

Generative AI Market by Offering (Transformer Models (GPT-1, GPT-2, GPT-3, GPT-4, LaMDA), Services), Modality (Text, Image, Video, Audio & Speech, Code), Application (Content Management, Search & Discovery), Vertical and Region - Global Forecast to 2030

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Abstracts

The generative AI market is projected to grow from USD 20.9 billion in 2024 to USD 136.7 billion by 2030, at a compound annual growth rate (CAGR) of 36.7% during the forecast period. Market is anticipated to grow due to the emergence of cloud storage solutions that make data easily accessible, evolution of AI and deep learning and rapid rise in content generation and innovative applications.

“By software type, transformer models segment is expected to register the fastest market growth rate during the forecast period.”

The transformer models software type of the generative AI market is expected to experience the fastest growth rate during the forecast period due to its unmatched capabilities in natural language processing (NLP) and text generation tasks.

Transformer models, such as GPT-3, have demonstrated remarkable success in understanding and generating human-like text, making them invaluable for applications like chatbots, language translation, content creation, and more. As businesses increasingly rely on AI-powered language solutions for customer engagement and data analysis, the demand for transformer-based generative AI software is set to soar, driving the rapid growth of this segment.

“by data modality, text modality segment is expected to account for the largest market

share during the forecast period.”

The text data modality segment of the generative AI market is poised to capture the largest market share during the forecast period due to several compelling factors. Text-based generative AI applications, such as natural language processing (NLP) and language generation models, are widely adopted across various industries for tasks like content generation, chatbots, sentiment analysis, and language translation. The growing demand for AI-powered customer service solutions, personalized content creation, and efficient data analysis in sectors like retail, healthcare, and finance is driving the significant growth of this segment. Additionally, the maturity and availability of sophisticated text-based generative AI models have further accelerated adoption, making it the dominant modality in the generative AI market.

“By Region, Asia Pacific is slated to grow at the fastest rate and North America to have the largest market share during the forecast period.”

The Asia Pacific generative AI market is expected to witness the fastest growth rate during the forecast period due to the region's rapid digital transformation, burgeoning adoption of AI technologies across various industries, and government initiatives promoting AI development. Countries like China, Japan, and India are investing heavily in AI research and development, driving the demand for generative AI solutions. On the other hand, North America is poised to hold the largest market share, primarily attributed to the strong presence of key market players, robust technological infrastructure, and early adoption of AI across industries such as healthcare, retail, and automotive. The region's advanced AI ecosystem, including research institutions and tech giants, further solidifies North America's position as a frontrunner in the generative AI market.

Breakdown of primaries

In-depth interviews were conducted with Chief Executive Officers (CEOs), innovation and technology directors, system integrators, and executives from various key organizations operating in the generative AI market.

By Company: Tier I – 30%, Tier II – 45%, and Tier III – 25%

By Designation: C-Level Executives – 40%, D-Level Executives – 32%, and others – 28%

By Region: North America – 38%, Europe – 26%, Asia Pacific – 23%, Middle East & Africa – 8%, and Latin America – 5%

The report includes the study of key players offering generative AI solutions. It profiles major vendors in the generative AI market. The major players in the generative AI market include Microsoft (US), IBM (US), Google (US), AWS (US), META (US), Adobe (US), OpenAI (US), NVIDIA (US), Accenture (Ireland), Capgemini (France), Insilico Medicine (Hong Kong), Simplified (US), Anthropic (US), AI21 Labs (Israel), Lumen5 (Canada), Hugging Face (US), Dialpad (US), Persado (US), Copy.ai (US), Synthesis AI (US), Together AI (US), PlayHT (US), Speechify (US), Mistral AI (France), Midjourney (US), Fireflies (US), Adept (US), Stability AI (UK), Lightricks (Israel), Synthesia (UK), Mostly AI (Austria), Cohere (Canada), Colossyan (UK), Mosaic ML (US), Inflection AI (US), Glean (US), Character.ai (US), Hypotenuse AI (US), Viable (US), Defog.ai (US), Jasper (US), DeepSearch Labs (UK), Writesonic (US), amberSearch (Germany), Runway (US), Inworld AI (US), Typeface (US), Paige (US), Upstage (South Korea), InstaDeep (UK), Forethought (US), GFP-GAN (US), Fontjoy (Italy), EleutherAI (US), StarryAI (US), Magic Studio (US), Baichuan Intelligence (China), Salesforce (US), Technology Innovation Institute (UAE), Abacus.AI (US), and OpenLM (US).

Research coverage

This research report categorizes the generative AI market by Offering (Software and Services), Software By Type (Rule Based Models, Statistical Models, Deep Learning, Generative Adversarial Networks (GANs), Autoencoders, Convolutional Neural Networks (CNNs), and Transformer Models), Software By Deployment Mode (Cloud and On-premises), By Services (Professional Services (Training & Consulting, System Integration & Implementation, and Support & Maintenance) and Managed Services), By Data Modality (Text, Image, Video, Audio & Speech, and Code), By Application (Business Intelligence & Visualization, Content Management, Synthetic Data Management, Search & Discovery, Automation & Integration, Generative Design AI, Other Applications (Predictive Maintenance, File Conversion, and Mathematical Problem Solving)), By Vertical (Media & Entertainment, Transportation & Logistics, Manufacturing, Healthcare & Life Sciences, IT & ITeS, BFSI, Energy & Utilities, Retail & Ecommerce, Government & Defense, Construction & Real Estate, Telecommunications, Others (Travel & Hospitality And Education), and By Region (North America, Europe, Asia Pacific, Middle East & Africa, and Latin America). The scope of the report covers detailed information regarding the major factors, such as drivers, restraints, challenges, and opportunities, influencing the growth of the generative AI market. A detailed

analysis of the key industry players has been done to provide insights into their business overview, solutions, and services; key strategies; contracts, partnerships, agreements, new product & service launches, mergers and acquisitions, and recent developments associated with the generative AI market. Competitive analysis of upcoming startups in the generative AI market ecosystem is covered in this report.

Key Benefits of Buying the Report

The report would provide the market leaders/new entrants in this market with information on the closest approximations of the revenue numbers for the overall generative AI market and its subsegments. It would help stakeholders understand the competitive landscape and gain more insights better to position their business and plan suitable go-to-market strategies. It also helps stakeholders understand the pulse of the market and provides them with information on key market drivers, restraints, challenges, and opportunities.

The report provides insights on the following pointers:

Analysis of key drivers (innovation of cloud storage enabling easy access to data, Evolution of AI and deep learning, Rise in content creation and creative applications), restraints (high cost associated with training data preparation, issues related to bias and inaccurately generated output, risks associated with data breaches and sensitive information leakage), opportunities (increasing deployment of large language models, growing interest of enterprises in commercializing synthetic images, robust improvement in generative ML leading to human baseline performance), and challenges (concerns regarding misuse of generative AI for illegal activities, quality of the output generated by generative AI models, computational complexity and technical challenges of generative AI).

Product Development/Innovation: Detailed insights on upcoming technologies, research & development activities, and new product & service launches in the generative AI market.

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

Market Diversification: Exhaustive information about new products & services, untapped geographies, recent developments, and investments in the generative AI market.

Competitive Assessment: In-depth assessment of market shares, growth strategies and service offerings of leading players like Microsoft (US), IBM (US), Google (US), AWS (US), META (US), Adobe (US), OpenAI (US), NVIDIA (US), Accenture (Ireland), Capgemini (France), Insilico Medicine (Hong Kong), Simplified (US), Anthropic (US), AI21 Labs (Israel), Lumen5 (Canada), Hugging Face (US), Dialpad (US), and Persado (US), among others in the generative AI market. The report also helps stakeholders understand the pulse of the generative AI market and provides them with information on key market drivers, restraints, challenges, and opportunities.

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TABLE 205 GENERATIVE AI VIDEO MODALITY MARKET IN MEDIA & ENTERTAINMENT, BY REGION, 2019–2023 (USD MILLION)

TABLE 206 GENERATIVE AI VIDEO MODALITY MARKET IN MEDIA & ENTERTAINMENT, BY REGION, 2024–2030 (USD MILLION)

- 9.2.4.1 Video Synthesis
- 9.2.4.2 Video Inpainting
- 9.2.4.3 Video Summarization
- 9.2.4.4 Visual Effects Enhancement
- 9.2.4.5 Virtual Set Design

9.2.5 GENERATIVE AI MARKET IN MEDIA & ENTERTAINMENT VERTICAL, BY IMAGE MODALITY**TABLE 207 GENERATIVE AI IMAGE MODALITY MARKET IN MEDIA & ENTERTAINMENT, BY REGION, 2019–2023 (USD MILLION)****TABLE 208 GENERATIVE AI IMAGE MODALITY MARKET IN MEDIA & ENTERTAINMENT, BY REGION, 2024–2030 (USD MILLION)**

- 9.2.5.1 Content Creation
- 9.2.5.2 Style Transfer
- 9.2.5.3 Face & Character Generation
- 9.2.5.4 Image Super-Resolution
- 9.2.5.5 Automated Thumbnail Generation

9.2.6 GENERATIVE AI MARKET IN MEDIA & ENTERTAINMENT VERTICAL, BY CODE MODALITY**TABLE 209 GENERATIVE AI CODE MODALITY MARKET IN MEDIA & ENTERTAINMENT, BY REGION, 2019–2023 (USD MILLION)****TABLE 210 GENERATIVE AI CODE MODALITY MARKET IN MEDIA & ENTERTAINMENT, BY REGION, 2024–2030 (USD MILLION)**

- 9.2.6.1 Procedural Content Generation
- 9.2.6.2 Automated Animation Scripting
- 9.2.6.3 Code Comment Generation
- 9.2.6.4 Code Translation
- 9.2.6.5 Code Refactoring Suggestions

9.2.7 GENERATIVE AI MARKET IN MEDIA & ENTERTAINMENT VERTICAL, BY AUDIO & SPEECH MODALITY**TABLE 211 GENERATIVE AI AUDIO & SPEECH MODALITY MARKET IN MEDIA & ENTERTAINMENT, BY REGION, 2019–2023 (USD MILLION)****TABLE 212 GENERATIVE AI AUDIO & SPEECH MODALITY MARKET IN MEDIA & ENTERTAINMENT, BY REGION, 2024–2030 (USD MILLION)**

- 9.2.7.1 Music Composition
- 9.2.7.2 Voice Synthesis
- 9.2.7.3 Sound Effects Generation
- 9.2.7.4 Podcast Automation

9.2.7.5 Audio Restoration

9.3 BFSI

9.3.1 IDENTIFYING PATTERNS OF FRAUDULENT ACTIVITY AND ENHANCING CUSTOMER SERVICE AND SUPPORT USING GENERATIVE AI

9.3.2 BFSI: GENERATIVE AI SUCCESS STORIES

FIGURE 74 BFSI: GENERATIVE AI SUCCESS STORIES

TABLE 213 GENERATIVE AI MARKET IN BFSI, BY DATA MODALITY, 2019–2023 (USD MILLION)

TABLE 214 GENERATIVE AI MARKET IN BFSI, BY DATA MODALITY, 2024–2030 (USD MILLION)

9.3.3 GENERATIVE AI MARKET IN BFSI VERTICAL, BY TEXT MODALITY

TABLE 215 GENERATIVE AI TEXT MODALITY MARKET IN BFSI, BY REGION, 2019–2023 (USD MILLION)

TABLE 216 GENERATIVE AI TEXT MODALITY MARKET IN BFSI, BY REGION, 2024–2030 (USD MILLION)

9.3.3.1 Automated Customer Support

9.3.3.2 Financial Document Summarization

9.3.3.3 Sentiment Analysis

9.3.3.4 Financial News Generation

9.3.3.5 Fraudulent Mail Detection

9.3.4 GENERATIVE AI MARKET IN BFSI VERTICAL, BY VIDEO MODALITY

TABLE 217 GENERATIVE AI VIDEO MODALITY MARKET IN BFSI, BY REGION, 2019–2023 (USD MILLION)

TABLE 218 GENERATIVE AI VIDEO MODALITY MARKET IN BFSI, BY REGION, 2024–2030 (USD MILLION)

9.3.4.1 Automated Video Surveillance

9.3.4.2 Virtual Financial Consultation

9.3.4.3 Visual-cognitive Credit Assessment

9.3.4.4 Interactive Banking Tutorials

9.3.5 GENERATIVE AI MARKET IN BFSI VERTICAL, BY IMAGE MODALITY

TABLE 219 GENERATIVE AI IMAGE MODALITY MARKET IN BFSI, BY REGION, 2019–2023 (USD MILLION)

TABLE 220 GENERATIVE AI IMAGE MODALITY MARKET IN BFSI, BY REGION, 2024–2030 (USD MILLION)

9.3.5.1 Signature Verification

9.3.5.2 Transaction Anomaly Detection

9.3.5.3 Document Digitization

9.3.5.4 Card Fraud Detection

9.3.5.5 Customer Identity Verification

9.3.6 GENERATIVE AI MARKET IN BFSI VERTICAL, BY CODE MODALITY
TABLE 221 GENERATIVE AI CODE MODALITY MARKET IN BFSI, BY REGION,
2019–2023 (USD MILLION)

TABLE 222 GENERATIVE AI CODE MODALITY MARKET IN BFSI, BY REGION,
2024–2030 (USD MILLION)

9.3.6.1 Algorithmic Trading Strategies

9.3.6.2 Automated Report Generation

9.3.6.3 Code Review & Optimization

9.3.6.4 Fraud Detection Algorithm Development

9.3.6.5 Automated Compliance Checks

9.3.7 GENERATIVE AI MARKET IN BFSI VERTICAL, BY AUDIO & SPEECH
MODALITY

TABLE 223 GENERATIVE AI AUDIO & SPEECH MODALITY MARKET IN BFSI, BY
REGION, 2019–2023 (USD MILLION)

TABLE 224 GENERATIVE AI AUDIO & SPEECH MODALITY MARKET IN BFSI, BY
REGION, 2024–2030 (USD MILLION)

9.3.7.1 Financial Data Audio Transcription

9.3.7.2 Customer Support & Service

9.3.7.3 Automated Meeting Summaries

9.3.7.4 Financial Podcast Generation

9.3.7.5 Voice-enabled Financial Apps

9.4 HEALTHCARE & LIFE SCIENCES

9.4.1 REVOLUTIONIZING DRUG DISCOVERY, MEDICAL IMAGING ANALYSIS,
AND PERSONALIZED TREATMENT PLANS

9.4.2 HEALTHCARE & LIFE SCIENCES: GENERATIVE AI SUCCESS STORIES
FIGURE 75 HEALTHCARE & LIFE SCIENCES: GENERATIVE AI SUCCESS STORIES

TABLE 225 GENERATIVE AI MARKET IN HEALTHCARE & LIFE SCIENCES, BY
DATA MODALITY, 2019–2023 (USD MILLION)

TABLE 226 GENERATIVE AI MARKET IN HEALTHCARE & LIFE SCIENCES, BY
DATA MODALITY, 2024–2030 (USD MILLION)

9.4.3 GENERATIVE AI MARKET IN HEALTHCARE & LIFE SCIENCES VERTICAL,
BY TEXT MODALITY

TABLE 227 GENERATIVE AI TEXT MODALITY MARKET IN HEALTHCARE & LIFE
SCIENCES, BY REGION, 2019–2023 (USD MILLION)

TABLE 228 GENERATIVE AI TEXT MODALITY MARKET IN HEALTHCARE & LIFE
SCIENCES, BY REGION, 2024–2030 (USD MILLION)

9.4.3.1 Electronic Health Records (EHR)

9.4.3.2 Clinical Documentation Generation

9.4.3.3 Drug Interaction Prediction

9.4.3.4 Medical Literature Summarization

9.4.3.5 Patient Communication & Education

9.4.4 GENERATIVE AI MARKET IN HEALTHCARE & LIFE SCIENCES VERTICAL,
BY VIDEO MODALITY

TABLE 229 GENERATIVE AI VIDEO MODALITY MARKET IN HEALTHCARE & LIFE
SCIENCES, BY REGION, 2019–2023 (USD MILLION)

TABLE 230 GENERATIVE AI VIDEO MODALITY MARKET IN HEALTHCARE & LIFE
SCIENCES, BY REGION, 2024–2030 (USD MILLION)

9.4.4.1 Surgical Procedure Simulation

9.4.4.2 Rehabilitation Exercise Generation

9.4.4.3 Gait Analysis & Recovery

9.4.4.4 Remote Patient Monitoring

9.4.4.5 Medical Training Videos

9.4.5 GENERATIVE AI MARKET IN HEALTHCARE & LIFE SCIENCES VERTICAL,
BY IMAGE MODALITY

TABLE 231 GENERATIVE AI IMAGE MODALITY MARKET IN HEALTHCARE & LIFE
SCIENCES, BY REGION, 2019–2023 (USD MILLION)

TABLE 232 GENERATIVE AI IMAGE MODALITY MARKET IN HEALTHCARE & LIFE
SCIENCES, BY REGION, 2024–2030 (USD MILLION)

9.4.5.1 Synthetic Medical Imaging

9.4.5.2 Tumor Detection & Segmentation

9.4.5.3 Radiation Therapy Planning

9.4.5.4 AR/VR Visualization for Anatomy

9.4.5.5 Synthetic Molecular Structure Generation

9.4.6 GENERATIVE AI MARKET IN HEALTHCARE & LIFE SCIENCES VERTICAL,
BY CODE MODALITY

TABLE 233 GENERATIVE AI CODE MODALITY MARKET IN HEALTHCARE & LIFE
SCIENCES, BY REGION, 2019–2023 (USD MILLION)

TABLE 234 GENERATIVE AI CODE MODALITY MARKET IN HEALTHCARE & LIFE
SCIENCES, BY REGION, 2024–2030 (USD MILLION)

9.4.6.1 Automated Medical Report Generation

9.4.6.2 Algorithmic Medical Diagnosis

9.4.6.3 Drug Dosage Calculation

9.4.6.4 Healthcare Workflow Automation

9.4.6.5 Clinical Decision Support Systems

9.4.7 GENERATIVE AI MARKET IN HEALTHCARE & LIFE SCIENCES VERTICAL,
BY AUDIO & SPEECH MODALITY

TABLE 235 GENERATIVE AI AUDIO & SPEECH MODALITY MARKET IN
HEALTHCARE & LIFE SCIENCES, BY REGION, 2019–2023 (USD MILLION)

TABLE 236 GENERATIVE AI AUDIO & SPEECH MODALITY MARKET IN HEALTHCARE & LIFE SCIENCES, BY REGION, 2024–2030 (USD MILLION)

- 9.4.7.1 Voice Assistants for Patients
- 9.4.7.2 Speech Synthesis for Assistive Devices
- 9.4.7.3 Medical Dictation and Transcription
- 9.4.7.4 Speech-to-Text Medical Transcription
- 9.4.7.5 Customized Audiograms

9.5 MANUFACTURING**9.5.1 TRANSFORMING QUALITY CONTROL IN MANUFACTURING BY ENABLING AUTOMATED INSPECTION AND DEFECT DETECTION****9.5.2 MANUFACTURING: GENERATIVE AI SUCCESS STORIES****FIGURE 76 MANUFACTURING: GENERATIVE AI SUCCESS STORIES****TABLE 237 GENERATIVE AI MARKET IN MANUFACTURING, BY DATA MODALITY, 2019–2023 (USD MILLION)****TABLE 238 GENERATIVE AI MARKET IN MANUFACTURING, BY DATA MODALITY, 2024–2030 (USD MILLION)****9.5.3 GENERATIVE AI MARKET IN MANUFACTURING VERTICAL, BY TEXT MODALITY****TABLE 239 GENERATIVE AI TEXT MODALITY MARKET IN MANUFACTURING, BY REGION, 2019–2023 (USD MILLION)****TABLE 240 GENERATIVE AI TEXT MODALITY MARKET IN MANUFACTURING, BY REGION, 2024–2030 (USD MILLION)**

- 9.5.3.1 Technical Documentation
- 9.5.3.2 RFQ/RFP Generation
- 9.5.3.3 Automated Email Communication
- 9.5.3.4 Maintenance & Repair Manuals
- 9.5.3.5 Demand Forecasting & Inventory Management

9.5.4 GENERATIVE AI MARKET IN MANUFACTURING VERTICAL, BY VIDEO MODALITY**TABLE 241 GENERATIVE AI VIDEO MODALITY MARKET IN MANUFACTURING, BY REGION, 2019–2023 (USD MILLION)****TABLE 242 GENERATIVE AI VIDEO MODALITY MARKET IN MANUFACTURING, BY REGION, 2024–2030 (USD MILLION)**

- 9.5.4.1 Process Optimization
- 9.5.4.2 Predictive Maintenance
- 9.5.4.3 Robotic Process Control
- 9.5.4.4 Worker Training and Safety
- 9.5.4.5 Supply Chain Visualization

9.5.5 GENERATIVE AI MARKET IN MANUFACTURING VERTICAL, BY IMAGE

MODALITY**TABLE 243 GENERATIVE AI IMAGE MODALITY MARKET IN MANUFACTURING, BY REGION, 2019–2023 (USD MILLION)****TABLE 244 GENERATIVE AI IMAGE MODALITY MARKET IN MANUFACTURING, BY REGION, 2024–2030 (USD MILLION)**

9.5.5.1 Product Design/3D Prototyping

9.5.5.2 Defect Detection

9.5.5.3 Customized Manufacturing

9.5.5.4 Generative Design

9.5.5.5 Visual Inspection and Quality Control

9.5.6 GENERATIVE AI MARKET IN MANUFACTURING VERTICAL, BY CODE**MODALITY****TABLE 245 GENERATIVE AI CODE MODALITY MARKET IN MANUFACTURING, BY REGION, 2019–2023 (USD MILLION)****TABLE 246 GENERATIVE AI CODE MODALITY MARKET IN MANUFACTURING, BY REGION, 2024–2030 (USD MILLION)**

9.5.6.1 Automated Script Generation

9.5.6.2 Digital Twin Simulation

9.5.6.3 Data Analysis & Visualization

9.5.6.4 IoT Devices Integration

9.5.6.5 CNC Machine G-Codes

9.5.7 GENERATIVE AI MARKET IN MANUFACTURING VERTICAL, BY AUDIO & SPEECH MODALITY**TABLE 247 GENERATIVE AI AUDIO & SPEECH MODALITY MARKET IN MANUFACTURING, BY REGION, 2019–2023 (USD MILLION)****TABLE 248 GENERATIVE AI AUDIO & SPEECH MODALITY MARKET IN MANUFACTURING, BY REGION, 2024–2030 (USD MILLION)**

9.5.7.1 Acoustic Quality Control

9.5.7.2 Worker Assistance & Communication

9.5.7.3 Real-time Monitoring & Alerts

9.5.7.4 Virtual Training & Simulations

9.5.7.5 Voice-controlled Interfaces

9.6 RETAIL & ECOMMERCE**9.6.1 UTILIZING GENERATIVE AI TO CREATE VIRTUAL SHOPPING ASSISTANTS AND CHATBOTS TO INTERACT WITH CUSTOMERS****9.6.2 RETAIL & ECOMMERCE: GENERATIVE AI SUCCESS STORIES****FIGURE 77 RETAIL & ECOMMERCE: GENERATIVE AI SUCCESS STORIES****TABLE 249 GENERATIVE AI MARKET IN RETAIL & ECOMMERCE, BY DATA MODALITY, 2019–2023 (USD MILLION)**

TABLE 250 GENERATIVE AI MARKET IN RETAIL & ECOMMERCE, BY DATA MODALITY, 2024–2030 (USD MILLION)

9.6.3 GENERATIVE AI MARKET IN RETAIL & ECOMMERCE VERTICAL, BY TEXT MODALITY

TABLE 251 GENERATIVE AI TEXT MODALITY MARKET IN RETAIL & ECOMMERCE, BY REGION, 2019–2023 (USD MILLION)

TABLE 252 GENERATIVE AI TEXT MODALITY MARKET IN RETAIL & ECOMMERCE, BY REGION, 2024–2030 (USD MILLION)

9.6.3.1 Product Descriptions

9.6.3.2 Chatbots and Customer Service

9.6.3.3 Social Media Content Creation

9.6.3.4 Email Marketing

9.6.3.5 Personalized Shopping Recommendations

9.6.4 GENERATIVE AI MARKET IN RETAIL & ECOMMERCE VERTICAL, BY VIDEO MODALITY

TABLE 253 GENERATIVE AI VIDEO MODALITY MARKET IN RETAIL & ECOMMERCE, BY REGION, 2019–2023 (USD MILLION)

TABLE 254 GENERATIVE AI VIDEO MODALITY MARKET IN RETAIL & ECOMMERCE, BY REGION, 2024–2030 (USD MILLION)

9.6.4.1 Product Showcase Videos

9.6.4.2 Video Advertisements

9.6.4.3 Virtual Store Tours

9.6.4.4 Instructional Videos

9.6.4.5 User-Generated Content Compilation

9.6.5 GENERATIVE AI MARKET IN RETAIL & ECOMMERCE VERTICAL, BY IMAGE MODALITY

TABLE 255 GENERATIVE AI IMAGE MODALITY MARKET IN RETAIL & ECOMMERCE, BY REGION, 2019–2023 (USD MILLION)

TABLE 256 GENERATIVE AI IMAGE MODALITY MARKET IN RETAIL & ECOMMERCE, BY REGION, 2024–2030 (USD MILLION)

9.6.5.1 Product Image Generation

9.6.5.2 Virtual Try-on

9.6.5.3 Interior Design Simulation

9.6.5.4 Customized Packaging Design

9.6.5.5 Visual Search Enhancement

9.6.6 GENERATIVE AI MARKET IN RETAIL & ECOMMERCE VERTICAL, BY CODE MODALITY

TABLE 257 GENERATIVE AI CODE MODALITY MARKET IN RETAIL & ECOMMERCE, BY REGION, 2019–2023 (USD MILLION)

TABLE 258 GENERATIVE AI CODE MODALITY MARKET IN RETAIL & ECOMMERCE, BY REGION, 2024–2030 (USD MILLION)

- 9.6.6.1 Automated Inventory Management
- 9.6.6.2 Dynamic Pricing Optimization
- 9.6.6.3 Fraud Detection and Prevention
- 9.6.6.4 Supply Chain Optimization
- 9.6.6.5 eCommerce Platform Customization

9.6.7 GENERATIVE AI MARKET IN RETAIL & ECOMMERCE VERTICAL, BY AUDIO & SPEECH MODALITY**TABLE 259 GENERATIVE AI AUDIO & SPEECH MODALITY MARKET IN RETAIL & ECOMMERCE, BY REGION, 2019–2023 (USD MILLION)****TABLE 260 GENERATIVE AI AUDIO & SPEECH MODALITY MARKET IN RETAIL & ECOMMERCE, BY REGION, 2024–2030 (USD MILLION)**

- 9.6.7.1 Voice Assistants
- 9.6.7.2 Personalized Audio Ads
- 9.6.7.3 Audio Product Guides
- 9.6.7.4 Voice Search Optimization
- 9.6.7.5 Customer Escalation management

9.7 TRANSPORTATION & LOGISTICS**9.7.1 RISE IN NEED FOR EFFICIENCY, OPTIMIZATION, AND SUSTAINABILITY****9.7.2 TRANSPORTATION & LOGISTICS: GENERATIVE AI SUCCESS STORIES****FIGURE 78 TRANSPORTATION & LOGISTICS: GENERATIVE AI SUCCESS STORIES****TABLE 261 GENERATIVE AI MARKET IN TRANSPORTATION & LOGISTICS, BY DATA MODALITY, 2019–2023 (USD MILLION)****TABLE 262 GENERATIVE AI MARKET IN TRANSPORTATION & LOGISTICS, BY DATA MODALITY, 2024–2030 (USD MILLION)****9.7.3 GENERATIVE AI MARKET IN TRANSPORTATION & LOGISTICS VERTICAL, BY TEXT MODALITY****TABLE 263 GENERATIVE AI TEXT MODALITY MARKET IN TRANSPORTATION & LOGISTICS, BY REGION, 2019–2023 (USD MILLION)****TABLE 264 GENERATIVE AI TEXT MODALITY MARKET IN TRANSPORTATION & LOGISTICS, BY REGION, 2024–2030 (USD MILLION)**

- 9.7.3.1 Supply Chain Risk Assessment
- 9.7.3.2 Spare Parts Documentation
- 9.7.3.3 Incident Reports
- 9.7.3.4 Freight Documentation
- 9.7.3.5 Vehicle Maintenance Logs

9.7.4 GENERATIVE AI MARKET IN TRANSPORTATION & LOGISTICS VERTICAL,

BY VIDEO MODALITY**TABLE 265 GENERATIVE AI VIDEO MODALITY MARKET IN TRANSPORTATION & LOGISTICS, BY REGION, 2019–2023 (USD MILLION)****TABLE 266 GENERATIVE AI VIDEO MODALITY MARKET IN TRANSPORTATION & LOGISTICS, BY REGION, 2024–2030 (USD MILLION)**

- 9.7.4.1 Surveillance & Security
- 9.7.4.2 Driver Behavior Analysis
- 9.7.4.3 Loading & Unloading Optimization
- 9.7.4.4 Accident Reconstruction
- 9.7.4.5 Parking Management

9.7.5 GENERATIVE AI MARKET IN TRANSPORTATION & LOGISTICS VERTICAL, BY IMAGE MODALITY**TABLE 267 GENERATIVE AI IMAGE MODALITY MARKET IN TRANSPORTATION & LOGISTICS, BY REGION, 2019–2023 (USD MILLION)****TABLE 268 GENERATIVE AI IMAGE MODALITY MARKET IN TRANSPORTATION & LOGISTICS, BY REGION, 2024–2030 (USD MILLION)**

- 9.7.5.1 Virtual Test Environments
- 9.7.5.2 Customized Vehicle Personalization
- 9.7.5.3 Damage Inspection
- 9.7.5.4 Route Optimization Visualization
- 9.7.5.5 Traffic Flow Simulation

9.7.6 GENERATIVE AI MARKET IN TRANSPORTATION & LOGISTICS VERTICAL, BY CODE MODALITY**TABLE 269 GENERATIVE AI CODE MODALITY MARKET IN TRANSPORTATION & LOGISTICS, BY REGION, 2019–2023 (USD MILLION)****TABLE 270 GENERATIVE AI CODE MODALITY MARKET IN TRANSPORTATION & LOGISTICS, BY REGION, 2024–2030 (USD MILLION)**

- 9.7.6.1 Algorithm Development for Autonomous Vehicles
- 9.7.6.2 Automated Data Processing for Logistics
- 9.7.6.3 Vehicle Control Systems
- 9.7.6.4 Predictive Analytics for Maintenance
- 9.7.6.5 Intelligent Scheduling and Resource Allocation

9.7.7 GENERATIVE AI MARKET IN TRANSPORTATION & LOGISTICS VERTICAL, BY AUDIO & SPEECH MODALITY**TABLE 271 GENERATIVE AI AUDIO & SPEECH MODALITY MARKET IN TRANSPORTATION & LOGISTICS, BY REGION, 2019–2023 (USD MILLION)****TABLE 272 GENERATIVE AI AUDIO & SPEECH MODALITY MARKET IN TRANSPORTATION & LOGISTICS, BY REGION, 2024–2030 (USD MILLION)**

- 9.7.7.1 Emergency Response and Assistance

9.7.7.2 Voice-Enabled Navigation

9.7.7.3 Fleet Management & Coordination

9.7.7.4 Speech Recognition for Driver Commands

9.7.7.5 Hands-Free Data Entry

9.8 CONSTRUCTION & REAL ESTATE

9.8.1 INTEGRATION OF GENERATIVE AI TO HELP REAL ESTATE FIRMS

ATTRACT AND RETAIN TENANTS

9.8.2 CONSTRUCTION & REAL ESTATE: GENERATIVE AI SUCCESS STORIES

FIGURE 79 CONSTRUCTION & REAL ESTATE: GENERATIVE AI SUCCESS STORIES

TABLE 273 GENERATIVE AI MARKET IN CONSTRUCTION & REAL ESTATE, BY DATA MODALITY, 2019–2023 (USD MILLION)

TABLE 274 GENERATIVE AI MARKET IN CONSTRUCTION & REAL ESTATE, BY DATA MODALITY, 2024–2030 (USD MILLION)

9.8.3 GENERATIVE AI MARKET IN CONSTRUCTION & REAL ESTATE VERTICAL, BY TEXT MODALITY

TABLE 275 GENERATIVE AI TEXT MODALITY MARKET IN CONSTRUCTION & REAL ESTATE, BY REGION, 2019–2023 (USD MILLION)

TABLE 276 GENERATIVE AI TEXT MODALITY MARKET IN CONSTRUCTION & REAL ESTATE, BY REGION, 2024–2030 (USD MILLION)

9.8.3.1 Automated Property Descriptions

9.8.3.2 Legal Document Generation

9.8.3.3 Project Planning Reports

9.8.3.4 Client Communication

9.8.3.5 Environmental Impact Assessments

9.8.4 GENERATIVE AI MARKET IN CONSTRUCTION & REAL ESTATE VERTICAL, BY VIDEO MODALITY

TABLE 277 GENERATIVE AI VIDEO MODALITY MARKET IN CONSTRUCTION & REAL ESTATE, BY REGION, 2019–2023 (USD MILLION)

TABLE 278 GENERATIVE AI VIDEO MODALITY MARKET IN CONSTRUCTION & REAL ESTATE, BY REGION, 2024–2030 (USD MILLION)

9.8.4.1 Construction Progress Videos

9.8.4.2 Virtual Reality Property Walkthroughs

9.8.4.3 Safety Training Videos

9.8.4.4 Quality Assurance Inspections

9.8.4.5 Property Valuation Videos

9.8.5 GENERATIVE AI MARKET IN CONSTRUCTION & REAL ESTATE VERTICAL, BY IMAGE MODALITY

TABLE 279 GENERATIVE AI IMAGE MODALITY MARKET IN CONSTRUCTION &

REAL ESTATE, BY REGION, 2019–2023 (USD MILLION)

TABLE 280 GENERATIVE AI IMAGE MODALITY MARKET IN CONSTRUCTION & REAL ESTATE, BY REGION, 2024–2030 (USD MILLION)

9.8.5.1 Architectural Design Generation

9.8.5.2 Facade Visualization

9.8.5.3 Interior Layout Suggestions

9.8.5.4 Site Progress Monitoring

9.8.5.5 Virtual Staging

9.8.6 GENERATIVE AI MARKET IN CONSTRUCTION & REAL ESTATE VERTICAL, BY CODE MODALITY

TABLE 281 GENERATIVE AI CODE MODALITY MARKET IN CONSTRUCTION & REAL ESTATE, BY REGION, 2019–2023 (USD MILLION)

TABLE 282 GENERATIVE AI CODE MODALITY MARKET IN CONSTRUCTION & REAL ESTATE, BY REGION, 2024–2030 (USD MILLION)

9.8.6.1 Automated Building Information Modeling (BIM)

9.8.6.2 Construction Workflow Automation

9.8.6.3 Generative Design for Structures

9.8.6.4 Energy Efficiency Simulations

9.8.6.5 Maintenance and Repairs

9.8.7 GENERATIVE AI MARKET IN CONSTRUCTION & REAL ESTATE VERTICAL, BY AUDIO & SPEECH MODALITY

TABLE 283 GENERATIVE AI AUDIO & SPEECH MODALITY MARKET IN CONSTRUCTION & REAL ESTATE, BY REGION, 2019–2023 (USD MILLION)

TABLE 284 GENERATIVE AI AUDIO & SPEECH MODALITY MARKET IN CONSTRUCTION & REAL ESTATE, BY REGION, 2024–2030 (USD MILLION)

9.8.7.1 Construction Site Monitoring

9.8.7.2 Voice-activated Property Tours

9.8.7.3 Automated Customer Support Calls

9.8.7.4 Occupancy Monitoring

9.8.7.5 Equipment Maintenance Alerts

9.9 ENERGY & UTILITIES

9.9.1 GENERATIVE AI TOOLS TO DETECT OUTAGES AND OFFER QUALITY SERVICES TO RETAIN EXISTING CUSTOMERS

9.9.2 ENERGY & UTILITIES: GENERATIVE AI SUCCESS STORIES

FIGURE 80 ENERGY & UTILITIES: GENERATIVE AI SUCCESS STORIES

TABLE 285 GENERATIVE AI MARKET IN ENERGY & UTILITIES, BY DATA MODALITY, 2019–2023 (USD MILLION)

TABLE 286 GENERATIVE AI MARKET IN ENERGY & UTILITIES, BY DATA MODALITY, 2024–2030 (USD MILLION)

9.9.3 GENERATIVE AI MARKET IN ENERGY & UTILITIES VERTICAL, BY TEXT MODALITY

TABLE 287 GENERATIVE AI TEXT MODALITY MARKET IN ENERGY & UTILITIES, BY REGION, 2019–2023 (USD MILLION)

TABLE 288 GENERATIVE AI TEXT MODALITY MARKET IN ENERGY & UTILITIES, BY REGION, 2024–2030 (USD MILLION)

9.9.3.1 Energy Consumption Forecasting

9.9.3.2 Automated Reporting

9.9.3.3 Customer Support & Resolution

9.9.3.4 Regulatory Compliance

9.9.3.5 Energy Trading Insights

9.9.4 GENERATIVE AI MARKET IN ENERGY & UTILITIES VERTICAL, BY VIDEO MODALITY

TABLE 289 GENERATIVE AI VIDEO MODALITY MARKET IN ENERGY & UTILITIES, BY REGION, 2019–2023 (USD MILLION)

TABLE 290 GENERATIVE AI VIDEO MODALITY MARKET IN ENERGY & UTILITIES, BY REGION, 2024–2030 (USD MILLION)

9.9.4.1 Safety Compliance Monitoring

9.9.4.2 Renewable Energy Site Selection

9.9.4.3 Real-time Equipment Monitoring

9.9.4.4 Energy Theft Detection

9.9.4.5 Workforce Training

9.9.5 GENERATIVE AI MARKET IN ENERGY & UTILITIES VERTICAL, BY IMAGE MODALITY

TABLE 291 GENERATIVE AI IMAGE MODALITY MARKET IN ENERGY & UTILITIES, BY REGION, 2019–2023 (USD MILLION)

TABLE 292 GENERATIVE AI IMAGE MODALITY MARKET IN ENERGY & UTILITIES, BY REGION, 2024–2030 (USD MILLION)

9.9.5.1 Infrastructure Inspection

9.9.5.2 Facility Layout Optimization

9.9.5.3 Environmental Monitoring

9.9.5.4 Grid Management & Optimization

9.9.5.5 GIS Data & Satellite Imagery Analysis

9.9.6 GENERATIVE AI MARKET IN ENERGY & UTILITIES VERTICAL, BY CODE MODALITY

TABLE 293 GENERATIVE AI CODE MODALITY MARKET IN ENERGY & UTILITIES, BY REGION, 2019–2023 (USD MILLION)

TABLE 294 GENERATIVE AI CODE MODALITY MARKET IN ENERGY & UTILITIES, BY REGION, 2024–2030 (USD MILLION)

9.9.6.1 Optimized Energy Management Code

9.9.6.2 Predictive Maintenance Algorithms

9.9.6.3 Renewable Energy Simulation

9.9.6.4 Energy Trading Algorithms

9.9.6.5 Autonomous Grid Control

9.9.7 GENERATIVE AI MARKET IN ENERGY & UTILITIES VERTICAL, BY AUDIO & SPEECH MODALITY

TABLE 295 GENERATIVE AI AUDIO & SPEECH MODALITY MARKET IN ENERGY & UTILITIES, BY REGION, 2019–2023 (USD MILLION)

TABLE 296 GENERATIVE AI AUDIO & SPEECH MODALITY MARKET IN ENERGY & UTILITIES, BY REGION, 2024–2030 (USD MILLION)

9.9.7.1 Acoustic Anomaly Detection

9.9.7.2 Emergency Response Coordination

9.9.7.3 Voice-activated Energy Control

9.9.7.4 Multilingual Customer Support

9.9.7.5 Predictive Maintenance Alerts

9.10 GOVERNMENT & DEFENSE

9.10.1 GENERATIVE AI TOOLS TO DETECT THREAT AND ENHANCE SURVEILLANCE

9.10.2 GOVERNMENT & DEFENSE: GENERATIVE AI SUCCESS STORIES

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