

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.

Contents

1 INTRODUCTION

1.1 STUDY OBJECTIVES

1.2 MARKET DEFINITION

1.2.1 INCLUSIONS AND EXCLUSIONS

1.3 MARKET SCOPE

1.3.1 MARKET SEGMENTATION

FIGURE 1 GENERATIVE AI MARKET SEGMENTATION

1.3.2 REGIONS COVERED

FIGURE 2 GENERATIVE AI MARKET SEGMENTATION, BY REGION

1.3.3 YEARS CONSIDERED

FIGURE 3 STUDY YEARS/PERIODS CONSIDERED

1.4 CURRENCY CONSIDERED

TABLE 1 USD EXCHANGE RATES, 2019–2023

1.5 STAKEHOLDERS

1.6 SUMMARY OF CHANGES

1.6.1 IMPACT OF RECESSION

2 RESEARCH METHODOLOGY

2.1 RESEARCH DATA

FIGURE 4 GENERATIVE AI MARKET: RESEARCH DESIGN

2.1.1 SECONDARY DATA

2.1.2 PRIMARY DATA

TABLE 2 PRIMARY INTERVIEWS

2.1.2.1 Breakup of primary profiles

FIGURE 5 PRIMARY PROFILES, BY COMPANY TYPE, DESIGNATION, AND REGION

2.1.2.2 Key industry insights

FIGURE 6 INSIGHTS FROM INDUSTRY EXPERTS

2.2 MARKET SIZE ESTIMATION

FIGURE 7 GENERATIVE AI MARKET: TOP-DOWN AND BOTTOM-UP APPROACHES

2.2.1 TOP-DOWN APPROACH

2.2.2 BOTTOM-UP APPROACH

FIGURE 8 APPROACH 1 (BOTTOM-UP; SUPPLY-SIDE): REVENUE FROM KEY PLAYERS OFFERING SOLUTIONS/SERVICES OF GENERATIVE AI

FIGURE 9 APPROACH 2 (BOTTOM-UP; SUPPLY-SIDE): COLLECTIVE REVENUE FROM ALL SOLUTIONS/SERVICES OF GENERATIVE AI

FIGURE 10 APPROACH 3 (BOTTOM-UP; SUPPLY-SIDE): MARKET ESTIMATION STEPS AND CORRESPONDING SOURCES

FIGURE 11 APPROACH 4 (BOTTOM-UP; DEMAND-SIDE): SHARE OF GENERATIVE AI THROUGH OVERALL ARTIFICIAL INTELLIGENCE SPENDING

2.3 DATA TRIANGULATION

FIGURE 12 DATA TRIANGULATION

2.4 MARKET FORECAST

TABLE 3 FACTOR ANALYSIS

2.5 RESEARCH ASSUMPTIONS

2.6 STUDY LIMITATIONS

2.7 IMPACT OF RECESSION ON GENERATIVE AI MARKET

TABLE 4 IMPACT OF RECESSION ON GLOBAL GENERATIVE AI MARKET

3 EXECUTIVE SUMMARY

TABLE 5 GENERATIVE AI MARKET SIZE AND GROWTH RATE, 2020–2023 (USD MILLION, Y-O-Y)

TABLE 6 GENERATIVE AI MARKET SIZE AND GROWTH RATE, 2024–2030 (USD MILLION, Y-O-Y)

FIGURE 13 GENERATIVE AI SOFTWARE TO BE LARGER MARKET THAN SERVICES IN 2024

FIGURE 14 DEEP LEARNING TO BE LEADING SEGMENT AMONG SOFTWARE TYPES IN 2024

FIGURE 15 CLOUD DEPLOYMENT OF GENERATIVE AI SOFTWARE TO BE FASTER-GROWING MODE DURING FORECAST PERIOD

FIGURE 16 PROFESSIONAL SERVICES TO BE DOMINANT SERVICE SEGMENT IN 2024

FIGURE 17 TRAINING & CONSULTING SERVICES SET TO REGISTER HIGHEST SHARE AMONG PROFESSIONAL SERVICES IN 2024

FIGURE 18 TEXT DATA MODALITY TO ACCOUNT FOR LARGEST MARKET SHARE IN 2024

FIGURE 19 CONTENT MANAGEMENT TO BE LEADING APPLICATION IN 2024

FIGURE 20 RETAIL & ECOMMERCE TO WITNESS HIGHEST GROWTH RATE DURING FORECAST PERIOD

FIGURE 21 ASIA PACIFIC TO REGISTER FASTEST GROWTH RATE BETWEEN 2024 AND 2030

4 PREMIUM INSIGHTS

4.1 ATTRACTIVE OPPORTUNITIES FOR GENERATIVE AI MARKET PLAYERS

FIGURE 22 INCREASE IN DEMAND FOR MULTIMODAL GENERATIVE AI AND IMPROVED PERFORMANCE OF LARGE LANGUAGE MODELS TO DRIVE MARKET GROWTH

4.2 GENERATIVE AI MARKET: TOP THREE APPLICATIONS

FIGURE 23 SYNTHETIC DATA MANAGEMENT SEGMENT TO ACCOUNT FOR HIGHEST GROWTH RATE DURING FORECAST PERIOD

4.3 NORTH AMERICA: GENERATIVE AI MARKET, BY OFFERING AND VERTICAL

FIGURE 24 SOFTWARE AND MEDIA & ENTERTAINMENT TO BE LARGEST SEGMENTAL SHAREHOLDERS IN NORTH AMERICAN MARKET IN 2024

4.4 GENERATIVE AI MARKET, BY REGION

FIGURE 25 NORTH AMERICA TO ACCOUNT FOR LARGEST REGIONAL SHARE IN 2024

5 MARKET OVERVIEW AND INDUSTRY TRENDS

5.1 INTRODUCTION

5.2 MARKET DYNAMICS

FIGURE 26 GENERATIVE AI MARKET: DRIVERS, RESTRAINTS, OPPORTUNITIES, AND CHALLENGES

5.2.1 DRIVERS

5.2.1.1 Innovation of cloud storage to enable easy access to data

5.2.1.2 Evolution of AI and deep learning

FIGURE 27 ADVANCEMENTS IN DEEP LEARNING LED TO DEVELOPMENT OF EXTREMELY LARGE LANGUAGE MODELS, 2018–2023 (BILLION PARAMETERS)

5.2.1.3 Rise in content creation and creative applications

FIGURE 28 GENERATIVE AI TOP USE CASES ACROSS ENTERPRISE SIZE, 2022

5.2.2 RESTRAINTS

5.2.2.1 High costs associated with training data preparation

FIGURE 29 TRAINING COSTS PER MILLION PARAMETERS FOR VARIOUS GPT-3 BASED LLMS

5.2.2.2 Issues related to bias and inaccurately generated output

FIGURE 30 ISSUES RELATED TO TRAINING DATA HIGHLIGHTED IN CHATGPT'S RESPONSES

5.2.2.3 Risks associated with data breaches and sensitive information leakage

5.2.3 OPPORTUNITIES

5.2.3.1 Increase in deployment of large language models

FIGURE 31 LARGE LANGUAGE MODEL SPENDING, BY END USER, 2024 VS. 2030 (USD MILLION)

5.2.3.2 Growth in interest of enterprises in commercializing synthetic images

5.2.3.3 Robust improvement in generative ML leading to human baseline performance

FIGURE 32 SCORES OF SOME PROMINENT GENERATIVE AI MODELS IN HUMAN COGNITIVE SKILLS, 2022

5.2.4 CHALLENGES

5.2.4.1 Concerns regarding misuse of generative AI for illegal activities

5.2.4.2 Quality of output generated by generative AI models

FIGURE 33 MODEL DRIFT IN GPT-4 WITHIN 3 MONTHS IN 2023

5.2.4.3 Computational complexity and technical challenges of generative AI

FIGURE 34 COMPUTE REQUIREMENTS OF SOME PROMINENT GENERATIVE AI MODELS (TERAFLOPS)

5.3 ETHICS AND IMPLICATIONS OF GENERATIVE AI

FIGURE 35 GENERATIVE AI ETHICAL SCENARIO TIMELINE, 2023–2025

5.3.1 BIAS AND FAIRNESS

5.3.2 PRIVACY AND SECURITY

5.3.3 INTELLECTUAL PROPERTY

5.3.4 ACCOUNTABILITY AND RESPONSIBILITY

5.3.5 SOCIETAL AND ECONOMIC IMPACT

5.3.6 ENVIRONMENTAL IMPACT

FIGURE 36 CO₂ EQUIVALENT EMISSIONS (TONNES) OF GENERATIVE AI MODELS COMPARED WITH REAL-LIFE EXAMPLES, 2022

5.4 EVOLUTION OF GENERATIVE AI

FIGURE 37 EVOLUTION OF GENERATIVE AI

5.5 GENERATIVE AI RETURN ON INVESTMENT

FIGURE 38 GENERATIVE AI PRODUCTIVITY IMPACT, BY INDUSTRY (USD BILLION)

FIGURE 39 NET ROI IMPACT OF GENERATIVE AI CLOUD PROGRAMS ACROSS ENTERPRISES (PERCENTAGE POINTS)

5.6 GENERATIVE AI MATURITY CURVE

FIGURE 40 GENERATIVE AI MATURITY CURVE

5.7 GENERATIVE AI: DEVELOPMENT & DEPLOYMENT COSTS

FIGURE 41 COST TO TRAIN GENERATIVE AI MODEL WITH GPT-3 LEVEL PERFORMANCE, 2020–2030 (USD)

5.7.1 HARDWARE COSTS

FIGURE 42 HARDWARE COSTS FOR GENERATIVE AI MODEL TRAINING

5.7.2 SOFTWARE COSTS

FIGURE 43 SOFTWARE COSTS FOR TRAINING GENERATIVE AI MODELS USING NEURAL NETWORKS

5.7.3 SKILLED LABOR COSTS

FIGURE 44 MEDIAN HOURLY RATES OF AI SOFTWARE WORKFORCE, 2023 (USD/HR)

5.8 ECOSYSTEM ANALYSIS

TABLE 7 GENERATIVE AI MARKET: ECOSYSTEM

FIGURE 45 KEY PLAYERS IN GENERATIVE AI MARKET ECOSYSTEM

5.8.1 TEXT GENERATOR PROVIDERS

5.8.2 VIDEO GENERATOR PROVIDERS

5.8.3 IMAGE GENERATOR PROVIDERS

5.8.4 AUDIO & SPEECH GENERATOR PROVIDERS

5.8.5 CODE GENERATOR PROVIDERS

5.8.6 CLOUD PLATFORM PROVIDERS

5.8.7 API-AS-A-SERVICE PROVIDERS

5.8.8 END USERS

5.8.9 GOVERNMENT AND REGULATORY BODIES

5.9 SUPPLY CHAIN ANALYSIS

FIGURE 46 GENERATIVE AI MARKET: SUPPLY CHAIN ANALYSIS

TABLE 8 GENERATIVE AI MARKET: SUPPLY CHAIN ANALYSIS

5.10 GENERATIVE AI TOOLS AND FRAMEWORK

5.10.1 TENSORFLOW

5.10.2 PYTORCH

5.10.3 KERAS

5.10.4 CAFFE

5.10.5 THEANO

5.10.6 MXNET

5.10.7 TORCH

5.10.8 HUGGING FACE

5.11 GENERATIVE AI TECHNIQUES & METHODS

5.11.1 TEXT GENERATION & LANGUAGE MODELING

5.11.1.1 Recurrent neural networks for text generation

5.11.1.2 Language modeling with transformers

5.11.1.3 Seq2Seq models for translation

5.11.2 IMAGE & VIDEO GENERATION

5.11.2.1 Generative adversarial networks for image generation

5.11.2.2 Style transfer and image-to-image translation

5.11.2.3 Video generation with GANs

5.11.3 MUSIC & AUDIO GENERATION

5.11.3.1 WaveNet and SampleRNN for audio generation

5.11.3.2 Music generation with LSTM networks

5.11.4 REINFORCEMENT LEARNING

5.11.4.1 Policy gradient methods

5.11.4.2 Actor-critic methods

5.12 INVESTMENT LANDSCAPE AND FUNDING SCENARIO

FIGURE 47 GENERATIVE AI EQUITY FUNDING AND DEALS, 2019–2023

FIGURE 48 LEADING GENERATIVE AI VENDORS BY FUNDING VALUE AND FUNDING ROUNDS, 2017–2024

FIGURE 49 MOST VALUED GENERATIVE AI COMPANIES, 2023 (USD BILLION)

FIGURE 50 GENERATIVE AI STARTUPS, BY FUNDING STAGE, 2023

FIGURE 51 DISTRIBUTION OF GENERATIVE AI FUNDING, 2021–2022 (USD MILLION)

FIGURE 52 INVESTMENTS IN GENERATIVE AI, BY CATEGORY, 2023 (USD MILLION)

FIGURE 53 INVESTMENTS IN LARGE LANGUAGE MODEL OPERATIONS (LLMOPS), BY CATEGORY, 2023 (USD MILLION)

FIGURE 54 LARGE LANGUAGE MODELS DEAL COUNT AND DEAL VALUE, Q1 2021–Q3 2023 (USD MILLION)

5.13 CASE STUDY ANALYSIS

5.13.1 MARKS & SPENCER ENHANCED EMAIL CONVERSION BY 20–34% WITH PERSADO'S MOTIVATION AI

5.13.2 VODAFONE GROUP PLC UNCOVERED KEY TRENDS AND RICH INSIGHTS THROUGH PERSADO'S MOTIVATION AI

5.13.3 WPP TRAINED 50,000 EMPLOYEES WITH AI VIDEOS

5.13.4 TELEPERFORMANCE TRAINED GLOBAL WORKFORCE WITH SYNTHESIA STUDIO

5.13.5 CISCO SCALED VIDEO CONTENT LOCALIZATION USING LUMEN5

5.13.6 SIEMENS DIGITALIZED ITS COMMUNICATIONS WITH LUMEN5

5.13.7 INTEL AND ACCENTURE COLLABORATED TO CREATE SET OF 34 OPEN-SOURCE AI REFERENCE KITS

5.14 TECHNOLOGY ANALYSIS

5.14.1 KEY TECHNOLOGIES

5.14.1.1 Generative Adversarial Networks (GANs)

5.14.1.2 Variational Autoencoders (VAEs)

5.14.1.3 Transformer Architecture

5.14.1.4 Attention Mechanisms

5.14.1.5 Transfer Learning

5.14.2 ADJACENT TECHNOLOGIES

5.14.2.1 Natural Language Processing (NLP)

5.14.2.2 Computer Vision

5.14.2.3 Reinforcement Learning

5.14.2.4 Knowledge Graphs

5.14.3 COMPLEMENTARY TECHNOLOGIES

5.14.3.1 High-Performance Computing (HPC)

5.14.3.2 Explainable AI

5.14.3.3 Privacy-Preserving AI

5.14.3.4 Blockchain

5.15 REGULATORY LANDSCAPE

5.15.1 REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS

TABLE 9 NORTH AMERICA: REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS

TABLE 10 EUROPE: REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS

TABLE 11 ASIA PACIFIC: REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS

TABLE 12 MIDDLE EAST & AFRICA: REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS

TABLE 13 LATIN AMERICA: REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS

5.15.2 REGULATIONS

5.15.2.1 North America

5.15.2.1.1 SCR 17: Artificial Intelligence Bill (California)

5.15.2.1.2 S1103: Artificial Intelligence Automated Decision Bill (Connecticut)

5.15.2.1.3 National Artificial Intelligence Initiative Act (NAIIA) (US)

5.15.2.1.4 Artificial Intelligence and Data Act (AIDA) (Canada)

5.15.2.2 Europe

5.15.2.2.1 The European Union (EU) - Artificial Intelligence Act (AIA)

5.15.2.2.2 General Data Protection Regulation (Europe)

5.15.2.3 Asia Pacific

5.15.2.3.1 Interim Administrative Measures for Generative Artificial Intelligence Services (China)

5.15.2.3.2 The National AI Strategy (Singapore)

5.15.2.3.3 Hiroshima AI Process Comprehensive Policy Framework (Japan)

5.15.2.4 Middle East & Africa

5.15.2.4.1 National Strategy for Artificial Intelligence (UAE)

5.15.2.4.2 The National Artificial Intelligence Strategy (Qatar)

5.15.2.4.3 AI Ethics Principles and Guidelines (Dubai)

5.15.2.5 Latin America

5.15.2.5.1 Santiago Declaration (Chile)

5.15.2.5.2 Brazilian Artificial Intelligence Strategy (EBIA)

5.16 PATENT ANALYSIS

5.16.1 METHODOLOGY

5.16.2 PATENTS FILED, BY DOCUMENT TYPE

TABLE 14 PATENTS FILED, 2013–2023

5.16.3 INNOVATION AND PATENT APPLICATIONS

FIGURE 55 NUMBER OF PATENTS GRANTED IN LAST 10 YEARS, 2013–2023

5.16.3.1 Top 10 applicants in generative AI market

FIGURE 56 TOP 10 APPLICANTS IN GENERATIVE AI MARKET, 2013–2023

TABLE 15 TOP 20 PATENT OWNERS IN GENERATIVE AI MARKET, 2013–2023

TABLE 16 LIST OF FEW PATENTS IN GENERATIVE AI MARKET, 2022–2023

FIGURE 57 REGIONAL ANALYSIS OF PATENTS GRANTED, 2013–2023

5.17 PRICING ANALYSIS

5.17.1 AVERAGE SELLING PRICE TREND OF KEY PLAYERS, BY DATA MODALITY

FIGURE 58 AVERAGE SELLING PRICES OF KEY PLAYERS FOR TOP THREE DATA MODALITIES (USD/MONTH)

TABLE 17 AVERAGE SELLING PRICES OF KEY PLAYERS FOR TOP THREE DATA MODALITIES (USD/MONTH)

5.17.2 INDICATIVE PRICING ANALYSIS, BY OFFERING

TABLE 18 INDICATIVE PRICING LEVELS OF GENERATIVE AI SOLUTIONS, BY OFFERING

5.18 KEY CONFERENCES AND EVENTS

TABLE 19 GENERATIVE AI MARKET: DETAILED LIST OF CONFERENCES & EVENTS, 2024–2025

5.19 PORTER'S FIVE FORCES ANALYSIS

TABLE 20 PORTER'S FIVE FORCES' IMPACT ON GENERATIVE AI MARKET

FIGURE 59 GENERATIVE AI MARKET: PORTER'S FIVE FORCES ANALYSIS

5.19.1 THREAT OF NEW ENTRANTS

5.19.2 THREAT OF SUBSTITUTES

5.19.3 BARGAINING POWER OF SUPPLIERS

5.19.4 BARGAINING POWER OF BUYERS

5.19.5 INTENSITY OF COMPETITION RIVALRY

5.20 TECHNOLOGY ROADMAP

FIGURE 60 TECHNOLOGY ROADMAP FOR GENERATIVE AI MARKET

5.21 GENERATIVE AI BUSINESS MODELS

FIGURE 61 GENERATIVE AI BUSINESS MODELS

5.21.1 GENERATIVE AI MODEL-AS-A-SERVICE

5.21.2 BUILT-IN-APPS BUSINESS MODEL

5.21.3 VERTICAL INTEGRATION BUSINESS MODEL

5.21.4 MARKETPLACES/EXCHANGES MODEL

5.22 TRENDS/DISRUPTIONS IMPACTING CUSTOMERS' BUSINESSES

5.22.1 TRENDS/DISRUPTIONS IMPACTING CUSTOMERS' BUSINESSES

FIGURE 62 TRENDS/DISRUPTIONS IMPACTING CUSTOMERS' BUSINESSES**5.23 KEY STAKEHOLDERS & BUYING CRITERIA**

5.23.1 KEY STAKEHOLDERS IN BUYING PROCESS

FIGURE 63 INFLUENCE OF STAKEHOLDERS ON BUYING PROCESS FOR TOP THREE APPLICATIONS**TABLE 21 INFLUENCE OF STAKEHOLDERS ON BUYING PROCESS FOR TOP THREE APPLICATIONS**

5.23.2 BUYING CRITERIA

FIGURE 64 KEY BUYING CRITERIA FOR TOP THREE APPLICATIONS**TABLE 22 KEY BUYING CRITERIA FOR TOP THREE APPLICATIONS****6 GENERATIVE AI MARKET, BY OFFERING****6.1 INTRODUCTION**

6.1.1 OFFERING: GENERATIVE AI MARKET DRIVERS

FIGURE 65 GENERATIVE AI SERVICES TO REGISTER HIGHER CAGR DURING FORECAST PERIOD

TABLE 23 GENERATIVE AI MARKET, BY OFFERING, 2019–2023 (USD MILLION)

TABLE 24 GENERATIVE AI MARKET, BY OFFERING, 2024–2030 (USD MILLION)

6.2 SOFTWARE

TABLE 25 GENERATIVE AI SOFTWARE MARKET, BY REGION, 2019–2023 (USD MILLION)

TABLE 26 GENERATIVE AI SOFTWARE MARKET, BY REGION, 2024–2030 (USD MILLION)

6.2.1 GENERATIVE AI SOFTWARE MARKET, BY TYPE

FIGURE 66 DEEP LEARNING SUBSEGMENT TO BE LARGEST AMONG GENERATIVE AI SOFTWARE IN 2024

TABLE 27 GENERATIVE AI SOFTWARE MARKET, BY TYPE, 2019–2023 (USD MILLION)

TABLE 28 GENERATIVE AI SOFTWARE MARKET, BY TYPE, 2024–2030 (USD MILLION)

6.2.1.1 Rule-based models

6.2.1.1.1 Rule-based models offer clear and interpretable approach to generative AI with explicit rules for data generation

TABLE 29 RULE-BASED GENERATIVE AI MODELS MARKET, BY REGION, 2019–2023 (USD MILLION)

TABLE 30 RULE-BASED GENERATIVE AI MODELS MARKET, BY REGION, 2024–2030 (USD MILLION)

6.2.1.1.1.1 Knowledge-based models

6.2.1.1.1.2 Script-based models

6.2.1.1.1.3 Expert systems

6.2.1.2 Statistical models

6.2.1.2.1 Statistical models provide powerful means to capture complex patterns in data and generate precise outputs

TABLE 31 STATISTICAL GENERATIVE AI MODELS MARKET, BY REGION, 2019–2023 (USD MILLION)

TABLE 32 STATISTICAL GENERATIVE AI MODELS MARKET, BY REGION, 2024–2030 (USD MILLION)

6.2.1.2.1.1 Markov models

6.2.1.2.1.2 Hidden Markov models

6.2.1.2.1.3 Gaussian mixture models

6.2.1.2.1.4 Conditional random fields

6.2.1.3 Deep learning models

6.2.1.3.1 Deep learning models excel at generative tasks requiring fine-grained details

TABLE 33 DEEP LEARNING GENERATIVE AI MODELS MARKET, BY REGION, 2019–2023 (USD MILLION)

TABLE 34 DEEP LEARNING GENERATIVE AI MODELS MARKET, BY REGION, 2024–2030 (USD MILLION)

6.2.1.3.1.1 Feedforward neural networks

6.2.1.3.1.2 Recurrent neural networks

6.2.1.3.1.3 Long short-term memory (LSTM) networks

6.2.1.3.1.4 Gated recurrent units (GRUs)

6.2.1.4 Generative adversarial networks (GANs)

6.2.1.4.1 GANs provide unique approach to generative AI by training two competing neural networks to generate diverse data

TABLE 35 GENERATIVE ADVERSARIAL NETWORKS MARKET, BY REGION, 2019–2023 (USD MILLION)

TABLE 36 GENERATIVE ADVERSARIAL NETWORKS MARKET, BY REGION, 2024–2030 (USD MILLION)

6.2.1.4.1.1 Conditional generative adversarial networks (CGANs)

6.2.1.4.1.2 Style GANs

6.2.1.4.1.3 Cycle GANs

6.2.1.5 Autoencoders

6.2.1.5.1 Autoencoders used for generative tasks requiring new data points similar to original input

TABLE 37 AUTOENCODERS: GENERATIVE AI MARKET, BY REGION, 2019–2023 (USD MILLION)

TABLE 38 AUTOENCODERS: GENERATIVE AI MARKET, BY REGION, 2024–2030 (USD MILLION)

6.2.1.5.1.1 Denoising autoencoders

6.2.1.5.1.2 Variational autoencoders

6.2.1.6 Convolutional neural networks (CNNs)

6.2.1.6.1 Convolutional neural networks (CNNs) learn hierarchical features of image data to generate realistic images

TABLE 39 CONVOLUTIONAL NEURAL NETWORKS MARKET, BY REGION, 2019–2023 (USD MILLION)

TABLE 40 CONVOLUTIONAL NEURAL NETWORKS MARKET, BY REGION, 2024–2030 (USD MILLION)

6.2.1.6.1.1 Image-generating CNNs

6.2.1.6.1.2 Video-generating CNNs

6.2.1.7 Transformer-based Large Language Models (LLMs)

6.2.1.7.1 Transformer-based LLMs offer art performance and can generate coherent and contextually relevant text

TABLE 41 TRANSFORMER-BASED LLMS MARKET, BY REGION, 2019–2023 (USD MILLION)

TABLE 42 TRANSFORMER-BASED LLMS MARKET, BY REGION, 2024–2030 (USD MILLION)

6.2.1.7.1.1 Bidirectional encoder representations from transformers (BERTs)

6.2.1.7.1.2 Generative pre-trained transformer-1 (GPT-1)

6.2.1.7.1.3 Generative pre-trained transformer-2 (GPT-2)

6.2.1.7.1.4 Generative pre-trained transformer-3 (GPT-3)

6.2.1.7.1.5 Generative pre-trained transformer-4 (GPT-4)

6.2.1.7.1.6 Language model for dialogue applications (LaMDA)

6.2.1.7.1.7 Other transformer models

6.2.2 SOFTWARE MARKET, BY DEPLOYMENT MODE

FIGURE 67 CLOUD SEGMENT TO REGISTER HIGHER CAGR DURING FORECAST PERIOD

TABLE 43 GENERATIVE AI SOFTWARE MARKET, BY DEPLOYMENT MODE, 2019–2023 (USD MILLION)

TABLE 44 GENERATIVE AI SOFTWARE MARKET, BY DEPLOYMENT MODE,
2024–2030 (USD MILLION)

6.2.2.1 On-premises

6.2.2.1.1 On-premise solutions to help organizations tailor generative AI to integrate seamlessly with existing systems

TABLE 45 ON-PREMISE GENERATIVE AI SOFTWARE MARKET, BY REGION,
2019–2023 (USD MILLION)

TABLE 46 ON-PREMISE GENERATIVE AI SOFTWARE MARKET, BY REGION,
2024–2030 (USD MILLION)

6.2.2.2 Cloud

6.2.2.2.1 Cloud deployment to enable faster deployment of AI solutions and accessibility of AI technologies

TABLE 47 CLOUD-BASED GENERATIVE AI SOFTWARE MARKET, BY REGION,
2019–2023 (USD MILLION)

TABLE 48 CLOUD-BASED GENERATIVE AI SOFTWARE MARKET, BY REGION,
2024–2030 (USD MILLION)

6.3 SERVICES

FIGURE 68 MANAGED SERVICES TO REGISTER HIGHER CAGR IN GENERATIVE AI MARKET FOR SERVICES DURING FORECAST PERIOD

TABLE 49 GENERATIVE AI MARKET, BY SERVICE, 2019–2023 (USD MILLION)

TABLE 50 GENERATIVE AI MARKET, BY SERVICE, 2024–2030 (USD MILLION)

TABLE 51 GENERATIVE AI SERVICES MARKET, BY REGION, 2019–2023 (USD MILLION)

TABLE 52 GENERATIVE AI SERVICES MARKET, BY REGION, 2024–2030 (USD MILLION)

6.3.1 PROFESSIONAL SERVICES

6.3.1.1 Requirement assessment and customized implementation and assistance with deployment of generative AI solutions

FIGURE 69 SYSTEM INTEGRATION & IMPLEMENTATION SUBSEGMENT TO REGISTER HIGHEST CAGR DURING FORECAST PERIOD

TABLE 53 GENERATIVE AI SERVICES MARKET, BY PROFESSIONAL SERVICE,
2019–2023 (USD MILLION)

TABLE 54 GENERATIVE AI SERVICES MARKET, BY PROFESSIONAL SERVICE,
2024–2030 (USD MILLION)

TABLE 55 GENERATIVE AI PROFESSIONAL SERVICES MARKET, BY REGION,
2019–2023 (USD MILLION)

TABLE 56 GENERATIVE AI PROFESSIONAL SERVICES MARKET, BY REGION,
2024–2030 (USD MILLION)

6.3.1.2 Training & consulting services

TABLE 57 GENERATIVE AI TRAINING & CONSULTING SERVICES MARKET, BY REGION, 2019–2023 (USD MILLION)

TABLE 58 GENERATIVE AI TRAINING & CONSULTING SERVICES MARKET, BY REGION, 2024–2030 (USD MILLION)

6.3.1.2.1 Model design & training

6.3.1.2.2 Model fine-tuning

6.3.1.2.3 Prompt engineering

6.3.1.2.4 Consulting & system architecting

6.3.1.3 System integration & implementation services

TABLE 59 GENERATIVE AI SYSTEM INTEGRATION & IMPLEMENTATION SERVICES MARKET, BY REGION, 2019–2023 (USD MILLION)

TABLE 60 GENERATIVE AI SYSTEM INTEGRATION & IMPLEMENTATION SERVICES MARKET, BY REGION, 2024–2030 (USD MILLION)

6.3.1.3.1 Model Integration & Deployment

6.3.1.3.2 Custom App Development

6.3.1.3.3 API-based Model Integration

6.3.1.4 Support & maintenance services

TABLE 61 GENERATIVE AI SUPPORT & MAINTENANCE SERVICES MARKET, BY REGION, 2019–2023 (USD MILLION)

TABLE 62 GENERATIVE AI SUPPORT & MAINTENANCE SERVICES MARKET, BY REGION, 2024–2030 (USD MILLION)

6.3.1.4.1 Model Performance Metrics

6.3.1.4.2 Security & Compliance Audits

6.3.1.4.3 Model Optimization

6.3.2 MANAGED SERVICES

6.3.2.1 Managed services provide end-to-end management for generative AI, helping businesses focus on core competencies

TABLE 63 GENERATIVE AI MANAGED SERVICES MARKET, BY REGION, 2019–2023 (USD MILLION)

TABLE 64 GENERATIVE AI MANAGED SERVICES MARKET, BY REGION, 2024–2030 (USD MILLION)

7 GENERATIVE AI MARKET, BY DATA MODALITY

7.1 INTRODUCTION

7.1.1 DATA MODALITY: GENERATIVE AI MARKET DRIVERS

FIGURE 70 VIDEO DATA MODALITY TO GROW AT HIGHEST CAGR DURING FORECAST PERIOD

TABLE 65 GENERATIVE AI MARKET, BY DATA MODALITY, 2019–2023 (USD

MILLION)

TABLE 66 GENERATIVE AI MARKET, BY DATA MODALITY, 2024–2030 (USD MILLION)

7.2 TEXT

7.2.1 ADVANCED TECHNIQUES SUCH AS RNNs AND TRANSFORMER ARCHITECTURES TO PROCESS AND GENERATE TEXT

TABLE 67 GENERATIVE AI MARKET, BY TEXT MODALITY, 2019–2023 (USD MILLION)

TABLE 68 GENERATIVE AI MARKET, BY TEXT MODALITY, 2024–2030 (USD MILLION)

7.2.2 TEXT GENERATION

TABLE 69 GENERATIVE AI MARKET IN TEXT GENERATION, BY REGION, 2019–2023 (USD MILLION)

TABLE 70 GENERATIVE AI MARKET IN TEXT GENERATION, BY REGION, 2024–2030 (USD MILLION)

7.2.3 TEXT-BASED CHATBOTS

TABLE 71 GENERATIVE AI MARKET IN TEXT-BASED CHATBOTS, BY REGION, 2019–2023 (USD MILLION)

TABLE 72 GENERATIVE AI MARKET IN TEXT-BASED CHATBOTS, BY REGION, 2024–2030 (USD MILLION)

7.2.4 TEXT SUMMARIZATION

TABLE 73 GENERATIVE AI MARKET IN TEXT SUMMARIZATION, BY REGION, 2019–2023 (USD MILLION)

TABLE 74 GENERATIVE AI MARKET IN TEXT SUMMARIZATION, BY REGION, 2024–2030 (USD MILLION)

7.2.5 TEXT TRANSLATION

TABLE 75 GENERATIVE AI MARKET IN TEXT TRANSLATION, BY REGION, 2019–2023 (USD MILLION)

TABLE 76 GENERATIVE AI MARKET IN TEXT TRANSLATION, BY REGION, 2024–2030 (USD MILLION)

7.2.6 OTHER TEXT MODALITIES

TABLE 77 GENERATIVE AI MARKET IN OTHER TEXT MODALITIES, BY REGION, 2019–2023 (USD MILLION)

TABLE 78 GENERATIVE AI MARKET IN OTHER TEXT MODALITIES, BY REGION, 2024–2030 (USD MILLION)

7.3 IMAGE

7.3.1 CREATING VISUAL CONTENT, RANGING FROM PHOTOREALISTIC IMAGES TO ABSTRACT ART, USING ARTIFICIAL INTELLIGENCE IMAGE TECHNIQUES

TABLE 79 GENERATIVE AI MARKET, BY IMAGE MODALITY, 2019–2023 (USD

MILLION)

TABLE 80 GENERATIVE AI MARKET, BY IMAGE MODALITY, 2024–2030 (USD MILLION)

7.3.2 IMAGE GENERATION

TABLE 81 GENERATIVE AI MARKET IN IMAGE GENERATION, BY REGION, 2019–2023 (USD MILLION)

TABLE 82 GENERATIVE AI MARKET IN IMAGE GENERATION, BY REGION, 2024–2030 (USD MILLION)

7.3.3 IMAGE CAPTIONING

TABLE 83 GENERATIVE AI MARKET IN IMAGE CAPTIONING, BY REGION, 2019–2023 (USD MILLION)

TABLE 84 GENERATIVE AI MARKET IN IMAGE CAPTIONING, BY REGION, 2024–2030 (USD MILLION)

7.3.4 IMAGE EDITING & ENHANCEMENT

TABLE 85 GENERATIVE AI MARKET IN IMAGE EDITING & ENHANCEMENT, BY REGION, 2019–2023 (USD MILLION)

TABLE 86 GENERATIVE AI MARKET IN IMAGE EDITING & ENHANCEMENT, BY REGION, 2024–2030 (USD MILLION)

7.3.5 OTHER IMAGE MODALITIES

TABLE 87 GENERATIVE AI MARKET IN OTHER IMAGE MODALITIES, BY REGION, 2019–2023 (USD MILLION)

TABLE 88 GENERATIVE AI MARKET IN OTHER IMAGE MODALITIES, BY REGION, 2024–2030 (USD MILLION)

7.4 VIDEO

7.4.1 DEEP LEARNING MODELS UNDERSTAND AND RECREATE VISUAL DATA, ENABLING LIFELIKE VIDEOS

TABLE 89 GENERATIVE AI MARKET, BY VIDEO MODALITY, 2019–2023 (USD MILLION)

TABLE 90 GENERATIVE AI MARKET, BY VIDEO MODALITY, 2024–2030 (USD MILLION)

7.4.2 VIDEO GENERATION

TABLE 91 GENERATIVE AI MARKET IN VIDEO GENERATION, BY REGION, 2019–2023 (USD MILLION)

TABLE 92 GENERATIVE AI MARKET IN VIDEO GENERATION, BY REGION, 2024–2030 (USD MILLION)

7.4.3 VIDEO EDITING & ENHANCEMENT

TABLE 93 GENERATIVE AI MARKET IN VIDEO EDITING & ENHANCEMENT, BY REGION, 2019–2023 (USD MILLION)

TABLE 94 GENERATIVE AI MARKET IN VIDEO EDITING & ENHANCEMENT, BY

REGION, 2024–2030 (USD MILLION)**7.4.4 VIDEO ANNOTATION**

TABLE 95 GENERATIVE AI MARKET IN VIDEO ANNOTATION, BY REGION, 2019–2023 (USD MILLION)

TABLE 96 GENERATIVE AI MARKET IN VIDEO ANNOTATION, BY REGION, 2024–2030 (USD MILLION)

7.4.5 OTHER VIDEO MODALITIES

TABLE 97 GENERATIVE AI MARKET IN OTHER VIDEO MODALITIES, BY REGION, 2019–2023 (USD MILLION)

TABLE 98 GENERATIVE AI MARKET IN OTHER VIDEO MODALITIES, BY REGION, 2024–2030 (USD MILLION)

7.5 AUDIO & SPEECH

7.5.1 THROUGH ADVANCED ALGORITHMS AND DEEP LEARNING TECHNIQUES, GENERATIVE MODELS CAN ANALYZE AND SYNTHESIZE AUDIO DATA WITH REMARKABLE ACCURACY

TABLE 99 GENERATIVE AI MARKET, BY AUDIO & SPEECH MODALITY, 2019–2023 (USD MILLION)

TABLE 100 GENERATIVE AI MARKET, BY AUDIO & SPEECH MODALITY, 2024–2030 (USD MILLION)

7.5.2 TEXT-TO-SPEECH

TABLE 101 GENERATIVE AI MARKET IN TEXT-TO-SPEECH, BY REGION, 2019–2023 (USD MILLION)

TABLE 102 GENERATIVE AI MARKET IN TEXT-TO-SPEECH, BY REGION, 2024–2030 (USD MILLION)

7.5.3 SPEECH RECOGNITION & TRANSCRIPTION

TABLE 103 GENERATIVE AI MARKET IN SPEECH RECOGNITION & TRANSCRIPTION, BY REGION, 2019–2023 (USD MILLION)

TABLE 104 GENERATIVE AI MARKET IN SPEECH RECOGNITION & TRANSCRIPTION, BY REGION, 2024–2030 (USD MILLION)

7.5.4 MUSIC GENERATION

TABLE 105 GENERATIVE AI MARKET IN MUSIC GENERATION, BY REGION, 2019–2023 (USD MILLION)

TABLE 106 GENERATIVE AI MARKET IN MUSIC GENERATION, BY REGION, 2024–2030 (USD MILLION)

7.5.5 OTHER AUDIO & SPEECH MODALITIES

TABLE 107 GENERATIVE AI MARKET IN OTHER AUDIO & SPEECH MODALITIES, BY REGION, 2019–2023 (USD MILLION)

TABLE 108 GENERATIVE AI MARKET IN OTHER AUDIO & SPEECH MODALITIES, BY REGION, 2024–2030 (USD MILLION)

7.6 CODE

7.6.1 GENERATIVE AI WITH CODE UNDERSTANDING CAPABILITIES CAN ASSIST IN TASKS SUCH AS SOFTWARE MAINTENANCE, REFACTORING, AND OPTIMIZATION

TABLE 109 GENERATIVE AI MARKET, BY CODE MODALITY, 2019–2023 (USD MILLION)

TABLE 110 GENERATIVE AI MARKET, BY CODE MODALITY, 2024–2030 (USD MILLION)

7.6.2 CODE GENERATION

TABLE 111 GENERATIVE AI MARKET IN CODE GENERATION, BY REGION, 2019–2023 (USD MILLION)

TABLE 112 GENERATIVE AI MARKET IN CODE GENERATION, BY REGION, 2024–2030 (USD MILLION)

7.6.3 CODE DOCUMENTATION

TABLE 113 GENERATIVE AI MARKET IN CODE DOCUMENTATION, BY REGION, 2019–2023 (USD MILLION)

TABLE 114 GENERATIVE AI MARKET IN CODE DOCUMENTATION: GENERATIVE AI MARKET, BY REGION, 2024–2030 (USD MILLION)

7.6.4 CODE TRANSLATION & TRANSPILATION

TABLE 115 GENERATIVE AI MARKET IN CODE TRANSLATION & TRANSLATION, BY REGION, 2019–2023 (USD MILLION)

TABLE 116 GENERATIVE AI MARKET IN CODE TRANSLATION & TRANSPILATION, BY REGION, 2024–2030 (USD MILLION)

7.6.5 OTHER CODE MODALITIES

TABLE 117 GENERATIVE AI MARKET IN OTHER CODE MODALITIES, BY REGION, 2019–2023 (USD MILLION)

TABLE 118 GENERATIVE AI MARKET IN OTHER CODE MODALITIES, BY REGION, 2024–2030 (USD MILLION)

8 GENERATIVE AI MARKET, BY APPLICATION

8.1 INTRODUCTION

8.1.1 APPLICATION: GENERATIVE AI MARKET DRIVERS

FIGURE 71 SYNTHETIC DATA MANAGEMENT TO GROW AT HIGHEST CAGR DURING FORECAST PERIOD

TABLE 119 GENERATIVE AI MARKET, BY APPLICATION, 2019–2023 (USD MILLION)

TABLE 120 GENERATIVE AI MARKET, BY APPLICATION, 2024–2030 (USD MILLION)

8.2 BUSINESS INTELLIGENCE & VISUALIZATION

8.2.1 IDENTIFYING PATTERNS AND TRENDS WITHIN DATA BY EMPLOYING TECHNIQUES SUCH AS DEEP LEARNING AND NEURAL NETWORKS

TABLE 121 GENERATIVE AI MARKET IN BUSINESS INTELLIGENCE & VISUALIZATION, BY VERTICAL, 2019–2023 (USD MILLION)

TABLE 122 GENERATIVE AI MARKET IN BUSINESS INTELLIGENCE & VISUALIZATION, BY VERTICAL, 2024–2030 (USD MILLION)

TABLE 123 GENERATIVE AI MARKET IN BUSINESS INTELLIGENCE & VISUALIZATION, BY SUBAPPLICATION, 2019–2023 (USD MILLION)

TABLE 124 GENERATIVE AI MARKET IN BUSINESS INTELLIGENCE & VISUALIZATION, BY SUBAPPLICATION, 2024–2030 (USD MILLION)

8.2.2 SALES INTELLIGENCE

TABLE 125 GENERATIVE AI MARKET IN SALES INTELLIGENCE, BY REGION, 2019–2023 (USD MILLION)

TABLE 126 GENERATIVE AI MARKET IN SALES INTELLIGENCE, BY REGION, 2024–2030 (USD MILLION)

8.2.3 MARKETING INTELLIGENCE

TABLE 127 GENERATIVE AI MARKET IN MARKETING INTELLIGENCE, BY REGION, 2019–2023 (USD MILLION)

TABLE 128 GENERATIVE AI MARKET IN MARKETING INTELLIGENCE, BY REGION, 2024–2030 (USD MILLION)

8.2.4 HUMAN RESOURCE INTELLIGENCE

TABLE 129 GENERATIVE AI MARKET IN HUMAN RESOURCE INTELLIGENCE, BY REGION, 2019–2023 (USD MILLION)

TABLE 130 GENERATIVE AI MARKET IN HUMAN RESOURCE INTELLIGENCE, BY REGION, 2024–2030 (USD MILLION)

8.2.5 FINANCE INTELLIGENCE

TABLE 131 GENERATIVE AI MARKET IN FINANCE INTELLIGENCE, BY REGION, 2019–2023 (USD MILLION)

TABLE 132 GENERATIVE AI MARKET IN FINANCE INTELLIGENCE, BY REGION, 2024–2030 (USD MILLION)

8.2.6 OPERATIONS INTELLIGENCE

TABLE 133 GENERATIVE AI MARKET IN OPERATIONS INTELLIGENCE, BY REGION, 2019–2023 (USD MILLION)

TABLE 134 GENERATIVE AI MARKET IN OPERATIONS INTELLIGENCE, BY REGION, 2024–2030 (USD MILLION)

8.3 CONTENT MANAGEMENT

8.3.1 IMPROVING CONTENT MANAGEMENT BY OPTIMIZING WORKFLOWS AND ENHANCING SCALABILITY USING GENERATIVE AI

TABLE 135 GENERATIVE AI MARKET IN CONTENT MANAGEMENT, BY VERTICAL, 2019–2023 (USD MILLION)

TABLE 136 GENERATIVE AI MARKET IN CONTENT MANAGEMENT, BY VERTICAL, 2024–2030 (USD MILLION)

TABLE 137 GENERATIVE AI MARKET IN CONTENT MANAGEMENT, BY SUBAPPLICATION, 2019–2023 (USD MILLION)

TABLE 138 GENERATIVE AI MARKET IN CONTENT MANAGEMENT, BY SUBAPPLICATION, 2024–2030 (USD MILLION)

8.3.2 CONTENT GENERATION

TABLE 139 GENERATIVE AI MARKET IN CONTENT GENERATION, BY REGION, 2019–2023 (USD MILLION)

TABLE 140 GENERATIVE AI MARKET IN CONTENT GENERATION, BY REGION, 2024–2030 (USD MILLION)

8.3.3 CONTENT CURATION, TAGGING, AND CATEGORIZATION

TABLE 141 GENERATIVE AI MARKET IN CONTENT CURATION, TAGGING, AND CATEGORIZATION, BY REGION, 2019–2023 (USD MILLION)

TABLE 142 GENERATIVE AI MARKET IN CONTENT CURATION, TAGGING, AND CATEGORIZATION, BY REGION, 2024–2030 (USD MILLION)

8.3.4 DIGITAL MARKETING

TABLE 143 GENERATIVE AI MARKET IN DIGITAL MARKETING, BY REGION, 2019–2023 (USD MILLION)

TABLE 144 GENERATIVE AI MARKET IN DIGITAL MARKETING, BY REGION, 2024–2030 (USD MILLION)

8.3.5 MEDIA EDITING

TABLE 145 GENERATIVE AI MARKET IN MEDIA EDITING, BY REGION, 2019–2023 (USD MILLION)

TABLE 146 GENERATIVE AI MARKET IN MEDIA EDITING, BY REGION, 2024–2030 (USD MILLION)

8.4 SYNTHETIC DATA MANAGEMENT

8.4.1 MIMICKING REAL-WORLD DATA DISTRIBUTIONS WITHOUT COMPROMISING INDIVIDUAL PRIVACY BY UTILIZING GANS AND VAES

TABLE 147 GENERATIVE AI MARKET IN SYNTHETIC DATA MANAGEMENT, BY VERTICAL, 2019–2023 (USD MILLION)

TABLE 148 GENERATIVE AI MARKET IN SYNTHETIC DATA MANAGEMENT, BY VERTICAL, 2024–2030 (USD MILLION)

TABLE 149 GENERATIVE AI MARKET IN SYNTHETIC DATA MANAGEMENT, BY SUBAPPLICATION, 2019–2023 (USD MILLION)

TABLE 150 GENERATIVE AI MARKET IN SYNTHETIC DATA MANAGEMENT, BY SUBAPPLICATION, 2024–2030 (USD MILLION)

8.4.2 SYNTHETIC DATA AUGMENTATION

TABLE 151 GENERATIVE AI MARKET IN SYNTHETIC DATA AUGMENTATION, BY REGION, 2019–2023 (USD MILLION)

TABLE 152 GENERATIVE AI MARKET IN SYNTHETIC DATA AUGMENTATION, BY REGION, 2024–2030 (USD MILLION)

8.4.3 SYNTHETIC DATA TRAINING

TABLE 153 GENERATIVE AI MARKET IN SYNTHETIC DATA TRAINING, BY REGION, 2019–2023 (USD MILLION)

TABLE 154 GENERATIVE AI MARKET IN SYNTHETIC DATA TRAINING, BY REGION, 2024–2030 (USD MILLION)

8.5 SEARCH & DISCOVERY

8.5.1 NEED TO UNCOVER HIDDEN PATTERNS, EXTRACT INSIGHTS, AND GENERATE PERSONALIZED RECOMMENDATIONS

TABLE 155 GENERATIVE AI MARKET IN SEARCH & DISCOVERY, BY VERTICAL, 2019–2023 (USD MILLION)

TABLE 156 GENERATIVE AI MARKET IN SEARCH & DISCOVERY, BY VERTICAL, 2024–2030 (USD MILLION)

TABLE 157 GENERATIVE AI MARKET IN SEARCH & DISCOVERY, BY SUBAPPLICATION, 2019–2023 (USD MILLION)

TABLE 158 GENERATIVE AI MARKET IN SEARCH & DISCOVERY, BY SUBAPPLICATION, 2024–2030 (USD MILLION)

8.5.2 GENERAL SEARCH

TABLE 159 GENERATIVE AI MARKET IN GENERAL SEARCH, BY REGION, 2019–2023 (USD MILLION)

TABLE 160 GENERATIVE AI MARKET IN GENERAL SEARCH, BY REGION, 2024–2030 (USD MILLION)

8.5.3 INSIGHT GENERATION

TABLE 161 GENERATIVE AI MARKET IN INSIGHT GENERATION, BY REGION, 2019–2023 (USD MILLION)

TABLE 162 GENERATIVE AI MARKET IN INSIGHT GENERATION, BY REGION, 2024–2030 (USD MILLION)

8.6 AUTOMATION & INTEGRATION

8.6.1 STREAMLINING AND ENHANCING VARIOUS PROCESSES WITHIN BUSINESSES BY UTILIZING AUTOMATION & INTEGRATION POWER OF GENERATIVE AI

TABLE 163 GENERATIVE AI MARKET IN AUTOMATION & INTEGRATION, BY VERTICAL, 2019–2023 (USD MILLION)

TABLE 164 GENERATIVE AI MARKET IN AUTOMATION & INTEGRATION, BY VERTICAL, 2024–2030 (USD MILLION)

TABLE 165 GENERATIVE AI MARKET IN AUTOMATION & INTEGRATION, BY SUBAPPLICATION, 2019–2023 (USD MILLION)

TABLE 166 GENERATIVE AI MARKET IN AUTOMATION & INTEGRATION, BY SUBAPPLICATION, 2024–2030 (USD MILLION)

8.6.2 PERSONALIZATION & RECOMMENDATION SYSTEMS

TABLE 167 GENERATIVE AI MARKET IN PERSONALIZATION & RECOMMENDATION SYSTEMS, BY REGION, 2019–2023 (USD MILLION)

TABLE 168 GENERATIVE AI MARKET IN PERSONALIZATION & RECOMMENDATION SYSTEMS, BY REGION, 2024–2030 (USD MILLION)

8.6.3 CUSTOMER EXPERIENCE MANAGEMENT

TABLE 169 GENERATIVE AI MARKET IN CUSTOMER EXPERIENCE MANAGEMENT, BY REGION, 2019–2023 (USD MILLION)

TABLE 170 GENERATIVE AI MARKET IN CUSTOMER EXPERIENCE MANAGEMENT, BY REGION, 2024–2030 (USD MILLION)

8.6.4 APPLICATION DEVELOPMENT & API INTEGRATION

TABLE 171 GENERATIVE AI MARKET IN APPLICATION DEVELOPMENT & API INTEGRATION, BY REGION, 2019–2023 (USD MILLION)

TABLE 172 GENERATIVE AI MARKET IN APPLICATION DEVELOPMENT & API INTEGRATION, BY REGION, 2024–2030 (USD MILLION)

8.6.5 CYBERSECURITY INTELLIGENCE

TABLE 173 GENERATIVE AI MARKET IN CYBERSECURITY INTELLIGENCE, BY SUBAPPLICATION, 2019–2023 (USD MILLION)

TABLE 174 GENERATIVE AI MARKET IN CYBERSECURITY INTELLIGENCE, BY SUBAPPLICATION, 2024–2030 (USD MILLION)

8.6.5.1 Fraud Detection & Prevention

TABLE 175 GENERATIVE AI MARKET IN FRAUD DETECTION & PREVENTION, BY REGION, 2019–2023 (USD MILLION)

TABLE 176 GENERATIVE AI MARKET IN FRAUD DETECTION & PREVENTION, BY REGION, 2024–2030 (USD MILLION)

8.6.5.2 Risk & Compliance Management

TABLE 177 GENERATIVE AI MARKET IN RISK & COMPLIANCE MANAGEMENT, BY REGION, 2019–2023 (USD MILLION)

TABLE 178 GENERATIVE AI MARKET IN RISK & COMPLIANCE MANAGEMENT, BY REGION, 2024–2030 (USD MILLION)

8.6.5.3 Automated Patch Management

TABLE 179 GENERATIVE AI MARKET IN AUTOMATED PATCH MANAGEMENT, BY REGION, 2019–2023 (USD MILLION)

TABLE 180 GENERATIVE AI MARKET IN AUTOMATED PATCH MANAGEMENT, BY REGION, 2024–2030 (USD MILLION)

8.6.5.4 Digital Forensics & Incident Analysis

TABLE 181 GENERATIVE AI MARKET IN DIGITAL FORENSICS & INCIDENT ANALYSIS, BY REGION, 2019–2023 (USD MILLION)

TABLE 182 GENERATIVE AI MARKET IN DIGITAL FORENSICS & INCIDENT ANALYSIS, BY REGION, 2024–2030 (USD MILLION)

8.6.5.5 Threat Simulation & Training

TABLE 183 GENERATIVE AI MARKET IN THREAT SIMULATION & TRAINING, BY REGION, 2019–2023 (USD MILLION)

TABLE 184 GENERATIVE AI MARKET IN THREAT SIMULATION & TRAINING, BY REGION, 2024–2030 (USD MILLION)

8.7 GENERATIVE DESIGN AI

8.7.1 ANALYZING VAST AMOUNTS OF DATA AND HARNESSING MACHINE LEARNING ALGORITHMS FOR NUMEROUS DESIGN ITERATIONS

TABLE 185 GENERATIVE AI MARKET IN GENERATIVE DESIGN AI, BY VERTICAL, 2019–2023 (USD MILLION)

TABLE 186 GENERATIVE AI MARKET IN GENERATIVE DESIGN AI, BY VERTICAL, 2024–2030 (USD MILLION)

TABLE 187 GENERATIVE AI MARKET IN GENERATIVE DESIGN AI, BY SUBAPPLICATION, 2019–2023 (USD MILLION)

TABLE 188 GENERATIVE AI MARKET IN GENERATIVE DESIGN AI, BY SUBAPPLICATION, 2024–2030 (USD MILLION)

8.7.2 DESIGN EXPLORATION & VARIATION

TABLE 189 GENERATIVE AI MARKET IN DESIGN EXPLORATION & VARIATION, BY REGION, 2019–2023 (USD MILLION)

TABLE 190 GENERATIVE AI MARKET IN DESIGN EXPLORATION & VARIATION, BY REGION, 2024–2030 (USD MILLION)

8.7.3 MODELING & PROTOTYPING

TABLE 191 GENERATIVE AI MARKET IN MODELING & PROTOTYPING, BY REGION, 2019–2023 (USD MILLION)

TABLE 192 GENERATIVE AI MARKET IN MODELING & PROTOTYPING, BY REGION, 2024–2030 (USD MILLION)

8.7.4 PRODUCT RENDERINGS & VISUAL COLLATERALS

TABLE 193 GENERATIVE AI MARKET IN PRODUCT RENDERINGS & VISUAL COLLATERALS, BY REGION, 2019–2023 (USD MILLION)

TABLE 194 GENERATIVE AI MARKET IN PRODUCT RENDERINGS & VISUAL COLLATERALS, BY REGION, 2024–2030 (USD MILLION)

8.8 OTHER APPLICATIONS

TABLE 195 GENERATIVE AI MARKET IN OTHER APPLICATIONS, BY VERTICAL, 2019–2023 (USD MILLION)

TABLE 196 GENERATIVE AI MARKET IN OTHER APPLICATIONS, BY VERTICAL, 2024–2030 (USD MILLION)

TABLE 197 GENERATIVE AI MARKET IN OTHER APPLICATIONS, BY REGION, 2019–2023 (USD MILLION)

TABLE 198 GENERATIVE AI MARKET IN OTHER APPLICATIONS, BY REGION, 2024–2030 (USD MILLION)

9 GENERATIVE AI MARKET, BY VERTICAL

9.1 INTRODUCTION

9.1.1 VERTICAL: GENERATIVE AI MARKET DRIVERS

FIGURE 72 ADOPTION OF GENERATIVE AI IN RETAIL & ECOMMERCE TO GROW AT HIGHEST CAGR DURING FORECAST PERIOD

TABLE 199 GENERATIVE AI MARKET, BY VERTICAL, 2019–2023 (USD MILLION)

TABLE 200 GENERATIVE AI MARKET, BY VERTICAL, 2024–2030 (USD MILLION)

9.2 MEDIA & ENTERTAINMENT

9.2.1 DEMAND FOR HYPER-PERSONALIZED CONTENT EXPERIENCES AND HYPER-REALISTIC VIRTUAL ENVIRONMENTS

9.2.2 MEDIA & ENTERTAINMENT: GENERATIVE AI SUCCESS STORIES

FIGURE 73 MEDIA & ENTERTAINMENT: GENERATIVE AI SUCCESS STORIES

TABLE 201 GENERATIVE AI MARKET IN MEDIA & ENTERTAINMENT, BY DATA MODALITY, 2019–2023 (USD MILLION)

TABLE 202 GENERATIVE AI MARKET IN MEDIA & ENTERTAINMENT, BY DATA MODALITY, 2024–2030 (USD MILLION)

9.2.3 GENERATIVE AI MARKET IN MEDIA & ENTERTAINMENT VERTICAL, BY TEXT MODALITY

TABLE 203 GENERATIVE AI TEXT MODALITY MARKET IN MEDIA & ENTERTAINMENT, BY REGION, 2019–2023 (USD MILLION)

TABLE 204 GENERATIVE AI TEXT MODALITY MARKET IN MEDIA & ENTERTAINMENT, BY REGION, 2024–2030 (USD MILLION)

9.2.3.1 Script & Dialogue Generation

9.2.3.2 Content Summarization

9.2.3.3 Language Translation & Localization

9.2.3.4 Interactive Storytelling

9.2.3.5 Automated News Generation

9.2.4 GENERATIVE AI MARKET IN MEDIA & ENTERTAINMENT VERTICAL, BY VIDEO MODALITY

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

FIGURE 81 GOVERNMENT & DEFENSE: GENERATIVE AI SUCCESS STORIES

TABLE 297 GENERATIVE AI MARKET IN GOVERNMENT & DEFENSE, BY DATA MODALITY, 2019–2023 (USD MILLION)

TABLE 298 GENERATIVE AI MARKET IN GOVERNMENT & DEFENSE, BY DATA MODALITY, 2024–2030 (USD MILLION)

9.10.3 GENERATIVE AI MARKET IN GOVERNMENT & DEFENSE VERTICAL, BY TEXT MODALITY

TABLE 299 GENERATIVE AI TEXT MODALITY MARKET IN GOVERNMENT & DEFENSE, BY REGION, 2019–2023 (USD MILLION)

TABLE 300 GENERATIVE AI TEXT MODALITY MARKET IN GOVERNMENT & DEFENSE, BY REGION, 2024–2030 (USD MILLION)

9.10.3.1 E-Citizen Services

9.10.3.2 Threat Intelligence

9.10.3.3 Automated Translation

9.10.3.4 Propaganda Detection

9.10.3.5 Policy Document Generation

9.10.4 GENERATIVE AI MARKET IN GOVERNMENT & DEFENSE VERTICAL, BY VIDEO MODALITY

TABLE 301 GENERATIVE AI VIDEO MODALITY MARKET IN GOVERNMENT &

DEFENSE, BY REGION, 2019–2023 (USD MILLION)

TABLE 302 GENERATIVE AI VIDEO MODALITY MARKET IN GOVERNMENT & DEFENSE, BY REGION, 2024–2030 (USD MILLION)

9.10.4.1 Simulated Training Scenarios

9.10.4.2 Surveillance Video Enhancement

9.10.4.3 Activity Recognition & Anomaly Detection

9.10.4.4 Drone & UAV Navigation

9.10.4.5 Visual Storyboarding

9.10.5 GENERATIVE AI MARKET IN GOVERNMENT & DEFENSE VERTICAL, BY IMAGE MODALITY

TABLE 303 GENERATIVE AI IMAGE MODALITY MARKET IN GOVERNMENT & DEFENSE, BY REGION, 2019–2023 (USD MILLION)

TABLE 304 GENERATIVE AI IMAGE MODALITY MARKET IN GOVERNMENT & DEFENSE, BY REGION, 2024–2030 (USD MILLION)

9.10.5.1 Satellite Image Analysis

9.10.5.2 Facial Recognition

9.10.5.3 Camouflage Design

9.10.5.4 Object Detection Augmentation

9.10.5.5 Anomaly Detection in Surveillance

9.10.6 GENERATIVE AI MARKET IN GOVERNMENT & DEFENSE VERTICAL, BY CODE MODALITY

TABLE 305 GENERATIVE AI CODE MODALITY MARKET IN GOVERNMENT & DEFENSE, BY REGION, 2019–2023 (USD MILLION)

TABLE 306 GENERATIVE AI CODE MODALITY MARKET IN GOVERNMENT & DEFENSE, BY REGION, 2024–2030 (USD MILLION)

9.10.6.1 Automated Code Generation

9.10.6.2 Vulnerability Simulation

9.10.6.3 Code Obfuscation

9.10.6.4 Reverse Engineering Aid

9.10.6.5 Network Simulation and Optimization

9.10.7 GENERATIVE AI MARKET IN GOVERNMENT & DEFENSE VERTICAL, BY AUDIO & SPEECH MODALITY

TABLE 307 GENERATIVE AI AUDIO & SPEECH MODALITY MARKET IN GOVERNMENT & DEFENSE, BY REGION, 2019–2023 (USD MILLION)

TABLE 308 GENERATIVE AI AUDIO & SPEECH MODALITY MARKET IN GOVERNMENT & DEFENSE, BY REGION, 2024–2030 (USD MILLION)

9.10.7.1 Audio Deepfake Detection

9.10.7.2 Automated Speech Transcription

9.10.7.3 Dialect Generation and Recognition

9.10.7.4 Verbal Deception Detection

9.10.7.5 Voice Biometrics and Authentication

9.11 IT & ITES

9.11.1 GENERATIVE AI TO HELP IMPROVE CYBERSECURITY, MINIMIZE COSTS, AND ENHANCE USER EXPERIENCE

9.11.2 IT & ITES: GENERATIVE AI SUCCESS STORIES

FIGURE 82 IT & ITES: GENERATIVE AI SUCCESS STORIES

TABLE 309 GENERATIVE AI MARKET IN IT & ITES, BY DATA MODALITY, 2019–2023 (USD MILLION)

TABLE 310 GENERATIVE AI MARKET IN IT & ITES, BY DATA MODALITY, 2024–2030 (USD MILLION)

9.11.3 GENERATIVE AI MARKET IN IT & ITES VERTICAL, BY TEXT MODALITY

TABLE 311 GENERATIVE AI TEXT MODALITY MARKET IN IT & ITES, BY REGION, 2019–2023 (USD MILLION)

TABLE 312 GENERATIVE AI TEXT MODALITY MARKET IN IT & ITES, BY REGION, 2024–2030 (USD MILLION)

9.11.3.1 Natural Language Interfaces

9.11.3.2 Automated Report Generation

9.11.3.3 Data Annotation for ML

9.11.3.4 Chatbots for IT Support

9.11.3.5 API Documentation

9.11.4 GENERATIVE AI MARKET IN IT & ITES VERTICAL, BY VIDEO MODALITY

TABLE 313 GENERATIVE AI VIDEO MODALITY MARKET IN IT & ITES, BY REGION, 2019–2023 (USD MILLION)

TABLE 314 GENERATIVE AI VIDEO MODALITY MARKET IN IT & ITES, BY REGION, 2024–2030 (USD MILLION)

9.11.4.1 Video Training Modules

9.11.4.2 Automated Video Editing

9.11.4.3 Code Visualization

9.11.4.4 IT Process Simulation

9.11.4.5 Virtual IT Demos

9.11.5 GENERATIVE AI MARKET IN IT & ITES VERTICAL, BY IMAGE MODALITY

TABLE 315 GENERATIVE AI IMAGE MODALITY MARKET IN IT & ITES, BY REGION, 2019–2023 (USD MILLION)

TABLE 316 GENERATIVE AI IMAGE MODALITY MARKET IN IT & ITES, BY REGION, 2024–2030 (USD MILLION)

9.11.5.1 UI/UX Design Prototyping

9.11.5.2 Logo and Branding Design

9.11.5.3 Image Data Augmentation

9.11.5.4 Fraud Detection

9.11.5.5 Document Digitization

9.11.6 GENERATIVE AI MARKET IN IT & ITES VERTICAL, BY CODE MODALITY

TABLE 317 GENERATIVE AI CODE MODALITY MARKET IN IT & ITES, BY REGION, 2019–2023 (USD MILLION)

TABLE 318 GENERATIVE AI CODE MODALITY MARKET IN IT & ITES, BY REGION, 2024–2030 (USD MILLION)

9.11.6.1 Code Auto-Completion

9.11.6.2 Automated Code Review

9.11.6.3 Bug Detection and Prevention

9.11.6.4 Refactoring Assistance

9.11.6.5 Code Comment Generation

9.11.7 GENERATIVE AI MARKET IN IT & ITES VERTICAL, BY AUDIO & SPEECH MODALITY

TABLE 319 GENERATIVE AI AUDIO & SPEECH MODALITY MARKET IN IT & ITES, BY REGION, 2019–2023 (USD MILLION)

TABLE 320 GENERATIVE AI AUDIO & SPEECH MODALITY MARKET IN IT & ITES, BY REGION, 2024–2030 (USD MILLION)

9.11.7.1 Voice User Interfaces (VUI)

9.11.7.2 Text-to-Speech Applications

9.11.7.3 Voice-activated Commands

9.11.7.4 Voice Biometrics

9.11.7.5 Automated Call Logging

9.12 TELECOMMUNICATIONS

9.12.1 GENERATIVE AI TO OPTIMIZE NETWORK OPERATIONS AND PLANNING AND AUGMENT CUSTOMER SERVICES

9.12.2 TELECOMMUNICATIONS: GENERATIVE AI SUCCESS STORIES

FIGURE 83 TELECOMMUNICATIONS: GENERATIVE AI SUCCESS STORIES

TABLE 321 GENERATIVE AI MARKET IN TELECOMMUNICATIONS, BY DATA MODALITY, 2019–2023 (USD MILLION)

TABLE 322 GENERATIVE AI MARKET IN TELECOMMUNICATIONS, BY DATA MODALITY, 2024–2030 (USD MILLION)

9.12.3 GENERATIVE AI MARKET IN TELECOMMUNICATIONS VERTICAL, BY TEXT MODALITY

TABLE 323 GENERATIVE AI TEXT MODALITY MARKET IN TELECOMMUNICATIONS, BY REGION, 2019–2023 (USD MILLION)

TABLE 324 GENERATIVE AI TEXT MODALITY MARKET IN TELECOMMUNICATIONS, BY REGION, 2024–2030 (USD MILLION)

9.12.3.1 Chatbots and Customer Support

9.12.3.2 Automated Network Documentation

9.12.3.3 Voice-to-Text Transcription

9.12.3.4 Automatic Billing & Invoicing

9.12.3.5 Content Generation for Marketing

9.12.4 GENERATIVE AI MARKET IN TELECOMMUNICATIONS VERTICAL, BY VIDEO MODALITY

TABLE 325 GENERATIVE AI VIDEO MODALITY MARKET IN TELECOMMUNICATIONS, BY REGION, 2019–2023 (USD MILLION)

TABLE 326 GENERATIVE AI VIDEO MODALITY MARKET IN TELECOMMUNICATIONS, BY REGION, 2024–2030 (USD MILLION)

9.12.4.1 Video Quality Enhancement

9.12.4.2 Automated Video Summarization

9.12.4.3 VR Content Generation

9.12.4.4 Anomaly Detection in Video Feeds

9.12.4.5 Content Personalization for Video Streaming

9.12.5 GENERATIVE AI MARKET IN TELECOMMUNICATIONS VERTICAL, BY IMAGE MODALITY

TABLE 327 GENERATIVE AI IMAGE MODALITY MARKET IN TELECOMMUNICATIONS, BY REGION, 2019–2023 (USD MILLION)

TABLE 328 GENERATIVE AI IMAGE MODALITY MARKET IN TELECOMMUNICATIONS, BY REGION, 2024–2030 (USD MILLION)

9.12.5.1 Network Infrastructure Visualization

9.12.5.2 Automatic Fault Detection

9.12.5.3 Antenna Placement Optimization

9.12.5.4 Facial Recognition for Customer Service

9.12.5.5 Real-time Image Compression

9.12.6 GENERATIVE AI MARKET IN TELECOMMUNICATIONS VERTICAL, BY CODE MODALITY

TABLE 329 GENERATIVE AI CODE MODALITY MARKET IN TELECOMMUNICATIONS, BY REGION, 2019–2023 (USD MILLION)

TABLE 330 GENERATIVE AI CODE MODALITY MARKET IN TELECOMMUNICATIONS, BY REGION, 2024–2030 (USD MILLION)

9.12.6.1 Code Auto-Completion

9.12.6.2 Bug Detection & Repair

9.12.6.3 Code Summarization & Documentation

9.12.6.4 Code Translation

9.12.6.5 Automated Script Generation

9.12.7 GENERATIVE AI MARKET IN TELECOMMUNICATIONS VERTICAL, BY AUDIO & SPEECH MODALITY

TABLE 331 GENERATIVE AI AUDIO & SPEECH MODALITY MARKET IN
TELECOMMUNICATIONS, BY REGION, 2019–2023 (USD MILLION)

TABLE 332 GENERATIVE AI AUDIO & SPEECH MODALITY MARKET IN
TELECOMMUNICATIONS, BY REGION, 2024–2030 (USD MILLION)

9.12.7.1 Voice Authentication

9.12.7.2 Language Generation for IVR Systems

9.12.7.3 Speech Emotion Recognition

9.12.7.4 Automated Call Center Quality Assurance

9.12.7.5 Voice Generation for Virtual Assistants

9.13 OTHER VERTICALS

TABLE 333 GENERATIVE AI MARKET IN OTHER VERTICALS, BY DATA MODALITY,
2019–2023 (USD MILLION)

TABLE 334 GENERATIVE AI MARKET IN OTHER VERTICALS, BY DATA MODALITY,
2024–2030 (USD MILLION)

9.13.1 GENERATIVE AI MARKET IN OTHER VERTICALS, BY TEXT MODALITY

TABLE 335 GENERATIVE AI TEXT MODALITY MARKET IN OTHER VERTICALS, BY
REGION, 2019–2023 (USD MILLION)

TABLE 336 GENERATIVE AI TEXT MODALITY MARKET IN OTHER VERTICALS, BY
REGION, 2024–2030 (USD MILLION)

9.13.2 GENERATIVE AI MARKET IN OTHER VERTICALS, BY VIDEO MODALITY

TABLE 337 GENERATIVE AI VIDEO MODALITY MARKET IN OTHER VERTICALS,
BY REGION, 2019–2023 (USD MILLION)

TABLE 338 GENERATIVE AI VIDEO MODALITY MARKET IN OTHER VERTICALS,
BY REGION, 2024–2030 (USD MILLION)

9.13.3 GENERATIVE AI MARKET IN OTHER VERTICALS, BY IMAGE MODALITY

TABLE 339 GENERATIVE AI IMAGE MODALITY MARKET IN OTHER VERTICALS,
BY REGION, 2019–2023 (USD MILLION)

TABLE 340 GENERATIVE AI IMAGE MODALITY MARKET IN OTHER VERTICALS,
BY REGION, 2024–2030 (USD MILLION)

9.13.4 GENERATIVE AI MARKET IN OTHER VERTICALS, BY CODE MODALITY

TABLE 341 GENERATIVE AI CODE MODALITY MARKET IN OTHER VERTICALS, BY
REGION, 2019–2023 (USD MILLION)

TABLE 342 GENERATIVE AI CODE MODALITY MARKET IN OTHER VERTICALS, BY
REGION, 2024–2030 (USD MILLION)

9.13.5 GENERATIVE AI MARKET IN OTHER VERTICALS, BY AUDIO & SPEECH
MODALITY

TABLE 343 GENERATIVE AI AUDIO & SPEECH MODALITY MARKET IN OTHER
VERTICALS, BY REGION, 2019–2023 (USD MILLION)

TABLE 344 GENERATIVE AI AUDIO & SPEECH MODALITY MARKET IN OTHER

VERTICALS, BY REGION, 2024–2030 (USD MILLION)

10 GENERATIVE AI MARKET, BY REGION

10.1 INTRODUCTION

FIGURE 84 ASIA PACIFIC TO REGISTER HIGHEST CAGR DURING FORECAST PERIOD

FIGURE 85 FINLAND TO REGISTER HIGHEST GROWTH RATE IN GENERATIVE AI MARKET DURING FORECAST PERIOD

TABLE 345 GENERATIVE AI MARKET, BY REGION, 2019–2023 (USD MILLION)

TABLE 346 GENERATIVE AI MARKET, BY REGION, 2024–2030 (USD MILLION)

10.2 NORTH AMERICA

10.2.1 NORTH AMERICA: GENERATIVE AI MARKET DRIVERS

10.2.2 NORTH AMERICA: RECESSION IMPACT

FIGURE 86 NORTH AMERICA: GENERATIVE AI MARKET SNAPSHOT

TABLE 347 NORTH AMERICA: GENERATIVE AI MARKET, BY OFFERING, 2019–2023 (USD MILLION)

TABLE 348 NORTH AMERICA: GENERATIVE AI MARKET, BY OFFERING, 2024–2030 (USD MILLION)

TABLE 349 NORTH AMERICA: GENERATIVE AI SOFTWARE MARKET, BY TYPE, 2019–2023 (USD MILLION)

TABLE 350 NORTH AMERICA: GENERATIVE AI SOFTWARE MARKET, BY TYPE, 2024–2030 (USD MILLION)

TABLE 351 NORTH AMERICA: GENERATIVE AI SOFTWARE MARKET, BY DEPLOYMENT MODE, 2019–2023 (USD MILLION)

TABLE 352 NORTH AMERICA: GENERATIVE AI SOFTWARE MARKET, BY DEPLOYMENT MODE, 2024–2030 (USD MILLION)

TABLE 353 NORTH AMERICA: GENERATIVE AI MARKET, BY SERVICE, 2019–2023 (USD MILLION)

TABLE 354 NORTH AMERICA: GENERATIVE AI MARKET, BY SERVICE, 2024–2030 (USD MILLION)

TABLE 355 NORTH AMERICA: GENERATIVE AI MARKET, BY DATA MODALITY, 2019–2023 (USD MILLION)

TABLE 356 NORTH AMERICA: GENERATIVE AI MARKET, BY DATA MODALITY, 2024–2030 (USD MILLION)

TABLE 357 NORTH AMERICA: GENERATIVE AI MARKET, BY APPLICATION, 2019–2023 (USD MILLION)

TABLE 358 NORTH AMERICA: GENERATIVE AI MARKET, BY APPLICATION, 2024–2030 (USD MILLION)

TABLE 359 NORTH AMERICA: GENERATIVE AI MARKET, BY VERTICAL, 2019–2023 (USD MILLION)

TABLE 360 NORTH AMERICA: GENERATIVE AI MARKET, BY VERTICAL, 2024–2030 (USD MILLION)

TABLE 361 NORTH AMERICA: GENERATIVE AI MARKET, BY COUNTRY, 2019–2023 (USD MILLION)

TABLE 362 NORTH AMERICA: GENERATIVE AI MARKET, BY COUNTRY, 2024–2030 (USD MILLION)

10.2.3 US

TABLE 363 US: GENERATIVE AI MARKET, BY OFFERING, 2019–2023 (USD MILLION)

TABLE 364 US: GENERATIVE AI MARKET, BY OFFERING, 2024–2030 (USD MILLION)

10.2.4 CANADA

TABLE 365 CANADA: GENERATIVE AI MARKET, BY OFFERING, 2019–2023 (USD MILLION)

TABLE 366 CANADA: GENERATIVE AI MARKET, BY OFFERING, 2024–2030 (USD MILLION)

10.3 EUROPE

10.3.1 EUROPE: GENERATIVE AI MARKET DRIVERS

10.3.2 EUROPE: RECESSION IMPACT

TABLE 367 EUROPE: GENERATIVE AI MARKET, BY OFFERING, 2019–2023 (USD MILLION)

TABLE 368 EUROPE: GENERATIVE AI MARKET, BY OFFERING, 2024–2030 (USD MILLION)

TABLE 369 EUROPE: GENERATIVE AI SOFTWARE MARKET, BY TYPE, 2019–2023 (USD MILLION)

TABLE 370 EUROPE: GENERATIVE AI SOFTWARE MARKET, BY TYPE, 2024–2030 (USD MILLION)

TABLE 371 EUROPE: GENERATIVE AI SOFTWARE MARKET, BY DEPLOYMENT MODE, 2019–2023 (USD MILLION)

TABLE 372 EUROPE: GENERATIVE AI SOFTWARE MARKET, BY DEPLOYMENT MODE, 2024–2030 (USD MILLION)

TABLE 373 EUROPE: GENERATIVE AI MARKET, BY SERVICE, 2019–2023 (USD MILLION)

TABLE 374 EUROPE: GENERATIVE AI MARKET, BY SERVICE, 2024–2030 (USD MILLION)

TABLE 375 EUROPE: GENERATIVE AI MARKET, BY DATA MODALITY, 2019–2023 (USD MILLION)

TABLE 376 EUROPE: GENERATIVE AI MARKET, BY DATA MODALITY, 2024–2030 (USD MILLION)

TABLE 377 EUROPE: GENERATIVE AI MARKET, BY APPLICATION, 2019–2023 (USD MILLION)

TABLE 378 EUROPE: GENERATIVE AI MARKET, BY APPLICATION, 2024–2030 (USD MILLION)

TABLE 379 EUROPE: GENERATIVE AI MARKET, BY VERTICAL, 2019–2023 (USD MILLION)

TABLE 380 EUROPE: GENERATIVE AI MARKET, BY VERTICAL, 2024–2030 (USD MILLION)

TABLE 381 EUROPE: GENERATIVE AI MARKET, BY COUNTRY, 2019–2023 (USD MILLION)

TABLE 382 EUROPE: GENERATIVE AI MARKET, BY COUNTRY, 2024–2030 (USD MILLION)

10.3.3 UK

TABLE 383 UK: GENERATIVE AI MARKET, BY OFFERING, 2019–2023 (USD MILLION)

TABLE 384 UK: GENERATIVE AI MARKET, BY OFFERING, 2024–2030 (USD MILLION)

10.3.4 GERMANY

TABLE 385 GERMANY: GENERATIVE AI MARKET, BY OFFERING, 2019–2023 (USD MILLION)

TABLE 386 GERMANY: GENERATIVE AI MARKET, BY OFFERING, 2024–2030 (USD MILLION)

10.3.5 FRANCE

TABLE 387 FRANCE: GENERATIVE AI MARKET, BY OFFERING, 2019–2023 (USD MILLION)

TABLE 388 FRANCE: GENERATIVE AI MARKET, BY OFFERING, 2024–2030 (USD MILLION)

10.3.6 ITALY

TABLE 389 ITALY: GENERATIVE AI MARKET, BY OFFERING, 2019–2023 (USD MILLION)

TABLE 390 ITALY: GENERATIVE AI MARKET, BY OFFERING, 2024–2030 (USD MILLION)

10.3.7 SPAIN

TABLE 391 SPAIN: GENERATIVE AI MARKET, BY OFFERING, 2019–2023 (USD MILLION)

TABLE 392 SPAIN: GENERATIVE AI MARKET, BY OFFERING, 2024–2030 (USD MILLION)

10.3.8 FINLAND

TABLE 393 FINLAND: GENERATIVE AI MARKET, BY OFFERING, 2019–2023 (USD MILLION)

TABLE 394 FINLAND: GENERATIVE AI MARKET, BY OFFERING, 2024–2030 (USD MILLION)

10.3.9 REST OF EUROPE

TABLE 395 REST OF EUROPE: GENERATIVE AI MARKET, BY OFFERING, 2019–2023 (USD MILLION)

TABLE 396 REST OF EUROPE: GENERATIVE AI MARKET, BY OFFERING, 2024–2030 (USD MILLION)

10.4 ASIA PACIFIC

10.4.1 ASIA PACIFIC: GENERATIVE AI MARKET DRIVERS

10.4.2 ASIA PACIFIC: RECESSION IMPACT

FIGURE 87 ASIA PACIFIC: GENERATIVE AI MARKET SNAPSHOT

TABLE 397 ASIA PACIFIC: GENERATIVE AI MARKET, BY OFFERING, 2019–2023 (USD MILLION)

TABLE 398 ASIA PACIFIC: GENERATIVE AI MARKET, BY OFFERING, 2024–2030 (USD MILLION)

TABLE 399 ASIA PACIFIC: GENERATIVE AI SOFTWARE MARKET, BY TYPE, 2019–2023 (USD MILLION)

TABLE 400 ASIA PACIFIC: GENERATIVE AI SOFTWARE MARKET, BY TYPE, 2024–2030 (USD MILLION)

TABLE 401 ASIA PACIFIC: GENERATIVE AI SOFTWARE MARKET, BY DEPLOYMENT MODE, 2019–2023 (USD MILLION)

TABLE 402 ASIA PACIFIC: GENERATIVE AI SOFTWARE MARKET, BY DEPLOYMENT MODE, 2024–2030 (USD MILLION)

TABLE 403 ASIA PACIFIC: GENERATIVE AI MARKET, BY SERVICE, 2019–2023 (USD MILLION)

TABLE 404 ASIA PACIFIC: GENERATIVE AI MARKET, BY SERVICE, 2024–2030 (USD MILLION)

TABLE 405 ASIA PACIFIC: GENERATIVE AI MARKET, BY DATA MODALITY, 2019–2023 (USD MILLION)

TABLE 406 ASIA PACIFIC: GENERATIVE AI MARKET, BY DATA MODALITY, 2024–2030 (USD MILLION)

TABLE 407 ASIA PACIFIC: GENERATIVE AI MARKET, BY APPLICATION, 2019–2023 (USD MILLION)

TABLE 408 ASIA PACIFIC: GENERATIVE AI MARKET, BY APPLICATION, 2024–2030 (USD MILLION)

TABLE 409 ASIA PACIFIC: GENERATIVE AI MARKET, BY VERTICAL, 2019–2023

(USD MILLION)

TABLE 410 ASIA PACIFIC: GENERATIVE AI MARKET, BY VERTICAL, 2024–2030

(USD MILLION)

TABLE 411 ASIA PACIFIC: GENERATIVE AI MARKET, BY COUNTRY, 2019–2023

(USD MILLION)

TABLE 412 ASIA PACIFIC: GENERATIVE AI MARKET, BY COUNTRY, 2024–2030

(USD MILLION)

10.4.3 CHINA

TABLE 413 CHINA: GENERATIVE AI MARKET, BY OFFERING, 2019–2023 (USD MILLION)

TABLE 414 CHINA: GENERATIVE AI MARKET, BY OFFERING, 2024–2030 (USD MILLION)

10.4.4 INDIA

TABLE 415 INDIA: GENERATIVE AI MARKET, BY OFFERING, 2019–2023 (USD MILLION)

TABLE 416 INDIA: GENERATIVE AI MARKET, BY OFFERING, 2024–2030 (USD MILLION)

10.4.5 JAPAN

TABLE 417 JAPAN: GENERATIVE AI MARKET, BY OFFERING, 2019–2023 (USD MILLION)

TABLE 418 JAPAN: GENERATIVE AI MARKET, BY OFFERING, 2024–2030 (USD MILLION)

10.4.6 SOUTH KOREA

10.4.6.1 Success and failure factors for generative AI-based startups

FIGURE 88 SOUTH KOREA: SUCCESS AND FAILURE FACTORS FOR GENERATIVE AI STARTUPS

10.4.6.1.1 Success factors

10.4.6.1.1.1 Large language model (LLM)-based startups attract hefty investments

FIGURE 89 INVESTMENTS IN LARGE LANGUAGE MODEL OPERATIONS (LLMOPS), BY CATEGORY, 2023 (USD MILLION)

10.4.6.1.1.2 Developing ‘enterprise context’ generative AI solutions to help startups gain competitive edge

10.4.6.1.1.3 Startups seeking alternatives to AI chipset shortages to enjoy lower operational expenditures

FIGURE 90 NUMBER OF IMAGES GENERATED PER HOUR VIA STABLE DIFFUSION MODEL, BY GPU TYPE

10.4.6.1.1.4 Startups focusing on developing multimodal generative AI solutions to gain untapped potential

10.4.6.1.2 Failure factors

10.4.6.1.2.1 High cost of model training & inference optimization

FIGURE 91 TRAINING COSTS PER MILLION PARAMETERS FOR VARIOUS GPT-3 BASED LLMS, 2022 (USD)

10.4.6.1.2.2 Most generative AI startups are merely 'AI wrappers' with very thin layers above foundational models

10.4.6.1.2.3 Generative AI startups struggle to source proprietary training data

10.4.6.2 Strategies employed by successful generative AI companies in various sectors

10.4.6.2.1 Healthcare & life sciences

10.4.6.2.1.1 OpenAI and Oscar Health

10.4.6.2.1.2 AWS and 3M Health Information Systems (HIS)

10.4.6.2.2 BFSI

10.4.6.2.2.1 Microsoft and KPMG Australia

10.4.6.2.2.2 NVIDIA and Wealthsimple

10.4.6.2.3 Retail & eCommerce

10.4.6.2.3.1 Synthesia and BESTSELLER

10.4.6.2.3.2 Microsoft and Fashable

10.4.6.2.4 IT & ITeS

10.4.6.2.4.1 AWS and Salesforce

10.4.6.2.4.2 NVIDIA and Perplexity

10.4.6.2.5 Manufacturing

10.4.6.2.5.1 C3.ai and Multinational Manufacturing Group

10.4.6.2.5.2 Google and US Steel

10.4.6.2.6 Media & entertainment

10.4.6.2.6.1 Inworld AI and Disney

10.4.6.2.6.2 Fireflies and DigitalBull Go

10.4.6.2.7 Telecommunications

10.4.6.2.7.1 NVIDIA and KT Corporation

10.4.6.2.7.2 Microsoft and AT&T

10.4.6.3 Business models that have facilitated startup growth into unicorn companies

FIGURE 92 GENERATIVE AI UNICORNS AS OF DECEMBER 2023

TABLE 419 GENERATIVE AI UNICORNS: BUSINESS MODELS

10.4.6.4 Comparative analysis of business models between Korean firms and global players in generative AI market

TABLE 420 SOUTH KOREA: GENERATIVE AI STARTUPS, BY BUSINESS MODEL

10.4.6.5 Where Korean firms are lagging in generative AI compared to global players

10.4.6.6 Generative AI startup profiles

TABLE 421 SOUTH KOREA: GENERATIVE AI STARTUP PROFILES

TABLE 422 SOUTH KOREA: GENERATIVE AI MARKET, BY OFFERING, 2019–2023

(USD MILLION)

TABLE 423 SOUTH KOREA: GENERATIVE AI MARKET, BY OFFERING, 2024–2030

(USD MILLION)

TABLE 424 SOUTH KOREA: GENERATIVE AI SOFTWARE MARKET, BY TYPE,
2019–2023 (USD MILLION)

TABLE 425 SOUTH KOREA: GENERATIVE AI SOFTWARE MARKET, BY TYPE,
2024–2030 (USD MILLION)

TABLE 426 SOUTH KOREA: GENERATIVE AI MARKET, BY SERVICE, 2019–2023
(USD MILLION)

TABLE 427 SOUTH KOREA: GENERATIVE AI MARKET, BY SERVICE, 2024–2030
(USD MILLION)

TABLE 428 SOUTH KOREA: GENERATIVE AI MARKET, BY DATA MODALITY,
2019–2023 (USD MILLION)

TABLE 429 SOUTH KOREA: GENERATIVE AI MARKET, BY DATA MODALITY,
2024–2030 (USD MILLION)

TABLE 430 SOUTH KOREA: GENERATIVE AI MARKET, BY APPLICATION,
2019–2023 (USD MILLION)

TABLE 431 SOUTH KOREA: GENERATIVE AI MARKET, BY APPLICATION,
2024–2030 (USD MILLION)

TABLE 432 SOUTH KOREA: GENERATIVE AI MARKET IN BUSINESS
INTELLIGENCE & VISUALIZATION, BY VERTICAL, 2019–2023 (USD MILLION)

TABLE 433 SOUTH KOREA: GENERATIVE AI MARKET IN BUSINESS
INTELLIGENCE & VISUALIZATION, BY VERTICAL, 2024–2030 (USD MILLION)

TABLE 434 SOUTH KOREA: GENERATIVE AI MARKET IN CONTENT
MANAGEMENT, BY VERTICAL, 2019–2023 (USD MILLION)

TABLE 435 SOUTH KOREA: GENERATIVE AI MARKET IN CONTENT
MANAGEMENT, BY VERTICAL, 2024–2030 (USD MILLION)

TABLE 436 SOUTH KOREA: GENERATIVE AI MARKET IN SYNTHETIC DATA
MANAGEMENT, BY VERTICAL, 2019–2023 (USD MILLION)

TABLE 437 SOUTH KOREA: GENERATIVE AI MARKET IN SYNTHETIC DATA
MANAGEMENT, BY VERTICAL, 2024–2030 (USD MILLION)

TABLE 438 SOUTH KOREA: GENERATIVE AI MARKET IN SEARCH & DISCOVERY,
BY VERTICAL, 2019–2023 (USD MILLION)

TABLE 439 SOUTH KOREA: GENERATIVE AI MARKET IN SEARCH & DISCOVERY,
BY VERTICAL, 2024–2030 (USD MILLION)

TABLE 440 SOUTH KOREA: GENERATIVE AI MARKET IN AUTOMATION &
INTEGRATION, BY VERTICAL, 2019–2023 (USD MILLION)

TABLE 441 SOUTH KOREA: GENERATIVE AI MARKET IN AUTOMATION &
INTEGRATION, BY VERTICAL, 2024–2030 (USD MILLION)

TABLE 442 SOUTH KOREA: GENERATIVE AI MARKET IN GENERATIVE DESIGN AI, BY VERTICAL, 2019–2023 (USD MILLION)

TABLE 443 SOUTH KOREA: GENERATIVE AI MARKET IN GENERATIVE DESIGN AI, BY VERTICAL, 2024–2030 (USD MILLION)

TABLE 444 SOUTH KOREA: GENERATIVE AI MARKET IN OTHER APPLICATIONS, BY VERTICAL, 2019–2023 (USD MILLION)

TABLE 445 SOUTH KOREA: GENERATIVE AI MARKET IN OTHER APPLICATIONS, BY VERTICAL, 2024–2030 (USD MILLION)

TABLE 446 SOUTH KOREA: GENERATIVE AI MARKET IN BUSINESS INTELLIGENCE & VISUALIZATION, BY SUBAPPLICATION, 2019–2023 (USD MILLION)

TABLE 447 SOUTH KOREA: GENERATIVE AI MARKET IN BUSINESS INTELLIGENCE & VISUALIZATION, BY SUBAPPLICATION, 2024–2030 (USD MILLION)

TABLE 448 SOUTH KOREA: GENERATIVE AI MARKET IN CONTENT MANAGEMENT, BY SUBAPPLICATION, 2019–2023 (USD MILLION)

TABLE 449 SOUTH KOREA: GENERATIVE AI MARKET IN CONTENT MANAGEMENT, BY SUBAPPLICATION, 2024–2030 (USD MILLION)

TABLE 450 SOUTH KOREA: GENERATIVE AI MARKET IN SYNTHETIC DATA MANAGEMENT, BY SUBAPPLICATION, 2019–2023 (USD MILLION)

TABLE 451 SOUTH KOREA: GENERATIVE AI MARKET IN SYNTHETIC DATA MANAGEMENT, BY SUBAPPLICATION, 2024–2030 (USD MILLION)

TABLE 452 SOUTH KOREA: GENERATIVE AI MARKET IN SEARCH & DISCOVERY, 2019–2023 (USD MILLION)

TABLE 453 SOUTH KOREA: GENERATIVE AI MARKET IN SEARCH & DISCOVERY, 2024–2030 (USD MILLION)

TABLE 454 SOUTH KOREA: GENERATIVE AI MARKET IN AUTOMATION & INTEGRATION, BY SUBAPPLICATION, 2019–2023 (USD MILLION)

TABLE 455 SOUTH KOREA: GENERATIVE AI MARKET IN AUTOMATION & INTEGRATION, BY SUBAPPLICATION, 2024–2030 (USD MILLION)

TABLE 456 SOUTH KOREA: GENERATIVE AI MARKET IN CYBERSECURITY INTELLIGENCE, BY SUBAPPLICATION, 2019–2023 (USD MILLION)

TABLE 457 SOUTH KOREA: GENERATIVE AI MARKET IN CYBERSECURITY INTELLIGENCE, BY SUBAPPLICATION, 2024–2030 (USD MILLION)

TABLE 458 SOUTH KOREA: GENERATIVE AI MARKET IN GENERATIVE DESIGN AI, BY SUBAPPLICATION, 2019–2023 (USD MILLION)

TABLE 459 SOUTH KOREA: GENERATIVE AI MARKET IN GENERATIVE DESIGN AI, BY SUBAPPLICATION, 2024–2030 (USD MILLION)

TABLE 460 SOUTH KOREA: GENERATIVE AI MARKET, BY VERTICAL, 2019–2023

(USD MILLION)

TABLE 461 SOUTH KOREA: GENERATIVE AI MARKET, BY VERTICAL, 2024–2030

(USD MILLION)

TABLE 462 SOUTH KOREA: GENERATIVE AI MARKET IN MEDIA & ENTERTAINMENT, BY DATA MODALITY, 2019–2023 (USD MILLION)

TABLE 463 SOUTH KOREA: GENERATIVE AI MARKET IN MEDIA & ENTERTAINMENT, BY DATA MODALITY, 2024–2030 (USD MILLION)

TABLE 464 SOUTH KOREA: GENERATIVE AI MARKET IN TRANSPORTATION & LOGISTICS, BY DATA MODALITY, 2019–2023 (USD MILLION)

TABLE 465 SOUTH KOREA: GENERATIVE AI MARKET IN TRANSPORTATION & LOGISTICS, BY DATA MODALITY, 2024–2030 (USD MILLION)

TABLE 466 SOUTH KOREA: GENERATIVE AI MARKET IN MANUFACTURING, BY DATA MODALITY, 2019–2023 (USD MILLION)

TABLE 467 SOUTH KOREA: GENERATIVE AI MARKET IN MANUFACTURING, BY DATA MODALITY, 2024–2030 (USD MILLION)

TABLE 468 SOUTH KOREA: GENERATIVE AI MARKET IN HEALTHCARE & LIFE SCIENCES, BY DATA MODALITY, 2019–2023 (USD MILLION)

TABLE 469 SOUTH KOREA: GENERATIVE AI MARKET IN HEALTHCARE & LIFE SCIENCES, BY DATA MODALITY, 2024–2030 (USD MILLION)

TABLE 470 SOUTH KOREA: GENERATIVE AI MARKET IN IT & ITES, BY DATA MODALITY, 2019–2023 (USD MILLION)

TABLE 471 SOUTH KOREA: GENERATIVE AI MARKET IN IT & ITES, BY DATA MODALITY, 2024–2030 (USD MILLION)

TABLE 472 SOUTH KOREA: GENERATIVE AI MARKET IN CONSTRUCTION & REAL ESTATE, BY DATA MODALITY, 2019–2023 (USD MILLION)

TABLE 473 SOUTH KOREA: GENERATIVE AI MARKET IN CONSTRUCTION & REAL ESTATE, BY DATA MODALITY, 2024–2030 (USD MILLION)

TABLE 474 SOUTH KOREA: GENERATIVE AI MARKET IN BFSI, BY DATA MODALITY, 2019–2023 (USD MILLION)

TABLE 475 SOUTH KOREA: GENERATIVE AI MARKET IN BFSI, BY DATA MODALITY, 2024–2030 (USD MILLION)

TABLE 476 SOUTH KOREA: GENERATIVE AI MARKET IN ENERGY & UTILITIES, BY DATA MODALITY, 2019–2023 (USD MILLION)

TABLE 477 SOUTH KOREA: GENERATIVE AI MARKET IN ENERGY & UTILITIES, BY DATA MODALITY, 2024–2030 (USD MILLION)

TABLE 478 SOUTH KOREA: GENERATIVE AI MARKET IN RETAIL & ECOMMERCE, BY DATA MODALITY, 2019–2023 (USD MILLION)

TABLE 479 SOUTH KOREA: GENERATIVE AI MARKET IN RETAIL & ECOMMERCE, BY DATA MODALITY, 2024–2030 (USD MILLION)

TABLE 480 SOUTH KOREA: GENERATIVE AI MARKET IN GOVERNMENT & DEFENSE, BY DATA MODALITY, 2019–2023 (USD MILLION)

TABLE 481 SOUTH KOREA: GENERATIVE AI MARKET IN GOVERNMENT & DEFENSE, BY DATA MODALITY, 2024–2030 (USD MILLION)

TABLE 482 SOUTH KOREA: GENERATIVE AI MARKET IN TELECOMMUNICATIONS, BY DATA MODALITY, 2019–2023 (USD MILLION)

TABLE 483 SOUTH KOREA: GENERATIVE AI MARKET IN TELECOMMUNICATIONS, BY DATA MODALITY, 2024–2030 (USD MILLION)

TABLE 484 SOUTH KOREA: GENERATIVE AI MARKET IN OTHER VERTICALS, BY DATA MODALITY, 2019–2023 (USD MILLION)

TABLE 485 SOUTH KOREA: GENERATIVE AI MARKET IN OTHER VERTICALS, BY DATA MODALITY, 2024–2030 (USD MILLION)

10.4.7 SINGAPORE

TABLE 486 SINGAPORE: GENERATIVE AI MARKET, BY OFFERING, 2019–2023 (USD MILLION)

TABLE 487 SINGAPORE: GENERATIVE AI MARKET, BY OFFERING, 2024–2030 (USD MILLION)

10.4.8 AUSTRALIA & NEW ZEALAND

TABLE 488 AUSTRALIA & NEW ZEALAND: GENERATIVE AI MARKET, BY OFFERING, 2019–2023 (USD MILLION)

TABLE 489 AUSTRALIA & NEW ZEALAND: GENERATIVE AI MARKET, BY OFFERING, 2024–2030 (USD MILLION)

10.4.9 REST OF ASIA PACIFIC

TABLE 490 REST OF ASIA PACIFIC: GENERATIVE AI MARKET, BY OFFERING, 2019–2023 (USD MILLION)

TABLE 491 REST OF ASIA PACIFIC: GENERATIVE AI MARKET, BY OFFERING, 2024–2030 (USD MILLION)

10.5 MIDDLE EAST & AFRICA

10.5.1 MIDDLE EAST & AFRICA: GENERATIVE AI MARKET DRIVERS

10.5.2 MIDDLE EAST & AFRICA: RECESSION IMPACT

TABLE 492 MIDDLE EAST & AFRICA: GENERATIVE AI MARKET, BY OFFERING, 2019–2023 (USD MILLION)

TABLE 493 MIDDLE EAST & AFRICA: GENERATIVE AI MARKET, BY OFFERING, 2024–2030 (USD MILLION)

TABLE 494 MIDDLE EAST & AFRICA: GENERATIVE AI SOFTWARE MARKET, BY TYPE, 2019–2023 (USD MILLION)

TABLE 495 MIDDLE EAST & AFRICA: GENERATIVE AI SOFTWARE MARKET, BY TYPE, 2024–2030 (USD MILLION)

TABLE 496 MIDDLE EAST & AFRICA: GENERATIVE AI SOFTWARE MARKET, BY

DEPLOYMENT MODE, 2019–2023 (USD MILLION)

TABLE 497 MIDDLE EAST & AFRICA: GENERATIVE AI SOFTWARE MARKET, BY DEPLOYMENT MODE, 2024–2030 (USD MILLION)

TABLE 498 MIDDLE EAST & AFRICA: GENERATIVE AI MARKET, BY SERVICE, 2019–2023 (USD MILLION)

TABLE 499 MIDDLE EAST & AFRICA: GENERATIVE AI MARKET, BY SERVICE, 2024–2030 (USD MILLION)

TABLE 500 MIDDLE EAST & AFRICA: GENERATIVE AI MARKET, BY DATA MODALITY, 2019–2023 (USD MILLION)

TABLE 501 MIDDLE EAST & AFRICA: GENERATIVE AI MARKET, BY DATA MODALITY, 2024–2030 (USD MILLION)

TABLE 502 MIDDLE EAST & AFRICA: GENERATIVE AI MARKET, BY APPLICATION, 2019–2023 (USD MILLION)

TABLE 503 MIDDLE EAST & AFRICA: GENERATIVE AI MARKET, BY APPLICATION, 2024–2030 (USD MILLION)

TABLE 504 MIDDLE EAST & AFRICA: GENERATIVE AI MARKET, BY VERTICAL, 2019–2023 (USD MILLION)

TABLE 505 MIDDLE EAST & AFRICA: GENERATIVE AI MARKET, BY VERTICAL, 2024–2030 (USD MILLION)

TABLE 506 MIDDLE EAST & AFRICA: GENERATIVE AI MARKET, BY COUNTRY, 2019–2023 (USD MILLION)

TABLE 507 MIDDLE EAST & AFRICA: GENERATIVE AI MARKET, BY COUNTRY, 2024–2030 (USD MILLION)

10.5.3 SAUDI ARABIA

TABLE 508 SAUDI ARABIA: GENERATIVE AI MARKET, BY OFFERING, 2019–2023 (USD MILLION)

TABLE 509 SAUDI ARABIA: GENERATIVE AI MARKET, BY OFFERING, 2024–2030 (USD MILLION)

10.5.4 UAE

TABLE 510 UAE: GENERATIVE AI MARKET, BY OFFERING, 2019–2023 (USD MILLION)

TABLE 511 UAE: GENERATIVE AI MARKET, BY OFFERING, 2024–2030 (USD MILLION)

10.5.5 SOUTH AFRICA

TABLE 512 SOUTH AFRICA: GENERATIVE AI MARKET, BY OFFERING, 2019–2023 (USD MILLION)

TABLE 513 SOUTH AFRICA: GENERATIVE AI MARKET, BY OFFERING, 2024–2030 (USD MILLION)

10.5.6 TURKEY

TABLE 514 TURKEY: GENERATIVE AI MARKET, BY OFFERING, 2019–2023 (USD MILLION)

TABLE 515 TURKEY: GENERATIVE AI MARKET, BY OFFERING, 2024–2030 (USD MILLION)

10.5.7 REST OF MIDDLE EAST & AFRICA

TABLE 516 REST OF MIDDLE EAST & AFRICA: GENERATIVE AI MARKET, BY OFFERING, 2019–2023 (USD MILLION)

TABLE 517 REST OF MIDDLE EAST & AFRICA: GENERATIVE AI MARKET, BY OFFERING, 2024–2030 (USD MILLION)

10.6 LATIN AMERICA

10.6.1 LATIN AMERICA: GENERATIVE AI MARKET DRIVERS

10.6.2 LATIN AMERICA: RECESSION IMPACT

TABLE 518 LATIN AMERICA: GENERATIVE AI MARKET, BY OFFERING, 2019–2023 (USD MILLION)

TABLE 519 LATIN AMERICA: GENERATIVE AI MARKET, BY OFFERING, 2024–2030 (USD MILLION)

TABLE 520 LATIN AMERICA: GENERATIVE AI SOFTWARE MARKET, BY TYPE, 2019–2023 (USD MILLION)

TABLE 521 LATIN AMERICA: GENERATIVE AI SOFTWARE MARKET, BY TYPE, 2024–2030 (USD MILLION)

TABLE 522 LATIN AMERICA: GENERATIVE AI SOFTWARE MARKET, BY DEPLOYMENT MODE, 2019–2023 (USD MILLION)

TABLE 523 LATIN AMERICA: GENERATIVE AI SOFTWARE MARKET, BY DEPLOYMENT MODE, 2024–2030 (USD MILLION)

TABLE 524 LATIN AMERICA: GENERATIVE AI MARKET, BY SERVICE, 2019–2023 (USD MILLION)

TABLE 525 LATIN AMERICA: GENERATIVE AI MARKET, BY SERVICE, 2024–2030 (USD MILLION)

TABLE 526 LATIN AMERICA: GENERATIVE AI MARKET, BY DATA MODALITY, 2019–2023 (USD MILLION)

TABLE 527 LATIN AMERICA: GENERATIVE AI MARKET, BY DATA MODALITY, 2024–2030 (USD MILLION)

TABLE 528 LATIN AMERICA: GENERATIVE AI MARKET, BY APPLICATION, 2019–2023 (USD MILLION)

TABLE 529 LATIN AMERICA: GENERATIVE AI MARKET, BY APPLICATION, 2024–2030 (USD MILLION)

TABLE 530 LATIN AMERICA: GENERATIVE AI MARKET, BY VERTICAL, 2019–2023 (USD MILLION)

TABLE 531 LATIN AMERICA: GENERATIVE AI MARKET, BY VERTICAL, 2024–2030

(USD MILLION)

TABLE 532 LATIN AMERICA: GENERATIVE AI MARKET, BY COUNTRY, 2019–2023

(USD MILLION)

TABLE 533 LATIN AMERICA: GENERATIVE AI MARKET, BY COUNTRY, 2024–2030

(USD MILLION)

10.6.3 BRAZIL

TABLE 534 BRAZIL: GENERATIVE AI MARKET, BY OFFERING, 2019–2023 (USD MILLION)

TABLE 535 BRAZIL: GENERATIVE AI MARKET, BY OFFERING, 2024–2030 (USD MILLION)

10.6.4 MEXICO

TABLE 536 MEXICO: GENERATIVE AI MARKET, BY OFFERING, 2019–2023 (USD MILLION)

TABLE 537 MEXICO: GENERATIVE AI MARKET, BY OFFERING, 2024–2030 (USD MILLION)

10.6.5 ARGENTINA

TABLE 538 ARGENTINA: GENERATIVE AI MARKET, BY OFFERING, 2019–2023 (USD MILLION)

TABLE 539 ARGENTINA: GENERATIVE AI MARKET, BY OFFERING, 2024–2030 (USD MILLION)

10.6.6 REST OF LATIN AMERICA

TABLE 540 REST OF LATIN AMERICA: GENERATIVE AI MARKET, BY OFFERING, 2019–2023 (USD MILLION)

TABLE 541 REST OF LATIN AMERICA: GENERATIVE AI MARKET, BY OFFERING, 2024–2030 (USD MILLION)

11 COMPETITIVE LANDSCAPE

11.1 OVERVIEW

11.2 KEY PLAYERS STRATEGIES

TABLE 542 OVERVIEW OF STRATEGIES ADOPTED BY KEY GENERATIVE AI VENDORS

11.3 REVENUE ANALYSIS

FIGURE 93 TOP PUBLIC PLAYERS DOMINATED MARKET OVER LAST FIVE YEARS

11.4 MARKET SHARE ANALYSIS

FIGURE 94 SHARE OF LEADING COMPANIES IN GENERATIVE AI MARKET, 2023

11.4.1 MARKET RANKING ANALYSIS

TABLE 543 GENERATIVE AI MARKET: DEGREE OF COMPETITION

11.5 PRODUCT COMPARATIVE ANALYSIS

11.5.1 PRODUCT COMPARATIVE ANALYSIS, BY TEXT GENERATOR

FIGURE 95 PRODUCT COMPARATIVE ANALYSIS, BY TEXT GENERATOR

11.5.1.1 ChatGPT

11.5.1.2 Gemini

11.5.1.3 Claude

11.5.1.4 Amazon Titan

11.5.1.5 Bing

11.5.2 PRODUCT COMPARATIVE ANALYSIS, BY IMAGE GENERATOR

FIGURE 96 PRODUCT COMPARATIVE ANALYSIS, BY IMAGE GENERATOR

11.5.2.1 DALL-E

11.5.2.2 Craiyon

11.5.2.3 Midjourney

11.5.2.4 Stable Diffusion

11.5.2.5 Nightcafe

11.5.3 PRODUCT COMPARATIVE ANALYSIS, BY VIDEO GENERATOR

FIGURE 97 PRODUCT COMPARATIVE ANALYSIS, BY VIDEO GENERATOR

11.5.3.1 Synthesia

11.5.3.2 Lumen5

11.5.3.3 Elai

11.5.3.4 Flexclip

11.5.3.5 VEED.IO

11.5.4 PRODUCT COMPARATIVE ANALYSIS, BY CODE GENERATOR

FIGURE 98 PRODUCT COMPARATIVE ANALYSIS, BY CODE GENERATOR

11.5.4.1 Codex

11.5.4.2 PyCharm

11.5.4.3 Tabnine

11.5.4.4 Codota

11.5.4.5 SourceAI

11.5.5 PRODUCT COMPARATIVE ANALYSIS, BY AUDIO & SPEECH GENERATOR

FIGURE 99 PRODUCT COMPARATIVE ANALYSIS, BY AUDIO & SPEECH GENERATOR

11.5.5.1 Speechify

11.5.5.2 Play.ht

11.5.5.3 Murf.AI

11.5.5.4 Aiva

11.5.5.5 OpenAI Jukebox

11.6 COMPANY VALUATION AND FINANCIAL METRICS OF KEY VENDORS

FIGURE 100 COMPANY VALUATION AND FINANCIAL METRICS OF KEY VENDORS

FIGURE 101 YEAR-TO-DATE (YTD) PRICE TOTAL RETURN AND 5-YEAR STOCK BETA OF KEY VENDORS

11.7 COMPANY EVALUATION MATRIX: KEY PLAYERS

11.7.1 STARS

11.7.2 EMERGING LEADERS

11.7.3 PERVASIVE PLAYERS

11.7.4 PARTICIPANTS

FIGURE 102 GENERATIVE AI MARKET: COMPANY EVALUATION MATRIX (KEY PLAYERS), 2023

11.7.5 COMPANY FOOTPRINT: KEY PLAYERS

11.7.5.1 Overall Company Footprint

FIGURE 103 OVERALL COMPANY FOOTPRINT (18 COMPANIES), 2023

11.7.5.2 Regional Footprint

TABLE 544 REGIONAL FOOTPRINT (18 COMPANIES), 2023

11.7.5.3 Application Footprint

TABLE 545 APPLICATION FOOTPRINT (18 COMPANIES), 2023

11.7.5.4 Vertical Footprint

TABLE 546 VERTICAL FOOTPRINT (18 COMPANIES), 2023

11.7.5.5 Offering Footprint

TABLE 547 OFFERING FOOTPRINT (18 COMPANIES), 2023

11.8 COMPANY EVALUATION MATRIX: STARTUPS/SMES

11.8.1 PROGRESSIVE COMPANIES

11.8.2 RESPONSIVE COMPANIES

11.8.3 DYNAMIC COMPANIES

11.8.4 STARTING BLOCKS

FIGURE 104 GENERATIVE AI MARKET: COMPANY EVALUATION MATRIX (STARTUPS/SMES), 2023

11.8.5 COMPETITIVE BENCHMARKING: STARTUPS/SMES

11.8.5.1 Detailed List of Key Startups/SMEs

TABLE 548 GENERATIVE AI MARKET: DETAILED LIST OF KEY STARTUPS/SMES, 2023

11.8.5.2 Competitive Benchmarking of Key Startups/SMEs

TABLE 549 GENERATIVE AI MARKET: COMPETITIVE BENCHMARKING OF STARTUPS/SMES

11.9 COMPETITIVE SCENARIO AND TRENDS

11.9.1 PRODUCT LAUNCHES & ENHANCEMENTS

TABLE 550 GENERATIVE AI MARKET: PRODUCT LAUNCHES & ENHANCEMENTS, JANUARY 2021–MARCH 2024

11.9.2 DEALS

TABLE 551 GENERATIVE AI MARKET: DEALS, JANUARY 2021–MARCH 2024**12 COMPANY PROFILES****12.1 INTRODUCTION****12.2 KEY PLAYERS**

(Business Overview, Products/Solutions/Services offered, Recent Developments, MnM View)*

12.2.1 MICROSOFT

TABLE 552 MICROSOFT: BUSINESS OVERVIEW

FIGURE 105 MICROSOFT: COMPANY SNAPSHOT

TABLE 553 MICROSOFT: PRODUCTS/SOLUTIONS/SERVICES OFFERED

TABLE 554 MICROSOFT: PRODUCT LAUNCHES & ENHANCEMENTS

TABLE 555 MICROSOFT: DEALS

12.2.2 AWS

TABLE 556 AWS: BUSINESS OVERVIEW

FIGURE 106 AWS: COMPANY SNAPSHOT

TABLE 557 AWS: PRODUCTS/SOLUTIONS/SERVICES OFFERED

TABLE 558 AWS: PRODUCT LAUNCHES & ENHANCEMENTS

TABLE 559 AWS: DEALS

12.2.3 GOOGLE

TABLE 560 GOOGLE: BUSINESS OVERVIEW

FIGURE 107 GOOGLE: COMPANY SNAPSHOT

TABLE 561 GOOGLE: PRODUCTS/SOLUTIONS/SERVICES OFFERED

TABLE 562 GOOGLE: PRODUCT LAUNCHES & ENHANCEMENTS

TABLE 563 GOOGLE: DEALS

12.2.4 ADOBE

TABLE 564 ADOBE: BUSINESS OVERVIEW

FIGURE 108 ADOBE: COMPANY SNAPSHOT

TABLE 565 ADOBE: PRODUCTS/SOLUTIONS/SERVICES OFFERED

TABLE 566 ADOBE: PRODUCT LAUNCHES & ENHANCEMENTS

TABLE 567 ADOBE: DEALS

12.2.5 OPENAI

TABLE 568 OPENAI: BUSINESS OVERVIEW

TABLE 569 OPENAI: PRODUCTS/SOLUTIONS/SERVICES OFFERED

TABLE 570 OPENAI: PRODUCT LAUNCHES & ENHANCEMENTS

TABLE 571 OPENAI: DEALS

12.2.6 IBM

TABLE 572 IBM: BUSINESS OVERVIEW

FIGURE 109 IBM: COMPANY SNAPSHOT

TABLE 573 IBM: PRODUCTS/SOLUTIONS/SERVICES OFFERED

TABLE 574 IBM: PRODUCT LAUNCHES & ENHANCEMENTS

TABLE 575 IBM: DEALS

12.2.7 META

TABLE 576 META: BUSINESS OVERVIEW

FIGURE 110 META: COMPANY SNAPSHOT

TABLE 577 META: PRODUCTS/SOLUTIONS/SERVICES OFFERED

TABLE 578 META: PRODUCT LAUNCHES & ENHANCEMENTS

TABLE 579 META: DEALS

12.2.8 ANTHROPIC

TABLE 580 ANTHROPIC: BUSINESS OVERVIEW

TABLE 581 ANTHROPIC: PRODUCTS/SOLUTIONS/SERVICES OFFERED

TABLE 582 ANTHROPIC: PRODUCT LAUNCHES & ENHANCEMENTS

TABLE 583 ANTHROPIC: DEALS

12.2.9 NVIDIA

TABLE 584 NVIDIA: BUSINESS OVERVIEW

FIGURE 111 NVIDIA: COMPANY SNAPSHOT

TABLE 585 NVIDIA: PRODUCTS/SOLUTIONS/SERVICES OFFERED

TABLE 586 NVIDIA: PRODUCT LAUNCHES & ENHANCEMENTS

TABLE 587 NVIDIA: DEALS

12.2.10 ACCENTURE

TABLE 588 ACCENTURE: BUSINESS OVERVIEW

FIGURE 112 ACCENTURE: COMPANY SNAPSHOT

TABLE 589 ACCENTURE: PRODUCTS/SOLUTIONS/SERVICES OFFERED

TABLE 590 ACCENTURE: DEALS

12.2.11 CAPGEMINI

TABLE 591 CAPGEMINI: BUSINESS OVERVIEW

FIGURE 113 CAPGEMINI: COMPANY SNAPSHOT

TABLE 592 CAPGEMINI: PRODUCTS/SOLUTIONS/SERVICES OFFERED

TABLE 593 CAPGEMINI: PRODUCT LAUNCHES & ENHANCEMENTS

TABLE 594 CAPGEMINI: DEALS

12.2.12 INSILICO MEDICINE

12.2.13 SIMPLIFIED

12.2.14 LUMEN5

12.2.15 AI21 LABS

12.2.16 HUGGING FACE

12.2.17 DIALPAD

12.2.18 PERSADO

12.3 STARTUP/SME PROFILES

12.3.1 LIGHTRICKS

12.3.2 PAIGE.AI

12.3.3 PLAY.HT

12.3.4 SPEECHIFY

12.3.5 MIDJOURNEY

12.3.6 FIREFLIES

12.3.7 SYNTHESIA

12.3.8 MOSTLY AI

12.3.9 CHARACTER.AI

12.3.10 HYPOTENUSE AI

12.3.11 VIABLE

12.3.12 DEFOG.AI

12.3.13 DEEPSEARCH LABS

12.3.14 WRITESONIC

12.3.15 AMBERSEARCH

12.3.16 COPY.AI

12.3.17 SYNTHESIS AI

12.3.18 COLOSSYAN

12.3.19 INFLECTION AI

12.3.20 GLEAN

12.3.21 JASPER

12.3.22 RUNWAY

12.3.23 INWORLD AI

12.3.24 TYPEFACE

12.3.25 INSTADEEP

12.3.26 FORETHOUGHT

12.3.27 TOGETHER AI

12.3.28 UPSTAGE

12.3.29 MISTRAL AI

12.3.30 ADEPT

12.3.31 MOSAIC ML

12.3.32 STABILITY AI

12.3.33 COHERE

12.4 OPEN-SOURCE COMPANIES

12.4.1 GFP-GAN

12.4.2 FONTJOY

12.4.3 ELEUTHERAI

12.4.4 STARRYAI

12.4.5 MAGIC STUDIO

12.4.6 BAICHUAN AI

12.4.7 SALESFORCE

12.4.8 TECHNOLOGY INNOVATION INSTITUTE

12.4.9 ABACUS.AI

12.4.10 OPENLM

*Details on Business Overview, Products/Solutions/Services offered, Recent Developments, MnM View might not be captured in case of unlisted companies.

13 ADJACENT AND RELATED MARKETS

13.1 INTRODUCTION

13.2 CONVERSATIONAL AI MARKET - GLOBAL FORECAST TO 2028

13.2.1 MARKET DEFINITION

13.2.2 MARKET OVERVIEW

13.2.2.1 Conversational AI market, by offering

TABLE 595 CONVERSATIONAL AI MARKET, BY OFFERING, 2018–2022 (USD MILLION)

TABLE 596 CONVERSATIONAL AI MARKET, BY OFFERING, 2023–2028 (USD MILLION)

13.2.2.2 Conversational AI market, by business function

TABLE 597 CONVERSATIONAL AI MARKET, BY BUSINESS FUNCTION, 2018–2022 (USD MILLION)

TABLE 598 CONVERSATIONAL AI MARKET, BY BUSINESS FUNCTION, 2023–2028 (USD MILLION)

13.2.2.3 Conversational AI market, by channel

TABLE 599 CONVERSATIONAL AI MARKET, BY CHANNEL, 2018–2022 (USD MILLION)

TABLE 600 CONVERSATIONAL AI MARKET, BY CHANNEL, 2023–2028 (USD MILLION)

13.2.2.4 Conversational AI market, by vertical

TABLE 601 CONVERSATIONAL AI MARKET, BY VERTICAL, 2018–2022 (USD MILLION)

TABLE 602 CONVERSATIONAL AI MARKET, BY VERTICAL, 2023–2028 (USD MILLION)

13.2.2.5 Conversational AI market, by region

TABLE 603 CONVERSATIONAL AI MARKET, BY REGION, 2018–2022 (USD MILLION)

TABLE 604 CONVERSATIONAL AI MARKET, BY REGION, 2023–2028 (USD

MILLION)

13.3 CHATBOT MARKET - GLOBAL FORECAST TO 2028

13.3.1 MARKET DEFINITION

13.3.2 MARKET OVERVIEW

13.3.2.1 Chatbot market, by offering

TABLE 605 CHATBOT MARKET, BY OFFERING, 2017–2022 (USD MILLION)

TABLE 606 CHATBOT MARKET, BY OFFERING, 2023–2028 (USD MILLION)

13.3.2.2 Chatbot market, by type

TABLE 607 CHATBOT MARKET, BY TYPE, 2017–2022 (USD MILLION)

TABLE 608 CHATBOT MARKET, BY TYPE, 2023–2028 (USD MILLION)

13.3.2.3 Chatbot market, by channel integration

TABLE 609 CHATBOT MARKET, BY CHANNEL INTEGRATION, 2017–2022 (USD MILLION)

TABLE 610 CHATBOT MARKET, BY CHANNEL INTEGRATION, 2023–2028 (USD MILLION)

13.3.2.4 Chatbot market, by vertical

TABLE 611 CHATBOT MARKET, BY VERTICAL, 2017–2022 (USD MILLION)

TABLE 612 CHATBOT MARKET, BY VERTICAL, 2023–2028 (USD MILLION)

13.3.2.5 Chatbot market, by region

TABLE 613 CHATBOT MARKET, BY REGION, 2017–2022 (USD MILLION)

TABLE 614 CHATBOT MARKET, BY REGION, 2023–2028 (USD MILLION)

14 APPENDIX

14.1 DISCUSSION GUIDE

14.2 KNOWLEDGESTORE: MARKETSANDMARKETS' SUBSCRIPTION PORTAL

14.3 CUSTOMIZATION OPTIONS

14.4 RELATED REPORTS

14.5 AUTHOR DETAILS

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