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MOHAMMED BIN RASHID SCHOOL OF GOVERNMENT

The Artificial Intelligence SMEs Ecosystem in the UAE

Overcoming Challenges, Expanding Horizons

In Partnership with

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Authors and Citation

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The global AI landscape is undergoing rapid transformation. With generative AI applications propelling adoption across industries, nations are racing to harness AI for competitive advantage. The United Arab Emirates (UAE), once a regional pioneer, now ranks as a top-tier global AI nation, achieving high global rankings in AI readiness and ecosystem vibrancy—ranking 5th globally in Stanford's AI Vibrancy Index and 13th in the Oxford Government AI Readiness Index.

The Mohammed Bin Rashid School of Government (MBRSG), supported by Google.org, conducted an extensive analysis of AI ecosystems across the GCC, North Africa, and the Levant. This UAE special edition report explores how the country's AI startup ecosystem is evolving, and how SMEs—who represent over 94% of the UAE's companies and 60% of its non-oil GDP—are adopting AI tools, navigating infrastructure and regulatory landscapes, and driving innovation. During the past five years, the UAE government developed extensive incentives frameworks and safety nets for SMEs and startups, including specifically those operating in digital domains. This report draws on a primary fieldwork of 81 UAE-based AI and digital SMEs, constituting 25.1% of a MENA-wide sample of 327 firms, offering a uniquely detailed picture of the UAE's AI readiness at the ground level. The findings provide a comprehensive picture of how small and medium enterprises (SMEs) are developing, adopting, and implementing AI across the UAE.

Key Findings

- **Cohesive AI ecosystem:** Overall, the UAE has cultivated an enabling AI environment—largely due to government-driven infrastructure provision, data governance maturity and regulatory agility and reforms. While many MENA countries still face foundational gaps, UAE-based SMEs, especially those based in Dubai and Abu Dhabi, operate within the most cohesive AI ecosystem in the region, with better infrastructure, stronger regulatory frameworks, and higher adoption of emerging AI applications.
- **Infrastructure Needs Are Shifting:** UAE AI SMEs and startups benefit from world-class digital infrastructure (5G, cloud, sovereign compute). Unlike their regional peers, UAE AI-focused SMEs no longer consider access or cost of internet or power reliability as challenges for growth, but instead highlight cost-effective access to GPUs, edge computing, and large-scale storage as the next bottlenecks. As AI becomes more compute-heavy, and cost-efficient, enabling inferencing at scale will be crucial.
- **Regulatory Clarity with Growing Complexity:** UAE AI SMEs report high regulatory awareness, with most finding current frameworks to support trust and market access. However, firms also cite concerns about regulatory ambiguity, cost of compliance, and the need for clearer AI-specific laws, especially in light of emerging global standards and regulations.
- **Funding Access & Ecosystem Strength:** The UAE has a robust AI-focused public funding ecosystem, including initiatives like the $2.7 billion Future Accelerator Fund and Hub71+ AI. Furthermore, the UAE SMEs active in the AI ecosystem benefit from deeper private-sector capital pools and stronger digital infrastructure. Venture capital and corporate investment are the top sources of funding (each ~30%). Yet early-stage and scale-up financing gaps persist. In comparison, regional peers remain mostly reliant on public or foreign support.
- **Talent limitations and AI governance:** Talent shortages, specifically in AI governance, such as AI ethics assurance, compliance and AI safety remain a shared regional bottleneck, with companies identifying lack of related AI expertise as their top concerns, in addition to budget constraints, and regional regulatory uncertainty.
- **Strategic IP Gaps:** IP protection remains a regional weak point. In the UAE, only 9% of surveyed AI-focused businesses have registered IP abroad, and talent depth remains constrained by scale, particularly in applied research and agentic systems. This growth-related pain point is especially pertinent to AI

start-ups aiming to develop and protect IP, while expanding internationally.

- **Widespread AI and Generative AI Adoption:** Almost all (99%) of UAE AI SMEs are using or exploring generative AI (GenAI) applications, with particularly high deployment in marketing, design, analytics, and customer service.

Positive AI maturity outlook: UAE businesses active in the AI ecosystem report a positive outlook for the future. The findings show mature development and deployment of artificial intelligence, more specifically in machine learning, NLP, and computer vision, while in comparison, peers across MENA tend to be active in the planning and piloting stages, and more evenly spread across AI maturity phases.

Strategic Analysis & Future Directions

The UAE's foundational investments—in infrastructure, talent, and policy—have created an AI ecosystem that is no longer comparable to its regional peers. It now stands among global leaders and tend to benchmark itself against the US, China, UK, and Singapore AI markets. Its model of state-led innovation, open-source LLM development (e.g. Falcon, Jais), and strong focus on responsible and ethical AI governance has earned it global recognition.

However, this elevated status comes with new strategic imperatives. The UAE now has to deal with the next frontier of shifting focus from building infrastructure to scaling deployment; from national readiness to global competitiveness, and from regional leadership to global norm-setting. The global "DeepSeek moment"—the China-based LLM reportedly built for just $6 million—has altered the competitive landscape. The UAE can capitalize on this shift. This requires fostering AI-first applications, spatial and embodied AI platforms, and agentic systems that meet real-world challenges in education, sustainability, logistics, and governance, not merely building more foundational models.

The UAE's rapidly growing artificial intelligence market offers a possible pathway to stimulating economic growth for the wider region. The country's established role as a regional hub coupled with its leadership across AI ecosystems positions its AI market as a potential lever for growth regionally.

To further establish its global AI leadership and become a rising tide for the region, the following policy directions, emerging from the AI SMEs and startup stakeholders, are considered key steps that can support achieving the country's AI leadership vision:

- **Accelerate Scale-Up Pathways for AI Startups:** Provide targeted support for SME expansion, IP protection, and international market entry.
- **Scale Talent Development & Retention:** Expand AI education programs, align university curricula with sectoral demand, and strengthen career paths to retain global AI experts locally.
- **Leverage the Growing AI Ethics and Governance Brain Trust in the UAE:** The UAE's growing ecosystem of AI-active academic institutions, research centers, start-ups and knowledge pools is a major competitive asset. Creating an independent AI ethics advisory council that leverages these stakeholders can ensure alignment locally and globally, accelerate responsible AI adoption, and establish leadership among global ethical AI governance ecosystem. Optimally, the impact of such an independent and inclusive national body should contribute to increasing trust in AI, adoption of AI applications and accelerate growth of the emerging AI ecosystem. The council can also inform the efforts to harmonize local and federal AI and data legal and regulatory frameworks, and continue aligning with global frameworks.
- **Incentivize Next-Generation Compute & Edge Infrastructure and Shift toward Application-Layer Dominance:** Incentivize future infrastructure development on low-latency inference, IoT-AI integration, and localized model deployment. Build on foundational investments by encouraging GenAI deployment, spatial computing, and agentic platforms through compute credits, sandbox environments, and national challenges.
- **Build a UAE-Led Regional AI Cooperation Framework:** Formalize partnerships across MENA to align AI policies, pool datasets, and enable cross-border project deployment—benefiting from the UAE's attractiveness and access to regional talent and market scale.

Introduction

The global artificial intelligence (AI) market is experiencing explosive growth, driving fierce economic competition among nations and enterprises as they race to harness its transformative potential. Rapid technological advancements, substantial investments from both private and public sectors, and increasing adoption across industries are fundamentally transforming sectors from healthcare to finance, and education to public services. The rise of Generative AI (GAI) models – such as Google's Gemini, OpenAI's GPT, Claude, Deepseek, and many other private and open-source models – has sparked a dramatic surge, leading to significant increases in adoption across various sectors due to its wide availability, broad applicability, and rapid evolution. Generative AI specifically is expected to grow from $40 billion in 2023 to $1.3 trillion over the next eight years, representing 10-12% of all technology spending across hardware, software, services, and more (Bloomberg Intelligence, 2024). Enterprise AI spending is also increasing significantly, with 50% of organizations around the world reporting the use of AI in at least one business function (Singla, Sukharevsky et. al, 2024) and 92% of companies reporting plans to increase their AI investments in over the next three years (McKinsey, 2025).

Key players like the United States and China are investing heavily in AI research, talent, and infrastructure, and nations are increasingly positioning AI capabilities as vital to economic growth, national security, and international influence. In January 2025 alone, major global developments in AI have accelerated and disrupted the ecosystem — from the United States announcing a $500 billion investment in the Stargate Project,[1] a new AI infrastructure initiative backed by major players in Western technology and finance, to the sudden controversy around DeepSeek, a Chinese AI app that reportedly cost just $6 million over a 2 month development timeframe, stunning investors and prompting a nearly $1 trillion tech sell-off in U.S. tech stocks.[1] By the time this report is published, there will likely be more disruptions in the already volatile global AI ecosystem, exemplifying the opportunities and risks in the current global AI race that spill far beyond U.S.-China technopolitics. This intense competition underscores how AI has become a fundamental pillar of national competitiveness and economic sovereignty.

Governments worldwide are formulating AI strategies and regulatory frameworks, not just to mitigate risks but to establish competitive advantages in the global AI landscape. The European Union, for instance, has focused on AI ethics and regulation as a distinct competitive approach, while the United States emphasizes innovation, and China integrates AI into its national development plans. In this constantly shifting and evolving global landscape, smaller and forward-looking countries seek niches to assert leadership. The Middle East and North Africa (MENA) region has recognized AI as a key driver for future development, with countries crafting strategies to leapfrog into the digital economy and reduce reliance on oil-based industries. Among its countries, the United Arab Emirates (UAE) has solidified its position as a trailblazer in artificial intelligence, consistently ranked as the top MENA country and most recently ranked 13th globally (Oxford Insights, 2024). Such readiness underscores the UAE's pioneering role in adopting emerging technologies and sets a strong foundation for the country's next phase of AI-driven growth. Notably, the UAE's vision for AI extends beyond rankings: by 2030, AI is projected to contribute roughly 13.6% of national GDP (~$100 billion), positioning the UAE among the top three countries worldwide in AI's economic contribution (Salman, 2025).

A central focus of this special UAE edition of "Bridging the AI Divide" is the state of AI adoption among small and medium-sized enterprises (SMEs) – the engine of the UAE economy comprising 94% of companies and contributing around 60% of the non-oil GDP (UAE Ministry of Economy). SMEs represent a critical battleground for national competitiveness, as their AI adoption rates often determine how broadly economic benefits are

[1] OpenAI (Jan 2025). "Announcing the Stargate Project."

[2] Reuters (Jan 2025). "DeepSeek sparks AI stock selloff; Nvidia posts record market-cap loss."

distributed across the economy. This report reveals an optimistic yet pragmatic picture. UAE-based SMEs are enthusiastically embracing AI: many respondents report integrating advanced digital solutions, with artificial intelligence (AI) and data analytics cited as the most fully adopted emerging technologies in their operations. This dovetails with broader regional trends – a recent study found that 75% of surveyed GCC businesses have implemented generative AI (GenAI) in at least one area, outpacing the ~65% global average (McKinsey, 2024). From chatbot customer service and predictive analytics to pilot projects with large language models, SMEs are leveraging GenAI to boost productivity and innovate their services.

Despite this progress, the study survey identifies critical infrastructure and policy challenges that must be addressed to truly bridge the AI divide. SMEs pinpoint high costs and access barriers in digital infrastructure as a key hurdle to growth. For example, tools taken for granted elsewhere – affordable Voice over IP and virtual private networks – remain costly or restricted in the UAE, inflating operational overhead for data-driven startups. Addressing these barriers through targeted policy interventions represents an opportunity to enhance the UAE's competitive position in the global AI ecosystem while ensuring inclusive economic growth.

1 AI Competitiveness & The Global Ecosystem

A Review of Key Themes, Trends & Best Practices

1.1 Global AI Governance: Frameworks & Approaches

One of the main movers in the global AI race are the substantial economic stakes. A frequently cited early study suggested AI could add $15.7 trillion to the global economy by 2030 (PwC, 2017), with emerging markets potentially seeing the highest relative GDP gains. Another recent study projected that Generative AI alone is expected to generate $15-25 billion in annual incremental economic value in the United Arab Emirates (UAE) and the Kingdom of Saudi Arabia (McKinsey & Co, 2024). For the UAE specifically, this presents a transformative opportunity to build a robust AI ecosystem where SMEs—constituting 94% of all UAE companies—can drive innovation and capture significant portions of this new economic value. However, these gains are not guaranteed and depend heavily on countries' ability to build AI capabilities while managing associated risks. Demonstrating consistent return on investment (ROI) for AI projects remains a significant challenge, and many organizations are still in early stages of adoption, struggling with implementation complexity and unrealistic expectations. For UAE's SMEs, this challenge is particularly acute as they often lack the resources of larger enterprises yet must adopt AI to remain competitive in an increasingly digital economy. The UAE's competitive advantage lies in its ability to create governance frameworks that specifically address these SME adoption barriers, enabling smaller businesses to implement AI solutions more rapidly than their counterparts in other markets. Despite these challenges, specific sectors and use cases – particularly in automation, customer service, and data analysis – are beginning to show promising results, suggesting that strategic, focused approaches to AI implementation may be more likely to deliver value than broad, unfocused adoption (Zhan, et al., 2024). For the UAE's growing ecosystem of AI startups and SMEs, these targeted applications represent initial market opportunities where they are working to establish competitive positions before expanding to more complex implementations. Generative AI, on the other hand, given the immense hype over the past couple of years, is expected to see a backlash as companies struggle to prove ROI despite requiring significant upfront investment and recurring costs (Gartner, 2024).

The rapid uptake of AI carries a significant potential to drive innovation, improve efficiency, and present complex problem-solving, but it also raises significant challenges including algorithmic bias, data privacy and security risks, potential job displacement, and concentration of technological power and influence.[3] For the UAE's SME-dominated economy, addressing these challenges through smart governance is about creating competitive advantages through trustworthy AI systems that attract global customers and investment, as many startup founders expressed. Algorithmic bias can perpetuate and amplify societal inequalities, and the scope of error extends beyond the data used to train software to include human and systemic biases (NIST, 2022). Academics warn of unpredictability and the potential for malicious exploitation of large language models used in GAI, emphasizing the need for urgent and robust regulation (Kim, et al., 2023). Recent studies have also sounded the alarm on the use of prediction algorithms in healthcare (Nazer et al., 2023) and in the public sector (Alon-Barkat & Busuioc, 2023). The World Economic Forum's Future of Jobs Report (2025) projects that AI could create 11 million new jobs while displacing 9 million others, more than any other technology trend. This transformation presents both opportunities and risks for the UAE's labor market, requiring governance approaches that support workforce transition while enabling SMEs to access AI-skilled talent.

For small and medium enterprises (SMEs) focused on the development or use of AI in the MENA region, these challenges create a cyclical problem. Within the UAE specifically, SMEs represent both the greatest opportunity and the greatest challenge for building a competitive AI ecosystem. SMEs must compete while navigating unsure regulatory

[3] This concentration of power raises important questions about equitable access to AI benefits, the diversity of perspectives shaping AI development, and the ability of different stakeholders to influence governance frameworks. As such, the imperative for inclusive, cooperative global AI governance has become a central theme in international forums across UN entities and global diplomatic forums.

environments and infrastructure limitations, yet their countries' limited participation in global governance discussions means these very environments and limitations are shaped without adequate consideration of regional needs. The UAE has begun addressing this gap by creating sandbox environments and regulatory frameworks specifically designed to enable SME participation in the AI economy. According to the International Data Corporation (IDC), global spending on AI is forecast to reach $632 billion in 2028, with the entirety of the Middle East, Türkiye, and Africa projected to spend $14.6 billion by 2028 (2.3% of the global spending). For the UAE to maximize its share of this growing market, it must continue developing governance approaches that specifically address the unique challenges faced by SMEs adopting and developing AI technologies. This forecast, as many others, may not account for the more recent commitments by MENA's regional tech hubs, like Saudi Arabia's $140 billion AI initiative, Abu Dhabi's ambitious $13 billion investment in becoming an AI-powered government by 2027, and more, highlighting both the challenge and opportunity for regional development.

1.2 Reframing AI Competitiveness: From Global Race to Strategic Solutions

The traditional narrative of AI competitiveness, centered on large-scale investments and global technological dominance, requires fundamental reconsideration - particularly for developing regions. While metrics like GDP investment in AI, number of AI startups, or scale of AI models have dominated discussions of national AI capability, emerging evidence suggests these may be misleading indicators of meaningful progress. The rush to develop large language models and pursue artificial general intelligence (AGI) has created what has been called an "AI bubble," where success is measured by scale rather than impact. This misdirection is particularly damaging for SME ecosystems, which are forced to compete in a distorted marketplace where headline-grabbing investments in frontier models overshadow the practical innovations that actually drive economic value. The myopic focus on "AI superpowers" threatens to create a two-tier ecosystem where only the largest entities can participate meaningfully, leaving smaller businesses and developing economies perpetually relegated to the role of consumers rather than creators. This reality presents both a challenge and an opportunity for the UAE to reimagine what AI competitiveness means in its own context. Rather than attempting to compete in resource-intensive general-purpose AI development, the UAE can focus on targeted solutions that address specific regional challenges and leverage existing strengths.

In this report, **AI competitiveness** refers to a nation's capacity to leverage artificial intelligence for economic growth, innovation, and societal advancement. It encompasses not only the technological capabilities and infrastructure that enable countries to harness AI's transformative potential but also the institutional frameworks, socioeconomic factors, and regulatory environments that underlie AI development. However, countries and regions have vastly different starting points in this journey, and success comes from building sustainable, inclusive environments where AI can be effectively developed, deployed, and governed.

The foundation of AI competitiveness starts with a dependable digital infrastructure — the physical systems needed to develop and run AI applications. This includes high-speed internet connections, compute power, data centers, and reliable energy supply. Yet, the traditional infrastructure paradigm has presented a significant barrier to SME participation in the AI economy because the cost of compute has been too monstrous. However, DeepSeek's claimed achievement — building a competitive AI model for just $6 million in two months, cutting compute costs by 95-97% — represents a shift that could enable SMEs throughout the world to develop customized AI solutions without the prohibitive capital expenditures previously required. This cost revolution challenges the assumption that meaningful AI development is reserved for tech giants and well-funded startups, potentially allowing a more diverse ecosystem to emerge.

Despite this promising development, the DeepSeek disruption presents complex implications for SME ecosystems in the MENA region. While drastically lower compute costs may enable greater participation, they simultaneously accelerate the AI development cycle, potentially creating an even more volatile competitive landscape. As economists noted, this could trigger "Jevons paradox"—where **increased efficiency leads to higher overall demand** rather than reduced consumption. For UAE SMEs, this represents both opportunity and challenge: while the barriers to entry are lowering,

the pace of innovation may accelerate beyond what smaller organizations can match without supportive ecosystem infrastructure. The true competitive advantage may shift from pure model development capabilities to how effectively nations can build the surrounding infrastructure that enables SMEs to rapidly implement and scale AI applications across sectors.

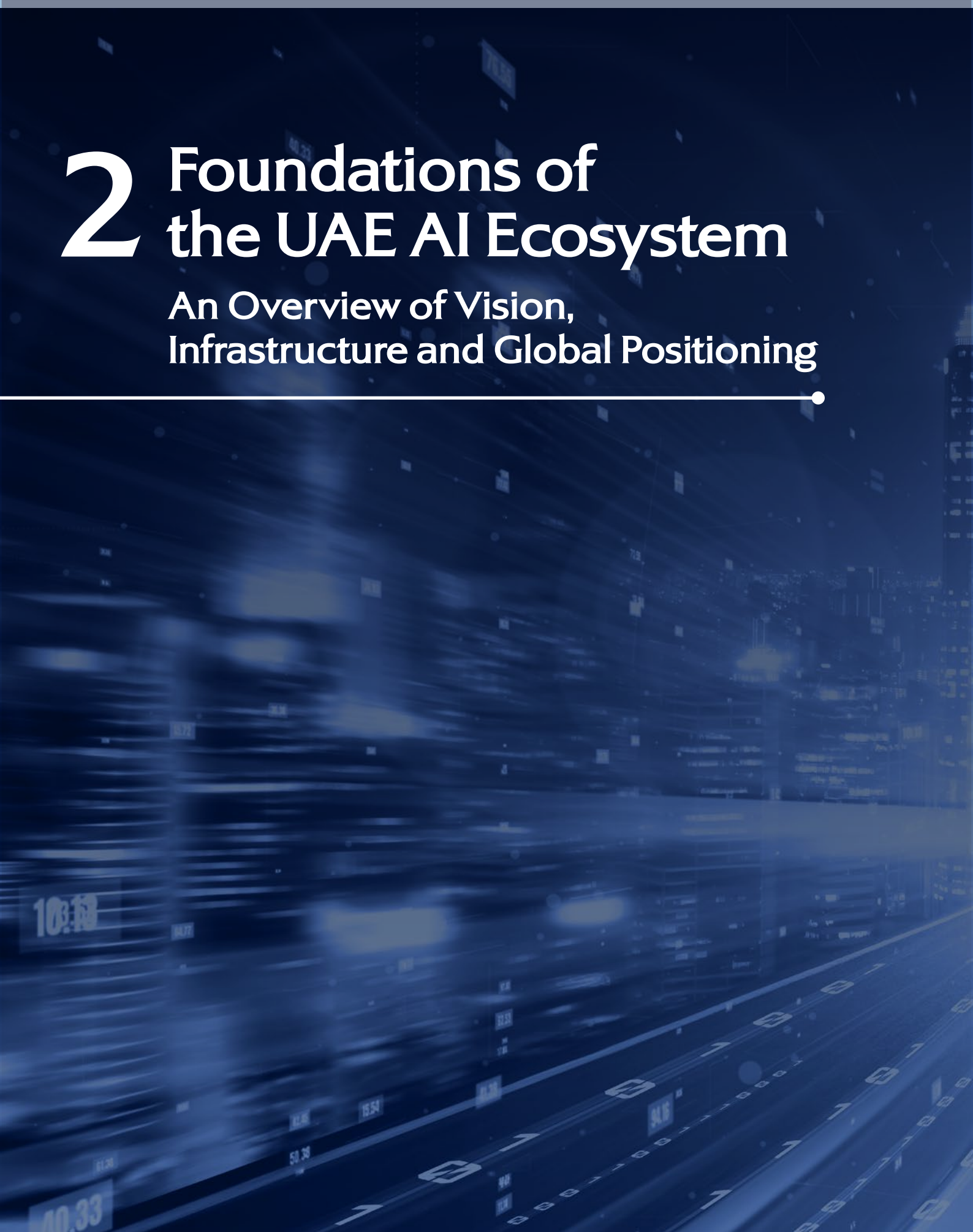
The **talent ecosystem** remains equally crucial in the assessment of AI competitiveness: having the right people with the right skills. This means not just technical experts who can develop AI systems, but also professionals who understand how to apply AI in specific industries and managers who can guide AI implementation. Currently, nations are more focused on producing and recruiting elite AI researchers, often neglect the broader workforce transformation needed for SMEs to effectively adopt AI technologies. This misalignment creates an ecosystem where theoretical capabilities far outstrip practical implementation, leaving economic potential unrealized even as technical benchmarks are achieved. In many developing regions, this talent gap often proves to be the biggest challenge. **Data** also emerges as a critical component of competitiveness, as the availability of high-quality datasets becomes increasingly essential for the development of equitable and accurate AI models. This means ensuring data not only exists but reflects the needs, languages, and cultures of local populations. For the MENA region, this presents both a challenge and opportunity — the chance to develop datasets that better represent regional languages and priorities.

The importance of **research** facilities is also central to competitiveness, requiring a well-funded ecosystem where universities work closely with industry to generate new ideas into practical solutions, and where entrepreneurs get the support they need to turn concepts into businesses. At the moment, even in the most advanced global AI economics, academic priorities remain disconnected from the practical challenges facing smaller businesses, while technology transfer mechanisms struggle to bridge the gap between theoretical advancement and commercial viability. The most successful AI ecosystems have figured out how to create kind of environment where innovation flows naturally from research to real-world application. The size and sophistication of **market access** play a crucial role as well. Countries need to consider both their domestic market opportunities and their ability to access regional and global markets. And, often central to these discussions, is investment - having **access to funding**, whether from government sources, private investors, or international partners, can make the difference between ideas staying on paper and becoming reality. The investment environment and market access take on new meaning when viewed through this lens. Public-private collaboration becomes essential for widening access to AI capabilities. The WEF advocates for public-private subsidies to make AI-ready devices more affordable, helping local innovators adopt AI technologies and scale their operations.

Research suggests that traditional ways of measuring AI competitiveness - like counting investments, patents, or startups - don't tell the whole story. The unglamorous foundation-building that would enable sustainable SME growth often gets lost among flashier metrics that still signal how much is being invested in AI development, but don't necessarily show what is coming out in terms of real benefits. We need **better ways to measure success** that look at practical results, specific impacts in different sectors, how efficiently resources are being used, and how AI is benefiting society as a whole. Recent frameworks, such as WEF's Blueprint for Intelligent Economies (2025), suggest that success metrics should include sustainability of AI infrastructure, quality and diversity of datasets, strength of ethical guidelines and safety measures, level of regional collaboration and resource sharing, and effectiveness of public-private partnerships.

2 Foundations of the UAE AI Ecosystem

An Overview of Vision, Infrastructure and Global Positioning



Within the Middle East and North Africa (MENA) region, the Gulf states have been early movers in adopting Artificial Intelligence (AI) at a national scale, seeing it as a strategic tool for economic diversification and government modernization. The United Arab Emirates (UAE) in particular has positioned itself as a regional leader in AI, underpinned by ambitious government initiatives and significant investments, aiming to make AI a significant economic driver. The UAE appointed the world's first Minister of State for Artificial Intelligence in 2017, signaling a high-level commitment to governance as a competitive differentiator and launched a comprehensive National AI Strategy 2031 (UAE Artificial Intelligence Office). This document was one of the first in the world and certainly the first in the region to articulate a comprehensive vision – covering priority sectors from energy to logistics to tourism – to make the UAE a global leader in AI. This "governance innovation" has become a model studied by other nations seeking to enhance their own competitive positioning in the AI ecosystem, and several MENA governments have launched dedicated AI strategies or incorporated AI into their national development plans.

Among the rest of the GCC, Qatar launched a National AI Strategy in 2019, focusing on education, data usage, regulation, and talent – and is now integrating AI goals into its broader Qatar Digital Agenda 2030 (Qatar Ministry of Communications and Information Technology). By 2024, Qatar reaffirmed this commitment with new initiatives, including a planned $2.5 billion investment in AI and aims to become a top 10 global digital economy by 2030. Then, in 2020, Saudi Arabia's Saudi Data & AI Authority (SDAIA) released a National Strategy for Data and AI, aiming to place the Kingdom among the top 15 AI nations by 2030. Bahrain weaves AI into its national plans (Economic Vision 2030) with an emphasis on digital government and especially fintech. In April 2024, Bahrain became the first Gulf country to enact a comprehensive AI law – establishing legal and governance frameworks for AI, including creating an AI governance unit and requiring licensing for AI system providers.

Among the GCC countries, Oman is a later entrant, launching a National Programme for AI and Advanced Technologies in late 2024, aligned with its Vision 2040 plan. A full national AI policy is expected by 2025, but steps have been taken, such as establishing an AI Innovation Centre at Sultan Qaboos University and using regulatory sandboxes to pilot AI in smart city projects. And Kuwait is developing its AI strategy in line with the "New Kuwait Vision 2035" vision for a knowledge economy.

The UAE AI Strategy 2031 outlines eight strategic objectives that form the foundation of the country's AI ambitions: 1) to build a reputation as an AI destination, 2) increase UAE competitive assets in priority sectors through development of AI, 3) develop a fertile ecosystem for AI, 4) adopt AI across customer services to improve lives and government, 5) attract and train talent for future jobs enabled by AI, 6) bring world-leading research capability to work with target industries, 7) provide the data and supporting infrastructure essential to become a test bed for AI, and 8) ensure strong governance and effective regulation.

Dubai, the nation's commercial and innovation hub, has been at the forefront of implementing this vision. From the mid-2010s onward, Dubai's government pursued a "Smart Dubai" agenda to make the city a laboratory for advanced technologies – AI, blockchain, Internet of Things, and data analytics were all leveraged to improve public services and quality of life. The Smart Dubai initiative (now the Digital Dubai Authority) led to the emirate achieving 100% digital government services by 2021, providing a strong foundation for AI integration. This digital transformation established critical competitive infrastructure that has attracted global tech talent and investment, creating a virtuous cycle of innovation. Early efforts helped Dubai cultivate an ecosystem where AI solutions could be developed, tested, and scaled in real-life urban settings, giving local enterprises a competitive edge through access to real-world implementation environments that many global competitors lack.

Abu Dhabi's approach has been complementary, focusing on building foundational AI capacity, research, and industry. In line with the national strategy's emphasis on R&D and economic diversification, Abu Dhabi has invested in institutions and companies that form the backbone of a knowledge-based, AI-driven economy. A flagship initiative is the Mohamed bin Zayed University of Artificial Intelligence (MBZUAI),

established in 2019. MBZUAI – the world's first graduate-level, research-focused AI university – officially opened in 2020 in Masdar City, attracting top faculty and students globally. By offering fully funded MSc and PhD programs in AI specializations, MBZUAI is cultivating a new generation of AI experts and positioning the UAE as a pioneer in AI research and education. The university directly supports the national strategy's goals by advancing AI research, fostering talent, and encouraging innovation that can feed into industry and government applications.

Other Emirates are also increasingly contributing to the national AI vision. For instance, Sharjah has established the Sharjah Research, Technology and Innovation Park (SRTI Park) to spur research and entrepreneurship in emerging technologies. Founded in 2016, SRTI Park provides laboratories, R&D facilities, and incubation programs across sectors – including healthcare, energy, and environmental technology – creating a collaborative platform for academia, government and industry to drive innovation. Such efforts, while smaller in scale than Abu Dhabi or Dubai's, broaden the UAE's overall AI ecosystem and ensure that the benefits of AI-led growth reach across the federation. In sum, the UAE's national AI strategy is executed through a multi-level, multi-stakeholder approach: federal policy frameworks and investments set the direction, while each emirate contributes through its unique initiatives and strengths, whether government service innovation, academic R&D, or tech entrepreneurship.

The UAE's emergence in the global AI landscape is reflected in international indices and rankings. According to the Oxford Insights Government AI Readiness Index 2024, the UAE ranks 13th worldwide – the highest in the Arab world – due to its strong performance across government, technology sector, and data infrastructure pillars. This marks a steady climb in readiness (from 18th in 2023), as the UAE continues to invest in digital government and skills. Moreover, a new Global AI Vibrancy Index released by Stanford University's Human-Centered AI Institute (HAI) in late 2024 ranked the UAE 5th out of 36 leading countries evaluated, ahead of many larger economies. The UAE scored especially high on measures of open access foundation models, total AI public offering investments, relative AI skills and talent, national strategy, and internet speed, underscoring concentrated areas of strategic investment — talent, capacity-building, vision, and infrastructure — that are being recognized globally. The UAE has steadily proven that targeted governance frameworks and strategic investments can enable smaller nations to compete effectively against global superpowers in the AI domain. However, in the broader MENA context, the UAE and its Gulf neighbors are outliers – many other countries in the region lag in AI readiness. For example, Saudi Arabia (22nd globally) and Qatar (32nd globally) are the next ranked Arab countries in the 2024 Government AI Readiness Index, while others like Egypt (65th globally) and Morocco (101st globally) have gone down in ranking since 2023. This disparity within the region highlights the nascent AI divide: a few innovation hubs are moving ahead quickly, while others are still in early stages of AI adoption, often due to structural barriers.

Geopolitically, the UAE's proactive AI strategy is positioning it as a strategically autonomous intermediary between global tech leaders and the developing world. By leveraging its significant financial resources and diplomatic acumen, the UAE has positioned itself as an emerging AI powerhouse while maintaining beneficial relationships with both Western and Eastern technological ecosystems. In March 2025, H.H. Sheikh Tahnoon bin Zayed Al Nahyan, Deputy Ruler of Abu Dhabi and National Security Adviser, concluded an official visit to Washington, where he met with US President Donald Trump and senior officials. The visit resulted in significant AI partnerships, including Nvidia and xAI joining the AI Infrastructure Partnership initiative, and an agreement between the Abu Dhabi Department of Government Enablement, Microsoft, and Core42 (a G42 subsidiary) to implement a joint sovereign cloud system. The recent pledge of $1.4 trillion in U.S. AI infrastructure investment demonstrates not merely financial commitment but strategic foresight in securing critical technological partnerships with leading American entities. This approach, modeled via entities like G42 and MGX, allows the UAE to access cutting-edge AI capabilities while simultaneously pursuing its national vision of economic diversification while navigating the complexities and volatilities of great power competition.

2.1 Infrastructure & Ecosystem Development

Building a world-class AI ecosystem requires robust digital infrastructure and supportive platforms for innovation – areas where the UAE has made significant strides. The nation boasts advanced digital infrastructure that provides a foundation for AI deployment: nationwide high-speed connectivity (among the first countries with comprehensive 5G coverage) and extensive cloud computing resources enable data-heavy AI applications to thrive. Key public and private players have invested in AI-specific infrastructure. For example, Abu Dhabi-based company G42 has emerged as a national champion in AI and cloud computing, offering AI-optimized cloud services and even developing supercomputing capabilities to train advanced models. (Notably, UAE researchers, with G42's support, developed the Falcon large language model series, a top-ranked open-source AI model globally). Such infrastructure allows UAE institutions and startups to innovate at scale locally, rather than relying solely on external platforms.

The UAE's tech ecosystem hubs further accelerate AI innovation by clustering talent, capital, and computing resources. Abu Dhabi's Hub71 is a prime example: launched in 2019 as part of the AED50 billion Ghadan 21 accelerator program, Hub71 is a global tech hub that provides startups with access to capital, mentorship, and market opportunities under an enabling regulatory umbrella. As of early 2025, Hub71 has supported hundreds of startups (over 350 by its 16th cohort) and attracted companies from around the world to Abu Dhabi's innovation ecosystem. In late 2024, Abu Dhabi doubled down on AI specifically by launching Hub71+ AI, a specialist ecosystem within Hub71 dedicated to AI-focused ventures. Unveiled during Abu Dhabi Finance Week 2024, Hub71+ AI provides AI startups with "the necessary infrastructure and resources to thrive in a rapidly evolving global economy," underscoring Abu Dhabi's commitment to advance AI in priority sectors. The new hub brings together anchor partners – including local AI powerhouses and global tech giants – to support startups. For instance, G42's cloud unit (Core42) and the AI research institute AI71 joined as anchors, alongside multinational partners like Amazon Web Services, Google, NVIDIA, Hewlett Packard Enterprise, and even MBZUAI and the 42 Abu Dhabi coding school. These partners offer cloud credits, specialized tools (such as access to the Falcon AI models), talent networks, and research collaborations, giving startups in Hub71+ AI a world-class launchpad from the UAE. This is an excellent model of public-private partnership to super-boost the local AI SME ecosystem.

Dubai has its own innovation hubs that complement this landscape, such as Dubai Internet City and Dubai Future District, but much of Dubai's AI infrastructure is also embedded in its government and city operations. Under the Digital Dubai initiative, for example, the city has unified data platforms and smart city infrastructure (open data, IoT sensor networks, etc.) that enable AI solutions for urban management, transportation (like intelligent traffic systems, autonomous vehicles), public safety, and more. Meanwhile, Sharjah's SRTI Park provides infrastructure for tech R&D in an academic setting, including labs and co-working spaces aimed at emerging companies. Across the UAE, free zones and innovation parks offer startups streamlined business setup, R&D facilities, and sometimes funding, creating an ecosystem where entrepreneurs can quickly turn AI ideas into viable products.

Crucially, the availability of funding and investment is an integral part of the UAE's AI ecosystem development. The government has allocated substantial funds to nurture AI innovation: for instance, the Dubai government announced a "Future Accelerator Fund" of AED 10 billion (~$2.7 billion) to invest in AI and frontier tech projects nationwide. Abu Dhabi's Mubadala Investment Company and other sovereign wealth funds have also poured capital into AI startups and venture funds, both domestically and globally, to build the country's portfolio of AI enterprises. The result is a vibrant startup scene with a high density of AI companies. In fact, between 2021 and 2023, the number of AI companies in Abu Dhabi alone grew at an estimated 67% compound annual growth rate, with roughly one new AI company founded every two days in early 2024 (Abu Dhabi SME Hub). This rapid growth trajectory showcases the momentum of the UAE's AI ecosystem, supported by a confluence of world-class infrastructure, welcoming business environments, and ample financial resources.

2.2 Talent Development & Education

Developing and attracting human capital is a cornerstone of the UAE's AI strategy. The country recognizes that a skilled workforce and cutting-edge research are essential to sustain AI leadership. To that end, it has launched dedicated educational institutions and incentive programs to build an AI talent pipeline. Foremost among these is MBZUAI in Abu Dhabi, which has quickly gained global attention. As the "world's first graduate-level AI research university," MBZUAI offers master's and doctoral programs in key AI fields and draws top students from around the world with full scholarships. The university's mission is not only to conduct advanced research but also to train specialists who can drive AI integration in government and industry. By bringing international talent to UAE and producing home-grown AI PhDs, MBZUAI directly addresses the talent gap and supports the strategy's goal of making the UAE a leader in AI R&D. In 2023, MBZUAI graduated its first cohort of students, many of whom have since taken up roles in local industries or continued in research. Beyond formal academia, the UAE has implemented innovative programs to cultivate AI skills, and the UAE's National Program for Artificial Intelligence (overseen by the AI Minister's office) organizes annual AI summer camps, hackathons, and university competitions to raise AI literacy among students and government employees alike.

Equally important, the UAE has focused on talent attraction through immigration incentives. The country introduced a "Golden Visa" scheme that grants 5- or 10-year residency to experts in critical fields, including AI researchers, tech entrepreneurs, and data scientists. This has drawn experienced AI professionals from around the world to relocate to the UAE, contributing expertise to local projects and mentoring younger engineers. Business hubs like Hub71 also offer incentive packages (like subsidized housing, office space, and access to investors) to lure founders and AI specialists to the Emirati ecosystem. Thanks to these efforts, the UAE's talent pool in AI is growing in both quantity and quality. In the Stanford HAI Global Vibrancy Index, the UAE ranked 2nd among the top five countries in the world for AI education and diversity of talent, underscoring the impact of its talent initiatives. The presence of a diverse, international community of AI practitioners – from PhD researchers to startup engineers – is reinforcing the UAE's capacity to innovate.

2.3 Industry Adoption and Innovation

The UAE's AI strategy is not just about research and planning – it is manifesting in tangible adoption across industries and in a flourishing innovation scene. Industry adoption of AI in the UAE is broad-based, spanning government services, business operations, and consumer applications. The public sector has led by example: many federal and local government agencies now use AI to enhance services, from intelligent chatbots that handle resident queries to AI-based document processing that speeds up administrative tasks (MBRSG, 2025). Dubai's government, in particular, has automated numerous services under its Smart Dubai initiatives, applying AI in areas like utilities (e.g. smart grids), transportation (self-driving RTA taxis and metro monitoring systems), public safety (predictive policing and AI-assisted surveillance for security), and municipal services (AI for medical licensing and visa processing). These deployments improve efficiency and citizen satisfaction, and they also normalize AI usage, setting a template for private sector adoption.

In key economic sectors, AI is becoming a driver of competitiveness. In finance, banks and fintech startups in the UAE employ AI for fraud detection, customer personalization, and algorithmic trading. The UAE's regulators have been supportive – the Abu Dhabi Global Market (ADGM) and Dubai International Financial Centre (DIFC) both host fintech sandboxes that encourage AI-driven financial services in a controlled environment. In healthcare, the UAE has piloted AI for diagnostics and patient care (for example, Dubai's hospitals use AI for radiology image analysis, and Abu Dhabi's healthcare systems employed AI tools during the COVID-19 pandemic for faster testing and data analytics). Transportation and logistics is another area: Dubai is testing autonomous vehicles and drones, and Etihad Airways uses AI for optimizing operations and customer service. Even the oil & gas industry, traditionally the backbone of the UAE economy, is leveraging AI – ADNOC (Abu Dhabi National Oil Company) established a joint venture with G42 (AIQ) to deploy AI in hydrocarbon exploration, predictive maintenance, and energy management. These examples illustrate that AI adoption is cutting across sectors, often with public-private partnerships ensuring that critical industries have access to the latest AI technologies.

The vibrant startup and innovation ecosystem amplifies this adoption by developing home-grown

AI solutions. As noted, hundreds of AI-focused startups are now present in the UAE, tackling everything from e-commerce personalization to Arabic language AI, smart city sensors, and biotech. They benefit from the incubation support of Hub71, Dubai Future Accelerators, SRTI Park, and other programs. Many global startups are also choosing the UAE as a base for regional operations, given the supportive environment. The result is a dynamic mix of companies driving AI innovation. One indicator of this dynamism is the UAE's standing in global comparisons: according to the International Finance Forum, the UAE is among the top 10 countries globally in number of AI companies per million people, on par with global innovation hubs like Singapore and Hong Kong. This high concentration of AI enterprises (relative to population) reflects deliberate efforts to attract and grow such businesses.

Investment trends mirror this activity. Venture capital and corporate investment in AI have grown substantially in the UAE over the past few years. Specialized funds (like the Dubai Future District Fund and several Mubadala-backed tech funds) are actively financing AI startups. International investors are also increasingly participating in UAE tech rounds, encouraged by success stories like Careem (the Dubai-based ride-hailing company that used AI and was acquired by Uber) and Presight (an Abu Dhabi-based big data analytics firm under G42 that listed publicly in 2023). The government often co-invests or provides matching funds to de-risk AI projects, catalyzing more private sector involvement. Meanwhile, large UAE enterprises – airlines, banks, retailers – allocate budgets for AI solutions to stay competitive, often contracting local startups or global tech firms. All these factors contribute to a virtuous cycle of innovation: as more AI solutions prove their value in UAE's market, more businesses are convinced to adopt AI, which in turn attracts more entrepreneurs and investment to develop AI offerings.

Notably, the UAE's approach emphasizes collaboration and knowledge transfer. Many of the high-profile AI initiatives involve partnerships between government entities, local companies, and international tech leaders. The Hub71+ AI initiative mentioned earlier is a good example, where global companies like AWS and NVIDIA are directly engaged in empowering local startups. Similarly, Dubai's authorities have MOUs with companies like IBM and Microsoft to set up AI centers of excellence and pilot projects in the city. This openness to collaboration ensures that the latest advances (whether in cloud computing, AI hardware, or algorithms) are available in the UAE and adapted to local needs. It also positions the UAE as a testbed for innovative AI applications – a place where companies can develop and scale solutions for the wider Middle East region. The geographic and economic diversity of the UAE's industries (from finance in Dubai to energy in Abu Dhabi to research in Sharjah) means that a wide range of AI use cases are being tried, contributing to a holistic growth of the AI ecosystem.

2.4 AI Policy & Governance Framework

From the outset, UAE's leaders have recognized that along with investment and adoption, sound governance and policy frameworks are critical to sustainable AI development. The country has been proactive in crafting strategies and guidelines to steer AI in a positive direction. At the highest level is the UAE National AI Strategy 2031 itself, which not only sets economic targets but also outlines principles for safe and ethical AI use. To coordinate implementation, the government established the UAE National Program for AI under the Minister of AI, which acts as a central body to align AI initiatives across ministries and sectors, recommend policies, and measure progress.

A key aspect of governance is ensuring AI is developed responsibly. The UAE was among the first in the region to articulate AI Ethics Principles. Although specifics have evolved, broadly the government has emphasized transparency, fairness, accountability, and safety in AI systems. For example, Dubai's Smart Dubai initiative released an "Ethical AI Toolkit" in 2019 – a set of guidelines and self-assessment tools for AI developers to ensure their solutions do not inadvertently cause harm or bias. On a national level, the UAE has worked on integrating AI ethics into its regulatory considerations. The country's approach has been to encourage innovation in AI while safeguarding public trust. As part of this, the UAE government has updated or introduced related laws such as a data protection law (to govern personal data use in AI systems), and it launched the UAE Cybersecurity Strategy to protect digital infrastructure (recognizing that securing AI systems against cyber threats is essential for trust). These frameworks "underscore the UAE's commitment not only to fostering AI innovation but to implementing it in ways that prioritize ethical considerations and societal

benefit". In practice, this means AI applications in sensitive areas like healthcare or policing are reviewed for compliance with national guidelines, and agencies are encouraged to conduct impact assessments for AI projects.

The regulatory environment in the UAE is often described as light-touch but progressive. In other words, rather than imposing heavy-handed restrictions that might stifle innovation, the government approach is to set broad guidelines and allow room for experimentation in controlled settings. For instance, autonomous vehicle trials and drone delivery pilots have been given special permissions in Dubai, under oversight, to let innovation occur while formulating appropriate regulations. The UAE is also creating regulatory sandboxes specifically for AI – safe spaces where companies can test AI solutions under regulator guidance (ADGM's Digital Lab and the Central Bank's Fintech sandbox are examples that include AI in their scope). The lessons from these experiments inform permanent regulations, and this agile policymaking ensures that rules keep up with technology, a balance many countries struggle to achieve.

Institutionally, the governance structure for AI includes not just the AI Ministry, but inter-ministerial committees and working groups focusing on AI. Many government departments have designated "Chief AI Officers" or innovation leads. There is also engagement with international standard-setting: the UAE is a signatory to the OECD's AI Principles and participates in global forums on AI ethics and governance. In the geopolitical arena, the UAE's stance is to promote international cooperation on AI safety and openness. It has partnered with countries east and west – collaborating with the likes of India and Israel on AI in agriculture and healthcare, and with European and American institutions on AI research and standards – reflecting its diplomatic strategy of being a bridge between technology leaders. This international outlook is coupled with a desire to lead regionally. The UAE often shares its best practices with neighboring countries and is active in Gulf Cooperation Council (GCC) discussions on emerging technology policy. Such leadership is partly why the UAE's neighbors, like Saudi Arabia, have followed with their own AI frameworks (Saudi Arabia issued national AI Ethics Principles in 2022), and the Gulf region as a whole is moving up in AI readiness.

Overall, the UAE's policy approach to AI can be characterized as forward-looking and enabling. By setting a clear vision, investing in governance capacity, and updating laws in tandem with technological progress, the UAE government has created an environment where AI can flourish responsibly. Surveys of global AI readiness consistently highlight the UAE's effective governance: for example, the Oxford Insights index noted the UAE's high scores not only in technology but in government and infrastructure pillars, indicating balanced development. The recent Stanford HAI assessment also found the UAE excelled in "Policy & Governance," ranking 3rd among the top five countries in that dimension. As AI continues to evolve (with new challenges like generative AI, algorithmic bias, etc.), the UAE's governance frameworks are expected to evolve accordingly, keeping the nation on a sustainable path toward its 2031 vision.

3 The Study

Research Approach & Methodology

3.1 Aims of the Study

As artificial intelligence (AI) and its subfields—particularly generative AI (GenAI)—are increasingly adopted across sectors in MENA, the region faces urgent questions regarding competitiveness, capability gaps, and governance. This study was undertaken to better understand how AI can be strategically leveraged to enhance economic development while maintaining inclusive and responsible governance frameworks, particularly among small and medium-sized enterprises (SMEs) operating in the AI and digital economy space.

While the overarching study examines regional trends across ten MENA countries, this chapter focuses specifically on the UAE subset of responses, analyzing the conditions, strengths, and challenges of the UAE's AI SME ecosystem. The UAE has emerged as the region's frontrunner in AI readiness, adoption, and infrastructure. However, the rapid pace of transformation and the complexities of AI governance demand an evidence-based understanding of how AI adoption is materializing at the firm level. The core objectives of the UAE-focused component of this study are to:

- Assess the current state of AI development and adoption among UAE-based SMEs;
- Compare the UAE's AI ecosystem with regional benchmarks to contextualize its performance;
- Identify policy, infrastructural, and talent-related enablers and barriers that influence SME success;
- Examine how UAE SMEs experience the intersection of innovation, regulation, and competitiveness;
- Generate actionable insights to inform national AI policy refinement and regional leadership strategies.

This work is part of a larger project led by the Mohammed Bin Rashid School of Government (MBRSG), supported by Google.org, and builds on over six years of regional research on digital transformation, innovation policy, and governance.

3.2 Methodology

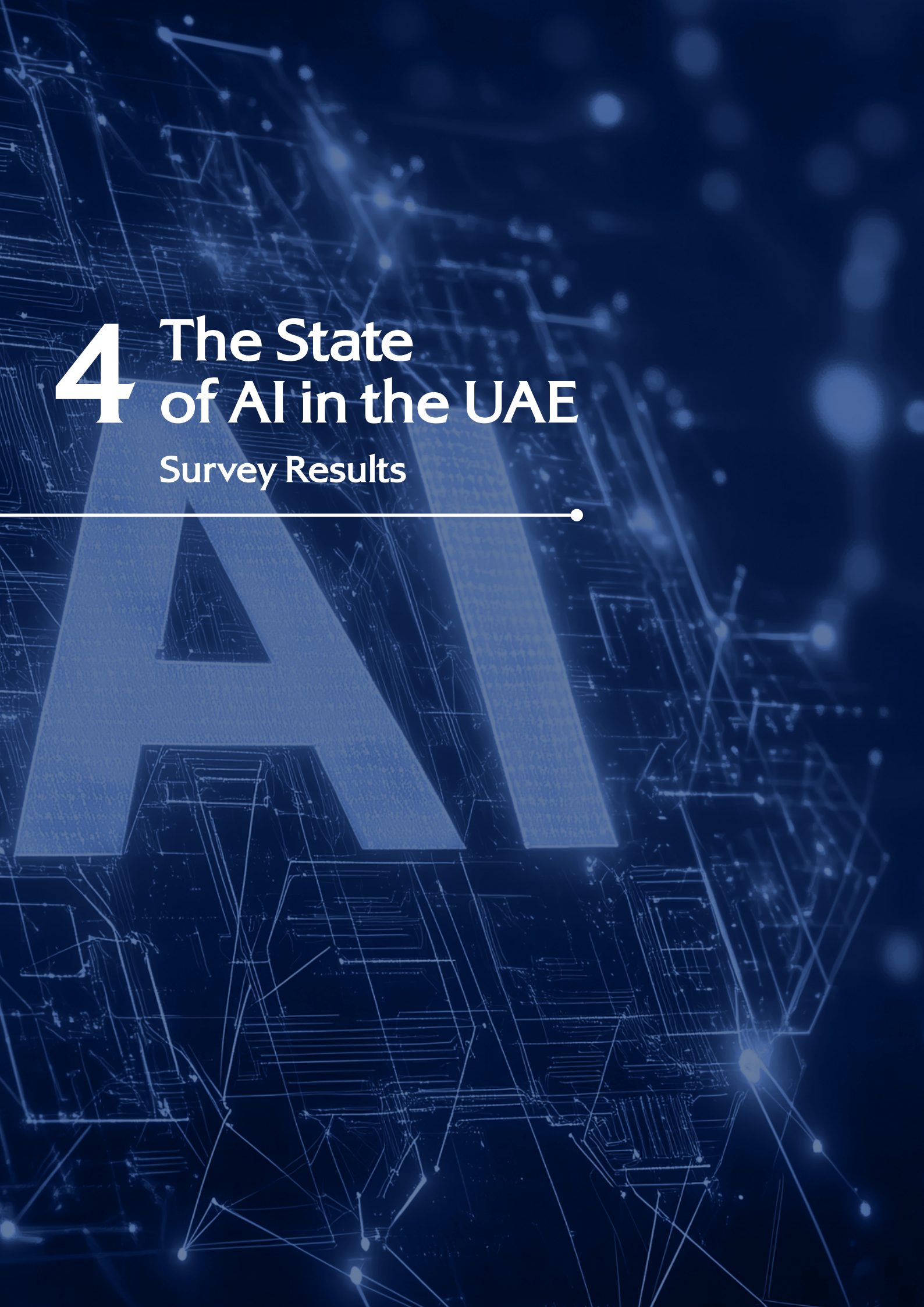
This study employed a mixed-method research design, combining quantitative and qualitative data to yield a comprehensive understanding of AI ecosystem dynamics. At the heart of the analysis is a large-scale survey administered to 327 AI and digital companies across 10 MENA countries. These companies span a range of industries, organizational sizes, and AI maturity levels.

The UAE-specific findings are drawn from a subset of 81 respondent companies, representing 25.1% of the total MENA sample—the largest share of any country in the study. The UAE cohort includes companies headquartered across the emirates, with the majority based in Dubai, Abu Dhabi, and Sharjah.

The survey examined multiple dimensions of AI development and adoption, including AI technology focus areas, use cases and enablers, digital infrastructure and ecosystem components, talent availability and development, access to funding and markets, data accessibility and governance, intellectual property concerns, regulatory awareness and compliance, and SME perceptions of ecosystem health, optimism, and future outlooks.

To ensure comparability, the UAE subset was analyzed using the same metrics and coding structure applied to the regional dataset. Results were then disaggregated to identify UAE-specific patterns and benchmarked against MENA-wide averages to draw contrasts and highlight divergences. In parallel, the research team conducted dozens of stakeholder interviews and regional workshops with policymakers, entrepreneurs, investors, and technology experts. These engagements offered qualitative context to the survey data and surfaced themes such as regulatory interoperability, ethics implementation challenges, and the role of national AI investment in shaping ecosystem outcomes.

While the broader report examines AI readiness and governance across the MENA region, this special UAE edition represents a standalone analysis within the broader study, designed to provide policymakers and ecosystem actors with a granular, evidence-based view of AI development in the Emirates, as well as to inform the UAE's role as a regional catalyst for AI advancement. This UAE analysis zeroes in on sectoral distribution of AI activity within the UAE and the leading domains of innovation, technology maturity and use cases, particularly in generative AI; the distinctive features of the UAE's infrastructure and funding environment, relative to regional peers; and the regulatory and policy context as experienced by firms navigating AI deployment in a highly dynamic environment.



4 The State of AI in the UAE

Survey Results

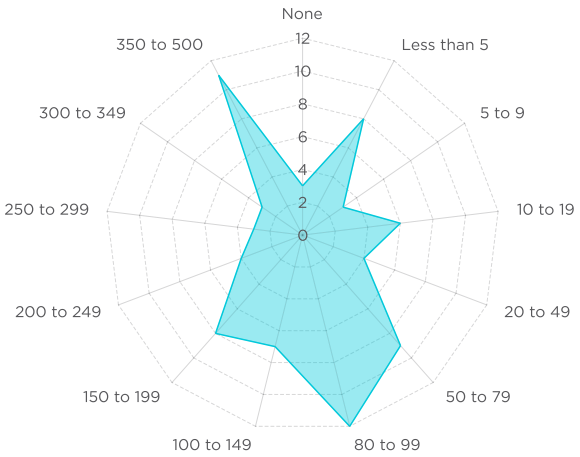
The United Arab Emirates (UAE) is striving to position itself as a leader in artificial intelligence, backed by strong government support and a national AI strategy. This ambitious agenda aims to make AI a significant economic driver (forecast to contribute 14% of UAE GDP by 2030, the highest share in the Middle East) and is reflected in how businesses are navigating the AI ecosystem.

To gauge the state of AI adoption among UAE small and medium-sized enterprises (SMEs), a dedicated survey was conducted, with 81 UAE-based respondents drawn from a MENA-wide sample of 327 AI-focused SMEs. This chapter analyzes the survey findings for the UAE, interpreting key patterns in company profiles, AI usage, infrastructure needs, regulatory environment, and intellectual property (IP) issues. Where relevant, UAE results are compared to the broader Middle East and North Africa (MENA) trends to highlight areas where the UAE diverges from, leads, or lags regional peers. The analysis provides a data-driven narrative of how UAE SMEs are leveraging AI – and the challenges they face – within the context of the nation's supportive but evolving AI ecosystem.

4.1 Company Demographics and Sectoral Spread

Company Size: The surveyed UAE AI enterprises are predominantly small businesses, reflecting the SME focus of the study. A large majority have on the order of tens of employees rather than hundreds – for example, many respondents reported headcounts below 50.This mirrors the MENA-wide profile, where most AI-focused firms are startups or small teams. The UAE's distribution skews slightly toward the smaller end even compared to some regional peers, as the country's AI ecosystem is relatively young and startup-driven. However, there is a healthy mix of micro startups and medium-sized ventures, indicating that some AI firms are beginning to scale up in the UAE market. These size dynamics imply that resource constraints (human and financial) are common – a point that surfaces in their reported needs for funding and talent. At the same time, the concentration of small, agile companies is aligned with the government's goal of nurturing startups as engines of innovation.

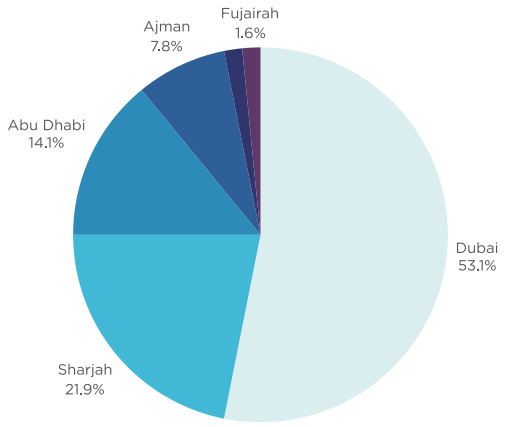
Figure 1: **Headcount: How many employees work in your company?**



UAE Edition: Data Extracted from MENA-Wide Survey

Geographic Spread: Within the UAE, respondents are primarily based in the country's main commercial centers. Dubai, Sharjah and Abu Dhabi host the bulk of AI SMEs, according to the survey's breakdown by emirate (with Dubai alone contributing a significant portion of respondents). This is unsurprising, as these cities offer the most developed tech ecosystems, incubators, and access to clients. A smaller number of respondents hail from other emirates, indicating that AI activity is somewhat concentrated in the UAE's established business hubs.

Figure 2: Company distribution by Emirate



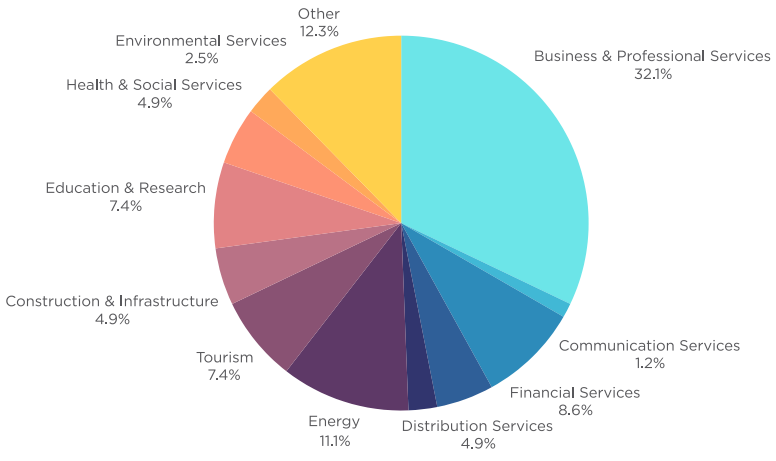
Total Respondents: 81

UAE Edition: Data Extracted from MENA-Wide Survey

The implication is that AI innovation in the UAE is strongly linked to its leading cities, which provide the infrastructure, talent pools, and funding opportunities needed for AI ventures to thrive. Policymakers recognize this concentration, with growing initiatives, incubators and venture capital firms to further bolster these hubs. Over time, continued investment in nationwide connectivity and incubators may help spread AI entrepreneurship more evenly across the emirates, but currently Dubai, Sharjah and Abu Dhabi form the core of the UAE's AI ecosystem.

Industry Spread: The UAE's AI SMEs span a diverse range of industry sectors, though with a clear skew toward certain domains. The professional services and technology sector dominates – over one-third of UAE respondents operate in business and IT services (e.g. AI solution providers, consultancies, or software startups). This aligns with the MENA-wide trend, where "Business & Professional Services" accounted for the largest share (~32% of firms), indicating that many AI enterprises are in the business of providing AI products or services (rather than being end-users in traditional industries). Following professional services, other significant sectors among UAE AI firms include:

Figure 3: In which industry does your company operate?



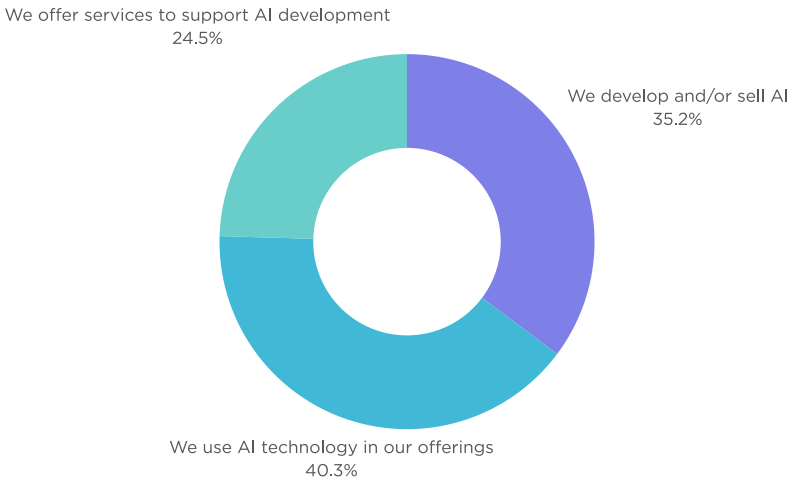
UAE Edition: Data Extracted from MENA-Wide Survey

Overall, the sectoral spread in the UAE indicates a diversified AI landscape with a concentration in service-oriented tech companies. Compared to the MENA region, the UAE has a very similar profile – professional services are dominant in both. One divergence is that UAE's AI sector is more oriented toward corporate and government services (finance, smart city, etc.) and less toward, say, agriculture or local manufacturing (which are more prominent in some other MENA countries' AI efforts). This reflects the UAE's economic structure and strategic priorities: heavy emphasis on finance, tourism, and advanced technology, and less on agriculture. However, in broad strokes, the UAE is leading the region in the same sectors that drive AI elsewhere, rather than charting a completely different course.

4.2 AI Technology Focus and Adoption Patterns

The survey asked UAE companies about the primary focus of their business with respect to AI, and the responses reveal a balanced ecosystem of AI creators and users. Just over 40% of UAE respondents said they use AI technology in their own products or services as the main focus of their company. In other words, these firms are AI end-users or adopters – for example, a fintech startup using AI algorithms within its finance product, or a logistics company implementing AI for route optimization.

Figure 4: **SME AI Use**



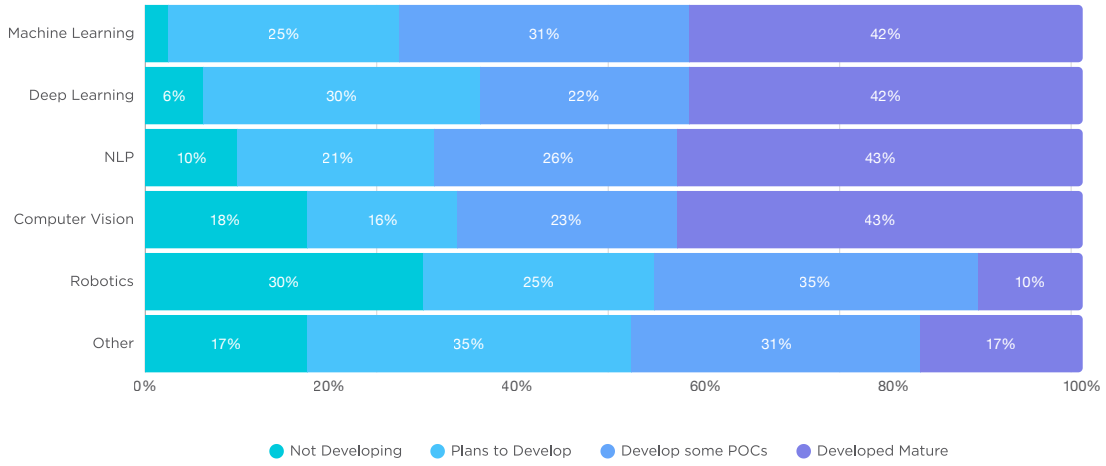
UAE Edition: Data Extracted from MENA-Wide Survey

On the other hand, 35% primarily "develop and sell AI products" (they are creating AI software or tools as their core offering), and about 25% "offer services to support AI development" (such as consulting, systems integration, or data labeling services). These percentages indicate that **roughly 3 in 10 UAE AI SMEs are product-centric AI developers, another 3 in 10 are service providers in the AI domain, and the remaining 4 in 10 are solution adopters embedding AI into their industry offerings.**

The implication is that the UAE's AI SME ecosystem is multifaceted: it's not just composed of pure tech startups building AI algorithms but also includes a strong contingent of firms applying AI in various verticals, as well as consultants and enablers. This balance is healthy for the ecosystem – it means there are local AI vendors and platforms being developed, alongside a customer base and expert services to implement AI solutions. Notably, the UAE does not significantly lag or lead the region in this composition; rather, it is a microcosm of the broader AI value chain present in MENA. If anything, the UAE's slightly higher share of AI product developers underscores its role as an innovation hub (likely aided by government initiatives to foster homegrown AI products), while the substantial share of AI users indicates that AI adoption is spreading beyond the tech sector into end-use industries in the UAE.

The survey also probed which AI technologies the companies are working with and the maturity of those efforts. The findings show that UAE SMEs are actively engaging with core AI technologies – often at advanced stages of deployment – especially in areas like machine learning, deep learning, and natural language processing. In fact, the data indicates that a majority of UAE firms have moved beyond just planning and are already experimenting or deploying solutions in key AI domains:

Figure 5: **AI Technology Development**



UAE Edition: Data Extracted from MENA-Wide Survey

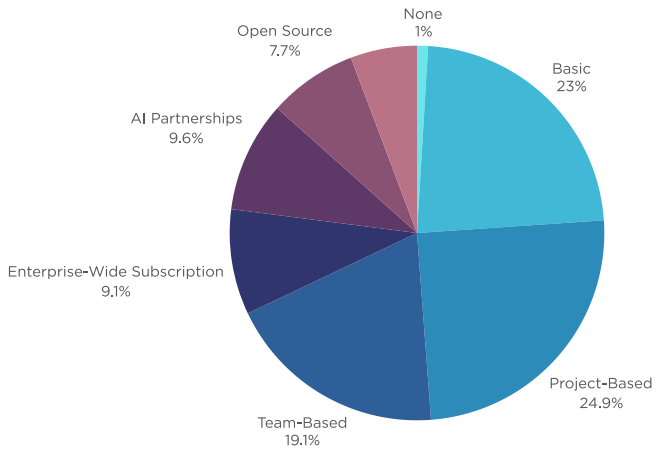
- **Machine Learning (ML) is nearly ubiquitous:** virtually every respondent is doing something with ML, which underpins most AI applications. Regionally, only about 6% of firms said they are "not developing" ML capabilities at all, while roughly 65% have at least a proof-of-concept or pilot in ML, and over one-third have ML solutions fully developed or in production. The UAE subset is more advanced (only 2% "not developing," and 73% having developed at least a pilot) – given the tech-forward environment, many UAE companies report having live ML models powering their business (e.g. predictive analytics models, recommendation engines).
- **Deep Learning (DL)** (a subset of ML focusing on neural networks) shows a similar adoption curve. UAE companies, benefitting from access to modern computing infrastructure (like GPUs on cloud), report using deep learning for tasks such as image recognition, speech-to-text, or advanced predictions.
- **Natural Language Processing (NLP)** appears to be an area of particular focus in the UAE. The survey suggests slightly higher deployment of NLP solutions (around 43% of respondents had deployed NLP apps) compared to ML/DL. This could be due to strong demand for language-based AI in the UAE (chatbots for customer service, Arabic language processing, etc.), as well as national LLM initiatives. UAE firms likely leverage NLP for applications like automated customer support, document analysis, and bilingual (Arabic-English) AI systems, aligning with national priorities to improve AI's Arabic capabilities.
- **Computer Vision (CV)** is also widely pursued – about one-third of respondents had deployed CV, with another third in pilots. In the UAE, use-cases like surveillance analytics, smart city cameras, or retail AI (e.g. cashierless stores) drive computer vision adoption. Many UAE startups report working on vision AI for security, traffic management, and healthcare imaging, so their engagement with CV technology is significant.

- **Robotics and autonomous systems** are where UAE lags slightly in deployment relative to other AI areas. In the UAE, robotics interest is high (given initiatives like Dubai's robotics and automation programs), but actual implementation is limited to specific domains (e.g. a few startups in warehouse robotics, drone tech, or service robots in hospitality). Most UAE SMEs are software-focused, so fewer are building physical AI systems. Thus, robotics remains an emerging frontier – a minority have integrated it, and many are still exploring.
- **Other AI technologies:** Some respondents noted miscellaneous AI tech ("Other"), which could include things like reinforcement learning, edge AI/IoT, or hybrid AI systems. Uptake of these varied, with nearly 20% having deployed "other" AI solutions. In the UAE's case, this includes AI for cybersecurity or edge devices (as the country has a burgeoning IoT scene).

UAE AI firms show a high level of maturity in "core" AI fields (ML, DL, NLP, CV) – most are beyond just theoretical interest and have at least prototypes if not fully operational systems in these areas. This indicates that the UAE is keeping pace with global AI adoption trends among SMEs. Given its resources, the UAE is ahead of the rest of the region in certain implementations (for example, companies in UAE have a bit more capacity to push projects into production, thanks to better infrastructure and funding). The only relative lag is in robotics, which is also true regionally – it's a specialized area with higher barriers to entry. One notable point is the breadth of technology focus: UAE companies are concurrently exploring multiple AI domains (many firms report working on more than one of ML/DL/NLP/CV), reflecting the dynamic and ambitious nature of the sector.

A striking, but unsurprising, finding of the survey is the near-ubiquity of generative AI experimentation among UAE SMEs. Generative AI – typified by technologies like GPT for text generation, DALL-E for images, etc. – saw a surge of interest in 2023, and UAE companies have quickly jumped on this trend. According to the results, almost every respondent in the UAE sample is using or planning to use GenAI in some form, with virtually none saying they have no interest. In fact, across the UAE, only about 1% of firms reported "no use of generative AI." As such, **99% of UAE AI SMEs are at least experimenting with GenAI**, underscoring how rapidly this technology has been embraced.

Figure 6: **Gen AI Implementations**

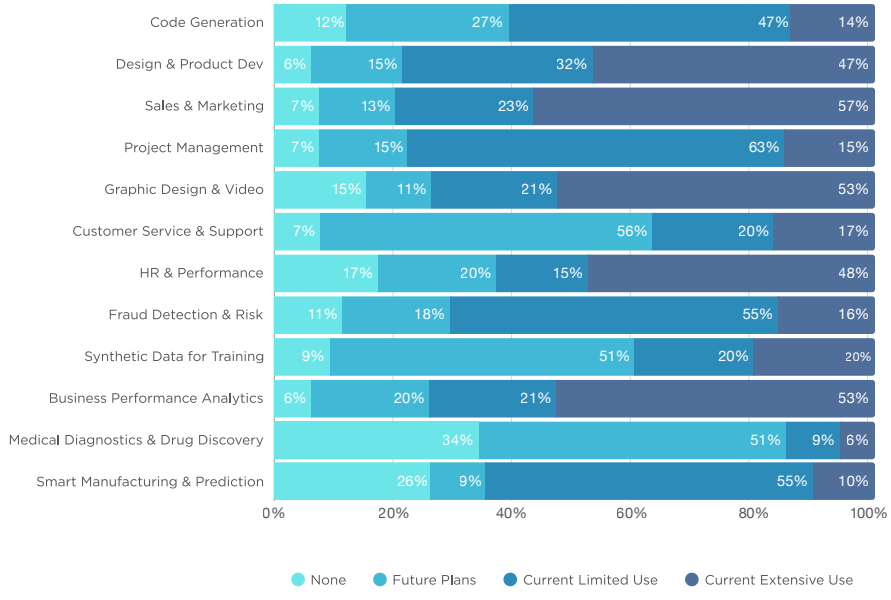


UAE Edition: Data Extracted from MENA-Wide Survey

The approaches to using GenAI vary in scope and intensity: the majority of UAE firms are in early or mid-stage adoption rather than fully enterprise-integrated use. The survey allowed multiple descriptors of GenAI use, and common approaches included:

- **"Project-based" GenAI use** – about a quarter of companies in the UAE apply Gen AI ad hoc in specific projects or pilots (e.g. using an AI model to generate marketing content for one campaign, or a prototype AI content generator for a client project).
- **"Basic experimentation"** – 23% of companies are just doing basic trials with GenAI. This could mean a team playing with GPT-3/4 APIs or internal hackathons to see what GenAI might do for their business. It reflects exploratory interest without structured deployment yet.
- **"Team-based" adoption** – about 19% have certain teams or departments actively using GenAI tools in their workflow. For instance, a customer support team might be using an AI assistant to draft responses, or a design team using AI for creative brainstorming. In the UAE, such team-level adoption is likely in marketing, development, or data science units within startups.
- **Enterprise integration (subscription services)** – around 9% are leveraging enterprise-grade GenAI solutions or subscriptions. This could include using commercial platforms like an enterprise GPT service, Microsoft's Azure OpenAI, or other licensed GenAI tools across the organization. A number of UAE SMEs, especially those with corporate partnerships, may be in this group, piloting advanced GenAI solutions provided by big tech firms.
- **Partnerships and open-source GenAI** – roughly another 10% each indicated using open-source GenAI models and/or engaging in AI partnerships to access GenAI. Open-source GenAI (7.7% of respondents) might involve models like Stable Diffusion or local large language models that companies deploy themselves. Meanwhile, partnerships could mean working with AI labs or consultancies to implement GenAI. UAE's innovation ecosystem (with initiatives like open-source Arabic model Jais released by G42) encourages such collaborative approaches.

Figure 7: **Generative AI Use Cases**



UAE Edition: Data Extracted from MENA-Wide Survey

In addition to general approach, the survey delved into where businesses are applying GenAI. The results reveal that UAE companies are applying generative AI across a wide array of business functions, with particularly high uptake in content generation, marketing, and data analysis tasks. The respondents rated their level of current or planned GenAI use in 12 different use-case domains. A clear pattern emerges: customer-facing and creative applications of GenAI are the most common, whereas highly specialized or industry-specific applications see comparatively fewer users (often those not in that industry). Some highlights:

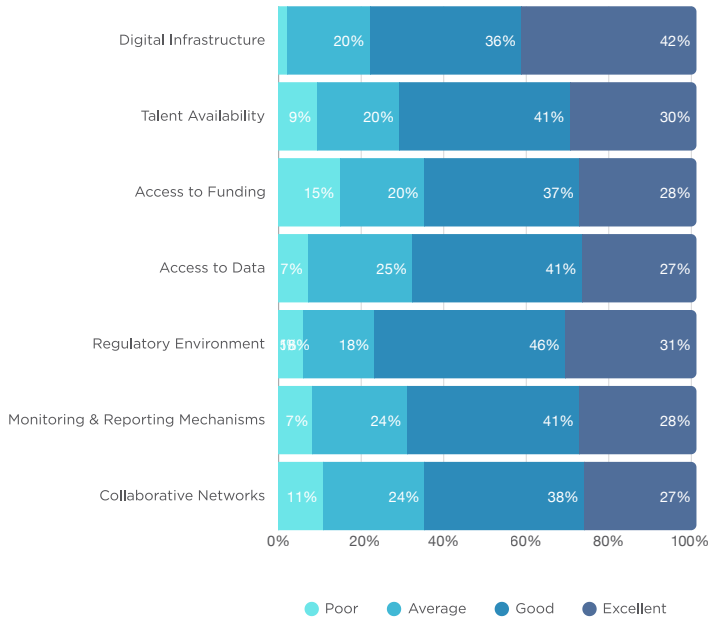
- **Sales & Marketing:** This is one of the top areas for GenAI. An overwhelming majority of firms are using or planning GenAI in marketing and sales operations. startups are using GenAI to draft marketing materials, generate social media content, personalize product recommendations, or even create sales chatbots. Roughly half of the firms indicated extensive use in marketing (embedding GenAI deeply in workflows). This underscores that marketing is often the entry point for GenAI adoption due to its immediate impact on content creation and communication.
- **Design & Content Creation:** Similar to marketing, graphic design, image/video generation, and product design tasks are a hotbed of GenAI usage. Nearly three-quarters of respondents are leveraging GenAI tools for design and media (e.g. using AI to create graphics, logos, video snippets, or to assist in UI/UX design). In the UAE, where a lot of digital media and creative industries flourish (advertising, architecture, etc.), SMEs find GenAI a valuable creative assistant. Many reported extensive use – for example, using AI image generators to produce visual content for clients at scale.
- **Business Analytics & Data:** Generative AI is also being applied for business performance analytics and data analysis. Around 75% of firms are using GenAI to help analyze data or simulate business scenarios (often via AI-generated insights or automated reports). A significant portion of UAE companies have GenAI systems that can parse data and generate summaries or forecasts – effectively using AI to augment data science teams. The survey shows nearly half had extensive use in this area, possibly reflecting the popularity of GPT-based tools to query databases or produce analytic narratives (turning raw data into human-readable analysis).
- **Customer Service & Support:** Many UAE startups are integrating GenAI in customer support, for instance through AI chatbots or drafting responses for helpdesk tickets. The data indicates a high planning rate here (a large number, ~56%, planning to use GenAI in customer service) and a good portion already with limited or extensive use. UAE firms recognize the value of GenAI to provide 24/7 automated support in multiple languages – a key asset in a service-driven economy. While not every company has deployed a chatbot yet, interest is strong and implementations are growing.
- **Software Development (Code Generation):** GenAI is being used to assist developers in writing code. About 86% of respondents are at least planning or experimenting with AI for code generation, and more than half are already using it to some degree. In the UAE's tech community, tools like GitHub Copilot or ChatGPT are increasingly common to speed up programming tasks. The survey shows ~12% not using at all in coding (likely non-tech firms), but a healthy adoption among those who do write software.
- **Human Resources & Operations:** A majority of firms also apply GenAI in HR, talent management, or internal operations (e.g. drafting job descriptions, performance reports, or aiding project management). Roughly 84% of companies have plans or are already using GenAI for such internal processes. SMEs, which have smaller HR teams, find AI useful to automate routine documentation or generate training content. Many indicated current use in this domain, showing that GenAI isn't just outward-facing but also helping streamline internal workflows.
- **Domain-Specific Uses (lower adoption):** On the other end, specialized use cases like medical diagnostics, drug discovery, or manufacturing process optimization see much lower current use – mainly because only firms in those sectors would pursue them. In the UAE sample, relatively few companies operate in biotech or pharma, so GenAI deployment there is sparse (though those in healthcare might be exploring AI for medical imaging reports, etc.).

Importantly, the enthusiasm for GenAI in UAE is tempered by the fact that much of it is still in trial or incremental stages, not yet fully transformative deployments. This is expected given GenAI's novelty – companies are wisely experimenting in controlled ways. The survey's evidence of near-universal interest suggests that the next few years will likely see GenAI move from pilot to production in many UAE businesses, as successful experiments turn into core features.

4.3 Infrastructure & Resource Needs

A supportive infrastructure is critical for AI adoption, and here the UAE enjoys some clear advantages – but also faces the next-level challenges of scaling AI. The survey results on digital infrastructure highlight a key divergence between UAE firms and some of their regional peers.

Figure 8: **Rate the following aspects of the AI ecosystem in your country**



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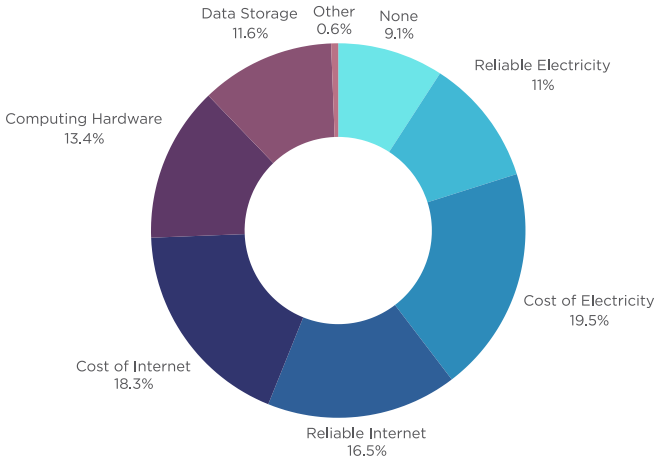
UAE SMEs report few issues with fundamental digital infrastructure such as internet bandwidth or electricity reliability. Regionally, these were top concerns – for example, 19.9% of MENA respondents said unreliable internet connectivity was a major challenge for their business, and 16.7% cited unreliable electricity supply as an issue. In contrast, very few UAE companies selected these as pain points. This is unsurprising given the UAE's world-class connectivity: internet penetration stands at over 97%, and the country has over 90% 5G coverage along with a highly stable power grid. Such figures translate to daily business reality – outages or slow connections are rarely a blocker for UAE tech firms. As a result, UAE AI SMEs largely take connectivity for granted, allowing them to focus on higher-level infrastructure needs. One respondent quipped that cloud servers in local data centers are "only a ping away." Government investments in telecom and data center infrastructure have clearly paid off, creating an environment where issues like network downtime – common in some neighboring countries – are minimal. This frees UAE companies to pursue advanced AI without worrying about basic uptime. It's a notable lead the UAE holds over many regional peers, where companies must often grapple with patchy internet or power disruptions.

Figure 9: Infrastructural Challenges



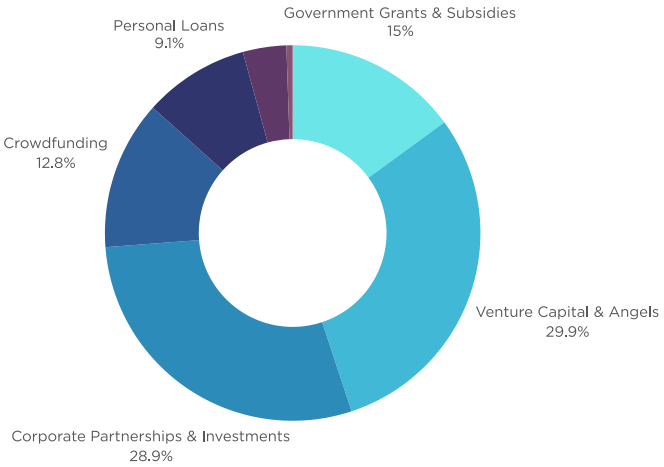
UAE Edition: Data Extracted from MENA-Wide Survey

Another challenge is access to specialized AI infrastructure like AI accelerators, edge computing for IoT, or large-scale data storage solutions for big data. As projects grow, SMEs in UAE seek economical ways to store and process ever-growing datasets. While the country has the largest data center cluster in MENA and initiatives like G42 Cloud offering AI compute services, the demand is also growing fast – meaning SMEs sometimes feel a gap between what they could do and what they can afford to do at scale. Essentially, UAE firms face the high-end version of infrastructure challenges: not "can we get online?", but "can we afford enough GPUs and storage to train our model to state-of-art performance?"

The UAE's advantage in infrastructure is also due to local availability of cloud data centers (by AWS, Microsoft Azure, Oracle, etc.) which reduce latency and regulatory concerns for data. Many UAE companies host their AI workloads on these clouds. The survey didn't directly ask about on-premise vs cloud, but given the responses, one can infer widespread cloud adoption among UAE AI SMEs. Very few would have their own server farms; instead, they utilize cloud credits or subscriptions. The presence of local cloud regions is a plus – firms can keep data in-country to comply with any data residency rules and enjoy faster speeds. This is a differentiator; some MENA peers lack local cloud data centers and must host abroad with higher latency. The UAE's policy of attracting global cloud providers and building large government-supported computing facilities (like G42's supercomputer initiatives) thus directly benefits its AI startups. As a result, UAE firms rarely complain about lack of access to cloud platforms – rather, they focus on how to leverage these platforms cost-efficiently.

Beyond technical infrastructure, financial resources are a critical part of the ecosystem that enables AI development. The survey inquired about the main sources of funding for AI-related SMEs. The funding landscape for UAE AI firms combines robust private investment with notable government support, and in this respect the UAE is somewhat ahead of many regional peers in the options available. According to survey data, the top funding sources for AI SMEs in the UAE are venture capital (VC) and corporate partnerships/investments, each cited by nearly 30% of respondents as primary funding channels. Government grants or subsidies were the next major source (~15%), followed by personal loans or self-funding (~9%) and crowdfunding (~13%).

Figure 10: **Funding Sources**



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For UAE respondents, venture capital and angel investment feature prominently as well – the UAE has a vibrant VC ecosystem (with local and international investors actively funding tech startups). Numerous AI startups in the UAE have raised seed and growth rounds from VC funds, and this is reflected in the survey: nearly a third rely on VC/angel funding as a key source. Corporate investment is also significant in the UAE context. Large entities (banks, telecoms, energy companies) often invest in or partner with AI startups. Nearly 29% of respondents across the UAE cited corporate partnerships/investment, thanks to initiatives like corporate venture arms (e.g. Emirates NBD's fintech fund, Etisalat's innovation program) that actively engage AI ventures.

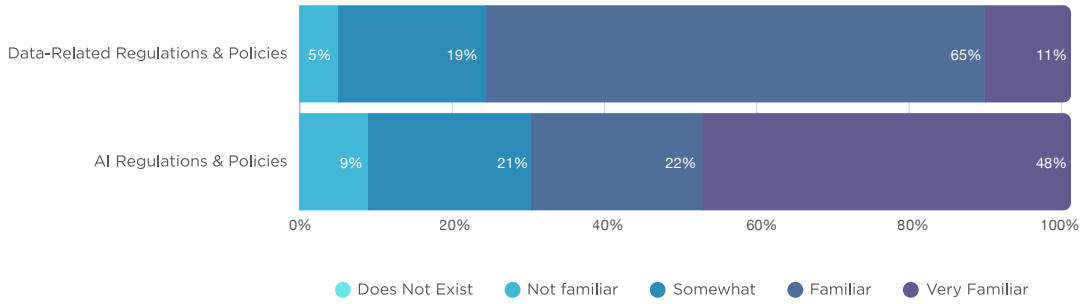
The UAE funding environment for AI SMEs is comparatively strong, but not without its challenges. Many UAE startups have successfully raised capital, reflecting in the survey that multiple funding avenues are being utilized. However, securing funding is still a top-of-mind concern – in previous chapters it was noted that despite increasing investment, early-stage funding gaps remain in MENA. The UAE is mitigating this via public and private initiatives: e.g. the $2.7B Dubai Future Accelerators Fund launched to back AI and deep-tech projects. This kind of state-backed investment was highlighted by participants as a key enabler unique to the UAE. By contrast, peers in some other countries rely more heavily on personal funds or struggle with less developed VC markets.

4.4 Regulatory Environment & Policy Issues

The policy and regulatory environment in the UAE are a major factor shaping AI development. The survey examined how familiar companies are with relevant regulations, how those regulations impact them (both positively and negatively), and what regulatory challenges or needs they perceive. The results for the UAE depict a landscape where awareness is high and attitudes are cautiously positive, but also where companies keenly feel the need for supportive, clear policies to keep enabling growth. Compared to the broader MENA region, the UAE stands out for having established AI and data regulations in place, which yields some distinct perspectives among its SMEs.

UAE respondents generally report a high degree of familiarity with the country's AI and data regulations. Virtually none of the UAE firms say "such regulations do not exist" – indeed, the UAE has enforceable data protection laws (e.g. the UAE PDPL of 2021) and published AI ethics guidelines. Moreover, a majority of UAE SMEs indicated they are at least "somewhat familiar" with current data/AI regulations, and a notable subset described themselves as "very familiar" with these rules. This reflects the extensive communication and training around UAE's digital laws – for example, businesses have been educated about the new data law and the national AI strategy's guidelines. It may also reflect the fact that many UAE AI firms collaborate with regulated sectors (like finance or healthcare) where understanding compliance is necessary. The familiarity level in UAE is higher than the regional average.

Figure 11: **AI Technology Development**



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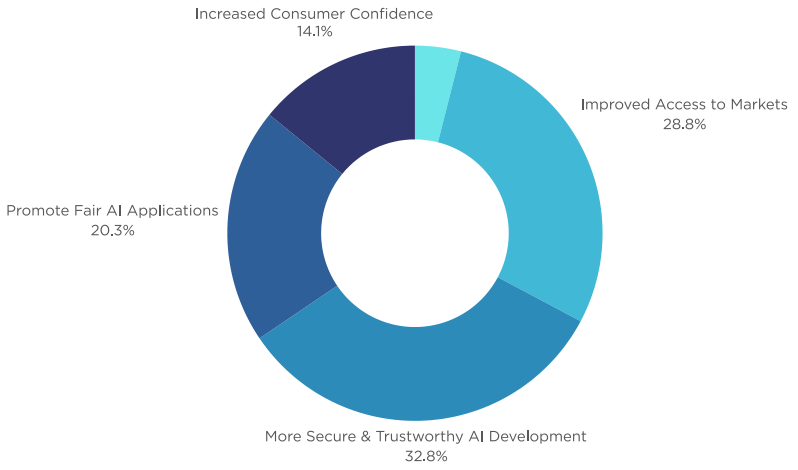
However, "familiar" doesn't always mean "straightforward." Several UAE respondents noted that while they know regulations exist, interpreting them in practice can be challenging – which leads to the next point on regulatory impact.

Figure 12: Positive Impact of Regulations & Policies



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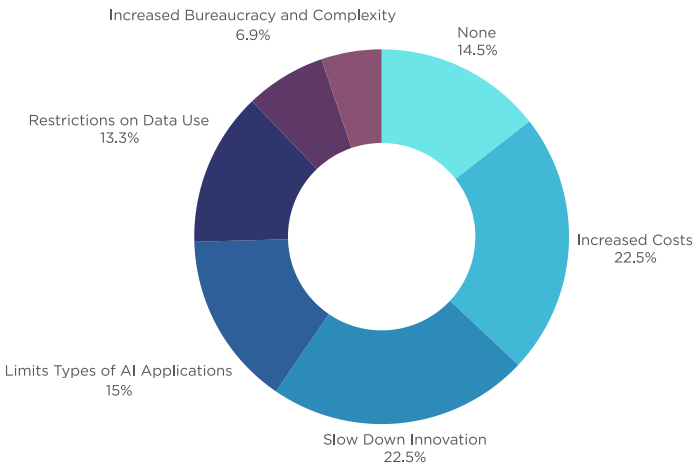
The survey asked in what ways current regulations/policies positively affect businesses' AI development. Interestingly, UAE companies do see some concrete benefits from the policy environment. The top positive impacts cited (in both UAE and MENA) were: improving the security and trustworthiness of AI, and improving access to markets. Nearly 33% of respondents said that having regulations (e.g. data protection, AI principles) helps ensure AI is developed in a secure, trustworthy manner. Clients are more willing to adopt AI if they know data is handled under a law, and AI products from UAE can be marketed as "compliant and ethical by design." About 29% also noted that policies open doors to markets. For example, compliance with international standards (like GDPR alignment via UAE's law) can make it easier for UAE AI companies to do business with Europe or global clients, thus expanding their market opportunities.

In the UAE specifically, this optimism might be a tad higher because the government has been explicitly positioning regulation as an enabler (creating sandboxes, clarity, etc.). Anecdotally, some UAE founders mentioned that supportive policies (like open data initiatives or AI-friendly procurement rules) have helped their business – these count as positive regulatory impacts too. Overall, UAE SMEs appreciate that a stable and well-regulated environment can enhance trust in AI, which ultimately helps their growth. This outlook is in line with the region, though perhaps more pronounced in UAE since the policy framework is more developed (therefore capable of providing those benefits).

On the flip side, regulatory challenges do exist – even in a supportive environment like the UAE, companies encounter friction from compliance and policy constraints. The survey results show a mix of concerns. The top negative impacts of current regulations cited by respondents were: increased operational costs, slowed innovation, and restrictions on types of AI applications. Specifically, about 23% said regulations add costs (e.g. compliance costs, needing to hire legal experts, invest in security measures) and another 23% felt they slow down innovation by introducing bureaucratic hurdles or delays. For instance, complying with the new data law means SMEs must implement data protection measures (which incur cost) and possibly undergo audits or legal consultations. One UAE startup pointed out that navigating ambiguous requirements took time away from development – an example of innovation slowdown.

Figure 13: Negative Impact of Regulations & Policies

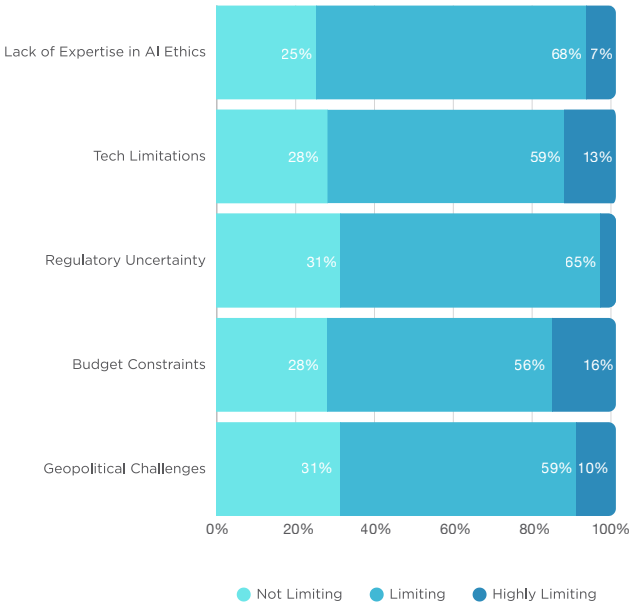


UAE Edition: Data Extracted from MENA-Wide Survey

Around 15% noted regulations limit the types of AI applications they can pursue. This could refer to restrictions on using personal data which might hamper certain AI models (like training AI on healthcare data is limited by privacy rules) or bans on certain technologies until approved (for instance, strict drone regulations might slow AI drone deployment).

In the balance of positive vs negative, it appears UAE firms generally find that the positives slightly outweigh the negatives. The fact that only ~4% see no positives but ~15% see no negatives suggests more people acknowledge upsides. Most are in between – they appreciate the benefits of a governed space but are also weighed down by compliance burdens. Compared to regional peers, UAE companies may face more regulatory requirements (since UAE has more enforcement mechanisms than other countries in the region that have not enacted them yet), but they also likely gain more from having those frameworks (e.g. easier international integration, customer trust).

Figure 14: AI Ethics & Compliance Challenges

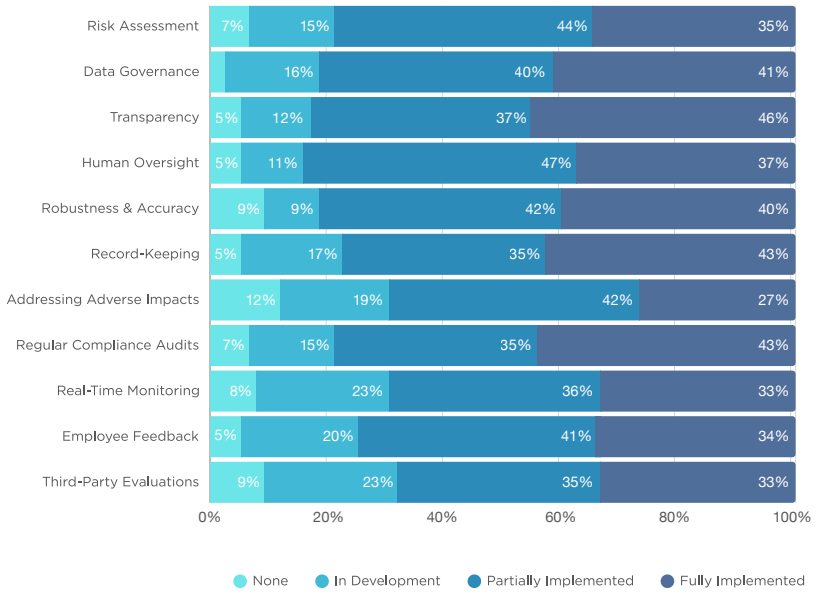


UAE Edition: Data Extracted from MENA-Wide Survey

One area the survey highlighted is regulatory uncertainty as a challenge. Nearly 70% of respondents in the UAE found "regulatory uncertainty" to be at least a limiting factor in their ability to comply with AI ethics or rules. While laws exist, some uncertainty still remains – for instance, how potentially forthcoming AI-specific laws (like any future AI licensing or liability rules) will shape business, or how strictly current guidelines will be enforced. Lack of clarity or evolving rules can make long-term planning difficult. UAE companies crave more detailed, AI-tailored regulations (most current laws cover data, with AI ethics guidelines that are voluntary). Thus, one of the asks that emerged in the interview data is more comprehensive AI regulations that remove ambiguity. Indeed, "Clear & Supportive AI Regulations" was one of the most requested government support actions, selected by nearly 25% of respondents. This indicates that even in the UAE, companies want the government to continue refining the regulatory framework to explicitly address AI development and deployment concerns, in a way that enables innovation.

The survey also looked at how companies are coping with compliance, especially regarding AI ethics standards (transparency, bias, etc.). Many UAE firms reported facing challenges like lack of expertise in AI ethics, regulatory uncertainty, and budget constraints for compliance. For example, over 75% said lacking in-house ethics expertise was a limiting factor, and a similar proportion found budget constraints limiting their compliance efforts. This is telling – even if laws exist, SMEs struggle with implementing all the necessary governance internally. The data suggests budget constraints were especially noted (with around 72% of respondents finding it limiting), meaning that dedicating resources to compliance (which doesn't directly generate revenue) is tough for small firms. Technical limitations (keeping AI explainable, auditable) also limit compliance for many.

Figure 15: **AI Ethics Standards**



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However, the UAE is proactively addressing AI ethics – e.g. through the UAE AI Ethics guidelines and programs to train AI professionals in compliance. Some UAE companies in the survey indicated they have partially or fully implemented certain ethics standards (like data governance policies, human oversight mechanisms, etc.), aligning with those guidelines. This could be slightly ahead of the regional curve. Still, UAE leaders see room to improve on issues like AI bias and transparency – categories where a sizeable chunk are "somewhat concerned" or "extremely concerned" about their impact. For instance, ~75% were somewhat or highly concerned about AI bias/fairness issues affecting their business. This underscores that ethical and regulatory aspects remain a work in progress: companies are aware and worried, but still building capacity to fully tackle them.

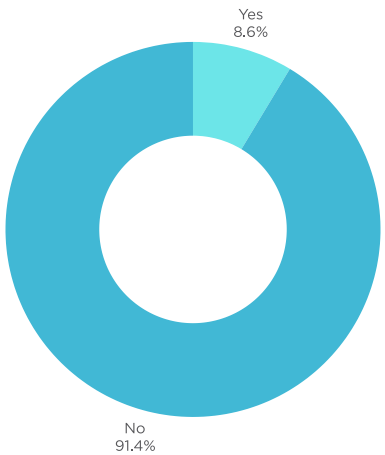
For UAE companies that do business across borders, differing regulations in MENA can pose challenges. The survey asked if firms face issues with the interoperability of regulations across the MENA region – essentially, conflicting rules when operating in multiple countries. The majority of UAE SMEs likely answered "No" here, since many are primarily domestic or focused on one market. However, the nearly 20% that are aiming regionally (perhaps offering AI solutions in GCC and beyond) reported headaches like having to navigate different data privacy laws in each country or uncertainty if an AI tool approved in one place is allowed in another. For example, a UAE health AI startup expanding to Saudi Arabia must deal with Saudi's data rules and AI regulations from scratch. These inconsistencies can slow expansion. It's noteworthy that about a third experience this – pointing to a need for more harmonized regional AI governance or mutual recognition. The UAE's leadership in AI could be instrumental in fostering regional dialogues to align standards, so that its home-grown companies can scale out more easily.

In summary, the UAE's regulatory environment for AI is relatively advanced and generally viewed favorably by SMEs, especially in terms of providing a trusted framework and being a global pioneer (which indirectly benefits companies). UAE firms are more aware of and compliant with regulations than many peers, owing to the government's active role. They benefit from this through increased trust and clearer rules of the road. However, compliance comes with costs, and companies do feel the strain of regulations in the form of added overhead and caution that can temper agile innovation. The UAE is not immune to the common complaint that regulation lags technology – some entrepreneurs find that rules haven't fully caught up to AI possibilities, creating grey areas or bottlenecks. The key takeaway is that UAE SMEs want a balanced approach: strong, clear regulations that protect and enable, without unnecessary burden. The survey indicates the UAE is on the right track, comparatively ahead of many neighbors in striking this balance, but continuous refinement (especially around AI-specific policies, data sharing frameworks, and cross-border alignment) will be crucial.

4.5 Intellectual Property & Data Governance Considerations

Intellectual property (IP) rights and data governance are important considerations for AI companies, impacting how they protect their innovations and manage their inputs/outputs. The survey gathered insights on IP registration and infringement experiences among SMEs. The findings suggest that UAE AI SMEs, much like their regional peers, are in early stages when it comes to formal IP protection, and they have encountered a fair share of IP-related challenges. There are areas where the UAE's globally connected environment influences IP strategy, but also common regional issues of IP enforcement.

Figure 16: **Did you ever register any IP, patent or digital asset outside of the country in which your company is headquartered?**



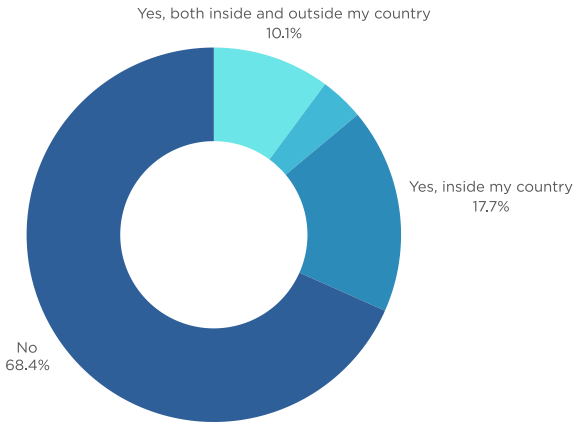
UAE Edition: Data Extracted from MENA-Wide Survey

An overwhelming majority of UAE respondents have not registered any IP (patents, copyrights, trademarks, or digital assets) outside of the country. Specifically, 91.4% answered “No” to having ever registered IP abroad, with only about 8.6% saying “Yes”. This indicates that relatively few SMEs have sought international patent protection or similar IP filings in jurisdictions outside the UAE. The reasons could be multiple: many AI startups are young and may not yet have patentable inventions or the resources to file abroad; others might rely on trade secrets or open-source models instead of formal patents; and some might feel domestic protection (or none at all) is sufficient at their stage.

It’s worth noting that the UAE’s domestic IP regime is fairly robust – companies can and do register trademarks or patents with the UAE authorities. But the data suggests most are not extending that protection overseas. Only a handful of UAE SMEs, likely those with unique algorithms or scaling globally, have gone through the process of filing PCT patents or registering IP in the US/EU. These could be firms with novel AI technology targeting international markets or who have investors pushing them to secure IP globally. The lack of foreign IP registration can be a competitive disadvantage if these companies expand abroad later without patent protection, but it can also be a conscious trade-off given the cost and complexity of patents. In essence, UAE AI firms currently focus their IP efforts locally (if at all). This aligns with the region, where startups often delay patenting due to cost; plus, software AI patents can be tricky. One inference is that UAE firms might be relying on first-mover advantage and continuous innovation more than patents to stay ahead, or using open-source frameworks that are not patentable. Another is that they may be unaware of the importance of international IP in the long run. This could be an area for policy improvement – helping more UAE startups patent their innovations globally to increase their asset value. The UAE government has encouraged innovation and could consider subsidizing patent costs or providing legal support, which would address this gap.

A significant proportion of AI SMEs reported experiences with IP infringement – theft or unauthorized use of their digital assets, data, or outputs. According to the survey, nearly 32% of respondents had encountered some form of IP infringement (combining those who said yes). Breaking it down: Nearly 28% experienced IP infringement within their country, and an additional 10% experienced infringement both inside and outside their country. (Another small percentage, about 3%, experienced it outside only). Roughly 68% said they have not experienced any IP infringement to date.

Figure 17: **Has your company ever experienced IP infringement in relation to your digital assets, inputs or outputs?**



UAE Edition: Data Extracted from MENA-Wide Survey

This means nearly a third of UAE AI SMEs have dealt with IP violations, primarily in the domestic context. For example, a startup might have had a competitor copy its software features, or a former employee take code/intellectual assets to a new venture. The fact that over one-third faced infringement locally points to continuing challenges in IP enforcement and perhaps a cultural issue of weaker IP respect in the region's tech scene. It may also indicate that in fast-moving fields like AI, ideas propagate quickly and not everyone plays by the rules in terms of licensing or originality.

A smaller but notable set, and one that will likely grow over the next months and years, faced cross-border IP infringement (i.e. their IP was violated both in UAE and abroad). This could involve scenarios like an AI model or product being replicated by an overseas entity without permission, or data being misappropriated in another jurisdiction. That some UAE companies have this experience suggests a degree of international exposure – perhaps their products were accessible globally (e.g. via app stores or open source releases) and got copied elsewhere. It underscores the need for international IP protection – ironically tying back to the low foreign IP registration: if you haven't patented abroad, others might freely copy your innovation in their markets.

Although not directly a survey question, an issue that emerged in interviews is the ownership of data and outputs (which can also be an IP concern). Many AI companies grapple with whether they or the client owns the model trained on client data, or who owns AI-generated content. The UAE's data laws give some guidance (individuals own personal data, etc.), but not all scenarios are covered. This uncertainty could be part of why companies fear infringement – e.g. if an AI model is trained on a proprietary dataset, is using that model elsewhere an IP violation? These nuanced questions are being felt globally; UAE firms are essentially in the same boat, having to contractually clarify data/IP ownership with partners.

5 Shaping the Future

Analysis & Policy Directions

The UAE's AI ecosystem has evolved from regional frontrunner to a serious global contender. Recent international indices place the UAE shoulder-to-shoulder with the world's top AI powers. Notably, Stanford HAI's 2025 AI Index ranked the UAE 5th globally (out of 36 countries) in overall AI ecosystem vibrancy – behind only the US, China, UK, and India. This means the UAE outranks established tech nations like France, South Korea, and Germany. Likewise, in the Oxford Insights Government AI Readiness Index, the UAE climbed to 13th worldwide (first in the Arab world) as of 2024, up from 18th a year prior. These global benchmarks underscore that the UAE is no longer just leading its region, but is firmly among the top tier of countries in AI capacity and preparedness, alongside the US, China, Singapore, and other advanced economies.

Several strategic advantages have propelled the UAE to this position. First, the UAE boasts world-class digital infrastructure and significant computing power. It was among the earliest with nationwide 5G, and investments by companies like G42 have created AI-optimized cloud and supercomputing resources capable of training advanced models. For example, UAE researchers (with G42's support) developed the Falcon large language model – a top-ranked open-source AI model globally – demonstrating local capacity to contribute to cutting-edge AI development. This robust infrastructure allows UAE startups and institutions to innovate at scale domestically rather than relying solely on external platforms. Second, the UAE government provides ample public funding and strategic clarity for AI. Since launching its National AI Strategy in 2017 (followed by the AI Strategy 2031), the government has created an enabling policy framework and invested heavily in implementation. Abu Dhabi and Dubai, in particular, have channeled billions into AI initiatives – for instance, Abu Dhabi's government committed $13 billion to become an "AI-powered" government. Flagship projects like the Mohamed bin Zayed University of AI (MBZUAI) and innovation hubs like Hub71 were established to anchor talent and startups. Third, the UAE's commitment to open-source AI and knowledge sharing has given it an edge. By open-sourcing advanced AI models (e.g. Falcon 40B and the Arabic LLM "Jais"), the UAE not only accelerates local innovation but also earns global recognition, positioning itself as a contributor to the worldwide AI community rather than just a consumer. Finally, the UAE benefits from a high concentration of AI enterprises and a cosmopolitan talent pool, on par with hubs like Singapore and Hong Kong. This is bolstered by deliberate efforts to attract AI entrepreneurs and experts to the UAE. In fact, the UAE's AI talent pool increased by 168% since 2016 and the country now ranks 3rd globally in net AI talent migration (with an influx of skilled AI professionals). Such inflows, combined with scholarship programs and Golden Visas for tech talent, have created a diverse AI workforce. The UAE even appears among the top 10 countries contributing to highly cited AI research publications (2021–2023). These advantages – cutting-edge infrastructure, generous public investment, strategic vision, openness in AI development, and talent magnetism – have made the UAE's ecosystem both vibrant and uniquely well-rounded.

That said, important gaps and challenges remain as the UAE aspires to match the very top AI nations. Talent scale is one concern: while the UAE has quality talent, the overall quantity of advanced AI specialists is still limited by its population size. AI skills are not yet deeply penetrated across the broader workforce or traditional industries (MBRSG, 2025). The Stanford Index data shows that despite rapid gains, the UAE (like its Gulf peers) still has room to broaden AI skill adoption economy-wide. Simply put, the UAE must train or attract many more AI practitioners to meet its ambitious goals.

Another gap is in foundational R&D and intellectual property. The UAE's research contributions, though growing, are relatively nascent compared to giants like the US or China. Few truly fundamental AI breakthroughs or seminal AI algorithms bear UAE origins so far. Survey data on UAE AI SMEs indicates that very few are developing protectable IP for global markets – only about 9% of surveyed UAE AI firms have filed for patents or IP protection overseas. The vast majority focus on domestic or regional applications without extending their intellectual property internationally. This lack of global IP and patenting points to limited export of homegrown AI innovations – a gap if the UAE wants a strong AI export industry. It also suggests many UAE startups rely on existing open-source tech or trade secrets rather than creating patented innovations, which could be a competitive disadvantage abroad.

Furthermore, private-sector AI output (in terms of globally scaled products or unicorn startups) is still emerging. The ecosystem is heavily supported by government and public-sector demand; few UAE AI companies have achieved major international commercial success yet (aside from exceptions like Careem in ride-hailing or emerging firms under Group 42). The scale of foundational research in academia is also limited – UAE universities and labs publish far fewer AI papers than top U.S. or Chinese institutions, and the country slightly lagged even a regional peer on certain R&D metrics (e.g. Saudi Arabia marginally outscored the UAE on the AI Index's R&D indicator). Finally, talent depth in advanced research and niche AI fields remains a work in progress – the UAE still relies significantly on imported expertise, which means building a sustainable local talent pipeline is crucial. The UAE's AI ecosystem is strong and dynamic, but to truly stand alongside the likes of the US and China, it must address scale limitations in talent and research, boost its homegrown innovation outputs (patents, global products), and ensure the private sector becomes as robust as the public drive. These gaps are the focus as the UAE charts its next strategic moves.

Future Directions

To secure its position as a top-tier AI nation and address the gaps identified, the UAE should pursue a set of ambitious yet actionable measures. Below are key recommendations organized by theme, each aimed at bolstering the UAE's AI ecosystem for long-term success:

Accelerate Startup and Scale-up Growth in the AI Sector. A vibrant startup ecosystem will be the engine of the UAE's future AI growth, so policies must ensure that more AI startups launch, succeed, and scale into global companies. First, improving access to capital for AI entrepreneurs is essential. Building on initiatives like the Dubai Future District Fund and Mubadala's tech funds, the UAE could create a dedicated AI venture fund or accelerator network that provides seed funding, mentorship, and cloud credits to promising AI companies. Public co-investment (matching funds with VCs) has proven effective and should continue to de-risk early-stage investments. Second, use public sector procurement and challenges to spur startups – for example, allocate a portion of government tech procurements to startups or run grand challenges for AI solutions to government problems (with winners gaining contracts or pilot opportunities). This can rapidly inject reference projects and revenue into young firms. Third, help startups go from startup to scale-up by facilitating their expansion beyond the UAE. The government can support international soft-landing programs, helping UAE AI companies exhibit at global tech events or connect with foreign clients. Given that few UAE AI SMEs currently secure international IP or patents, assisting them in navigating patent filings and standards abroad (perhaps via an "AI IP support office") would be valuable. Improving the regulatory environment for startups is also part of this recommendation – continue streamlining business setup, licensing, and data access. The UAE's entrepreneurs cite a generally supportive environment, with regulatory clarity that often benefits them, but remaining bureaucratic hurdles (like cost of compliance or difficulties in cross-border data transfer) should be identified and eased. Finally, nurture innovation clusters where startups, corporates, and researchers co-locate and collaborate. The model of free zones (e.g. ADGM for fintech, Dubai Internet City) can be extended to AI-specific zones or testbeds (for instance, a zone for autonomous vehicle and robotics testing with special permissions). By accelerating the full lifecycle from startup inception to growth and expansion, the UAE can cultivate its own AI giants. The success of companies like Careem and Presight AI shows the way – the next Careems should find it even easier to emerge, scale, and go global from UAE's soil.

Shift from Infrastructure Building to Application-Driven AI Leadership. Over the past five years, the UAE has invested heavily in foundational infrastructure – from national cloud and supercomputing resources to sovereign open-source models like Falcon and Jais. This strategic groundwork has paid off: the country now possesses world-class capabilities for training and hosting AI systems. But the next frontier is not more foundational investment – it's about deployment at scale. The UAE should now leverage the "DeepSeek effect": the global realization that advanced AI models can be developed and deployed at dramatically lower cost. This makes it feasible for SMEs, startups, and even government entities to move aggressively into inference and application-layer AI, applying existing models in specific high-impact domains. Rather than foundation model training (a capital-intensive arms race), the

UAE can dominate in how AI is used – in climate tech, urban mobility, digital services, education, sustainability, and beyond. To do this, the government should incentivize inferencing and AI application development through compute credits and applied research grants focused on generative AI, robotics, and spatial intelligence. Additionally, prioritized investments in edge and spatial computing infrastructure, including specialized chips and 3D modeling platforms, to enable real-time, embodied, or offline AI applications. And open national sandbox environments for agentic AI and autonomous systems, enabling rigorous testing of multi-agent orchestration platforms in sectors like logistics, healthcare, and cybersecurity. The next phase is not about catching up to the US or China in training capacity – it's about outpacing them in deployment, experimentation, and integration into real-world systems. The UAE has already proven its infrastructure readiness; the strategic challenge now is to catalyze a wave of AI-first products and platforms built in, for, and from the Emirates.

Bolster AI Talent Development and Retention. Continue to expand the talent pipeline through education and immigration initiatives, while focusing on retaining expertise in-country. This means scaling up successful models like MBZUAI and coding schools (e.g. 42 Abu Dhabi) to train more specialists. Every Emirati university should have strong AI programs or research centers, and scholarships should target AI disciplines. The UAE's recent ranking as 2nd globally in AI education and talent diversity reflects these efforts, but scaling up is vital – the country needs thousands more AI engineers and researchers to fill the demand across industries. Incentivize private sector and academia collaboration to offer competitive career paths for AI experts domestically.

Strengthen Responsible AI Governance and Regulatory Clarity. As AI adoption grows, the UAE should double down on being a model of responsible AI development. This means continually refining its regulatory and ethical frameworks to both promote innovation and protect society. The UAE's current approach – using ethics guidelines and sector-specific regulations – can be unified into a clear national framework that gives companies certainty on the "rules of the game." Importantly, regulations should remain innovation-friendly: the UAE can extend its use of regulatory sandboxes for AI, allowing companies to test new AI solutions under supervision before full approval. This agile governance (already used in fintech and health sectors) ensures rules keep up with technology. The government should also keep aligning domestic laws with international standards to facilitate business abroad – for example, maintaining strong data protection (PDPL) that maps to GDPR enables UAE firms to be "globally compliant" by default. Surveyed UAE startups have noted that clear regulations can open doors to markets, as clients trust "compliant and ethical" AI products. Therefore, preserving that clarity and trust advantage is key.

Leverage the AI Ethics Brain Trust in the UAE: Another part of governance leadership is AI ethics and safety. The UAE's growing ecosystem of AI-active academic institutions, research centers, start-ups and knowledge pools is a major competitive asset. The UAE could establish an independent AI Ethics Council comprising academics, industry, and civil society to continually review AI developments and advise on oversight (this would demonstrate a commitment to self-regulation and learning). Creating an independent AI ethics advisory council that leverages these knowledge trust can ensure alignment locally and globally, accelerate responsible AI adoption, and establish leadership among global ethical AI governance ecosystem. Optimally, the impact of such an independent and inclusive national body should contribute to increasing trust in AI, adoption of AI applications and accelerate growth of the emerging AI ecosystem. The council can also inform the efforts to harmonize local and federal AI and data legal and regulatory frameworks, and continue aligning with global frameworks.

Leverage the UAE's Regional Catalytic Role for Mutual Gain. Finally, the UAE can embrace and enhance its role as the AI engine of the Middle East, using regional complementarities to its advantage while uplifting neighboring countries' capacities. This involves positioning the UAE as the hub for regional AI collaboration – for example, convening a GCC-wide AI task force or forum under UAE's leadership to harmonize AI standards, share data resources, and co-develop solutions for common regional challenges (water scarcity, Arabic language AI, etc.). By leading such efforts, the UAE can shape the regional AI agenda and ensure interoperability of AI policies across countries. There is a clear benefit to this: a more AI-capable region creates larger markets and talent pools that

UAE companies can tap into. Concretely, the UAE could initiate an "Arab AI Innovation Network" connecting research centers and startups from across MENA, with hub nodes in Abu Dhabi/ Dubai. Joint projects (funded by multi-country contributions) could tackle shared challenges across GCC countries, for example water scarcity. Additionally, the UAE can export its best practices in AI governance and strategy to allies – helping other Gulf states develop their AI frameworks (as it has informally done, with Saudi Arabia following with its own AI ethics principles after the UAE's moves). Such mentorship strengthens political ties and creates a more unified regional stance on AI in global forums. At the same time, the UAE could benefit from regional strengths: for instance, collaborating with Egypt or Jordan on AI talent development (given their larger populations and universities). This cooperative approach will multiply the UAE's AI impact and create a regional market of innovation that solidifies its status as the main hub. In a multipolar tech world, having a strong regional bloc behind it can enhance the UAE's influence vis-à-vis the AI superpowers.

Conclusion

The UAE stands at a pivotal moment in its AI journey. Having rapidly ascended from a regional pioneer to a fixture among global AI leaders, the nation now has the opportunity to define what it means to be a competitive yet strategic AI powerhouse in an increasingly multipolar world. The choices the UAE makes in the coming years – in investing in people and research, in forging alliances, and in governing AI's growth – will determine not just its own future but will also offer a model for other aspiring tech-enabled nations. The UAE's experience suggests that a small nation with big vision can indeed shape the frontier of technology, if it marries ambition with responsibility. By implementing the recommendations above, the UAE can solidify a virtuous cycle: a world-class ecosystem that continuously produces innovation and economic value, and a governance model that ensures AI is deployed in line with human values and global best practices. In doing so, the UAE will not only sustain its leadership but also help set the norms for AI development in the 21st century – proving that leadership is about more than raw power; it's about insight, inclusivity, and imagination. The UAE's unique blend of strategic agility, public commitment, and multicultural openness positions it to chart a distinctive path, one where competitiveness and ethics go hand in hand. The coming decade is the time for the UAE to fully realize this vision – to consolidate its gains and truly lead in defining the future of AI for the benefit of its people and the world.

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