

# Emirates of AI: An AI Blueprint



U.S. Chamber of Commerce  
International Affairs  
Middle East, Central Asia, and Türkiye

Diamond-Level



Gold-Level



Silver-Level







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# About the Author

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Mr. Soliman serves on the board of advisors for Ideas Beyond Borders and advisory council of the Indian Society of Artificial Intelligence and Law. He is a member of the Expert Advisory Group of the Global Commission on Responsible Artificial Intelligence in the Military Domain. Mr. Soliman holds a Master of Science in Foreign Service with distinction from Georgetown University and a Bachelor of Engineering from Egyptian Aviation Academy.





# Foreword

Few bilateral relationships carry as much strategic weight, or as much promise, as the one between the United States and the United Arab Emirates. What began as a partnership rooted in security and regional stability has evolved into something far more expansive: a forward-looking alliance built on shared economic interests, mutual investment, and a common vision for the future of technology. This report, *Emirates of AI: An AI Blueprint*, captures that evolution in remarkable detail and makes clear why the U.S.-UAE relationship deserves to be understood as one of the defining partnerships of the 21st century.

At the U.S. Chamber of Commerce, we have long championed the commercial ties that bind our two nations. The UAE is one of America's most important trading partners in the Middle East, and the depth of that relationship is reflected not just in trade figures, but in the quality and ambition of the partnerships being forged. They are the architecture of a long-horizon partnership, one that positions both countries at the center of the global AI economy.

What strikes me most about the UAE's approach to artificial intelligence is the deliberateness behind it. This is not a nation that stumbled into AI leadership; it pursued it. From appointing the world's first Minister of State for Artificial Intelligence in 2017, to establishing the world's first graduate-level, research-based AI university, to developing the Falcon family of open-source large language models, the UAE has made a series of bold, sequenced decisions that have compounded into a genuinely formidable AI ecosystem. With 42% of UAE businesses already deploying AI in their operations, the country has moved well beyond aspiration into execution.

For American businesses, this matters enormously. The United States cannot build the AI future alone. The compute infrastructure required to train and deploy frontier AI models is staggering in scale, and the demand for data center capacity, energy, and advanced semiconductors will far outpace what any



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single country can supply. The UAE has positioned itself as the partner of choice for this buildout, offering geographic reach, sovereign capital, regulatory agility, and a demonstrated commitment to operating within a U.S.-aligned technology framework.

That alignment matters beyond commerce. In a world where AI is increasingly a measure of national power, the countries that shape the standards, the infrastructure, and the governance frameworks of this technology will shape the international order. The UAE has shown that it intends to be among those architects, and it has chosen to do so in close partnership with the United States. That is a choice the U.S. business community should recognize, reinforce, and build upon.

The U.S. Chamber of Commerce is committed to deepening the commercial foundations of this relationship. The recommendations in this report, from expanding power infrastructure and promoting cross-border data flows, to developing shared hardware standards and supporting AI talent pipelines, offer a practical roadmap for both governments and the private sector. We urge policymakers and business leaders on both sides to engage with them seriously.

The U.S.-UAE bilateral relationship has always been greater than the sum of its parts. In the age of artificial intelligence, it has the potential to be greater still.



Artificial intelligence (AI) is generating significant value globally, with the potential to drive transformative outcomes across multiple domains. Meta delivers AI capabilities to over three billion users through its family of applications and wearable technologies, and the company has committed hundreds of billions of dollars to responsible AI development and infrastructure investment aimed at realizing AI's transformative potential: enhancing productivity, enabling business growth, and advancing scientific research.

Central to Meta's AI vision is the democratization of personal superintelligence. Muse Spark, the first in a new series of large language models developed by Meta Superintelligence Labs, represents an initial step toward a personal superintelligence capable of contextual understanding of users' environments. Yet, as we build more capable and more personalized AI, reliability, security, and user protections are more important than ever. Advanced models require an advanced approach to safety — one that scales with the technology.

## Advanced AI Scaling Framework

Meta's Advanced AI Scaling Framework delves into the types of risks evaluated, strengthens how we make deployment decisions, and introduces new Safety & Preparedness Reports. This sort of framework is key when thinking about developing new models. More specifically, this Framework outlines how Meta identifies and assesses the most severe and emerging risks, including chemical and biological, cybersecurity, and a new section to evaluate risks around loss of control. As models become more advanced, Meta is evaluating how they perform when given greater autonomy and whether the controls around that behavior work as intended. These standards apply across frontier deployments, whether they're open, controlled API access, or closed models.

In practice, this also means mapping potential risks, evaluating models before and after safeguards are applied to confirm they work in the real world, and only

deploying models when they meet the standards set by the Framework. For people who use Meta AI across Meta's apps, this means the models powering their experience have been evaluated across a broad spectrum of risks before Meta makes them available.

While the updated Framework strengthens the standards and safeguards for Meta's most capable models, new Safety & Preparedness Reports show how Meta is meeting them. These reports detail risk assessments, evaluation results, the rationale behind our deployment decisions, and any limitations Meta is still working to address. This transparency means Meta will share what was found, how they tested their models, where evaluations fell short, and how they closed those gaps. Meta continues to invest in safeguards, testing, and research, so people can rely on an AI experience with built-in protections designed to help keep them safe.

## The Next Era of AI Hardware

In addition to large language models, innovation at Meta also looks like wearables. The smart glasses are the most exciting new hardware category of the AI era, able to bring AI into users' world because it can see what they see and hear what they hear. Meta's vision is that glasses will become users' primary computing devices because they are uniquely capable of understanding our perspective. They'll continue to be great for listening to music, taking pictures and videos and, most importantly, they'll continue to help people stay present and tuned-in with the world around them.

In the years to come, Meta is focused on building the deepest lineup of AI glasses — a variety of camera, display, and in the future, AR glasses around the world — for multiple use cases and settings, including ensuring greater accessibility. Similar to how basic cell phones evolved to smartphones, analog glasses will evolve to become powerful AI glasses, featuring multimodal and live AI, an AI assistant and live translation.

Meta believes that the technology we build should strengthen human connection and empower people around the world. We want to ensure the future is for everyone — giving every person the tools to reach their full potential.



## When Accessible Intelligence Meets the Future of Food, Tomorrow is in Everyone's Hands

The convergence of artificial intelligence and agricultural innovation is reshaping food security in the Middle East. The UAE exemplifies this transformation through its National Food Security Strategy 2051, which prioritizes resilient agricultural practices, and its ambitious 2031 AI strategy. At the intersection of these initiatives lies a powerful catalyst for change—the mobile devices already in the hands of farmers, agronomists, and land managers.

This accessibility revolution means that advanced agricultural intelligence is no longer confined to specialized equipment or complex systems. Smartphones and tablets become powerful, precise data-capture tools—enabling agronomists, farmers and land managers to collect field data faster, more affordably, and with unprecedented accuracy.

The combination of machine learning, spatial rendering, and generative AI creates high-fidelity digital twins, plant measurements and insights.

From farmland to greenhouses to remote restoration sites, accessible mobile-first approaches can thrive in challenging environments and help safeguard resources critical to global food systems and natural ecosystem vitality. The implications for global agriculture are profound.

**Data Accuracy:** Automated analytics convert simple smartphone scans into reliable crop and forest metrics, replacing time-consuming manual methods.

**Operational Efficiency at Scale:** Easy-to-use mobile workflows reduce training costs and minimize equipment overhead, improving overall resource management.

**Sustainability and Environmental Impact:** Agerpoint's platform empowers you to showcase responsible, climate-positive practices that align with regenerative agriculture and decarbonization programs.

**Enterprise-Grade Analysis and Integration:** Cloud-based AI tools aggregate and analyze data from multiple sources, offering insights for large-scale operations and integration with existing enterprise platforms.

**Supply Chain Transparency:** Provide buyers, investors, regulators, and other stakeholders with clear, validated data on crop conditions, yields, and sustainability metrics.

Companies like Agerpoint are bringing this future to life - but no one can do it alone. Agerpoint stands ready to collaborate with government agencies, private enterprises, and research institutions to unlock new AI-driven possibilities in agriculture and environmental stewardship.

Ready to explore how Agerpoint's AI-driven platform can support your next agricultural or conservation initiative? Visit [www.agerpoint.com](http://www.agerpoint.com) or contact us today to discuss a partnership.



## **BENTLEY UNIVERSITY IS WHERE GOOD BUSINESS BEGINS.**

At Bentley, our commitment to innovation is defined by a vision that prioritizes ethical advancements, collaborative solutions, and a sustainable future for all. As we navigate the complexities of this digital age, we are focused on ensuring that technology serves humanity, fosters inclusivity, and drives global prosperity. We recognize a shared responsibility with the global business landscape to shape a brighter tomorrow through intelligent innovation and education.

Bentley is dedicated to leading educational innovation through AI and emerging technologies responsibly. AI is positioned to change the way that we do business, and Bentley is committed to leveraging AI to do GOOD business. From an AI in Innovation Major to whitepapers, reports, partnerships with field experts to train students and staff, an infusion of technology, our AI in Academia Podcast, to the certificate course, AI for Business Advantage, Bentley will continue to move the needle to advance students and professionals towards literacy in ethical and practical innovation. Finally, our Global AI Summit has become a signature event, convening business leaders, practitioners, and innovators to examine the evolving skills, roles, and strategies required to harness AI for organizational transformation and business performance.

Bentley University believes good business can impact more than just the bottom line – it can change the world. Bentley is a community of future business leaders who will deliver value in the marketplace and lasting positive effects for society. We're focused on impact, outcomes and success. Our students are highly sought after; our faculty are applying innovative research to real world problems; and our alumni are leading organizations around the world. Bentley educates the head and the heart with a highly innovative, technology-infused, future-focused education that integrates the best of business, arts, and sciences. We prepare the leaders of tomorrow to meet any challenge the global economy may bring.

### **Who We Are**

Bentley has a clarity of purpose and believes in having a positive impact. Being both dynamic and proactive demonstrates Bentley's unwavering commitment to making a tangible difference. The successful business leaders of tomorrow will be expected to deliver real-time value in the marketplace as well as lasting positive outcomes for society. As a community, we will drive that positive impact – and the future of business.

### **Unparalleled Impact**

Bentley University understands impact – it's woven into everything we do. Since our founding days, this institution has maintained a resolute, comprehensive, and sustained commitment to success and outcomes. It's our core competence – and core promise. Students, faculty, and staff come to Bentley with life-changing aspirations and achieve their goals here.

### **Holistic Business Education**

In a world marked by seismic change and grand challenges, Bentley University cultivates an environment that fosters ethical and moral principles, nurturing the development of well-rounded leaders poised to make an impact on the world stage. Bentley also delivers a highly innovative, technology-infused, future focused business education and scholarship. With multidisciplinary academic programs, corporate collaborations and real-world partnerships, Bentley educates the head and heart with the best of business and arts and sciences – and prepares the leaders of tomorrow to meet any challenge the global economy may bring.

# **Ethical Innovation. It's just good business.**



## Google's Contribution to the UAE:

The United Arab Emirates is a dynamic hub of innovation in the Middle East, and Google is pleased to be a part of its progress. Our presence in Dubai, where we have our largest office in the MENA region, reflects our ongoing commitment to the UAE. In 2024, Google products contributed an estimated \$5.9 billion (AED 21.8 billion). We strive to develop products that are relevant and useful to people in the UAE. Gemini, our AI model, understands 16 Arabic dialects, including Emirati.

We believe that sustainable growth is achieved through meaningful collaborative efforts. Over the past three years, Google worked with the UAE government on impactful development programs in education and skills building sustainability, digital transformation of Start-ups and SMEs.

Google worked with the Ministry of Economy to help SMEs in the UAE grow their digital presence and increase their revenue through the "SkillUp Embark" program, and with the AI Ministry on launching the "AI Majlis", a platform bringing leaders in government and the private sector to discuss AI regulation, as well as launching Coders HQ, establishing [Developer Student Clubs](#) in 10 universities in the UAE.

Google also launched the "[Map Your Dubai](#)" Initiative in collaboration with the Dubai Department of Economy and Tourism (DET). Leveraging Google Maps Local Guides to curate local culinary guides, this initiative drives massive digital visibility and physical foot traffic to homegrown F&B businesses, directly supporting Dubai's D33 economic agenda.

Beyond enterprise and education, our initiatives support smart infrastructure and cultural heritage. The Google Arts & Culture collections showcase the rich heritage of [Dubai](#) and [Abu Dhabi](#) to a global audience.

Empowering the workforce remains a core priority. Through programs like "Maharat Min Google" and the recently launched "AI for All" initiative in partnership with the UAE AI Office, we have trained over 430,000 people in the UAE on essential digital and AI skills so far. Expanding on this commitment, we partnered with the UAE Government Media Office at the 1 Billion Followers Summit to launch the AI Film Award which featured a \$1,000,000 grand prize, making it the world's largest AI filmmaking competition. Entrants were required to create 7- to 10-minute short films using Google Gemini AI tools (such as Veo and Imagen) under the theme "Content for Good".

We are dedicated to nurturing the local start-up ecosystem. Our Google for Startups accelerators have supported local businesses like FortyGuard in developing AI-driven solutions. Google for Startups is working closely with Hub71 to bring an accelerator program for 25 Hub71 startups in 2025, underscoring our commitment to supporting Abu Dhabi's growing tech ecosystem.

To improve access to trusted information, we launched YouTube Health in the UAE as a regional first in late 2025, in collaboration with providers like Cleveland Clinic Abu Dhabi and Burjeel Hospital. By introducing "Health Content Shelves" and "Health Source Information Panels," the platform connects residents with medically vetted advice on critical topics like diabetes and cancer, actively combating online misinformation.

We also recently commissioned the "[AI Powers Playbook](#)" report launched with the Atlantic council, positioning the UAE as a global lighthouse model for emerging AI economies and showcase best practices in AI governance and trusted tech partnerships.

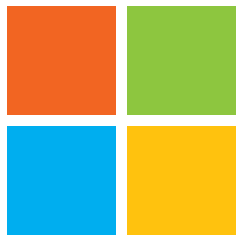
These programs and initiatives have already made significant contributions to the development of the UAE's workforce and entrepreneurial ecosystem.

Looking ahead, we are focused on enabling everyone to reap the advantages of AI. The AI Opportunity Initiative for MENA, launched in Dubai last year, with a \$15 million pledge from Google.org, will focus on advancing AI and safety skills and accelerating AI solutions. We aim to support the upskilling of half a million individuals across various sectors, with a focus on underserved communities.

We're also excited about our engagement with the [Technology Innovation Institute \(TII\)](#), the creators of [Falcon](#), one of the most successful LLMs in the region and globally. This partnership is focused on utilizing Google Cloud's Infra AI services to train their new models.

The Deepmind team is also currently advancing a phased approach with academic and research collaborators across globally diverse healthcare settings including in the US, Singapore, the UAE and more, to enable a new model for healthcare with [AI co-clinician](#).

We remain committed to supporting the UAE's vision, and to continue contributing to innovation, and a sustainable future.



# Microsoft

Microsoft is a global technology company whose mission is to empower every person and every organization on the planet to achieve more. Through its cloud, artificial intelligence, cybersecurity, productivity, business applications and developer technologies, Microsoft works with customers and partners across the public, private, education and nonprofit sectors.

In the United Arab Emirates, Microsoft combines its global technology capabilities with long-term local commitment and collaboration. The company works with government entities, businesses, educational institutions, researchers and civil society organizations to support the UAE's digital and AI ambitions. Its work is centered on three interconnected priorities: expanding access to advanced technology, developing local talent and strengthening trust in the responsible use of AI.

Microsoft has announced a significant multi-year investment in the UAE, totaling \$15.2 billion, across advanced AI and cloud infrastructure, local operations, skills development and technology partnerships. Its collaboration with G42 forms an important part of this work, including efforts to broaden access to AI and cloud technologies in the UAE and internationally.

Microsoft is also investing in the UAE's technology and research ecosystem. The company has established a Global Engineering Development Center and a regional Microsoft AI for Good Lab in Abu Dhabi. These capabilities bring together engineers, researchers, academic institutions, startups, nonprofit organizations and local businesses to develop technology and explore how AI can address societal and humanitarian challenges across the Middle East and Africa.

Alongside infrastructure and innovation, Microsoft collaborates with government and education partners to expand AI skills, strengthen workforce readiness, advance cybersecurity and promote responsible AI governance. Together, these efforts reflect Microsoft's broader commitment to supporting an innovative, resilient and trusted AI economy in the UAE.



### About Vertiv

Vertiv (NYSE: VRT) brings together hardware, software, analytics and ongoing services to enable its customers' vital applications to run continuously, perform optimally and grow with their business needs. Vertiv solves the most important challenges facing today's data centers, communication networks and commercial and industrial facilities with a portfolio of power, cooling and IT infrastructure solutions that extend from the cloud to the edge of the network. Headquartered in Westerville, Ohio, USA, Vertiv does business in more than 130 countries.

### Powering AI in the UAE

Vertiv has maintained a presence in the UAE and broader region for more than 40 years, supporting the development of data center and digital infrastructure along with longstanding partners. A key component of this regional footprint is the company's manufacturing presence in Ras Al Khaimah, which delivers power, thermal management, and integrated infrastructure solutions for local and international deployments. This local manufacturing capability supports project delivery timelines and contributes to regional supply chain resilience.

Vertiv's work in the UAE draws on its global technology ecosystem, including engineering and development capabilities. This enables the deployment of power and thermal infrastructure aligned with evolving compute requirements, including high-density and AI workloads.

Deployments in the UAE reflect demanding operating conditions, including high ambient temperatures and increasing compute density. These requirements inform ongoing product development in areas such as liquid cooling, energy-efficient UPS systems, and resilient electrical and thermal architectures, which are then scaled through Vertiv's global manufacturing network.

The global Vertiv™ Service organization supports lifecycle operations through field service teams, regional service hubs, and predictive monitoring services, helping maintain system availability and performance.

With continued investment in digital and AI infrastructure, the UAE is strengthening its position as a significant market for advanced data center capacity in the global landscape. Vertiv continues to build relationships in the region and innovate to support the unique needs of its customers as they evolve and scale operations during a dynamic time for the industry.

Vertiv's combined UAE operations reinforce the nation's status as a global manufacturing and export hub. By localized production of advanced digital infrastructure, we are not just supporting the UAE's "Make it in the Emirates" vision but are actively powering the future of global AI deployment from within the region.

The UAE is a true partner in supporting the advanced manufacturing requirements to achieve America's AI global leadership in the Middle East region and beyond.

**1.**

# **Executive Summary**



Artificial intelligence is central to the UAE's shift from a hydrocarbon-based economy to a diversified, knowledge-driven one. It is a core engine of long-term growth, reshaping the country's economic trajectory in the 21st century.

AI is increasingly embedded across critical state functions, including healthcare, national security, education, and environmental management, enhancing the government's ability to deliver outcomes. In the 21st century, the effective deployment of AI is becoming a defining measure of state performance and legitimacy.

The UAE's rapid scaling of AI capabilities position it not merely as a participant in the global AI race, but as an emerging architect of the ecosystem. Its investments in infrastructure, talent, and regulatory frameworks are enabling it to shape standards, deployment models, and market dynamics.

The UAE has built a compounding system in which strategic vision, capital allocation, talent attraction, and infrastructure development reinforce one another. This creates a flywheel effect that continuously accelerates progress across research, development, and deployment.

Geopolitically, the UAE has been equally deliberate in its alignments. Close integration with U.S. technology and policy ecosystems extends beyond commercial cooperation. It provides the UAE with access to frontier capabilities while embedding it within a trusted network shaping global norms, governance frameworks, and the future architecture of AI leadership.

At the same time, the broader competitive landscape is shifting in ways that create both risk and opportunity. Despite U.S. containment efforts, the Chinese AI ecosystem is likely to maintain strong ties with the Global South, reinforcing its influence in international AI markets and posing a significant, though not insurmountable, challenge to American AI—one that U.S. innovators remain well-positioned to overcome.

Meanwhile, Europe risks finding itself in a position where it sets global standards but lags in building globally competitive AI champions. As Washington and Beijing push toward large-scale deployment, standard-setting alone may prove insufficient currency in a race defined by capability.

This tripartite dynamic, American scale, Chinese ambition, and European caution, creates a distinct opening for the UAE: a nation that has demonstrated it can move fast, deploy at scale, and operate across geopolitical fault lines without being captured by any one of them.

The UAE's National AI Strategy 2031 underpins its vision to become a global AI powerhouse. Initiatives such as appointing the world's first Minister of State for Artificial Intelligence in 2017 and establishing the Mohamed bin Zayed University of Artificial Intelligence (MBZUAI) reflect the UAE's commitment to fostering advanced AI research and education. Programs like Dubai AI Platform and Falcon AI Models further illustrate its efforts to integrate AI into governance and innovation.

The UAE is pioneering regulatory frameworks for emerging technologies. Initiatives like RegLab and sandboxes for ICT and TradeTech enable dynamic regulation, supporting AI innovations while maintaining alignment with global ethical standards. These frameworks encourage experimentation and aim to reduce barriers for startups and tech firms.

Partnership with the United States is central to the UAE's AI strategy. This is evident from its collaborations, such as MGX's AI infrastructure initiative with BlackRock and Microsoft as well as the G42-Microsoft deal. These partnerships demonstrate the UAE's prioritization of building its technological capacity in coordination with Washington, while simultaneously safeguarding the UAE's sovereign approach to technology.

The UAE has invested heavily in state-of-the-art AI hardware, including G42's "Artemis" cluster and TII's supercomputers. These systems enable advanced research and development, positioning the UAE as a global hub for AI-driven solutions. Additionally, securing NVIDIA's H100 AI chips underscores the strength of US-UAE AI partnership.

Preparing the Emirati workforce for an AI-driven future is a cornerstone of the UAE's strategy. Educational reforms, reskilling initiatives, and programs like MBZUAI ensure a robust pipeline of AI talent. Policies such as the Golden Visa further attract global experts to the region.

The UAE has demonstrated leadership in applying AI across healthcare, finance, education, and transportation. From AI-powered emergency room systems to traffic optimization projects, the UAE is leveraging AI to enhance public services and drive economic growth.

U.S. AI firms still need to expand infrastructure globally, and the U.S. alone cannot absorb the scale of compute demand, so partnerships abroad, especially in the UAE, will remain essential.

In the context of the Iran war, Abu Dhabi is still moving ahead with its compute buildout and doubling down on deeper tech ties with Washington, backed by ongoing joint projects and frameworks like the U.S.-UAE AI Acceleration Partnership.

# 2.

## Introduction



## Defining the UAE AI Stack

AI has increasingly become a *physical infrastructure* challenge. As AI systems grow more intensive in their demand for compute power, the ability to assemble advanced chips, bring online and operate high-capacity data centers reliably, and to supply the electricity required to power them collectively underwrites global AI competitiveness. In this context, the UAE “AI stack” refers to the integrated infrastructure system that enables large-scale AI by combining semiconductors, large-scale energy, advanced cooling systems, and connectivity.<sup>1</sup> In this framework, AI leadership depends not only on advances in large language models (LLMs) but also on the full stack of discrete layers that together constitute a competitive AI ecosystem. Consistent with USG framing, these layers span: (1) hardware—including semiconductors, compute infrastructure, large data centers, reliable power generation, and strategic capital investment; (2) data systems—the pipelines, storage, and governance frameworks that feed and sustain model development; (3) AI models—encompassing LLMs and the broader range of foundation and task-specific models; (4) orchestration and security—the integration, deployment, and safeguarding of AI capabilities across environments; and (5) domain applications—sector-specific deployments and global connectivity linking these facilities to international technology ecosystems.

The UAE AI stack depends on sufficient compute capacity for both development and deployment of models. This “compute” infrastructure is built around clusters of advanced semiconductor accelerators deployed inside hyperscale AI data centers capable of handling scaling demands brought on by AI development or use. These facilities host thousands of GPUs and other specialized chips designed to train and run large AI models. However, the rapid growth of AI workloads has dramatically increased power density inside data centers, fundamentally transforming how these facilities are designed and operated.<sup>2</sup>

Of particular importance for the UAE AI stack’s access to *reliable* compute capacity is cooling infrastructure, as the region’s high temperatures and the increasing heat generated by dense AI workloads threaten to interrupt or otherwise degrade the services reliant on data centers. Modern AI data centers increasingly depend on advanced cooling solutions, such as liquid cooling and immersion systems, which are more efficient than traditional air cooling but demand significant planning around water use and energy efficiency.<sup>3</sup> In the UAE, the challenge of managing heat crisscrosses technical, environmental, and economic domains, requiring operators to balance performance, sustainability, and resource constraints.<sup>4</sup> As compute density continues to rise in tandem with the scaling needs of AI systems, cooling systems are becoming a key factor in determining where and how data centers can scale.

1 Mohammed Soliman, “From Crude to Compute: Building the GCC AI Stack, Middle East Institute report,” December 2025, <https://mei.edu/wp-content/uploads/2025/12/From-Crude-to-Compute-1.pdf>.

2 Ali Azhar, “Vertiv report details how AI is changing data center design and operations,” *HPCwire*, January 9, 2026, <https://www.hpcwire.com/2026/01/09/vertiv-report-details-how-ai-is-changing-data-center-design-and-operations/>.

3 “The UAE’s Energy Warning: What Happens When the AI Boom Outpaces the Grid, Global Data Center Hub,” Global Data Center Hub, June 5, 2025, <https://www.globaldatacenterhub.com/p/the-uaes-energy-warning-what-happens>.

4 Güney Yıldız, “Gulf AI Growth Tests Power Grid Capacity and Renewable Energy Plans,” *Forbes*, July 2, 2025, <https://www.forbes.com/sites/guneyyildiz/2025/07/02/gulf-ai-growth-tests-power-grid-capacity-and-renewable-energy-plans/>.

Underneath the operation of these AI systems at scale are the fundamental foundations of the UAE AI stack: energy infrastructure and the electrical grid. The scaling demands placed on AI data centers in turn require an enormous and reliable electricity supply, adding new pressures on national power systems and long-term energy planning. Across the Gulf, the expansion of AI infrastructure is closely tied to access to abundant energy resources and the ability to rapidly scale electricity generation. The region is fertile ground for the escalating needs of AI training and deployment in the form of AI data centers.

In the UAE, policymakers and utilities are responding by expanding generation capacity and modernizing grid management through smart grid technologies, AI-enabled monitoring systems, and digital twins that simulate and optimize grid performance.<sup>5</sup> These systems allow energy networks to manage rising data center demand while maintaining reliability and integrating renewable power sources.<sup>6</sup>

Together, these systems, chips, cooling technologies, and power infrastructure form the UAE AI Stack, the physical backbone supporting the country's ambition to become a global hub for AI computing. That ambition, however, did not materialize in a vacuum: it was shaped by a set of strategic and geopolitical decisions that have fundamentally reoriented the UAE's relationship with the world's leading AI powers.

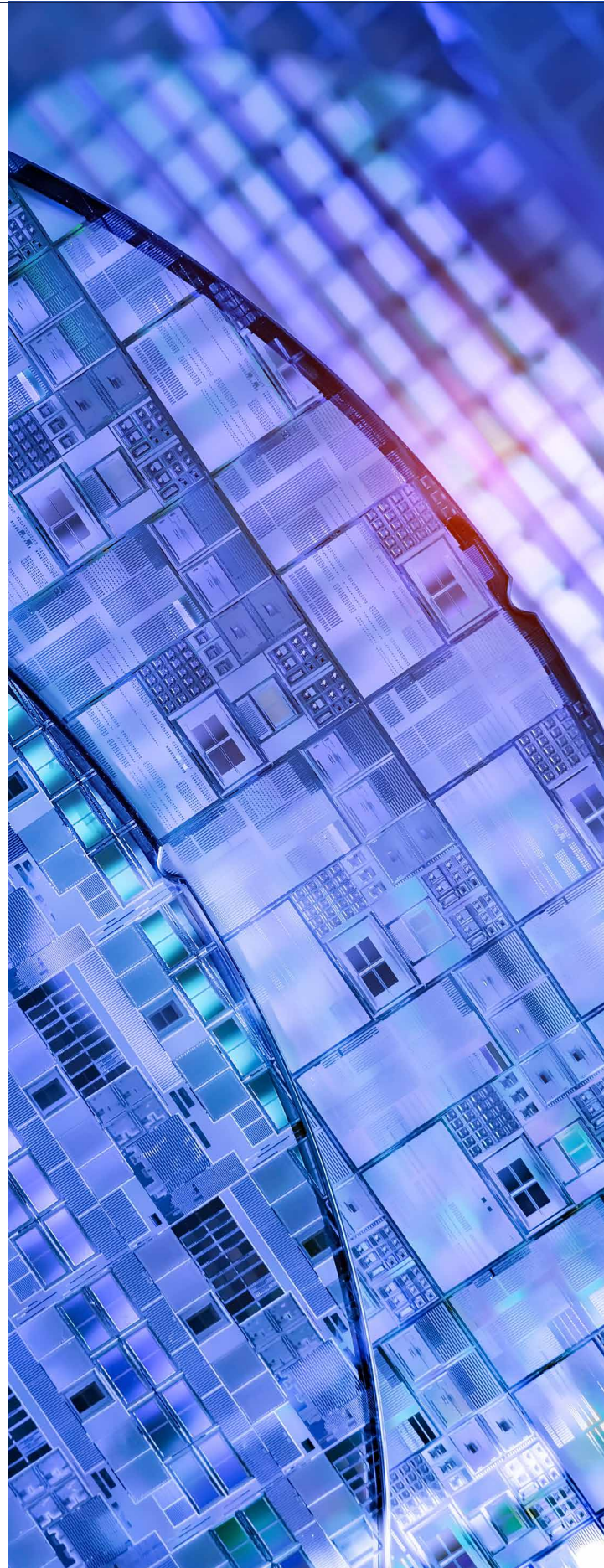
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“Chips, cooling technologies, and power infrastructure together form the UAE AI Stack—the physical backbone of the country’s ambition to become a global hub for AI computing.”

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5 Mohan Gupta, “UAE Accelerates Smart Grid Transformation With Digital Twins And AI,” *SolarQuarter*, February 16, 2026, <https://solarquarter.com/2026/02/16/uae-accelerates-smart-grid-transformation-with-digital-twins-and-ai/>.

6 Lee Shaver, “Data Centers Are Changing the Grid. Our Energy Sources Should Evolve Too,” *Union of Concerned Scientists*, March 4, 2026, <https://blog.ucs.org/lee-shaver/data-centers-are-changing-the-grid-our-energy-sources-should-evolve-too/>.





## The Significance of AI in the UAE's Strategic Vision

US President Donald Trump's visit to Abu Dhabi in May 2025 reflected the already-shifting foundation of the UAE-US relationship. The visit crystallized the evolution from a relationship based exclusively around American security and Emirati crude to a partnership focused on AI and emerging technologies. During his visit, President Trump announced more than \$200 billion in commercial deals, which included the buildout of AI capabilities in the UAE and the region.<sup>7</sup> Under the "[US-UAE AI Acceleration Partnership](#)," Washington and Abu Dhabi committed to build a 5-GW AI campus in the UAE.<sup>8</sup> The Emirati AI champion, G42, is working alongside Nvidia, OpenAI, Cisco, Oracle, and SoftBank to build the 1-GW project Stargate UAE. The first 200 MW of this new AI campus is anticipated to come online in 2026. Abu Dhabi has communicated that it intends to actively work to insulate this timeline from the war's disruptions, a signal that the UAE is treating its AI infrastructure commitments as strategically non-negotiable regardless of the regional security environment. Various other American hyperscalers are also involved in negotiations and discussions to bring the remaining 4 GW online.<sup>9</sup> The Abu Dhabi campus is set to be one of the largest AI infrastructure projects outside of the U.S. and China, which advances the UAE's goal of becoming a global AI hub and represents the forging of a long-horizon partnership centered around compute. The United States, through this project, has signaled that the UAE is a partner in the global AI race. This infrastructure buildout places the UAE more firmly

into the U.S. AI stack, thus breaking with its perceived image of not aligning itself with any major player in the AI race.<sup>10</sup> This realignment was already underway as AI began to emerge as a central issue in bilateral discussions between Abu Dhabi and Washington, dating back to the UAE's large-scale 5G deployment in the late 2010s.<sup>11</sup>

AI has emerged as a critical driver of global economic transformation, aiming to revolutionize industries, enhance productivity, future-proof nations, and ensure their sovereignty. Recognizing this potential, the UAE has integrated AI into its strategic vision for national development and economic diversification. The UAE's commitment to AI is one critical component of its broader vision to transition from an oil-dependent economy to a knowledge-based one. Initiatives such as UAE Vision 2021, UAE Centennial 2071, and the [National AI Strategy 2031](#) highlight this commitment,<sup>12</sup> as do the country's substantial investments and policy measures in the space. With 42% of UAE businesses having already [deployed](#) AI in their operations, the country is not just a participant but a leader in the AI revolution.<sup>13</sup> The nation has established several critical institutions to support its AI development objectives. The establishment of the Mohamed bin Zayed University of Artificial Intelligence (MBZUAI), the first graduate research university in the world dedicated to AI, as well as the National Program for Artificial Intelligence, are testaments to the UAE's commitment.

- 7 "Fact Sheet: President Donald J.Trump Secures \$200 Billion in New U.S.-UAE Deals and Accelerates Previously Committed \$1.4 trillion UAE Investment, The White House, May 15, 2025, <https://www.whitehouse.gov/fact-sheets/2025/05/fact-sheet-president-donald-j-trump-secures-200-billion-in-new-u-s-uae-deals-and-accelerates-previously-committed-1-4-trillion-uae-investment/>.
- 8 "UAE/US Framework on Advanced Technology Cooperation," UAE Embassy, May 16, 2025, <https://www.uae-embassy.org/news/uaeus-framework-advanced-technology-cooperation>.
- 9 Federico Maccioni, "First 200MW from UAE's Stargate AI campus to come online next year," *Reuters*, October 14, 2025, <https://www.reuters.com/business/media-telecom/first-200-mw-uaes-stargate-ai-campus-come-online-next-year-2025-10-14/>.
- 10 Kevin Xu, "AI in the United Arab Emirates," *Interconnected*, December 11, 2025, <https://interconnected.blog/ai-in-the-united-arab-emirates/>.
- 11 Abdullah Alazabin, "PetroCompute: Will A.I.'s Future Run Through the Gulf?," *Alzabin's Substack*, December 17, 2024, <https://alzabin.substack.com/p/petrocompute-will-ais-future-run>.
- 12 UAE Government, "UAE National Strategy for Artificial Intelligence 2031," 2017, <https://ai.gov.ae/wp-content/uploads/2021/07/UAE-National-Strategy-for-Artificial-Intelligence-2031.pdf>.
- 13 "IBM Studies: 42% of UAE Businesses Embrace AI," IBM, March 20, 2024, <https://mea.newsroom.ibm.com/IBM-Studies-AI-Adoption-Index-2023-Consumer-Study>.

The UAE's AI ambitions can be traced back to GlobalFoundries, a semiconductor powerhouse born from AMD's manufacturing arm. Owned by Mubadala, one of the UAE's main sovereign wealth funds, until its 2021 IPO, the company supplies chips for everything from Internet of Things (IoT) to aerospace and defense. As a "Trusted Foundry" for the U.S. government and similar programs in Singapore and Germany, GlobalFoundries underscores the UAE's role in shaping global tech and as an early global technological partner to the United States.

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“With 42% of UAE businesses already deploying AI, the country is not just a participant—it is a leader in the global AI revolution.”

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The UAE leveraged its financial statecraft to position itself as a strategic player in the semiconductor industry through GlobalFoundries. This move was a clear manifestation of Emirati strategic capital—capital utilized not just for immediate financial returns but to achieve strategic objectives that have shifted the country's positioning within the global geopolitical and techno-economic ecosystems reshaping the world economy since the 2000s.

GlobalFoundries was only the beginning. The UAE has since shifted its focus to building a homegrown tech ecosystem, a vision embodied by G42. Named after the iconic “Hitchhiker’s Guide to the Galaxy” reference—where 42 is the answer to the ultimate question of life, the universe, and everything—G42 represents the UAE's ambition to indigenize and build advanced technologies, particularly AI, to push the boundaries of innovation.

AI's role in the UAE's strategic vision includes:

- **Diversifying the Economy:** AI plays a pivotal role in cultivating new geopolitical and economic opportunities, accelerating the UAE's shift away from reliance on oil exports and toward economic diversification, an essential pillar of its long-term growth and trajectory in the 21st century.
- **Enhancing Government Services:** The use of AI enhances government efficiency, improving citizen and resident satisfaction with public services, a core pillar of the UAE's positioning as one of the most desirable countries for work, leisure, and innovation.
- **Positioning as a Global Innovation Hub:** The UAE aims to attract leading experts, investors, and talent by investing heavily in AI and building the broader ecosystem foundational to the industry, from compute and talent to connectivity and legal and economic frameworks. It seeks to position itself as a primary hub for AI professionals and entrepreneurs, strengthening its long-term economic prospects.
- **Future-Proofing the Workforce:** The UAE is not only educating its workforce on current applications of AI but also preparing it to remain resilient as technology continues to advance. Strengthening technological literacy, particularly in AI, has become a strategic national priority.
- **Addressing National Challenges:** AI is increasingly embedded in how the state addresses foundational challenges across healthcare, national security, education, and environmental stewardship. The effective use of state power to address these foundational challenges is central to the success of governments in the 21st century.

Though AI development and innovation are certainly a priority, the UAE also recognizes the importance of regulation, not just to ensure that the technology is deployed securely, but also to stay on track with global best practices. In line with the U.S. Chamber of Commerce's report the UAE is committed to carefully and thoroughly creating a legal framework for this emerging sector.<sup>14</sup> There are several factors that must be taken into account when establishing regulations:



technological neutrality (focusing on applications and outcomes of AI), collegiality between government agencies, lexibility—allowing room for adaptation based on needs expressed by the private sector, civil society, and technical experts, and assessing risk based on inherent capabilities, actual use and potential impact of AI systems. As AI continues to be embedded across all aspects of the economy, the importance of regulation will only increase. Proactively creating a robust yet flexible regulatory framework that allows for the rapid deployment of AI at scale while minimizing the risk of potential disruptions should position the UAE well as a leader in the field of emerging technologies.

The UAE has secured a key role in the broader AI ecosystem by demonstrating its geotechnological capabilities and its commitment to rapidly advancing its technological ambitions.<sup>15</sup> The UAE's ability to quickly scale up and adapt to emerging trends has been central to its success in the sector. Timing has also been critically important as well, with the UAE making timely investments that have laid the groundwork for future AI research and development (R&D) just as global interest in AI is surging. This proactive approach has allowed the country to stay ahead of the curve, evidenced by forward-thinking moves such as its investment in

GlobalFoundries and appointment of the world's first Minister of Artificial Intelligence.

The UAE's blueprint for AI is defined by a sequence of swift, decisive actions. Signing partnerships with global tech giants, establishing hubs for innovative thinking, and forming strategic alliances with leading research entities all converge into a coherent strategy that positions the UAE as a central node in the global AI ecosystem. Indeed, the country's agility in implementing these initiatives has not only accelerated its progress in AI but has also attracted substantial international attention and investment. The UAE's development of an AI-friendly environment that is adaptable and responsive to the needs of the global tech community has positioned it as an influential force in the international AI landscape.<sup>16</sup>

As the UAE solidifies its position in the sector, its strategic vision has become a key driver of its rapid progress in AI. This momentum is underpinned by a comprehensive national strategy that focuses on fostering innovation, attracting top talent, and building cutting-edge infrastructure, all of which are propelling the UAE to the forefront of AI research, development, and deployment.

15 Marwan Alblooshi and Dr.Khalid Al-Jaber, "From Vision to Reality: The UAE's Rise as a Global AI Powerhouse," Gulf International Forum, April 2, 2025, <https://gulrif.org/from-vision-to-reality-the-uaes-rise-as-a-global-ai-powerhouse/>.

16 Stanford Institute for Human-Centered Artificial Intelligence, "AI Index Report 2024." AI Index Report 2024, [hai\\_ai-index-report-2024-smaller2.pdf](https://aiindex.stanford.edu/report-2024/).

# 3.

## **Global AI Development Landscape**



The AI landscape is constantly changing, with powerhouses such as the United States, China, and the European Union investing extensive resources into the sector. The scale of the resources dedicated reflects a broad recognition that AI has become a primary axis of geopolitical and economic competition, one that will increasingly determine which nations set the terms of the coming decades.

As AI capabilities become an increasingly important measure of a nation's positioning in the international order, a clear-cut division has emerged between the countries that have developed and deployed AI and those that have not. At stake is not only technological leadership but also the ability to influence global standards, attract the world's top talent, and secure the supply chains that underpin AI at scale. For nations outside this exclusive club of AI powers, the window to enter this race is narrow: first-mover advantages compound quickly, and the gap between AI leaders and laggards is widening faster than most policy timelines can accommodate.

It is within this context that the UAE's positioning becomes particularly striking. This section will examine the current global AI landscape that the UAE faces, explore the moves it is making to distinguish itself, and identify the areas where, despite its considerable scale, it remains exposed to agile challengers.

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“For nations outside the leading AI powers, the window to enter this race is narrow—first-mover advantages compound quickly, and the gap between leaders and laggards is widening faster than most policy timelines can accommodate.”

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## The United States: A Global Leader in AI

The United States has taken a leading role in the development and deployment of AI, driven by a combination of private-sector innovation, deep capital markets, and a robust research ecosystem. U.S. leadership is especially pronounced in the development of large language models (LLMs); where companies such as OpenAI, Google, Meta, and others have pioneered advances in model scale, training techniques and real-world deployment. These firms benefit from close linkages with world-class universities and federally funded research institutions, which continue to produce cutting-edge breakthroughs in machine learning, natural language processing, and multimodal AI. Beyond software, the United States maintains a critical advantage in the AI technology stack, particularly through sustained investment in advanced computing infrastructure and semiconductor design. U.S.-based companies such as NVIDIA, AMD, and Intel dominate the global market for high-performance AI chips, which are essential for training and running large-scale models. This hardware leadership is reinforced by federal policy measures—including export controls and domestic manufacturing incentives under initiatives like the CHIPS and Science Act—aimed at securing supply chains and preserving technological superiority.

The U.S. ecosystem also benefits from unparalleled access to venture capital and private investment, enabling rapid commercialization and scaling of AI technologies. Additionally, the U.S. approach to AI governance has emphasized a flexible, risk-based regulatory model, allowing innovation to proceed while gradually introducing safeguards related to safety, security, and transparency. Federal agencies, guided by frameworks from the National Institute of Standards and Technology (NIST) and executive actions, have focused on areas such as AI risk management, cybersecurity integration, and responsible AI deployment, rather than imposing rigid, centralized controls on the technology stack itself.

Over the course of the last five years, the U.S. invested more in AI than any other country, spending a total of \$328.5 billion. (China was the second biggest spender, with a total investment of \$132.7 billion over the same period).<sup>17</sup> Additionally, the ongoing development of AI chips, , further cements U.S. leadership in this transformative field. AI chips are essential for training complex models at scale and providing the computational power necessary for real-time AI applications, giving U.S. companies an edge in the global AI race.

Despite America's leading position in AI, actors like China are challenging the assumption of unassailable U.S. dominance. Notably, the release of the Chinese model DeepSeek-R1 in January 2025 contributed to the U.S. re-evaluating the importance of developing open-weight models, which are models whose underlying parameters are publicly released, allowing anyone to download, modify, and deploy them without restriction. In other words, the release of R1 served as a wake-up call to make AI competition a policy priority. While the U.S. still leads when it comes to producing top AI models, China is closing the gap. Open-source models are also catching up in terms of performance to their closed-source counterparts.<sup>18</sup> Nonetheless, the U.S. has also been strategic in implementing policy initiatives that reshape the global AI landscape. Export controls on critical AI technologies and hardware have been put in place to limit the access of rival nations, particularly China.

Washington has also sought to assert its influence by promoting voluntary AI commitments from leading technology firms. These commitments, which emphasize responsible development, ethical deployment, and transparency in AI systems, are part of a broader strategy to create a self-regulated AI industry that can preempt government regulation. By driving this agenda domestically, the U.S. aims to counterbalance Europe's efforts to regulate AI through the European Union's AI Act (as described in the EU section below). This move

17 "17 Key AI Investment Statistics Every AI Investor Should Know," Edge Delta, May 24, 2024, <https://edgedelta.com/company/knowledge-center/ai-investment-statistics>.

18 Stanford Institute for Human-Centered Artificial Intelligence, "Artificial Intelligence Index Report 2025," 2025, [https://hai.stanford.edu/assets/files/hai\\_ai\\_index\\_report\\_2025.pdf](https://hai.stanford.edu/assets/files/hai_ai_index_report_2025.pdf).

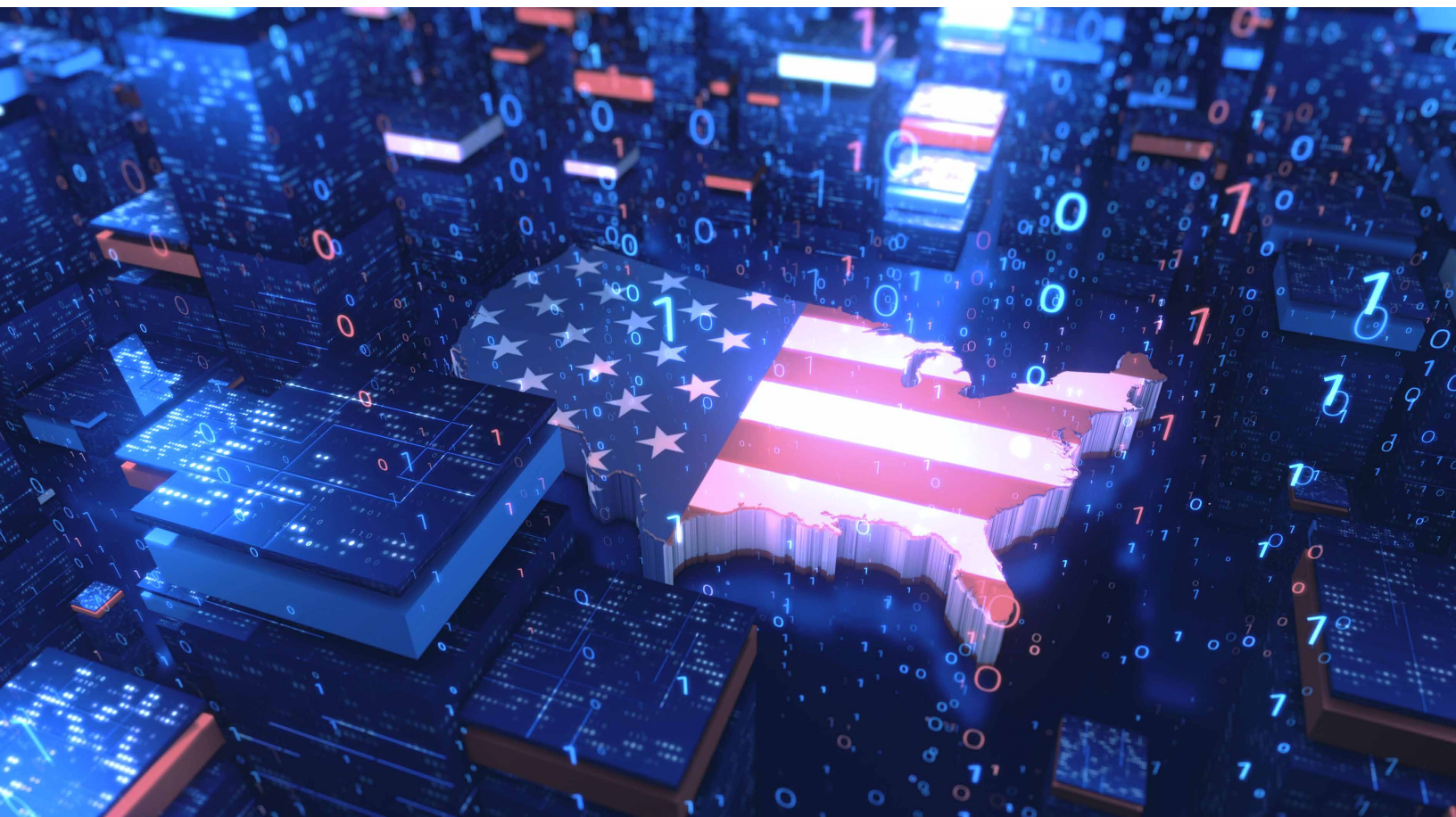


is designed to ensure that Brussels, which has often led global efforts in tech regulation, particularly with its General Data Protection Regulation (GDPR), does not exert outsized influence over the future of AI and, by extension, American AI companies. This concern is amplified by the EUs increasingly prescriptive and overly broad regulatory approach to artificial intelligence and emerging technologies, as reflected in frameworks such as the EU AI Act and related digital policy initiatives.

This massive capital investment is reflected in the relentless advancement of next-generation AI chips—the foundational layer of the AI stack, produced by companies such as Nvidia, AMD, and Intel. This hardware ecosystem is increasingly defined by specialized silicon, such as Google’s TPU (Tensor Processing Unit), which is an ASIC (Application-Specific Integrated Circuit) custom-built to accelerate the complex math of neural networks, rather than

serving the general computing functions of a traditional processor. Alongside Amazon’s Trainium and Meta’s MTIA, these chips optimize training (the “learning” phase) and inference (the “doing” phase) with superior energy efficiency. Together, these capabilities cement the U.S. position at the top of the global AI hierarchy, giving the broader American AI stack a reliability and sophistication that, for now, China has yet to match.

Thus, the United States’ dominant role in AI makes forging a partnership with Washington a strategic priority for nations like the UAE as they seek to build their nascent AI ecosystems. With its unparalleled expertise in AI innovation, infrastructure, and talent development, the U.S. is uniquely positioned to offer technological advantages to its partners. For the UAE, aligning with Washington not only facilitates access to cutting-edge AI capabilities but also strengthens its position as a leader in the evolving global tech landscape.



## China: Rapid Advancements Despite Hurdles

China is aggressively pursuing global dominance in AI through its New Generation Artificial Intelligence Development Plan, launched in 2017 to position China at the forefront of AI by 2030.<sup>19</sup> Tech giants such as Baidu, Alibaba, and Tencent are spearheading this effort, investing heavily in AI R&D across areas like autonomous vehicles, facial recognition, and natural language processing (NLP).<sup>20</sup> China's vast population and aggressive innovation approach provide access to an abundance of data—a critical advantage for training AI systems. The government actively fosters AI innovation and deployment through strategies and finance, applying technology across the healthcare, finance, and transportation sectors, including AI-assisted diagnostics in hospitals, algorithmic fraud detection in banking, and autonomous vehicle pilots on public roads.

China's AI ecosystem increasingly relies on widely available open-weight models, in which essential components are released for public download.<sup>21</sup> In effect, both domestic and international developers can obtain, modify, and deploy Chinese AI technologies directly, bypassing the need for application programming interface (API) access to closed platforms. This approach has accelerated global adoption of Chinese AI, expanded its influence, and provided an alternative to U.S. AI systems that are privately controlled and operate under a closed model strategy.<sup>22</sup>

Beijing, like Washington, is an increasingly attractive AI partner for nations that seek support to develop their AI infrastructure and ecosystems. China's rapid advancements in AI research and its strategic focus on

exporting technology solutions make it a compelling collaborator for countries aiming to accelerate their digital transformation. Despite the U.S. leading in highly influential research, China is ahead in the number of AI research papers published.<sup>23</sup> However, as the U.S.-China strategic rivalry intensifies, with technology at its core, the global AI landscape faces mounting challenges. Trends toward decoupling and deglobalization are disrupting the interconnected supply chains and international networks that have long been critical to China's AI sector. This fragmentation is actively reshaping the global technology order, forcing nations to navigate an increasingly polarized environment as they build AI capabilities. The Emirati champion G42 announced it had severed ties with Chinese hardware suppliers, one of the main steps that opened the way to a candid dialogue with Washington. Shortly afterward, in 2024, the company secured a strategic deal with Microsoft backed by the two governments. Distancing itself from Chinese supply chains was a move by G42, as a proxy for the broader UAE AI ecosystem, to address Washington's concerns over security and compliance in sensitive sectors such as artificial intelligence.<sup>24</sup>

U.S. export controls have drastically impacted China's access to critical AI hardware, especially advanced chips like GPUs, thus posing a major challenge to China's AI ambitions. The tightening of sanctions in 2025 with the blacklisting of certain Chinese entities led to shortages of high-end chips for Chinese firms and a significant price increase for certain critical components.<sup>25</sup> These restrictions, aimed at curtailing China's ability to access American technology with dual-use applications,

19 Graham Webster, Rogier Creemers, Elsa Kania and Paul Triolo, "Full Translation: China's 'New Generation Artificial Intelligence Development Plan' (2017)," DigiChina, October 1, 2021, <https://digichina.stanford.edu/work/full-translation-chinas-new-generation-artificial-intelligence-development-plan-2017/>.

20 Rebecca Arcesati and Caroline Meinhardt, "China bets on open-source technologies to boost domestic innovation," MERICS May 19, 2021, <https://merics.org/en/report/china-bets-open-source-technologies-boost-domestic-innovation>.

21 Jon Bateman et al., "Beyond Open vs. Closed: Emerging Consensus and Key Questions for Foundation AI Model Governance," Carnegie Endowment for International Peace, July 23, 2024, <https://carnegieendowment.org/research/2024/07/beyond-open-vs-closed-emerging-consensus-and-key-questions-for-foundation-ai-model-governance?lang=en>.

22 Caroline Meinhardt et al., "Beyond DeepSeek: China's Diverse Open-Weight AI Ecosystem and Its Policy Implications," Stanford Institute for Human-Centered Artificial Intelligence and DigiChina Issue Brief, December 16, 2025, <https://hai.stanford.edu/assets/files/hai-digichina-issue-brief-beyond-deepseek-chinas-diverse-open-weight-ai-ecosystem-policy-implications.pdf>.

23 Stanford Institute for Human-Centered Artificial Intelligence, "Artificial Intelligence Index Report 2025," 2025.

24 Chloe Cornish and Kaye Wiggins, "Abu Dhabi AI group G42 sells its China stakes to appease US," *Financial Times*, February 9, 2024, <https://www.ft.com/content/82473ec4-fa7a-43f2-897c-ceb9b10ffd7a>.

25 Dmitri Khasanov, "How U.S.-Chip Restrictions Are Reshaping The Global Tech Investment Landscape," *Forbes*, July 8, 2025, <https://www.forbes.com/councils/forbesbusinesscouncil/2025/07/08/how-us-china-chip-restrictions-are-reshaping-the-global-tech-investment-landscape/>.



have led to elaborate evasion sanction strategies and accelerated domestic innovation. In response, Beijing has intensified its own regulatory and industrial strategy by mandating that state-funded data centers use exclusively domestically produced AI chips, a move that effectively limits foreign suppliers and reinforces a broader state-led push toward technological self-sufficiency within its AI and semiconductor sectors.<sup>26 27 28</sup> The initiative extends to China's broader semiconductor supply chain, where authorities now require chipmakers adding capacity to source at least 50% of their fabrication equipment domestically, part of the government's ongoing effort to reduce reliance on foreign technology and strengthen domestic capabilities.<sup>29</sup>

In addition to hardware, Beijing is also concerned about losing access to foreign capital and global software communities. New policies being considered by the U.S. government may exacerbate this. Between 2017 and 2022, Europe-based investors accounted for 3.7 percent of investment transactions into Chinese AI companies, while U.S. investors accounted for 17 percent between 2015 and

2021, yet the heightened competition will likely bring this figure down and subsequently force Chinese actors to forge partnerships for AI development beyond the United States.<sup>30</sup> In Europe, AI collaboration with China is on the rise, and the Chinese AI ecosystem is likely to maintain strong global connections for the time being.<sup>31</sup>

Although AI collaboration between the EU and China remains limited in 2025 due to strategic competition and differing regulatory frameworks, opportunities for engagement may expand as tensions between Washington and Brussels grow. European leaders such as German Chancellor Friedrich Merz, UK Prime Minister Keir Starmer, and French President Emmanuel Macron have signaled interest in recalibrating relations with Beijing, particularly around emerging technologies, even if these efforts have yet to coalesce into formal partnerships. Despite U.S. containment efforts, the Chinese AI ecosystem is likely to maintain strong ties with the Global South, reinforcing its influence in international AI markets and presenting formidable competition to American AI.

26 "China Bans Foreign AI Chips from State-Funded Data Centres, Sources Say," *Reuters*, November 5, 2025, <https://www.reuters.com/world/china/china-bans-foreign-ai-chips-state-funded-data-centres-sources-say-2025-11-05/>.

27 Liyu, Siyi and Dominique Patton. "China bans export of rare earths processing tech over national security." *Reuters*, December 22, 2023. <https://www.reuters.com/markets/commodities/china-bans-export-rare-earths-processing-technologies-2023-12-21/>.

28 Frank Tang, "Xi Jinping says China must quicken pace to tech self-reliance to prevent being 'strangled' by foreign countries," *South China Morning Post*, February 2, 2023, <https://www.scmp.com/economy/china-economy/article/3208882/xi-jinping-says-china-must-quicken-pace-tech-self-reliance-prevent-being-strangled-foreign-countries>.

29 "China Mandates 50 % Domestic Equipment Rule for Chipmakers, Sources Say," *Reuters*, December 31, 2025, <https://www.reuters.com/world/china/china-mandates-50-domestic-equipment-rule-chipmakers-sources-say-2025-12-30/>.

30 Rebecca Artesati et al., "AI entanglement: Balancing risks and rewards of European-Chinese collaboration," MERICS, November 16, 2023, <https://merics.org/en/report/ai-entanglements-balancing-risks-and-rewards-european-chinese-collaboration>.

31 Qi Xijia, "China's AI achievements highlighted in new report," *Global Times*, December 10, 2023, <https://www.globaltimes.cn/page/202312/1303343.shtml>.

## The EU and AI: Setting Standards, Facing Innovation Lag

The EU has adopted a [joint strategy](#) for AI advancement that emphasizes a rules-based approach to the ethical use of AI.<sup>32</sup> The EU AI Act is on track to become the world's most comprehensive AI legislation. Its goal is to ensure that AI technologies are reliable and align with European principles. This regulation addresses clarity, accountability, the protection of personal information, the responsible development and use of AI technologies. Complementing this regulatory architecture, the [AI Continent Action Plan](#) and [Apply AI Strategy](#), passed in 2025 are designed to accelerate the development and adoption of AI in Europe.<sup>33</sup>

Yet ambition and execution have not always moved in lockstep. The EU AI Act risks imposing a regulatory burden that outpaces the region's capacity to innovate, creating friction for startups and slowing the commercialization of new technologies. While its intent to ensure safety, trust, and alignment with democratic values, is well-founded, its complexity and compliance costs may deter experimentation and capital formation, making the EU a less attractive destination for AI development and relegating Europe to the margins of the intensifying U.S.–China competition. In practice, this approach risks placing Europe in a position where it sets global standards but lags in building globally competitive AI champions. And as Washington and Beijing push toward large-scale deployment, standard-setting alone may prove insufficient and may no longer count as effective European statecraft.

These concerns are not abstract. While the intent behind the GDPR and the AI Act is to ensure that AI systems are developed and deployed responsibly, these regulations have raised concerns about their impact on innovation. Imposing regulations on foundation models—large-scale AI systems that serve as the backbone for many generative applications—before their specific uses are well understood is akin to banning kitchen knives because they can cause harm simply because they could be misused. The extensive compliance requirements and the heavy burden of adhering to stringent data protection standards are

stifling creativity and slowing down the development of new AI technologies. Startups and smaller tech companies, in particular, face significant challenges in navigating these complex regulations, which may deter them from entering the market or push them to relocate to regions with more lenient laws. As a result, the EU's regulatory approach could inadvertently place European businesses at a competitive disadvantage, as they struggle to keep pace with faster-moving AI advancements in other parts of the world. More broadly, critics argue that this reflects an increasingly prescriptive, and at times excessive, protectionist, and potentially discriminatory digital policy agenda—one tied to the EU's pursuit of “digital sovereignty”—that spans AI, data governance, platform regulation, and cloud services, with cumulative effects that risk fragmenting global digital markets and exporting highly restrictive regulatory frameworks internationally. The cumulative effect is a competitive disadvantage that no amount of regulatory prestige can fully offset.

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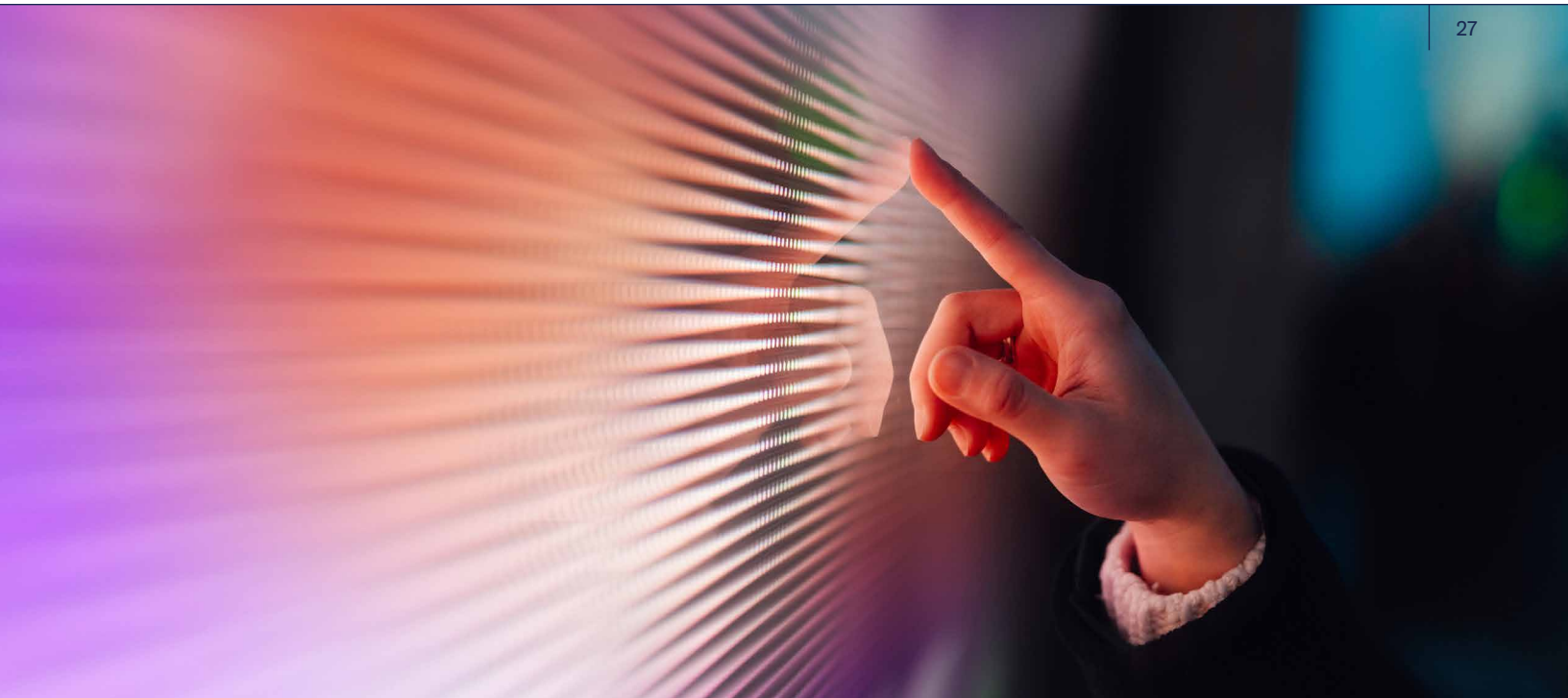
“As Washington and Beijing push toward large-scale deployment, standard-setting alone may prove insufficient—and may no longer count as effective statecraft.”

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This is the central tension in the EU's AI identity: governance has become its most visible export. The president of the European Commission, Ursula von der Leyen, has underscored the importance of ethical AI and robust regulations. It is a normative vision that carries genuine weight in international policy circles, but one that may prove insufficient as Washington and Beijing

32 Council of the European Union, “Artificial Intelligence Act: Council calls for promoting safe AI that respects fundamental rights,” December 6, 2022, <https://www.consilium.europa.eu/en/press/press-releases/2022/12/06/artificial-intelligence-act-council-calls-for-promoting-safe-ai-that-respects-fundamental-rights/>.

33 European Commission, “AI Continent Action Plan,” May 7, 2025, <https://digital-strategy.ec.europa.eu/en/factpages/ai-continent-action-plan>; European Commission, “Apply AI Strategy,” June 3, 2026, <https://digital-strategy.ec.europa.eu/en/policies/apply-ai>.



push toward large-scale deployment. In a race defined by capability, standard-setting alone may no longer count as effective statecraft.<sup>34</sup>

The EU's infrastructure agenda reflects a similar pattern — significant in ambition, uncertain in execution — through investments in AI factories and gigafactories, developed programs to attract and retain talent, and expanded AI capabilities such as supercomputing access. Analysts have pointed out, however, that the Apply AI strategy does not outline specific requirements for the use of European sovereign technologies. They also underline that there is still a lack of clarity regarding the extent to which Europe will be able to go down the path toward technological sovereignty.<sup>35</sup> Others have stressed that addressing worries around trust, security,

and dependency will be crucial to accelerate AI adoption and growth on the continent.<sup>36</sup> In addition to the AI Act, the EU's approach includes significant investments into AI R&D, fostering public-private partnerships to drive technological advancements while maintaining ethical standards. The EU allocated \$1.6 billion from Horizon 2020, its research and innovation program, for AI projects from 2018 to 2020. Its successor, Horizon Europe, has seen a commitment by the EU Parliament as part of the multiannual financial framework (MFF) to invest at least \$1.1 billion per year in AI from 2021 to 2027.<sup>37</sup> As of 2025, Horizon Europe has allocated roughly \$1.76 billion to AI research, with broader EU initiatives supporting multi-billion-dollar annual funding and ambitions to scale total AI investment to up to \$22 billion per year by the end of the decade.<sup>38</sup>

34 Ursula von der Leyen, *Political Guidelines 2024–2029: Preparing Europe's Future* (Brussels: European Commission, 2024), [https://commission.europa.eu/document/download/e6cd4328-673c-4e7a-8683-f63ffb2cf648\\_en?filename=Political+Guidelines+2024-2029\\_EN.pdf](https://commission.europa.eu/document/download/e6cd4328-673c-4e7a-8683-f63ffb2cf648_en?filename=Political+Guidelines+2024-2029_EN.pdf) ; Ursula Von der Leyen, *Political Guidelines for the next European Commission 2019-2024: A Union That Strives for More* (European Commission, 2019), [https://commission.europa.eu/document/download/063d44e9-04ed-4033-acf9-639ecb187e87\\_en?filename=political-guidelines-next-commission\\_en.pdf](https://commission.europa.eu/document/download/063d44e9-04ed-4033-acf9-639ecb187e87_en?filename=political-guidelines-next-commission_en.pdf).

35 Adrienne Goldstein and Alexandra Pugh, "The EU's Adoption Bet: Breaking Down Brussels' AI Apply Strategy," German Marshall Fund, December 12, 2025, [https://www.gmfus.org/news/eus-adoption-bet-breaking-down-brussels-apply-ai-strategy?utm\\_source=Concept&utm\\_medium=email&utm\\_campaign=TransatlanTech+Insider+from+GMF+Technology+%7c+December+2025+Edition+12%2f23%2f2025](https://www.gmfus.org/news/eus-adoption-bet-breaking-down-brussels-apply-ai-strategy?utm_source=Concept&utm_medium=email&utm_campaign=TransatlanTech+Insider+from+GMF+Technology+%7c+December+2025+Edition+12%2f23%2f2025).

36 Arnaud Tournesac et al., "Accelerating Europe's AI adoption: The role of sovereign AI," McKinsey & Company, December 19, 2025, <https://www.mckinsey.com/industries/technology-media-and-telecommunications/our-insights/accelerating-europes-ai-adoption-the-role-of-sovereign-ai>.

37 Velina Lilyanova, *Investment in Artificial Intelligence in the National Recovery and Resilience Plans*, (Brussels: European Parliament, April 2024), [https://www.europarl.europa.eu/RegData/etudes/BRIE/2024/762288/EPRS\\_BRI\(2024\)762288\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2024/762288/EPRS_BRI(2024)762288_EN.pdf).

38 European Commission, "EU Invests €7.3 Billion from Horizon Europe to Enhance Its Competitiveness and Talent Growth," , May 14, 2025, <https://digital-strategy.ec.europa.eu/en/news/eu-invests-eu73-billion-horizon-europe-enhance-its-competitiveness-and-talent-growth>.

# 4.

## **Forging the Future: The UAE's Quest for AI Leadership**



The UAE has set in motion a detailed strategy to harness the power of artificial intelligence to drive the nation's growth. Kicked off in October 2017 by the then Crown Prince of Abu Dhabi, His Highness Sheikh Mohamed bin Zayed Al Nahyan, the National Strategy for Artificial Intelligence aims to propel the UAE to the forefront of AI innovation by 2031.<sup>39</sup> This plan targets improvements in essential areas like government services, the economy, educational systems, and societal development.

To advance its ambitious AI agenda, the UAE has identified eight strategic objectives that are key to transforming the nation into a global powerhouse in artificial intelligence:

1. Build a reputation as an AI destination
2. Increase the UAE's competitive assets in priority sectors through development of AI
3. Develop a fertile ecosystem for AI
4. Adopt AI across government 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
8. Ensure strong governance and effective regulation<sup>40</sup>

By pursuing these goals, the UAE is positioning itself not only as an early adopter of AI but as a trailblazer that shapes global AI standards and practices. This blueprint reflects the UAE's broader vision of leveraging AI to secure its economic future and to increase its influence on the global stage. Central to this effort is the development of a talent pipeline, anchored by institutions like the Mohamed bin Zayed University

of Artificial Intelligence (MBZUAI), which attracts top researchers and students from around the world and supports research activity, startup development, and access to advanced computing resources.<sup>41</sup> The inaugural class of 2022 graduated 52 students from 24 countries.<sup>42</sup> The university has also expanded its international reach by launching a five-year collaborative research program with the MIT Schwarzman College of Computing, bringing together faculty and students from both institutions to advance foundational AI research and accelerate initiatives aimed at addressing global sustainability and societal challenges.<sup>43</sup> MBZUAI continued to expand its international efforts by establishing the Institute of Foundation Models (IFM), a multi-site initiative with a new Silicon Valley AI lab in Sunnyvale, California, alongside research facilities in Paris and Abu Dhabi, aimed at deepening collaboration with leading AI researchers and scaling cutting edge research on foundation models.<sup>44</sup> Furthermore, MBZUAI is advancing its impact through initiatives such as the newly launched Institute for Agriculture and Artificial Intelligence (IAAI), a collaboration with the UAE Presidential Court and the Gates Foundation dedicated to strengthening global food security by delivering AI-powered digital advisory tools and training to support more than 43 million smallholder farmers worldwide.<sup>45</sup>

In September 2024, the UAE also released a document outlining its position on AI policy.<sup>46</sup> The AI, Digital Economy, and Remote Work Applications office summarized its key AI governance principles with the acronym "ACCESS" (Advancement, Collaboration, Community, Ethics, Sustainability, and Safety). The document also highlights the UAE's foreign policy on AI, which entails engagement with international forums and the establishment of international alliances for governing, securing, and developing AI systems.

39 Emirates News Agency-WAM, "UAE launches National AI Strategy 2031" October 16, 2017, <https://wam.ae/en/details/1395302639251>.

40 UAE Government, "UAE National Artificial Intelligence Strategy 2031," 2018, <https://ai.gov.ae/strategy/>.

41 Amar Diwakar, "The UAE's University of AI is a Pipeline for Top Tech Talent," *Rest of World*, September 29, 2025, <https://restofworld.org/2025/uae-ai-university/>.

42 Mohamed bin Zayed University of Artificial Intelligence, "MBZUAI to celebrate inaugural commencement Inaugural Class of 2022," December 14, 2022, <https://mbzuai.ac.ae/news/mbzuai-to-celebrate-inaugural-commencement/>.

43 "MIT Schwarzman College of Computing and MBZUAI launch international collaboration to shape the future of AI," Massachusetts Institute of Technology, October 8, 2025, <https://news.mit.edu/2025/mit-schwarzman-college-computing-mbzuai-launch-collaboration-shape-future-ai-1008>.

44 Mohamed bin Zayed University of Artificial Intelligence, "MBZUAI Launches Institute of Foundation Models and Establishes Silicon Valley AI Lab," May 23, 2025, <https://mbzuai.ac.ae/news/mbzuai-launches-institute-of-foundation-models-and-establishes-silicon-valley-ai-lab/>.

45 Mohamed bin Zayed University of Artificial Intelligence, "MBZUAI launches Institute for Agriculture and AI to advance digital advisory solutions for smallholder farmers," December 10, 2025, <https://mbzuai.ac.ae/news/mbzuai-launches-institute-for-agriculture-and-ai-to-advance-digital-advisory-solutions-for-smallholder-farmers/>.

46 UAE Government, "UAE Position on AI Policy," 2024, <https://ai.gov.ae/wp-content/uploads/2024/10/UAE-Guiding-on-ai-policy-EN-V3.pdf>.

Since rolling out its National AI Strategy, the UAE has made significant strides. The nation has dramatically increased its number of AI studies, set up important AI centers, and put AI tech to work in many industries.

With its forward-thinking approach to AI advancements, the UAE elicited great attention from the international community and made itself an example for countries looking to use AI to boost their growth.

## Major Strides in the UAE's AI Roadmap

The UAE's National Strategy for AI lays out a bold roadmap for harnessing advanced technologies to contribute to the country's economic growth. The emphasis on improving critical sectors like government operations, education, health services, and transportation makes achieving it critical for the country. With a strong push for establishing the regulatory environment, increasing investment, and fostering quality partnerships, the UAE is on a promising path to realizing its ambition of emerging as a top-tier AI hub by 2031.

**Appointing the first AI Minister in 2017**, with H.E. Omar Al Olama taking the helm, was a bold signal to the rest of the world that the UAE is committed to leading in the field of artificial intelligence.<sup>47</sup> This groundbreaking move showcased the UAE's intent to not only participate in the global AI race but to set the pace for innovation and governance in the rapidly evolving sector.

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“Appointing the world's first AI Minister in 2017 was a bold signal to the rest of the world that the UAE is committed to leading — not merely participating — in the global AI race.”

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- **Establishing the UAE AI Council in 2018** was pivotal in advancing the creation of an AI-friendly ecosystem in the UAE. The council supports the acceleration of AI across the UAE, and promotes collaboration between the public and private sectors.
- **Implementing AI in government** to streamline the UAE's administrative tasks, improve the delivery of public services, and support government officials to use AI for data-driven decision-making. Key anticipated benefits of leveraging AI in governance include significant cost savings, quicker procedure times, and enhanced service quality for the public. On the 2023 Oxford AI Readiness Index, the UAE scored 78.32 out of 100 in the Government pillar, demonstrating strong regulatory support and a well-defined approach to managing AI across government services.<sup>48</sup> This ranking is likely to increase going forward since Dubai, the UAE's largest city and a major driver of the country's economic development, appointed 22 chief AI officers to key government departments in 2024, intending to transform government services through AI.<sup>49</sup> The Department of Government Enablement (DGE), created in September of 2023, plays an important role in streamlining government services by integrating various government entities under one unified platform.<sup>50</sup> With ambitions to reach 200 AI use cases across government services by 2027, DGE is also responsible for implementing the Abu Dhabi Government Digital Strategy 2025-2027, launched in January 2025 as part of the UAE's vision of becoming an AI-native government.<sup>51</sup>

47 Emirates News Agency-WAM, “Resumes of UAE cabinet new members revealed,” October 19, 2017, <https://wam.ae/en/details/1395302640112>.

48 Oxford Insights, *Government AI Readiness Index 2023*, (Oxford Insights, 2025), <https://oxfordinsights.com/ai-readiness/ai-readiness-index/>.

49 “Dubai appoints 22 chief AI officers to boost high-tech drive,” *The National*, June 9, 2024, <https://www.thenationalnews.com/news/uae/2024/06/09/dubai-appoints-22-chief-ai-officers-to-boost-high-tech-drive/>.

50 Department of Government Enablement, “Abu Dhabi Government Digital Strategy 2025-2027 accelerates AI-native government journey,” September 30, 2025, <https://www.dge.gov.ae/en/news/adg-digital-strategy-update-2025>.

51 “Abu Dhabi unveils ambitious Dh13bn ‘Digital Strategy 2025-2027,’” *Gulf Business*, January 22, 2025, <https://gulfbusiness.com/en/2025/tech/abu-dhabi-unveils-digital-strategy-2025-2027/>.



- **Establishing AI Research Institutions** has always been a focus of the UAE's innovation aspirations and has been translated into the first AI research institution and center worldwide. The Mohamed bin Zayed University of Artificial Intelligence (MBZUAI) is the first graduate research-based AI university concentrating on diverse facets of AI including machine learning, robotics, understanding human speech, and visual computing.<sup>52</sup> The UAE's goal in funding AI research is to produce fresh insights, forge groundbreaking solutions, and add value to the global AI network. Furthermore, the Technology Innovation Institute (TII), launched in Abu Dhabi in 2020 under the Advanced Technology Research Council (ATRC), drives innovation across fields such as AI, quantum computing, and autonomous robotics.<sup>53</sup> With 10 specialized research centers, it leads projects like the UAE's first quantum computer and NOOR, the first and largest Arabic-language AI model. In 2025, TII also launched, in partnership with Nvidia, the Middle East's first and largest joint research lab dedicated to AI and robotics.<sup>54</sup>
- **Founded in 2018, G42 fuels the UAE's AI ecosystem.** G42, based in Abu Dhabi and chaired by Sheikh Tahnoun bin Zayed Al Nahyan, the UAE's National Security Advisor, plays a pivotal role in the country's AI strategy.<sup>55</sup> At the forefront of AI R&D and deployment, the firm is also a major contributor to the UAE's national security objectives by building a sovereign AI ecosystem. Its work spans healthcare, space, energy, transportation, and defense, where it focuses on AI-driven diagnostics, satellite imagery, renewable energy, autonomous vehicles, and cybersecurity.
- **Unveiling the AI model, Falcon 40B, in March 2023** by Abu Dhabi's Technology Innovation Institute (TII), which houses a dedicated AI and Digital Science Research Center, has significantly strengthened the UAE's international presence in AI by making its large-scale model open-source for both research and commercial use, and incentivized experimentation with Falcon-40B with an offer of compute access for model training.<sup>56</sup> As the UAE's first foundational LLM, Falcon 40B was set to boast 40 billion parameters, a fraction of GPT-3's 175 billion, yet it outperformed it on most benchmarks while requiring only 75% of its training compute and was trained on compute and one trillion tokens, reflecting the UAE's technical advancement.<sup>57</sup>
- **Launching the Dubai.AI Platform in October 2023**, a first-of-its-kind initiative in collaboration between Digital Dubai and the Dubai Center for Artificial Intelligence, to offer an all-encompassing digital assistant for citizens, residents, visitors, and business owners.<sup>58</sup> This platform allows users to access information on a wide range of topics, including health, education, tourism, transportation, business, real estate, and more, making it a comprehensive tool for navigating and engaging with all aspects of life in Dubai.<sup>59</sup>
- **Launching a new AI company, AI71, in November 2023** by Abu Dhabi's Advanced Technology Research Council (ATRC) marks a significant milestone in the UAE's AI development journey.<sup>60</sup> AI71 is an applied research team that works to enhance the UAE's AI capabilities, building on TII's cutting-edge research—a fusion between research and application within the UAE AI ecosystem.

52 Emirates News Agency-WAM, "Abu Dhabi announces establishment of the Mohamed bin Zayed University of Artificial Intelligence," October 16, 2019, <https://wam.ae/en/article/hszr9b3g-abu-dhabi-announces-establishment-the-mohamed-bin>.

53 Technology Innovation Institute, "Technology Innovation Institute," Accessed June 3, 2026, <https://www.tii.ae/>; Advanced Technology Research Council, "Advanced Technology Research Council," Accessed June 3, 2026, <https://www.atrc.gov.ae/>.

54 Technology Innovation Institute, "Abu Dhabi's TII and NVIDIA Launch Middle East's First Joint 'AI&Robotics' NVAITC Research Lab," September 22, 2025, <https://www.tii.ae/news/abu-dhabis-tii-and-nvidia-launch-middle-east-first-joint-ai-robotics-nvaite-research-lab>

55 G42, "About G42," Accessed June 3, 2026, <https://www.g42.ai/about>.

56 "Abu Dhabi's TII unveils its Falcon 40B AI model open source," *Gulf Business*, May 25, 2023, <https://gulfbusiness.com/tii-makes-its-falcon-40b-ai-model-open-source/>.

57 "The Falcon has landed in the Hugging Face ecosystem," Hugging Face, June 5, 2023, <https://huggingface.co/blog/falcon>.

58 Digital Dubai, "Digital Dubai launches Dubai.AI in partnership with Dubai Center for Artificial Intelligence," October 11, 2023, <https://www.digitaldubai.ae/newsroom/news/digital-dubai-launches-dubai-ai-in-partnership-with-dubai-center-for-artificial-intelligence>.

59 Dubai AI, accessed June 3, 2026, <https://chat.dubai.ae/>.

60 Emirates News Agency-WAM, "Khaled bin Mohamed bin Zayed launches Advanced Technology Research Council's new AI company AI71," November 28, 2023, <https://wam.ae/en/article/apva774-khaled-bin-mohamed-bin-zayed-launches-advanced>.

- **Unveiling the Dubai Universal Blueprint for AI (DUBAI) in April 2024** to launch AI and Web3 incubators, and introducing AI-focused educational programs designed to accelerate Dubai's progress in AI.<sup>61</sup> The DUBAI aligns with the broader Dubai Economic Agenda D33, which seeks to boost the city's economy by AED 100 billion annually through digital transformation.
- **The \$1.5 billion Microsoft-G42 deal in April 2024** was a watershed moment in US-UAE cooperation, drawing attention to the UAE's AI ecosystem and highlighting G42 as a potential partner for the world's largest tech firms.<sup>62</sup> G42 is leveraging Microsoft Azure to run its AI applications and services, delivering advanced solutions to public sector clients and large enterprises worldwide. Together, they plan to bring AI-driven digital infrastructure to countries across the Middle East, Central Asia, and Africa.
- **In September 2024, MGX, a technology investment company based in Abu Dhabi, joined** forces with BlackRock, Global Infrastructure Partners, and Microsoft to form the Global AI Infrastructure Investment Partnership to drive AI innovation through investments in data centers and energy infrastructure. With \$100 billion in potential funding and an initial \$30 billion in private equity capital, the partnership primarily focuses on the U.S., with additional investments in allied nations.<sup>63</sup>
- **With his September White House visit, UAE President Sheikh Mohamed bin Zayed Al Nahyan signaled** a pivot from hydrocarbons to technology-focused cooperation..<sup>64</sup> The collaboration also includes projects in Africa, such as geothermal-powered data centers, the development of local AI models, and the establishment of an East African Innovation Lab in Kenya. Sheikh bin Zayed's meetings with tech leaders from Microsoft, Nvidia, and BlackRock underscored the UAE's commitment to economic diversification, mirroring the broader shift toward technology and innovation.
- **In September 2025, Abu Dhabi's Mohamed bin Zayed University of Artificial Intelligence launched K2 Think**, a "sovereign" AI model designed to compete with top-tier systems from the US and China.<sup>65</sup> This advanced reasoning model features a fully transparent disclosure of its data and algorithms, distinguishing it from increasingly secretive Silicon Valley firms. Recent evaluations by Artificial Analysis indicate that K2-Think maintains a leading level of openness and delivers competitive reasoning performance, having been developed by MBZUAI using Alibaba's open-source Qwen 2.5 base model. Remarkably, the UAE-developed system was trained on an H200 GPU cluster for a fraction of the cost of its global rivals, achieving frontier-level results with a 32-billion parameter version, which is roughly 20 to 50 times smaller than the estimated size of proprietary competing systems.
- **U.S.-UAE AI 5 GW Campus**  
In May 2025, the UAE and the United States formally unveiled Phase I of a 5-gigawatt UAE-U.S. AI Campus in Abu Dhabi, one of the largest AI compute campuses outside the United States<sup>66</sup>. The campus includes an initial 1 GW AI cluster, with full build-out reaching 5 GW of data-center capacity. It is designed to host U.S. hyperscalers and large enterprises, enabling latency-optimized AI services to nearly half of the world's population within a 3,200 km radius of the UAE. The campus will be powered by a mix of nuclear, solar, and gas energy and will integrate a dedicated AI science park to support research and innovation.

61 Emirates News Agency-WAM, "Hamdan bin Mohammed launches Dubai Universal Blueprint for Artificial Intelligence," April 29, 2024, <https://wam.ae/en/article/b2wfs4k-hamdan-bin-mohammed-launches-dubai-universal>.

62 Microsoft Source, "Microsoft invests \$1.5 billion in Abu Dhabi's G42 to accelerate AI development and global expansion," April 15, 2024, <https://news.microsoft.com/2024/04/15/microsoft-invests-1-5-billion-in-abu-dhabis-g42-to-accelerate-ai-development-and-global-expansion/>.

63 Microsoft Source, "BlackRock, Global Infrastructure Partners, Microsoft and MGX launch new AI partnership to invest in data centers and supporting power infrastructure," Microsoft, September 17, 2024, <https://news.microsoft.com/source/2024/09/17/blackrock-global-infrastructure-partners-microsoft-and-mgx-launch-new-ai-partnership-to-invest-in-data-centers-and-supporting-power-infrastructure/>.

64 "UAE, USA Issue Joint Statement on Visit of President of UAE to Washington," UAE Embassy, September 23, 2024, <https://www.uae-embassy.org/news/uae-usa-issue-joint-statement-visit-president-uae-washington>.

65 Tim Bradshaw, "UAE launches 'sovereign' open AI model to counter Chinese rivals," Financial Times, January 27, 2026, <https://www.ft.com/content/465c717b-af26-48c1-a530-e9e6d313f96a>.

66 U.S. Embassy & Consulates in the UAE. 2025, "UAE and U.S. Presidents Attend the Unveiling of Phase 1 of New 5GW AI Campus in Abu Dhabi," May 17, 2025, <https://ae.usembassy.gov/uae-and-us-presidents-attend-the-unveiling-of-phase-1-of-new-5gw-ai-campus-in-abu-dhabi/>.



- **Microsoft shipment of more than 60,000 Nvidia GPUs to the UAE**

Microsoft received U.S. licenses to ship more than 60,000 Nvidia AI chips, including GB300 Grace Blackwell systems, to UAE-based data centers.<sup>67</sup> Under the Biden administration, Microsoft was among the few companies to secure U.S. Commerce Department export licenses to ship advanced GPUs to the UAE, meeting stringent cybersecurity and national security requirements and enabling the deployment of the equivalent of 21,500 Nvidia A100-class GPUs (A100, H100, and H200).

- **Microsoft's \$15.2 billion investment in the UAE (2023–2029)**

In November 2025, Microsoft announced its intention to invest \$15.2 billion in the UAE between 2023 and 2029. As of the conclusion of 2025, Microsoft has invested over \$7.3 billion, including a \$1.5 billion equity stake in G42 and large-scale capital deployment across AI and cloud data centers<sup>68</sup>. The investment enables the deployment of advanced U.S. AI infrastructure—supported by U.S.-approved Nvidia GPU exports—and expands American-managed cloud and AI services across the UAE and the Global South.

- **U.S. export approval of advanced Nvidia chips to G42**

In November 2025, the U.S. Department of Commerce authorized the export of advanced Nvidia Blackwell (GB300) chips to G42, approving purchases equivalent to up to 35,000 GPUs, subject to rigorous security and reporting requirements.<sup>69</sup> These approvals align with President Trump's 2025 AI Action Plan and signal a shift from blanket restriction toward AI diffusion with trusted partners.

- **Core42 establishes European headquarters in Dublin**

In December 2025, Core42 established its European headquarters in Dublin, strengthening its ability to serve European governments and enterprises seeking secure, sovereign-aligned AI infrastructure<sup>70</sup>. The Dublin hub will anchor customer delivery, engineering leadership, regulatory engagement, and ecosystem partnerships, building on Core42's expanding sovereign compute deployments in France and Italy and positioning the company as a key provider of production-grade AI infrastructure across Europe.

67 "Microsoft to Ship 60,000 Nvidia AI Chips to UAE Under US-Approved Deal," AP News, November 3, 2025, <https://apnews.com/article/microsoft-ai-blackwell-nvidia-uae-12ae42b88f4c5fec3cbbff3b4bd1ac0c>.

68 Microsoft, "Microsoft's \$15.2 Billion USD Investment in the UAE," Microsoft on the Issues, November 3, 2025, <https://blogs.microsoft.com/on-the-issues/2025/11/03/microsofts-15-2-billion-usd-investment-in-the-uae/>.

69 U.S. Department of Commerce, "Statement on UAE and Saudi Chip Exports: Today the Commerce Department announced that it has authorized the export of advanced American semiconductors to G42, based in the United Arab Emirates...", X, November 20, 2025, <https://x.com/CommerceGov/status/1991281363253653607>.

70 Core42, "Core42 Establishes European Headquarters in Dublin to Support Growing Demand for AI Infrastructure," December 15, 2025, <https://www.core42.ai/en/news/core42-establishes-european-headquarters-in-dublin-to-support-growing-demand-for-ai-infrastructure>.

# 5.

## **Making the UAE an Optimal Environment for AI Development**



The UAE, particularly Dubai and Abu Dhabi, has positioned itself as a key hub for big technology companies and entrepreneurs, attracting significant investments and talent from around the world. This environment, born from a series of coordinated initiatives to build an advanced AI ecosystem, has

made the UAE a fertile ground for AI research, development, and commercialization, earning the country its reputation as the “scale-up nation.” The UAE continues to attract talent, secure cutting-edge AI tools and hardware, and apply AI for social and economic development across sectors.

## Establishing a Dynamic Policy and Regulatory Environment

The UAE is actively developing and refining its policies and regulatory framework to encourage the growth and application of AI and other emerging technologies in every sector. A key element of this initiative is the Regulations Lab, known as “RegLab,” which was launched in January 2019 in collaboration with the Dubai Future Foundation. RegLab operates under a federal law issued in 2018 that grants the UAE Cabinet the authority to issue temporary licenses for testing and evaluating innovations in future technologies, including AI.<sup>71</sup> This initiative aims to establish a transparent and dependable legislative environment, introduce new laws or improve existing ones, and regulate advanced technological products to support the UAE’s aspirations in becoming a technology hub. By engaging with business leaders, tech innovators, and lawmakers from both local and federal levels, RegLab allows for a proactive and flexible legislative landscape, thereby synchronizing the speed of regulation with the pace of innovation.

RegLab’s structured approach begins with applications submitted through its platform and includes regulation use-case sprints, workshops with government and private sector entities, UAE Cabinet approval of Minimum Viable Legislation licenses, and impact assessments to recommend necessary regulations.<sup>72</sup> By synchronizing the speed of regulation with the pace of innovation, the UAE has built a legislative environment

that enables experimentation without sacrificing accountability. This model has already enabled several pioneering projects, such as issuing licenses for electric cargo aircraft and eVTOL (electric vertical take-off and landing) aircraft to promote eco-friendly transportation and enhance the sustainability of the logistics sector.<sup>73</sup> The Ministry of Health and Prevention’s health data repository project and the national disease registration system are additional examples of leveraging data science and AI to improve healthcare outcomes.<sup>74</sup> Furthermore, the UAE has granted temporary licenses for testing self-driving vehicles, making it the first country in the Middle East and the second globally to embrace such technologies.<sup>75</sup>

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“By synchronizing the speed of regulation with the pace of innovation, the UAE has built a legislative environment that enables experimentation without sacrificing accountability.”

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- 71 UAE Cabinet, “President Issues Federal Law Launching ‘RegLab,’” November 10, 2018, <https://uaecabinet.ae/en/details/news/president-issues-federal-law-launching-reglab>.
- 72 Regulations Lab, “About RegLab,” Accessed June 3, 2026, <https://reglab.gov.ae/en/about>.
- 73 Regulations Lab, “UAE Regulations Lab Issues Licence for Electric Vertical Takeoff and Landing Aircraft,” 14 March, 2023, <https://reglab.gov.ae/en/news-details/uae-regulations-lab-issues-licence-for-electric-vertical-takeoff-and-landing-aircraft-1>.
- 74 Ministry of Health and Prevention, “MoHAP Organizes Interactive Session on Health Data Repository Project and National Disease Registry,” 11 April, 2022, <https://mohap.gov.ae/en/media-center/news/11/4/2022/mohap-organizes-interactive-session-on-health-data-repository-project-and-national-disease-registry>.
- 75 Regulations Lab, “UAE Grants Temporary License to Test Self-Driving Vehicles,” <https://reglab.gov.ae/en/news-details/uae-grants-temporary-license-to-test-self-driving-vehicles>.



Beyond RegLab, the UAE has established multiple regulatory sandboxes to test and advance emerging technologies across various sectors. These include the Global TradeTech Sandbox and the ICT Regulatory Sandbox, which aim to spark innovation and establish best practices for global adoption. The Global TradeTech Sandbox, launched in partnership with the Ministry of Economy, the Abu Dhabi Department of Economic Development, and the World Economic Forum, seeks to create flexible regulatory frameworks to unlock the potential of trade technologies.<sup>76</sup> Similarly, the ICT Regulatory Sandbox, introduced by the Telecommunications and Digital Government Regulatory Authority, provides an agile regulatory environment for launching innovative ICT services and solutions, supporting digital economic growth.<sup>77</sup> These initiatives underscore the UAE's commitment to maintaining a dynamic, forward-looking regulatory landscape that fosters technological advancement, economic development and sustained engagement with industry stakeholders.

In the financial sector, the Abu Dhabi Global Market (ADGM) RegLab and the Dubai Financial Services Authority's (DFSA) Innovation Testing Licence (ITL) Programme are crucial in promoting FinTech innovation. The ADGM RegLab offers a controlled environment for FinTech participants to develop and test innovative solutions without being subject to the full suite of regulatory requirements. This approach allows FinTech firms to explore new technologies that are risk-appropriate and cost-effective. Additionally,

ADGM's Financial Services Regulatory Authority (FSRA) has launched an AI initiative on open regulation, emphasizing the integration of AI in financial services and creating a regulatory framework that supports AI-driven innovations.<sup>78</sup> The DFSA's ITL Programme provides a similar regulatory sandbox, enabling ITL holders to test new financial products and services within a controlled environment. Moreover, the Central Bank of the UAE has implemented a regulatory sandbox for the insurance sector, transforming the market into a smart insurance ecosystem and supporting emerging Emirati FinTech companies. These sandboxes reduce barriers to entry, lower innovation costs, and allow regulators to gather insights before broader regulatory implementation, helping to ensure that the UAE remains a global leader in financial innovation and regulation.

The UAE's approach to establishing a dynamic policy and regulatory environment for AI and emerging technologies highlights its commitment to innovation and its recognition of the critical role of industry partnership in driving technological progress and economic growth. Through initiatives like RegLab and various regulatory sandboxes, the UAE is encouraging experimentation and innovation while ensuring legislative frameworks are in place to protect societal and economic interests. This proactive and adaptive regulatory strategy supports the UAE's vision of becoming a global AI hub and ensures that the country remains competitive and resilient amid rapid technological advancements.

76 Emirates News Agency-WAM, "UAE launches Global TradeTech Sandbox during World Economic Forum in Davos," January 20, 2024, <https://wam.ae/en/article/b18wfrc-uae-launches-global-tradetech-sandbox-during-world>.

77 Emirates News Agency-WAM, "TDRA participates in SAMENA Summit on role of telecommunications in supporting digital economy," May 15, 2023, <https://wam.ae/en/details/1395303158236>.

78 Abu Dhabi Global Market, "ADGM's Financial Services Regulatory Authority Launches its AI Initiative on Open Regulation," 29 November, 2022, <https://www.adgm.com/media/announcements/adgms-financial-services-regulatory-authority-launches-its-ai-initiative-on-open-regulation>.



## Attracting Investment to Advance the Digital Environment

One of the UAE's cornerstone programs to attract investment is the NextGen FDI initiative, launched in July 2022 by the Ministry of Economy. This national program was established to attract over 300 digital-focused companies developing advanced technology applications.<sup>79</sup> NextGen FDI is designed to boost the digital economy, create high-paying jobs, and expedite the UAE's transformation into a diversified and knowledge-based economy. The initiative aligns with the UAE's broader economic goals and its vision of establishing itself as a global center for digital and AI-driven industries, capable of attracting significant foreign investment and fostering innovation.

The NextGen FDI initiative has already garnered significant interest from international digitally enabled companies, resulting in the successful attraction of companies such as Krush Brands, Godel, Tickets Marche Company, Kasta, the DATAFirm, Flyby, Mazarine Group, Polygon, BHAG, HPS, and YuanLi Group.<sup>80</sup> Through the initiative, the UAE offers a range of incentives to facilitate the entry and growth of digital companies. These incentives include faster incorporation processes, bulk visa issuance, expedited banking services, and real estate incentives for companies relocating personnel to the UAE.<sup>81</sup> The initiative collaborates with seven strategic partners, including

financial centers, free zones, and banks, to ensure a smooth and efficient setup process for new businesses.<sup>82</sup>

This proactive approach to supporting foreign direct investment (FDI) highlights the UAE's commitment to creating a favorable business environment. By integrating technology and varied infrastructure into the ecosystem, the UAE ensures that digital companies can operate seamlessly and efficiently, leveraging various incentives to expand their operations in the region.

This commitment to building a thriving digital environment supports rapid growth in Abu Dhabi's business landscape, where active economic licenses grew by 10.9% between 2022 and 2023.<sup>83</sup> This surge reflects the UAE's success in creating a business-friendly ecosystem that not only attracts foreign investment but also facilitates the rapid expansion of digital and technology-focused enterprises. The significant rise in new business licenses underscores Abu Dhabi's efforts to enhance economic diversification and create a sustainable environment for innovation, commerce, and investment in the region. Through initiatives like NextGen FDI and the supportive infrastructure in Abu Dhabi, the UAE is rapidly advancing its goal of becoming a global center for digital industries.

79 Nivetha Dayan, "UAE launches 'NextGen FDI' to attract world's digital businesses and talent and set up here," *Gulf News*, July 06, 2022, <https://gulfnews.com/business/markets/watch-uae-launches-nextgen-fdi-to-attract-worlds-digital-businesses-and-talent-and-set-up-here-1.1657092402800>.

80 "NextGen FDI initiative attracts nine new global tech companies to the UAE," *Gulf News*, February 26, 2023, <https://gulfnews.com/business/markets/nextgen-fdi-initiative-attracts-nine-new-global-tech-companies-to-the-uae-1.94101739>.

81 Deena Kamel, "UAE offers incentives to attract 300 digital companies under new FDI programme," *The National*, July 06, 2022, <https://www.thenationalnews.com/business/2022/07/06/uae-offers-incentives-to-attract-300-digital-companies-under-new-fdi-programme/>.

82 Nivetha Dayanand, "UAE launches 'NextGen FDI,'" *Gulf News*, July 06, 2022.

83 Emirates News Agency-WAM, "AED 210.7 billion total capital of new economic licenses in 2023," January 30, 2024, <https://www.wam.ae/en/article/13qooav-aed2107-billion-total-capital-new-economic>.

## Building the AI Ecosystem and Infrastructure

The UAE has several key players and hubs dedicated to AI research, development, and commercialization. The Advanced Technology Research Council (ATRC),<sup>84</sup> a government body, prominently shapes the agenda for AI. The aforementioned Technology Innovation Institute (TII) is under its direction.<sup>85</sup> Researchers from TII's AI Cross-Center Unit developed NOOR, then the largest Arabic NLP model, in April 2022.<sup>86</sup> The Abu Dhabi-based Mohamed bin Zayed University of Artificial Intelligence (MBZUAI) has also emerged as a leading player in AI in the UAE.<sup>87</sup> Established in 2019, MBZUAI touts research in subfields including NLP and Computer Vision. Reflecting the country's interest in engaging with and harnessing generative AI, MBZUAI is home to an Institute of Foundation Models where Generative Pre-Trained Transformers are linked to uses in industries including healthcare, climate change, and sustainability, owing to their ability to train on and process linguistic, visual, and biological data.<sup>88</sup> Moreover, "Jais," described at its launch in August 2023 as the most advanced Arabic LLM then available, was built by MBZUAI in collaboration with UAE-based Inception and U.S.-based Cerebras Systems. More recent Arabic-language models have since been released, including TII's Falcon-H1 Arabic in January 2026.<sup>89</sup>

Additionally, in January 2024, President Mohamed bin Zayed issued a law establishing the Artificial Intelligence and Advanced Technology Council (AIATC), an Abu Dhabi-based entity tasked with constructing and implementing policies and strategies related to AI

research, infrastructure, and investments, inclusive of local and global research collaboration.<sup>90</sup> The AIATC is explicitly designed to complement the UAE's national objective of becoming a global leader in AI investments, partnerships, and talent. The AIATC moved quickly to found the technology investment fund MGX in March 2024, focused principally on the development and adoption of AI and other advanced technologies through global partnerships with an anticipated \$100 billion in assets.<sup>91</sup> In 2025, MGX expanded its role in global AI and technology investment by acquiring a 51 % stake in Intel's Altera alongside Silver Lake, a move that positions the firm strategically within the semiconductor industry.<sup>92</sup> Building on this, MGX joined the AI Infrastructure Partnership with BlackRock, Microsoft, and Nvidia — and in October 2025 the consortium closed the largest data center acquisition in history: \$40 billion for Aligned Data Centers, with over 5 GW of capacity across 50 facilities in the Americas.

The transaction's participant list is itself a map of where critical infrastructure governance is heading: BlackRock's Global Infrastructure Partners, Microsoft, NVIDIA, Kuwait Investment Authority, and Singapore's Temasek. Regulatory approval, expected in the first half of 2026, will reveal something about how Washington now views Gulf capital in strategic sectors.<sup>93</sup>

Notably, one of MGX's founding partners is the sovereign wealth fund Mubadala Investment Company, another

84 Advanced Technology Research Council, 2026, [accessed June 3, 2026](#).

85 Technology Innovation Institute, [accessed June 3 2026](#).

86 Technology Innovation Institute, "Technology Innovation Institute Announces Launch of NOOR, the World's Largest Arabic NLP Model," April 13, 2022, <https://www.tii.ae/news/technology-innovation-institute-announces-launch-noor-worlds-largest-arabic-nlp-model>.

87 Mohamed bin Zayed Al Nahyan University of Artificial Intelligence, accessed June 3, 2026, <https://mbzuai.ac.ae/>.

88 Institute of Foundation Models, "Institute of Foundation Models," Mohamed bin Zayed Al Nahyan University of Artificial Intelligence, accessed June 3 2026, <https://mbzuai.ac.ae/institute-of-foundation-models/>.

89 Mohamed bin Zayed University of Artificial Intelligence, "Meet 'Jais', The World's Most Advanced Arabic Large Language Model Open Sourced by G42's Inception," Mohamed bin Zayed Al Nahyan University of Artificial Intelligence August 30, 2023, <https://mbzuai.ac.ae/news/meet-jais-the-worlds-most-advanced-arabic-large-language-model-open-sourced-by-g42s-inception/>.

90 Abu Dhabi Media Office, "In His Capacity As Rule of Abu Dhabi, UAE President Issues Law Establishing Artificial Intelligence and Advanced Technology Council," Abu Dhabi Media Office, January 22, 2024, <https://www.mediaoffice.abudhabi/en/government-affairs/in-his-capacity-as-ruler-of-abu-dhabi-uae-president-issues-law-establishing-artificial-intelligence-and-advanced-technology-council/>.

91 Adam Lucente, "What to Know About MGX, UAE's Latest AI Investment Firm," *AI-Monitor*, March 12, 2024, <https://www.al-monitor.com/originals/2024/03/what-know-about-mgx-uaes-latest-ai-investment-firm>.

92 Nick Turner and Alex Turner, "Abu Dhabi's MGX Joins Silver Lake in Deal for Intel's Altera," *Bloomberg*, September 16, 2025, <https://www.bloomberg.com/news/articles/2025-09-16/abu-dhabi-s-mgx-joins-silver-lake-in-deal-for-intel-s-altera>.

93 Güney Yıldız, "UAE 2026: What Abu Dhabi's \$1.7 Trillion is actually buying", *Forbes*, December 16, 2025, <https://www.forbes.com/sites/guneyyildiz/2025/12/16/what-abu-dhabis-17-trillion-is-actually-buying/>.



major player in the UAE that is deploying its capital in the service of national AI ambitions.<sup>94</sup> Mubadala prioritized its investments in AI, digital infrastructure, and clean energy, among other sectors, with its total assets under management growing 9.5% to 1.11 trillion dirhams (\$302.2 billion).<sup>95</sup> Through Mubadala, the UAE has become the primary investor in the U.S.-based semiconductor manufacturer GlobalFoundries (GF). While semiconductors are one of the most capital-intensive industries globally, the UAE's strategic investment in the sector aligns with the broader Emirati strategy to enhance deep tech and become a global tech leader. Continuing its strategic momentum, in 2025 Mubadala reported assets under management of AED 1.2 trillion (approximately \$326 billion), with invested funds rising 33.7 percent to AED 119 billion, including significant investments in AI, semiconductors, and advanced technology projects. The fund's continued backing of MGX underscores its role in positioning the UAE as a global hub for AI advancement, strengthening both domestic capabilities and international partnerships.<sup>96</sup>

MGX's other founding partner, AI firm G42, is a key player as well.<sup>97</sup> G42 was founded in 2018 and is chaired by UAE National Security Advisor Sheikh Tahnoon bin Zayed. The company is oriented towards AI development and adoption across both commercial and defense sectors, with extensive global engagement

– building what should be described as a “sovereign tech ecosystem.”<sup>98</sup> As explained in greater detail below, G42 is at the center of an emerging commercial-geopolitical dynamic in cross-border AI exchanges, particularly where the U.S. and China are concerned. For example, G42 previously held stakes in Chinese company and TikTok owner ByteDance, although it later divested from these assets.<sup>99</sup> Soon after, the company moved closer to the U.S. technological orbit in the run-up to Microsoft's \$1.5 billion investment in G42. G42's holdings include Inception, the aforementioned AI company in part responsible for the development of “Jais.”<sup>100</sup> Finally, in November 2023, ATRC established AI71,<sup>101</sup> an AI company dedicated to commercializing the “Falcon” family of LLMs developed by TII<sup>102</sup> and billed as a competitor to labs like OpenAI.<sup>103</sup> ATRC Secretary-General Faisal al-Bannai envisioned AI71 to be an “end-to-end platform for AI developers” analogous to the e-commerce platform Shopify, in addition to building new proprietary models and domain-specific applications in fields like medicine and law, with an emphasis on open-access to the “core” model.<sup>104</sup>

Securing cutting-edge AI tools and hardware is pivotal to the UAE's ambition of becoming a global leader in AI. On the most recent comprehensive national assessment, conducted in 2020, the country's AI infrastructure was dominated by the private sector, which holds 89% of its

- 94 “Mubadala Investment Company Reports 2023 Financial Results,” Mubadala Investment Company, May 17, 2024, <https://www.mubadala.com/en/news/mubadala-investment-company-reports-2023-financial-results>; “Abu Dhabi Launches Comprehensive Global Investment Strategy On Artificial Intelligence,” Mubadala Investment Company, March 11, 2024, <https://www.mubadala.com/en/news/abu-dhabi-launches-comprehensive-global-investment-strategy-on-artificial-intelligence>.
- 95 Adveith Nair and Matthew Martin, “Abu Dhabi's \$302 Billion Fund Deepens AI and Private Credit Push,” *Bloomberg*, May 17, 2024, <https://www.bloomberg.com/news/articles/2024-05-17/abu-dhabi-s-302-billion-fund-deepens-ai-and-private-credit-push>.
- 96 “Mubadala Investment Company Reports 2024 Financial Results,” Mubadala Investment Company, May 8, 2025, <https://www.mubadala.com/en/news/mubadala-investment-company-reports-2024-financial-results>.
- 97 Ben Bartenstein, “Abu Dhabi Targets \$100 Billion AUM for AI Investment Firm,” *Bloomberg*, March 11, 2024, <https://www.bloomberg.com/news/articles/2024-03-11/abu-dhabi-said-to-target-100-billion-aum-for-ai-investment-firm>.
- 98 G42, “About G42,” accessed June 3, 2026.
- 99 Chloe Cornish and Kaye Wiggins, “Abu Dhabi AI Group G42 Sells Its China Stakes to Appease US,” *Financial Times*, February 9, 2024, <https://www.ft.com/content/82473ec4-fa7a-43f2-897c-ceb9b10ffd7a>.
- 100 Inception, “About Us,” accessed June 3, 2026, <https://www.inceptionai.ai/about/>.
- 101 AI71, “AI71,” accessed June 3, 2026, <https://ai71.ai/>.
- 102 Alvin R. Cabral, “Abu Dhabi Launches New AI Company in Push to Become a Global Tech Hub,” *The National News*, November 28, 2023, <https://www.thenationalnews.com/business/technology/2023/11/28/abu-dhabi-launches-new-ai-company-in-push-to-become-a-global-tech-hub/>.
- 103 Vandana Nair, “Abu Dhabi Launches AI Company AI71: Competitor to OpenAI,” *Analytics India Magazine*, November 28, 2023, <https://analyticsindiamag.com/ai-news-updates/abu-dhabi-launches-ai-company-ai71-competitor-to-openai/>.
- 104 “Abu Dhabi Throws a Surprise Challenger Into the AI Race,” *The Economist*, September 21, 2023, <https://www.economist.com/business/2023/09/21/abu-dhabi-throws-a-surprise-challenger-into-the-ai-race>.

total AI processing power.<sup>105</sup> This is complemented by significant resources from the academic sector, such as the supercomputer “Dalma” at NYU Abu Dhabi, which boasts over 870 CPUs and 30 GPUs. Additionally, the UAE ranks 36th globally in high-performance computing capabilities, with G42’s “Artemis” cluster standing out as a notable asset.<sup>106</sup> This robust infrastructure supports advanced AI R&D, providing the computational power necessary for AI applications.

In addition to the private and academic sectors, the UAE’s government entities also contribute to the AI hardware landscape. In fact, the U.S. recently approved the sale of NVIDIA’s cutting-edge H100 AI chips to G42, which will help to advance the technological capabilities of not only the company, but the nation as a whole.<sup>107</sup> This reveals the extent to which the UAE has been working to address the U.S.’ concerns about IP leakage to China, which had previously posed a barrier to the AI partnership. The distribution of computational resources in the UAE includes over 10,000 tera floating point operations per second (FLOPS) – one of the indicators of the system’s performance – from the private sector, 843 tera FLOPS from academia, and 334 tera FLOPS from the public sector.<sup>108</sup> The infrastructure encompasses a wide range of computational units, with the private sector leading in both CPU and GPU resources. For example, the private sector has 117,968 CPU cores and 2,240 gigabytes of GPU memory, supporting a wide array of AI-driven initiatives and projects.<sup>109</sup> This robust and well-distributed AI hardware infrastructure underscores the UAE’s commitment to advancing its AI capabilities and fostering a data-driven, innovation-centric economy.

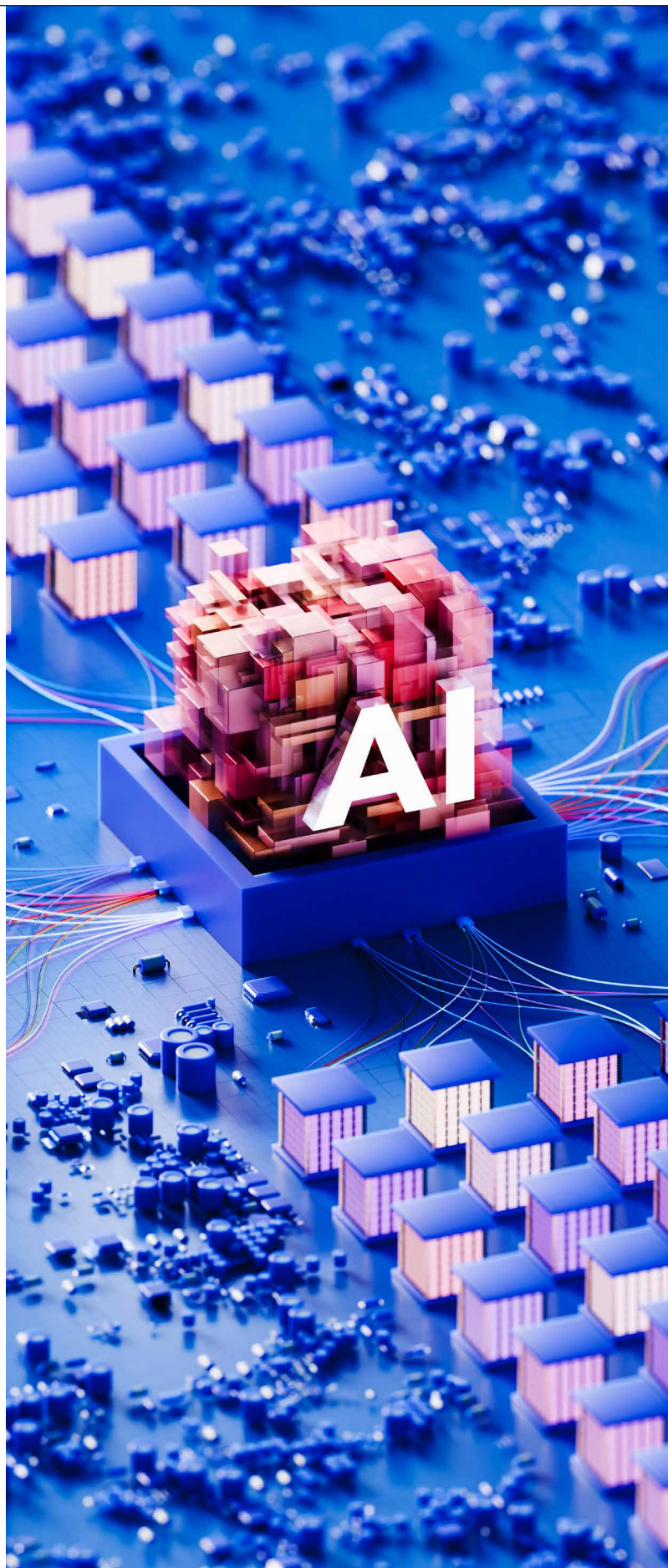
105 UAE Government, “AI Hardware Infrastructure Report UAE 2020,” July 2021, <https://ai.gov.ae/wp-content/uploads/2021/07/AI-Hardware-Infrastructure-Report-UAE-2020-EN.pdf>.

106 UAE Government, “AI Hardware Infrastructure Report UAE 2020,” July 2021.

107 Albergotti, Reed and Kelsey Warner, “How the UAE got the US to bless its AI ambitions,” *Semafor*, September 13, 2024, <https://www.semafor.com/article/09/13/2024/how-the-uae-got-the-us-to-bless-its-ai-ambitions>.

108 UAE Government, “AI Hardware Infrastructure Report UAE 2020,” July 2021.

109 UAE Government, “AI Hardware Infrastructure Report UAE 2020,” July 2021.





## Attracting Tech Talent in the AI Sector

The UAE's strategy for attracting highly skilled tech talent, particularly in the AI sector, is comprehensive and multifaceted. Central to this strategy are robust visa offerings, such as the Golden Visa system, which provides long-term residency for international investors, entrepreneurs, and highly skilled individuals.<sup>110</sup> Additionally, the UAE has introduced remote work visas, allowing global employees to reside in the UAE while working remotely from companies based elsewhere.<sup>111</sup> In addition to its visa policies, the UAE has also encouraged leading international universities to establish local campuses, thereby attracting top students and retaining the children of current workers for higher education. These efforts ensure a steady pipeline of local talent, ready to drive innovation in AI and other advanced technologies.

Furthermore, the UAE's commitment to fostering a supportive ecosystem for startups and tech companies

is evident through initiatives like offering select startups two years of free office space and providing health insurance for employees.<sup>112</sup> The establishment of incubators such as Dubai's Area 2071 and the recruitment of venture capital firms from around the world highlight Dubai's dedication to creating a hub for the labor force of the future.<sup>113</sup> Hub 71, launched in 2019 and backed by Mubadala, is Abu Dhabi's global tech ecosystem, positioning itself as a launchpad for startups in the region and abroad. It seeks to connect promising startups with its partners to enable the scaling of disruptive technologies.<sup>114</sup> By leveraging existing strengths and executing long-term strategic plans, the UAE aims to not only attract highly skilled tech talent but also nurture dynamic tech hubs that stimulate economic growth and innovation. This strategic approach ensures that the UAE remains a vibrant center for international business, capable of adapting to the evolving demands of the digital economy.

## Applying AI for Social and Economic Development

The UAE is harnessing the power of AI across various sectors to drive social and economic development. This strategic adoption of AI is not only enhancing efficiency and effectiveness in key areas such as healthcare, finance, transportation, and education, but is also positioning the UAE as a global AI power. This section explores several case studies that highlight the transformative impact of AI on these crucial sectors.

**Transforming Healthcare with AI:** The UAE is adopting AI to improve healthcare services, as exemplified by the collaboration between Abu Dhabi's Department of Health

and Burjeel Holdings, a leading local private healthcare provider. During GITEX Global Week 2025, the DoH unveiled the world's first AI-powered population health intelligence platform. They also showcased the *Smart Healthcare Platform* and *Next Generation Wellness Program* designed to drive preventive care and continuous health monitoring.<sup>115</sup> This initiative will reduce waiting times, help determine critical cases, and streamline procedures, thus improving patient outcomes and satisfaction. This partnership illustrates Abu Dhabi's strategic commitment to AI-driven healthcare innovation, reinforcing its position as a leader in digital health transformation.

110 Boston Consulting Group, "Dubai Ranks Among Top Global Hubs for Talent and Innovation," August 15, 2022, <https://www.bcg.com/press/15august2022-dubai-ranks-among-top-global-hubs-for-talent-innovation>.

111 Boston Consulting Group, "Dubai Ranks Among Top Global Hubs for Talent and Innovation," August 15, 2022.

112 Shahr Lavian, Deborah Lovich, Or Klier, Konrad von Szczepanski, and Polina Kempinsky, "Turning a Tech Hub into a Talent Magnet," Boston Consulting Group, April 27, 2022, <https://www.bcg.com/publications/2022/turning-a-tech-hub-into-a-talent-magnet>.

113 Lavian et al., "Turning a Tech Hub into a Talent Magnet," Boston Consulting Group, April 27, 2022, <https://www.bcg.com/publications/2022/turning-a-tech-hub-into-a-talent-magnet>.

114 Hub 71, "Hub 71," accessed June 3, 2026, <https://www.hub71.com/>.

115 Abu Dhabi Media Office. "Department of Health – Abu Dhabi Unveils World's 1st AI-Powered Population Health Intelligence Platform at GITEX Global 2025." October 15, 2025. <https://www.mediaoffice.abudhabi/en/health/department-of-health-abu-dhabi-unveils-worlds-1st-ai-powered-population-health-intelligence-platform-at-gitex-global-2025/>

**Revolutionizing the Finance Sector through AI:** The UAE is leveraging AI to transform its financial sector, as demonstrated by the Ministry of Finance during GITEX Technology Week 2023. Key initiatives include offering virtual environments for government interactions and introducing an AI-enhanced digital procurement platform to streamline purchases. The Ministry also showcased an AI platform offering virtual assistance to improve customer service. Additionally, the Federal Asset Tracking System uses AI to manage and report on federal assets, ensuring accurate financial records. These initiatives underline the UAE's commitment to offering advanced financial solutions to support the digital economy.<sup>116</sup>

**Enhancing Transportation with Smart AI Solutions:** The UAE is utilizing AI to improve transportation efficiency and reduce environmental impact. Abu Dhabi's Integrated Transport Centre (ITC) partnered with Google for "Project Green Light," an AI system that analyzes traffic data to optimize traffic light timings, aiming to reduce both congestion and CO<sub>2</sub> emissions.<sup>117</sup> Additionally, another project uses Google's AI to predict traffic patterns and provide real-time data on accidents and congestion areas. Meanwhile, Dubai's Roads and Transport Authority (RTA) has created an AI platform that processes transportation data for predictive maintenance, route planning, and crowd management, enhancing the overall efficiency of Dubai's transport system.<sup>118</sup>

**AI-Driven Innovations in Education:** The UAE is at the forefront of AI-driven education, integrating advanced technologies into schools and universities. The Ministry of Education's comprehensive AI strategy aims to embed AI across all educational levels. Universities have

established AI labs and centers of excellence, while AI-powered learning platforms offer personalized learning, adaptive assessments, and real-time feedback. Notable successes include personalized instruction in schools, AI tools enhancing early childhood education, and assistive technologies for special needs students. These initiatives highlight the UAE's commitment to using AI to improve educational outcomes and preparing students for a technology-driven future.<sup>119</sup>

**AI-Driven Solutions in the Energy Sector:** The UAE is using AI to transform its operations in the energy sector. AIQ, a joint venture between Presight, a G42 company, and ADNOC, the state-owned energy firm, petabytes of proprietary ADNOC data to train its models.<sup>120</sup> It was awarded a \$340 million contract by ADNOC to develop ENERGY<sup>ai</sup>, an agentic AI solution designed to be deployed across ADNOC's upstream operations.<sup>121</sup> In January 2025 AIQ and ADNOC completed a trial phase of ENERGY<sup>ai</sup>, which they stated showed substantial progress in seismic interpretation, monitoring, and reservoir performance.<sup>122</sup>

These case studies underscore the transformative potential of AI in addressing complex challenges and improving the quality of life for residents, setting a benchmark for other nations to follow. The UAE's strategic adoption of AI across multiple sectors demonstrates a forward-thinking approach to national development. By investing in AI, the UAE not only enhances its public services and economic efficiency domestically, but also strengthens its reputation as an international leader in technological development.

116 UAE Ministry of Finance, "Ministry of Finance launches digital transformation initiatives using metaverse and AI solutions," October 23, 2023, <https://mof.gov.ae/ministry-of-finance-launches-digital-transformation-initiatives-using-metaverse-and-ai-solutions/>.

117 Emirates News Agency-WAM, "Integrated Transport Centre collaborates with Google to leverage AI data and technologies," May 26, 2026, <https://www.wam.ae/en/details/1395303162408>.

118 UAE Government, "AI in Transportation," January 5, 2026, <https://u.ae/en/about-the-uae/digital-uae/digital-technology/artificial-intelligence/ai-in-transportation>.

119 Ismael Lamadrid, "AI-enabled Education: A Comparative Analysis of the UAE and Global Perspectives," AI UAE, <https://aiuae.org/ai-enabled-education-a-comparative-analysis-of-the-uae-and-global-perspectives/>.

120 AIQ, "Introduction," Accessed June 3, 2026, <https://aiqintelligence.ai/products/AgenticAI/energyai>.

121 "AIQ announces \$340 million contract for large-scale deployment of agentic AI across ADNOC Operations," Presight, March 10, 2025, <https://www.presight.ai/news/aiq-announces-340-million-contract-for-large-scale-deployment-of-agentic-ai-across-adnoc-operations/>.

122 "ADNOC and AIQ Successfully Complete Trial Phase of Agentic AI Solution," ADNOC, January 16, 2025, <https://adnoc.ae/en/news-and-media/press-releases/2024/adnoc-and-aiq-successfully-complete-trial-phase-of-agentic-ai-solution/>.



## Leading Generative AI Development through Public-Private Partnerships

The UAE responded to the widespread adoption of ChatGPT in the months following its release by rolling out its own domestically developed LLM produced by the Abu Dhabi-based Technology Innovation Institute (TII): the “Falcon” LLM. Unveiled in March 2023, Falcon-40B – built by the same research team responsible for TII’s Arabic NLP model NOOR – claimed that it outperformed other models like BLOOM and GPT-3 at a fraction of the size.<sup>123</sup> That same month, Falcon-40B was fully open-sourced for research and commercial uses.<sup>124</sup> Highlighting the commercial focus of TII, in June 2023, TII released a call for proposals for novel industry use-cases of the model in exchange for access to computing power,<sup>125</sup> just days after Falcon topped the Open LLM Leaderboard run by AI company HuggingFace.<sup>126</sup> Moreover, Falcon-40b was trained on Amazon SageMaker,<sup>127</sup> Amazon Web Services’ machine learning hub,<sup>128</sup> thereby enabling its widespread consumer deployment.

By September 2023, TII released Falcon-180b,<sup>129</sup> a significantly larger model. It, too, was immediately open-sourced, though with a comparatively more restrictive commercial-use license. At the time of release, HuggingFace reported that Falcon-180b’s results on NLP evaluation benchmarks (e.g., the knowledge the model acquired during training, question-and-answering tests, etc.) either outperformed or were competitive with both closed- and open-source LLMs, making it roughly on par with Google’s PaLM-2.<sup>130</sup> In May 2024, TII launched two versions of the “Falcon 2” LLM: the Falcon 2-11B, which is a smaller and more efficient iteration of Falcon, and the Falcon 2-11B-VLM, which comes equipped with Vision-Language Model (VLM) capabilities – the first multimodal model developed by TII. Falcon 2-11B specifically is licensed under the TII Falcon License 2.0, a permissive Apache 2.0-based software license. Both models are open-source with unrestricted access.<sup>131</sup>

<sup>123</sup> Khoder Nashar, “UAE: Technology Innovation Institute Launches Falcon Large Language Model,” *Zawya*, March, 16, 2023, <https://www.zawya.com/en/business/education/uae-technology-innovation-institute-launches-falcon-large-language-model-rvvqiu68>.

<sup>124</sup> Lisa Barrington, “Abu Dhabi Makes Its Falcon 40B AI Model Open Source,” *Reuters*, May 25, 2023, <https://www.reuters.com/technology/abu-dhabi-makes-its-falcon-40b-ai-model-open-source-2023-05-25/>.

<sup>125</sup> Emirates News Agency - WAM, “Falcon 40B Rewards Most Creative Use Cases in ‘Call for Proposals’ with Training Compute Power,” June 7, 2023, <https://wam.ae/en/details/1395303166473>.

<sup>126</sup> Leandro von Werra et al., “The Falcon Has Landed in the Hugging Face Ecosystem,” *HuggingFace*, June 5, 2023, <https://huggingface.co/blog/falcon>.

<sup>127</sup> Ebtesam Almazrouei, Olivier Cruchant, and Will Badr, “Technology Innovation Institute Trains the State-of-the-Art Falcon LLM 40B Foundation Model on Amazon SageMaker,” Amazon Web Services, June 7, 2023, <https://aws.amazon.com/blogs/machine-learning/technology-innovation-institute-trains-the-state-of-the-art-falcon-llm-40b-foundation-model-on-amazon-sagemaker/>.

<sup>128</sup> Amber Jackson, “TII Trains State-of-the-Art LLM, Falcon 40B, on AWS Model,” *Technology Magazine*, June 9, 2023, <https://technologymagazine.com/articles/tii-trains-state-of-the-art-llm-falcon-40b-on-aws-model>.

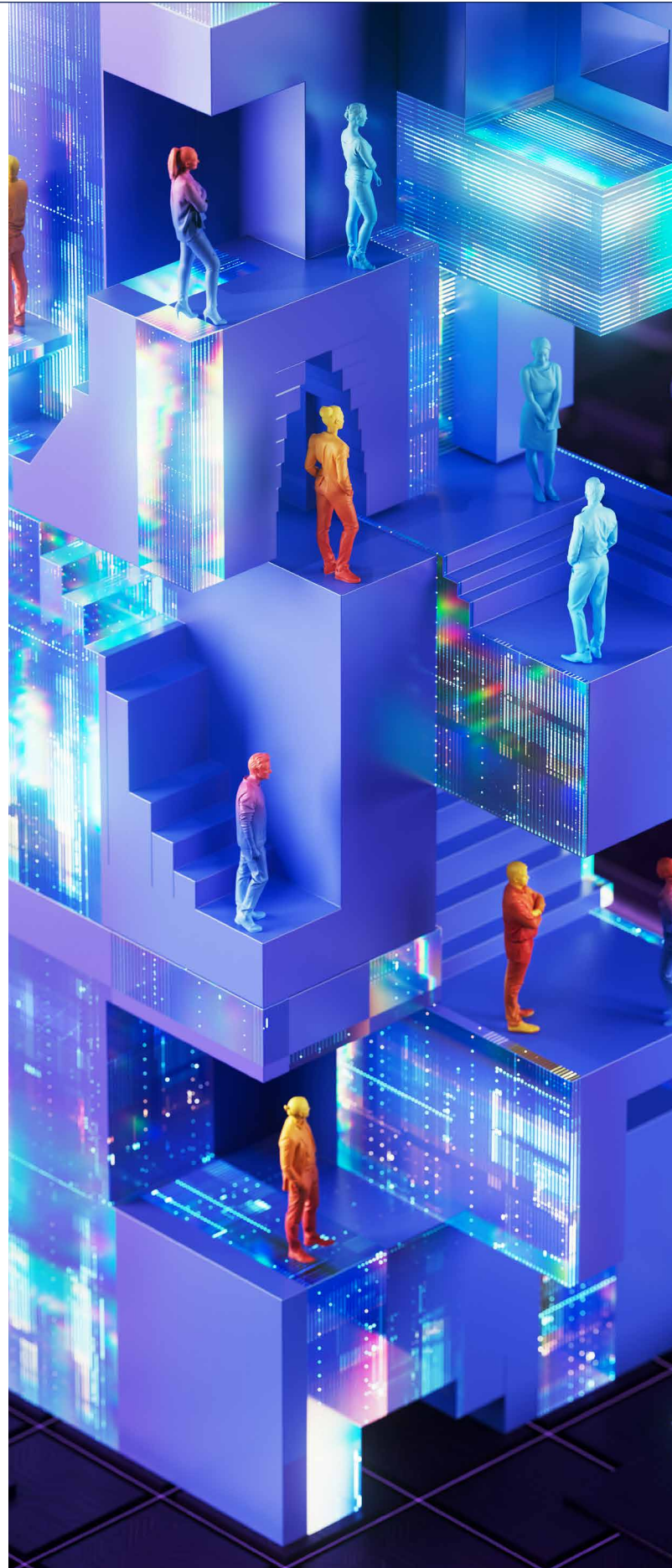
<sup>129</sup> Alkesh Sharma, “Abu Dhabi’s TII Launches Falcon 180B Model to Boost Generative AI Development,” *The National News*, September 6, 2023, <https://www.thenationalnews.com/business/technology/2023/09/06/abu-dhabis-tii-launches-falcon-180b-model-to-boost-generative-ai-development/>.

<sup>130</sup> Philipp Schmid, et al., “Spread Your Wings: Falcon 180B Is Here,” *HuggingFace*, September 6, 2023, <https://huggingface.co/blog/falcon-180b>.

<sup>131</sup> Abu Dhabi Media Office, “Technology Innovation Institute Launches New Versions of Open-Source AI Model Falcon 2 11B,” May 23, 2024, <https://www.mediaoffice.abudhabi/en/technology/technology-innovation-institute-launches-new-versions-of-open-source-ai-model-falcon-2-11b/>.

In July 2024, AI71 hosted a “[Falcon Hackathon](#)” that gave participants 10 days to develop an app using the Falcon model, incentivizing participants with \$20,000 in prizes, early access to AI71’s API Hub, and 1 million tokens per user to kickstart app development, among other things.<sup>132</sup> TII [released](#) Falcon-H1, an enhanced AI model capable of processing much longer texts. The institute also announced that the model would be available as an NVIDIA NIM microservice, allowing companies to utilize it quickly in production environments, whether on the cloud, on their own servers, or a combination of both. This setup provides optimized performance and includes developer-friendly tools to make implementation easier.<sup>133</sup>

Building on these advancements, TII [introduced](#) Falcon-H1 Arabic in January of 2026, a version of the model trained specifically to interpret and generate Arabic with high accuracy. It now outperforms many other AI systems that analyze the Arabic language and supports applications across various sectors, such as education, business, and government. The update also improves the model’s understanding of regional dialects and long documents, making it better at analyzing lengthy legal or academic texts.<sup>134</sup>



132 Lab Lab AI, “Falcon Hackathon,” July 26, 2024, <https://lablab.ai/event/falcon-hackathon>.

133 Technology Innovation Institute, “Technology Innovation Institute Announces Falcon-H1 Model Availability as NVIDIA NIM to Deliver Sovereign AI at Scale,” June 12, 2025, <https://www.tii.ae/news/technology-innovation-institute-announces-falcon-h1-model-availability-nvidia-nim-deliver>.

134 Technology Innovation Institute, “Abu Dhabi’s TII Launches Falcon-H1 Arabic, Establishing the World’s Leading Arabic AI Model,” January 5, 2026, <https://www.tii.ae/news/abu-dhabis-tii-launches-falcon-h1-arabic-establishing-worlds-leading-arabic-ai-model>.



## Optimization of electricity grid system

The Gulf's energy surplus, with its extensive oil and natural gas reserves and growing investments in solar, hydrogen, and nuclear, enables it to rapidly scale and power AI clusters.<sup>135</sup> In the global race for more compute, energy remains a key constraint. While other nations have been struggling with energy bottlenecks, the Gulf's strength resides in its scalable, stable, and abundant energy base. The Gulf's interconnected grid system, the GCC Interconnection Authority (GCCIA), which seeks to mitigate the effects of blackouts and grid-overload, is an additional asset for the region.<sup>136</sup> Training LLMs and running inference requires enormous amounts of energy. The International Energy Agency (IEA) has projected that data centre consumption is set to more than double by 2030, to about 945 TWh, which amounts to slightly more than Japan's total electricity consumption.<sup>137</sup>

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“The IEA projects that global data center electricity consumption will more than double by 2030—reaching roughly the equivalent of Japan's total annual electricity use.”

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The growth of AI infrastructure outpacing what advanced grids can support is a key issue affecting the UAE. This surge in demand is being driven by projects such as the Stargate UAE. The UAE data center market is projected to exceed \$3 billion in annual revenue by 2030.<sup>138</sup> At the same time, the rapid growth of AI data centers is starting to reveal weaknesses even in energy-abundant systems, showing that having abundant energy does not automatically ensure efficiency or reliability. AI is changing how electricity is used by creating large, constant demand in specific locations, which requires not only more power generation but also better grid management, energy storage, and load balancing solutions.<sup>139</sup>

In the UAE, rising demand from major data center projects could put pressure on transmission networks, making infrastructure upgrades or smarter energy management necessary.<sup>140</sup> This reflects a broader global shift from relying on raw energy resources to effectively converting them into dependable, high-density digital power. As a result, improving how electricity is distributed, through stronger interconnections, monitoring, and flexible allocation, will be just as important as increasing supply to maintain the Gulf's competitive advantage in the AI economy.

135 Mohammed Soliman, “AI, the Gulf, and the US: A primer”, Middle East Institute, February 26, 2026, <https://mei.edu/report/ai-the-gulf-and-the-us-a-primer/>.

136 Mohammed Soliman, “From Crude to Compute: Building the GCC AI Stack”, Middle East Institute, December, 2025, <https://www.mei.edu/wp-content/uploads/2025/12/From-Crude-to-Compute-1.pdf>.

137 International Energy Agency, “Energy and AI,” April 10, 2025, <https://iea.blob.core.windows.net/assets/de9dea13-b07d-42c5-a398-d1b3ae17d866/EnergyandAI.pdf>.

138 “The UAE's Energy Warning: What Happens When the AI Boom Outpaces the Grid,” Global Data Center Hub, June 5, 2025, <https://www.globaldatacenterhub.com/p/the-uaes-energy-warning-what-happens>.

139 “The UAE's Energy Warning: What Happens When the AI Boom Outpaces the Grid,” Global Data Center Hub article, June 5, 2025.

140 International Energy Agency, “Energy and AI,” April 10, 2025.

# 6.

## **UAE-U.S.: A Partnership to Advance AI**



Whereas the UAE's relationship with the U.S. once revolved almost solely around energy ties, the former's initiative to transition away from an oil-based economy has elevated technology as a new cornerstone of the partnership. This shift is exemplified by developments like the two states' collaboration on data centers, fostering of private sector deals (most notably the aforementioned Microsoft-G42 partnership), and the signing of a joint statement on cross-border data flows.<sup>141</sup> Whispers of AI "alliance-building" or "coalition-building," often with particular emphasis on the U.S. and the UAE, began appearing in earnest not long after generative AI continued to rise on each government's respective agendas. In 2024, OpenAI CEO Sam Altman held a series of meetings with Arab leaders (focused on the UAE, in particular) "to build a global coalition among government and industry leaders"<sup>142</sup> in an effort to expand the supply of chips enabling the development of AI and the necessary energy and data center capacity (Altman previously praised the UAE as an early hub for AI in his June 2023 visit to Abu Dhabi<sup>143</sup>). The moves followed reporting in February 2024 that Altman was seeking up to seven trillion dollars for a new chip-building venture, in part pursuing UAE investors to this end,<sup>144</sup> a figure that was later reported to be a sum-total of years-long investments across spenders.<sup>145</sup> In March 2024, Altman

was reportedly in "early-stage discussions" with the UAE's MGX to fund a semiconductor company to reduce OpenAI's dependency on NVIDIA's chips – in exchange, from Abu Dhabi's perspective, such a venture would put the UAE at the center of a global AI strategy.<sup>146</sup>

It was OpenAI's biggest investor and partner, Microsoft, that stole the spotlight in April 2024 with news that the American technology giant invested \$1.5 billion in G42, setting up a striking new cross-border AI partnership. The deal, which granted Microsoft a minority stake in the company and a seat on the G42 board (held by President Brad Smith), required approval from both U.S. and UAE officials, given its emphasis on advanced technology exchange.<sup>147</sup> Indeed, Microsoft touted the partnership's negotiated security assurances as a "first-of-its-kind Intergovernmental Assurance Agreement" for standards of AI safety and security.<sup>148</sup> This deal's significance should not be understated, though it is not without its growing pains. A combination of U.S. Congressional concern over advanced technology loss to China and a tug-of-war between the U.S. and China's technological orbits led, in August 2024, to a paring back of the deal's scope. Specifically, Microsoft told U.S. lawmakers that it would instead lease its AI products to G42 as a means of exercising greater oversight.<sup>149</sup>

141 "Global Infrastructure Partners, BlackRock, Microsoft, and MGX Launch New AI Partnership to Invest in Data Centers and Supporting Power Infrastructure," Global Infrastructure Partners, September 17, 2024, <https://www.global-infra.com/news/global-infrastructure-partners-blackrock-microsoft-and-mgx-launch-new-ai-partnership-to-invest-in-data-centers-and-supporting-power-infrastructure/>; Binsal Abdulkader, "U.S.-UAE Deal on Cross-Border Data Flows Shows Potential Cooperation in Digital Economy: U.S. Official," Emirates News Agency - WAM, November 22, 2022, <https://wam.ae/en/details/1395303104441>.

142 Shirin Ghaffary and Edward Ludlow, "OpenAI's Altman Pitches Global AI Coalition on Trip to Middle East," Bloomberg, April 10, 2024, <https://www.bloomberg.com/news/articles/2024-04-10/openai-s-altman-pitches-global-ai-coalition-on-trip-to-middle-east>.

143 Kelsey Warner, "Sam Altman: Abu Dhabi Was Talking About AI 'Before It Was Cool,'" *The National*, <https://www.thenationalnews.com/business/future/2023/06/06/sam-altman-abu-dhabi-was-talking-about-ai-before-it-was-cool/>.

144 Keach Hagey and Asa Fitch, "Sam Altman Seeks Trillion of Dollars to Reshape Business of Chips and AI," *The Wall Street Journal*, February 8, 2024, <https://www.wsj.com/tech/ai/sam-altman-seeks-trillions-of-dollars-to-reshape-business-of-chips-and-ai-89ab3db0>.

145 Stephanie Palazzolo, "No, Sam Altman Isn't Raising Trillions of Dollars For Chips," *The Information*, February 15, 2024, <https://www.theinformation.com/articles/no-sam-altman-isnt-raising-trillions-of-dollars-for-chips>.

146 Chloe Cornish and Madhumita Murgia, "Abu Dhabi In Talks to Invest in OpenAI Chip Venture," *Financial Times*, March 15, 2024, <https://www.ft.com/content/d018067f-20e7-49eb-83dc-ebb8b1aad1a5>.

147 Paul Mozur and David E. Sanger, "Microsoft Makes High-Stakes Play in Tech Cold War With Emirati A.I. Deal," *The New York Times*, April 16, 2024, <https://www.nytimes.com/2024/04/16/technology/microsoft-g42-uae-ai.html>.

148 Microsoft Source, "Microsoft Invests \$1.5 Billion in Abu Dhabi's G42 to Accelerate AI Development and Global Expansion," Microsoft, April 15, 2024, <https://news.microsoft.com/2024/04/15/microsoft-invests-1-5-billion-in-abu-dhabis-g42-to-accelerate-ai-development-and-global-expansion/>.

149 John Sakellariadis, "Microsoft Scales Back AI Partnership with Emirati Firm Amid Concerns Over China Ties," *Politico*, August 1, 2024, <https://www.politico.com/news/2024/08/01/microsoft-ai-partnership-emirati-china-concern-00172167>.

Microsoft's decision to scale back the deal in response to congressional pressure means that an AI "alliance" is too strong of a description for the sort of regulatory model on which the Microsoft-G42 deal is premised. That said, while fear of advanced technology loss to China is real among officials and lawmakers in Washington, allowing the UAE to find a more attractive technological partner in China is also unpalatable.<sup>150</sup> The deal should be seen as a harbinger of the future of U.S.-UAE relations, moving beyond the traditional focus on energy and security to encompass cooperation in advanced technologies like AI.

To be sure, the Iran war, beginning with the decapitation of the Iranian government's top leadership, including Supreme Leader Ayatollah Khamenei, and culminating in the closure of the Strait of Hormuz, has put upward pressure on energy prices given the Strait's role in facilitating the shipment of crude oil and liquefied natural gas. This will plausibly have knock-on effects on the buildout of AI infrastructure in both the U.S. and the Gulf, though a great deal hinges on how long the Strait remains inaccessible for status quo ante shipment volume and, if it reopens, whether a toll is imposed by Iran on its use. Additionally, the war in Iran has seen attacks on data centers housed by some Gulf states, including the UAE, with at least two centers in the UAE struck in the early days of the war, raising questions about how to protect and harden this infrastructure against kinetic threats that were, until recently, considered outside the threat model for commercial compute facilities.<sup>151</sup>

A natural question that arises as the war continues is whether the U.S.-Gulf relationship, at least so far as technology diplomacy is concerned, has markedly changed since the Microsoft-G42 partnership and May 2025 visit by President Trump. Specifically, has the war changed how the U.S. perceives this relationship and does the UAE view these arrangements differently as a result?

Any response to these concerns must grapple with the following reality: private-sector firms that currently dominate the American AI stack will have continued interest in expanding their infrastructural footprint, consistent with the needs of developing and further deploying their technologies. The U.S. alone cannot accommodate the full extent of these buildouts, making expansion abroad—as has already occurred in some Gulf states, with the UAE at the center of recent arrangements—a continuing need. The decision-making calculus that involved the U.S. in the war in Iran does not undermine the shared interests that previously led to arrangements like the U.S.-UAE AI Acceleration Partnership.

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“The U.S. alone cannot accommodate the full scale of AI infrastructure demand—making expansion into trusted partner nations an enduring strategic necessity”.

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150 Mohammed Soliman, “China, the US, and the Battle for Middle Eastern Technology,” Middle East Institute, May 20, 2024, <https://www.mei.edu/publications/china-us-and-battle-middle-eastern-technology>.

151 Georgia Butler, “Fire At AWS Data Center in Bahrain After Iranian Attack – Report,” *Data Center Dynamics*, April 2, 2026, <https://www.datacenterdynamics.com/en/news/fire-at-aws-data-center-in-bahrain-after-iranian-attack-report/>; see also, Blake Montgomery, “Datacenters Are Becoming a Target in Warfare for the First Time,” *The Guardian*, March 10, 2026, <https://www.theguardian.com/technology/2026/mar/10/datacenters-target-warfare-iran>.



Put differently, the fundamentals haven't changed on the UAE side. Abu Dhabi is still moving ahead with building out its compute infrastructure and pursuing a strong technological partnership with the United States. Planning for infrastructure expansion in the UAE in the months and years ahead should instead prepare for the following: the continuing and increasing need for the compute capacity that underlies AI demand will ensure some degree of distance between the specific actors involved in U.S.-UAE joint ventures, or evolutions in the ventures themselves to accommodate shifting circumstances. That is, there will likely be efforts to "harden" data centers and clusters over time to reduce the chances that an abrupt outbreak of violence emanating from somewhere in the broader Middle East will hamper data center operations or damage what is critical infrastructure.

The ripple effects from increases in energy prices cannot be ignored, but these burdens will be shared far more widely than the UAE. As long as AI compute demand continues on its current trajectory, the UAE's infrastructure buildout plans should be expected to evolve accordingly (including the specific actors involved, the timelines from construction to online, and the prioritization of some projects over others).

These challenges are part and parcel of long-term, ambitious infrastructure expansions based on interests that are broadly shared across states seeking to access or control the foundations of this technology in the years ahead. Precedents like the U.S.-UAE AI Acceleration Partnership indicate that both the interest and the resources are available for their continuation, with uncertainties that mark any such effort.



# 7.

## **Strategic Recommendations and Future Outlook**



## Expand the Grid Exponentially

- **Invest in Power Infrastructure as a Strategic Imperative:** The UAE's ability to execute on its AI ambitions is ultimately a function of the availability of reliable, scalable power. AI data centers are among the most energy-intensive infrastructure assets in the modern economy, and any gap between compute capacity and electrical supply risks becoming a binding bottleneck on the entire strategy. The UAE should treat power grid expansion, including investment in dedicated transmission lines, grid modernization, and clean energy capacity, as a first-order national security and economic priority, on par with chip acquisition and data center construction itself. Coordinating energy planning with AI infrastructure roadmaps, rather than treating them as separate portfolios, will be essential to avoiding the kind of execution failures that have complicated data center build-outs in other jurisdictions. When energy planning is treated as inseparable from AI infrastructure development, US businesses gain the predictability required to make durable capital commitments to data center and cloud operations across the region.

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“Power grid expansion—including dedicated transmission lines, grid modernization, and clean energy capacity—must be treated as a first-order national security and economic priority, on par with chip acquisition and data center construction.”

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## Bolstering Global Competitiveness

- **Strengthen Global Partnerships:** The UAE should align with key partners such as the US, Japan, Korea, and the EU to advance interoperable, risk based governance frameworks that support cross border data flows and seamless use of globally distributed digital infrastructure. Such alignment is critical to reducing regulatory fragmentation, enabling businesses to operate efficiently, across jurisdictions, and positioning the UAE as a fully integrated hub in the global AI and digital economy. Doing so will enable US businesses to operate across jurisdictions without duplicative compliance burdens, and to treat UAE-based infrastructure as a fully integrated node in their global technology stacks.
- **Invest in National Champions to Build a Local Enterprise Layer:** Alongside global partnerships, the UAE should actively support Emirati technology companies to grow into regional and global leaders. Through targeted investments, government funding, and strategic partnerships, these national champions can develop digital software, AI platforms, and cloud solutions tailored to local and regional needs. This approach ensures that the economic value created by AI remains anchored in the UAE while still benefiting from international collaboration. This creates a mature local partner ecosystem that US businesses can plug into for regional distribution, co-development, and market entry without having to build ground-up operations themselves.
- **Flexible Approach to Cross Border Data:** Rigid data localization requirements complicate the operations of international tech companies operating in the UAE. New requirements could raise costs for corporations by obligating them to build local data centers without a meaningful payoff to users. Furthermore, for companies with robust international AI systems that are intended to protect against fraud, requiring them to opt for potentially less robust local versions introduces a new and distinct source of security risk, as fragmented systems are inherently more difficult to monitor, patch, and defend at scale. The protectionist approach to data could ultimately stand in the way of the UAE's ambitions not merely to participate in digital transformation, but to lead it, to position Abu Dhabi and Dubai as the preeminent hubs for AI infrastructure

and governance in the Global South. The UAE should therefore take a more flexible approach to cross-border data. This will allow US businesses to run unified, globally integrated AI systems from UAE infrastructure rather than fragmenting their architectures to meet localization mandates.

- **Pursue State-Sponsored Scientific Exchanges:** Cross-border scientific exchanges in the form of workshops composed of researchers and multidisciplinary experts of diverse national backgrounds would be effective in hammering out research agendas that identify the most pressing technical problems vis-a-vis commercial ends. When the UAE organizes and hosts these forums, US businesses gain direct access to internationally collaborative R&D pipelines and can align their own applied research investments with emerging technical priorities.
- **State Support for Commercialization of AI Research:** There is a gulf between basic AI research and development and its commercialization. AI models developed in the lab to solve a technical problem must be calibrated, in some ways, to solve a problem(s) in a commercial environment. This is an explicit goal of, for example, MBZUAI's Institute of Foundation Models, which aims to make use of technical progress in GPTs', specifically, their surprisingly effective ability to train and process data of multiple modalities—for practical uses in industries like healthcare and climate change (see section 5). Several other key players, like G42, are making inroads precisely into the link between AI R&D and eventual commercialization. The state should also continue to establish incubator and accelerator programs to support emerging AI startups. When UAE funds institutions like MBZUAI's Institute of Foundation Models and supports incubator and accelerator programs, US businesses gain access to near-commercial AI capabilities and local startup partnerships, shortening the path from lab-stage models to deployable enterprise products.

- **Adopt Reliable Benchmarks for AI Competencies:** The successful commercial deployment of AI models relies on their accuracy, reliability, and transparency, particularly in generating factual information, though they can produce inaccurate outputs and inconsistent responses. To address the limitations of current benchmarks that may misrepresent AI capabilities in real-world applications, the UAE's AI Minister should convene a council of technical and industry experts to develop new evaluation standards that align AI research with commercial needs. Clear, internationally credible benchmarks give US businesses the confidence to procure, deploy, and stand behind AI systems built on or validated within UAE research infrastructure.
- **Publicize Security and Compliance Standards for AI Hardware:** In coordination with industry, the UAE should clearly define and publish security and reporting requirements for advanced AI chips. Public standards for physical security, cybersecurity, and preventing technology diversion would give companies greater certainty to invest and ensure consistent protocols across trusted partners. Transparent, public standards give US businesses the regulatory certainty needed to invest in UAE-based AI facilities and confidently deploy hardware under consistent, predictable compliance protocols
- **Standardize Hardware Delivery Timelines:** The UAE should establish predictable timelines for delivering advanced AI chips after regulatory approvals. Clear schedules would reduce delays, allow AI facilities to plan infrastructure more efficiently, and ensure hardware is deployed while it is still at peak performance.
- **Develop a Scalable "AI Statecraft" Framework:** The UAE should create a repeatable framework for international AI infrastructure partnerships. This would allow trusted partners to connect securely to global AI networks while encouraging countries in regions such as the Gulf, East Africa, and South Asia to build compatible infrastructure. A well-defined framework gives US businesses a clear, trusted pathway to connect their global AI networks to UAE-anchored infrastructure.



- **Promote Transparent Guidelines for International Partnerships:** The UAE should adopt clear and consistent rules for agreements with foreign companies and governments. Transparent frameworks can speed up AI infrastructure projects while maintaining compliance with national security requirements. Transparent, public standards give US businesses the regulatory certainty needed to invest in UAE-based AI facilities and confidently deploy hardware under consistent, predictable compliance protocols.
- **Create Shared Compute Pools:** The UAE should establish shared computing resources accessible to startups, universities, and research labs across the region. Providing centralized, high performance compute capacity will lower barriers to innovation, accelerate AI development, and foster collaboration between academia, companies, and startups. This approach also maximizes the use of domestic computing infrastructure.
- **Support Chip Design Through Targeted Industrial Policies:** The UAE should promote domestic chip design with grants, tax incentives, and R&D funding, focusing on widely used legacy chips. Prioritizing chips essential for existing infrastructure, industrial equipment, and AI hardware will strengthen supply chains, create high-value jobs, and build the expertise needed to support advanced semiconductor innovation over time.
- **Train and Reskill:** The government must invest in training and reskilling the future workforce, ensuring that it is fully equipped for the ongoing digital transformation. Businesses should be provided with incentives to fund the retraining of their staff members. The government should also continue to develop its AI-focused institutions (like the Mohamed bin Zayed University of Artificial Intelligence) – both creating more and developing those already in operation. MBZAIU should open additional campuses in Cairo, Amman and Rabat as part of efforts to bolster the institution’s role in developing new AI talent.
- **Attract High-Skilled Talent:** The UAE should continue attracting top tech talent with flexible visa options and generous incentives, as well as through its robust start-up ecosystem. This makes the UAE a viable base for US businesses to locate regional AI teams, drawing on a globally competitive, internationally diverse workforce already concentrated in-country.

## Competing in Physical AI

- **Address Physical AI Component Chokepoints Through UAE-US Supply Chain Coordination:** The UAE should work with the US to reduce shared dependencies on foreign suppliers for critical physical AI subcomponents — including 6D torque sensors, tactile sensors, and planetary roller screws — none of which currently have mass-producible supply chains outside China and Japan. Joint investment in domestic production of these components would directly benefit US robotics firms by securing the hardware inputs that remain the primary bottleneck to scaling intelligent robotic systems.
- **Align on Hardware Standards Before China Sets Them:** The UAE should coordinate with US industry and standards bodies to develop common hardware specifications for physical AI components. Without shared standards, every manufacturer builds its own bill of materials, forcing suppliers to maintain hundreds of product variants and preventing the cost reductions that come with scale. The UAE, as an emerging physical AI hub, is well-positioned to anchor a US-aligned standards framework.

## Preparing the Workforce

- **Use an Evidence-Based Approach:** The government must take action to leverage new data sources and advanced analytics to understand the evolving impact of AI and machine learning on the UAE workforce. This ongoing labor market intelligence gives US businesses clearer visibility into the skills available locally, enabling better workforce planning for UAE-based operations.
- **Educate the Future Workforce:** The UAE should proactively update the standard curriculum to increase education around AI in the primary, preparatory, secondary, and post-secondary systems, thus better preparing students for the future workforce. Curriculums should also not only focus on AI literacy but also emphasize AI coding as well as agentic AI training for bespoke software development.

# Glossary of Terms

## Agentic AI

AI systems capable of autonomously executing multi-step tasks, making decisions, and taking actions with minimal human intervention. In the report, AIQ's ENERGYai is described as an agentic AI solution deployed across ADNOC's upstream operations.

## AI Stack

The full, interdependent system that makes large-scale AI possible, spanning hardware (semiconductors, GPUs), data centers, energy infrastructure, cooling systems, AI models, orchestration, and domain applications. The report uses the 'UAE AI Stack' to describe this integrated physical and software infrastructure.

## API (Application Programming Interface)

A set of protocols that allows software applications to communicate with each other. In the context of AI, APIs enable developers to access AI model capabilities remotely, without downloading or running the model locally — contrasted in the report with open-weight models that bypass API access entirely.

## ASIC (Application-Specific Integrated Circuit)

A chip custom-designed for a specific computational task rather than general-purpose processing. Google's Tensor Processing Unit (TPU) is cited in the report as an ASIC built to accelerate the mathematical operations of neural networks.

## Autonomous Vehicles

Vehicles that use AI, sensors, and computing systems to navigate and operate without human input. The UAE has granted temporary licenses to test self-driving vehicles, making it the first country in the Middle East to do so.

## Closed-Source Model

An AI model whose underlying architecture, training data, and parameters are proprietary and not publicly available. Users interact with these models only through controlled access channels such as APIs, as opposed to open-weight or open-source models.

## Compute

The combined computational power — derived from advanced semiconductor chips, hyperscale data centers, and large-scale energy supplies — required to train and deploy frontier AI models. The report treats compute as a strategic resource, comparable to oil, that determines a nation's AI competitiveness.

## Computer Vision

A field of AI that enables machines to interpret and understand visual information from images and video. MBZUAI conducts research in computer vision as one of its core AI subfields.

## Data Center

A facility housing servers, GPUs, networking equipment, and storage systems used to process and store the data that AI systems depend on. Hyperscale AI data centers — referenced extensively in the report — can consume as much electricity as a small city and require advanced cooling infrastructure.

## Decoupling / Deglobalization

The trend of nations and firms reducing interdependencies in technology supply chains, particularly between the U.S. and China. The report notes that decoupling is disrupting the supply chains and international networks critical to China's AI sector.



## Digital Twin

A virtual model that replicates a physical system in real time, used to simulate and optimize performance. The UAE is using digital twins to manage its electricity grid and data center operations more efficiently.

## Export Controls

The U.S. government restricts the sale or transfer of sensitive technologies — particularly advanced AI chips and semiconductors — to foreign nations. U.S. export controls on GPUs are cited in the report as a major constraint on China's AI ambitions and a key factor shaping UAE-U.S. technology diplomacy.

## Falcon (LLM)

A family of large language models developed by Abu Dhabi's Technology Innovation Institute (TII), released open-source for research and commercial use. Falcon-40B, launched in 2023, was the UAE's first foundational LLM and outperformed models of similar scale on leading benchmarks.

## FDI (Foreign Direct Investment)

Investment made by a company or government in one country into business interests in another country. The report highlights the UAE's NextGen FDI initiative, which targets over 300 digital companies to accelerate the country's AI-driven economic diversification.

## FLOPS (Floating Point Operations Per Second)

A standard measure of a computing system's processing performance, particularly relevant for AI workloads. The report cites the UAE's distribution of computational resources in tera FLOPS across public, private, and academic sectors.

## Foundation Model

A large-scale AI model trained on broad datasets that can be adapted to a wide range of downstream tasks. The report references foundation models in the context of MBZUAI's Institute of Foundation Models and the UAE's development of models like Falcon and Jais.

## G42

An Abu Dhabi-based AI and technology company, chaired by UAE National Security Advisor Sheikh Tahnoun bin Zayed Al Nahyan, that drives the UAE's AI ecosystem across commercial and defense sectors. G42's \$1.5 billion partnership with Microsoft in 2024 is a major event in the report's account of U.S.-UAE AI cooperation.

## AIP (AI Infrastructure Partnership), formerly GAIP

A consortium formed in 2024 by MGX, BlackRock, Global Infrastructure Partners, and Microsoft to invest in AI data centers and power infrastructure globally, with up to \$100 billion in potential funding.

## GCCIA (GCC Interconnection Authority)

The body overseeing the interconnected electricity grid system linking Gulf Cooperation Council member states. The report cites the GCCIA as an asset that helps mitigate blackouts and manage energy demand from AI data centers across the Gulf.

## GPT (Generative Pre-trained Transformer)

A class of large language models based on the transformer architecture, pre-trained on large text corpora and capable of generating coherent, contextually relevant text. GPTs are referenced in the report as the technical foundation underlying models like Falcon and the work of MBZUAI's Institute of Foundation Models.

## Golden Visa

A UAE long-term residency program offering multi-year visas to investors, entrepreneurs, scientists, and highly skilled professionals. The report cites the Golden Visa as a key mechanism for attracting global AI talent to the UAE.

## GPU (Graphics Processing Unit)

A specialized semiconductor chip originally designed for rendering graphics, now the primary hardware for training and running large AI models due to its ability to perform massive parallel computations. The report tracks GPU exports (especially NVIDIA H100, H200, and GB300 chips) as a central indicator of U.S.-UAE AI partnership depth.

## Hyperscaler

A large cloud service provider — such as Amazon Web Services, Microsoft Azure, or Google Cloud — that operates globally distributed data center networks capable of scaling compute and storage on demand. The report references U.S. hyperscalers as key partners in the UAE's AI campus buildout.

## IEA (International Energy Agency)

An intergovernmental organization that provides data and analysis on global energy markets. The report cites IEA projections that data center electricity consumption will more than double by 2030, to approximately 945 TWh.

## Inference

The process of using a trained AI model to generate outputs or predictions from new input data — the 'doing' phase of AI, as opposed to training. The report distinguishes between training (compute-intensive model development) and inference (real-time model deployment).

## Internet of Things (IoT)

A network of physical devices embedded with sensors and connectivity that collect and exchange data. The report references IoT as one of the applications supported by GlobalFoundries' semiconductor chips.

## Jais

An Arabic large language model released in August 2023 and described at launch as the most advanced of its kind, developed by MBZUAI in collaboration with UAE-based Inception and U.S.-based Cerebras Systems, and released open-source.

## K2-Think

A 'sovereign' AI reasoning model launched by MBZUAI in September 2025, designed to compete with top-tier systems from the U.S. and China. Built on Alibaba's open-source Qwen 2.5 base model, K2-Think achieved frontier-level performance at a fraction of the cost of comparable proprietary systems.

## Large Language Model (LLM)

A type of AI model trained on vast amounts of text data, capable of generating human-like language, answering questions, summarizing information, and performing a wide range of language tasks. The report traces the UAE's development of LLMs from Falcon to Jais to K2-Think as milestones in its AI ambitions.

## Latency

The delay between sending a data request and receiving a response, partly determined by the physical distance data must travel through network infrastructure. The report notes that the UAE's geographic position enables latency-optimized AI services for nearly half of the world's population within a 3,200 km radius.

## Liquid Cooling / Immersion Cooling

Advanced thermal management techniques for data centers that use liquid or dielectric fluids to dissipate heat from dense AI hardware — more efficient than traditional air cooling. The report highlights these as critical infrastructure requirements for the UAE, given the region's high ambient temperatures.

## MBZUAI (Mohamed bin Zayed University of Artificial Intelligence)

The world's first graduate research university dedicated entirely to artificial intelligence, established in Abu Dhabi in 2019. MBZUAI conducts research in machine learning, computer vision, NLP, and robotics, and plays a central role in the UAE's AI talent pipeline.



## MGX

An Abu Dhabi-based technology investment firm, founded in 2024 under the Artificial Intelligence and Advanced Technology Council, focused on AI and advanced technology investments globally. MGX is a founding member of the Global AI Infrastructure Investment Partnership and acquired a 51% stake in Intel's Altera in 2025.

## Mubadala

One of the UAE's primary sovereign wealth funds, which has deployed strategic capital across AI, semiconductors, clean energy, and digital infrastructure. Mubadala is the primary investor in GlobalFoundries and a founding partner of MGX, managing assets of over AED 1.2 trillion (~\$326 billion) as of 2025.

## Multimodal AI

AI systems capable of processing and generating multiple types of data — such as text, images, audio, and video — within a single model. The report cites TII's Falcon 2-11B-VLM as the UAE's first multimodal LLM, equipped with vision-language capabilities.

## National AI Strategy 2031

The UAE's overarching policy framework, launched in 2017, to position the country as a global leader in AI by 2031. The strategy targets improvements in government services, the economy, education, and societal development, and has driven initiatives including MBZUAI, the Falcon LLM family, and the appointment of the world's first AI Minister.

## NLP (Natural Language Processing)

A subfield of AI concerned with enabling machines to understand, interpret, and generate human language. The report highlights NLP as a core research area at MBZUAI and TII, and as the underlying technology for models like NOOR (Arabic NLP) and Jais.

## NOOR

The first and largest Arabic-language natural language processing model at the time of its launch, developed by TII's AI Cross-Center Unit in 2022. NOOR is presented in the report as an early demonstration of the UAE's capacity to develop frontier AI models in non-English languages.

## Open-Source / Open-Weight Model

An AI model whose weights (learned parameters) and, in some cases, training data and architecture are made publicly available, allowing anyone to download, modify, and deploy the model without restriction. The UAE's Falcon models are highlighted as a strategic open-source offering designed to expand global adoption and influence.

## Parameters

The numerical values within an AI model that are learned during training and determine the model's behavior. Parameter count (e.g., 40 billion, 180 billion) is used in the report as a proxy for model scale and capability, though efficiency improvements mean smaller models can rival larger ones.

## Physical AI

AI systems embedded in or controlling physical hardware — such as robots, autonomous vehicles, and industrial machinery — that interact with the real world. The report's recommendations include addressing supply chain chokepoints for physical AI components, particularly sensors and actuators with limited non-China production.

## RegLab (Regulations Laboratory)

A UAE federal initiative launched in 2019 that provides a controlled environment for testing and regulating emerging technologies, including AI, through temporary licenses and iterative legislation. RegLab has enabled licensing of eVTOL aircraft and autonomous vehicle testing, among other innovations.

## Regulatory Sandbox

A structured framework that allows companies to test innovative products and services under relaxed regulations, with regulatory oversight, before broader market deployment. The UAE operates multiple sandboxes — including for FinTech (ADGM RegLab, DFSA ITL), ICT, and trade technology — to accelerate AI-driven innovation.

## Semiconductor

A material with electrical conductivity between a conductor and an insulator, used as the foundational substrate for all modern computing chips. The report treats semiconductor access and production as a strategic chokepoint in global AI competition, and traces the UAE's semiconductor strategy from its investment in GlobalFoundries to GPU imports from NVIDIA.

## Smart Grid

An electricity distribution network enhanced with digital monitoring, communication, and automation technologies to manage supply and demand more efficiently. The UAE is deploying AI-enabled smart grid technologies and digital twins to manage the rising electricity demands of AI data centers.

## Sovereign AI

A nation's capacity to develop, own, and control AI infrastructure, models, and data independently — reducing reliance on foreign technology providers. The report frames G42's ecosystem-building and the UAE's open-source LLM development (Falcon, Jais, K2-Think) as expressions of sovereign AI strategy.

## Sovereign Wealth Fund (SWF)

A state-owned investment fund that deploys national financial reserves, often from commodity revenues, into strategic assets. Mubadala and MGX are the UAE's primary SWFs driving AI-related investments domestically and globally.

## Stargate UAE

A 1-gigawatt AI compute campus being built in Abu Dhabi as part of the broader 5 GW U.S.-UAE AI campus announced in May 2025, involving G42, NVIDIA, OpenAI, Cisco, Oracle, and SoftBank. It is among the largest AI infrastructure projects outside the United States and China.

## TII (Technology Innovation Institute)

Abu Dhabi's applied research institute, established in 2020 under the Advanced Technology Research Council (ATRC), that drives innovation in AI, quantum computing, and autonomous robotics. TII developed the Falcon LLM family and NOOR, and co-launched the Middle East's first AI and robotics joint research lab with NVIDIA in 2025.

## TPU (Tensor Processing Unit)

Google's custom ASIC designed to accelerate the matrix operations used in training and running neural networks, offering superior energy efficiency for AI workloads compared to general-purpose GPUs.

## Training

The computationally intensive process of exposing an AI model to large datasets so it can learn patterns and adjust its parameters. Training frontier models requires massive clusters of GPUs and enormous amounts of electricity — making compute and energy access central strategic concerns in the report.

## US-UAE AI Acceleration Partnership

A bilateral framework announced in May 2025 during President Trump's visit to Abu Dhabi, committing the U.S. and UAE to jointly build a 5 GW AI campus and deepen cooperation on AI infrastructure, technology access, and governance.

## Vision-Language Model (VLM)

A multimodal AI model capable of processing both visual (image) and textual inputs together. TII's Falcon 2-11B-VLM, launched in 2024, was the UAE's first VLM, enabling applications that combine image understanding with natural language generation.



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