Inc.
Dassault Systemes

Recent Developments in the Market:

In May 2022, Siemens announced that the company launched its new Simcenter Femap- an enhanced simulation application for creating, editing, and reviewing finite element models of complex systems or products.

In July 2021, Dassault Syst?mes declared the introduction of DELMIAworks for manufacturing firms, which is specially designed to deliver real-time control and visibility

over the complete manufacturing supply chain. It is a collaborative environment of the Manufacturing Execution System (MES) and Enterprise Resource Planning (ERP) suite of applications supporting manufacturers to report on end-to-end manufacturing processes.

Global Computer-aided Engineering Market Report Scope:

Historical Data 2019-2020-2021

Base Year for Estimation 2021

Forecast period 2022-2029

Report Coverage Revenue forecast, Company Ranking, Competitive Landscape, Growth factors, and Trends

Segments Covered Deployment, Type, End-user, Region

Regional Scope North America; Europe; Asia Pacific; Latin America; Rest of the World

Customization Scope Free report customization (equivalent up to 8 analyst's working hours) with purchase. Addition or alteration to country, regional & segment scope*

The objective of the study is to define market sizes of different segments & countries in recent years and to forecast the values to the coming years. The report is designed to incorporate both qualitative and quantitative aspects of the industry within countries involved in the study.

The report also caters detailed information about the crucial aspects such as driving factors & challenges which will define the future growth of the market. Additionally, it also incorporates potential opportunities in micro markets for stakeholders to invest along with the detailed analysis of competitive landscape and product offerings of key players. The detailed segments and sub-segment of the market are explained below:

By Deployment:

Cloud

On-premise

By Type:

Finite Element Analysis (FEA)

Computational Fluid Dynamics (CFD)

Thermal Analysis

Multibody Dynamics

Others

By End-user:

Automotive
Medical Devices
Industrial Equipment
Defense & Aerospace
Electronics
Others

By Region:

North America

U.S.

Canada

Europe

UK

Germany

France

Spain

Italy

ROE

Asia Pacific

China

India

Japan

Australia

South Korea

RoAPAC

Latin America

Brazil

Mexico

RoLA

Rest of the World

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