Artificial Intelligence as a Pathway to Normalization Between Israel and Saudi Arabia: Post-Gaza War Prospects

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Amid the global race to develop advanced technologies, many nations now recognize that achieving superiority in artificial intelligence (AI) offers strategic advantages, economic prosperity, and greater international influence. To this end, countries pursuing this path are actively fostering the development of domestic AI ecosystems through investments in infrastructure, research and development, and skilled human capital. Initiatives to stimulate AI development often include the formulation action plans, policy principles, and government regulations that comprehensively address national needs while adhering to ethical principles in AI use, such as the protection of citizens' privacy.

This article argues that the normalization process between Israel and Saudi Arabia brings together two nations with complementary strengths in AI ecosystem development. Israel stands at the forefront of technological innovation, rivaling countries significantly larger in size. However, it falls short in one key area—the formulation of comprehensive policies and government planning for AI. By contrast, Saudi Arabia has in recent years established itself as a global leader in the development and implementation of extensive national AI strategies. Nevertheless, for reasons detailed in this paper, the Kingdom's ambition to become the leading technological hub in the Middle East has yet to be fully realized. We contend that Israel and Saudi Arabia's respective strengths in the field of AI present a unique

opportunity for collaboration despite the ongoing Israel-Hamas war. Such cooperation could serve as a catalyst to accelerate full normalization between them.

By maximizing their respective AI capabilities through cooperative efforts, both Israel and Saudi Arabia stand to gain greater social and economic prosperity, along with a stronger strategic position in the Middle East. Additionally, President Donald Trump's second term, which began in January 2025, has created a renewed opportunity to revitalize the stalled normalization process. Trump's overarching strategic objective is to establish U.S. superiority in AI and other advanced technologies in the geopolitical competition with China. As such, his administration is expected to mobilize the leading global forces in the field of AI.

Diplomatic, strategic, and economic relations between Israel and Saudi Arabia would support the implementation of the anticipated "maximum pressure" policy against Iran and bolster Trump's legacy as the architect of the *Abraham Accords 2.0*. Additionally, it would advance the creation of the India-Middle East-Europe Economic Corridor (IMEC).[1] This corridor—centered on Saudi Arabia and Israel—is designed to compete with China's Belt and Road Initiative. Realizing this vision, which was initiated by the outgoing Biden administration, will require a full partnership between Israel and Saudi Arabia with AI at its core.

Israel as a Leader in Technological Innovation in AI

Over the past decade, Israel has gained recognition as the "Startup Nation," renowned for its innovation, cybersecurity, and ability to perform highly in several key metrics related to AI commercial activity. In the *Global AI Index*, published in September 2024, Israel ranked 7th out of 83 countries for AI commercial activity—just

[1] "FACT SHEET: World Leaders Launch a Landmark India-Middle East-Europe Economic Corridor," The White House, Sept. 9, 2023, accessed Dec. 22, 2024, https://www.whitehouse.gov/briefing-room/statements-releases/2023/09/09/fact-sheet-world-leaders-launch-a-landmark-india-middle-east-europe-economic-corridor/.

behind the United States and China, and ahead of the United Kingdom, Canada, and Germany.[2] According to the *Stanford University AI Index*, between 2013 and 2024, 492 new AI companies were established in Israel, placing Israel 4th globally in the number of AI companies founded during that period—ahead of Canada, France, and Germany.[3]

Israel's defense industry harnesses cutting-edge artificial intelligence to enhance real-time threat detection and precision targeting, redefining modern battlefield awareness and national security.*(DC Studio/Shutterstock)*

Additionally, Israel hosts a particularly vibrant technological ecosystem in the field of generative AI, one of the core domains of AI technology, despite the ongoing Israel-Hamas war. This vitality is reflected in the development of a rich and diverse network of companies engaged in this particular sector. The number of generative AI companies in Israel surged from 67 in April 2023 to 238 by May 2024.[4] Additionally, the range of subfields in which these companies operate expanded from 17 to 27, with leading sectors including sales, security, and healthcare.

Israel's leadership in AI is also evident on the global stage. According to a June 2024 report published by the *Israeli Innovation Authority*, out of approximately 1,900 companies developing AI-driven systems for specific applications (such as code development), 73 are in Israel. This figure positions the country as the third

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2 "The Global AI Index," *Tortoise Media*, Sept. 19, 2024, accessed Dec. 22, 2024https://www.tortoisemedia.com/intelligence/global-ai (hereafter Global AI Index 2024).

3 "Artificial Intelligence Index Report 2025," Stanford Institute for Human-Centered Artificial Intelligence, April 16, 2024, 256, accessed April 20, 2024, https://hai-production.s3.amazonaws.com/files/hai_ai_index_report_2025.pdf?fbclid=IwY2xjawJx111leHRuA2FlbQIxMAABHnzm_aSmKon6buwqltrr9LrGPGHJFbgouZiwNAGeGelmVW2OWkfEXejxIKp__aem_1fI0mPoQTHNHx-yTpyEbiQ.

4 Kevin Baxpehler, Eze Vidra, and Amit Revivo, "Number of Israeli Gen AI Startups More than Doubles in Six Months," *CTech*, Sept. 21, 2023, accessed Dec. 22, 2024, https://www.calcalistech.com/ctechnews/article/sk6t11aoya; and Kevin Baxpehler, Eze Vidra, and Amit Revivo, "Israel's Generative AI Expansion: A 2024 Market Overview," *CTech*, May 9, 2024, accessed Dec. 22, 2024, https://www.calcalistech.com/ctechnews/article/hyyedmcfa.

largest in the field, behind the United States and the United Kingdom, and ahead of Canada, China, France, Germany, and India.[5] Moreover, Israel's venture capital ecosystem for generative AI is ranked the third largest in the world, after the United States and China.[6]

Contrary to the assumption that Israel lags in developing a scientific infrastructure for AI, several international indices highlight the country's significant capacity to foster scientific and technological knowledge. For example, according to the 2024 *Global Innovation Index*, Israel ranked 12th in scientific knowledge production while Saudi Arabia ranked only 52nd.[7] Israel's high ranking reflects its ability to generate more innovation output relative to its investments,[8] whereas the situation in Saudi Arabia is the opposite.[9] This disparity may be linked to the fact that Israel ranks among the top ten countries globally in terms of the concentration of skilled AI professionals relative to its population. This includes both engineering expertise and AI literacy across multiple sectors of the economy.[10]

Against the backdrop of its exceptional leadership in technological innovation, Israel is well positioned to leverage its AI capabilities to create the conditions for normalization with Saudi Arabia. The Kingdom, through its Saudi Vision 2030 initiative,[11] has prioritized the development of advanced AI infrastructure and

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[5] Israel Innovation Authority, *Study on Gen-AI Companies in Israel 2024*, June 27, 2024, 73, accessed Dec. 22, 2024, https://innovationisrael.org.il/wp-content/uploads/2024/07/Generative_AI_company_overview-eng.pdf.

[6] Alex Shmulovich, "Generative AI—Where Israel Fits In," Viola Group, Dec. 11, 2023 accessed Dec. 22, 2024, https://www.viola-group.com/violanotes/generative-ai-where-israel-fits-in/.

[7] World Intellectual Property Organization (WIPO), *Global Innovation Index 2024: Unlocking the Promise of Social Entrepreneurship* (WIPO, 2024), 172, 221, accessed Dec. 22, 2024, https://www.wipo.int/web-publications/global-innovation-index-2024/assets/67729/2000%20Global%20Innovation%20Index%202024_WEB3lite.pdf.

[8] World Intellectual Property Organization (WIPO), "Effectively Translating Innovation Investments into Innovation Outputs," (WIPO, n.d.), accessed Dec. 22, 2024, https://www.wipo.int/gii-ranking/en/israel/section/investments-to-innovation-outputs.

[9] WIPO, accessed Dec. 22, 2024, https://www.wipo.int/gii-ranking/en/saudi-arabia/section/investments-to-innovation-outputs.

[10] Rosie Hood, "The LinkedIn AI Talent Index-Tracking the Global AI Talent Ecosystem," LinkedIn Economic Graph, May 2024, accesse April 21, 2025, https://economicgraph.linkedin.com/content/dam/me/economicgraph/en-us/PDF/li-ai-talent-index.pdf.

[11] "Saudi Vision 2030," accessed Dec. 22, 2024, https://www.vision2030.gov.sa/en.

capabilities. Specifically, Israel could play a key role in assisting Saudi Arabia to implement 66 out of the 96 goals outlined in the plan,[12] including the integration of "smart city" technologies across the Kingdom, particularly in the futuristic city of Neom.[13]

Israeli technology and AI companies have already demonstrated expertise in the smart management of vehicle traffic and water infrastructure.[14] Integrating these companies into the Neom project or other technological ventures in the Kingdom could boost profits, provide valuable experience in an emerging and innovative market, and open new business opportunities across the Gulf states and beyond, including in Asia. Furthermore, Israel could initiate joint programs in which Israeli entrepreneurs and companies assist Saudi businesses in learning how to establish technological and commercial success in the field of AI.

Saudi Arabia's Leadership in Formulating National AI Policy and Israel's Comparative Weakness

Despite its leadership in AI innovation, Israel must develop a comprehensive national AI strategy or risk losing its relative advantage in the long term. As of late 2024, the country lags significantly in planning, budgeting, and the formulation of coherent AI policies.[15] Yet the train has not left the station. If Israel acts strategically, it has the potential to reap significant economic, social, and security rewards, strengthen its regional political influence, and gain important geopolitical leverage. In contrast to Israel, Saudi Arabia has

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[12] "Saudi Arabia AI Authority Achieves $13 Billion in Savings Since Launch," *Edge Middle East*, Sept. 5, 2023, accessed Dec. 22, 2024, https://www.edgemiddleeast.com/innovation/emergent-tech/saudi-arabia-ai-authority-achieves-13-billion-in-savings-since-launch.

[13] Anuz Thapa, "Saudi Arabia's $500 Billion Bet to Build a Futuristic City in the Desert," *CNBC*, Jan. 14, 2023, accessed Dec. 22, 2024https://www.cnbc.com/2023/01/13/neom-is-saudi-arabias-500-billion-bet-to-build-a-futuristic-city-.html.

[14] "Texas City Adopts Leading Israeli Traffic Management Platform," No Camels Israeli Innovation News, April 11, 2024, accessed Dec. 22, 2024, https://nocamels.com/2024/04/texas-city-adopts-leading-israeli-traffic-management-platform/; and Sharon Wrobel, "Israeli Smart Water Leak Detection Startup Raises $35 Million from Funding Round," *Times of Israel*, Aug. 11, 2023, accessed Dec. 22, 2024, https://www.timesofisrael.com/israeli-smart-water-leak-detection-startup-raises-35-million-from-funding-round/.

[15] Israel, State Comptroller, *National Preparation in the Field of Artificial Intelligence—Special Report*, Nov. 12, 2024, 42, accessed Dec. 22, 2024, in Hebrew, https://www.mevaker.gov.il/sites/DigitalLibrary/Documents/2024/2024.11-Cyber/2024.11-Cyber-107-AI.pdf (hereafter State Comptroller, *Special Report 2024*).

launched a series of government-led initiatives in recent years that advance AI in a thorough and strategic manner. As a result, Saudi Arabia now ranks first globally in AI policy while Israel ranks 32nd.[16]

The Saudi Data and AI Authority (SDAIA), founded in 2019, oversees key national tech platforms and launched its brand under the theme "Data is the Oil of the 21st Century."*(Wikimedia Commons/Original illustration)*

As early as 2020, Saudi Arabia's Data and AI Authority (SDAIA), the national body responsible for shaping the country's AI vision, launched the National AI Strategy with the goal of positioning the Kingdom among the world's top 15 AI leaders.[17] To achieve this, SDAIA's strategy outlined an ambitious target of 66 tasks, including attracting $20 billion in local and foreign investment, and developing a local ecosystem of over 300 AI startups. Additionally, in 2024, Saudi Arabia unveiled Project Transcendence—a $100 billion investment in infrastructure aimed at developing local AI capabilities. The initiative includes the establishment of cutting-edge data centers and the promotion of partnerships with leading foreign technology companies.[18]

Saudi Arabia has advanced AI development by introducing policy principles designed to ensure the quality of data repositories within its territory. These repositories serve as essential infrastructure for the development, training, and performance enhancement of the country's AI systems. In November 2023, the Kingdom launched the

[16] Global AI Index 2024.

[17] "Saudis Launch National Artificial Intelligence Strategy," Reuters, Oct. 21, 2020, accessed Dec. 22, 2024, https://www.reuters.com/article/idUSKBN2761LY/; and Karen Silverman and Brinson Elliott, eds., "Artificial Intelligence Law—Saudi Arabia," Latham & Watkins LLP, Jan. 17, 2024, 4, accessed Dec. 22, 2024, https://www.lw.com/admin/upload/SiteAttachments/Lexology-In-Depth-Artificial-Intelligence-Law-Saudi-Arabia.pdf, accessed Dec. 22, 2024; and Hussein Abul-Enein, "Introducing Saudi Arabia's National Strategy for Data and AI," Access Partnership, Oct. 22, 2020, accessed Dec. 22, 2024, https://accesspartnership.com/introducing-saudi-arabias-national-strategy-for-data-and-ai/.

[18] Andrea Benito, "Saudi Arabia Launches $100 Billion AI Initiative to Lead in Global Tech," *CIO*, Nov. 11, 2024, accessed Dec. 22, 2024, https://www.cio.com/article/3602900/saudi-arabia-launches-100-billion-ai-initiative-to-lead-in-global-tech.html.

National Data Index to assess the quality of the government ministries' management of data repositories.[19] Another key step it undertook was the establishment of 245 offices dedicated to overseeing and improving the operation of these repositories.[20] At the same time, Saudi Arabia addressed information security concerns by launching a national platform for data repository management designed to enhance the protection of citizens' personal data.[21]

As mentioned above, the AI policy landscape in Israel is notably different. In 2020, Professor Isaac Ben-Israel, who led the establishment of the National Cyber Headquarters, and Professor Eviatar Matania, the first Director General of the Israel National Cyber Directorate, presented a national AI strategy to Prime Minister Benjamin Netanyahu. The strategy included the recommendation that:

> The ability to position the State of Israel as a world leader in the field and to take full advantage of it can only be achieved … if the Israeli government defines it as a major and critical area for the future of the country, budgets it as such, with an understanding that its future is based on it, and establishes a dedicated administration that will lead and integrate the national strategic plan.[22]

However, due to five rounds of snap elections between 2019 and 2022,

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[19] Yara Abi Farraj, "SDAIA, NTP to Launch First Saudi National Data Index," *Economy Saudi Arabia*, Nov. 24, 2023, accessed Dec. 22, 2024, https://economysaudiarabia.com/news/first-saudi-national-data-index/.

[20] Global AI Summit, "State of AI in Saudi Arabia," Sept. 9, 2024, 17, accessed Dec. 22, 2024, https://globalaisummit.org/Documents/StateofAIinSaudiArabia.pdf.

[21] https://dgp.sdaia.gov.sa/wps/portal/pdp/home/!ut/p/z0/04_Sj9CPykssy0xPLMnMz0vMAfIjo8ziPR1dzTwMgw2MDA1DLQzMLHy9zULcQg0NzMz1g1Pz9AuyHRUBTyewEQ!!/, accessed Dec. 22, 2024.

[22] I. Ben-Israel, E. Matania, and L. Friedman, eds., *The National Initiative for Secured Intelligent Systems to Empower the National Security and Techno-Scientific Resilience: A National Strategy for Israel—Special Report to the Prime Minister*, pt. 1 (Yuval Ne'eman Workshop for Science, Technology and Security/Tel Aviv University, 2020), 4, accessed Dec. 22, 2024, https://icrc.tau.ac.il/sites/cyberstudies-english.tau.ac.il/files/media_server/cyber%20center/The%20National%20Initiative_eng%202021_digital.pdf.

the approval and implementation of this strategy were delayed.

The National AI program, published in 2020 by the Forum for National Infrastructure Development for Research and Development (TELEM),[23] examined how the government could accelerate AI development in several key areas, including nurturing human capital and facilitating the transfer of professional knowledge from academia to industry. This program also failed to gain approval due to the volatile political situation. As a result, as of November 2024, Israel does not have an approved and fully funded comprehensive strategic plan to advance its AI capabilities. Instead, the government is promoting limited, narrowly focused programs, such as advancing natural language processing capabilities in Hebrew and Arabic.

The AI policy gap between the two countries is also evident at the institutional level. In Saudi Arabia, SDAIA is the government body responsible for formulating AI policy principles and promoting its innovative and responsible use across both the government and private sectors.[24] In contrast, Israel currently has two bodies responsible for advancing AI policy principles and programs. The first is the Center for Regulation and AI Policy at the Ministry of Innovation and Science,[25] tasked with developing strategies and regulations to promote the safe use of AI. The second is the AI program under TELEM at the Innovation Authority, which supports the advancement of research and development programs in various AI fields.[26]

The government's intention to establish an additional central AI office

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[23] TELEM Forum, *Artificial Intelligence and Data Science Committee*, Dec. 2020, accessed Dec. 22, 2024, in Hebrew, https://innovationisrael.org.il/sites/default/files/%D7%93%D7%95%D7%97%20%D7%A1%D7%95%D7%A4%D7%99%20%D7%A1%D7%99%D7%9B%D7%95%D7%9D%20%D7%95%D7%95%D7%A2%D7%93%D7%AA%20%D7%AA%D7%9C%D7%9D%20%D7%9C%D7%AA%D7%9B%D7%A0%D7%99%D7%AA%20%D7%9E%D7%95%D7%A4%20%D7%9C%D7%90%D7%95%D7%9E%D7%99%D7%AA%20%D7%91%D7%91%D7%99%D7%A0%D7%94%20%D7%9E%D7%9C%D7%90%D7%9B%D7%95%D7%AA%D7%99%D7%AA%20-.pdf.

[24] Ibrahim Kazeem, "The State of Artificial Intelligence (AI) in Saudi Arabia," DxTalks, Sept. 10, 2024, accessed Dec. 22, 2024, https://www.dxtalks.com/blog/news-2/the-state-of-artificial-intelligence-ai-in-saudi-arabia-646.

[25] Ministry of Science, Technology, and Space (Israel), *Center for Regulation and AI Policy*, Nov. 24, 2024, accessed Dec. 22, 2024, in Hebrew, https://www.gov.il/he/pages/ai_israel2025.

[26] Ami Rojkes Dombe, "Ziv Katzir Appointed Director of the National Infrastructures for Artificial Intelligence Program at the Innovation Authority," *Israel Defense*, Oct. 6, 2021, accessed Dec. 22, 2024, in Hebrew, https://www.israeldefense.co.il/node/52129.

under the Prime Minister's office may signal a significant—albeit belated—shift in Israel's AI policy approach compared to Saudi Arabia.[27] However, this initiative would require resolving potential disputes among the various bodies advancing this shared mission, particularly regarding authority and budgetary matters. Fragmentation among these bodies could further stall Israel's AI policy, potentially diminishing the country's global AI standing.

The Question of the Workforce and AI Skills Development

Another area in which Saudi Arabia outpaces Israel is the planning and implementation of policy principles for developing a skilled AI workforce. *Although Israel ranks among the global leaders in AI skills adoption, it faces a chronic shortage of skilled personnel*. The Israeli academic system produces annually fewer than 800 graduates with master's and doctoral degrees in computer science, mathematics, and statistics,[28] while the AI sector's demand for talent exceeds supply by at least 2,400 workers.[29] According to other data, the gap between supply and demand for skilled AI personnel is nearly fourfold. When accounting for the approximately 15 to 21 percent of advanced degree graduates who migrate abroad, the shortfall becomes even more pronounced. This gap is expected to widen as Israel's business ecosystem continues to grow.

In 2021, the Israeli government approved part of the TELEM program's recommendations intended to train a skilled workforce for AI research.[30] In 2024, it launched additional initiatives to expand this workforce, including the development of a dedicated training track within the Israel Defense Forces (IDF) and efforts

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[27] Assaf Gilead, "Dovi Frances to Help Set Up Israel AI National Directorate," *Globes*, Nov. 10, 2024, accessed Dec. 22, 2024, https://en.globes.co.il/en/article-dovi-frances-to-help-set-up-israel-ai-national-directorate-1001493660.

[28] Eynav Ehrlich and Tigist Mekonen, "Israel's Artificial Intelligence Landscape," Start-Up Nation Policy Institute, May 2024, https://rise-il.org/en/insight/israels-position-in-the-artificial-intelligence-race/.

[29] State Comptroller, *Special Report 2024*, 29.

[30] Ministry of Science, Technology and Space (Israel), *A Plan to Promote Innovation, Encourage the Growth of the High-Tech Sector, and Strengthen Technological and Scientific Leadership: Government Decision*, August 1, 2021, accessed Dec. 22, 2024, https://www.gov.il/he/pages/most_policy20210801.

to recruit AI experts from abroad.[31] However, these programs may not be sufficient to sustain Israel's technological leadership in AI over time. As more countries achieve excellence in the field, it becomes essential to adopt measures that significantly increase the supply of research personnel.

One possible solution is the introduction of curricula aimed at cultivating AI skills at the primary and secondary school level. In their recommendations to the Israeli government, Ben-Israel and Matanya emphasized the importance of promoting data literacy skills across the entire population. This initiative would not only assist citizens to use AI effectively in their daily lives but also help train a pool of skilled workers and researchers. A central component of their proposal was the integration of AI as a core subject within the national education system.

Since the 2020 publication of Ben Israel's and Matanya's proposal, several programs have been launched to develop AI skills. The most significant of these is the "AI for Every Child" initiative launched by the Ministry of Science in November 2024. This program enables students in grades 4 to 6 to experiment with creating content and applications using AI tools.[32] Another important program, "AI for All," is aimed at promoting generative AI skills among Israeli students and teachers.[33] Both programs are still in their early stages, and it remains to be seen how widely and quickly they will be implemented.

In contrast, in 2023, Saudi Arabia introduced a range of initiatives to cultivate a young and skilled workforce in AI on a wider scale.

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[31] Israel Innovation Authority "Israel Launches Second Phase of National AI Program with NIS 500 Million Investment in Research and Development Infrastructure," Sept. 17, 2024, accessed Dec. 22, 2024, https://innovationisrael.org.il/en/press_release/second-phase-ai-program/.

[32] Yuval Bango, "'A Window to Tomorrow's World': The Artificial Intelligence Revolution for Israeli Children is Underway," *Maariv*, Nov. 27, 2024, accessed Dec. 22, 2024, in Hebrew, https://www.maariv.co.il/news/education/article-1151539.

[33] Mor Basan, "'AI for All': A National Initiative to Integrate Technological Innovation into the Israeli Education System," *ZTech* (n.d.), accessed Dec. 22, 2024, https://techz.co.il/%D7%91%D7%99%D7%A0%D7%94-%D7%9E%D7%9C%D7%90%D7%9B%D7%95%D7%AA%D7%99%D7%AA-%D7%9C%D7%9B%D7%9C-%D7%99%D7%95%D7%96%D7%9E%D7%94-%D7%9C%D7%90%D7%95%D7%9E%D7%99%D7%AA-%D7%9C%D7%A9%D7%99%D7%9C%D7%95/.

These included hosting "AI Hour" in approximately 1,300 schools across the country to raise awareness about the technology.[34] To encourage excellence, the Kingdom also organized in 2024 the first national AI Olympics, with more than 260,000 students participants.[35] Additionally, it launched a nationwide initiative to provide AI training to one million citizens.[36]

These initiatives complement the goals outlined in the Kingdom's 2020 national strategy that aims to train 20,000 AI specialists, including 5,000 AI scientists, by 2030. In fact, in September 2024, SDAIA announced that this target had already been surpassed, with more than 38,000 graduates holding AI-relevant degrees trained between 2019 and 2023.[37] Although these programs do not eliminate the need to embed AI as a core subject in schools, they may provide valuable pedagogical and administrative insights for Israeli educational authorities seeking to develop and implement AI curricula. If adopted in schools, such programs could accelerate the training of a professional workforce and help preserve the technological excellence vital to Israel's national, economic, and military strength.

Saudi Arabia is Advancing in AI Legislation and Regulation

Alongside long-term strategic planning and investments in education, regulation is another essential component of AI policy. These regulations are necessary to address the challenges associated with the technology's use, some of which are still not fully understood. One such challenge is the inherent biases present in AI that could potentially perpetuate

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[34] "Saudi Arabia Launches 'Artificial Intelligence Hour' Initiative in More than 1,300 Schools," *Arab News*, Oct.11, 2023, accessed Dec. 22, 2024, https://www.arabnews.com/node/2389066/saudi-arabia.

[35] "Over 260,000 Saudi Students Gear Up for AI Olympics," Dec. 11, 2023, accessed Dec. 22, 2024, https://www.arabnews.com/node/2424106/saudi-arabia.

[36] "Saudi Arabia Launches SAMAI Initiative to Empower 1 Million Citizens in AI," Saudi Arabia Press Agency, Sept. 13, 2024, accessed Dec. 22, 2024, https://www.spa.gov.sa/en/N2170857.

[37] "SDAIA Report: Saudi Arabia Leads the Way in Global AI Innovation," Saudi Arabia Press Agency, Sept. 6, 2024, https://www.spa.gov.sa/en/N2201971 accessed Dec. 22, 2024.

stereotypes and discrimination.[38] Over the past year, many countries have aligned themselves with the Biden administration's approach to AI policy, which promotes the responsible and trustworthy development of AI while preserving technological innovation. Biden's policy on ethical and effective AI use was formalized in his Presidential Executive Order issued in October 2023.[39] However, the new Trump administration revoked this order in favor of prioritizing U.S. strategic supremacy in AI consistent with the "America First" policy. In any case, Israeli regulators must recognize that imposing overly stringent regulations on AI research, development, and company formation could stifle innovation and hinder the advancement of technological entrepreneurship—the very areas in which Israel excels.

Saudi Arabia is systematically pursuing global AI leadership through bold vision, strategic regulation, talent development, and data-driven innovation, positioning itself for a major technological and economic breakthrough.*(Shutterstock)*

One solution that strikes a balance between these concerns is the use of designated sandboxes[40]—controlled environments that allow technology companies to develop and test new products and services prior to commercialization. These sandboxes encourage innovation while minimizing potential risks related to

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[38] Nasa Samarpit, "What Are Ethics and Bias in LLMs?," *Appypie*, Nov. 11, 2024, accessed Dec. 22, 2024, https://www.appypie.com/blog/ethics-and-bias-in-llms.

[39] "Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence," The White House, Oct. 30, 2023, accessed Dec. 22, 2024, https://www.whitehouse.gov/briefing-room/presidential-actions/2023/10/30/executive-order-on-the-safe-secure-and-trustworthy-development-and-use-of-artificial-intelligence/.

[40] "AI Sandbox Pilot Launched," Harvard University Information Technology, Sept. 4, 2023, accessed Dec. 22, 2024https://huit.harvard.edu/news/ai-sandbox-pilot.

privacy violations. In 2024, the National eLearning Center and the Ministry of Health of Saudi Arabia launched such sandboxes to promote the use of AI in education and healthcare.[41] Other countries, such as France and the United Kingdom,[42] have also launched sandboxes. Global experience demonstrates that they are an effective tool for deepening the understanding of the interface between AI and privacy concerns.[43]

While Israel previously established a sandbox to examine autonomous transportation solutions, legislative efforts to expand them to other sectors failed as of May 2024.[44] Against this backdrop, the Israeli policy on AI regulation, published by the Ministry of Science in December 2023, proposes expanding the use of sandboxes to safely integrate new AI systems into the market.[45] Since Saudi Arabia has already utilized such mechanisms multiple times to promote responsible technological development, it may offer valuable insights to Israel on how to establish and operate these sandboxes.

In conclusion, Saudi Arabia has not only articulated an ambitious vision to achieve global dominance in AI but has also pursued its implementation in a systematic and comprehensive manner. Through the development and adoption of regulations that foster innovation, massive investment in developing a skilled AI workforce from a young age, and efforts to ensure the quality of data repositories, the

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[41] "Saudi MoH Launches the Regulatory Healthcare Sandbox Program," Aug. 23, 2024, accessed Dec. 22, 2024, https://dharab.com/saudi-moh-launches-the-regulatory-healthcare-sandbox-program/ accessed Dec. 22, 2024; and "NeLC Launches 'AI Sandbox in Digital Learning' Initiative," Saudi Press Agency, Oct. 10, 2024, https://www.spa.gov.sa/en/N2186125.

[42] National Commission on Informatics and Liberty (France), "'Sandbox': CNIL Launches Call for Projects on Artificial Intelligence in Public Services," July 28, 2023, accessed Dec. 22, 2024, https://www.cnil.fr/en/sandbox-cnil-launches-call-projects-artificial-intelligence-public-services; and United Kingdom, Department for Science, Innovation, and Technology (United Kingdom), *NayaOne's AI Sandbox,* April 9, 2024, accessed Dec. 22, 2024, https://www.gov.uk/ai-assurance-techniques/nayaones-ai-sandbox.

[43] Norwegian Data Protection Authority, *Evaluation of the Norwegian Data Protection Authority's Regulatory Sandbox for Artificial Intelligence,* Nov. 27, 2023, 4, accessed Dec. 22, 2024, https://www.datatilsynet.no/contentassets/41e268e72f7c48d6b0a177156a815c5b/agenda-kaupang-evaluation-sandbox_english_ao.pdf.

[44] Ruth Plato Shinar, "Regulatory Sandboxes for Developing Artificial Intelligence Applications—Israel Is Lagging Behind," *Calcalist*, May 12, 2024, accessed Dec. 22, 2024, in Hebrew, https://www.calcalist.co.il/calcalistech/article/sjw3cxcf0.

[45] Israel, Ministry of Innovation, Science, and Technology, *Israel's Policy on Artificial Intelligence: Regulation and Ethics*, Dec. 17, 2023, 7, accessed Dec. 22, 2024, https://www.gov.il/BlobFolder/policy/ai_2023/en/Israels%20AI%20Policy%202023.pdf.

Kingdom has positioned itself at the forefront of global AI policy. It now stands on the brink of a significant economic and technological breakthrough.

The Mutual Benefits of Collaboration in AI

Israel, already recognized as an AI technological powerhouse, has the potential to maintain if not enhance its position in the field, especially given its recent decline in global rankings, dropping from 5th to 9th place in AI leadership. [46] If Israel learns from Saudi Arabia's experience and adopts the Kingdom's approach to formulating and implementing AI policy principles, it could reverse this trend. From Saudi Arabia's perspective, integrating AI is crucial for diversifying its economy, reducing oil dependence, accelerating significant economic and social reforms, and strengthening its geopolitical standing.

Crown Prince Mohammed bin Salman views Israel's superior technology sector as a model for the tangible benefits the free market can confer to Saudi Arabia, particularly in driving technological innovation and advancing flagship projects like Neom.[47] This perspective makes Israeli technology and expertise appealing to the Kingdom as well as to the other Gulf states that have normalized relations with Israel. It reflects not only a desire to benefit from Israel's expertise in areas such as water resource management but also a broader recognition that deepening cooperation with Israel is key to securing a position as a regional technological leader.[48] This outlook was particularly evident before the war when Saudi Arabia demonstrated a willingness to invest in two Israeli technology companies through the royal family-controlled Public Investment Fund (PIF). The investments were channeled via the

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[46] State Comptroller, *Special Report 2024*, 7.

[47] The Day After the War Forum, "Saudi Arabia, Israel and the Palestinians—Expert Discussion," YouTube, March 1, 2024, accessed Dec. 22, 2024, in Hebrew, https://www.youtube.com/watch?v=To2nKMBKaow&t=5837s.

[48] Daniel B. Shapiro, "Israeli-Arab Cooperation on Agriculture, Water, and Food Security Starts with Building on Existing Innovations," Atlantic Council, March 31, 2023, accessed Dec. 22, 2024, https://www.atlanticcouncil.org/blogs/new-atlanticist/israeli-arab-cooperation-on-agriculture-water-and-food-security-starts-with-building-on-existing-innovations/.

Affinity Partners Fund, owned by Jared Kushner—one of the architects of the Abraham Accords.[49]

Crown Prince Mohammed bin Salman views Israel's superior technology sector as a model for the tangible benefits the free market can confer to Saudi Arabia, particularly in driving technological innovation and advancing flagship projects like Neom.*(Shutterstock)*

The importance of acquiring Israeli technologies—particularly advanced air defense systems incorporating AI such as the Iron Dome[50]—is underscored by Saudi Arabia's strategic shift in addressing Houthi aerial threats that have caused significant damage to the Kingdom. Previously, Saudi Arabia pursued an offensive policy toward the Houthis, but between 2023 and 2024, it shifted toward a ceasefire to reduce its military entanglement and prioritize economic development.[51] This shift in strategy was driven in part[52] by the high financial costs and damage caused by the war to critical infrastructure. As a result, the Kingdom's efforts to implement Vision 2030 and advance economic reforms were weakened. The importance of a robust air defense was further underscored by the successful interception of Iranian missile attacks on Israel in April and October 2024, an achievement made possible by advanced air defense systems and close cooperation among pro-American coalition partners in the region.

It can be assumed that Saudi Arabia seeks similar security guarantees from

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[49] Dion Nissenbaum and Rory Jones, "Jared Kushner's New Fund Plans to Invest Saudi Money in Israel," *Wall Street Journal*, May 8, 2022, accessed Dec. 22, 2024, https://www.wsj.com/articles/jared-kushners-new-fund-plans-to-invest-saudi-money-in-israel-11651927236.

[50] Gautam Ramachandra, "How Artificial Intelligence Is Improving Iron Dome," Medium, May 13, 2023, accessed Dec. 22, 2024, https://medium.com/@gautamrbharadwaj/how-ai-is-improving-iron-dome-3894cd3668f9.

[51] Patrick Wintour, "US Gives Saudis Green Light to Try to Revive Peace Deal with Houthis," *Guardian*, May 14, 2024, accessed Dec. 22, 2024https://www.theguardian.com/world/article/2024/may/14/us-saudi-arabia-revive-peace-deal-with-houthis-yemen.

[52] "A Fragile but Enduring Truce in Yemen," Arab Center for Research and Policy Studies, Aug. 27, 2024, accessed Dec. 22, 2024, https://arabcenterdc.org/resource/a-fragile-but-enduring-truce-in-yemen/.

the United States[53] to address the regional security challenges posed by Iran and its proxies. Such assurances would allow the Kingdom to focus on the implementation of Vision 2030.[54] Another central component of the normalization process is Saudi Arabia's aspiration to acquire nuclear capabilities from the United States to deter Iran from obtaining nuclear weapons.[55] Even before the Israel-Hamas war, the possibility that Israel would agree to the transfer of nuclear capabilities to Saudi Arabia as part of the normalization process raised concerns among the country's public, military experts, and senior politicians.[56] Many feared that such a move could trigger a Middle Eastern nuclear arms race, threatening Israel's security.

Israel's concerns were also voiced by U.S. officials who proposed imposing restrictions on American assistance for Saudi Arabia's nuclear capabilities development while calling for close congressional oversight of any such cooperation efforts.[57] While the Biden administration examined this issue as part of the broader normalization process and regional strategy to counter Iran, Trump's policy remains unclear. The out-of-the-box thinking of the first Trump administration led, unexpectedly, to the Abraham Accords in 2020. It is therefore possible that the second

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[53] "US Official: Only 'Handful of Issues' Unresolved in US-Saudi Component of Israel Normalization Plan," *Times of Israel*, March 21, 2024, accessed Dec. 22, 2024, https://www.timesofisrael.com/liveblog_entry/us-official-handful-of-issues-remain-in-us-saudi-component-of-israel-normalization-plan/.

[54] The Day After the War Forum, "Saudi Arabia, Israel and the Palestinians—Expert Discussion," https://www.youtube.com/watch?v=To2nKMBKaow&t=286s

[55] Julian Borger, "Crown Prince Confirms Saudi Arabia Will Seek Nuclear Arsenal If Iran Develops One," *Guardian*, Sept. 21, 2023, accessed Dec. 22, 2024, https://www.theguardian.com/world/2023/sep/21/crown-prince-confirms-saudi-arabia-seek-nuclear-arsenal-iran-develops-one.

[56] Mora Deitch, Rebecca Meller, Idit Shafran Gittleman, and Meir Elran, "Swords of Iron Survey Results—May 2024," Institute for National Security Studies, May 27, 2024, accessed Dec. 22, 2024 https://www.inss.org.il/publication/may-2024/, accessed Dec. 22, 2024; and Amos Yadlin, "The Saudi Demand, Israeli Concern, and the Document That Could Pave the Way," *N12*, Aug. 24, 2023, https://www.mako.co.il/news-n12_magazine/2023_q3/Article-f50f41b8f902a81026.htm; and Itamar Eichner, "Lapid Says Israel Cannot Agree to Saudi Nukes," Ynet, Sept. 21, 2023, accessed Dec. 22, 2024, https://www.ynetnews.com/article/hj7f319kt; and Avigdor Liberman, "Yes to An Agreement With Saudi Arabia, Not At Any Cost," *Walla*, Sept. 24, 2023, accessed Dec. 22, 2024, https://news.walla.co.il/item/3611633.

[57] Congressman Brad Sherman, "Amendment to Rules Comm. Print 118–36," May 31, 2024, https://npolicy.org/wp-content/uploads/2024/06/FY25NDAA.SaudiNuclear.pdf, accessed Dec. 22, 2024; and Senator Edward Markey, *Saudi Arabia-Israel Normalization Deal & Civil Nuclear Cooperation Oversight Letter*, May 1, 2024, accessed Dec. 22, 2024, https://www.markey.senate.gov/imo/media/doc/saudi_arabia-israel_normalization_deal__civil_nuclear_cooperation_oversight_letter_copy.pdf.

Trump administration will pursue creative solutions to bypass or mitigate Saudi demands for nuclear capabilities, for example, by providing military enhancement through AI.

Israel can collaborate with the Trump administration to encourage Saudi Arabia to move in this direction, leveraging its unparalleled global experience in utilizing AI for military purposes as it did during the Gaza war. The "Gospel" system,[58] introduced by the IDF in 2021, assists Unit 8200, the IDF's principal signals intelligence unit, by identifying potential targets through the analysis of verbal and visual intelligence gathered from the internet and cellular networks. The use of this system, among others, helped the IDF identify 37,000 targets during the conflict[59] based on multiple criteria. In addition, AI-powered ground tools were employed to map the complex tunnel system constructed by Hamas.[60] This technology was integrated into Merkava Mark 4 "Barak" tanks to identify strike targets.[61] The IDF also utilized AI-based facial recognition systems at Gaza crossing points to detect Hamas operatives attempting to blend in with civilians evacuating the conflict zone.[62] As such, there is merit in advancing a U.S.-Israeli initiative to support Saudi Arabia in developing AI-based weapon systems.

AI-based weapon systems offer significant defensive and offensive advantages[63] that could partially offset the need for developing and

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[58] Joseph Gedeon and Maggie Miller, "Israel Under Pressure to Justify Its Use of AI in Gaza," *Politico,* March 3, 2024, accessed Dec. 22, 2024, https://www.politico.com/news/2024/03/03/israel-ai-warfare-gaza-00144491.

[59] Bethan McKernan and Harry Davies, "'The Machine did it Coldly': Israel Used AI to Identify 37,000 Hamas Targets," *Guardian*, April 3, 2024 accessed Dec. 22, 2024, https://www.theguardian.com/world/2024/apr/03/israel-gaza-ai-database-hamas-airstrikes.

[60] Beth Bailey, "Israeli-Deployed AI in Gaza Likely Helps IDF Reduce Civilian Casualties, Expert Says," *Fox News*, June 15, 2024, accessed Dec. 22, 2024, https://www.foxnews.com/world/israeli-deployed-ai-gaza-likely-helps-idf-reduce-civilian-casualties-expert-says.

[61] Tzally Greenberg, "Israel Unveils New Barak Tank with AI, Sensors and Cameras," *Defense News*, Sept. 20, 2023, accessed Dec. 22, 2024, https://www.defensenews.com/land/2023/09/20/israel-unveils-new-barak-tank-with-ai-sensors-and-cameras/.

[62] Nick Robins-Early, "How Israel Uses Facial-Recognition Systems in Gaza and Beyond," *Guardian,* April 19, 2024, accessed Dec. 22, 2024, https://www.theguardian.com/technology/2024/apr/19/idf-facial-recognition-surveillance-palestinians.

[63] Ngo Di Lan, "Imagining Deterrence Without Nuclear Weapons," The Australian Strategic Policy Institute, April 12, 2024, accessed Dec. 22, 2024, https://www.aspistrategist.org.au/imagining-deterrence-without-nuclear-weapons/.

maintaining nuclear weapons. On the offensive front, AI systems are also capable of processing vast amounts of real-time intelligence from diverse sources to identify critical enemy assets, such as supply lines, communication channels, and manufacturing plants. These systems can then deploy AI-guided drones and missiles to strike with precision within minutes, minimizing collateral damage. On the defensive side, an AI-based sensor and air defense system can be deployed to detect and intercept aerial threats quickly and efficiently. Combined, these capabilities could enhance Saudi Arabia's deterrence capabilities and bolster its military advantages against Iran.

Nevertheless, progress toward normalization remains fraught with obstacles. One challenge is the renewed diplomatic relationship between Iran and Saudi Arabia. The restoration of ties between the two countries in 2023, after being severed since 2016, was followed by a joint military exercise in the Gulf of Oman in 2024. [64] Additionally, subsequent meetings between senior officials and military leaders from both countries have further complicated regional dynamics.[65] Another stumbling block is internal opposition within Saudi Arabia, particularly among the younger generation, many of whom support the Palestinian cause or are influenced by religious sentiments. Furthermore, Israel's current right-wing government, which firmly opposes the establishment of a Palestinian state, has also impeded the normalization process.

The continued use of Saudi airspace by Israeli and foreign commercial airlines during the war, along with the establishment of a secret commercial corridor linking Saudi Arabia, Jordan, and Israel to circumvent the maritime blockade imposed by the Houthi militia in the Red Sea, further reinforces the possiblity of Saudi-Israel normalization.*(Shutterstock)*

[64] Morgan Phillips, "Saudi Arabia and Iran Squash Decades of Hostility with Unprecedented Joint Military Drills," *Fox News*, Oct. 25, 2024, accessed Dec. 22, 2024, https://www.foxnews.com/politics/saudi-arabia-iran-conducting-joint-military-exercises.

[65] AFP, "Saudi Army Chief Set to Pay Rare Visit to Iran to Meet Counterpart as Relations Warm," *Times of Israel*, Nov. 10, 2024, accessed Dec. 22, 2024, https://www.timesofisrael.com/saudi-army-chief-set-to-pay-rare-visit-to-iran-to-meet-counterpart-as-relations-warm/.

However, the ongoing rivalry between Saudi Arabia and Iran is expected to persist, simmering beneath the surface despite the diplomatic thaw. This shift appears to be more of a tactical move than a genuine diplomatic transformation. The measures the Saudi regime has taken to fundamentally alter the cultural and religious attitudes that fuel opposition to Israel's recognition[66] indicate that normalization should not be ruled out. The continued use of Saudi airspace by Israeli and foreign commercial airlines during the war, along with the establishment of a secret commercial corridor linking Saudi Arabia, Jordan, and Israel to circumvent the maritime blockade imposed by the Houthi militia in the Red Sea,[67] further reinforces this possibility. These developments have taken place despite the Kingdom's sharp condemnation of Israel during the Israel-Hamas war,[68] a move intended as a political gesture of support for the Palestinians.

Trade relations and technological collaborations between Israel and Arab states—though reduced in scope—have endured despite the war, leaving room for hope. Morocco's intention to purchase an Israeli reconnaissance satellite worth one billion dollars underscores the resilience of these renewed ties [69] Similarly, the launch of the Crystal Ball platform by Israel's and the UAE's national cybersecurity agencies in November 2024 to share intelligence and research on cyber threats serves as another indication. [70] These developments demonstrate that Israeli technological innovation remains a strong global brand, even as the country's political and public image has suffered in the wake of the war.

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[66] "Latest Saudi Textbooks Reflect Increasingly Positive Shift Toward Israel," Institute for Monitoring Peace and Cultural Tolerance in School Education, May 28, 2024, accessed Dec. 22, 2024, https://us13.campaign-archive.com/?u=cda888712516195d04c9534ec&id=3eb71ff76c.

[67] Sharon Wronbel, "Houthi Bypass: Quietly, Goods Forge Overland Path to Israel via Saudi Arabia, Jordan," *Times of Israel*, Feb. 14, 2024, accessed Dec. 22, 2024, https://www.timesofisrael.com/houthi-bypass-quietly-goods-forge-overland-path-to-israel-via-saudi-arabia-jordan/.

[68] Frank Gardner and Hafsa Khalil, "Saudi Crown Prince Says Israel Committing 'Genocide' in Gaza," *BBC News*, Nov. 12, 2024, accessed Dec. 22, 2024, https://www.bbc.com/news/articles/cp8x5570514o.

[69] "Morocco to Acquire Israeli Spy Satellite Worth $1 BLN-Media," Reuters, July 10, 2024, accessed Dec. 22, 2024, https://www.reuters.com/world/africa/morocco-acquire-israeli-spy-satellite-worth-1-bln-media-2024-07-10/.

[70] Israel, National Cyber Directorate, "Crystal Ball's Maiden Voyage Operational Deployment Strengthens International Collective Resilience against Cybercrime Under the Counter Ransomware Initiative," Nov. 14, 2024, accessed Dec. 22, 2024, https://www.gov.il/en/pages/crystal_ball_14_11_2024.

Trump's 2025 return to the White House, along with the appointment of key pro-Israel and hawkish figures on Iran, such as Secretary of State Marco Rubio,[71] may breathe new life into the normalization process once the war subsides. A series of regional developments could further accelerate this trend: the impending ceasefire agreement in Lebanon; Israel's military strikes against two of Iran's prominent proxies, Hezbollah and Hamas; the fall of the Assad regime in Syria; and the destruction of Iran's air defense systems, including the weakening of its nuclear weapons development capabilities. Normalization, therefore, carries not only economic, technological, and social significance; it could also serve as the foundation for a historic shift in the regional balance of power—one that favors moderate, pragmatic countries that champion innovation, education, and technology over extremism.

Furthermore, cooperation in AI between Israel and Saudi Arabia would support President Trump's vision of achieving U.S. dominance in this critical field. Israel, a global leader in technological innovation, and Saudi Arabia, which aspires to become a regional technology hub, could both play a pivotal role in creating the strategic corridor linking Asia and Europe via the Middle East. This corridor, which began to take shape under the Biden administration, could gain renewed momentum under Trump's leadership, especially with Elon Musk's central role in the administration.

The involvement of Israel and Saudi Arabia in AI initiatives under Trump's presidency would bolster the U.S. effort to achieve technological dominance, particularly against China, its main rival in this arena. Thus, cooperation between the three countries would not only advance their national interests but also contribute to a global effort to ensure that the United States remains a leader in AI.

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[71] Jason Breslow and Tom Bowman, "Trump Names Rep. Mike Waltz as National Security Adviser," NPR, Nov. 12, 2024, accessed Dec. 22, 2024, https://www.npr.org/2024/11/11/nx-s1-5187098/trump-national-security-adviser-mike-waltz; and "Trump Expected to Name China & Iran Hawk Marco Rubio as Secretary of State: Report," *First Post*, Nov. 12, 2024, accessed Dec. 22, 2024, https://www.firstpost.com/world/united-states/trump-expected-to-name-china-iran-hawk-marco-rubio-as-secretary-of-state-report-13834279.html.

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