+44 20 8123 2220
info@marketpublishers.com

Building Twin Market by Offering (Software Solutions, Services), Application (Facility Management, Predictive Maintenance, Safety & Security Management, Energy Management), End User (Commercial, Industrial) and Region - Global Forecast to 2029

https://marketpublishers.com/r/B82C8A41218AEN.html
Date: July 2024
Pages: 232
Price: US$ 3,217.50 (Single User License)
ID: B82C8A41218AEN

Abstracts

The building twin market is expected to grow from USD 2.1 billion in 2024 to USD 13.3 billion by 2029, at a CAGR of 44.7% during the forecast period. The growth of the building twin market is driven mainly by the growing focus on cost reduction and reducing environmental impact; and growing focus on predictive maintenenace are driving the market for building twin.

“The building twin market for the commercial end user segment is expected to grow at the highest CAGR during the forecast period”

The building twin market for the commercial end user segment is expected to grow at the highest CAGR during the forecast period. This growth is driven by a rising demand for effective building management, cost efficiency, and sustainability practices specifically tailored for commercial properties. Digital twin technology offers significant advantages such as real-time monitoring, predictive maintenance, and optimized space utilization, which are particularly valuable in commercial environments. Furthermore, businesses increasingly emphasize improving tenant experiences and meeting regulatory standards, which further promotes the adoption of digital twins. By integrating IoT and AI technologies, commercial enterprises can leverage advanced analytics and automation to enhance operational efficiency and decision-making processes. These factors collectively contribute to the rapid expansion of the building twin market within

+44 20 8123 2220
info@marketpublishers.com

the commercial sector.

“Facility Management application segment is expected to dominate the building twin market throughout the forecast period”

The Facility Management application is expected to account for the largest size of the building twin market throughout the forecast period. The growth is driven by its critical role in improving building performance through real-time monitoring, and effective management of building systems. Advanced analytics and IoT technologies further boost efficiency, reduce downtime and prolong the lifespan of building assets. In addition, increasingly complex building systems and a focus on sustainability are also driving the adoption of these solutions, ensuring compliance with regulations while enhancing comfort and safety for occupants. As organizations prioritize cost-efficiency and operational excellence, the demand for facility management applications continues to increase, underscoring their importance in modern building management practices.

“Building twin market in North America region to register highest CAGR between 2024 and 2029”

The building twin market in North America is expected to grow at the highest CAGR during the forecast period. The growth is driven by several factors, such as the region's adoption of advanced technologies such as IoT, AI, and cloud computing, which are crucial for effective building twin solutions and supported by a robust infrastructure. Regulatory priorities on sustainability and energy efficiency further incentivize the adoption of building twin technologies, enhancing operational efficiency and environmental sustainability in smart buildings. North America's innovation ecosystem, bolstered by major technology companies, continually advances, building twin capabilities like real-time monitoring and predictive maintenance. This diverse industry landscape, encompassing commercial and industrial, offers ample opportunities for tailored building twin solutions, reinforcing North America's global leadership in shaping the future of building management practices.

Breakdown of primaries

In determining and verifying the market size for several segments and subsegments gathered through secondary research, extensive primary interviews have been conducted with key industry experts in the building twin market space. The break-up of primary participants for the report has been shown below:

+44 20 8123 2220
info@marketpublishers.com

By Company Type: Tier 1 – 35%, Tier 2 – 40%, and Tier 3 – 25%

By Designation: C-level Executives – 30%, Managers – 35%, and Others – 35%

By Region: North America –40%, Europe– 30%, Asia Pacific – 20%, and Rest of the World – 10%

Key players in the building twin market are Microsoft (US), Siemens (Germany), Amazon (US), Dassault Syst?mes (France), Robert Bosch GmbH (Germany), ANSYS, Inc (US), IBM (US), Autodesk Inc. (US), SAP (Germany), Oracle (US), and Bentley Systems, Incorporated (US) and others.

The building twin market has been segmented into offering, application, end user, and region. The building twin market has been studied in North America, Europe, Asia Pacific, and the Rest of the World.

Reasons to buy the report:

The report will help the market leaders/new entrants with information on the closest approximate revenues for the building twin and related segments. This report will help stakeholders understand the competitive landscape and gain more insights to strengthen their position in the market and plan suitable go-to-market strategies. The report also helps stakeholders understand the market pulse and provides information on key market drivers, restraints, opportunities, and challenges.

The report provides insights on the following pointers:

Analysis of key drivers (growing focus on cost reduction and reducing environmental impact, enhancing real-time data visualization and streamlining the design process, growing focus on predictive maintenance, and government initiatives for digitization), restraints (high initial investment to implement building twin technology, susceptibility of building twin technology to cyberattacks), opportunities (advancements in AL & ML powered predictions, growing preference towards smart cities), and challenges (complexities associated with integrating a large amount of data and early stage technology and limited awareness).

Product Development/Innovation: Detailed insights on upcoming technologies,

+44 20 8123 2220
info@marketpublishers.com

research & development activities, and new product launches in the building twin market.

Market Development: Comprehensive information about lucrative markets – the report analyses the building twin market across varied regions.

Market Diversification: Exhaustive information about new products, untapped geographies, recent developments, and investments in the building l twin market.

Competitive Assessment: In-depth assessment of market shares, growth strategies, and product offerings of leading players like Microsoft (US), Siemens (Germany), Amazon (US), Dassault Syst?mes (France), Robert Bosch GmbH (Germany), ANSYS, Inc (US), IBM (US), Autodesk Inc. (US), SAP (Germany), Oracle (US), and Bentley Systems, Incorporated (US), among others.

+44 20 8123 2220
info@marketpublishers.com

Contents

1 INTRODUCTION

1.1 STUDY OBJECTIVES
1.2 MARKET DEFINITION
1.3 STUDY SCOPE
  1.3.1 MARKETS COVERED
  1.3.2 INCLUSIONS AND EXCLUSIONS
  1.3.3 YEARS CONSIDERED
1.4 CURRENCY CONSIDERED
1.5 LIMITATIONS
1.6 STAKEHOLDERS
1.7 RECESSION IMPACT

2 RESEARCH METHODOLOGY

2.1 RESEARCH DATA
  2.1.1 SECONDARY AND PRIMARY RESEARCH
  2.1.2 SECONDARY DATA
    2.1.2.1 List of key secondary sources
    2.1.2.2 Key data from secondary sources
  2.1.3 PRIMARY DATA
    2.1.3.1 Intended participants and key opinion leaders in primary interviews
    2.1.3.2 Key data from primary sources
    2.1.3.3 Key industry insights
    2.1.3.4 Breakdown of primaries
2.2 MARKET SIZE ESTIMATION
  2.2.1 BOTTOM-UP APPROACH
    2.2.1.1 Approach to estimate market size using bottom-up analysis (demand side)
  2.2.2 TOP-DOWN APPROACH
    2.2.2.1 Approach to estimate market size using top-down analysis (supply side)
2.3 DATA TRIANGULATION
2.4 RESEARCH ASSUMPTIONS
2.5 PARAMETERS CONSIDERED TO ANALYZE IMPACT OF RECESSION ON BUILDING TWIN MARKET
2.6 RESEARCH LIMITATIONS

+44 20 8123 2220
info@marketpublishers.com

2.7 RISK ANALYSIS

3 EXECUTIVE SUMMARY

4 PREMIUM INSIGHTS

4.1 ATTRACTIVE OPPORTUNITIES FOR PLAYERS IN BUILDING TWIN MARKET
4.2 BUILDING TWIN MARKET, BY OFFERING
4.3 BUILDING TWIN MARKET, BY APPLICATION
4.4 BUILDING TWIN MARKET, BY END USER
4.5 BUILDING TWIN MARKET, BY COUNTRY

5 MARKET OVERVIEW

5.1 INTRODUCTION
5.2 MARKET DYNAMICS
5.2.1 DRIVERS
5.2.1.1 Pressing need to mitigate environmental impact
5.2.1.2 Rising adoption of improved real-time data visualization tools in building operations
5.2.1.3 Rising focus on predictive maintenance to ensure safety and reliability of building operations
5.2.1.4 Government-led initiatives to boost digital infrastructure
5.2.2 RESTRAINTS
5.2.2.1 High cost of establishing building twins
5.2.2.2 Susceptibility to cyberattacks
5.2.3 OPPORTUNITIES
5.2.3.1 Integration of building twin technology with advanced sensors and IoT technologies
5.2.3.2 Emergence of AI- and ML-powered building twins
5.2.3.3 Growing initiatives to develop smart cities
5.2.4 CHALLENGES
5.2.4.1 Complexities associated with integrating large amount of data
5.2.4.2 Lack of standardization in building twin technology
5.3 TRENDS/DISRUPTIONS IMPACTING CUSTOMERS' BUSINESSES
5.4 PRICING ANALYSIS
5.4.1 AVERAGE SELLING PRICE TREND OF BUILDING TWIN SOLUTIONS, BY KEY PLAYER
5.5 VALUE CHAIN ANALYSIS

+44 20 8123 2220
info@marketpublishers.com

5.6 ECOSYSTEM ANALYSIS
5.7 INVESTMENT AND FUNDING SCENARIO
5.8 TECHNOLOGY ANALYSIS
5.8.1 KEY TECHNOLOGIES
5.8.1.1 IoT and IIoT
5.8.1.2 Building information modeling
5.8.1.3 3D modeling
5.8.2 COMPLIMENTARY TECHNOLOGIES
5.8.2.1 AI and ML
5.8.2.2 AR, VR, and MR
5.8.2.3 Cloud computing and edge computing
5.8.3 ADJACENT TECHNOLOGIES
5.8.3.1 Blockchain
5.8.3.2 5G
5.9 PATENT ANALYSIS
5.10 TRADE ANALYSIS
5.10.1 IMPORT DATA (HS CODE 851769)
5.10.2 EXPORT DATA (HS CODE 851769)
5.11 KEY CONFERENCES AND EVENTS, 2023–2024
5.12 CASE STUDY ANALYSIS
5.12.1 TEMPLE UNIVERSITY DEVELOPED DIGITAL TWIN ECOSYSTEM WITH AZURE IOT TO OPTIMIZE OPERATIONS
5.12.2 AWS PROVIDED JOHN HOLLAND WITH AWS IOT TWINMAKER TO ENHANCE ASSET DEVELOPMENT AND MANAGEMENT
5.12.3 UNITY HELPED ORLANDO WITH 3D DIGITAL TWIN FOR URBAN PLANNING THROUGH REAL-TIME VISUALIZATION AND SCENARIO TESTING
5.12.4 SINGAPORE LAND AUTHORITY IMPLEMENTED DIGITAL TWIN FOR EFFECTIVE URBAN PLANNING AND TRANSPORTATION MANAGEMENT
5.13 REGULATORY LANDSCAPE
5.13.1 REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS
5.13.2 STANDARDS
5.14 PORTER’S FIVE FORCES ANALYSIS
5.14.1 THREAT OF NEW ENTRANTS
5.14.2 THREAT OF SUBSTITUTES
5.14.3 BARGAINING POWER OF BUYERS
5.14.4 BARGAINING POWER OF SUPPLIERS
5.14.5 INTENSITY OF COMPETITIVE RIVALRY
5.15 KEY STAKEHOLDERS AND BUYING CRITERIA

+44 20 8123 2220
info@marketpublishers.com

5.15.1 KEY STAKEHOLDERS IN BUYING PROCESS
5.15.2 BUYING CRITERIA

6 TYPES OF BUILDING TWINS

6.1 INTRODUCTION
6.2 DESCRIPTIVE TWINS
6.3 INFORMATIVE TWINS
6.4 PREDICTIVE TWINS
6.5 COMPREHENSIVE TWINS
6.6 AUTONOMOUS TWINS

7 BUILDING TWIN MARKET, BY OFFERING

7.1 INTRODUCTION
7.2 SOFTWARE SOLUTIONS
7.2.1 INTEGRATION OF REAL-TIME SENSOR DATA AND STATIC INFORMATION TO OFFER LUCRATIVE GROWTH OPPORTUNITIES
7.2.2 PLATFORM AS A SERVICE (PAAS)
7.2.3 SOFTWARE AS A SERVICE (SAAS)
7.3 SERVICES
7.3.1 INCREASING COMPLEXITIES OF MODERN BUILDING PROJECTS TO BOOST DEMAND

8 BUILDING TWIN MARKET, BY APPLICATION

8.1 INTRODUCTION
8.2 BY APPLICATION
8.2.1 FACILITY MANAGEMENT
8.2.1.1 Rising trend of smart buildings to boost adoption
8.2.2 PREDICTIVE MAINTENANCE
8.2.2.1 Ability to monitor equipment performance and detect failures to accelerate demand
8.2.3 ENERGY MANAGEMENT
8.2.3.1 Integration of renewable energy sources to offer lucrative growth opportunities
8.2.4 SAFETY & SECURITY MANAGEMENT
8.2.4.1 Increasing need to monitor security breaches to spur demand
8.2.5 OTHERS
8.3 DESIGN & CONSTRUCTION (QUALITATIVE)

+44 20 8123 2220
info@marketpublishers.com

9 BUILDING TWIN MARKET, BY END USER

9.1 INTRODUCTION
9.2 COMMERCIAL
9.2.1 OFFICE BUILDINGS
9.2.1.1 Increasing demand for virtual tours and interactive maps to drive market
9.2.2 RETAIL SPACE
9.2.2.1 Rising demand for innovative and data-driven solutions for operational efficiency to accelerate demand
9.2.3 HOSPITALITY INDUSTRY
9.2.3.1 Growing emphasis on providing personalized guest experiences to spur demand
9.2.4 HOSPITALS
9.2.4.1 Ability to simulate disaster scenarios for planning effective responses to foster segmental growth
9.2.5 EDUCATIONAL INSTITUTIONS
9.2.5.1 Increasing demand for optimizing classroom layouts to boost adoption
9.2.6 AIRPORT & TRANSPORTATION HUBS
9.2.6.1 Rising need to streamline airport operations to enhance passenger experiences to drive market
9.3 INDUSTRIAL
9.3.1 GROWING NEED TO BOOST PRODUCTIVITY AND LOWER OPERATIONAL COSTS TO DRIVE MARKET

10 BUILDING TWIN MARKET, BY REGION

10.1 INTRODUCTION
10.2 NORTH AMERICA
10.2.1 IMPACT OF RECESSION ON BUILDING TWIN MARKET IN NORTH AMERICA
10.2.2 US
10.2.2.1 Growing adoption of digital technology in infrastructure sector to drive market
10.2.3 CANADA
10.2.3.1 Increasing adoption of green building practices to spur demand
10.2.4 MEXICO
10.2.4.1 Government-led initiatives promoting digitalized infrastructure to create lucrative growth opportunities

+44 20 8123 2220
info@marketpublishers.com

10.3 EUROPE
10.3.1 IMPACT OF RECESSION ON BUILDING TWIN MARKET IN EUROPE
10.3.2 GERMANY
10.3.2.1 Increasing focus on crafting 3D model of nation to foster market growth
10.3.3 FRANCE
10.3.3.1 Rising emphasis on modernizing industrial sector to drive market
10.3.4 UK
10.3.4.1 Growing emphasis on establishing 5G network to offer lucrative growth opportunities
10.3.5 REST OF EUROPE
10.4 ASIA PACIFIC
10.4.1 IMPACT OF RECESSION ON BUILDING TWIN MARKET IN ASIA PACIFIC
10.4.2 CHINA
10.4.2.1 Increasing development of digital twin cities to boost demand
10.4.3 JAPAN
10.4.3.1 Implementation of digital twin technology to enhance urban planning, disaster management, and customer engagement to drive market
10.4.4 INDIA
10.4.4.1 Growing application of AI and 5G in infrastructure planning and designing to spur demand
10.4.5 SOUTH KOREA
10.4.5.1 Rising focus on promoting R&D initiatives for IoT to drive market
10.4.6 REST OF ASIA PACIFIC
10.5 ROW
10.5.1 IMPACT OF RECESSION ON BUILDING TWIN MARKET IN ROW
10.5.2 SOUTH AMERICA
10.5.2.1 Ongoing development of infrastructure and communication networks to foster market growth
10.5.3 MIDDLE EAST
10.5.3.1 Growing partnerships among industry vendors and consultants to spur demand
10.5.3.2 GCC
10.5.3.3 Rest of Middle East
10.5.4 AFRICA
10.5.4.1 Increasing demand for smart connectivity to boost adoption

11 COMPETITIVE LANDSCAPE

11.1 OVERVIEW

+44 20 8123 2220
info@marketpublishers.com

11.2 KEY PLAYER STRATEGIES/RIGHT TO WIN, 2022–2024
11.3 REVENUE ANALYSIS, 2019–2023
11.4 MARKET SHARE ANALYSIS, 2023
11.5 COMPANY VALUATION AND FINANCIAL METRICS
11.6 BRAND/PRODUCT COMPARISON
11.7 COMPANY EVALUATION MATRIX, 2023
11.7.1 STARS
11.7.2 EMERGING LEADERS
11.7.3 PERVASIVE PLAYERS
11.7.4 PARTICIPANTS
11.7.5 COMPANY FOOTPRINT: KEY PLAYERS, 2023
11.7.5.1 Company footprint
11.7.5.2 Offering footprint
11.7.5.3 End user footprint
11.7.5.4 Application footprint
11.7.5.5 Region footprint
11.8 COMPANY EVALUATION MATRIX: STARTUPS/SMES, 2023
11.8.1 PROGRESSIVE COMPANIES
11.8.2 RESPONSIVE COMPANIES
11.8.3 DYNAMIC COMPANIES
11.8.4 STARTING BLOCKS
11.8.5 COMPETITIVE BENCHMARKING: STARTUPS/SMES, 2023
11.8.5.1 Detailed list of key startups/SMEs
11.8.5.2 Competitive benchmarking of key startups/SMEs
11.9 COMPETITIVE SCENARIO AND TRENDS
11.9.1 PRODUCT LAUNCHES
11.9.2 DEALS
11.9.3 OTHERS

12 COMPANY PROFILES

12.1 KEY PLAYERS
12.1.1 SIEMENS
12.1.1.1 Business overview
12.1.1.2 Products/Solutions/Services offered
12.1.1.3 Recent developments
12.1.1.3.1 Product launches/Developments
12.1.1.3.2 Deals
12.1.1.4 MnM view

+44 20 8123 2220
info@marketpublishers.com

12.1.1.4.1 Key strengths/Right to win
12.1.1.4.2 Strategic choices
12.1.1.4.3 Weaknesses/Competitive threats
12.1.2 MICROSOFT
12.1.2.1 Business overview
12.1.2.2 Products/Solutions/Services offered
12.1.2.3 Recent developments
12.1.2.3.1 Deals
12.1.2.4 MnM view
12.1.2.4.1 Key strengths/Right to win
12.1.2.4.2 Strategic choices
12.1.2.4.3 Weaknesses/Competitive threats
12.1.3 ROBERT BOSCH GMBH
12.1.3.1 Business overview
12.1.3.2 Products/Solutions/Services offered
12.1.3.3 Recent developments
12.1.3.3.1 Product launches/Developments
12.1.3.3.2 Deals
12.1.3.4 MnM view
12.1.3.4.1 Key strengths/Right to win
12.1.3.4.2 Strategic choices
12.1.3.4.3 Weaknesses/Competitive threats
12.1.4 DASSAULT SYST?MES
12.1.4.1 Business overview
12.1.4.2 Products/Solutions/Services offered
12.1.4.3 Recent developments
12.1.4.3.1 Product launches/Developments
12.1.4.3.2 Deals
12.1.4.4 MnM view
12.1.4.4.1 Key strengths/Right to win
12.1.4.4.2 Strategic choices
12.1.4.4.3 Weaknesses/Competitive threats
12.1.5 AMAZON WEB SERVICES, INC. (AWS)
12.1.5.1 Business overview
12.1.5.2 Products/Solutions/Services offered
12.1.5.3 Recent developments
12.1.5.3.1 Product launches/Developments
12.1.5.3.2 Deals
12.1.5.4 MnM view

+44 20 8123 2220
info@marketpublishers.com

12.1.5.4.1 Key strengths/Right to win
12.1.5.4.2 Strategic choices
12.1.5.4.3 Weaknesses/Competitive threats
12.1.6 AUTODESK INC.
12.1.6.1 Business overview
12.1.6.2 Products/Solutions/Services offered
12.1.6.3 Recent developments
12.1.6.3.1 Product launches/Developments
12.1.6.3.2 Deals
12.1.7 IBM
12.1.7.1 Business overview
12.1.7.2 Products/Solutions/Services offered
12.1.7.3 Recent developments
12.1.7.3.1 Deals
12.1.8 ORACLE
12.1.8.1 Business overview
12.1.8.2 Products/Solutions/Services offered
12.1.8.3 Recent developments
12.1.8.3.1 Product launches/Developments
12.1.8.3.2 Deals
12.1.8.3.3 Others
12.1.9 ANSYS, INC.
12.1.9.1 Business overview
12.1.9.2 Products/Solutions/Services offered
12.1.9.3 Recent developments
12.1.9.3.1 Product launches/Developments
12.1.9.3.2 Deals
12.1.10 SAP
12.1.10.1 Business overview
12.1.10.2 Products/Solutions/Services offered
12.1.10.3 Recent developments
12.1.10.3.1 Deals
12.1.11 BENTLEY SYSTEMS, INCORPORATED
12.1.11.1 Business overview
12.1.11.2 Products/Solutions/Services offered
12.1.11.3 Recent developments
12.1.11.3.1 Deals
12.2 OTHER KEY PLAYERS
12.2.1 MATTERPORT INC.

+44 20 8123 2220
info@marketpublishers.com

12.2.2 TRIMBLE INC.
12.2.3 ABB
12.2.4 JOHNSON CONTROLS
12.2.5 SCHNEIDER ELECTRIC
12.2.6 ESRI
12.2.7 NAVVIS
12.2.8 NOVACENE IOT LTD.
12.2.9 APRIORI
12.2.10 SOFTWARE AG
12.2.11 INTEGRATED ENVIRONMENTAL SOLUTIONS LIMITED
12.2.12 TWINSITY GMBH
12.2.13 TWINZO
12.2.14 CITYZENITH

13 ADJACENT AND RELATED MARKETS

13.1 INTRODUCTION
13.2 DIGITAL TWIN MARKET, BY ENTERPRISE
13.3 LARGE ENTERPRISES
13.3.1 GROWING DEPLOYMENT OF BLOCKCHAIN TECHNOLOGY IN HEALTHCARE SECTOR TO DRIVE DEMAND
13.4 SMALL & MEDIUM ENTERPRISES (SMES)
13.4.1 INCREASING DEMAND FOR SUBSCRIPTION-BASED DIGITAL TWIN SERVICES TO BOOST SEGMENTAL GROWTH

14 APPENDIX

14.1 INSIGHTS FROM INDUSTRY EXPERTS
14.2 DISCUSSION GUIDE
14.3 KNOWLEDGESTORE: MARKETSANDMARKETS’ SUBSCRIPTION PORTAL
14.4 CUSTOMIZATION OPTIONS
14.5 RELATED REPORTS
14.6 AUTHOR DETAILS

+44 20 8123 2220
info@marketpublishers.com

I would like to order

Product name: Building Twin Market by Offering (Software Solutions, Services), Application (Facility Management, Predictive Maintenance, Safety & Security Management, Energy Management), End User (Commercial, Industrial) and Region - Global Forecast to 2029

Product link: https://marketpublishers.com/r/B82C8A41218AEN.html

Price: US$ 3,217.50 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:
info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page https://marketpublishers.com/r/B82C8A41218AEN.html

To pay by Wire Transfer, please, fill in your contact details in the form below:

First name:
Last name:
Email:
Company:
Address:
City:
Zip code:
Country:
Tel:
Fax:
Your message:

**All fields are required

Custumer signature _____

Please, note that by ordering from marketpublishers.com you are agreeing to our Terms & Conditions at https://marketpublishers.com/docs/terms.html

To place an order via fax simply print this form, fill in the information below

+44 20 8123 2220
info@marketpublishers.com

and fax the completed form to +44 20 7900 3970