

Global AI in Construction Market By Technology (Machine Learning & Deep Learning, Natural Language Processing); By Application(Project Management, Risk Management, Field Management, Supply Chain Management, Schedule Management, Others); By Deployment (On-premises, Cloud, Others)and Region – Analysis of Market Size, Share & Trends for 2016-2019 and Forecasts to 2030

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Abstracts

Product Overview

Designers, engineers, and architects spend many hours working on building design regularly. The process of generating design variations and testing architectural statics and other building criteria (e.g. compliance with building codes, meeting all practical specifications, etc.) is especially time-consuming. There are several examples of projects that fall due to inaccurate planning, particularly in large construction projects such as infrastructure buildings. This is where generative design, an exploration process based on AI technology, comes into play. An AI-based system, with access to a database of many previously built building plans, can develop alternative designs based on the knowledge gained from the database plans. Designers and engineers may simply insert design objectives into the generative design software along with parameters such as spatial specifications, efficiency, materials, cost constraints, and many more. The program, allowed by AI, then explores all possible permutations of a solution, creating alternative designs that meet all of the requirements previously stated.

Market Highlights

Global AI in the construction market is estimated to exceed USD 2638.53 million by

2030 from USD 406 million in 2019 at a CAGR of 18.94% during the forecast period i.e. 2020-2030. As per their study, the market is anticipated to grow on the back of rising demand for AI-based solutions and platforms, the need for more security measures at construction sites, and the AI's ability to reduce production costs.

Artificial Intelligence has been very beneficial to the construction industry in recent years, particularly in pre-construction phases such as planning and design, allowing for advanced capabilities in building information modeling and generative design. Furthermore, major developments in surveillance, monitoring, and maintenance systems that use AI capabilities to predict and warn of adverse circumstances are increasingly increasing the role of AI-based technology in the construction sector.

AI in Construction Market Opportunity Analysis

Source: Fatpos Global

Global AI in Construction Market: Segments

Machine Learning & Deep Learning segment to grow with the highest CAGR of xx% during 2020-2030

The worldwide market of AI in construction is segmented by technology into Machine Learning & Deep Learning and Natural Language Processing (NLP). Among these, the machine learning & deep learning segmented is estimated to hold the largest market share of xx% in the year 2019. Due to the growing desire to analyze dark facts and automate enterprise functions, the use of gadget learning and deep learning technology in the creative industry has expanded manifold. Many construction groups deploy primarily AI-based solutions to achieve advantages.

By Technology (in %), Global AI in Construction Market, 2019

Source: Fatpos Global

Risk management segment to grow with the fastest CAGR of xx% during 2020-2030
Global AI in the construction market is segmented by application into Project Management, Risk Management, Field Management, Supply Chain Management, Schedule Management, and Others. Among these, the risk management segment is witnessed to hold the largest market share of xx% in 2019 owing to the ability of artificial intelligence solutions to identify potential risks and fraud. Such risks may be related to quality, safety, time, or even costs.

By Application (in %), Global AI in Construction Market, 2019

Source: Fatpos Global

Cloud deployment segment to grow with the fastest CAGR of xx% during 2020-2030. The worldwide AI in the construction market is segmented by deployment into On-premises and Cloud and Others. Among these, the cloud segment constituted the largest market share of xx% in 2019. The cloud segment is simple and cost-efficient to use in applications. Flexibility, disaster recovery, automatic software updates, free capital expenditure, increased collaboration, work from anywhere, document control, security, competitiveness, environmental friendly are some of the key factors to boost the segment's growth.

By Deployment (in %), Global AI in Construction Market, 2019

Source: Fatpos Global

Global AI in Construction Market: Drivers and Restraints

Prevent Cost Overruns

Most megaprojects go over budget despite employing the best project teams. Artificial Neural Networks are used on projects to predict cost overruns based on factors such as project size, contract type, and the competence level of project managers. Historical data such as planned start and end dates are used by predictive models to envision realistic timelines for future projects. AI helps staff remotely access real-life training material which helps them enhance their skills and knowledge quickly. This reduces the time taken to onboard new resources onto projects. As a result, project delivery is expedited.

Risk Mitigation

Every construction project has some risk that comes in many forms such as quality, safety, time, and cost risk. The larger the project, the more risk, as multiple sub-contractors are working on different trades in parallel on-job sites. There are AI and machine learning solutions today that general contractors use to monitor and prioritize risk on the job site, so the project team can focus their limited time and resources on the biggest risk factors. AI is used to automatically assign priority to issues. Sub-contractors are rated based on a risk score so construction managers can work closely with high-risk teams to mitigate risk.

Global AI in Construction Market: Regions

North America expected to grow with the fastest CAGR of xx% during 2020-2030
The worldwide AI in the construction market is segmented by region into North America, Latin America, Europe, Middle East & Africa, and Asia Pacific. Among these, North America held the largest market share of xx% in the year 2019. The change in the political scenario, of the U.S. and the region's severe construction labor shortage, following a substantial rise in construction work activities, fuel the construction sector's need for automation. The nation is one of the most influential building-tech startup hubs. Thus, in the construction sector, the rapid adoption of AI is expected to overcome these hurdles, making it the fastest-growing AI region in the construction market.

By Region (in %), Global AI in Construction Market, 2019

Source: Fatpos Global

The global AI in the construction market is further segmented by region into:
North America Market Size, Share, Trends, Opportunities, Y-o-Y Growth, CAGR – United States and Canada

Latin America Market Size, Share, Trends, Opportunities, Y-o-Y Growth, CAGR – Mexico, Argentina, Brazil, and Rest of Latin America

Europe Market Size, Share, Trends, Opportunities, Y-o-Y Growth, CAGR – United Kingdom, France, Germany, Italy, Spain, Belgium, Hungary, Luxembourg, Netherlands, Poland, NORDIC, Russia, Turkey, and Rest of Europe

MENA Market Size, Share, Trends, Opportunities, Y-o-Y Growth, CAGR – North Africa, Israel, GCC, South Africa, and Rest of MENA

APAC Market Size, Share, Trends, Opportunities, Y-o-Y Growth, CAGR – India, China, South Korea, Japan, Malaysia, Indonesia, New Zealand, Australia, and Rest of APAC

Global AI in Construction Market: Key Players

IBM Corporation

Company Overview

Business Strategy

Key Product Offerings

Financial Performance

Key Performance Indicators

Risk Analysis

Recent Development

Regional Presence

SWOT Analysis

Dassault Systems SE

Building System Planning Inc.

Doxel Inc.

Autodesk Inc.

NVIDIA Corporation

Volvo AB

Komatsu Ltd.

Smartvid.io Inc.

Others

Market report on global AI in the construction market also consists of the following analysis:

AI in Construction Market Segments

By Technology

Machine Learning & Deep Learning

Normal Language Processing (NLP)

By Application

Project Management

Risk Management

Field Management

Supply Chain Management

Schedule Management

Others

By Deployment

On-premises

Cloud

By Region

North America

Latin America

Europe

Middle East & Africa

Asia Pacific

AI in Construction Market Dynamics

AI in Construction Market Size

Supply & Demand

Current Trends/Issues/Challenges

Competition & Companies Involved in the Market

Value Chain of the Market

Market Drivers and Restraints

FAQs on Global AI in Construction Market

Which segment is anticipated to hold the largest market share?

At what CAGR is the market anticipated to grow between 2020 and 2030?

Who are the key players in the worldwide AI in the construction market?

What could be the challenging factors for the growth of the global AI in the construction market?

What are the growth drivers for the AI in construction market across the globe?

Contents

1. EXECUTIVE SUMMARY

2. AI IN CONSTRUCTION

- 2.1. Product Overview
- 2.2. Market Definition
- 2.3. Segmentation
- 2.4. Assumptions and Acronyms

3. RESEARCH METHODOLOGY

- 3.1. Research Objectives
- 3.2. Primary Research
- 3.3. Secondary Research
- 3.4. Forecast Model
- 3.5. Market Size Estimation

4. AVERAGE PRICING ANALYSIS

5. MARKET DYNAMICS

- 5.1. Growth Drivers
- 5.2. Restraints
- 5.3. Opportunity
- 5.4. Trends

6. RECENT DEVELOPMENT, POLICIES & REGULATORY LANDSCAPE

7. RISK ANALYSIS

- 7.1. Demand Risk Analysis
- 7.2. Supply Risk Analysis

8. AI IN CONSTRUCTION INDUSTRY ANALYSIS

- 8.1. Porters Five Forces
 - 8.1.1. Threat of New Entrants

- 8.1.2. Bargaining Power of Suppliers
- 8.1.3. Threat of Substitutes
- 8.1.4. Rivalry
- 8.2. PEST Analysis
 - 8.2.1. Political
 - 8.2.2. Economic
 - 8.2.3. Social
 - 8.2.4. Technological

9. GLOBAL AI IN CONSTRUCTION MARKET

- 9.1. Market Size & forecast, 2019A-2030F
 - 9.1.1. By Value (USD Million) 2019-2030F; Y-o-Y Growth (%) 2020-2030F

10. GLOBAL AI IN CONSTRUCTION: MARKET SEGMENTATION

- 10.1. By Regions
 - 10.1.1. North America: (U.S. and Canada)
 - 10.1.1.1. By Value (USD Million) 2019-2030F; Y-o-Y Growth (%) 2020-2030F
 - 10.1.2. Latin America: (Brazil, Mexico, Argentina, Rest of Latin America)
 - 10.1.2.1. By Value (USD Million) 2019-2030F; Y-o-Y Growth (%) 2020-2030F
 - 10.1.3. Europe: (Germany, UK, France, Italy, Spain, BENELUX, NORDIC, Hungary, Poland, Turkey, Russia, Rest of Europe)
 - 10.1.3.1. By Value (USD Million) 2019-2030F; Y-o-Y Growth (%) 2020-2030F
 - 10.1.4. Asia-Pacific: (China, India, Japan, South Korea, Indonesia, Malaysia, Australia, New Zealand, Rest of Asia Pacific)
 - 10.1.4.1. By Value (USD Million) 2019-2030F; Y-o-Y Growth (%) 2020-2030F
 - 10.1.5. Middle East and Africa: (Israel, GCC, North Africa, South Africa, Rest of Middle East and Africa)
 - 10.1.5.1. By Value (USD Million) 2019-2030F; Y-o-Y Growth (%) 2020-2030F
- 10.2. By Technology: Market Share (2020-2030F)
 - 10.2.1. Machine Learning & Deep Learning, By Value (USD Million) 2019-2030F; Y-o-Y Growth (%) 2020-2030F
 - 10.2.2. Natural Language Processing, By Value (USD Million) 2019-2030F; Y-o-Y Growth (%) 2020-2030F
- 10.3. By Applications: Market Share (2020-2030F)
 - 10.3.1. Project Management, By Value (USD Million) 2019-2030F; Y-o-Y Growth (%) 2020-2030F
 - 10.3.2. Risk Management, By Value (USD Million) 2019-2030F; Y-o-Y Growth (%)

2020-2030F

10.3.3. Field Management, By Value (USD Million) 2019-2030F; Y-o-Y Growth (%)

2020-2030F

10.3.4. Supply Chain Management, By Value (USD Million) 2019-2030F; Y-o-Y Growth (%) 2020-2030F

10.3.5. Schedule Management, By Value (USD Million) 2019-2030F; Y-o-Y Growth (%) 2020-2030F

10.3.6. Others, By Value (USD Million) 2019-2030F; Y-o-Y Growth (%) 2020-2030F

10.4. By Deployment Mode: Market Share (2020-2030F)

10.4.1. By Deployment Mode: Market Share (2020-2030F)

10.4.1.1. On-premises, By Value (USD Million) 2019-2030F; Y-o-Y Growth (%)

2020-2030F

10.4.1.2. Cloud, By Value (USD Million) 2019-2030F; Y-o-Y Growth (%) 2020-2030F

10.4.1.3. Others, By Value (USD Million) 2019-2030F; Y-o-Y Growth (%) 2020-2030F

11. COMPANY PROFILE

11.1. IBM

11.1.1. Company Overview

11.1.2. Company Total Revenue (Financials)

11.1.3. Market Potential

11.1.4. Global Presence

11.1.5. Key Performance Indicators

11.1.6. SWOT Analysis

11.1.7. Product Launch

11.2. Dassault Systems SE

11.3. Building System Planning Inc.

11.4. Doxel Inc.

11.5. Autodesk Inc.

11.6. NVIDIA Corporation

11.7. Volvo AB

11.8. Komatsu Ltd.

11.9. Smartvid.io Inc.

11.10. Others

Consultant Recommendation

**The above-given segmentations and companies could be subjected to further modification based on in-depth feasibility studies conducted for the final deliverable.

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