Saif bin Zayed: Today, the National Defence College has become a model for strategic thought and leadership preparation to confront various challenges and threats, enhance the state's security, and protect its national gains.

> The National Defence College represents a continuation of the scholarly journey of the United Arab Emirates, guided by a vision that seeks to provide the best educational and intellectual institutions. Its purpose is to enhance the skills of our national cadres in various fields of knowledge, in service of the comprehensive development that our nation is witnessing.

His Highness Sheikh Mohamed bin Zayed Al Nahyan, President of the UAE (may Allah preserve him)

" Commandant's Message

In an era of accelerating events and within an environment characterized by fundamental transformations with intersecting geopolitical and strategic dimensions, there is a need for inspiring intellectual output that provides in-depth analytical insights that overcome challenges with enlightened and forward-looking perspectives that are fit for the present and exploring the future.

This new issue of the National Defence College magazine adopts a serious scientific and strategic approach, reflecting a commitment to providing rich and comprehensive content based on precise methodology and informed critical vision. Through its articles, we strive to ensure that the magazine remains a platform for strategic thinking and a source of political science, where readers can engage in constructive intellectual dialogue, exchange views, and discuss crucial issues, thereby promoting the diversity of ideas and shaping the contours of the future.

The National Defence College magazine is not only a scientific platform, but also a reflection of the insightful vision of His Highness Sheikh **Mohammed bin Zayed Al Nahyan**, President of the UAE and Supreme Commander of the Armed Forces, may Allah preserve him, for this ambitious academic and research establishment. This vision expresses the mission of our educational and academic institution and highlights their vital role in developing thought, keeping pace with rapid changes, anticipating future challenges and paths, and working in an integrated manner with other national institutions to serve the foundations of the UAE society and our national security.

**Staff Brigadier
Saeed Hassan Alyammahi**
Commandant,
National Defence College

Throughout its pages, the National Defence College magazine seeks to embody the vision and mission of the College, which is a primary source for strategic and security studies and a source for the development of strategic thinking. Its mission is to prepare and train military and civilian leaders, enhance their ability to identify and assess national, regional, and international security challenges, and understand the fundamentals and requirements of managing and employing state resources to protect national interests.

The National Defence College is based on a solid academic curriculum that includes many courses designed to achieve the College's vision and objectives through four main pillars: the strategic environment, which deals with local, regional, and international environmental variables; strategy and leadership; the courses on the instruments of national power (diplomacy, information, economics, and military), and the national security course.

The National Defence College magazine is a window through which readers can learn about the college's missions, which include meetings with leaders and decision-makers in the country. These meetings are one of the college's most important enablers for preparing participants. His Highness Sheikh **Hamdan bin Mohammed bin Rashid Al Maktoum**, Crown Prince of Dubai, Deputy Prime Minister and Minister of Defence, visited the College, and His Highness **Sheikh Abdullah bin Zayed Al Nahyan**, Minister of Foreign Affairs, met with a delegation from the 12th National Defence Course participants. Their Highnesses praised the College's efforts and its keenness to attract national talent.

Furthermore, the National Defence College magazine places special importance on being consistent and aligned with the policies, strategies, and initiatives launched by the state in various fields. In the context of designating 2025 as the "Year of Community" in the UAE, this new issue of our magazine highlights the role of the armed forces in the "Year of Community" initiative by employing their capabilities and expertise to support the efforts of the state and civil society, as well as the contribution of our armed forces in strengthening national cohesion and achieving the state's vision for integrated community development.

It is my honor to welcome the readers of National Defence College Magazine, which is confidently and steadily moving towards its twelfth year, with a new issue that covers topics that keep pace with developments, align with contemporary issues, and meet the aspirations of its readers.

In conclusion, we hope that this issue will reflect our commitment to providing scholarly content that meets the expectations and aspirations of our readers. I would like to express my sincere thanks and gratitude to all those who contributed to the preparation of this issue, thinkers and writers alike, so that it may shine in its new form with its purposeful content. As always, we welcome your opinions and suggestions, which enrich our academic platforms.

National Defence College

A Specialized Annual Journal on Strategic Affairs

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Saif bin Zayed:

Today, the National Defence College has become a model for strategic thought and leadership preparation to confront various challenges and threats, enhance the state's security, and protect its national gains.

Contents

> " The National Defence College is an institution of professional leaders, qualified by the power of knowledge, innovation, and creativity in their respective fields. This empowers them to participate in national decision-making and in the solid planning required to protect our security and our national achievements. "

His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President, Prime Minister of the UAE, and Ruler of Dubai (may Allah protect him)

❝ Editor-in-Chief

It is my pleasure to welcome you to this new issue of our magazine, "National Defence College," in which we strive to present a variety of topics and distinguished articles, carefully selected to meet your diverse interests. In this issue, we have sought to explore the challenges and reflect the complexities of the global landscape around us.

In a year that our wise leadership has declared the Year of Community, we all have an increased responsibility in various national institutions, including the National Defence College, to embody this noble approach in word and deed. Society is the foundation of security and stability, the primary pillar of values and ideals, and the most important source of human energy that drives the UAE's efforts in development and in defending national capabilities, achievements, and interests alike.

Our current era is witnessing interconnected events and rapid geopolitical changes, accompanied by remarkable developments in modern technologies, whose effects are evident in the artificial intelligence revolution, which has deepened the convergence and intertwining of relationships and interests between various actors in our regional and international environment.

From this standpoint, our goal for this issue is to include topics that address this changing landscape by presenting sound ideas and enlightened visions for strategic policymakers, researchers, thinkers, and experts. In doing so, this contributes to the development of plans and strategies aimed at achieving a deeper understanding of the constantly evolving reality, which requires in-depth analysis and a forward-looking vision that enables us to overcome current and future challenges.

In this 12th issue, the National Defence College Magazine comes out as usual in its annual edition, serving as an intellectual mirror that reflects the knowledge movement and intellectual development of its contributors, who are opinion leaders and thinkers. These contributions address a wide range of topics related to national security, artificial intelligence and the future of defence, strategic autonomy policy, future studies, geostrategic policies, defence diplomacy, crisis management, instruments of state power, and other articles that adorned the pages of the magazine, all of which fall within the magazine's strategic scholarly content.

The true value of these articles lies not only in the depth of their analysis and the precision of their arguments, but also in the fact that they express the diverse views and integrated knowledge backgrounds of multiple national sectors. Their authors express their views from scientific and professional perspectives, keeping in mind their responsibility to contribute to shaping an enlightened strategic awareness among readers and informed audiences, whether from within the military institution or from researchers and specialists in various sectors. Indeed, this diversity of knowledge is what gives The National Defence College magazine its societal dimension, where ideas converge under the umbrella of the supreme national interest.
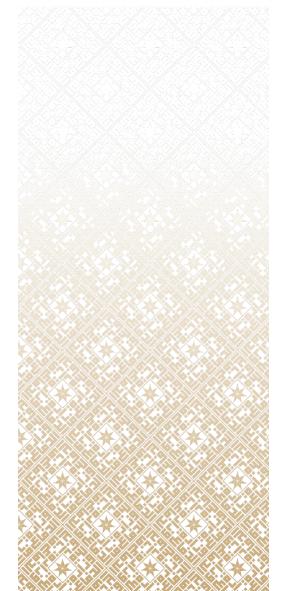
In conclusion, I would like to express my sincere thanks and appreciation to everyone who contributed to the preparation of this issue of the magazine, including writers, researchers, editors, technicians, the magazine's staff, and its management.

I ask Allah to bless this year, the Year Of the Community, and to guide us all in serving this great nation, its leadership and its people, and the National Defence College will continue to be a beacon of strategic thought and a fundamental pillar of our national security and future prosperity.

**Staff Brigadier
Dr. Theyab Ghanem Almazrouei**
Editor-in-Chief
National Defence College

The Relevance of a Sustainable Sovereign Defence Industry in the Modern Context

Khaled Al Zaabi, President – Platforms & Systems, EDGE

The relevance of a sovereign defence industry is directly linked to the sovereignty of a state and its ability to project and reject hard and soft power. Throughout history, we find overwhelming empirical evidence to suggest that a sustained and thriving defence industry provides a nation with economic diversity, societal expansion, and political maturity.

In recent years, international security dynamics have been increasingly shaped by volatile supply chains, conventional interstate conflicts with global implications, and the rise in violent non-state actors' (VNSAs) ability to wield advanced tactical and strategic capabilities. This makes the development of a sustainable sovereign defence industry more critical than ever – an endeavour that EDGE Group (EDGE/ the Group) continues to drive as it enters its sixth year. Through understanding why and how the Group is rapidly developing a highly disruptive portfolio of globally competitive solutions, it becomes clear that today's work is laying the foundation for an advanced localised defence manufacturing ecosystem with far-reaching socio-economic benefits.

THE MODERN CONTEXT

The volatile global context in which a sovereign defence industry operates has been largely shaped by precariousness and unpredictability. The COVID-19 pandemic exposed the fragility of underprepared supply chains, necessitating more resilient, sustainable, and collaborative strategies. Recent and ongoing interstate conflicts have highlighted the delicate nature of continental and international relations, while also revealing the critical requirement for sufficient stockpiles. The modernisation programmes of armed forces are entering a new era, defined not only by the convergence of existing and new technologies, but also by the capability to counter and deter the rising tactical and strategic capabilities of VNSAs. Recognising that a national armed force is a country's ultimate insurance policy, a robust national defence industry is a prerequisite for ensuring its effectiveness. From heavily dispensed materiel to advanced technology, localised manufacturing stands as the supreme enabler of operational readiness.

A SUSTAINABLE INDUSTRY

Establishing a defence industry in the modern context requires long-term sustainability, and it is critical to recognise that sovereignty alone does not guarantee sustainability. Through this understanding, EDGE Group has embarked on an investment strategy to develop an industrial ecosystem. With over 35 entities within the Group, a strong focus has been placed on synergising development and manufacturing capabilities. The result has been faster turnaround times from the design phase to industrialisation. In line with the UAE Ministry of Industry and Advanced Technology' 'Operation 300bn' industrialisation

strategy and the UAE's Fourth Industrial Revolution strategy, these entities are adopting Industry 4.0 advancements across their facilities.

Over 40 Industry 4.0 projects have already been completed, focusing on automation, energy saving, and maximising output. The Group's portfolio also includes international companies. A current total of 13 acquisitions in leading defence and aerospace companies includes Estonia's MILREM Robotics, Swiss unmanned helicopter manufacturer ANAVIA, Brazil's non-lethal tech leader Condor, and Brazil's smart weapons specialist SIATT. The addition of these entities, paired with a strong network of 23 joint ventures, has significantly enhanced the Group's portfolio, and reinforced a global footprint of solutions in 91 countries.

EDGE's investment strategy points to a key factor in developing a sustainable industry – it cannot be achieved in isolation. On a local scale, the Group is developing a robust and reliable ecosystem through the integration of critical sovereign capabilities. The most recent example is a memorandum of understanding signed at the International Defence Exhibition & Conference 2025 (IDEX 2025), which will see EDGE hand over an already fully operational, high-technology cable harness facility to a local company in Abu Dhabi.

To ensure the longevity of this ecosystem, investing in the next generation of talent is critical. EDGE is currently utilising a two-pronged approach to fostering talent. As a world-class defence and technology conglomerate, the Group has attracted industry-leading minds from 95 countries. The Group's growing Emirati workforce, currently at 36.7 percent, is offered direct opportunities to learn from the world's top chief engineers. In developing a local knowledge economy, EDGE is also up-skilling its employees. Over 3,600 employees have received advanced training at the Group's Learning & Innovation Factory. Entity-level programmes are also in place to develop the Emirati engineering workforce, providing opportunities to complete Masters degrees and attend workshops at leading international institutions.

EXPORTING TO ESTABLISH SOVEREIGNTY

A final critical factor in the development of a sustainable defence industry is its ability to export a portfolio of solutions that meet global modernisation requirements. In this regard, the strategic value of having the UAE Armed Forces as a primary customer cannot be overstated. The UAE Armed Forces consistently procure the most advanced, high-performance systems and capabilities, setting the benchmark for excellence. Meeting their requirements for modern technology demands that EDGE produce solutions that meet the highest standards. As a result, the Group's solutions stand out in the global market for the right reasons. With over 550 percent growth in systems and solutions since 2019 and international orders amounting to over USD 2.1 billion in 2024, the results are evident. According to Janes, a leading open-source intelligence publication, for the past two years, EDGE has captured the third-largest share of the precisionguided weapons market and precision-guided munitions market. Such statistics would not be possible without critical support and buy-in from the UAE Ministry of Defence and the UAE Armed Forces.

EDGE's role in shaping the UAE's future of defence and technology is undeniable. Safeguarding a country's national interests and ability to defend itself from external powers is only ensured if an armed force is adequately supported, and this is where EDGE plays a pivotal role. The socioeconomic benefits to EDGE's strategy to rapidly develop a sustainable industrial ecosystem will resonate for decades to come. Emiratis interested in various fields of science, engineering, and future technologies now have a dynamic and advanced UAE industry where they can realise the full potential of their talent, while also contributing positively to the nation's development. This industry generates in-country value and has been instrumental in diversifying the national economy, with its revenue growth trajectory continuing upwards. As the Group expands further into the air, sea, land, space, electronic warfare, and cyber-security domains, its position as the UAE's primary catalyst for the development of a sustainable and sovereign defence industry will only grow stronger.

Enhancing UAE National Security Through Red Teaming

Dr. Brooke Smith-Windsor
Dean of the College

As a resource-rich and forward-looking country, the UAE enjoys many advantages. One is adopting for national purposes the best practices of other successful states. In this regard, 'red teaming' warrants attention as a useful feature of UAE strategic planning across multiple sectors.

RED TEAMING HISTORY AND PURPOSE

The term traces its origins to the Cold War, when US strategists developed 'wargames' with the Soviet 'red team' pitted against the US 'blue team' in order to test the resilience of American military plans or systems. As Micha Zenko (2015, xxi) observes, simulations like these serve to 'capture each of the actors' motivations and capabilities, and the likely interactions between them.' Over time, red teaming also came to refer to simulations or exercises played out in 'table top' (discussions-based) or 'live-field' (real movement of equipment and personal) formats, which mimicked adversarial or hostile environments more generally in order to subject plans and capabilities to scrutiny. They also were adopted by other elements of the US national security apparatus (e.g. Department of Homeland Security after 9/11) and by US allies (e.g. annual NATO Crisis Management Exercise).

A second category of what now is commonly known as red teaming emerged with the advent of aviation sector terrorism (e.g. 1988 Pan American Flight 103 bombing) and the Third Industrial Revolution. It involves 'penetration testing' or 'vulnerability probes' of physical (e.g. airport) and cyber security by inconspicuous teams intentionally set up by government authorities to do so. This practice extends to the private sector as well.

'Alternative analysis' is the most recent red teaming addition in a national security context. Beginning in the 1950s, the field of psychology progressed from a mathematical orientation to understanding the human mind, to investigation of its irrationality and weaknesses. In the social sciences, the implications for foreign policy decision making gave rise to the theory of Foreign Policy Analysis. However, it was not until

after the Cold War and notable strategic failures such as the 2003 US-led invasion of Iraq that insights into flawed human judgement began to seriously inform official national security decision making. Unearthed evidence of heuristics (decision making shortcuts), bias, emotion and unfounded optimism within the US (Houghton 2008) and UK (Chilcot Inquiry launched in 2009) administrations in pre- and post-invasion decision-making resulted in the institutionalization of alternative analysis: 'the independent application of a range of structured, creative and critical thinking techniques to assist the end user to make a better informed decision or produce a more robust product' (United Kingdom 2013, 1-3).

The CIA's A Tradecraft Primer: *Structured Analytic Techniques for Improving Intelligence Analysis*, the US Army's Applied Critical Thinking Handbook, and UK Ministry of Defence's Red Teaming Guide are demonstrative. A similar example is the Australian Ministry of Defence's *A Simple Handbook for Non-Traditional Red Teaming* (Australia 2017, 21). When addressing questions of national security, it advocates for the following minimum considerations to help overcome human cognitive weaknesses: key assumptions check; what if and counter-arguments; quality of information; brainstorming and visualization of the policy problem. Zenko documents cases where even more ambitious alternative analysis techniques have been effectively applied. The US National Security Advisor's use of 'team A/team B' to inform the 2007 decision whether or not to bomb a suspected covert nuclear reactor at Al Kibar, Syria is a notable case study (Zenko 2015, xii-xv).

UAE ADOPTION

Given the UAE's longstanding strategic relations with the aforementioned states, it is no surprise that evidence of all three types of red teaming permeates its contemporary national security landscape. Since their creation in 1976, the UAE Armed Forces have a long-established exercise program to stress test plans and capabilities in emulated adversarial conditions. Through the years, this has extended to international wargaming. A recent example is 2024 Desert Flag 9, which brought together armed forces from Turkiye, Saudi Arabia, Oman, Kuwait, United States, South Korea, France, United Kingdom, and Germany to test combat efficiency through various scenarios. Within the Supreme Council for National Security, NCEMA likewise regularly conducts exercises in simulated hostile environments at local and federal levels to ensure plans, systems and capabilities are fit for purpose (e.g. environmental and health risk mitigation, business continuity, national communications). Moreover, it offers education and certification on exercise design, implementation and evaluation.

> **Over time, the UAE has become a recognized world leader in cyber security**

Over time, the UAE has become a recognized world leader in cyber security, which unsurprisingly encompasses expertise in vulnerability probes. An illustrative example at the national level is the UAE Central Bank's routine collaboration with the UAE Banks Federation to pressure test executives, managers and technical teams in responding to simulated cyber-attacks (UAE 2021). Such knowhow is increasingly shared globally. In March 2024, the UAE Cyber Security Council signed an agreement with the International Telecommunications Union of the United Nations to build cyber defence capacity in needy countries. This included provisions for mimicking cyberattacks to test ways of effectively handling them (WAM 2024).

Alternative analysis similarly has made its way into the national security architecture. It could not be otherwise considering that the second principle of the *UAE Future Strategy* is to 'address and manage future challenges and uncertainties in a structured and organized way.' At the educational level, for example, the UAE National Defence College teaches alternative analysis techniques as part of its Master's in Strategic and Security Studies. Elsewhere, alternative analysis is embedded practice at the UAE Executive Affairs Authority to inform decisions with long-term national security implications.

FUTURE PROSPECTS AND CONCLUSION

The UAE may build on the rich practice of red teaming to enhance national security. Going forward, noteworthy possibilities relate to Artificial Intelligence (AI) and geopolitical crisis response.

Regarding AI, vulnerability probes and alternative analysis seem auspicious. For example, to ensure AI systems are not used for malicious purposes by a state's adversaries, a recent RAND report highlighted the potential of red teams to prompt a model to produce undesirable text outputs such as disinformation, or guidance on biological weapons design. Remedial action would result, ideally before the AI model's public release. In this context, reference was made to internal (company developers) and external (outside subject

matter and technical experts) actively red teaming AI models as called for in the 2023 *White House Voluntary Commitments on Safe, Secure and Trustworthy AI* (Hicks et al. 2023: 4). The Cyber Security Council could encourage similar types of collaborative AI red teaming among UAE developers and specialists to mitigate national security risks.

With respect to alternative analysis, a 2024 report of the Carnegie Endowment for international Peace focussed on the prospect of employing AI as an additional analyst 'at the table' in a crisis situation. The AI could generate alternative strategic responses (albeit requiring verification to gain the confidence of human decision makers), or by the same token subject human-devised ones to scrutiny to help mitigate the risk of groupthink, anchoring bias or recency bias (Chivvis and Kavanagh 2024). As David Ferrucci, lead engineer at the AI company IBM Watson, similarly observed: 'Human thought is beset by psychological pitfalls … So what I want is that human expert paired with a computer to overcome the human limitations and biases' (Tetlock and Gardner 2015: 23). Forging connections between the Supreme Council for National Security and domestic companies such as G42 to experiment with and advance AI-enabled national security decision-making of the kind mentioned here warrants consideration. It could place the UAE at the forefront of trustworthy AI application for making high stakes policy choices.

As mentioned previously, red teaming started in defence ministries and was later adopted by other departments charged with preparing for terrorism or natural disasters at home. More recently, there have been calls to broaden this practice still further to include more simulations stress-testing the 'whole-of-government' or 'whole-of-society' in facing a geopolitical kinetic crisis or full-scale war. The respected Australian ASPI Institute is among them: 'Shifting away from stove-piped thinking on security is long overdue … Developing and running interagency exercises based on potential conflict scenarios … will identify weaknesses, pressure-test current planning, and give the government the opportunity to rectify problems' (Lies and Stredwick 2024). This approach certainly aligns with the UAE's 2023 *National Defence Strategy*, which emphasizes

national coordination and an integrated, whole-of-government approach to achieving national security goals in line with the 6th Principle of the 50. The future of red teaming for UAE national security would indeed appear bright.

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Strategies for Smaller Powers Pursuing their National Interests in International Organisations

Dr. Mohamed Almehairbi
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In a global context characterised by frequent great power obstructionism in international organisations (IOs), and where the concept of the "rules-based international order" is inconsistently applied, some states have increasingly painted the IOs established in the aftermath of WWII as ineffective, and as tools only for great powers.

However, this perception can lead to opportunities being missed by smaller powers in IOs, and potential solutions to challenges and threats being overlooked. While smaller powers have limitations, by virtue of their relatively smaller populations, geographical size, military capacity, or economic resources, there are five strategies that they can use to pursue and protect their national interests within IOs: 1) coalitions, 2) agenda-setting, 3) strategic communication, 4) naming and shaming, and 5) forum shopping.

1. COALITIONS

Coalitions can include diverse and ostensibly counter-intuitive partners, from great powers to non-state actors such as NGOs, civil society organizations, and academic institutions. Smaller states can also mobilise existing IO voting blocs, such as the G77, to achieve their objectives. A General Assembly (UNGA) Resolution only requires a majority of the 193 states, so the G77, with 134 members, can ensure that a Resolution be passed even when opposed by the most powerful states.

While UNGA Resolutions are non-binding, their influence is derived from their perceived legitimacy as proclamations by the world's only inclusive, democratic, global institution. The UAE is a member of the G77, and of other overlapping UN groupings, such as the Arab or Asia-Pacific voting blocs, the Organization of Islamic Cooperation (OIC), the Forum of Small States, and the Non-Aligned Movement. For example, Jamaica mobilised the G77 to create a legal framework governing equitable access to marine resources and the protection of the marine environment, (1982 UN Convention on the Law of the Sea). The island state of Vanuatu similarly mobilised the G77, leading to Resolution 43/53 (1988), which recognised climate change as a security as well as

a development challenge, and leading to the formation of the Intergovernmental Panel on Climate Change. Pakistan has utilised the OIC, setting the agenda and influencing the global debate on Islamophobia at the UNGA and the UN Human Rights Council.

2. AGENDA-SETTING

Agenda-setting shapes opinions by focusing attention on certain issues. In the UN, often-cited examples include the permanent members of the Security Council (UNSC), or the Secretary-General, who is empowered by Article 99 of the UN Charter to bring issues to the attention of the UNSC. However, smaller member states can also set the agenda in certain contexts. The UAE did so on a range of issues as a non-permanent member of the UNSC (2022-2023), especially during its two tenures as UNSC President. States can also influence the agenda by (co-)drafting UNGA resolutions, or simply by speaking at the General Assembly or in any of the many committees and agencies.

Smaller states can also set the agenda by hosting IO activities. Examples include the UAE's successful campaigns to host the International Renewable Energy Agency (IRENA), and the COP28 climate change conference in 2024, giving it the opportunity to shape the global discussion on vital national security issues such as the use of fossil fuels and the global energy transition.

The preferred audience must be selected, ideally an IO entity or grouping of states that is both likely to be receptive to the message and capable of implementing, altering, or enforcing the desired policy change. This requires a thorough understanding of the perspectives of veto players within that audience: their worldviews, and their perceptions of their national interests and their corresponding objectives in the context of their own threats, challenges and opportunities.

The structure of the IO forum can determine the efficacy of strategic communication. A smaller state can mobilise others to exert social pressure on a target state, but that is often only effective in large, multilateral forums, such as the General Assembly. Conversely, efforts to sincerely persuade another state to re-evaluate the assumptions on which they base their strategic decisions can often only be effective in private, small-group discussions. In all contexts, and with all audiences, strategic messaging will be most likely to elicit the desired response if framed in such a way as to persuade the target audience that a shift in policy would more effectively allow *them* to pursue or protect *their* interests.

3. STRATEGIC COMMUNICATION

Strategic communication is the deliberate use of words and actions to shape the attitudes and opinions of target audiences, with the intention to influence their behaviour. For strategic communication to be effective in an IO, it must be tailored to the particular institutional context.

A speaker/diplomat must be perceived by the intended audience to have authority derived from their expertise or adherence to principles.[1] In 1716, distinguished French diplomat Francois de Callières observed that a diplomat's reputation for honesty alone could be a significant source of influence by the nation state. Conversely, when a diplomat is exposed as having used misinformation, the credibility and influence of a state can be severely damaged, as with U.S. Secretary of State Colin Powell claims to the UNSC on 5th February 2003 that the U.S. had incontrovertible evidence of "weapons of mass destruction" in Iraq.

4. NAMING AND SHAMING

IOs are social environments, in which the actions and preferences of member states are, to varying extents, influenced by the behaviour of those around them, even when material incentives remain unchanged.[2] Numerous studies show that "naming and shaming" states that violate international norms can cause a change in behaviour.[3] Most of the academic literature focuses on attempts by Western states to influence "rogue states" in Africa and the Middle

East, but as South Africa's case against Israel at the International Court of Justice, and UN General Assembly Resolutions on Israel/Palestine indicate, smaller states are joining together to "name and shame" more powerful states. Admittedly, the efficacy of these strategies may be unclear, but they should not be discounted.

Strategic communication should be used not primarily to criticise, as the reaction to overt criticism is typically unproductive. Rather, it should argue that the target state should adopt a certain policy position because doing so would demonstrate an adherence to *their own* principles and objectives. Even great powers may be vulnerable to naming-and-shaming as they often seek international legitimacy for their actions.

5. FORUM-SHOPPING

The international environment is characterised by "regime complexity", in which multiple organizations overlap with each other in their efforts to govern their respective issue areas.[4] This complexity broadens the range of policy options available to states. For example, a state seeking a development loan might consider the IMF, but also the Asian Infrastructure Investment Bank (AIIB). Mexico could seek to settle a trade dispute with the US through the World Trade Organization (WTO) or the United States-Mexico-Canada Agreement (USMCA).

Every IO or part thereof has its own idiosyncratic rules and procedures. A skilled and knowledgeable diplomat can identify opportunities amongst the different forums, and navigate those rules to their own advantage, even when those rules may be broadly skewed in favour of great powers.

A choice of venue is guided by three factors.[5] One, naturally, is the likelihood of achieving the desired decision, which is influenced by the membership and by procedural rules, as well as by the mosaic of interests held by member states. The second is the legal status of the outcome, whether advisory or binding, and whether credible enforcement mechanisms exist.

One might prefer that it not be binding, if the decision could establish a legal precedent that could later be used by others against one's own country, or if the intent is only to send a diplomatic signal, and not to create risks by harming the target state. The third factor is the degree of legitimacy of the specific forum, as perceived by the intended target audiences.

CONCLUSION

The UAE is a member state in countless international organisations, covering every aspect of human activity, including security, energy, agriculture, health, and technology, within an international institutional landscape that is perpetually evolving. New global, minilateral, and regional opportunities frequently arise, which smaller states can successfully navigate, using the strategies above, to more effectively protect and pursue their national interests.

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[3] Jacqueline H. R. DeMeritt, "International Organizations and Government Killing: Does Naming and Shaming Save Lives?" *International Interactions* 38:5; Matthew Krain., "J'accuse! Does naming and shaming perpetrators reduce the severity of genocides or politicides?" *International Studies Quarterly 56*, no. 3 (2012): 574-89; James H. Lebovic and Erik Voeten, "The Politics of Shame: The Condemnation of Country Human Rights Practices in the UNHCR," *International Studies Quarterly 50*, no. 4 (2006): 861–888.

[4] Karen Alter and Sophie Meunier, "The Politics of International Regime Complexity," *Perspectives on Politics 7*, no. 1 (2009): 13-24.

[5] Marc L. Busch, "Overlapping Institutions, Forum Shopping, and Dispute Settlement in International Trade," *International Organization 61*, no. 4 (2007): 735-761.

Ankara and Tehran's Rivalry in the Post-Assad Era

Amb. Grigol Mgaloblishvili
NDC Faculty

While all eyes were turned toward the conflict in Gaza, an unexpected turn of events unfolded in Syria. The swift and unforeseen end of the Assad family's 53-year rule signifies more than mere regime change, it marks the beginning of a new phase of contestation among regional players.

The emerging power vacuum and the escalating competition to fill the void are likely to become defining features of a new phase of regional confrontation. As with any major geopolitical shift, this crisis will inevitably yield both winners and losers. While the initial contours of the post-Assad power reconfiguration have been emerging, the path to forging a new balance of power in the region remains uncertain. In this complex landscape of regional geopolitics, the roles of Türkiye and Iran, two regional powers with hegemonic aspirations, become particularly important. In the current context, it is apparent that the fall of the Assad regime would disadvantage Iran in its rivalry with Türkiye. This historical shift in Syria enables Ankara—now the main patron of Syrian rebels' groups —to replace Tehran as the dominant external power, thereby expanding Türkiye's influence across the region while limiting Iran's.[1] Hence, understanding the gains and losses that these two major regional powers have incurred from the crisis in Syria is essential to foreseeing the contours of the emerging regional order.

The fall of the Syrian regime has undeniably undermined Tehran's geopolitical standing. For years, Tehran has been Assad's most significant ally, investing substantial resources and military support to ensure his survival. Since the outbreak of the civil war, Iran has spent between $30 billion and $50 billion, excluding military aid.[2] However, financial investments are not the only losses Tehran has suffered due to this crisis. The most significant casualty of this drastic geopolitical shift is the considerable weakening of Iran's once formidable strategic tool—the "axis of resistance." Over the years, this meticulously constructed network of Tehran's allies have found itself strained and diminished in influence. In addition to losing its influence over Syria, the fall of Assad also reveals the dire condition of Hezbollah's

operational capabilities—another key pillar of Iran's axis of allies—which has suffered considerable setbacks in recent months due to its prolonged conflict with Israel. These two factors—the fall of Assad and the weakening of Hezbollah—have critically undermined key links in the "Axis of Resistance," undermining Iran's regional posture. The crisis in Syria has also revealed ideological divisions among Iran's allies, as Tehran-affiliated armed groups have adopted diametrically opposing positions regarding Hezbollah's victory over Assad, further fracturing the axis's cohesion.[3] More importantly, Tehran's indecisiveness in rescuing its troubled ally has significantly damaged its credibility. Allowing Syria—the golden ring of the resistance chain in the region—to fall so easily has raised serious concerns about Tehran's commitment and ability to protect its regional allies.

The fall of the Syrian regime has undeniably undermined Tehran's geopolitical standing

Tehran's diminished geopolitical standing is likely to provoke a backlash, prompting Iran to seek to restore its influence or mitigate its losses. Notably, Iran's growing sense of insecurity following Assad's fall could lead the country's leadership to intensify destabilizing activities in the region. This might include reinforcing allied militias in Iraq and Yemen, mobilizing Shia brigades in Pakistan and Afghanistan, and provoking sectarian tensions in Syria.[4] The intensification of assertive measures will be part of Tehran's strategy not only to reinforce the remaining pillars of the "Axis of Resistance," but also to restore its weakened deterrence capabilities. In this sense, there is an increasing likelihood that Iran will seek to acquire nuclear weapons as swiftly as possible to address the vulnerabilities in its deterrence system.[5] In essence, as Iranian power wanes, Tehran is poised to adopt a more assertive stance, striving to restore the balance of power and reclaim its lost influence.

As Tehran's influence wanes, the fall of the Assad regime has undeniably strengthened Ankara's strategic position in the region. Paradoxically, over the past decade, the crisis in Syria has become both a source of Ankara's waning geopolitical influence and its strengthened regional standing. Over ten years ago, President Erdogan's choice to back anti-Assad rebel groups at the onset of the Syrian crisis in 2011 plunged Türkiye into regional isolation and severely strained its relations with Washington. Consequently, Erdogan's ambitions to enhance Türkiye's regional influence had faltered, as the once heralded "zero problems with neighbors" policy steadily unraveled. To justify Ankara's international isolation, Erdoğan's then-chief policy adviser, Ibrahim Kalin, coined the term "precious loneliness," suggesting it was not isolation but an honorable stance of upholding principles.[6] A decade later, Ankara began to emerge from an era of "precious loneliness" by gradually mending its strained ties with regional actors. Today, as Assad's regional allies find themselves weakened by the ongoing Israeli campaigns in Gaza, Lebanon and Syria, and with Russia distracted in Ukraine, Erdogan

is seizing the moment.[7] He has moved beyond merely repairing strained relations with regional actors and has consolidated his positions by capitalizing on the setbacks experienced by Tehran and Moscow.
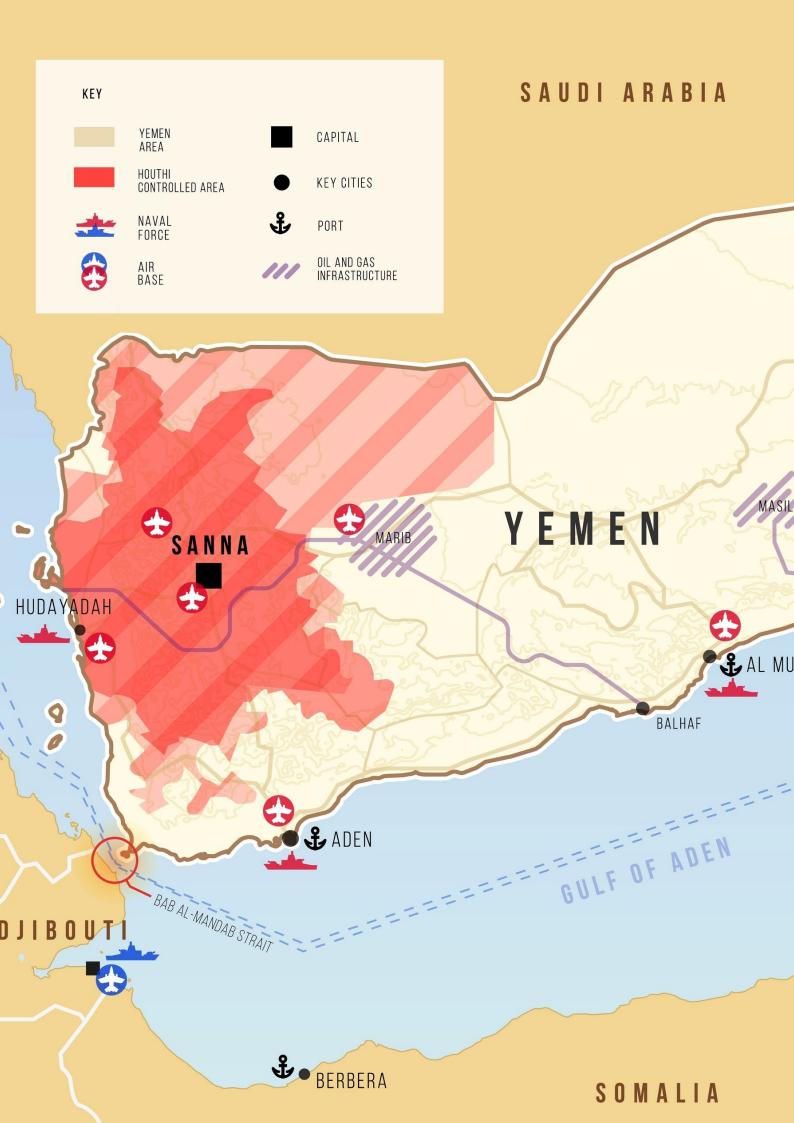
> **As Tehran's influence wanes, the fall of the Assad regime has undeniably strengthened Ankara's strategic position in the region.**

Ankara stands to gain significantly from the current crisis in Syria, presenting a range of opportunities, but it also faces unignorable challenges ahead. Emboldened by its successes in Syria, Erdogan is poised to erode the influence of regional rivals, as he has already demonstrated in the South Caucasus, further isolating them geopolitically. More importantly, beyond enhancing its geopolitical standing in the region, the fall of the Assad regime presents Ankara a unique opportunity for reconciliation with Washington. As this regime change in Syria may resolve one of the most contentious issues in US-Türkiye relations: American support for Kurdish groups.

As developments in Syria unfold, they are likely to accelerate the withdrawal of US troops, a long-awaited outcome for Ankara. President Trump's waning enthusiasm for further involvement in the Syrian conflict serves as an early indication of this potential shift. While Türkiye is widely regarded as a clear winner from the current crisis in Syria, these developments also pose significant challenges. The rise of Ankara's power may escalate regional tensions, reflecting what Graham Allison refers to as "Thucydides' Trap"—a dangerous pattern of structural stress that arises when the fear of a rising power provokes a response from challenged actors.[8] In this context, Türkiye's growing influence may not only escalate tensions with peer competitors like Iran but also strain relations with regional actors, which harbor their own fears of Ankara's hegemonic ambitions. Therefore, Erdogan must exercise caution to avoid overplaying his hand in Syria and returning Türkiye to an era of "precious loneliness." Furthermore, while many in Türkiye celebrate their role in Assad's downfall and proclaim an early victory, it appears likely that Erdogan will own Syria's problems. If Syria descends back into chaos, generating terrorism and instability, it could tarnish Erdogan's reputation and lead to an influx of refugees crossing the border—an outcome that Ankara may hardly regard as a success.[9]

As Syria undergoes swift transformations, the regional security landscape is marked by significant questions and uncertainties. Yet, one stark reality stands out: the shifting balance of power is heightening tensions between two major regional stakeholders, Türkiye and Iran. The power vacuum emerging from Assad's downfall has emboldened Ankara to fill the void, allowing it to expand its regional influence at the expense of Tehran's diminishing stature. Conversely, Iran is poised to adopt a more assertive stance in its quest to reclaim influence and restore its weakened deterrence capabilities. These dual trends—Ankara's emboldened posture and Tehran's efforts to regain its geopolitical stature—are emerging as defining features of regional geopolitics, heralding the onset of a new era of regional competition.

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KEY

YEMEN AREA	
HOUTHI CONTROLLED AREA	
NAVAL FORCE	
AIR BASE	

CAPITAL	
KEY CITIES	
PORT	
OIL AND GAS INFRASTRUCTURE	

SAUDI ARABIA

YEMEN

SANNA

HUDAYADAH

MARIB

MASIL

AL MU

BALHAF

ADEN

GULF OF ADEN

BAB AL-MANDAB STRAIT

DJIBOUTI

BERBERA

SOMALIA

The Struggle for Maritime Dominance

Prof. Mohan Malik
NDC Faculty

Global supply chains are, in effect, maritime supply chains. Around 80% of global trade is conducted by sea and 97% of the global internet traffic is carried by undersea cables. The growing importance of the blue economy means the competition for marine resources—such as fisheries, deep-sea minerals, rare earths and hydrocarbons—is set to intensify. Oceans and sea beds—for deep sea mining—and cyber space are emerging as the new arenas of power competition.

The strategic environment in the Middle East, characterised by geopolitical rivalries and ongoing conflicts, resource competition, and shifting alliances, impacts the security of major waterways such as the Red Sea, the Bab-al-Mandeb Strait, the Arabian Gulf, and the Strait of Hormuz. Several regional and extra-regional powers—often with conflicting agendas and rival alignments—are jostling for influence, competing over resources, markets, and bases. The disruption caused in maritime trade in the Black Sea and Red Sea due to the Ukraine and Gaza conflicts along with skirmishes in the South China Sea underscore the critical importance of maritime security.

It is in this context that regional waterways, critical for global trade and energy transportation, are getting increasingly militarized, contested and battlegrounds for power projection by both state and non-state actors. Not only global powers like the United States, China and Russia, but regional actors like Turkey, Saudi Arabia and Iran are also projecting power through naval deployments, strategic alignments, forward bases, and port infrastructure investments, reflecting the growing significance of these waterways in the contest for influence near key chokepoints. These chokepoints are critical for global energy supplies and international trade.

The Red Sea region is the new area of economic growth and maritime interest. The Red Sea region, currently with 12% of global maritime trade passing through it, including 30% of global container traffic, is expected to see explosive growth. Its population is likely to double in 35 years and regional GDP triple with a four-fold growth in trade, 90% of it over sea routes. Already, maritime trade between Africa and the rest of the world has increased 200% since 2000.[1]

Saudi Arabia is developing the Red Sea coastal zone to diversify its oil transport away from the Strait of Hormuz as well as to develop tourism hubs such as NEOM, positioning the Kingdom as a key player in the global maritime economy. Saudi Arabia and the United Arab Emirates (UAE) increasingly see the Horn of Africa coastline as their "western security flank." Both Saudi and Emirati navies maintain a presence in the Red Sea. Egypt has a new Southern Fleet Command. The rivalry with Iran, Turkey and Qatar has driven Riyadh to seek a 6-party alliance (Egypt, Djibouti, Somalia, Sudan, Yemen and Jordan). In the years and decades ahead, the Red Sea could take the center-stage in the restructuring of the regional balance of power.

However, political instability, piracy and economic subversion would continue to pose challenges. Proxy wars and terrorism make every port, every ship a potential target. The widespread availability of cheap, unmanned weapons exacerbates the situation, as evidenced by the actions of the Houthis. Having a navy was once seen as a costly affair, but that is no longer the case. Today, non-state actors can easily put together improvised naval fleets to contest sea control.

The growing threat of unconventional warfare (drone strikes, missile attacks) means that major waterways will see increased military and surveillance presence. This includes both Western and regional actors (such as Saudi Arabia, Iran, the UAE, Turkey, Egypt and Israel) investing more in naval capabilities.[2] This means more contested waters, leading to greater risks of naval incidents and accidents. The Gulf navies are increasingly deploying outside their international maritime boundary for Maritime Domain Awareness (MDA), information-sharing, joint exercises, search and rescue (S&R), and interdiction operations.

The Gulf states are on the cusp of history where choices made today will shape their future. Economic diversification, hedging, and autonomy are the buzzwords in the region. No single country, no matter how well resourced and equipped, can combat threats to maritime security or exploit opportunities on its own. A common operating picture is needed for all three critical regions: Strait of Hormuz, the Gulf of Aden and Red Sea and the Suez Canal. The Gulf states want their partners in the East as well as the West to help with maintaining maritime security around the Strait of Hormuz and the Arabian Sea. But more often than not, there is a disconnect between what the West wants and what the Gulf States want.

The United States, the European Union (EU), China and India have deployed fleets for anti-piracy operations in recent years. In October 2023, GCC-EU joint council agreed to establish a regional security dialogue, including a working group on maritime security. This was in light of the US Operation Prosperity Guardian, launched in late 2023, which was followed by the EU-led Operation Aspides in February

2024. Both operations focused on countering Houthi attacks on shipping vessels.

The United States still remains the main security provider but the Middle East and North African countries' growing economic and security ties with China and Russia (and to some extent, India) are changing regional relationships. China now has the world's largest navy, going by vessel numbers. One intelligence estimate shows China having 50-55% more warships than America by 2035. The 20th century's geopolitical competition occurred in the Atlantic and the Pacific Oceans, but the 21st century's geopolitical contestation is going to be in the Pacific and Indian Oceans. As the US Navy contemplates resurrecting its First Fleet in the Indian Ocean, India expands its naval footprint, and China readies an Indian Ocean fleet to secure its interests, the northern Indian Ocean, in particular, would become as contested and conflict-prone as the South China Sea in the decades ahead.

Furthermore, technological advances in unmanned air, surface, and underwater vehicles, shipborne lasers, and submarines, indicate a shift from sea control to sea denial. Ships and submarines are getting bigger and more lethal. We are on the cusp of an unmanned technological revolution at sea. That means we need not just Maritime Domain Awareness (MDA) but Underwater Domain Awareness (UDA) as well. Advances in hypersonic and unmanned weapons also increase the propensity for the use of force to settle disputes. Unmanned surface vehicles (USVs) and robotic sea mines would pave the way for new blockade tactics. Blockades of the future could be imposed by uncrewed vehicles. Almost all major navies plan to operate large USV fleets in the future, alongside crewed ships. This means sea denial would be much easier to achieve than total sea control in a contested seascape.

The turbulent waters of the Red Sea, Black Sea, Arabian Sea, and South China Sea certainly hint at an approaching storm.[3] As geopolitical contestations rise, existing norms and legal frameworks for sovereignty and navigation rights are coming under pressure. The United Nations Convention on the Law of the Sea (UNCLOS) is already going through stress test. Technology is fast outpacing the law. Much of the maritime law is old. For instance, the UNCLOS—adopted in 1982—is silent on the USVs.

Given the crowded seascape with nonstate actors, subs, ships and underwater systems' proliferation, perhaps it is about time to consider a regional Code of Unintended Encounters at Sea (CUES)-type pact to avoid unplanned incidents or accidents at sea. No single country, no matter how well resourced, can provide maritime security. The security of undersea internet cables in the Arabian Sea has emerged as a new security concern, especially in light of recent incidents that have severed cables near Finland and Taiwan. Perhaps this could serve as a starting point for discussions with GCC countries on establishing a regional code of conduct, a CUES-type pact, or even a Gulf Maritime Domain Awareness (GMDA) initiative modelled after the Indo-Pacific Maritime Domain Awareness Initiative launched by the Quad countries. The agreement would be technical (maintaining distance, communication, radio frequencies, dealing with personnel overboard etc.) and non-binding.

Let me conclude by saying that the Gulf geopolitics is a complex, multi-layered and multiplayer game. The US figures prominently in the Gulf nations' time-tested strategy of reliance on an external power to maintain power balance. However, apart from the US, Europe, China, Saudi Arabia, Qatar, the UAE, Egypt, Turkey, Israel, and Russia also shape regional choices and policy preferences. In the Middle East, it is all about power, power projection and balancing acts.

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Forging a More Mutually Beneficial UAE-Africa Economic Partnership

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The United Arab Emirates (UAE) ought to adopt a continent-wide approach as a cornerstone of its strategy in Africa. Rather than focusing solely on individual countries, this approach would allow the UAE to amplify its strategic influence, capitalize on emerging opportunities, foster market and private sector initiatives, and realize economies of scale through a unified framework for trade and investment across Africa.

This is corroborated by the obstacles that numerous African economies encounter in generating market interest, which are further exacerbated by the increasing restrictions on unprocessed mineral exports. The UAE is Africa's largest investor, with more than $96 billion pledged in 2023 and 2024.[1] The Emirates growing engagement with Africa underscores its recognition of the region's expanding economic opportunities, aligning with its broader goals of economic diversification and post-hydrocarbon, long-term prosperity. This assumption is well-founded. The UAE has an opportunity to further its national interests—economic, security, and diplomatic—guided by the principles of the UAE Vision 2050, which prioritizes economic growth. And Africa is not just a peripheral region in the context of great-power rivalry but a significant arena involving the USA, China, Russia, the European Union, and emerging or middle powers like India, Türkiye, or Iran.[2]

Abu Dhabi is shaping a strategy that seeks to balance the achievement of its objectives with cost-effectiveness. Since the outset of its Africa engagement, the UAE has navigated operations through its ambassadors, intermediaries, and the Ministry of Foreign Affairs, tailoring its approach to the needs of each country. For the UAE to craft a successful strategy in Africa, it is vital to understand both the region's strategic context and the UAE's own interests. Below, I outline three assumptions about Africa.

First, despite numerous challenges, like access to finance and technological capacity, African countries are committed to investing in mineral processing. The Africa Mining Vision adopted by the African Union in 2009 seeks to advance an "optimal exploitation of mineral resources to underpin broad-based sustainable growth and socio-economic development."[3] Several African states are implementing new policies to promote domestic mineral processing.[4] In recent years, over a dozen African nations, including Burkina Faso, the Democratic Republic of Congo, Malawi, Nigeria, and Namibia, have intermittently restricted or outright banned exports.[5] Transitioning from exporting raw materials to developing processing industries presents greater opportunities. For instance, raw bauxite is valued at approximately $65 per ton, while aluminum, its processed form, sells for $2,335 per ton as of the end of 2023.[6]

Second, the prevalence of democratic governance across Africa. In 2024, 22 countries were categorized as having democratic tendencies in Africa.[7,8] The power of social media exacerbates this trend. One prominent example is the growing public sentiment against France in West Africa, reflecting the shift toward greater regional autonomy and influence. This assumption reinforces the first point by highlighting the evolving relationship between African governments and external powers.

Third, although Africa's economies are growing faster than the global average, few individual African nations currently offer significant market appeal, with limited consumer classes and disposable income. African economies grew at an average rate of 4.8% between 2000 and 2010, compared to 3.1% globally, and 3.1% from 2011 to 2020, compared to 2.4% globally.[9] However, national economies are still transitioning into more complex economic systems where services and industries will gradually take over. This process needs to accelerate. At a 40% urbanization rate, the Middle East and North Africa had a GDP per capita of $1,800. East Asia and the Pacific reached $3,600 at the same urbanization rate, while sub-Saharan Africa's GDP per capita stands at just $1,000.[10]

In light of these factors, the UAE must adopt both a sub-regional and regional approach as an overarching framework to complement its bilateral engagements. African subregions demonstrate considerable economic potential based on their population size and degree of urbanization, based data for 2024: Eastern Africa (500,703,846; 31.5%), Western Africa (456,251,329; 49%), Northern Africa (272,131,339; 51.5%), Middle Africa (212,915,636; 49.9%), Southern Africa (73,138,701; 64.4%). Eastern Africa (6.1%) and Western Africa (5.6%) are already globally significant, as they account for over 5% of the global population.[11] Addressing current areas of interest—such as trade, minerals, food security, ports and logistics, political Islam, climate change, pandemics, finance, property, and tourism—could be more effective through sub-regional strategies that transcend national borders. The UAE could work closely with Africa's regional economic communities which serve as the building blocks for regional integration. This mirrors the UAE's previous attempt at multilateral cooperation with the G5 Sahel, aimed at development and security cooperation. Over time, a broader Africa-wide strategy will better serve the UAE's long-term interests, capturing diverse economic opportunities at an optimal cost.

The UAE should prioritize mutual benefits. Aligning its domestic economic priorities with Africa's needs, it should focus on sectors like mining, agriculture, agro-industry, and transport and energy infrastructure. As a way to improve efficiency and avoid the complexity of multiple agreements, the UAE could look into a phased, sub-regional, and continent-wide Comprehensive Economic Partnership Agreement (CEPA). To position itself as a key economic partner, it should leverage its strengths, offer alternatives to China's loan programs, and explore market liberalization strategies akin to those of the United States and provide a level playing field for the private sector of both sides. The UAE can leverage African resources, both raw and processed, to support its economic diversification while offering Africa enhanced access to its logistics, global markets, loans, and re-export hubs. This partnership could help African nations expand mining processing industries, reduce debt, and improve livelihoods. Abu Dhabi's lending programs, such as those through the Abu Dhabi Development Fund and UAE Aid Agency, can be optimized, while UAE banks could enhance organizational structures to facilitate loans for African governments and industries. A dedicated UAE export-import bank may further support the diversification goals of both regions.

Furthermore, as external powers vie for influence, the UAE must strengthen its security cooperation with African states battling violent extremism in a package also comprising trade and investment.

The UAE's strong reputation in Africa, rooted in its economic model and lack of colonial legacy, positions it as a credible partner. To sustain long-term, mutually beneficial engagement, strategic and ethical collaboration will be essential in reinforcing economic and political influence across the continent.

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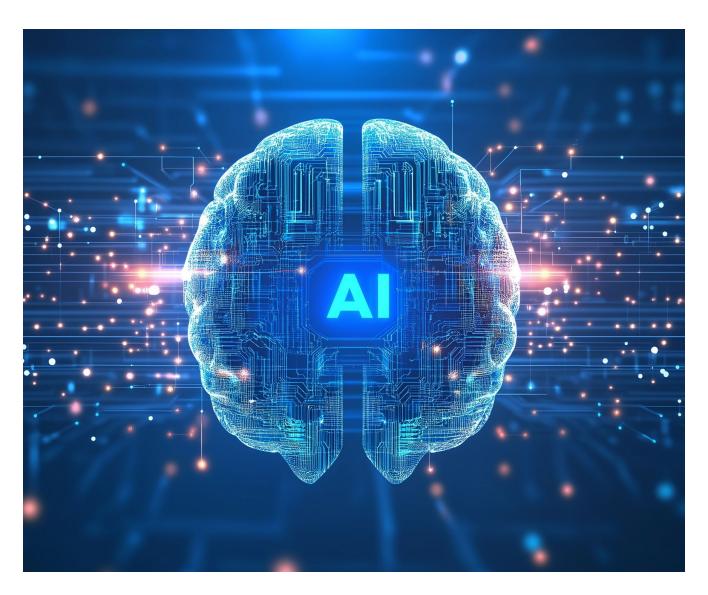
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AI and Online Extremism: Threats, Challenges, and Resilience in the Digital Age

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Extremism and extremist movements continue to be some of the most complex policy problems of the modern era. Notwithstanding the inherent complexities in defining extremism and the often political nature of this discussion, states as security managers bear the brunt of extremist propaganda and thus have primary responsibility for durable solutions, whether through force or softer approaches.

The emergence of artificial intelligence (AI), big data and quantum computing, and the interplay between these technologies and preexisting nodes of online extremism, represent a pressing concern that calls for urgent attention. As AI systems become more sophisticated, their potential to influence behaviour, spread disinformation, and facilitate extremism increases. The threats posed by online extremism, coupled with the capabilities of technological advances in areas such as AI, big data and quantum computing, complicate societal structures and challenge our resilience in addressing digital-age dilemmas. Understanding these dynamics is crucial for developing effective mitigation strategies that protect societal security values and social cohesion.

This article begins with a background discussion highlighting some of the challenges posed by emerging technologies, specifically AI, big data and quantum computing, in the context of violent extremism. The next section examines the Islamic State (IS) as a case study, exploring how it has adapted and used emerging technologies to recruit and radicalize individuals. The final section discusses resilience strategies and policy implications for the UAE.

THE ADVENT OF EMERGING TECHNOLOGIES

In recent years, the rise of emerging technologies such as AI and quantum computing has dramatically transformed how extremist movements, including Islamists, operate and communicate. One of the primary ways in which AI is utilized by these movements is through social media manipulation.[1] AI algorithms can analyze vast amounts of data to identify and target individuals who are susceptible to radicalization. For example, social media platforms employ AI to dictate which content is shown to users, based on their browsing behaviour.[2] Extremist groups exploit this by deploying tailored propaganda that resonates with the psychological profiles of potential recruits.[3] This targeted approach increases the likelihood of converting individuals to their cause, as they are presented with content that aligns with their beliefs and emotional state. In addition, AI-driven bots and fake accounts can amplify this content, creating the illusion of a broader support base and fostering a sense of community among isolated individuals.[4]

Moreover, extremist movements employ AI for operational purposes such as surveillance and reconnaissance. The use of machine learning algorithms enables groups to process images and video more effectively, allowing for enhanced planning of activities.[5] For instance, violent extremist organisations (VEOs) may apply facial recognition technology to identify targets or to survey potential locations for attacks. In some cases, AI-generated deepfakes can be used for disinformation campaigns, undermining trust and spreading chaos by creating realistic but manipulated videos of political figures or events.[6]

While AI is unquestionably more accessible and prevalent, quantum computing presents a different set of challenges. Its capacity to solve complex problems at extraordinary speed could be harnessed by extremist groups to develop sophisticated cryptography techniques that are difficult for authorities to crack.[7] This can lead to significant issues for cybersecurity, as encrypted communications enhance operational secrecy and coordination among members.[8]

ONLINE EXTREMISM AND EMERGING TECHNOLOGIES: THE CASE OF IS

Despite ideological and geographical differences, we see that all extremist movements have adapted and developed sophisticated net-based strategies to boost recruitment and radicalisation efforts. In the case of the so-called Islamic State (IS), during the apex of its violence between 2013 and 2017 it effectively harnessed online space and deployed emerging technologies of the day to recruit and radicalise individuals across the globe.[9] In particular, it utilised various platforms, especially social media, messaging apps, and digital propaganda to spread its ideology and present a compelling narrative.

One of the key elements of IS's online strategy was its presence on social media platforms such as Twitter, Facebook, and Telegram. Through these channels it disseminated messages quickly and efficiently. The group crafted highly polished videos showcasing activities, which often emphasized the notion of a utopian caliphate and framed its violent actions within a context of perceived justice and resistance against oppressors.[10] This visually striking material was tailored to resonate emotionally with viewers, thereby facilitating radicalisation. Furthermore, IS employed hashtags and promoted user-generated content, increasing the visibility of its propaganda and encouraging followers to engage in discussions that further normalised extremist views.[11]

In addition to overt recruitment efforts, IS harnessed technological advancements in other ways. For example, it used encrypted messaging apps like Telegram to foster a sense of community among its supporters. These platforms facilitated private communication, enabling the exchange of ideas and fostering personal connections. IS also established "virtual battalions" where potential recruits could interact with existing members and receive guidance and encouragement to join the cause.[12] Furthermore, within the broader context of the movement's online radicalisation strategy, it utilised sophisticated data analytics to understand and influence public sentiment and to effectively target potential recruits.[13]

By analyzing online behaviour and engagement metrics on platforms such as Twitter, Facebook, and Telegram, IS recruiters could identify individuals who expressed radical beliefs or dissatisfaction with their circumstances. This data-driven approach allowed the movement to tailor its propaganda and target communications to individuals more likely to radicalise, thereby increasing the effectiveness of their recruitment campaigns.[14]

The combination of visually compelling propaganda, strategic use of social media, encrypted messaging systems and sophisticated data analytics enabled IS to maintain a persistent online presence, significantly broadening its recruitment base.[15] Ultimately, the group's adept use of the internet during these years created an unprecedented avenue for radicalization, impacting individuals across various countries and contributing to the potency of its messaging.

BUILDING RESILIENCE AND IMPLICATIONS FOR THE UAE

As emerging technologies like AI and quantum computing are increasingly exploited by VEOs as tools to recruit, manipulate, and plan covert operations, it has become imperative for states and organizations to adapt and innovate their counter-measures or 'resilience' mechanisms. There are several steps that states, including the UAE, might take to build resilience and counter the threats and challenges associated with AI and quantum-enabled online extremism. These include:

1. **Education and literacy**: Given the newness and ubiquity of these technologies, particularly generative AI, digital literacy and education-based measures are essential.
2. **A consensus with big tech**: Beyond better regulation, states must also establish a consensus with big tech.
3. **Turning the tables**: States must catch up with and harness the power of these emerging technologies in the struggle against extremism.

The implications for the UAE are many and varied. The UAE is a highly globalised, technologically aware, and advanced state at the forefront of a) AI-driven R&D and b) the application of AI technology across many sectors. And like other states, it is confronted with the threat posed by VEOs from many ideological corners. Indeed as the UAE grows and continues to draw talent from across the world, its national security policy community must remain vigilant to ensure that extremists do not import ideologies and modalities of activism (online or otherwise) that are counter to its national values.

> **The emergence of AI, big data and quantum computing, and the interplay between these technologies and preexisting nodes of online extremism, represent a pressing concern that calls for urgent attention.**

Notwithstanding the many security threats and challenges that extremism in various forms poses, the UAE is ready to vigorously confront groups who might use emerging technologies such as AI, and in the future quantum computing, to either target its interests, or recruit and radicalise locally. The UAE has been at the forefront of resilience efforts in relation to countering violent extremism at home and abroad. Notably, it has been a leader in establishing institutions which work to address the appeal of extremism. For example, both the Hedayah Center and Sawab initiative have been global leaders in this area. The Hedayah Center engages in direct research and capacity building, while Sawab (a joint venture with the US Government) works to stem in real time the online dissemination of Islamist and pro-IS discourses.

The UAE should actively pursue all available resilience mechanisms and is uniquely poised to use AI in 'preventing and countering violent extremism' (P/CVE). Thus, its capacity and institution-building combined with a deep commitment to technology, make it well placed to confront the challenges posed by the next generation of cyber extremists who will use emerging technologies. The challenge posed clearly shows the need for a whole-of-government response that harnesses expertise across sectors, including existing highly developed CT and CVE know-how, with burgeoning expertise in emerging technologies.

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National Security in the Age of Disinformation and Deepfakes

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For centuries, information campaigns have been central to state and related non-state actors. Ultimately, informational statecraft is about states achieving their national interests through influence and persuasion.

When rivals engage in gaining influence by targeting the same audience, it leads to competing narratives and the widespread use of propaganda and disinformation. The world witnessed this during the Cold War. The widespread use of smart digital technologies, however, increased the scale of disinformation – a significant challenge to national security. While talking about the significance of the digital age, Joseph Nye, argued: "In today's global information age, victory sometimes depends not on whose army wins, but on whose story wins."[1]

The information landscape has changed and accordingly information campaigns have adjusted to not only benefit from the use of smart digital technologies, including social media, but find ways to counter challenges that emerge from the widespread use of digital technologies. According to Statista, there were 4.89 billion social media users in May 2024.[2] A key shift is the existence of the multidimensional information space in which states are facing the reality of not being fully in control of information because of the domination of non-state actors like X, Meta, and TikTok. As we are observing geopolitical realignments, due to the rise of emerging powers, the Cold War-like competition of narratives has emerged which now conveniently finds its spread through digital media.

A noticeable change is the adaptation of digital technologies in the information domain for at least two major purposes. First, states are using digital technologies, especially social media, as part of their information campaigns to reach and influence target audiences. Paid services offered by social media companies enable highly targeted access based on geography, demography, gender, religion, and political ideologies, allowing advertisers, political entities, and interest groups to reach specific audiences with tailored content. Algorithms play a major role in these targeted campaigns. Second, there is an increasing use of artificial intelligence in producing disinformation and deepfakes by using natural language processing, generative adversarial networks, and autoencoders. For strategic leaders and national security institutions, this has brought serious challenges. At the international level, for example the United Nations, there is the recognition of misinformation and disinformation as major challenges of this century. The World Economic Forum's 2025 Global Risk Report stated the following: "Misinformation and disinformation lead the short-term risks and may fuel instability and undermine trust in governance, complicating the urgent need for cooperation to address shared crises."[3]

National security is no longer solely defined by external threats such as military aggression as it increasingly includes domestic challenges exacerbated by digital technologies. The rise of disinformation, deepfakes, and cyber threats has blurred the line between external and domestic security risks, as adversaries exploit digital platforms to manipulate public opinion, incite social unrest, and undermine state legitimacy. AI-generated deepfakes can fabricate speeches or videos of political leaders, eroding trust in governance, while disinformation campaigns, often amplified by social media algorithms, fuel social and political polarization, and radicalization.

Digital media has become a powerful tool for both state and non-state actors, including political parties, to shape public opinion, influence elections, and achieve strategic objectives at home and abroad. Political entities increasingly leverage social media platforms, AI-driven content, and data analytics to design targeted campaigns, mobilize supporters, and dehumanize opponents. Similarly, Russia allegedly used social media disinformation campaigns to influence the 2016 US presidential election, with evidence suggesting that Russian-backed troll farms spread divisive narratives on platforms like Facebook and Twitter to influence public opinion.[4] In India's elections, deepfakes were employed as a tool to manipulate voter perceptions.[5] As technologies are advancing and are accessible, there is a growing trend of deepfakes targeting world leaders, such as Volodymyr Zelensky, Joe Biden, Donald Trump, Barack Obama, Emmanuel Macron, and Xi Jinping.
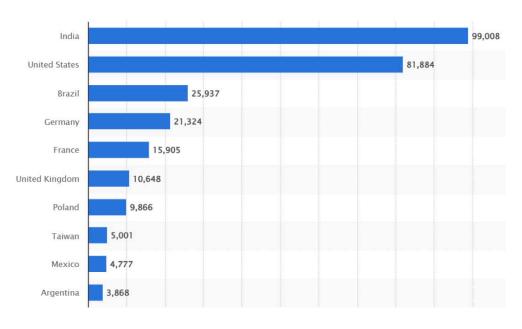
In an era of information overload, where digital platforms constantly flood users with content, disinformation and deepfakes contribute to hyperreality, a state where the distinction between real and fake information becomes increasingly distorted. This saturation leads to information fatigue, making it harder for individuals to critically assess the credibility of news, thereby increasing vulnerability to information manipulation. A significant number of internet users are relying on digital media for news, despite having low trust on social media compared to traditional media.[6] From a national security perspective, such an environment weakens public trust in institutions, intensifies social divisions, and creates openings in the shape of social divisions and grievances for adversaries to use disinformation for achieving their agenda.

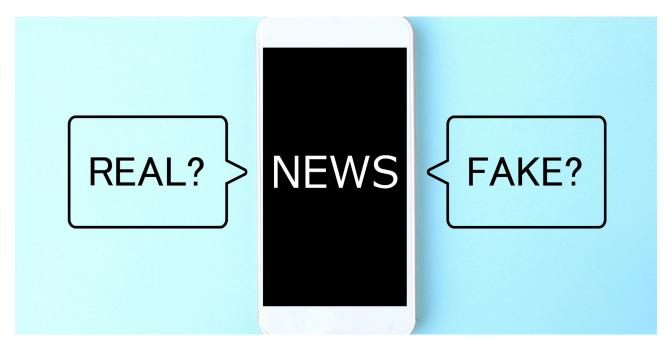Governments, political parties, and interest groups often hire trolls and media houses as indirect agents to manufacture disinformation by creating viral hashtags and social media trends. These actors use coordinated campaigns to manipulate public opinion, amplify misleading narratives, and discredit opponents. During heightened tensions between India and Pakistan, especially after the Pulwama attack in 2019 and the Balakot airstrike, Pakistani troll accounts flooded X with hashtags like #IndianMisinformation and #BalakotAirstrikeHoax to challenge India's narrative and influence public perception internationally.[7] Concerning India and Pakistan, a study focusing on troll armies and information warfare found common citizens to be mostly engaged in digital propaganda.[8]

States are tightening control over the digital space by enacting laws, creating regulatory bodies, and pressuring social media companies to open local offices for legal accountability. Governments are increasingly submitting data removal requests to platforms like X, TikTok, and Meta to eliminate content deemed a threat to national security (see Figure 1). For example, the UAE submitted 217 removal requests to Google between 2011 and 2025.[9] In January 2025, Meta CEO Mark Zuckerberg faced criticism from US lawmakers for ending the company's fact-checking program, raising concerns about disinformation influencing public opinion. Despite growing pressure, social media companies struggle to curb disinformation, especially deepfakes, which are becoming harder to detect and regulate. Even Zuckerberg himself has been a victim of deepfakes,[10] highlighting the challenge these technologies pose in the fight against digital manipulation.

India	99,008
United States	81,884
Brazil	25,937
Germany	21,324
France	15,905
United Kingdom	10,648
Poland	9,866
Taiwan	5,001
Mexico	4,777
Argentina	3,868

Facebook Data Requests by Governments, H1 2024 [11]

While data removal grants governments some control, it remains insufficient, as citizens are often exposed to disinformation before action is taken. Recognizing this, states are integrating media literacy into education to enhance critical thinking and digital resilience. Globally, teacher training now includes media literacy, with organizations like Shout Out UK, and Europass Teacher Academy. However, a whole-of-government approach and international collaboration are essential to counter evolving threats concerning the information domain. Public-private partnerships also play a key role, as private and civil society organizations are leading prominent and impactful initiatives. Leading fact-checking platforms, such as FactCheck.org and Reuters Fact Check, are privately run, highlighting the sector's contributions. A notable example is India's Deepfakes Analysis Unit, which allows users to verify content via WhatsApp,[12] showcasing innovative efforts to combat digital misinformation.

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Navigating the Future:
How Foresight Methods Empower Decision-Making in Rapidly Evolving Environments

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In an era of profound transformation, unpacking complexity is more crucial than ever, particularly for decision-makers navigating an international system where the very "rules of engagement" are being contested by the powers that had established them.

The deepening divide between the United States and its partners and allies signals that we have entered one of these "transformational periods", which can be aptly summarized by Antonio Gramsci's famous dictum: "The old world is dying, the new world struggles to be born, and in this interregnum, monsters appear." [1] This shift, evidenced by the emergence of a Global South, unified by its collective contestation of the Western hegemony, a form of dominance in the international affairs conceptualized by Robert Cox as "based on a coherent conjunction or fit between a configuration of material power, the prevalent collective image of world order (including certain norms) and a set of institutions which administer the order with a certain semblance of universality." [2]

In this transitioning world, the use of force has become progressively less constrained, as tragically demonstrated by the ongoing conflicts in Gaza, Lebanon, and Syria. Characterized by volatility and unpredictability, the international order is paradoxically more interconnected as well as more fragmented than ever; the erosion of traditional structures creates space for unpredictable and often disruptive forces. Understanding the significance of this systemic change transition requires a nuanced analysis of the power shifts, technological disruptions, and socio-political upheavals that define the current strategic landscape. As the world has reached an unprecedented level of complexity, policy-making has become increasingly arduous, requiring a shift in mind-set to ensure that decision-makers are not only well-prepared to address emerging challenges but also able to seize opportunities that will enable them to shape the future. With that respect, we argue that decision-makers should be familiarized with foresight technics and complexity theory as they could offer valuable guidance in shaping complex futures.

UNCERTAINTY IS A STRUCTURAL FEATURE OF POLICY-MAKING

In an era of profound global transformation, decision-makers must embrace uncertainty rather than attempt to eliminate it entirely. It is impossible to reduce uncertainty to zero, and as history has shown, unexpected events—whether "Black Swans," "White Rhinos," or even "Dragon Kings"—can reshape geopolitical and strategic landscapes in ways that traditional forecasting models fail to anticipate, as they rely on extrapolating future trends from past data and identified patterns of behaviours. As COVID-19, artificial intelligence, quantum technology, and other disruptive developments have demonstrated, historical patterns alone are insufficient to anticipate the future. The relations between causes and effects are neither linear nor strictly proportional as evidenced by the famous "butterfly effect", underlining the limitations of future planning based on insights provided by lessons learned cycles. The recognition of these shortfalls is all the more important that if as Joshua Polchar argues "to make policy is to think about the future", [3] our sense of time is merely based on perceptions and representations.

Instead of clinging to the illusion that certainty is attainable, a more pragmatic approach would acknowledge the limits of what we can claim to know. As Donald Rumsfeld famously stated in 2002: "There are known knowns; there are things we know we know. We also know there are known unknowns; that is to say we know there are some things we do not know. But there are also unknown unknowns—the ones we don't know we don't know." [4] More importantly, it is too often ignored that policy decisions are not made in a vacuum of neutral facts but within a contested space shaped by competing political agendas, cognitive biases, and deeply entrenched interests. [5]

The persistence of uncertainty is not merely an analytical challenge but a structural feature of policy-making, particularly in human systems where social, political, and psychological variables interact in unpredictable ways. A phenomenon that is exacerbated by the rapid advancement of Artificial Intelligence whose implications extend beyond mere

innovation, touching upon deeper anthropological dimensions,[6] as evidenced by the challenges linked to cognitive warfare. Learning to decode the intentions of others, anticipate possible deceptions and surprises, and critically assess biases becomes crucial in navigating this complex environment. Accepting the irreducibility of uncertainty also means recognizing that there is no such thing as zero risk or a guaranteed 100% success rate, even with the assistance of AI-enhanced simulation and early-warning signal detection tools.

To navigate this complexity, decision-makers must critically assess what they know, what they do not know, and how they can reduce the scope of the unknown. Most importantly, they should accept the unpredictability of systemic change as underlined by Glouberman and Zimmerman: "the effects of any one intervention in the system cannot be predicted with complete accuracy, because the system is always responding and adapting to changes and the actions of individuals."[7] As Admiral Rob Bauer stated at the 2024 Munich Security Conference, reflecting on the unfolding crises in Europe, "we need to expect the unexpected."[8] Recognizing that tomorrow will not necessarily resemble today or yesterday, requires a shift in mind-set—from merely analysing past behaviours and extrapolating trends to actively reimagining possible futures through systemic and adaptive thinking.

> **Decision-makers must critically assess what they know, what they do not know, and how they can reduce the scope of the unknown.**

EMBRACING UNCERTAINTY TO IMAGINE THE FUTURE(S)

Rather than seeking false certainty in deterministic models, decision-makers must develop a flexible and adaptive mind-set that accounts for unpredictability, emergent behaviours, and the interplay of hidden variables within complex systems. Instead of merely reacting to disruptions, policymakers must cultivate a more systemic understanding of change, challenging their cognitive frameworks and biases to anticipate alternative futures through red teaming technics and strategic war gaming.

Recognizing that previous patterns may prove irrelevant and that disruptions are inevitable, leaders must develop the cognitive flexibility to envision multiple possible futures,[9] rather than relying on deterministic projections. In doing so, decision-makers would not adopt a more holistic but also dynamic approach of the future, recognizing that society are "living" social constructs, constantly evolving and re-inventing themselves. As Averil Horton underlines, complex systems are never truly in equilibrium, as they are constantly evolving and transforming, making any idea of returning to a status quo ante a dangerous illusion.[10]

By embracing imagination as a tool to reduce the "shadow of the future",[11] decision-makers can enhance strategic preparedness, mitigate the risks associated with unforeseen global transformations but also maximize positive externalities and opportunities that arise from transformation. Foresight technics offer valuable frameworks to "think out of the box". Horizon scanning for instance seeks to identify possible futures resulting from a given change process, while mega-trends analysis focuses on elaborating a vision of the possible outcomes and identifying policy options to achieve them. To properly address the growing complexity of the systems they operate in, decision-makers should be accustomed to design policy options with a greater deal of variations, anticipating even policy options which under the current circumstances appear not suitable or feasible. As Horton argues, "reframing" technics could help

> **Decision-makers can enhance strategic preparedness, mitigate the risks associated with unforeseen global transformations but also maximize positive externalities and opportunities that arise from transformation.**

them to "visualise systems from different perspectives, including ones not possible now, and to understand the implications of these different perspectives on potential policy options."[12] Hence, decision-makers should reflect one the requirements to create a policy-making environment enabling experiments with alternative approaches to identified challenges and assessing how policy interventions can effectively generate or limit variety. Decision-makers, with the assistance of AI-enhanced simulation systems, should quickly be in a position to assess the strategic value, through cost-benefit analysis, of this broader array of options.

Accustoming decision-makers to red teaming, strategic war gaming, complexity theory and foresight technics should lead decision-makers to more efficiently strike the balance between exploratory innovation and optimization of existing strategies. By fostering a structured and rigorous, yet flexible, approach to policy-making, decision-makers should be better equipped to navigate the complex and evolving strategic landscape, ensuring that their strategic choices remain both innovative and resilient in the face of emerging disruptions.

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UAE's Space Diplomacy with the Arab World

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The outer space assumes strategic importance for defence and security and satellite communication. In December 2019, NATO declared space as the fifth operational domain alongside air, land, maritime, and cyber domains.[1] Space capabilities are vital for financial network security, meteorology, missile defence, precision targeting and attack, and geospatial data analytics.[2] Former US Secretary of Defence Lloyd Austin claimed that "space is already an arena of great power competition."[3]

While the outer space has been long been viewed as a zero-sum game for great powers, small and middle powers are also increasingly investing in the space sector. Given that small states have limitations in wielding global influence and are largely dependent on norms and rule-based multilateralism, the United Nations Office for Outer Space Affairs (UNOOSA) launched 'Access to Space for All' initiative to promote peaceful use of outer space and making space technology accessible to a wider international community.[4] In March 2021, the UAE Space Agency signed an agreement to open an international UNOOSA project office in Abu Dhabi.[5]

Militarization of space notwithstanding, emerging spacefaring nations are labelling the outer space as a positive-sum game. In this regard, space diplomacy – which fosters international collaboration in space science and technology – has gained currency as a practice. The United Arab Emirates, whose national space agency was established by federal decree in 2014, is leading in this effort. Following the establishment of the UAE National Space agency, National Space Strategy 2030 was promulgated with the aim of promoting the commercialization of space and science and technology. As an emerging middle power, UAE's contributions in the space sector embodies both ideational and material significance.

THE UAE'S SPACE ECOSYSTEM

The regulatory framework of the UAE's space sector is comprised of four elements: national space policy, national space strategy, space law, and regulations. In the space industry, the UAE Space Agency coordinates with 16 local entities.[6] The advisory committee consists of nine space science experts representing seven nationalities from the UAE, U.S., France, Malaysia, U.K., Japan, and South Korea. As an emerging spacefaring nation, the UAE has ratified four UN space treaties, namely the Outer Space Treaty, the Rescue Agreement, the Liability Convention, and the Registration Convention.[7] While the UAE's space industry had focused on launching the first satellites for mobile communications, remote sensing, and fixed communication in the 2000s and the early 2010s, since the founding of the UAE Space Agency and the Mohammed Bin Rashid Space Centre the mandate has broadened to include the UAE astronaut program and the Hope Probe Mars Mission, among others.[8] As the UAE National Space Strategy 2030 delineates, the UAE's space strategy is aligned with 24 strategy documents developed by the federal and local governments. Among those strategy documents, the UAE soft power strategy is a key policy reference and science diplomacy is identified as one of the six pillars of the UAE Soft Power Strategy. In the UAE, the Principles of the 50 and zero problems policy support the strategic narrative that establishes the Emirates as a regional gateway and an incubator of innovation and future technology.[9]

RELATIONAL DIMENSION OF PUBLIC DIPLOMACY

Given the UAE's status an emerging regional and middle power, capitalizing on the relational dimension of public diplomacy is crucial to wield regional influence. The relational dimension of public diplomacy is visually represented through a set of concentric circles that highlights the importance of building on existing relationships rather than creating new ones. According to public diplomacy scholar Rhonda Zaharna, the boundaries between domestic and foreign publics are blurred as public diplomacy begins with the closest rather than the farthest public by reaching out to the domestic audience, then to diaspora audience, regional audiences, and to allies and partners, before reaching out to the foreign publics at large.[10] As such, tapping into the identity dimension of the UAE's public diplomacy as an Arab and Islamic nation, which is also enshrined in Articles 6 and 7 of the constitution, is vital for fostering inter-Arab cooperation in the space sector.[11]

THE UAE'S PUBLIC DIPLOMACY OF ARAB SPACE DIPLOMACY

Following from Sheikh Zayed's historic meeting with Apollo 17 astronauts in February 1976, the UAE's public diplomacy has fostered inter-Arab space cooperation by propagating the narrative of revitalizing Arab civilization. This is epitomized by the Great Arab Minds initiative, which is an annual award launched by Sheikh Mohammed bin Rashid Al Maktoum in 2022 that honors Arab intellectuals in natural sciences, medicine, literature, and engineering, with the intent of retaining Arab talents through 'brain gain'.[12] The recipients of the Great Arab Minds Award include roboticist and professor of computer scientist Oussama Khatib. The UAE's accomplishments in the space sector are also interwoven with the narrative of the Golden Age of Arab civilization which is represented by the display of Ibn Majid and Ibn Battuta figures at Alif the Mobility Pavilion in Expo City Dubai. In this regard, the Astronaut and Emirates Mars Mission exhibition at Dubai Expo 2020 and the space-themed exhibitions held at Louvre Abu Dhabi are also an extension of the effort to revive the Arab civilization.

The UAE's identity as an Arab and Islamic nation underpins the branding of 'najmonaut', which is a synthesis of the Arabic term 'najm' (star) and English word 'astronaut'.[13] More recently, the UAE's soft power has been augmented through the public diplomacy of the astronaut program.

In May 2024, the UAE Space Agency participated in the inaugural GCC Space Cooperation Workshop which was hosted by Saudi Arabia. At the workshop, the UAE delegation underscored the importance of promoting inter-GCC cooperation in the space and aviation sectors by harmonizing space legislation, fostering entrepreneurship in the space sector, and facilitating access to Space Economic Zones, which is an incubator for space activities established by the UAE Space Agency.[14]

Promoting GCC collaboration in space is designed to promote economic diversification and strengthen capacity building in science and technology. The UAE-led Arab Space Cooperation Group, which was founded in 2019, is a broader regional initiative that formed partnerships with 13 other Arab states to launch Arab Satellite 813 to monitor the earth and climate. Among the founding member states of the Space Cooperation Group, the UAE Space Agency also met separately with the Egyptian and Saudi counterparts between 2020 and 2021 and signed a memorandum to help raise a cadre of Arab scientists and engineers.[15] In the entertainment industry, Dubai TV produced and broadcasted a reality competition show, The Astronauts, which featured astronaut contenders from the Arab world for two seasons from 2019 to 2022.
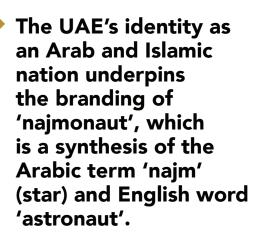
The astronauts listed as najmonauts include Prince Sultan bin Salman Al Saud and Muhammad Faris who completed their space missions in the mid-1980s. After a long hiatus, Emirati Astronauts Hazzaa Al Mansoori and H.E. Dr. Sultan Al Neyadi have carried on the legacy by becoming the pioneering Emirati astronauts at the turn of the 21st century. Saudi astronauts Rayanna Barnawi and Ali Al Qarni followed suit in 2023. The slogan for the two space missions headed by Emirati astronauts Hazaaa Al Mansoori and H.E. Dr. Sultan Al Neyadi respectively in 2019 and 2023 were dubbed 'Zayed's Ambition' and the UAE Hope Probe Mars garnered publicity by transmitting the narrative of the first Arabic countdown. Promoting inter-Arab space cooperation is a recent effort that is reflective of the broader strategic objectives to bring geopolitical stability and economic prosperity to the Middle East.

> **The UAE's identity as an Arab and Islamic nation underpins the branding of 'najmonaut', which is a synthesis of the Arabic term 'najm' (star) and English word 'astronaut'.**

CONCLUSION

As a young spacefaring nation and a rising regional power, taking an incremental approach to public diplomacy is a compatible strategy for the UAE's space diplomacy. As part of the public diplomacy initiative, the UAE also hosts the annual Abu Dhabi Space Debate. In Abu Dhabi Space Debate 2022, Reem Al Hashimy, Minister of State for International Cooperation, highlighted the importance of fostering international cooperation in outer space by focusing on what people can agree on rather than on what divides them.[16]

Instead of directly reaching out to international audiences, targeting the regional audience would work in the UAE's favor as it has an upper hand in advancing space science and technology at the regional level and is capable of leading the effort in mobilizing resources to strengthen inter-Arab space cooperation. Given that both the UAE and Saudi Arabia's national strategies converge in prioritizing economic development over regional competition, and an increasing regional appetite for investing in science and technology, these developments provide fertile grounds for strengthening regional collaboration.

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ENERGIZING
A NEW
WORLD

Balancing Sustainability with Reliance on Hydrocarbons:
Arabian Gulf States' Energy Strategy Priorities

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The Gulf region is home to around one-third of the global oil and one-fifth of its gas reserves.[1] The region not only possesses the largest hydrocarbon reserves; the revenues generated from exports of hydrocarbons are crucial for driving economic growth and ensuring regime stability.

Thus, the primary energy interest for Gulf states is to bolster the central role of hydrocarbons in worldwide energy consumption. Despite their historical dependence on hydrocarbons, Gulf states are increasingly aware of the global transition toward non-fossil fuel energy sources. The fossil fuel market is poised to encounter significant challenges and transformations in the near future. Although there remains strong demand for hydrocarbons, the industry is under growing pressure from the rise of renewable energy, alongside escalating concerns about climate change and environmental degradation. In response, the Gulf states are seeking alternative energy solutions. These countries, albeit at different scales, are actively revising their energy strategies to align with mainstream energy transition initiatives. This article highlights three policy priorities that Gulf states are pursuing to balance their need for sustainability with ongoing reliance on hydrocarbons: promoting clean hydrocarbon production, leading blue hydrogen development, and enabling energy transition in the Global South.

PROMOTE CLEAN HYDROCARBONS

Ten key oil-producing countries in the Global South collectively generate over 30 million barrels of oil per day and nearly 800 billion cubic meters of gas each year. In the Net-Zero Emissions Scenario, the per-capita income derived from hydrocarbon sales in these regions is projected to decrease by 70% by 2030 and 90% by 2050, compared to the average income levels observed between 2010 and 2022. This significant decline in revenue could serve as a strong motivation to accelerate necessary energy sector reforms.[2]

In 2022, oil and gas companies allocated approximately $20 billion toward clean energy initiatives, representing about 2.5% of their overall expenditures.[3] Leading companies like Saudi Aramco and ADNOC rank among the lowest in carbon emissions globally and maintain low extraction costs, so these enterprises are well-positioned to navigate the energy transition. This proactive stance showcases the Gulf's commitment to advancing lower-emission oil and gas production.[4]

ADNOC has developed a strategic program to cut the carbon intensity of its operations by 25% by 2030. The company has set an ambitious goal of investing $15 billion in significant decarbonization initiatives by 2030. These initiatives will encompass carbon capture technologies, innovative CO_2 absorption methods, and hydrogen and renewable energy development, among others.
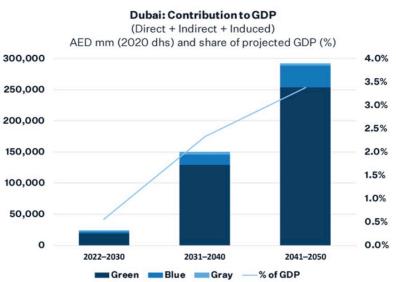
Since January 2022, ADNOC has transitioned to acquiring all its grid power from the Emirates Water and Electricity Company (EWEC), relying exclusively on nuclear and solar energy. This achievement positions ADNOC as the first major player in its industry to fully transition to a decarbonized power supply. Furthermore, ADNOC has entered into a $3.8 billion contract to develop a distinctive subsea transmission network in the MENA region, which will link its offshore operations to the onshore power grid, potentially reducing its offshore carbon emissions by as much as 50%.[5] Through such initiatives, Gulf states are advancing in expanding their oil and gas industries by concurrently aligning with their climate commitments.

LEAD BLUE HYDROGEN DEVELOPMENT

With the rapid global energy transition, hydrogen is well-positioned to complement other low or zero-carbon energy sources and become an essential component of the clean energy mix. Hydrogen, as a lower-emissions energy carrier, contributes to emissions reductions in hard-to- sectors, such as heavy-duty transport, heating, and power generation. With the Gulf region's track record in technology leadership and low-cost oil and gas production, there is a significant potential in large-scale, cost-competitive hydrogen production. Investment in reducing the carbon intensity of their oil and gas production further increases the attractiveness of the Gulf's hydrocarbons.

The Future of Hydrogen in the UAE," - Dubai Future Foundation [6]

Following a successful pilot program of 40 tons to Japan in 2020, Saudi Aramco delivered 25,000 tons of accredited blue ammonia to South Korea – making it the world's first certified commercial shipment of blue ammonia.[7]

The Gulf countries are actively developing national hydrogen strategies aimed at becoming leaders in hydrogen production. The UAE and Saudi Arabia aspire to be among the top producers by 2050. Oman has initiated steps toward hydrogen production in line with its national hydrogen strategy, which includes plans for a 2,000km hydrogen pipeline. Qatar is advancing with plans for a major blue ammonia facility. Kuwait and Bahrain are also prioritizing

hydrogen by enhancing carbon capture technologies and promoting renewable energy, indicating a strong regional commitment to hydrogen as a key component of future energy strategies.[8] The UAE's National Hydrogen Strategy (2050) is designed to significantly increase hydrogen production, targeting 1.4 million tons per annum (mtpa) by 2031, 7.5 mtpa by 2040, and reaching 15 mtpa by 2050.[9] Through this strategy, the UAE seeks to bolster local low-emission industries, advance climate neutrality efforts, and strengthen its position as a global leader in hydrogen production by 2031.

ENABLE ENERGY TRANSITION IN THE GLOBAL SOUTH

Gulf oil and gas giants figured that if they wanted to retain their leadership role in the global energy market, they needed to influence and steer the global energy transition by not only being part of it but, more importantly, leading the process. In the Global South, where the push to divest from fossil fuels has been gradual, renewable energy presents Gulf states with a unique opportunity to take the lead in energy innovation.

The Gulf states have launched significant domestic renewable energy initiatives, although the progress has varied among them. The UAE revealed plans to invest $163 billion to achieve its Net-Zero emissions target by 2050. Saudi Arabia also aims to invest $186 billion into a sustainable economy. Today, the UAE Masdar company operates in more than 40 countries in the Middle East, Eastern Europe, Africa, Caucasus, and South and Central Asia, with various commitments to invest more than $30 billion in clean energy projects.[10] The company plans to grow its renewable energy capacity to 100 GWs by 2030, further expanding its geographical coverage. The UAE Masdar clean energy company has a global investment portfolio with 59 utility-scale projects implemented and planned across six continents. The absolute majority of the large-scale renewable energy projects are spread across most of Global South.[11] The Gulf engagement in the Global South is primarily government-driven, conditioned by an economic diversification logic as well as intangible benefits related to "soft power".

To sum up, the article emphasizes the Gulf states' commitment to adapting their energy strategies to global environmental challenges while maintaining their economic reliance on hydrocarbons. Companies like ADNOC and Saudi Aramco are investing in clean hydrocarbon initiatives and have set ambitious goals for reducing carbon emissions and improving sustainability in their operations. The Gulf region is positioning itself to become a leader in hydrogen production, particularly blue hydrogen, which can contribute to emissions reductions in sectors that are difficult to decarbonize. Gulf states aim to support energy transitions in other developing countries, recognizing the interconnectedness of energy markets and the need for collaborative efforts to achieve sustainability goals.

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UAE-Brazil Defence Industry Cooperation: Strategic Opportunities and Geopolitical Constraints

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In 2024, UAE became a BRICS's member. A strategic move that carries the potential to redefine the UAE's traditional foreign policy, which has historically been aligned with the United States.

The ties between the GCC nations and the Latin American nations indicate that there are constraints, yet with the introduction of new frameworks, they could expand considerably (Botta, 2025). The economic ties between the GCC countries (mainly KSA and UAE) and Latin America hold considerable potential for expansion. UAE's economic diversification objectives and Brazil's foreign investment requirements show a promising environment for advantageous collaborations. They have fostered a robust trade partnership lately, with non-oil trade reaching 4.3 billion USD in 2023, so a rise of 42.1% since 2021. Brazil is UAE's main trading partner in Latin America and the second largest in the Americas, after the United States (Schiavi, 2024). Three sectors arise for this developing relationship: energy, food security and infrastructure (Lyall, 2024).

However, the article examines a different topic of cooperation, the growing defence cooperation, as well as the prospects for geopolitical benefits for both countries. The prospects of the partnership between Brazil and UAE highlight common goals for technological progress, economic unification, and strategic independence in the face of increasing global unpredictability (Schiavi, 2024). By collaborating with Brazil, the UAE is trying to reduce its dependence on conventional defence markets and catering to the increasing demand for updated security solutions in Latin America. SIPRI [1] demonstrated that during the last ten years the UAE has decreased its dependence on arms imports by 40%, notably cutting back from the USA. At the same time, the UAE has become the third-largest arms exporter in the Middle East, following Türkiye and Israel. Over the long term, the UAE aims to diversify its dependence on Western weaponry while also striving for greater overall self-sufficiency (Manley and Schiavi, 2024).

STRATEGIC OPPORTUNITIES FOR DEFENCE INDUSTRY COOPERATION

Defence industry is the branch of the industrial sector dedicated to the manufacture and trade of equipment intended mainly for security and defence bodies. Apart from the countries of the North, which have a long history of arms production, developing countries are gradually beginning to integrate into it. Successful experiences demonstrate that this is, of course, a laborious process requiring a good understanding of the challenges of the defence industries; nevertheless, it constitutes an important lever for development. At the end of 2024, the UAE and Brazil, connected by a common goal of developing robust defence sectors that can tackle emerging global challenges, declare the ongoing enhancement of defence and security collaboration between them, highlighted by the increasing presence of the UAE's EDGE Group in Brazil.

The collaboration has the objective to enhance mutual defence capacities, encouraging technological progress, and supporting both regional and global security. EDGE has built a significant presence in Brazil in fields like defence manufacturing, cybersecurity, and innovation. (MOFA, 2024). From a strategic perspective, the enhanced defence collaboration also reflects the Emirati adjustment after its inclusion in BRICS+ in 2024. By collaborating with rising nations such as Brazil, the UAE is minimizing its dependence on conventional defence markets and capitalizing on Latin America's increasing need for updated security solutions (Manley and Schiavi, 2024). Strategically again, the UAE is duplicating its strategy in areas such as the Horn of Africa, where defence and economic investments are utilized to enhance influence. At the same time, Brazil's efforts to modernize its defence establish it as a significant participant in BRICS+ defence collaboration, enhancing its position within the group (Schiavi, 2024).

WHAT ARE UAE'S PRIORITIES?

An important element appeared in UAE foreign policy, since 2011, and the new challenges in the MENA region: military cooperation. "Abu Dhabi did not limit its foreign policy to reactive and traditional foreign aid. Rather, it has pursued an ambitious, proactive, military-driven stance in the region" (Ardemagni, 2020). This new paradigm is fundamental to understand UAE priorities during the last decade to improve their national security. We can also mention that since 2021 there is a shift. UAE also developed a soft military power strategy, involving knowledge transfer and capacity building, promoting the image of a capable and stabilization-oriented country. The military training cooperation permitted Abu Dhabi "to create new or boost existing bilateral relations". (Ardemagni, 2020).

UAE military institutions have had three main priorities during the last ten years: "countering Iranian threats throughout the region, including in Yemen; preserving the regional status quo, particularly against the threat of radical political and terrorist groups; and becoming an increasingly self-reliant military force. The UAE's own threat perceptions, as well as shifting U.S. and other donor policies that encourage partners to take more responsibility for their security, inform these priorities" (Dalton and Shah, 2021). The rising investments in the defence sector suggest that the UAE may adopt a comparable strategy in South America to the one it has applied in the Horn of Africa, combining security and economic initiatives for enhanced influence. Additionally, the

UAE's choice to join BRICS aligns with its wider foreign policy strategy, which has transformed in recent years to be more pragmatic and receptive to a wider range of collaboration (Manley and Schiavi, 2024).

WHAT ARE BRAZIL'S AMBITIONS?

In the 1970's, Brazil's aspiration to transform itself into middle power was initiated. This aspiration is based on the quality of "intermediate country" in the structure of the world power, which Brazil poses for its capabilities as the largest state of the world (Bernal, 2020). Between 2003 and 2010, Lula implemented a so-called "New World" foreign policy program to promote economic development while at the same time reducing vulnerability to external shocks. His ambition was to achieve a more equitable international order through a better positioning of Brazil in key institutions such as the United Nations Security Council, as well as through strengthened bilateral, regional and global agreements (Muggah and Hamann, 2012). He is trying to do the same since he came back to the presidency in 2023.

Brazil, already the UAE's biggest trade partner in South America, is becoming an important security ally and a lucrative market for UAE's defence sector and arms sales. This trend is reflected in the recent letter of intent signed by the EDGE and CENSIPAM.[2] Brazil's desire to enhance its secure communications abilities via a system collaboratively created by EDGE and its main Brazilian collaborator, SIATT.[3] Since 2023, EDGE has actively sought focused investment and partnerships with Brazilian

> Brazil, already the UAE's biggest trade partner in South America, is becoming an important security ally and a lucrative market for UAE's defence sector and arms sales.

defence companies and launched its inaugural Latin American office in Brasília. EDGE obtained a 50% share in SIATT and a 51% share in Condor, the leading Brazilian company in non-lethal defence and security technologies. For example, the combination of EDGE's KATIM X3M phone, SIATT's SATCOM connection, and Brazilian radios guarantees dependable and interoperable communication) (Schiavi, 2024).

AN INCREASING PARTNERSHIP UNDER GEOPOLITICAL CONSTRAINTS

The increasing partnership between these countries illustrates UAE's strategy for diversification in the face of escalating China-US rivalry, along with the emergence of South-South collaboration within frameworks such as BRICS+. By enhancing connections with Brazil, the UAE is looking for strategic independence while still depending on conventional security partnerships with the West (Schiavi, 2024). Brazil and Latin America "presents a promising frontier for EDGE to export its advanced technology and defence solutions, tapping into emerging markets that are seeking to modernize their militaries while not actively engaged in conflict" (Manley and Schiavi, 2024).

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