



شركة وادي الرياض
Riyadh Valley Co



Multi-Agent AI Systems

Orchestrating Autonomous Intelligence across Enterprise Ecosystems

October, 2026

Riyadh Valley Company

Growth by Innovation

Riyadh Valley Co. A Quality Shift towards the Future



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Based on the company's stated purposes in the Articles of Association, the following main activities have been identified:

1

Venture Capital
Investments

2

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3

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Introduction

Imagine a company where specialized AI agents collaborate much like a high-performing workforce: one agent analyzes data, another plans actions, a third executes tasks, and a fourth validates outcomes. What was once a vision of autonomous digital organizations is rapidly becoming a reality. The evolution of artificial intelligence is entering a new phase, shifting from isolated AI assistants that support human decision-making to multi-agent systems (MAS) capable of coordinating complex workflows, interacting with enterprise systems, and driving business outcomes with minimal human intervention.

This transition is reshaping how organizations approach automation, productivity, and innovation. Powered by advances in large language models (LLMs), cloud infrastructure, and orchestration frameworks, multi-agent AI systems are enabling enterprises to decompose complex problems into specialized tasks executed by networks of autonomous agents. As a result, organizations are moving beyond experimentation with generative AI toward agentic architectures that can reason, collaborate, and act.

The market momentum reflects this shift, with the global multi-agent AI market projected to grow from USD 7.9 billion in 2024 to reach USD 155 billion by 2032, representing a 45.1% CAGR. Adoption is accelerating across manufacturing, financial services, healthcare, professional services, and smart infrastructure, where organizations are increasingly deploying AI agents to automate tasks, improve decision-making, and enhance productivity.

Within this global transformation, the Gulf Cooperation Council (GCC) has emerged as a rapidly growing AI market. Supported by substantial investments in digital infrastructure, sovereign AI strategies, hyperscale cloud partnerships, and national transformation initiatives, the region's broader AI market was valued at USD 6.2 billion in 2025 and is expected to reach USD 23.0 billion by 2034. AI adoption has become widespread, with 84% of GCC organizations using AI in at least one business function and 60% already utilizing AI agents to some extent. However, many organizations remain in the early stages of scaling AI beyond pilot deployments.

Among GCC markets, Saudi Arabia stands at the forefront of this evolution, with a regional market share of 38.7% as of 2025. Driven by Vision 2030 and the National Strategy for Data and AI (NSDAI), the Kingdom has established an ambitious agenda to become a global AI leader. Through large-scale investments in infrastructure, talent development, sovereign AI capabilities, and strategic partnerships, Saudi Arabia is building the foundations for an agentic AI ecosystem spanning key sectors such as energy, financial services, healthcare, and smart cities.

1

Deconstructing Multi-Agent Systems (MAS): Foundations of Distributed AI

Defining the Agentic Paradigm: Core Principles of Collaborative AI Networks

In contemporary Artificial Intelligence, traditional monolithic software and isolated single-agent models increasingly hit operational ceilings when confronted with vast, non-linear real-world challenges. A multi-agent system (MAS) represents a fundamental architectural paradigm shift: transitioning from centralized, single-point AI processing to decentralized networks of autonomous computational entities that collaborate, coordinate, and interact within a shared digital or physical environment.

Unlike single-agent systems, which excel primarily in isolated domains with centralized control (such as recommendation engines or solitary turn-based games), MAS divide complex end-to-end workflows into manageable, specialized sub-tasks. Modern MAS frameworks employ sophisticated orchestration mechanisms, such as hierarchical graphs, contract nets, or dynamic agentic workflows, ensuring agents execute sequential or parallel tasks effectively.

Multi-agent versus single-agent AI systems

Criteria	Multi-agent systems	Single AI agent
Communication	Exchanges contextual information and coordinates actions	Operates independently on discrete tasks
System Scalability	Easily expanded through new or modified agents	Scaling requires retraining or model changes
Task Specialization	Specialized agents for focused micro-tasks	General-purpose model handling diverse tasks
Operational flexibility	Adapts across workflows and business functions	Best suited for standalone applications
Data handling and Processing	Distributed processing for greater efficiency	Centralized processing through unified pipelines

Source: Cognizant

Structural Advantages of Multi-Agent AI Systems



Enhanced Scalability

New agents with distinct capabilities can be added dynamically without requiring complete system refactoring.



Collective Intelligence

Leveraging diverse agent roles (such as planner, coder, evaluator, or researcher) enables emergent problem-solving capabilities superior to any single model acting in isolation.

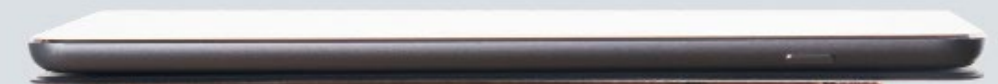


Resilience & Fault Tolerance

The failure or degradation of a single agent does not collapse the overall pipeline, as peer agents can dynamically adapt or take over tasks.



AI agent



Evolution of Agentic Systems: A Timeline

(1940s-1970s)

Foundations of Computing, Logic, and Proto-Agents

Early theorists established the conceptual groundwork for AI through cybernetic feedback loops, neural computational theories (SNARC), and the Turing Test. Digital computing gave rise to early hardware networks, problem-solving search algorithms, physical mobile robots like Shakey, and the Actor Model for message-passing software entities.

(1970s - 1980s)

Expert Systems and Structural Models

Rule-based “expert systems” like MYCIN emerged to emulate human domain expertise using structured knowledge bases and inference engines. Formal agent theories began to crystallize alongside object-oriented programming paradigms.

(1980s - 1990s)

Subsumption and Machine Learning Foundations

Robotics shifted toward reactive, layered architectures like Rodney Brooks’ subsumption model that operated without central world models. Meanwhile, backpropagation algorithms reignited machine learning research, moving agents away from purely hardcoded rules.

(1990s - 2010s)

Distributed AI and Autonomous Frameworks

Researchers formally defined autonomous systems using theoretical frameworks like Belief–Desire–Intention (BDI) and mobile agent architectures. Rapid improvements in hardware, computational power, and dataset sizes propelled deep learning out of the “AI winter.”

(2010s - 2020s)

Deep Learning and LLM Breakthroughs

Deep neural networks enabled machines to master complex perception tasks, speech recognition, and strategic gaming. The emergence of Large Language Models (LLMs) gave systems advanced natural language understanding and reasoning capabilities.

(2020s - Present)

The Prime Agentic Era

AI evolved from passive text generators into autonomous compound systems capable of tool calling, dynamic planning, and memory management. Modern multi-agent frameworks now coordinate autonomous workflows across complex digital environments.

Source: IBM

Key Features and Benefits



Ethics, transparency, and security

Intent-Based Auditability: Agents explicitly record the business intent behind every API call and transaction, creating a transparent, easily auditable trail.

⬡ **Automated Guardrail Agents:** Dedicated oversight agents continuously evaluate peer behaviors, enforcing responsible AI guidelines, ethical standards, and regulatory compliance in real time.

⬡ **Agent-Level Security Policies:** Security controls and permissions are embedded directly into individual agents, establishing a micro-segmented, least-privilege security framework.



Reliability

Built-In Fault Tolerance: Operational failures are isolated to the affected agent, preventing system-wide outages and ensuring graceful degradation and recovery.



Flexibility and scalability

Modularity: The architecture is decoupled, allowing developers to build, update, and scale individual agents independently without risking system downtime.

⬡ **Customizability and extensibility:** New capabilities or specialized agents can be integrated into existing workflows with minimal operational disruption, supporting continuous system evolution.



Optimized efficiency and waste reduction

Task Specialization: Agents focus on specific micro-domain tasks, driving faster, more accurate execution across the software stack.

⬡ **Localized Data Processing:** Agents process data locally and share only essential insights, drastically cutting bandwidth overhead and lowering data transport costs.

⬡ **Dynamic Workload Balancing:** System resources are allocated dynamically based on real-time operational demand and processing load across agents.



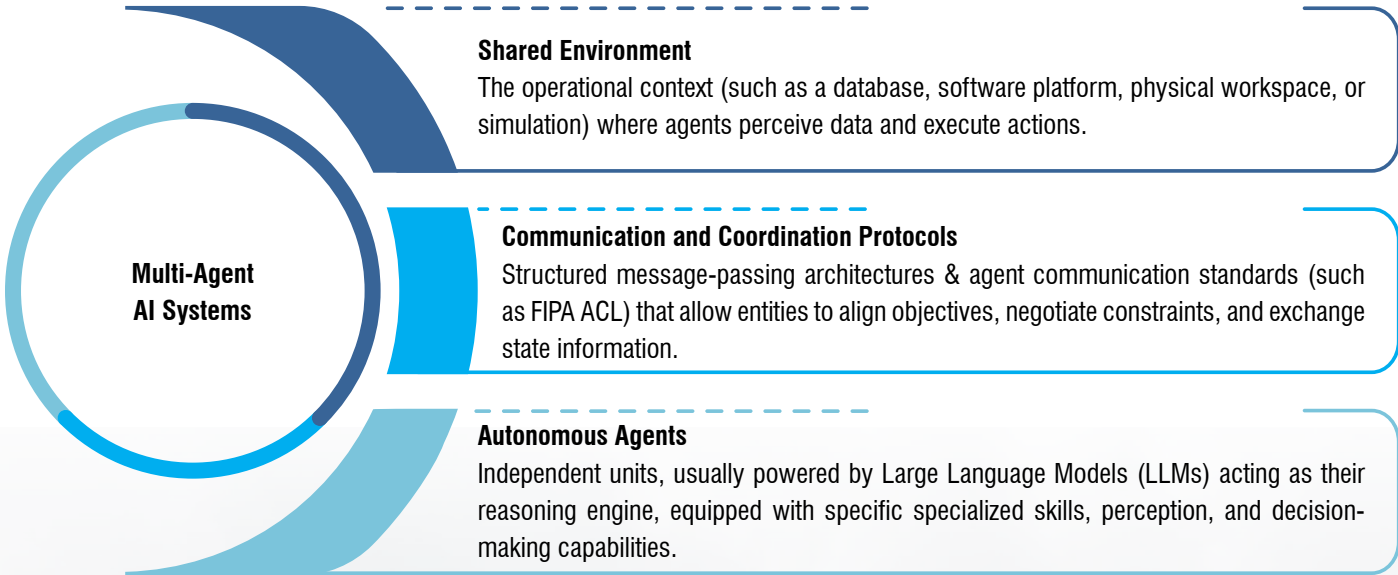
Enhanced user experience

Natural-Language Communication: Inter-agent messaging relies on natural language and intent-driven formats, simplifying cross-agent orchestration and developer debugging.

⬡ **Cross-Platform Interoperability:** Agents interface smoothly with disparate legacy systems, APIs, and third-party tools, providing a unified, cohesive interaction layer across technologies.

Source: Google Cloud, Cognizant

The Core Technology Stack: Frameworks, Orchestration, and Protocols



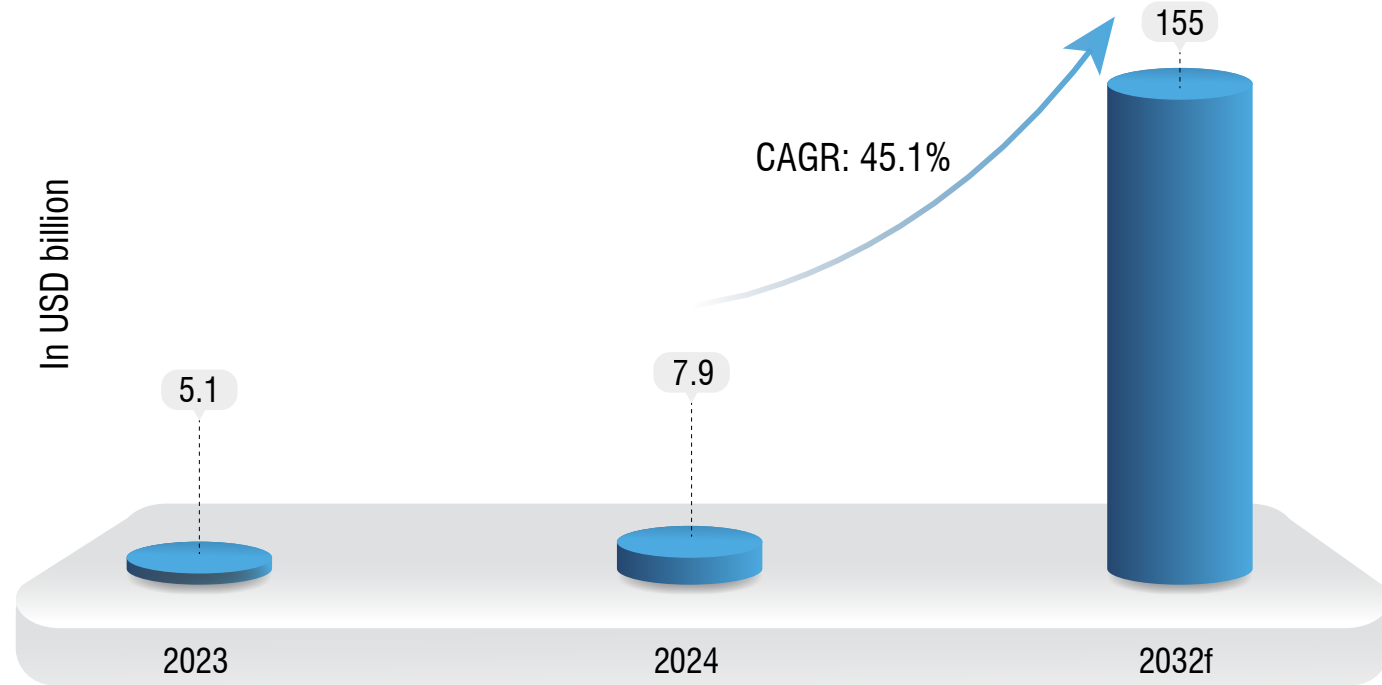
Source: Google Cloud

2 Global AI Landscape: Mapping the Expansion of the Multi-Agent Market

Sizing the Global Opportunity

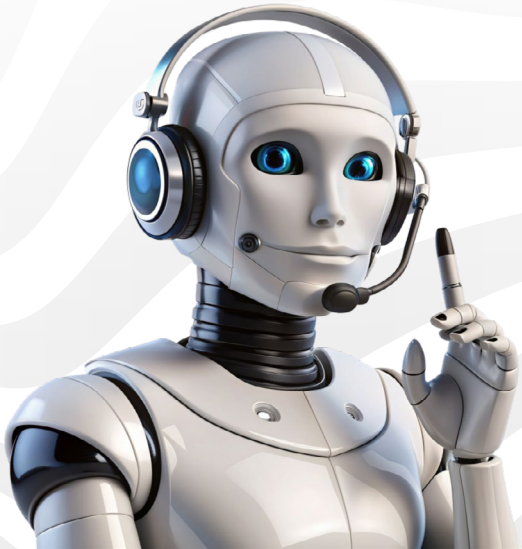
The global multi-agent AI market is experiencing rapid growth, increasing from USD 5.1 billion in 2023 to USD 7.9 billion in 2024, and is projected to reach USD 155 billion by 2032. This expansion represents a 45.1% compound annual growth rate (CAGR), highlighting strong market confidence in agentic AI technologies.

Global Multi-Agent AI Market Size



Source: Intellectual Market Insights Research

The growth is being driven by rising enterprise demand for AI agents that can autonomously execute tasks, collaborate with other agents, and manage complex end-to-end workflows.



Key Drivers Behind the Rapid Transition to Multi-Agent Architectures



Functional Specialization

- **Eliminates Context Overload:** Divides massive tasks among targeted agents rather than overloading a single model.
- **Focused Execution:** Each agent operates with tailored tools, specific system prompts, and strict context boundaries.



Built-In Quality Control

- **Prevents Error Cascade:** Separates planning, execution, and review to catch early mistake propagation.
- **Continuous Verification:** Evaluator agents validate outputs before passing data to the next stage.



Parallel Processing

- **Concurrent Workflows:** Runs independent sub-tasks simultaneously across distributed systems to maximize throughput.
- **Cost & Compute Optimization:** Routes routine tasks to small models, saving high-parameter engines for complex reasoning.



Modular Tool Security

- **Least-Privilege Access:** Compartmentalizes API access and database credentials across specific agents.
- **Safe Integration:** Connects isolated agents securely to external enterprise software and live databases.



Resiliency and Fault Tolerance

- **No Single Point of Failure:** System remains operational even if an individual agent hits an error or API timeout.
- **Dynamic Re-Routing:** Orchestrators automatically retry failed tasks, assign peer agents, or request human input.

Source: IBM, SAP, Cognizant, Google Cloud

Realizing Enterprise ROI: High-Impact Use Cases Across Sectors

Manufacturing

28.5% of 2025 MAS platform revenue comes from manufacturing applications, particularly multi-robot coordination across automotive production and e-commerce fulfillment operations.

Smart cities and infrastructure

Singapore's Nanjing Eco Hi-Tech Island reduced peak electricity demand by 22% through agent-based coordination systems, demonstrating the potential of multi-agent AI in municipal-scale infrastructure management.

Financial Services

Autonomous trading and FinOps is the fastest-growing application segment (47.0% CAGR through 2031), with hedge funds using reinforcement-learning agents that have achieved Sharpe ratios above 2.0 in live trading.

Healthcare

- California-based community healthcare network: AI-powered claims review reduced prior-authorization denials by 22%, non-covered service denials by 18%, and saved 30-35 hours per week in appeals processing.
- Banner Health (US): Automated insurance coverage discovery, claims management, denial handling, appeal generation, and reimbursement prediction using AI-driven workflows.
- Mount Sinai Health System (US): Found that orchestrated multi-agent AI systems outperformed traditional AI models across 80 medical tasks.

Professional Services

KPMG Workbench, an AI-powered platform launched, in 2025 with 50 AI assistants and nearly 1,000 additional agents in development, supporting workforce productivity and knowledge-intensive workflows.

Customer Experience

NiCE's USD 955 million acquisition of Cognigy (2025) strengthened its end-to-end, agent-native customer experience platform, highlighting the growing adoption of AI agents for customer service automation and engagement.

Source: Mordor Intelligence, American Hospital Association, Mount Sinai Health System, KPMG, NiCE, Cognigy, Forbes

Market Challenges, Governance and Security Risks



Lack of skills

Many businesses, especially small and medium-sized enterprises (SMEs), report that their ability to use AI is constrained by a lack of people with the right skills. Around 40% of employers in manufacturing and finance who have not yet adopted AI say that skills are the main reason, as do more than half of SMEs that are not yet using generative AI.



Lack of organizational readiness

AI adoption is often outpacing organizational capabilities, with talent shortages, fragmented operating models, and the growing use of unsanctioned (“shadow AI”) tools creating deployment and oversight challenges.



Data and governance gaps

Many organizations continue to struggle with data quality, data protection, accountability, and AI explainability. The absence of clear ownership & governance frameworks can increase operational, compliance, and reputational risks.



Regulatory and ethical concerns

Evolving AI regulations require stronger controls around transparency, auditability, and responsible AI practices. In addition, organizations must address risks related to bias, fairness, and unintended outcomes in automated decision-making.



Emerging cybersecurity threats

Agentic AI introduces new attack vectors, including prompt injection, model manipulation, data poisoning, and unauthorized agent actions. The use of third-party models, open-source components, and external integrations further expands the attack surface.



Technology concentration & dependency risks

Reliance on a small number of global cloud and AI providers may create concerns around vendor lock-in, strategic autonomy, resilience, and long-term technology flexibility.

Source: OECD: AI and Skills, Cooperative AI Foundation: Multi-Agent Risks from Advanced AI, NIST: Artificial Intelligence Risk Management Framework, ENISA: Identifying Emerging Cybersecurity Threats

Global Players (Incumbents and rising start-ups)

Company	Multi-Agent AI Strategy & Core Focus	Products and Frameworks
 OpenAI	- Provides developer primitives and native API to create subagents. - Delegate parallel sub-tasks. - Execute multi-agent handoffs.	OpenAI Agents SDK, Responses API Multi-Agent.
 ANTHROPIC	- Focuses on multi-agent collaboration patterns - Orchestrator-worker setups - Complex tool manipulation through structured system prompts	Claude Agentic Workflows
 Google	- Delivers enterprise graph-based multi-agent orchestration - Developer frameworks for building multi-agent AI systems	Vertex AI Agent Builder, LangGraph on Vertex AI, Gemini Multimodal Agent APIs
 Microsoft	- Pioneered conversational multi-agent research frameworks - Embeds autonomous multi-agent teams into enterprise productivity suites	Microsoft AutoGen, Copilot Studio, Azure AI Agent Service
 IBM	- Focuses on enterprise governance, hybrid-cloud orchestration - Auditability for multi-agent workflows in regulated industries	watsonxx Orchestrate, IBM Agentic AI Operating Platform
 SAP	Integrates specialized multi-agent networks directly into core Enterprise Resource Planning (ERP) and supply chain processes	Joule, SAP Business Technology Platform (BTP) Agent Framework
 aws	Offers cloud-native, fully managed serverless infrastructure for deploying, coordinating, and scaling enterprise agent fleets securely	Amazon Bedrock Agents, AWS Multi-Agent Orchestration Frameworks
 salesforce	- Replaced static CRM workflows with autonomous, role-based agent networks - Agents collaborate across sales, marketing and service	Agentforce
 IIElevenLabs	Provides low-latency, real-time conversational voice agents	ElevenLabs Conversational AI, Voice Agent APIs
 GreyOrange	Specialist in hardware-agnostic, multi-agent robotics orchestration platforms for high-throughput fulfillment centers and warehouses	GreyMatter

	Applies multi-agent AI systems to end-to-end supply chain resiliency, automated inventory rerouting, and predictive logistics	Blue Yonder Orchestrator, Supply Chain AI Agents
	Blends traditional Robotic Process Automation (RPA) with agentic orchestration to execute dynamic, non-linear enterprise workflows	UiPath Agent Builder, UiPath Autopilot
	An open-source and enterprise multi-agent framework built for creating self-organizing, autonomous and swarming agent collectives in Python/Rust	Swarms Framework
	- Specializes in data-centric multi-agent architectures - Enables agents to act as specialized searchers and routers over corporate data	LlamaIndex Workflows, LlamaAgents, Multi-Agent RAG Frameworks
	Provides an intuitive, role-based framework for organizing multi-agent teams with strict task lists, tools and manager hierarchies	CrewAI Enterprise, CrewAI Open-Source Framework

Source: Various



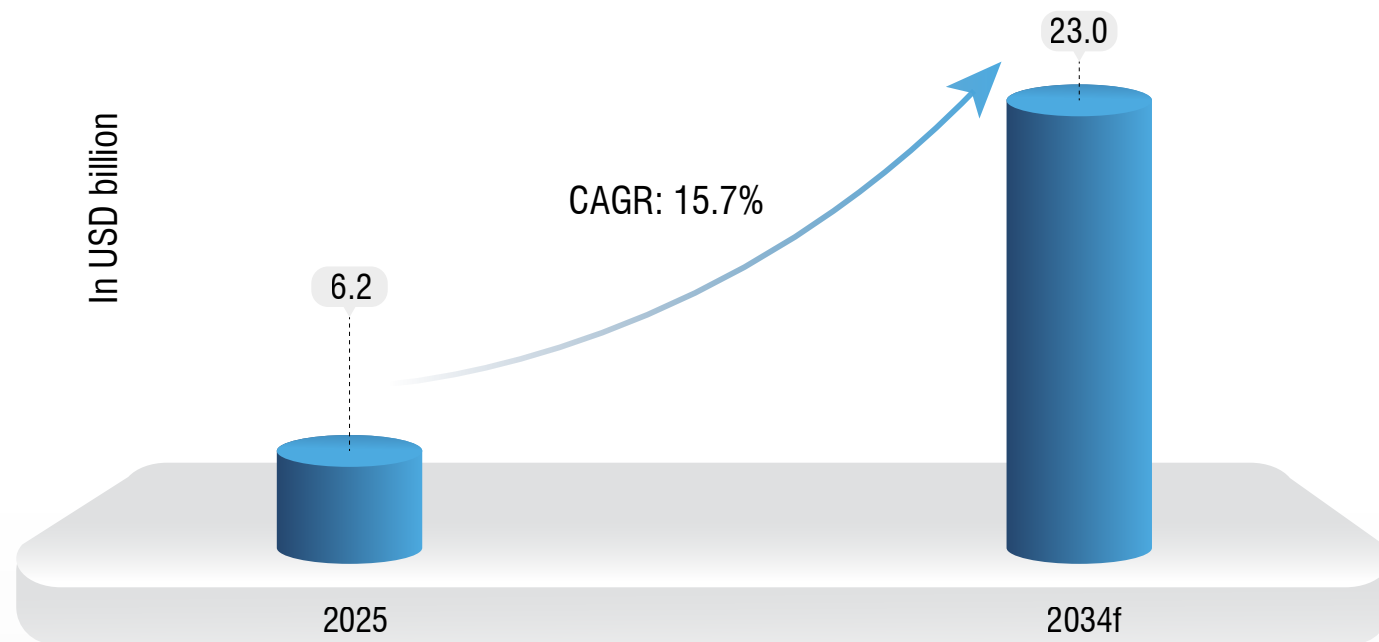
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GCC's Transition Toward Autonomous Enterprise AI

Regional Digital Infrastructure and AI Readiness

The GCC's broader artificial intelligence market, the demand base that multi-agent systems are being layered onto, was valued at USD 6.2 billion in 2025 and is projected to reach USD 23.0 billion by 2034, a 15.7% CAGR. Hardware still leads the solutions mix at 41.8% share, reflecting heavy regional investment in AI-ready data centers and GPU clusters, ahead of software (36.7%) and services (21.5%). Narrow/task-specific AI accounts for 72.6% of demand versus 27.4% for general-purpose systems, underscoring a region still prioritizing deployment-ready applications over open-ended AI.

GCC Artificial Intelligence Market Size



Source: IMARC Group

Infrastructure commitment is concrete and hyperscaler-led, with Microsoft alone having deployed USD 7.3 billion in UAE AI and cloud spending since 2023, with a further USD 7.9 billion planned through 2029. The regional value chain runs from global semiconductor suppliers (NVIDIA, Intel, Qualcomm) and hyperscale cloud platforms (AWS, Microsoft Azure, Google Cloud) through to sovereign integrators, primarily entities such as G42 in the UAE and SDAIA in Saudi Arabia, that localize deployment for government and regulated enterprises.

Demand Drivers Accelerating Regional Multi-Agent Adoption



AI Adoption Growth

AI adoption among GCC organizations has grown significantly, with 84% of organizations in 2025 now using AI in at least one business function, up from 62% in 2023. While a few organizations have successfully scaled AI and realized measurable value, most remain in the pilot stage.¹



Broadening Enterprise Adoption

AI is most deployed in service operations and marketing and sales, with the strongest growth seen in product and service development, where organizations are leveraging AI to accelerate innovation, enhance existing offerings, and create AI-powered products. Adoption spans multiple sectors, particularly industry, energy, infrastructure, financial services, consumer services, technology, healthcare, and education, indicating that AI is becoming deeply embedded across the GCC economy.



Rise of Agentic AI

Agentic AI is emerging as a key driver of business transformation, enabling organizations to move beyond insight generation toward autonomous task execution and workflow orchestration. 60% of organizations in the region are already using AI agents to some extent, reflecting the growing adoption of systems that can coordinate activities, automate complex workflows, apply logic to challenging problems, and take actions with minimal human intervention.²



Enterprise Value Creation

Interest in specialized agentic AI models continues to rise as advancements in accuracy and reliability make them suitable for enterprise-scale applications. Organizations are increasingly using these capabilities to improve operational efficiency, reduce administrative costs, accelerate product and service development cycles, and enhance productivity. As AI evolves from knowledge-based assistance to action-oriented execution, agentic AI is becoming a significant source of measurable business value and innovation.

¹ McKinsey & Company

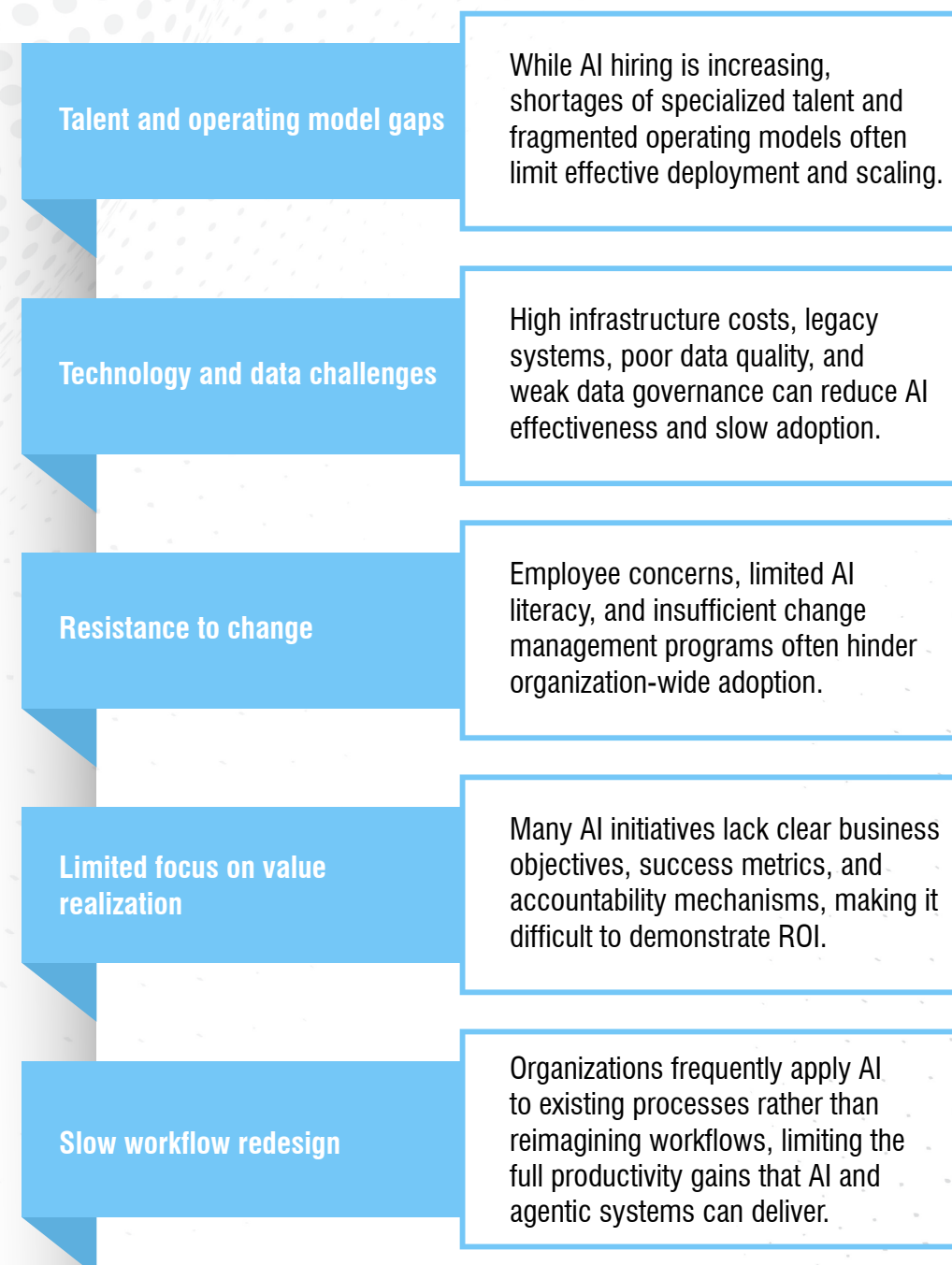
² McKinsey & Company

Country	AI Regional Market Share (%) (2025)	Key Growth Drivers
 Saudi Arabia	38.7%	NSDAI, NEOM, Vision 2030, SDAIA establishment, Aramco AI programs, smart city infrastructure
 UAE	27.6%	UAE AI Strategy 2031, G42, TII Falcon LLM, Dubai Smart City, FinTech AI adoption
 Qatar	9.8%	QF Research, Qatar National Vision 2030, smart infrastructure, World Cup AI legacy investment
 Kuwait	8.4%	Kuwait Vision 2035, e-government AI services, BFSI AI adoption, energy optimization programs
 Oman	7.6%	Digital Oman Strategy, Oman Vision 2040, smart city Muscat, port logistics AI
 Bahrain	5.9%	Bahrain Economic Vision 2030, FinTech AI hub, cloud-first government policy, TrustedCloud initiative

Source: IMARC Group; Note: Total regional share may not sum to 100% due to rounding and overlap of cross-border AI initiatives and spillover deployments from larger markets.

Key Barriers to Deployment across Gulf Economies

Despite widespread AI adoption, many organizations across GCC economies continue to face challenges in scaling AI beyond pilot programs and realizing measurable business value.



Source: McKinsey & Company

Overcoming these challenges will require stronger operating models, robust data foundations, effective change management, and a greater focus on business-led transformation.

Regional Innovators

Companies	Country	Description
 Maqsam	UAE	- Arabic-native AI contact-center solution for MENA enterprises - Delivers real-time call transcription, summaries, and sentiment analysis - Integrates seamlessly with CRM platforms to improve customer support operations
 Qeen	UAE	- Dubai-based agentic AI platform for e-commerce businesses - Automates product content creation and marketing workflows - Supports multilingual customer engagement to boost conversions and sales
	UAE	- Agentic AI platform focused on physical and operational environments - Processes video, voice, and sensor data in real time at the edge - Automates workflows across industrial sites, airports, call centers, and public services
 core42 A G42 Company	UAE	- G42's sovereign cloud and AI infrastructure subsidiary - Provides high-performance computing (HPC) and AI-native cloud capabilities - Enables governments and regulated industries to develop and deploy advanced AI workloads
 MOZN <AI>	Saudi Arabia	- A Riyadh-based enterprise AI company focused on financial services and government sectors - Offers AI-powered fraud detection, AML, and financial crime prevention solutions - Combines machine learning, Arabic-language intelligence, and agentic workflows for decision support
 HUMAIN	Saudi Arabia	- PIF-owned national AI champion driving Saudi Arabia's AI ambitions - Develops sovereign AI models, hyperscale data-center infrastructure, and agentic platforms - Partners with NVIDIA, AWS, Turing, and xAI to scale AI innovation and adoption across the Kingdom and beyond

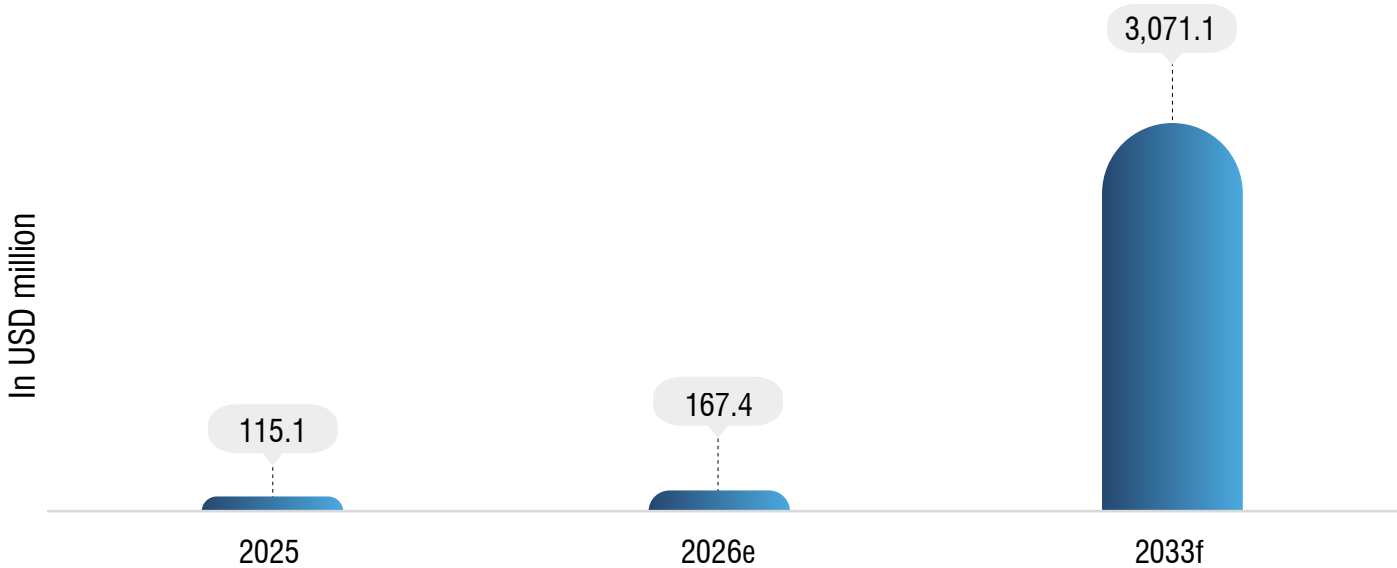
Source: Maqsam, Qeen, Polynome, Core42, MOZN, HUMAIN

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Sovereign AI Strategy and Industrial Multi-Agent Deployment in Saudi Arabia

Saudi Arabia's AI agents' market is poised for significant expansion, with revenues of Saudi based AI agents is projected to grow from USD 115.1 million in 2025 to USD 167.4 million in 2026 and is expected to reach USD 3.1 billion by 2033. This represents a robust compound annual growth rate (CAGR) of 51.5%, underscoring the accelerating adoption of agentic AI solutions across Saudi Arabia.³

Saudi Arabia AI Agents Revenue



Source: Grand View Research

The projected growth reflects rising enterprise demand for AI agents that can autonomously execute tasks, orchestrate workflows, and enhance decision-making across business functions. As organizations increasingly transition from AI-powered assistance to AI-driven execution, agent-based systems are expected to play a central role in improving operational efficiency, reducing costs, and driving productivity gains.

Strategic Alignment with National AI Strategies

Saudi Arabia is the largest AI market in the GCC, accounting for an estimated 38.7% of the region's AI market in 2025, exceeding the combined share of Qatar, Kuwait, Oman, and Bahrain.⁴ This leadership position is underpinned by Vision 2030 and the National Strategy for Data and AI (NSDAI), which aims to establish the Kingdom as a global AI hub. Key objectives include attracting SAR 75 billion in AI-related investments by 2030, equipping 40% of the workforce with foundational data and AI skills, developing a talent pool of 20,000 AI and data specialists, and supporting more than 300 AI-focused startups by 2030.⁵ The strategy is led by the Saudi Data and Artificial Intelligence Authority (SDAIA), which oversees the Kingdom's AI and data transformation agenda.

³ Grand View Research

⁴ Imarc Group

⁵ Saudipedia

Key NSDAI Initiatives

The NSDAI is structured around six strategic pillars:



Source: Saudi Data and AI Authority, Saudipedia

To support implementation, NSDAI has launched 15 strategic workstreams, including AI literacy, talent development, regulatory frameworks, investment funds, investor support programs, R&D excellence, innovation testbeds, AI platforms, sector-specific AI strategies, startup incentives, and smart city initiatives.⁶

The Public Investment Fund (PIF) functions as the capital and coordination layer linking Vision 2030's targets to execution. It deploys capital through dedicated vehicles, primarily HUMAIN, and structures partnerships with global hyperscalers (Google Cloud, AWS, and Microsoft) to build sovereign capacity rather than simply purchasing it off-region.

Frontier Sectors Driving Industrial Multi-Agent Architecture



Energy

The energy sector remains the most mature adopter of AI. Saudi Aramco has developed METABRAIN, a 250-billion-parameter generative AI model trained on decades of operational data to analyze drilling plans, geological information, and historical drilling performance. The initiative represents a significant step toward autonomous and agent-driven field operations.⁷

⁶ Saudipedia

⁷ Middle East AI News



Financial Services

Financial services is emerging as a key growth area for agentic AI. HUMAIN's partnership with MOZN focuses on deploying AI solutions for financial crime prevention, knowledge intelligence, and governance, risk, and compliance (GRC). The collaboration leverages MOZN's embedded engineering model to integrate AI capabilities directly within client environments, accelerating enterprise adoption.⁸



Smart Cities and Mobility

Agentic AI is expected to play a central role in Saudi Arabia's smart city ambitions, particularly through NEOM's autonomous mobility initiatives, such as a USD 100 million investment in Pony.ai⁹, where AI agents can support real-time decision-making, traffic optimization, and autonomous transportation systems.¹⁰



Healthcare

Healthcare is increasingly adopting AI as part of the Kingdom's Vision 2030 agenda. Applications include AI-enabled hospital management, operational optimization, and patient care enhancement. In a significant milestone, Saudi Arabia launched the world's first AI doctor clinic in Al-Ahsa, where an AI physician conducts preliminary consultations and develops treatment recommendations under human medical supervision, demonstrating the country's ambition to pioneer AI-driven healthcare delivery.¹¹

Regional Strategic Partnerships and Ecosystem Development

The clearest single infrastructure signal is the PIF–Google Cloud AI hub, announced at the Future Investment Initiative's eighth edition in October 2024 and sited near Dammam in the Eastern Province. Preliminary research commissioned by Google Cloud estimated the hub could add a cumulative USD 71 billion to Saudi GDP over eight years, alongside joint work on Arabic-language Gemini models and a national AI/digital-upskilling program tied to a target of growing the ICT sector by 50%.¹²

Corporate structure is consolidating rapidly around a single national player, with the Saudi Company for Artificial Intelligence (SCAI) being folded into HUMAIN, unifying the Kingdom's applied AI capability under one PIF-backed vehicle rather than leaving it split across standalone entities, a restructuring completed within the 2025–26 window covered by this report. HUMAIN's own capital signals now include a reported USD 3 billion stake in xAI and a partnership with NVIDIA to build AI “factories” inside the Kingdom, alongside its BFSI-focused MOZN investment. HUMAIN partnered with US-based AI company Turing to launch HUMAIN One, a marketplace for enterprise-grade AI agents. The platform enables businesses to seamlessly deploy and manage AI agents at scale, automating complex workflows and supporting concurrent agent operations across key functions such as finance, human resources, and operations.¹³

⁸ MOZN

⁹ SPA

¹⁰ NEOM

¹¹ NDTV

¹² PIF, Arab News

¹³ Arab News

Key Players Accelerating Adoption

	HUMAIN	MOZN ^{<AI>}
Key Features and Products	HUMAIN OS & HUMAIN ONE: Agentic operating system and AI agent marketplace. ALLAM: Sovereign multimodal Arabic frontier LLM (trained on 500B+ Arabic tokens). HUMAIN Core: Hyperscale AI data centers and GPU cloud infrastructure.	FOCAL: AI-powered financial crime prevention & AML (Anti-Money Laundering) compliance platform. Enterprise Knowledge Intelligence: Enterprise search and actionable document analysis platform.
Funding Raised and Financial Backing	Parent Ownership: Fully owned sovereign subsidiary of Saudi Arabia’s Public Investment Fund (PIF). Debt/Project Financing: USD 1.2 billion framework agreement with the National Infrastructure Fund (Infra) for 250 MW hyperscale capacity. Strategic Capital: USD 3 billion strategic investment position in xAI.	Venture Funding: USD 10 million+ Series A led by Raed Ventures and NOMD. Strategic Corporate Investment: Strategic equity investment from HUMAIN (via HUMAIN Ventures) to co-build enterprise solutions globally.
Key Partnerships	Global Tech Alliances: NVIDIA (building 500 MW AI factories with Grace Blackwell GPUs & Omniverse), AWS (USD 5.3 billion regional cloud commitment), AMD, Qualcomm, Cisco, and xAI. Domestic Partnerships: Joint ventures with stc group, Aramco Digital, and Saudi National Infrastructure Fund.	Sovereign Integration: Strategic product partnership with HUMAIN to deliver AI via the HUMAIN ONE marketplace. Cloud & Tech Giants: Cloud partnership with Google Cloud. Public Sector & Enterprise: Strategic agreements with Saudi Ministry of Health (MoH), D360 Bank, and regional fintechs (e.g., Astra Tech).

Source: HUMAIN, MOZN, Business Wire, Arab News, Reuters

Spotlight: Neuphonic



Company Brief

Neuphonic Limited is one of Riyadh Valley Company’s investments through Salica Investment’s Oryx Fund. It is a London-based deep-tech startup founded in April 2024 by CEO Sohaib Ahmad and CTO Jiameng Gao. Headquartered and registered in London, United Kingdom, the company specializes in developing next-generation artificial intelligence speech synthesis and real-time voice processing infrastructure.

Pre-Seed Funding GBP 3 million (~USD 3.9 million) In October 2024	Key Investors
	Moonfire VC
	Tiny VC
	Salica Investments (via Salica Oryx Fund)
	Cur8 Capital

Source: Salica Investments

The primary capital allocation aims to expand language capabilities, accelerate model optimization, and support on-device deployment architectures for high-concurrency enterprise applications.

Core Technology and Product Capabilities

Neuphonic's primary offering is an ultra-low-latency text-to-speech (TTS) and voice-cloning platform designed to support fluid, human-like AI interactions. Key product features and technical specifications include:

Ultra-Low Latency

Achieves speech generation in approximately 100 milliseconds¹⁴, eliminating the delay traditionally associated with cloud-based voice AI models.

Word-by-Word Streaming

Utilizes a patent-pending algorithm that synthesizes audio incrementally as text tokens arrive from Large Language Models (LLMs), allowing real-time speech production during continuous text streaming.

On-Device and On-Premise Processing

Operates locally on consumer hardware and embedded systems without requiring high-end GPUs, ensuring offline functionality, minimal bandwidth usage and compliance with strict data privacy requirements.

LLM and Language Agnosticism

Features broad multilingual support, covering languages such as English, Spanish, French, German, Japanese, Korean and Mandarin, and integrates seamlessly with any upstream language model.

Open-Source and Developer Tools

Delivers developer-first accessibility through high-performance audio codecs, specialized lightweight models (such as NeuTTS-2M, NeuTTS-2E, NeuCodec), and managed API endpoints tailored for customer support, humanoid robotics, digital avatars and interactive media.

Source: Neuphonic

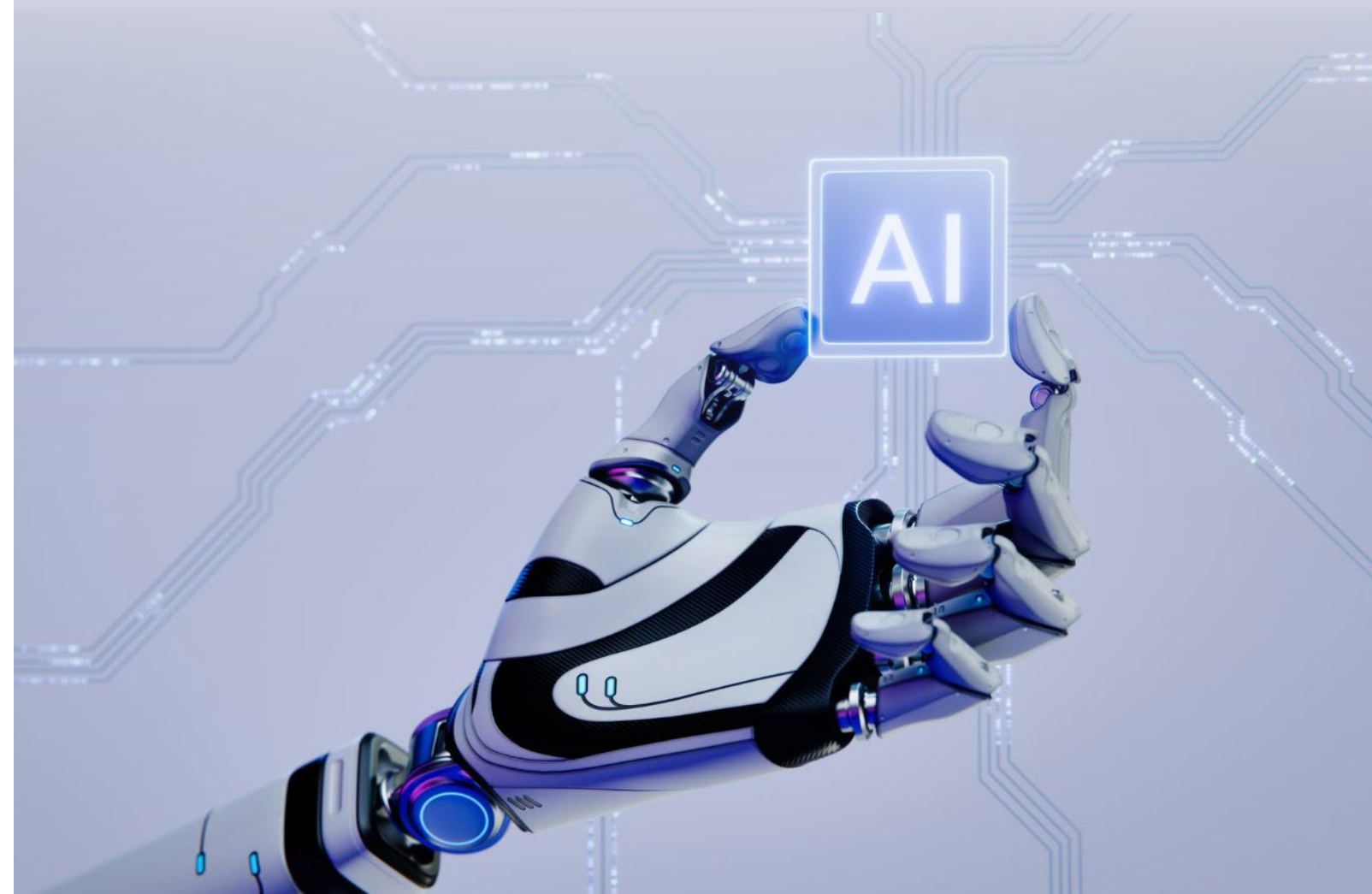
¹⁴ Based on Time to First Audio Byte (TTFAB) tests across 50 generations

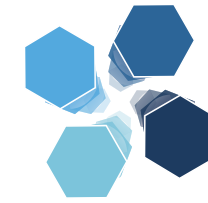
Conclusion: Multi-Agent Architectures as the Blueprint for Future Enterprise Intelligence

Multi-agent AI systems are transforming AI from a tool that generates insights into one that can autonomously coordinate actions, execute workflows, and deliver business outcomes. Reflecting this shift, the global multi-agent AI market is projected to grow from USD 7.9 billion in 2024 to USD 155 billion by 2032, highlighting the growing importance of agentic architectures across industries.

The GCC is well-positioned to benefit from this trend, supported by strong digital infrastructure, government-led AI initiatives, and high levels of enterprise adoption. Yet organizations must overcome challenges related to talent, governance, data foundations, and change management to fully realize the value of AI at scale.

Saudi Arabia is emerging as the region's leading agentic AI market, accounting for 38.7% of GCC AI spending and projected to see its AI agents market expand from USD 115.1 million in 2025 to over USD 3.1 billion by 2033. Through Vision 2030, NSDAI, and strategic investments led by SDAIA, PIF, and HUMAIN, the Kingdom is laying the foundation for large-scale deployment of AI agents across energy, financial services, healthcare, and smart cities. As enterprises increasingly move from AI-assisted work to AI-orchestrated work, multi-agent systems are set to become a foundational layer of future digital economies, driving productivity, innovation, and long-term competitive advantage.

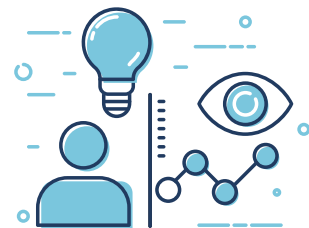




شركة وادي الرياض
Riyadh Valley Co

Riyadh Valley Company

Riyadh Valley Company established in 2010 by Royal Decree No.116 dated 13/4/1431 AH to be the investment arm of King Saud University in the fields of Knowledge Economy and the university strategic projects.



Vision

To be the regional leader in knowledge-based investment and technology.



Mission

Riyadh Valley Company is a strategic investor, focused on leveraging the local capabilities, investing locally and globally in growth - stage businesses to create financial and strategic returns that will support the future of economic development in the Kingdom.

The Core Focus Areas of RVC

Venture Capital Investments



Healthcare Investment



FinTech



Renewable energy& Sustainable Recourses



Education



Information & Communication Technology



Logistics and Trasportation

Strategic Investments



Innovation and R&D Projects



Commercial Projects



Educational Projects



Residential Projects



Healthcare Projects



Mixed-use Projects

Enriching Innovation Ecosystem



Attract distinguished scientists and consultants



Prepare students for work experience through training

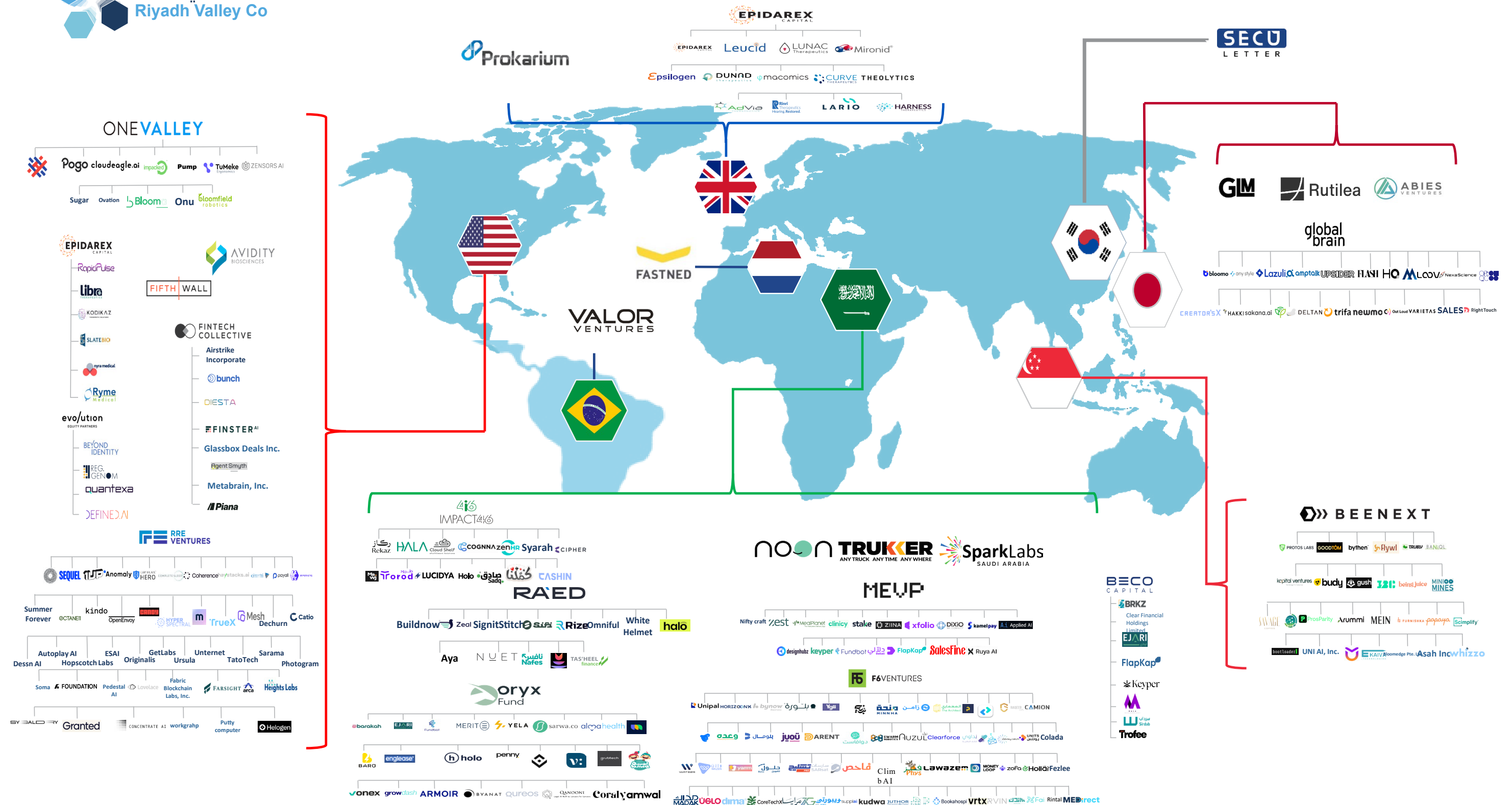


Supporting Scientific Research and technology industry



Enhance the environment to support the knowledge economy

Knowledge Investment Portfolio



Strategic Investment Portfolio



Sudair Pharma Company Project

Research center and offices



ELM Company Project

Research & Innovation center



Business Square Project

Office project



Riyadh Hills Project

Offices project



Derma Housing Project

Residential project



City Lights Real Estate Company Project

Mixed-use project



Al-soroo Al-Mubarakah Company Project

Offices project



Obeikan Company Project

Commercial project



Derma Clinic Project

Healthcare project



Dur Alkuttub Company Project

Educational project



Four Directions Company Project

Commercial project



U WALK Project

Commercial project



Qasr Alaareh Project

Building



Ezdihar Park Project

Mixed-use project



The Esplanade Project

Commercial project



Al Maarefa University and Diabetes Research Center

Building project



NMR Real Estate Company Project

Mixed-use project



Takween Development Group Real Estate Project

Offices project



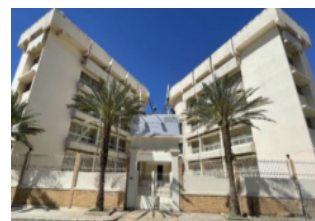
Arrowad Colleges Project

Educational project



Innovation Tower Project

Office building project



Ferrandi College French project

Building



Oasis of Creativity Schools Project

Educational project



Top Golf Project

Commercial project



Diriyah Project

Mixed-use project



شركة وادي الرياض
Riyadh Valley Co

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