

Smart Buildings, Cities and Digital Twins Technology and Solutions 2021 - 2026

<https://marketpublishers.com/r/S216E7012CBBEN.html>

Date: February 2021

Pages: 765

Price: US\$ 4,000.00 (Single User License)

ID: S216E7012CBBEN

Abstracts

Overview:

This research evaluates smart building technologies, players, and solutions. The report analyzes smart buildings challenges and opportunities, assesses market potential, and provides accompanying smart buildings market sizing, globally as well as regionally, and by market segment for 2021 – 2026.

It includes an analysis of technologies supporting smart building automation, IWMS, and smart workplace applications and services. Smart building technology integration areas addressed within the report include 5G, AI, data analytics, and edge computing.

This research also evaluates the smart cities market including leading vendors and strategies (such as a single vs. multi-vendor centric approach), infrastructure, solutions, applications, and services. The report analyzes market factors driving solution adoption, technology readiness and fitness for use, and other considerations.

This research also evaluates digital twinning technology, solutions, use cases, and leading company efforts in terms of R&D and early deployments. The report assesses the digital twin product and service ecosystem including application development and operations. The report also analyzes technologies supporting and benefiting from digital twinning.

Select Research Findings:

Smart building automation software and systems will reach \$19.3B in North America by 2026

AI-enabled IoT (AIoT) systems will drive IWMS efficiencies and automation to an entirely new level by 2026

Smart facility water management systems will represent an \$723M market opportunity in Europe by 2026

The key to success in the smart building market is to intelligently integrate data, systems, processes, and assets for enterprise and industrial operations

Global Asset Twinning, Component Twinning, System Twinning, Process and Workflow Twinning in support of smart cities will reach \$3.77B by 2026

Global deployment of 5G, AI, and IoT is substantially focused upon smart city solutions, representing 65%, 35%, and 55% of all total global investment for each respective technology

Smart buildings are rapidly transitioning from legacy, often proprietary wireline siloed to more standardized 5G and WiFi6 wireless solutions that leverage AI and edge computing. Intelligence buildings provide many benefits over previous structures including time and cost savings, improved integration of critical infrastructure, and many new and improved solutions such as occupancy-based energy, security, and space utilization.

Smart buildings provide improved facilities access control (security alarm, intrusion detection and overall surveillance), HVAC, lighting and other environmental controls, energy management, and overall building control. In addition, building intelligence is increasingly gained through integration of sensors, actuators and other IoT systems elements to capture data to derive AI-based data analytics.

A digital twin is a virtual object representation of a real-world item in which the virtual is mapped to physical things in the real-world such as equipment, robots, or virtually any connected business asset. This mapping in the digital world is facilitated by IoT platforms and software that is leveraged to create a digital representation of the physical asset. The digital twin of a physical asset can provide data about its status such as its physical state and disposition. Conversely, a digital object may be used to manipulate and control a real-world asset by way of teleoperation.

Digital twin solutions in smart cities are largely focused on improving the intelligence of buildings. Specific twinning solutions in this regard include: Asset Twinning, Component Twinning, System Twinning, Process and Workflow Twinning. Mind Commerce sees the digital twins market reaching \$3.77B for these solution areas in total by 2026.

Target Audience:

Commercial building network system designers

IoT network system designers for commercial buildings

Components manufacturers for IoT network systems and interfaces

Contractors that install IoT network systems in commercial buildings

Systems integrators for the IoT network systems in commercial buildings

Facilities managers responsible for commercial building networks and systems

Research Benefits:

Identify the market drivers for Smart Cities

Understand the technologies supporting Smart Cities

Understand the impact of smart cities on ICT evolution

Identify smart buildings market challenges and opportunities

Understand the smart buildings marketplace including players and solutions

Identify how key technologies such as AI and IoT support intelligent structures

Identify how integrated workplace management systems support smart buildings

Understand how virtual objects (software programs) function as an abstract of real-world things

Understand how virtual reality will support digital twinning for advanced simulations and control

Companies in Research:

ABB Group

Abundant Power

Accela

Accenture PLC

Aclara

Aclima

Advantech

Aeon Labs LLC

Aeris Communications

Affinegy, Inc

Affinity Automation, LLC

AGT International

Airspan

Airtel

Alibaba

Allegro

Allerin Tech Pvt. Ltd.

Ally

Alstom SA

Altair Engineering, Inc.

Altran

Alvarion

Amazon

Ambience Data

AMCS

AMD

America Movil

American Auto-Matrix

American Digitals

American Energy Management

AMMAMSIC Technology Corp

Amplia Soluciones SL

Analog Devices Inc.

Analytika

ANSYS

Appin Associates

Apple

Appyparking

Arista Networks Inc.

ARM Holdings

Ascom

Asus

AT&T

Athena Engineering, Inc

Atos

Aucotec AG

Autodesk Inc.

Autogrid

Automated Control Inc.

Ayyeka

Azavea

Azbil

Baidu Inc.

Banyan Water

Barbara IoT

Be Home247

Belimo

Bentley Systems

BlackBerry Ltd

Blynco

Bosch Software Innovations GmbH

Brandt Automation, Inc

Breezometer

Bridj

Broadcom Corporation

BT Group

Building IQ

Building Robotics

CADFEM GmbH

Cadillac Fairview

Calthorpe Analytics

Capgemini

Cavium Inc.

Central Coast Environmental Controls

China Mobile

China Unicom

Ciena Corporation

CIMCON Lighting

Cisco Systems

Citrix Systems

Cityflo

Citymapper

Cityzenith

Civicsmart

Clarity Movement Co.

Cobham Wireless

Colt

Compology

Contus

Copper Tree Analytics

CoSMo Company SAS

Cradlepoint

Crestron

CSR

Cubic Corporation

Current Analytics, Inc.

CyanConnode

Cylon

Dassault Systems

Delta Controls

Digital Twin Technologies

Dispatchr

Distech Controls

DNV GL

Double Map

DOVU

DXC Technology

E.M.S. Technologies

Eagle Energy, Inc

EATON

Eclipse Foundation

Ecova

EFT Energy

Elemco Building Controls

Elichens

Emagin

Emerson Electric Co

Emesent

Enel

Energent

Energy ETC, Inc.

EnergyCAP

Energyworx

EnerNOC

Enevo

ENGIE

Enovity, Inc.

Ericsson

eSight Energy

Evopark

EZparking

Faststream Technologies

Fathom

FEINGUSS BLANK GmbH

Filament

Flamencotech

Flowlabs

Flowserve

Fluentgrid

Forward Networks

Frazier Service Co.

GE

General Electric

Genesis Automation

Google

Gridcure

GridPoint

Hawkeye Energy Solutions

HCL Technologies Ltd

HFCL

Hitachi Ltd.

HomeLink Technologies

Honda Smart Home

Honeywell International Inc.

Horizon Controls

HPE

HTNG

Huawei

Hubbell Building Automation

IBI group

IBM Corporation

Industrial Internet Consortium

Infarm

Ingersoll Rand

Ingersoll-Rand Inc.

Inncom

Inrix

Inspira

Intel

Intelizon Energy

Intellastar

Intellias

InterLogix

Intermatic

Inventum Technologies

Invicara

Itron

J2 Innovations

Johnson Controls

Kapsch Group

KBMax

KMC Controls

Koninklijke Philips NV

KORE Wireless

Lanner Electronics

Legrand

LG CNS

Libelium

Logic Ladder

Lon Mark International

LowV Systems, Inc.

Lynx Spring

Mapillary

Maven Systems

Meter Feeder

Metrotech

Microsoft

Mindteck

Miovision

Mobike

Moovel

Moovit

National Instruments

NavVis

Near Future, LLC

NEC

Neighborland

Network and Automation Systems

NEXIA

NexTek Power Systems

Nokia

Nordsense

NTT DATA

OME

One Concern

Oorja On Move

Opendatasoft

Opusone

Oracle Corporation

Panasonic

Parkwhiz

Passport

PETRA Data Science

Phoenix Energy Technologies

Phoenix Robotix

Physical Web

Plume Labs

Pratiti Technologies

Priva

Proclivis Technology Solutions

Prodea System Inc.,

Progressive Engineering & Design

PTC

Purple

QInfra Solutions

QiO Technologies

Qualcomm Incorporated

Quality Theorem

Rachio

Ramco Electrical Contracting Corp.

RBH Access Technologies, Inc.

Reliable Controls

Remix

Ridlr

Rubicon

SAP

Sawyers Control Systems, Inc.

Schneider Electric

SenSat

Sentiance

Shenitech

Siemens AG

Sierra Wireless

Sigfox

Sight Machine Inc.

Signify

Simplifa GmbH

Smardt

Softweb Solutions Inc.

Sogeti Group

Somfy

Soofa

Spacetime Insight

Spatial Labs, Inc.

Spice Digital

Spot Hero

Stae

Streetlight Data

Sullivan & McLaughlin Companies, Inc.

Surveillance Grid Company

Swiftly

Switch Automation

Synavision

Synergetic Systems

Syska Hennessy

Systemex Corporation

Taco Comfort

Takadu

Tantalum

TE connectivity

Telefonica

Telensa

TerraBridge Innovations in Technology, Inc.

Thermo-Trol Systems, Inc.

TIBCO Software

Toshiba

Toshiba Corporation

Tractebel

Trafi

Trane

Transit Labs

Transit Screen

Transloc

Trend Controls

Tridium

Trilliant

Understory

Unilectric

United Technologies

UrbanFootprint

Urbee

UrsaLeo

Utilidata

Valor Water Analytics

Vantage

Varentec

Veniam

Veolia

Verdigris Technologies Inc.

Verizon

Viconics

Videonetics Technologies

Virtalis Limited

Visualiz

Vodafone

Volocopter

Vykon

Watersmart

Wind River

Wipro Limited

Worldsensing SL

XanTech

XenonStack

Zagster

Zenysis

Zerocycle

Zest Labs

ZiFF Technologies

Contents

Smart Buildings Market by Technology, Infrastructure, and Solutions 2021 – 2026

1 EXECUTIVE SUMMARY

2 INTRODUCTION

2.1 What is a Smart Building?

2.2 Drivers for More Intelligent Buildings

2.2.1 Commercial Real Estate Benefits from Smart Buildings

2.2.2 Smart Buildings Support Smart City Initiatives

2.2.3 Smart Buildings Facilitate a Smarter Workplace

2.3 Smart Building Capabilities

2.3.1 Environmental Controls

2.3.1.1 Smart HVAC

2.3.1.2 Smart Lighting

2.3.1.3 Smart Windows

2.3.2 Safety and Security

2.3.2.1 Entry Management and Personnel Access Control

2.3.2.2 Video Surveillance and other Personnel Detection Solutions

2.3.3 Space and Workflow Management

2.3.3.1 Workspace Usage Detection

2.3.3.2 Employee Tracking

2.3.3.3 Asset Tracking

2.4 DAS, Small Cell, and In-Building Wireless Solution

2.5 Real-Time IoT Analytics

2.6 Smart Building Cost Analysis

2.7 Smart Building Benefits for Enterprise and Residential Building

2.8 5G will Accelerate Smart Building Adoption

3 SMART BUILDING CHALLENGES AND OPPORTUNITIES

3.1 Smart Building Challenges

3.1.1 Need to Retrofit Existing Buildings and Facilities

3.1.2 Barriers towards IoT integration with Smart Buildings

3.1.2.1 IoT Interoperability: Devices, Gateways, Platforms, and Apps

3.1.2.2 Cross-Building Feature/Functionality Applications Differences

3.2 Smart Building Opportunities

- 3.2.1 Building Automation Systems Optimize Operations
- 3.2.2 Leverage Building Operational Data
- 3.2.3 Leverage Artificial Intelligence
- 3.2.4 Edge-to-Cloud Services in Smart Buildings

4 SMART BUILDING ORGANIZATIONS AND INITIATIVES

- 4.1 Building Efficiency Initiative
- 4.2 Building Smart Alliance
- 4.1 Build Up
- 4.2 Automated Buildings Association
- 4.3 Commercial Real Estate Development Association
- 4.4 CRE Finance Council
- 4.1 Intelligent Building Council
- 4.1 National Institute of Building Science
- 4.2 Project Haystack

5 COMPANY ANALYSIS

- 5.1 Abundant Power
- 5.2 Aeon Labs LLC
- 5.3 Affinegy, Inc
- 5.4 Affinity Automation, LLC
- 5.5 American Auto-Matrix
- 5.6 American Digitals
- 5.7 American Energy Management
- 5.8 AMMAMSIC Technology Corp
- 5.9 Appin Associates
- 5.10 Assodomotica
- 5.11 Athena Engineering, Inc
- 5.12 Automated Control Inc.
- 5.13 Azbil
- 5.14 Be Home247
- 5.15 Belimo
- 5.16 Brandt Automation, Inc
- 5.17 Building IQ
- 5.18 Building Robotics
- 5.19 Cadillac Fairview
- 5.20 Central Coast Environmental Controls

- 5.21 Copper Tree Analytics
- 5.22 Crestron
- 5.23 CSR
- 5.24 Current Analytics, Inc.
- 5.25 Cylon
- 5.26 Delta Controls
- 5.27 Distech Controls
- 5.28 E.M.S. Technologies
- 5.29 Eagle Energy, Inc
- 5.30 EATON
- 5.31 Ecova
- 5.32 EFT Energy
- 5.33 Elemco Building Controls
- 5.34 Energent
- 5.35 Energy ETC, Inc.
- 5.36 EnergyCAP
- 5.37 EnerNOC
- 5.38 Enovity, Inc.
- 5.39 eSight Energy
- 5.40 Frazier Service Co.
- 5.41 Genesis Automation
- 5.42 GridPoint
- 5.43 Hawkeye Energy Solutions
- 5.44 HomeLink Technologies
- 5.45 Honda Smart Home
- 5.46 Horizon Controls
- 5.47 HTNG
- 5.48 Hubbell Building Automation
- 5.49 IBI group
- 5.50 Ingersoll Rand
- 5.51 Incom
- 5.52 Intellastar
- 5.53 Inter Logix
- 5.54 Intermatic
- 5.55 J2 Innovations
- 5.56 KMC Controls
- 5.57 Lon Mark International
- 5.58 LowV Systems, Inc.
- 5.59 Lynx Spring

- 5.60 Near Future, LLC
- 5.61 Network and Automation Systems
- 5.62 NEXIA
- 5.63 NexTek Power Systems
- 5.64 OME
- 5.65 Phoenix Energy Technologies
- 5.66 Priva
- 5.67 Progressive Engineering & Design
- 5.68 Ramco Electrical Contracting Corp.
- 5.69 RBH Access Technologies, Inc.
- 5.70 Reliable Controls
- 5.71 Sawyers Control Systems, Inc.
- 5.72 Shenitech
- 5.73 Smardt
- 5.74 Somfy
- 5.75 Sullivan & McLaughlin Companies, Inc.
- 5.76 Surveillance Grid Company
- 5.77 Switch Automation
- 5.78 Synergetic Systems
- 5.79 Syska Hennessy
- 5.80 TA Canada (Convergint)
- 5.81 Taco Comfort
- 5.82 TE connectivity
- 5.83 TerraBridge Innovations in Technology, Inc.
- 5.84 Thermo-Trol Systems, Inc.
- 5.85 Trane
- 5.86 Trend Controls
- 5.87 Tridium
- 5.88 Unilectric
- 5.89 United Technologies
- 5.90 Vantage
- 5.91 Viconics
- 5.92 Vykon
- 5.93 Wind River
- 5.94 XanTech
- 5.95 Honeywell International Inc.
- 5.96 Siemens AG
- 5.97 Cisco Systems Inc.
- 5.98 IBM Corporation

- 5.99 General Electric
- 5.100 Schneider Electric
- 5.101 ABB Group
- 5.102 Johnson Controls
- 5.103 Hitachi
- 5.104 Accenture PLC
- 5.105 Ingersoll-Rand Inc.
- 5.106 Legrand
- 5.107 Verdigris Technologies Inc.
- 5.108 Analytikia

6 SMART BUILDING MARKET ANALYSIS AND FORECASTS 2021 – 2026

- 6.1 Global Smart Buildings Market 2021 – 2026
- 6.2 Smart Buildings by Market Segment 2021 – 2026
- 6.3 Smart Buildings Market by Hardware and Infrastructure Type 2021 – 2026
- 6.4 Smart Buildings Market by Automation Software and System Type 2021 – 2026
 - 6.4.1 Smart Buildings Market by Energy Management System Type 2021 – 2026
 - 6.4.2 Smart Buildings Market by Intelligent Security System Type 2021 – 2026
 - 6.4.3 Smart Buildings Market by Infrastructure Management System Type 2021 – 2026
 - 6.4.4 Smart Buildings Market by Network Management Systems Type 2021 – 2026
 - 6.4.5 Smart Buildings Market by Entertainment and Communication System Type 2021 – 2026
- 6.5 Smart Buildings Market by Service Type 2021 – 2026
 - 6.5.1 Smart Buildings Market by Professional Service Type 2021 – 2026
- 6.6 Smart Buildings Market by Building Type 2021 – 2026
- 6.7 Smart Buildings Market by New vs. Retrofit Building 2021 – 2026
 - 6.7.1 Smart Buildings Market by Deployment Type 2021 – 2026
- 6.8 Smart Buildings Market by Business Model 2021 – 2026
- 6.9 Smart Buildings Market by Connectivity Protocol Type 2021 – 2026
- 6.10 AI-Powered Smart Buildings Market 2021 – 2026
- 6.11 Edge Computing Enabled Smart Buildings Market 2021 – 2026
- 6.12 3D Printing in Smart Buildings Market 2021 – 2026
- 6.13 5G in Smart Buildings 2021 – 2026
- 6.14 Smart Buildings Regional Market 2021 – 2026
 - 6.14.1 North America Smart Buildings Forecast 2020 to 2025
 - 6.14.1.1 North America Smart Buildings Market 2021 – 2026
 - 6.14.1.2 North America Smart Buildings by Market Segment 2021 – 2026
 - 6.14.1.3 North America Smart Buildings Market by Hardware and Infrastructure Type

2021 – 2026

6.14.1.4 North America Smart Buildings Market by Automation Software and System Type 2021 – 2026

6.14.1.5 North America Smart Buildings Market by Energy Management System Type 2021 – 2026

6.14.1.6 North America Smart Buildings Market by Intelligent Security System Type 2021 – 2026

6.14.1.7 North America Smart Buildings Market by Infrastructure Management System Type 2021 – 2026

6.14.1.8 North America Smart Buildings Market by Network Management Systems Type 2021 – 2026

6.14.1.9 North America Smart Buildings Market by Entertainment and Communication System Type 2021 – 2026

6.14.1.10 North America Smart Buildings Market by Service Type 2021 – 2026

6.14.1.11 North America Smart Buildings Market by Professional Service Type 2021 – 2026

6.14.1.12 North America Smart Buildings Market by Building Type 2021 – 2026

6.14.1.13 North America Smart Buildings Market by New vs. Retrofit Building 2021 – 2026

6.14.1.14 North America Smart Buildings Market by Deployment Type 2021 – 2026

6.14.1.15 North America Smart Buildings Market by Business Model 2021 – 2026

6.14.1.16 North America Smart Buildings Market by Connectivity Protocol Type 2021 – 2026

6.14.1.17 North America AI-Powered Smart Buildings Market 2021 – 2026

6.14.1.18 North America Edge Computing Enabled Smart Buildings Market 2021 – 2026

6.14.1.19 North America 3D Printing in Smart Buildings Market 2021 – 2026

6.14.1.20 North America 5G in Smart Buildings 2021 – 2026

6.14.1.21 North America Smart Buildings Market by Country 2021 – 2026

6.14.2 South America Smart Buildings Forecast 2020 to 2025

6.14.2.1 South America Smart Buildings Market 2021 – 2026

6.14.2.2 South America Smart Buildings by Market Segment 2021 – 2026

6.14.2.3 South America Smart Buildings Market by Hardware and Infrastructure Type 2021 – 2026

6.14.2.4 South America Smart Buildings Market by Automation Software and System Type 2021 – 2026

6.14.2.5 South America Smart Buildings Market by Energy Management System Type 2021 – 2026

6.14.2.6 South America Smart Buildings Market by Intelligent Security System Type

2021 – 2026

6.14.2.7 South America Smart Buildings Market by Infrastructure Management System Type 2021 – 2026

6.14.2.8 South America Smart Buildings Market by Network Management Systems Type 2021 – 2026

6.14.2.9 South America Smart Buildings Market by Entertainment and Communication System Type 2021 – 2026

6.14.2.10 South America Smart Buildings Market by Service Type 2021 – 2026

6.14.2.11 South America Smart Buildings Market by Professional Service Type 2021 – 2026

6.14.2.12 South America Smart Buildings Market by Building Type 2021 – 2026

6.14.2.13 South America Smart Buildings Market by New vs. Retrofit Building 2021 – 2026

6.14.2.14 South America Smart Buildings Market by Deployment Type 2021 – 2026

6.14.2.15 South America Smart Buildings Market by Business Model 2021 – 2026

6.14.2.16 South America Smart Buildings Market by Connectivity Protocol Type 2021 – 2026

6.14.2.17 South America AI-Powered Smart Buildings Market 2021 – 2026

6.14.2.18 South America Edge Computing Enabled Smart Buildings Market 2021 – 2026

6.14.2.19 South America 3D Printing in Smart Buildings Market 2021 – 2026

6.14.2.20 South America 5G in Smart Buildings 2021 – 2026

6.14.2.21 South America Smart Buildings Market by Country 2021 – 2026

6.14.3 Europe Smart Buildings Forecast 2020 to 2025

6.14.3.1 Europe Smart Buildings Market 2021 – 2026

6.14.3.2 Europe Smart Buildings by Market Segment 2021 – 2026

6.14.3.3 Europe Smart Buildings Market by Hardware and Infrastructure Type 2021 – 2026

6.14.3.4 Europe Smart Buildings Market by Automation Software and System Type 2021 – 2026

6.14.3.5 Europe Smart Buildings Market by Energy Management System Type 2021 – 2026

6.14.3.6 Europe Smart Buildings Market by Intelligent Security System Type 2021 – 2026

6.14.3.7 Europe Smart Buildings Market by Infrastructure Management System Type 2021 – 2026

6.14.3.8 Europe Smart Buildings Market by Network Management Systems Type 2021 – 2026

6.14.3.9 Europe Smart Buildings Market by Entertainment and Communication

System Type 2021 – 2026

- 6.14.3.10 Europe Smart Buildings Market by Service Type 2021 – 2026
- 6.14.3.11 Europe Smart Buildings Market by Professional Service Type 2021 – 2026
- 6.14.3.12 Europe Smart Buildings Market by Building Type 2021 – 2026
- 6.14.3.13 Europe Smart Buildings Market by New vs. Retrofit Building 2021 – 2026
- 6.14.3.14 Europe Smart Buildings Market by Deployment Type 2021 – 2026
- 6.14.3.15 Europe Smart Buildings Market by Business Model 2021 – 2026
- 6.14.3.16 Europe Smart Buildings Market by Connectivity Protocol Type 2021 – 2026
- 6.14.3.17 Europe AI-Powered Smart Buildings Market 2021 – 2026
- 6.14.3.18 Europe Edge Computing Enabled Smart Buildings Market 2021 – 2026
- 6.14.3.19 Europe 3D Printing in Smart Buildings Market 2021 – 2026
- 6.14.3.20 Europe 5G in Smart Buildings 2021 – 2026
- 6.14.3.21 Europe Smart Buildings Market by Country 2021 – 2026
- 6.14.4 APAC Smart Buildings Forecast 2020 to 2025
 - 6.14.4.1 APAC Smart Buildings Market 2021 – 2026
 - 6.14.4.2 APAC Smart Buildings by Market Segment 2021 – 2026
 - 6.14.4.3 APAC Smart Buildings Market by Hardware and Infrastructure Type 2021 – 2026
 - 6.14.4.4 APAC Smart Buildings Market by Automation Software and System Type 2021 – 2026
 - 6.14.4.5 APAC Smart Buildings Market by Energy Management System Type 2021 – 2026
 - 6.14.4.6 APAC Smart Buildings Market by Intelligent Security System Type 2021 – 2026
 - 6.14.4.7 APAC Smart Buildings Market by Infrastructure Management System Type 2021 – 2026
 - 6.14.4.8 APAC Smart Buildings Market by Network Management Systems Type 2021 – 2026
 - 6.14.4.9 APAC Smart Buildings Market by Entertainment and Communication System Type 2021 – 2026
 - 6.14.4.10 APAC Smart Buildings Market by Service Type 2021 – 2026
 - 6.14.4.11 APAC Smart Buildings Market by Professional Service Type 2021 – 2026
 - 6.14.4.12 APAC Smart Buildings Market by Building Type 2021 – 2026
 - 6.14.4.13 APAC Smart Buildings Market by New vs. Retrofit Building 2021 – 2026
 - 6.14.4.14 APAC Smart Buildings Market by Deployment Type 2021 – 2026
 - 6.14.4.15 APAC Smart Buildings Market by Business Model 2021 – 2026
 - 6.14.4.16 APAC Smart Buildings Market by Connectivity Protocol Type 2021 – 2026
 - 6.14.4.17 APAC AI-Powered Smart Buildings Market 2021 – 2026
 - 6.14.4.18 APAC Edge Computing Enabled Smart Buildings Market 2021 – 2026

- 6.14.4.19 APAC 3D Printing in Smart Buildings Market 2021 – 2026
- 6.14.4.20 APAC 5G in Smart Buildings 2021 – 2026
- 6.14.4.21 APAC Smart Buildings Market by Country 2021 – 2026
- 6.14.5 MEA Smart Buildings Forecast 2020 to 2025
 - 6.14.5.1 MEA Smart Buildings Market 2021 – 2026
 - 6.14.5.2 MEA Smart Buildings by Market Segment 2021 – 2026
 - 6.14.5.3 MEA Smart Buildings Market by Hardware and Infrastructure Type 2021 – 2026
 - 6.14.5.4 MEA Smart Buildings Market by Automation Software and System Type 2021 – 2026
 - 6.14.5.5 MEA Smart Buildings Market by Energy Management System Type 2021 – 2026
 - 6.14.5.6 MEA Smart Buildings Market by Intelligent Security System Type 2021 – 2026
 - 6.14.5.7 MEA Smart Buildings Market by Infrastructure Management System Type 2021 – 2026
 - 6.14.5.8 MEA Smart Buildings Market by Network Management Systems Type 2021 – 2026
 - 6.14.5.9 MEA Smart Buildings Market by Entertainment and Communication System Type 2021 – 2026
 - 6.14.5.10 MEA Smart Buildings Market by Service Type 2021 – 2026
 - 6.14.5.11 MEA Smart Buildings Market by Professional Service Type 2021 – 2026
 - 6.14.5.12 MEA Smart Buildings Market by Building Type 2021 – 2026
 - 6.14.5.13 MEA Smart Buildings Market by New vs. Retrofit Building 2021 – 2026
 - 6.14.5.14 MEA Smart Buildings Market by Deployment Type 2021 – 2026
 - 6.14.5.15 MEA Smart Buildings Market by Business Model 2021 – 2026
 - 6.14.5.16 MEA Smart Buildings Market by Connectivity Protocol Type 2021 – 2026
 - 6.14.5.17 MEA AI-Powered Smart Buildings Market 2021 – 2026
 - 6.14.5.18 MEA Edge Computing Enabled Smart Buildings Market 2021 – 2026
 - 6.14.5.19 MEA 3D Printing in Smart Buildings Market 2021 – 2026
 - 6.14.5.20 MEA 5G in Smart Buildings 2021 – 2026
 - 6.14.5.21 MEA Smart Buildings Market by Country 2021 – 2026

7 CONCLUSIONS AND RECOMMENDATIONS

FIGURES

Figure 1: Smart Building Systems

Figure 2: Smart Building Functionality

Figure 3: Smart Workplace Components

Figure 4: Asset Tracking System

Figure 5: Global Smart Buildings Market 2021 – 2026

Figure 6: Smart Buildings Market by Segment 2021 – 2026

Figure 7: Smart Buildings Market by Hardware and Infrastructure Type 2021 – 2026

Figure 8: Smart Buildings Market by Automation Software and System Type 2021 – 2026

Figure 9: Smart Buildings Market by Energy Management System Type 2021 – 2026

Figure 10: Smart Buildings Market by Intelligent Security System Type 2021 – 2026

Figure 11: Smart Buildings Market by Infrastructure Management System Type 2021 – 2026

Figure 12: Smart Buildings Market by Network Management Systems Type 2021 – 2026

Figure 13: Smart Buildings Market by Entertainment and Communication System Type 2021 – 2026

Figure 14: Smart Buildings Market by Service Type 2021 – 2026

Figure 15: Smart Buildings Market by Professional Service Type 2021 – 2026

Figure 16: Smart Buildings Market by Building Type 2021 – 2026

Figure 17: Smart Buildings Market by New vs. Retrofit Building 2021 – 2026

Figure 18: Smart Buildings Market by Deployment Type 2021 – 2026

Figure 19: Smart Buildings Market by Business Model 2021 – 2026

Figure 20: Smart Buildings Market by Connectivity Protocol Type 2021 – 2026

Figure 21: AI-Powered Smart Buildings Market 2021 – 2026

Figure 22: Edge Computing Enabled Smart Buildings Market 2021 – 2026

Figure 23: 3D Printing in Smart Buildings Market 2021 – 2026

Figure 24: 5G in Smart Buildings 2021 – 2026

Figure 25: Smart Buildings Regional Market 2021 – 2026

Figure 26: North America Smart Buildings Market 2021 – 2026

Figure 27: North America Smart Buildings Market by Segment 2021 – 2026

Figure 28: North America Smart Buildings Market by Hardware and Infrastructure Type 2021 – 2026

Figure 29: North America Smart Buildings Market by Automation Software and System Type 2021 – 2026

Figure 30: North America Smart Buildings Market by Energy Management System Type 2021 – 2026

Figure 31: North America Smart Buildings Market by Intelligent Security System Type 2021 – 2026

Figure 32: North America Smart Buildings Market by Infrastructure Management System Type 2021 – 2026

Figure 33: North America Smart Buildings Market by Network Management Systems

Type 2021 – 2026

Figure 34: North America Smart Buildings Market by Entertainment and Communication System Type 2021 – 2026

Figure 35: North America Smart Buildings Market by Service Type 2021 – 2026

Figure 36: North America Smart Buildings Market by Professional Service Type 2021 – 2026

Figure 37: North America Smart Buildings Market by Building Type 2021 – 2026

Figure 38: North America Smart Buildings Market by New vs. Retrofit Building 2021 – 2026

Figure 39: North America Smart Buildings Market by Deployment Type 2021 – 2026

Figure 40: North America Smart Buildings Market by Business Model 2021 – 2026

Figure 41: North America Smart Buildings Market by Connectivity Protocol Type 2021 – 2026

Figure 42: North America AI-Powered Smart Buildings Market 2021 – 2026

Figure 43: North America Edge Computing Enabled Smart Buildings Market 2021 – 2026

Figure 44: North America 3D Printing in Smart Buildings Market 2021 – 2026

Figure 45: 5G in Smart Buildings 2021 – 2026

Figure 46: North America Smart Buildings Market by Country 2021 – 2026

Figure 47: South America Smart Buildings Market 2021 – 2026

Figure 48: South America Smart Buildings Market by Segment 2021 – 2026

Figure 49: South America Smart Buildings Market by Hardware and Infrastructure Type 2021 – 2026

Figure 50: South America Smart Buildings Market by Automation Software and System Type 2021 – 2026

Figure 51: South America Smart Buildings Market by Energy Management System Type 2021 – 2026

Figure 52: South America Smart Buildings Market by Intelligent Security System Type 2021 – 2026

Figure 53: South America Smart Buildings Market by Infrastructure Management System Type 2021 – 2026

Figure 54: South America Smart Buildings Market by Network Management Systems Type 2021 – 2026

Figure 55: South America Smart Buildings Market by Entertainment and Communication System Type 2021 – 2026

Figure 56: South America Smart Buildings Market by Service Type 2021 – 2026

Figure 57: South America Smart Buildings Market by Professional Service Type 2021 – 2026

Figure 58: South America Smart Buildings Market by Building Type 2021 – 2026

Figure 59: South America Smart Buildings Market by New vs. Retrofit Building 2021 – 2026

Figure 60: South America Smart Buildings Market by Deployment Type 2021 – 2026

Figure 61: South America Smart Buildings Market by Business Model 2021 – 2026

Figure 62: South America Smart Buildings Market by Connectivity Protocol Type 2021 – 2026

Figure 63: South America AI-Powered Smart Buildings Market 2021 – 2026

Figure 64: South America Edge Computing Enabled Smart Buildings Market 2021 – 2026

Figure 65: South America 3D Printing in Smart Buildings Market 2021 – 2026

Figure 66: 5G in Smart Buildings 2021 – 2026

Figure 67: South America Smart Buildings Market by Country 2021 – 2026

Figure 68: Europe Smart Buildings Market 2021 – 2026

Figure 69: Europe Smart Buildings Market by Segment 2021 – 2026

Figure 70: Europe Smart Buildings Market by Hardware and Infrastructure Type 2021 – 2026

Figure 71: Europe Smart Buildings Market by Automation Software and System Type 2021 – 2026

Figure 72: Europe Smart Buildings Market by Energy Management System Type 2021 – 2026

Figure 73: Europe Smart Buildings Market by Intelligent Security System Type 2021 – 2026

Figure 74: Europe Smart Buildings Market by Infrastructure Management System Type 2021 – 2026

Figure 75: Europe Smart Buildings Market by Network Management Systems Type 2021 – 2026

Figure 76: Europe Smart Buildings Market by Entertainment and Communication System Type 2021 – 2026

Figure 77: Europe Smart Buildings Market by Service Type 2021 – 2026

Figure 78: Europe Smart Buildings Market by Professional Service Type 2021 – 2026

Figure 79: Europe Smart Buildings Market by Building Type 2021 – 2026

Figure 80: Europe Smart Buildings Market by New vs. Retrofit Building 2021 – 2026

Figure 81: Europe Smart Buildings Market by Deployment Type 2021 – 2026

Figure 82: Europe Smart Buildings Market by Business Model 2021 – 2026

Figure 83: Europe Smart Buildings Market by Connectivity Protocol Type 2021 – 2026

Figure 84: Europe AI-Powered Smart Buildings Market 2021 – 2026

Figure 85: Europe Edge Computing Enabled Smart Buildings Market 2021 – 2026

Figure 86: Europe 3D Printing in Smart Buildings Market 2021 – 2026

Figure 87: 5G in Smart Buildings 2021 – 2026

Figure 88: Europe Smart Buildings Market by Country 2021 – 2026

Figure 89: APAC Smart Buildings Market 2021 – 2026

Figure 90: APAC Smart Buildings Market by Segment 2021 – 2026

Figure 91: APAC Smart Buildings Market by Hardware and Infrastructure Type 2021 – 2026

Figure 92: APAC Smart Buildings Market by Automation Software and System Type 2021 – 2026

Figure 93: APAC Smart Buildings Market by Energy Management System Type 2021 – 2026

Figure 94: APAC Smart Buildings Market by Intelligent Security System Type 2021 – 2026

Figure 95: APAC Smart Buildings Market by Infrastructure Management System Type 2021 – 2026

Figure 96: APAC Smart Buildings Market by Network Management Systems Type 2021 – 2026

Figure 97: APAC Smart Buildings Market by Entertainment and Communication System Type 2021 – 2026

Figure 98: APAC Smart Buildings Market by Service Type 2021 – 2026

Figure 99: APAC Smart Buildings Market by Professional Service Type 2021 – 2026

Figure 100: APAC Smart Buildings Market by Building Type 2021 – 2026

Figure 101: APAC Smart Buildings Market by New vs. Retrofit Building 2021 – 2026

Figure 102: APAC Smart Buildings Market by Deployment Type 2021 – 2026

Figure 103: APAC Smart Buildings Market by Business Model 2021 – 2026

Figure 104: APAC Smart Buildings Market by Connectivity Protocol Type 2021 – 2026

Figure 105: APAC AI-Powered Smart Buildings Market 2021 – 2026

Figure 106: APAC Edge Computing Enabled Smart Buildings Market 2021 – 2026

Figure 107: APAC 3D Printing in Smart Buildings Market 2021 – 2026

Figure 104: 5G in Smart Buildings 2021 – 2026

Figure 109: APAC Smart Buildings Market by Country 2021 – 2026

Figure 110: MEA Smart Buildings Market 2021 – 2026

Figure 111: MEA Smart Buildings Market by Segment 2021 – 2026

Figure 112: MEA Smart Buildings Market by Hardware and Infrastructure Type 2021 – 2026

Figure 113: MEA Smart Buildings Market by Automation Software and System Type 2021 – 2026

Figure 114: MEA Smart Buildings Market by Energy Management System Type 2021 – 2026

Figure 115: MEA Smart Buildings Market by Intelligent Security System Type 2021 – 2026

Figure 116: MEA Smart Buildings Market by Infrastructure Management System Type 2021 – 2026

Figure 117: MEA Smart Buildings Market by Network Management Systems Type 2021 – 2026

Figure 118: MEA Smart Buildings Market by Entertainment and Communication System Type 2021 – 2026

Figure 119: MEA Smart Buildings Market by Service Type 2021 – 2026

Figure 120: MEA Smart Buildings Market by Professional Service Type 2021 – 2026

Figure 121: MEA Smart Buildings Market by Building Type 2021 – 2026

Figure 122: MEA Smart Buildings Market by New vs. Retrofit Building 2021 – 2026

Figure 123: MEA Smart Buildings Market by Deployment Type 2021 – 2026

Figure 124: MEA Smart Buildings Market by Business Model 2021 – 2026

Figure 125: MEA Smart Buildings Market by Connectivity Protocol Type 2021 – 2026

Figure 126: MEA AI-Powered Smart Buildings Market 2021 – 2026

Figure 127: MEA Edge Computing Enabled Smart Buildings Market 2021 – 2026

Figure 128: MEA 3D Printing in Smart Buildings Market 2021 – 2026

Figure 129: 5G in Smart Buildings 2021 – 2026

Figure 130: MEA Smart Buildings Market by Country 2021 – 2026

TABLES

Table 1: Global Smart Buildings Market 2021 – 2026

Table 2: Smart Buildings Market by Segment 2021 – 2026

Table 3: Smart Buildings Market by Hardware and Infrastructure Type 2021 – 2026

Table 4: Smart Buildings Market by Automation Software and System Type 2021 – 2026

Table 5: Smart Buildings Market by Energy Management System Type 2021 – 2026

Table 6: Smart Buildings Market by Intelligent Security System Type 2021 – 2026

Table 7: Smart Buildings Market by Infrastructure Management System Type 2021 – 2026

Table 8: Smart Buildings Market by Network Management Systems Type 2021 – 2026

Table 9: Smart Buildings Market by Entertainment and Communication System Type 2021 – 2026

Table 10: Smart Buildings Market by Service Type 2021 – 2026

Table 11: Smart Buildings Market by Professional Service Type 2021 – 2026

Table 12: Smart Buildings Market by Building Type 2021 – 2026

Table 13: Smart Buildings Market by New vs. Retrofit Building 2021 – 2026

Table 14: Smart Buildings Market by Deployment Type 2021 – 2026

Table 15: Smart Buildings Market by Business Model 2021 – 2026

Table 16: Smart Buildings Market by Connectivity Protocol Type 2021 – 2026

Table 17: AI-Powered Smart Buildings Market 2021 – 2026

Table 18: Edge Computing Enabled Smart Buildings Market 2021 – 2026

Table 19: 3D Printing in Smart Buildings Market 2021 – 2026

Table 20: 5G in Smart Buildings 2021 – 2026

Table 21: Smart Buildings Regional Market 2021 – 2026

Table 22: North America Smart Buildings Market 2021 – 2026

Table 23: North America Smart Buildings Market by Segment 2021 – 2026

Table 24: North America Smart Buildings Market by Hardware and Infrastructure Type 2021 – 2026

Table 25: North America Smart Buildings Market by Automation Software and System Type 2021 – 2026

Table 26: North America Smart Buildings Market by Energy Management System Type 2021 – 2026

Table 27: North America Smart Buildings Market by Intelligent Security System Type 2021 – 2026

Table 28: North America Smart Buildings Market by Infrastructure Management System Type 2021 – 2026

Table 29: North America Smart Buildings Market by Network Management Systems Type 2021 – 2026

Table 30: North America Smart Buildings Market by Entertainment and Communication System Type 2021 – 2026

Table 31: North America Smart Buildings Market by Service Type 2021 – 2026

Table 32: North America Smart Buildings Market by Professional Service Type 2021 – 2026

Table 33: North America Smart Buildings Market by Building Type 2021 – 2026

Table 34: North America Smart Buildings Market by New vs. Retrofit Building 2021 – 2026

Table 35: North America Smart Buildings Market by Deployment Type 2021 – 2026

Table 36: North America Smart Buildings Market by Business Model 2021 – 2026

Table 37: North America Smart Buildings Market by Connectivity Protocol Type 2021 – 2026

Table 38: North America AI-Powered Smart Buildings Market 2021 – 2026

Table 39: North America Edge Computing Enabled Smart Buildings Market 2021 – 2026

Table 40: North America 3D Printing in Smart Buildings Market 2021 – 2026

Table 41: North America 5G in Smart Buildings 2021 – 2026

Table 42: North America Smart Buildings Market by Country 2021 – 2026

Table 43: South America Smart Buildings Market 2021 – 2026

Table 44: South America Smart Buildings Market by Segment 2021 – 2026

Table 45: South America Smart Buildings Market by Hardware and Infrastructure Type

2021 – 2026

Table 46: South America Smart Buildings Market by Automation Software and System Type 2021 – 2026

Table 47: South America Smart Buildings Market by Energy Management System Type 2021 – 2026

Table 48: South America Smart Buildings Market by Intelligent Security System Type 2021 – 2026

Table 49: South America Smart Buildings Market by Infrastructure Management System Type 2021 – 2026

Table 50: South America Smart Buildings Market by Network Management Systems Type 2021 – 2026

Table 51: South America Smart Buildings Market by Entertainment and Communication System Type 2021 – 2026

Table 52: South America Smart Buildings Market by Service Type 2021 – 2026

Table 53: South America Smart Buildings Market by Professional Service Type 2021 – 2026

Table 54: South America Smart Buildings Market by Building Type 2021 – 2026

Table 55: South America Smart Buildings Market by New vs. Retrofit Building 2021 – 2026

Table 56: South America Smart Buildings Market by Deployment Type 2021 – 2026

Table 57: South America Smart Buildings Market by Business Model 2021 – 2026

Table 58: South America Smart Buildings Market by Connectivity Protocol Type 2021 – 2026

Table 59: South America AI-Powered Smart Buildings Market 2021 – 2026

Table 60: South America Edge Computing Enabled Smart Buildings Market 2021 – 2026

Table 61: South America 3D Printing in Smart Buildings Market 2021 – 2026

Table 62: South America 5G in Smart Buildings 2021 – 2026

Table 63: South America Smart Buildings Market by Country 2021 – 2026

Table 64: Europe Smart Buildings Market 2021 – 2026

Table 65: Europe Smart Buildings Market by Segment 2021 – 2026

Table 66: Europe Smart Buildings Market by Hardware and Infrastructure Type 2021 – 2026

Table 67: Europe Smart Buildings Market by Automation Software and System Type 2021 – 2026

Table 68: Europe Smart Buildings Market by Energy Management System Type 2021 – 2026

Table 69: Europe Smart Buildings Market by Intelligent Security System Type 2021 – 2026

Table 70: Europe Smart Buildings Market by Infrastructure Management System Type 2021 – 2026

Table 71: Europe Smart Buildings Market by Network Management Systems Type 2021 – 2026

Table 72: Europe Smart Buildings Market by Entertainment and Communication System Type 2021 – 2026

Table 73: Europe Smart Buildings Market by Service Type 2021 – 2026

Table 74: Europe Smart Buildings Market by Professional Service Type 2021 – 2026

Table 75: Europe Smart Buildings Market by Building Type 2021 – 2026

Table 76: Europe Smart Buildings Market by New vs. Retrofit Building 2021 – 2026

Table 77: Europe Smart Buildings Market by Deployment Type 2021 – 2026

Table 78: Europe Smart Buildings Market by Business Model 2021 – 2026

Table 79: Europe Smart Buildings Market by Connectivity Protocol Type 2021 – 2026

Table 80: Europe AI-Powered Smart Buildings Market 2021 – 2026

Table 81: Europe Edge Computing Enabled Smart Buildings Market 2021 – 2026

Table 82: Europe 3D Printing in Smart Buildings Market 2021 – 2026

Table 83: Europe 5G in Smart Buildings 2021 – 2026

Table 84: Europe Smart Buildings Market by Country 2021 – 2026

Table 85: APAC Smart Buildings Market 2021 – 2026

Table 86: APAC Smart Buildings Market by Segment 2021 – 2026

Table 87: APAC Smart Buildings Market by Hardware and Infrastructure Type 2021 – 2026

Table 88: APAC Smart Buildings Market by Automation Software and System Type 2021 – 2026

Table 89: APAC Smart Buildings Market by Energy Management System Type 2021 – 2026

Table 90: APAC Smart Buildings Market by Intelligent Security System Type 2021 – 2026

Table 91: APAC Smart Buildings Market by Infrastructure Management System Type 2021 – 2026

Table 92: APAC Smart Buildings Market by Network Management Systems Type 2021 – 2026

Table 93: APAC Smart Buildings Market by Entertainment and Communication System Type 2021 – 2026

Table 94: APAC Smart Buildings Market by Service Type 2021 – 2026

Table 95: APAC Smart Buildings Market by Professional Service Type 2021 – 2026

Table 96: APAC Smart Buildings Market by Building Type 2021 – 2026

Table 97: APAC Smart Buildings Market by New vs. Retrofit Building 2021 – 2026

Table 98: APAC Smart Buildings Market by Deployment Type 2021 – 2026

Table 99: APAC Smart Buildings Market by Business Model 2021 – 2026

Table 100: APAC Smart Buildings Market by Connectivity Protocol Type 2021 – 2026

Table 101: APAC AI-Powered Smart Buildings Market 2021 – 2026

Table 102: APAC Edge Computing Enabled Smart Buildings Market 2021 – 2026

Table 103: APAC 3D Printing in Smart Buildings Market 2021 – 2026

Table 104: APAC 5G in Smart Buildings 2021 – 2026

Table 105: APAC Smart Buildings Market by Country 2021 – 2026

Table 106: MEA Smart Buildings Market 2021 – 2026

Table 107: MEA Smart Buildings Market by Segment 2021 – 2026

Table 108: MEA Smart Buildings Market by Hardware and Infrastructure Type 2021 – 2026

Table 109: MEA Smart Buildings Market by Automation Software and System Type 2021 – 2026

Table 110: MEA Smart Buildings Market by Energy Management System Type 2021 – 2026

Table 111: MEA Smart Buildings Market by Intelligent Security System Type 2021 – 2026

Table 112: MEA Smart Buildings Market by Infrastructure Management System Type 2021 – 2026

Table 113: MEA Smart Buildings Market by Network Management Systems Type 2021 – 2026

Table 114: MEA Smart Buildings Market by Entertainment and Communication System Type 2021 – 2026

Table 115: MEA Smart Buildings Market by Service Type 2021 – 2026

Table 116: MEA Smart Buildings Market by Professional Service Type 2021 – 2026

Table 117: MEA Smart Buildings Market by Building Type 2021 – 2026

Table 118: MEA Smart Buildings Market by New vs. Retrofit Building 2021 – 2026

Table 119: MEA Smart Buildings Market by Deployment Type 2021 – 2026

Table 120: MEA Smart Buildings Market by Business Model 2021 – 2026

Table 121: MEA Smart Buildings Market by Connectivity Protocol Type 2021 – 2026

Table 122: MEA AI-Powered Smart Buildings Market 2021 – 2026

Table 123: MEA Edge Computing Enabled Smart Buildings Market 2021 – 2026

Table 124: MEA 3D Printing in Smart Buildings Market 2021 – 2026

Table 125: MEA 5G in Smart Buildings 2021 – 2026

Table 126: MEA Smart Buildings Market by Country 2021 – 2026

Smart Cities Market by Strategy, Technology, and Outlook for Solutions, Applications and Services 2021 – 2026

1.0 EXECUTIVE SUMMARY

2.0 SMART CITY OVERVIEW

- 2.1 A Global Need for a Smarter Urban Environment
- 2.2 All Cities are “Smart” but some are Smarter than Others

3.0 SMART CITY STRATEGY AND PLANNING

- 3.1 Smart City Considerations
 - 3.1.1 Existing vs. New City Approach
 - 3.1.2 Smart City Development Factors
 - 3.1.3 Smart City Services Life Cycle
 - 3.1.4 Smart Community Services
- 3.2 Smart City Business Models
 - 3.2.1 Build Own Operate
 - 3.2.2 Build Operate Transfer
 - 3.2.3 Build Operate Manage
 - 3.2.4 Open Business Model

4.0 SMART CITY MARKET ANALYSIS

- 4.1 Smart City Market Drivers
 - 4.1.1 High Bandwidth, Low Latency, and Reliable Communications
 - 4.1.2 Reduced Energy Consumption with Smart Energy Solutions
 - 4.1.3 Active Citizen Engagement Leads to Greater Smart City Support
 - 4.1.4 Improving Governance Services and National Security
 - 4.1.5 Accelerating Digital Transformation
 - 4.1.6 Fostering Urban Development
- 4.2 Smart City Solution Focus Areas
 - 4.2.1 Smart Utilities
 - 4.2.1.1 Smart Electricity Grids
 - 4.2.1.2 Smart Sanitation and Recycling
 - 4.2.1.3 Smart Water Management
 - 4.2.2 Smart Transportation: Roadways, Vehicles, and Parking
 - 4.2.3 Smart Residences, Commercial Buildings, and Workplaces
 - 4.2.3.1 Smart Commercial Buildings
 - 4.2.3.2 Smart Homes
 - 4.2.3.3 Smart Workplaces

4.2.4 Smart Industries

4.2.4.1 Smart Product and Production Industries

4.2.4.1.1 Enterprise and Industrial Automation

4.2.4.1.2 Smart Manufacturing

4.2.4.1.3 Smart Retail

4.2.4.2 Smart Service Industries

4.2.4.2.1 Smart Education

4.2.4.2.2 Smart Food and Beverages

4.2.4.2.3 Smart Government

4.2.4.2.4 Smart Healthcare

4.2.4.2.5 Smart Public Safety

4.2.4.2.5.1 Smart Public Safety for Citizens

4.2.4.2.5.2 Smart Public Safety for Service Providers

4.3 Specific Smart City Solution Areas

4.3.1 Asset Tracking and Control

4.3.2 Field and Home Area Network Solutions

4.3.3 AI and Big Data supported Smart City Hubs

4.3.4 Smart City Applications in Citizen Service

4.3.5 Mobility Solutions, Governance, and Security in Smart Cities

5.0 SMART CITY TECHNOLOGY ANALYSIS

5.1 Machine to Machine and Internet of Things

5.1.1 Machine to Machine Technologies and Communications

5.1.2 Internet of Things in Smart Cities

5.2 Smart City Data Management Technologies and Solutions

5.3 Artificial Intelligence in Smart Cities

5.3.1 Artificial Intelligence of Things (AIoT) in Smart Cities

5.3.2 Combined AIoT and Data Analytics in Smart Cities

5.4 Metropolitan and Wide Area Communications

5.4.1 WiMAX

5.4.2 LTE

5.4.2.1 LTE Advanced

5.4.2.2 LTE Direct

5.4.2.3 LTE Advanced Pro

5.4.3 5G

5.5 Short Range Communication Technology

5.5.1 WiFi

5.5.2 RFID

5.5.3 Li-Fi

5.6 Next Generation Computing support of Smart Cities

5.6.1 Edge Based Computing: Localized Processing

5.6.2 High Performance and Quantum Computing

6.0 SMART CITY DEVELOPMENT BY REGION AND COUNTRY

6.1 North America

6.2 Europe

6.2.1 Spain

6.2.2 United Kingdom

6.3 Asia Pacific

6.3.1 India

6.3.2 China

6.3.3 South Korea

6.4 Latin America

6.5 Middle East

6.5.1 United Arab Emirates

6.5.2 Saudi Arabia

6.5.3 Qatar

6.6 Africa

7.0 SMART CITY VALUE CHAIN AND APPLICATION ANALYSIS

7.1 Smart City Ecosystem Analysis

7.2 Smart City Product and Service Provider Opportunity Analysis

7.2.1 Smart City Network Service Providers

7.2.2 Smart City Integrators

7.2.3 Smart City Product Vendors

7.2.3.1 Smart City Platform Providers

7.2.3.2 Smart City Embedded Device and Component Manufacturers

7.2.3.3 Smart City Application Developers

7.2.4 Smart City Managed Service Providers

7.2.4.1 Managed Smart City Infrastructure Services

7.2.4.2 Managed Smart City Data Services

7.2.4.3 Industry Specific Smart City Managed Services Solutions

7.3 Equipment vs. Software and Service based Approach

8.0 SMART CITY VENDOR AND SERVICE PROVIDER ANALYSIS

- 8.1 2020 Imaging
- 8.2 ABB
- 8.3 Accela
- 8.4 Accenture
- 8.5 Aclara
- 8.6 Aclima
- 8.7 Advantech
- 8.8 Aeris Communications
- 8.9 AGT International
- 8.10 Airspan
- 8.11 Airtel
- 8.12 Alibaba
- 8.13 Allegro
- 8.14 Ally
- 8.15 Alstom SA
- 8.16 Altair Semiconductor
- 8.17 Alvarion
- 8.18 Amazon
- 8.19 Ambience Data
- 8.20 AMCS
- 8.21 AMD
- 8.22 America Movil
- 8.23 Amplia Soluciones SL
- 8.24 Analog Devices Inc.
- 8.25 Apple
- 8.26 Appyparking
- 8.27 Altran
- 8.28 Arista Networks Inc.
- 8.29 ARM Holdings
- 8.30 Ascom
- 8.31 Asus
- 8.32 AT&T
- 8.33 Atos
- 8.34 Autogrid
- 8.35 Ayyeka
- 8.36 Azavea
- 8.37 Baidu Inc.
- 8.38 Banyanwater

- 8.39 Barbara IoT
- 8.40 Bentley Systems
- 8.41 Blackberry Ltd
- 8.42 Bosch Software Innovations GmbH
- 8.43 Breezometer
- 8.44 Bridj
- 8.45 Broadcom Corporation
- 8.46 BT Group
- 8.47 Blyncsy
- 8.48 Calthorpe Analytics
- 8.49 Capgemini
- 8.50 Cavium Inc.
- 8.51 China Mobile
- 8.52 China Unicom
- 8.53 Ciena Corporation
- 8.54 CIMCON Lighting
- 8.55 Cisco
- 8.56 Citrix Systems
- 8.57 Cityflo
- 8.58 Citymapper
- 8.59 Civicsmart
- 8.60 Clarity Movement Co.
- 8.61 Cobham Wireless
- 8.62 Colt
- 8.63 Compology
- 8.64 Contus
- 8.65 Cradlepoint
- 8.66 Cubic Corporation
- 8.67 CyanConnode
- 8.68 Dassault Systems
- 8.69 Delta Controls
- 8.70 Dispatchr
- 8.71 Double Map
- 8.72 DOVU
- 8.73 Elichens
- 8.74 Emagin
- 8.75 Emerson Electric Co
- 8.76 Enel
- 8.77 Energyworx

- 8.78 Enevo
- 8.79 ENGIE
- 8.80 Ericsson
- 8.81 Evopark
- 8.82 EZparking
- 8.83 Fathom
- 8.84 Filament
- 8.85 Flamencotech
- 8.86 Flowlabs
- 8.87 Fluentgrid
- 8.88 GE
- 8.89 Getmy Parking
- 8.90 Google
- 8.91 Gridcure
- 8.92 HCL Technologies Ltd
- 8.93 HFCL
- 8.94 Hitachi
- 8.95 Honeywell
- 8.96 HPE
- 8.97 Huawei
- 8.98 IBM
- 8.99 Infarm
- 8.100 Inrix
- 8.101 Inspira
- 8.102 Intel
- 8.103 Intelizon Energy
- 8.104 Inventum Technologies
- 8.105 Itron
- 8.106 Johnson Controls
- 8.107 Kapsch Group
- 8.108 Koninklijke Philips NV
- 8.109 KORE Wireless
- 8.110 LG CNS
- 8.111 Libelium
- 8.112 Logic Ladder
- 8.113 Mapillary
- 8.114 Maven Systems
- 8.115 Meter Feeder
- 8.116 Metrotech

- 8.117 Microsoft
- 8.118 Mindteck
- 8.119 Miovision
- 8.120 Mobike
- 8.121 Moovel
- 8.122 Moovit
- 8.123 NEC
- 8.124 Neighborland
- 8.125 Nokia
- 8.126 Nordsense
- 8.127 NTT DATA
- 8.128 One Concern
- 8.129 Oorja On Move
- 8.130 Opendatasoft
- 8.131 Opusone
- 8.132 Oracle Corporation
- 8.133 Panasonic
- 8.134 Parkwhiz
- 8.135 Passport
- 8.136 Phoenix Robotix
- 8.137 Plume Labs
- 8.138 Proclivis Technology Solutions
- 8.139 Purplewifi
- 8.140 QInfra Solutions
- 8.141 Qualcomm Incorporated
- 8.142 Quality Theorem
- 8.143 Rachio
- 8.144 Remix
- 8.145 Ridlr
- 8.146 Rubicon
- 8.147 SAP
- 8.148 Schneider Electric SA
- 8.149 Sentiance
- 8.150 Siemens AG
- 8.151 Sierra Wireless
- 8.152 Sigfox
- 8.153 Signify
- 8.154 Soofa
- 8.155 Spacetime Insight

- 8.156 Spatial Labs, Inc.
- 8.157 Spice Digital
- 8.158 Spot Hero
- 8.159 Stae
- 8.160 Streetlight Data
- 8.161 Swiftly
- 8.162 Takadu
- 8.163 Tantalum
- 8.164 Telefonica
- 8.165 Telensa
- 8.166 Toshiba
- 8.167 Tractebel
- 8.168 Trafi
- 8.169 Transit Labs
- 8.170 Transit Screen
- 8.171 Transloc
- 8.172 Trilliant
- 8.173 Understory
- 8.174 UrbanFootprint
- 8.175 Urbee
- 8.176 Urbiotica (Spain)
- 8.177 Utilidata
- 8.178 Valor Water Analytics
- 8.179 Varentec
- 8.180 Veniam
- 8.181 Veolia
- 8.182 Verizon
- 8.183 Videonetics Technologies
- 8.184 Vodafone
- 8.185 Volocopter
- 8.186 Watersmart
- 8.187 Where Is My Transport
- 8.188 Wipro
- 8.189 Worldsensing SL
- 8.190 Zagster
- 8.191 Zenysis
- 8.192 Zerocycle
- 8.193 ZIFF Technologies

9.0 SMART CITIES MARKET FORECAST 2021 – 2026

9.1 Global Smart Cities Market 2021 – 2026

9.1.1 Smart Cities Market in Aggregate

9.1.2 Smart Cities Market by Technology

9.1.2.1 Smart Cities Technology Market by Equipment

9.1.2.2 Smart Cities Technology Market by Software and Solution

9.1.2.3 Smart Cities Technology Market by Service

9.1.2.3.1 Smart Cities Technology Market by Professional Service

9.1.3 Smart Cities Market by Application

9.1.3.1 Smart Utilities Application Market by Solution Type

9.1.3.2 Smart Transportation Application Market by Solution Type

9.1.3.2.1 Smart Transportation Application Market by Traffic Management Solution

9.1.3.2.2 Smart Transportation Application Market by Parking Management Solution

9.1.3.2.3 Smart Transportation Application Market by Passenger Management

Solution

9.1.3.2.4 Smart Transportation Application Market by Sector

9.1.3.3 Smart Building and Home Application Market by Solution Type

9.1.3.3.1 Smart Building and Home Application Market by Building Automation

Solution

9.1.3.3.2 Smart Building and Home Application Market by Parking Management

Solution

9.1.3.3.3 Smart Building and Home Application Market by Facility and Energy

Management Solution

9.1.3.3.4 Smart Building and Home Application Market by Building Type

9.1.3.4 Smart Citizen Application Market by Solution Type

9.1.3.5 Smart Mobility Application Market by Solution Type

9.1.3.6 Smart Governance Application Market by Solution Type

9.1.3.7 Smart Security Application Market by Solution Type

9.1.4 Artificial Intelligence Market in Smart Cities

9.1.4.1 AI Market in Smart Cities by Technology

9.1.4.2 AIoT (AI + IoT) Powerful Driver for Smart City Innovation

9.1.5 IoT Market in Smart Cities

9.1.6 5G Market in Smart Cities

9.1.7 Cloud Computing Market in Smart Cities

9.1.8 Big Data Analytics Market in Smart Cities

9.1.9 Quantum Computing Market in Smart Cities

9.1.10 Edge Computing Market in Smart Cities

9.1.11 High-Performance Computing Market in Smart Cities

9.2 Regional Smart Cities Market Forecast 2021 – 2026

9.2.1 Smart Cities Market by Region

9.2.2 North America Smart Cities Market by Core Technology, Application, Emerging Technology, and Leading Country

9.2.3 APAC Smart Cities Market by Core Technology, Application, Emerging Technology, and Leading Country

9.2.4 Europe Smart Cities Market by Core Technology, Application, Emerging Technology, and Leading Country

9.2.5 MEA Smart Cities Market by Core Technology, Application, Emerging Technology, and Leading Country

9.2.6 Latin America Smart Cities Market by Core Technology, Application, Emerging Technology, and Leading Country

10.0 SMART CITY MARKET SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

10.1 Advertisers and Media Companies

10.2 Artificial Intelligence Providers

10.3 Automotive Companies

10.4 Broadband Infrastructure Providers

10.5 Communication Service Providers

10.6 Computing Companies

10.7 Data Analytics Providers

10.8 Immersive Technology (AR, VR, and MR) Providers

10.9 Networking Equipment Providers

10.10 Networking Security Providers

10.11 Semiconductor Companies

10.12 IoT Suppliers and Service Providers

10.13 Software Providers

10.14 Smart City System Integrators

10.15 Automation System Providers

10.16 Social Media Companies

10.17 Workplace Solution Providers

10.18 Enterprise and Government

FIGURES

Figure 1: Smart City Components

Figure 2: Smart City Service Life Cycle

Figure 3: Smart City Framework

Figure 4: Field Area Network and Home Area Network

Figure 5: Smart City Vendor Ecosystem

Figure 6: Global Smart Cities Market 2021 – 2026

Figure 7: Global Artificial Intelligence Market in Smart Cities 2021 – 2026

Figure 8: Global IoT Market in Smart Cities 2021 – 2026

Figure 9: Global 5G Market in Smart Cities 2021 – 2026

Figure 10: Global Cloud Computing Market in Smart Cities 2021 – 2026

Figure 11: Global Big Data Analytics Market in Smart Cities 2021 – 2026

Figure 12: Global Quantum Computing Market in Smart Cities 2021 – 2026

Figure 13: Global Edge Computing Market in Smart Cities 2021 – 2026

Figure 14: Global High-Performance Computing Market in Smart Cities 2021 – 2026

Figure 15: North America Artificial Intelligence Market in Smart Cities 2021 – 2026

Figure 16: North America IoT Market in Smart Cities 2021 – 2026

Figure 17: North America 5G Market in Smart Cities 2021 – 2026

Figure 18: North America Cloud Computing Market in Smart Cities 2021 – 2026

Figure 19: North America Big Data Analytics Market in Smart Cities 2021 – 2026

Figure 20: North America Quantum Computing Market in Smart Cities 2021 – 2026

Figure 21: North America Edge Computing Market in Smart Cities 2021 – 2026

Figure 22: North America High-Performance Computing Market in Smart Cities 2021 – 2026

Figure 23: APAC Artificial Intelligence Market in Smart Cities 2021 – 2026

Figure 24: APAC IoT Market in Smart Cities 2021 – 2026

Figure 25: APAC 5G Market in Smart Cities 2021 – 2026

Figure 26: APAC Cloud Computing Market in Smart Cities 2021 – 2026

Figure 27: APAC Big Data Analytics Market in Smart Cities 2021 – 2026

Figure 28: APAC Quantum Computing Market in Smart Cities 2021 – 2026

Figure 29: APAC Edge Computing Market in Smart Cities 2021 – 2026

Figure 30: APAC High-Performance Computing Market in Smart Cities 2021 – 2026

Figure 31: Europe Artificial Intelligence Market in Smart Cities 2021 – 2026

Figure 32: Europe IoT Market in Smart Cities 2021 – 2026

Figure 33: Europe 5G Market in Smart Cities 2021 – 2026

Figure 34: Europe Cloud Computing Market in Smart Cities 2021 – 2026

Figure 35: Europe Big Data Analytics Market in Smart Cities 2021 – 2026

Figure 36: Europe Quantum Computing Market in Smart Cities 2021 – 2026

Figure 37: Europe Edge Computing Market in Smart Cities 2021 – 2026

Figure 38: Europe High-Performance Computing Market in Smart Cities 2021 – 2026

Figure 39: MEA Artificial Intelligence Market in Smart Cities 2021 – 2026

Figure 40: MEA IoT Market in Smart Cities 2021 – 2026

Figure 41: MEA 5G Market in Smart Cities 2021 – 2026

Figure 42: MEA Cloud Computing Market in Smart Cities 2021 – 2026

Figure 43: MEA Big Data Analytics Market in Smart Cities 2021 – 2026

Figure 44: MEA Quantum Computing Market in Smart Cities 2021 – 2026

Figure 45: MEA Edge Computing Market in Smart Cities 2021 – 2026

Figure 46: MEA High-Performance Computing Market in Smart Cities 2021 – 2026

Figure 47: Latin America Artificial Intelligence Market in Smart Cities 2021 – 2026

Figure 48: Latin America IoT Market in Smart Cities 2021 – 2026

Figure 49: Latin America 5G Market in Smart Cities 2021 – 2026

Figure 50: Latin America Cloud Computing Market in Smart Cities 2021 – 2026

Figure 51: Latin America Big Data Analytics Market in Smart Cities 2021 – 2026

Figure 52: Latin America Quantum Computing Market in Smart Cities 2021 – 2026

Figure 53: Latin America Edge Computing Market in Smart Cities 2021 – 2026

Figure 54: Latin America High-Performance Computing Market in Smart Cities 2021 – 2026

Figure 55: Smart City Market Segments

TABLES

Table 1: Global Smart Cities Market by Technology 2021 – 2026

Table 2: Global Smart Cities Technology Market by Hardware and Infrastructure 2021 – 2026

Table 3: Global Smart Cities Technology Market by Software and Solution 2021 – 2026

Table 4: Global Smart Cities Technology Market by Service 2021 – 2026

Table 5: Global Smart Cities Technology Market by Professional Service 2021 – 2026

Table 6: Global Smart Cities Market by Application 2021 – 2026

Table 7: Global Smart Utilities Application Market by Solution Type 2021 – 2026

Table 8: Global Smart Transportation Application Market by Solution Type 2021 – 2026

Table 9: Global Smart Transportation Application Market by Traffic Management Solution 2021 – 2026

Table 10: Global Smart Transportation Application Market by Parking Management Solution 2021 – 2026

Table 11: Global Smart Transportation Application Market by Passenger Management Solution 2021 – 2026

Table 12: Global Smart Transportation Application Market by Sector 2021 – 2026

Table 13: Global Smart Building and Home Application Market by Solution Type 2021 – 2026

Table 14: Global Smart Building and Home Application Market by Building Automation Solution 2021 – 2026

Table 15: Global Smart Building and Home Application Market by Parking Management Solution 2021 – 2026

Table 16: Global Smart Building and Home Application Market by Facility and Energy Management Solution 2021 – 2026

Table 17: Global Smart Building and Home Application Market by Building Type 2021 – 2026

Table 18: Global Smart Citizen Application Market by Solution Type 2021 – 2026

Table 19: Global Smart Mobility Application Market by Solution Type 2021 – 2026

Table 20: Global Smart Governance Application Market by Solution Type 2021 – 2026

Table 21: Global Smart Security Application Market by Solution Type 2021 – 2026

Table 22: Global AI Market in Smart Cities by Technology 2021 – 2026

Table 23: Smart Cities Market by Region 2021 – 2026

Table 24: North America Smart Cities Market by Technology 2021 – 2026

Table 25: North America Smart Cities Technology Market by Hardware and Infrastructure 2021 – 2026

Table 26: North America Smart Cities Technology Market by Software and Solution 2021 – 2026

Table 27: North America Smart Cities Technology Market by Service 2021 – 2026

Table 28: North America Smart Cities Technology Market by Professional Service 2021 – 2026

Table 29: North America Smart Cities Market by Application 2021 – 2026

Table 30: North America Smart Utilities Application Market by Solution Type 2021 – 2026

Table 31: North America Smart Transportation Application Market by Solution Type 2021 – 2026

Table 32: North America Smart Transportation Application Market by Traffic Management Solution 2021 – 2026

Table 33: North America Smart Transportation Application Market by Parking Management Solution 2021 – 2026

Table 34: North America Smart Transportation Application Market by Passenger Management Solution 2021 – 2026

Table 35: North America Smart Transportation Application Market by Sector 2021 – 2026

Table 36: North America Smart Building and Home Application Market by Solution Type 2021 – 2026

Table 37: North America Smart Building and Home Application Market by Building Automation Solution 2021 – 2026

Table 38: North America Smart Building and Home Application Market by Parking Management Solution 2021 – 2026

Table 39: North America Smart Building and Home Application Market by Facility and Energy Management Solution 2021 – 2026

Table 40: North America Smart Building and Home Application Market by Building Type 2021 – 2026

Table 41: North America Smart Citizen Application Market by Solution Type 2021 – 2026

Table 42: North America Smart Mobility Application Market by Solution Type 2021 – 2026

Table 43: North America Smart Governance Application Market by Solution Type 2021 – 2026

Table 44: North America Smart Security Application Market by Solution Type 2021 – 2026

Table 45: North America AI Market in Smart Cities by Technology 2021 – 2026

Table 46: North America Smart Cities Market By Leading Country 2018 - 2023

Table 47: APAC Smart Cities Market by Technology 2021 – 2026

Table 48: APAC Smart Cities Technology Market by Hardware and Infrastructure 2021 – 2026

Table 49: APAC Smart Cities Technology Market by Software and Solution 2021 – 2026

Table 50: APAC Smart Cities Technology Market by Service 2021 – 2026

Table 51: APAC Smart Cities Technology Market by Professional Service 2021 – 2026

Table 52: APAC Smart Cities Market by Application 2021 – 2026

Table 53: APAC Smart Utilities Application Market by Solution Type 2021 – 2026

Table 54: APAC Smart Transportation Application Market by Solution Type 2021 – 2026

Table 55: APAC Smart Transportation Application Market by Traffic Management Solution 2021 – 2026

Table 56: APAC Smart Transportation Application Market by Parking Management Solution 2021 – 2026

Table 57: APAC Smart Transportation Application Market by Passenger Management Solution 2021 – 2026

Table 58: APAC Smart Transportation Application Market by Sector 2021 – 2026

Table 59: APAC Smart Building and Home Application Market by Solution Type 2021 – 2026

Table 60: APAC Smart Building and Home Application Market by Building Automation Solution 2021 – 2026

Table 61: APAC Smart Building and Home Application Market by Parking Management Solution 2021 – 2026

Table 62: APAC Smart Building and Home Application Market by Facility and Energy Management Solution 2021 – 2026

Table 63: APAC Smart Building and Home Application Market by Building Type 2021 –

2026

Table 64: APAC Smart Citizen Application Market by Solution Type 2021 – 2026

Table 65: APAC Smart Mobility Application Market by Solution Type 2021 – 2026

Table 66: APAC Smart Governance Application Market by Solution Type 2021 – 2026

Table 67: APAC Smart Security Application Market by Solution Type 2021 – 2026

Table 68: APAC AI Market in Smart Cities by Technology 2021 – 2026

Table 69: APAC Smart Cities Market By Leading Country 2018 - 2023

Table 70: Europe Smart Cities Market by Technology 2021 – 2026

Table 71: Europe Smart Cities Technology Market by Hardware and Infrastructure 2021 – 2026

Table 72: Europe Smart Cities Technology Market by Software and Solution 2021 – 2026

Table 73: Europe Smart Cities Technology Market by Service 2021 – 2026

Table 74: Europe Smart Cities Technology Market by Professional Service 2021 – 2026

Table 75: Europe Smart Cities Market by Application 2021 – 2026

Table 76: Europe Smart Utilities Application Market by Solution Type 2021 – 2026

Table 77: Europe Smart Transportation Application Market by Solution Type 2021 – 2026

Table 78: Europe Smart Transportation Application Market by Traffic Management Solution 2021 – 2026

Table 79: Europe Smart Transportation Application Market by Parking Management Solution 2021 – 2026

Table 80: Europe Smart Transportation Application Market by Passenger Management Solution 2021 – 2026

Table 81: Europe Smart Transportation Application Market by Sector 2021 – 2026

Table 82: Europe Smart Building and Home Application Market by Solution Type 2021 – 2026

Table 83: Europe Smart Building and Home Application Market by Building Automation Solution 2021 – 2026

Table 84: Europe Smart Building and Home Application Market by Parking Management Solution 2021 – 2026

Table 85: Europe Smart Building and Home Application Market by Facility and Energy Management Solution 2021 – 2026

Table 86: Europe Smart Building and Home Application Market by Building Type 2021 – 2026

Table 87: Europe Smart Citizen Application Market by Solution Type 2021 – 2026

Table 88: Europe Smart Mobility Application Market by Solution Type 2021 – 2026

Table 89: Europe Smart Governance Application Market by Solution Type 2021 – 2026

Table 90: Europe Smart Security Application Market by Solution Type 2021 – 2026

- Table 91: Europe AI Market in Smart Cities by Technology 2021 – 2026
- Table 92: Europe Smart Cities Market by Leading Country 2021 – 2026
- Table 93: MEA Smart Cities Market by Technology 2021 – 2026
- Table 94: MEA Smart Cities Technology Market by Hardware and Infrastructure 2021 – 2026
- Table 95: MEA Smart Cities Technology Market by Software and Solution 2021 – 2026
- Table 96: MEA Smart Cities Technology Market by Service 2021 – 2026
- Table 97: MEA Smart Cities Technology Market by Professional Service 2021 – 2026
- Table 98: MEA Smart Cities Market by Application 2021 – 2026
- Table 99: MEA Smart Utilities Application Market by Solution Type 2021 – 2026
- Table 100: MEA Smart Transportation Application Market by Solution Type 2021 – 2026
- Table 101: MEA Smart Transportation Application Market by Traffic Management Solution 2021 – 2026
- Table 102: MEA Smart Transportation Application Market by Parking Management Solution 2021 – 2026
- Table 103: MEA Smart Transportation Application Market by Passenger Management Solution 2021 – 2026
- Table 104: MEA Smart Transportation Application Market by Sector 2021 – 2026
- Table 105: MEA Smart Building and Home Application Market by Solution Type 2021 – 2026
- Table 106: MEA Smart Building and Home Application Market by Building Automation Solution 2021 – 2026
- Table 107: MEA Smart Building and Home Application Market by Parking Management Solution 2021 – 2026
- Table 108: MEA Smart Building and Home Application Market by Facility and Energy Management Solution 2021 – 2026
- Table 109: MEA Smart Building and Home Application Market by Building Type 2021 – 2026
- Table 110: MEA Smart Citizen Application Market by Solution Type 2021 – 2026
- Table 111: MEA Smart Mobility Application Market by Solution Type 2021 – 2026
- Table 112: MEA Smart Governance Application Market by Solution Type 2021 – 2026
- Table 113: MEA Smart Security Application Market by Solution Type 2021 – 2026
- Table 114: MEA AI Market in Smart Cities by Technology 2021 – 2026
- Table 115: MEA Smart Cities Market By Leading Country 2021 – 2026
- Table 116: Latin America Smart Cities Market by Technology 2021 – 2026
- Table 117: Latin America Smart Cities Technology Market by Hardware and Infrastructure 2021 – 2026
- Table 118: Latin America Smart Cities Technology Market by Software and Solution 2021 – 2026

Table 119: Latin America Smart Cities Technology Market by Service 2021 – 2026

Table 120: Latin America Smart Cities Technology Market by Professional Service 2021 – 2026

Table 121: Latin America Smart Cities Market by Application 2021 – 2026

Table 122: Latin America Smart Utilities Application Market by Solution Type 2021 – 2026

Table 123: Latin America Smart Transportation Application Market by Solution Type 2021 – 2026

Table 124: Latin America Smart Transportation Application Market by Traffic Management Solution 2021 – 2026

Table 125: Latin America Smart Transportation Application Market by Parking Management Solution 2021 – 2026

Table 126: Latin America Smart Transportation Application Market by Passenger Management Solution 2021 – 2026

Table 127: Latin America Smart Transportation Application Market by Sector 2021 – 2026

Table 128: Latin America Smart Building and Home Application Market by Solution Type 2021 – 2026

Table 129: Latin America Smart Building and Home Application Market by Building Automation Solution 2021 – 2026

Table 130: Latin America Smart Building and Home Application Market by Parking Management Solution 2021 – 2026

Table 131: Latin America Smart Building and Home Application Market by Facility and Energy Management Solution 2021 – 2026

Table 132: Latin America Smart Building and Home Application Market by Building Type 2021 – 2026

Table 133: Latin America Smart Citizen Application Market by Solution Type 2021 – 2026

Table 134: Latin America Smart Mobility Application Market by Solution Type 2021 – 2026

Table 135: Latin America Smart Governance Application Market by Solution Type 2021 – 2026

Table 136: Latin America Smart Security Application Market by Solution Type 2021 – 2026

Table 137: Latin America AI Market in Smart Cities by Technology 2021 – 2026

Table 138: Latin America Smart Cities Market by Leading Country 2021 – 2026

Digital Twins Market by Technology, Solution, Application, and Industry Vertical 2021 – 2026

1.0 EXECUTIVE SUMMARY

2.0 INTRODUCTION

2.1 Overview

- 2.1.1 Understanding Digital Twinning
- 2.1.2 Cognitive Digital Twinning
- 2.1.3 Digital Thread
- 2.1.4 Convergence of Sensors and Simulations
- 2.1.5 IoT API
- 2.1.6 Software Modules and Elements
- 2.1.7 Types of Digital Twinning
- 2.1.8 Digital Twinning Work Process
- 2.1.9 Importance of Digital Twinning

2.2 Related Technologies and Impact on Digital Twinning

- 2.2.1 Industrial Internet and Industry 4.0
- 2.2.2 Pairing Technology
- 2.2.3 Cyber Physical System
- 2.2.4 AR, VR, and Mixed Reality
- 2.2.5 Artificial Intelligence and Machine Learning
- 2.2.6 Additive Manufacturing and 3D Printing
 - 2.2.6.1 DTAM Process

2.3 Potential Application and Outcome Analysis

- 2.3.1 Maintenance, Repair and Overhaul Operation
- 2.3.2 Digital Avatar of Consumer Assets
- 2.3.3 Performance/Service Monitoring
- 2.3.4 Inspection and Repair
- 2.3.5 Predictive Maintenance
- 2.3.6 Product Design & Development
- 2.3.7 Composite Assembling/Manufacturing
- 2.3.8 Potential Business Outcome

2.4 Digital Twinning Service Ecosystem

- 2.4.1 Industrial IoT
- 2.4.2 Consumer IoT
- 2.4.3 Industry Development
- 2.4.4 Digital Twinning as a Service

3.0 DIGITAL TWINS COMPANY ASSESSMENT

- 3.1 ABB
- 3.2 Allerin Tech Pvt. Ltd.
- 3.3 Altair Engineering, Inc.
- 3.4 Amazon Web Services
- 3.5 ANSYS
- 3.6 Aucotec AG
- 3.7 Autodesk Inc.
- 3.8 Bentley Systems, Incorporated
- 3.9 CADFEM GmbH
- 3.10 Cisco Systems
- 3.11 Cityzenith
- 3.12 CoSMo Company SAS
- 3.13 Dassault Systems
- 3.14 Digital Twin Consortium
- 3.15 Digital Twin Technologies
- 3.16 DNV GL
- 3.17 DXC Technology
- 3.18 Eclipse Foundation
- 3.19 Emerson
- 3.20 Emesent
- 3.21 Faststream Technologies
- 3.22 FEINGUSS BLANK GmbH
- 3.23 Flowserve
- 3.24 Forward Networks
- 3.25 General Electric
- 3.26 Google
- 3.27 Hitachi Ltd.
- 3.28 Honeywell
- 3.29 HP
- 3.30 IBM
- 3.31 Industrial Internet Consortium
- 3.32 Intellias
- 3.33 Invicara
- 3.34 KBMax
- 3.35 Lanner Electronics
- 3.36 Microsoft
- 3.37 National Instruments
- 3.38 NavVis

- 3.39 Oracle
- 3.40 PETRA Data Science
- 3.41 Physical Web
- 3.42 Pratiti Technologies
- 3.43 Prodea System Inc.,
- 3.44 PTC
- 3.45 QiO Technologies
- 3.46 Robert Bosch (Germany)
- 3.47 SAP
- 3.48 Schneider
- 3.49 SenSat
- 3.50 Siemens
- 3.51 Sight Machine Inc.
- 3.52 Simplifa GmbH
- 3.53 Softweb Solutions Inc.
- 3.54 Sogeti Group
- 3.55 SWIM.AI (US).
- 3.56 Synavision
- 3.57 Sysmex Corporation
- 3.58 TIBCO Software
- 3.59 Toshiba Corporation
- 3.60 UrsaLeo
- 3.61 Virtalis Limited
- 3.62 Visualiz
- 3.63 Wipro Limited
- 3.64 XenonStack
- 3.65 Zest Labs

4.0 DIGITAL TWINS MARKET ANALYSIS AND FORECASTS 2021 – 2026

- 4.1 Global Digital Twins 2021 – 2026
- 4.2 Digital Twins Market by Type of Twinning 2021 – 2026
- 4.3 Digital Twins Applications 2021 – 2026
- 4.4 Digital Twins by Industry 2021 – 2026
 - 4.4.1 Digital Twins in Manufacturing by Type 2021 – 2026
 - 4.4.2 Digital Twins in Smart City by Type 2021 – 2026
 - 4.4.3 Digital Twins in Automotive by Type 2021 – 2026
 - 4.4.4 Digital Twins in Healthcare by Type 2021 – 2026
 - 4.4.5 Digital Twins in Transport by Type 2021 – 2026

4.5 Digital Twins by Region 2021 – 2026

4.5.1 North America Digital Twins 2021 – 2026

4.5.2 South America Digital Twins 2021 – 2026

4.5.3 Europe Digital Twins 2021 – 2026

4.5.4 APAC Digital Twins 2021 – 2026

4.5.5 MEA Digital Twins 2021 – 2026

5.0 CONCLUSIONS AND RECOMMENDATIONS

FIGURES

Figure 1: Digital Twinning Model

Figure 2: Building Blocks of Cognitive Digital Twinning

Figure 3: Sample Digital Thread Model in Digital Manufacturing Transformation Process

Figure 4: Example of Types of Digital Twinning

Figure 5: Industrial Internet Building Block and Digital Twinning

Figure 6: Additive Manufacturing Path and Goal

Figure 7: Digital Thread for Additive Manufacturing in AM Process

Figure 8: Data Fusion for MRO Operation

Figure 9: Platane Composite Manufacturing Model

Figure 10: Digital Twinning Application and Outcome

Figure 11: Global Digital Twins 2021 – 2026

Figure 12: Digital Twins Types 2021 – 2026

Figure 13: Digital Twins Applications 2021 – 2026

Figure 14: Digital Twins by Industry 2021 – 2026

Figure 15: Digital Twins in Manufacturing by Type 2021 – 2026

Figure 16: Digital Twins in Manufacturing by Application 2021 – 2026

Figure 17: Digital Twins in Smart City by Type 2021 – 2026

Figure 18: Digital Twins in Smart City by Application 2021 – 2026

Figure 19: Digital Twins in Automotive by Type 2021 – 2026

Figure 20: Digital Twins in Automotive by Application 2021 – 2026

Figure 21: Digital Twins in Healthcare by Type 2021 – 2026

Figure 22: Digital Twins in Healthcare by Application 2021 – 2026

Figure 23: Digital Twins in Transport by Type 2021 – 2026

Figure 24: Digital Twins in Transport by Application 2021 – 2026

Figure 25: Digital Twins by Region 2021 – 2026

Figure 26: North America Digital Twins by Country 2021 – 2026

Figure 27: North America Digital Twins by Industry 2021 – 2026

Figure 28: United States Digital Twins 2021 – 2026

- Figure 29: Canada Digital Twins 2021 – 2026
- Figure 30: Mexico Digital Twins 2021 – 2026
- Figure 31: South America Digital Twins by Country 2021 – 2026
- Figure 32: South America Digital Twins by Industry 2021 – 2026
- Figure 33: Argentina Digital Twins 2021 – 2026
- Figure 34: Brazil Digital Twins 2021 – 2026
- Figure 35: Chile Digital Twins 2021 – 2026
- Figure 36: Europe Digital Twins by Country 2021 – 2026
- Figure 37: Europe Digital Twins by Industry 2021 – 2026
- Figure 28: U.K. Digital Twins 2021 – 2026
- Figure 39: Germany Digital Twins 2021 – 2026
- Figure 40: France Digital Twins 2021 – 2026
- Figure 41: Spain Digital Twins 2021 – 2026
- Figure 42: Italy Digital Twins 2021 – 2026
- Figure 43: Poland Digital Twins 2021 – 2026
- Figure 44: Russia Digital Twins 2021 – 2026
- Figure 45: APAC Digital Twins by Country 2021 – 2026
- Figure 46: APAC Digital Twins by Industry 2021 – 2026
- Figure 47: China Digital Twins 2021 – 2026
- Figure 48: Japan Digital Twins 2021 – 2026
- Figure 49: South Korea Digital Twins 2021 – 2026
- Figure 50: Australia Digital Twins 2021 – 2026
- Figure 51: India Digital Twins 2021 – 2026
- Figure 52: MEA Digital Twins by Country 2021 – 2026
- Figure 53: MEA Digital Twins by Industry 2021 – 2026
- Figure 54: Qatar Digital Twins 2021 – 2026
- Figure 55: Kuwait Digital Twins 2021 – 2026
- Figure 56: Saudi Arabia Digital Twins 2021 – 2026
- Figure 57: South Africa Digital Twins 2021 – 2026

TABLES

- Table 1: Global Digital Twins 2021 – 2026
- Table 2: Digital Twins Market by Type of Twinning 2021 – 2026
- Table 3: Digital Twins Applications 2021 – 2026
- Table 4: Digital Twins by Industry 2021 – 2026
- Table 5: Digital Twins in Manufacturing by Type 2021 – 2026
- Table 6: Digital Twins in Manufacturing by Application 2021 – 2026
- Table 7: Digital Twins in Smart City by Type 2021 – 2026

Table 8: Digital Twins in Smart City by Application 2021 – 2026

Table 9: Digital Twins in Automotive by Type 2021 – 2026

Table 10: Digital Twins in Automotive by Application 2021 – 2026

Table 11: Digital Twins in Healthcare by Type 2021 – 2026

Table 12: Digital Twins in Healthcare by Application 2021 – 2026

Table 13: Digital Twins in Transport by Type 2021 – 2026

Table 14: Digital Twins in Transport by Application 2021 – 2026

Table 15: Digital Twins by Region 2021 – 2026

Table 16: North America Digital Twins by Country 2021 – 2026

Table 17: North America Digital Twins by Industry 2021 – 2026

Table 18: South America Digital Twins by Country 2021 – 2026

Table 19: South America Digital Twins by Industry 2021 – 2026

Table 20: Europe Digital Twins by Country 2021 – 2026

Table 21: Europe Digital Twins by Industry 2021 – 2026

Table 22: APAC Digital Twins by Country 2021 – 2026

Table 23: APAC Digital Twins by Industry 2021 – 2026

Table 24: MEA Digital Twins by Country 2021 – 2026

Table 25: MEA Digital Twins by Industry 2021 – 2026

I would like to order

Product name: Smart Buildings, Cities and Digital Twins Technology and Solutions 2021 - 2026

Product link: <https://marketpublishers.com/r/S216E7012CBBEN.html>

Price: US\$ 4,000.00 (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/S216E7012CBBEN.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**

Customer 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 and fax the completed form to +44 20 7900 3970