

The Arab Gulf defense pivot:

Defense industrial policy in a changing geostrategic context

Heiko Borchert

Abstract

Arab Gulf countries have been trying to set up a local defense industrial base for decades. Recently, these efforts have become much more serious due to a changing geostrategic context, local transformation, and the striving for a more active foreign policy role beyond the region. Today's Arab Gulf defense pivot rests on four pillars: broadening the traditional defense supplier base; establishing indigenous defense industries; setting up a defense industrial network within and beyond the region; enlarging foreign policy clout by way of defense exports, defense material donations, and third country defense funding. Despite progress, challenges regarding strategic and financial stability and local skill sets remain.

Keywords

Arab Gulf defense industrial base, transfer of technology, investment funds, defense exports, material donations, third-country funding

Dr. Heiko Borchert
Borchert Consulting & Research AG
Bruchmattstrasse 12
CH-6003 Lucerne
www.borchert.ch
www.arabdefenseindustry.com
hb@borchert.ch
Twitter @HeikoBorchert

Introduction

Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates (UAE)—the six nations that together constitute the Gulf Cooperation Council (GCC)—are important defense markets. From 1990 to 2016, nations globally spent around US\$676 billion on arms imports, with the GCC nations accounting for roughly 11%.¹ The purchasing power of the GCC nations is only half the story, however. As this paper argues, the GCC nations have embarked on ambitious policies to establish local defense industries that are about to compete with established defense suppliers for access to GCC markets and foreign export markets.

Ambitious GCC actors like Qatar, Saudi Arabia, and the UAE believe in hard power as an instrument to drive an increasingly assertive foreign policy, establish strategic relationships with extra-regional partners, and advance the local technology base. Setting up an indigenous defense industry is the means to achieve all of these goals. In addition, the Qatar crisis underlined the vulnerability of smaller GCC nations and the need for robust defense. As a consequence, the momentum to establish local defense industries is growing stronger. Overall, defense industries serve the political goal to deepen and advance techno-industrial relations with partners that ambitious GCC nations will try to leverage to their benefit.

Although legitimate given the very complex security environment that surrounds the GCC nations, the defense industrial boost creates different problems. First, an increasing zero-sum mentality among key leaders heats up competition. This is likely to deepen differences among the GCC nations that operate at different levels of defense industrial maturity and could produce potentially destabilizing effects, such as the procurement of weapon systems that could be used against neighbors, the export of local conflicts to other regions, and attempts to create mutually exclusive defense partnerships. In addition, ambitious GCC defense actors are increasingly willing to adopt "reverse divide and conquer" policies to offset defense suppliers against each other, which entails the risk of turning Arab Gulf foreign relations sour.

Second, Qatar, Saudi Arabia, and the UAE follow remarkably similar approaches, as they use the same policy instruments, cooperate with the same partners, and focus on similar market segments and technologies. Irrespective of the amount of money these countries are willing to spend on defense, this raises the question of whether their strategies are sustainable for maintaining local defense industries as attractive partners for others. This is all the more important, as the narrative about the role of local defense industries in economic transformation and diversification is Janus-faced. The costs of transferring technologies and skills from foreign partners to local entities are hardly addressed. Defense companies create local economic value and generate jobs, but at a limited scale. At the same time, the need to integrate commercial technologies in the defense environment is growing rapidly. This requires local integration skills that have yet to emerge. Thus, there is a serious risk that current endeavors could backfire, thereby undermining regional stability and the credibility of local rulers that support the local defense industry.

This paper develops these arguments in six steps. First, it provides an overview of the main drivers that shape local defense industrial ambitions. Second, the paper briefly discusses the challenging search for partners that provide ambitious GCC nations with political clout and are ready to share skills and technologies. The third section looks at key defense industrial policy instruments, such as technology transfer, strategic investments, and investment funds as well as defense exports, material donations, and third-country funding. Section four argues that diversification of defense material is challenging but can also open up new opportunities for GCC defense industries if they are able to master systems integration. Section five speculates on the likely impact of Arab Gulf defense industrial ambitions on foreign relations. The conclusion focuses on four aspects that Arab Gulf industrial leaders should address to make their ambitions more sustainable.

Drivers to Set Up an Arab Gulf Defense Industry

The drivers that fuel Arab Gulf defense industrial ambitions are multifold. As Figure 1 shows, the key impulse for robust indigenous defense industrial capacities stems from the conviction of the region's most ambitious players that a more active foreign policy is needed to solve problems in the region and beyond. A neorealist understanding of politics, in which a zero-sum logic of international relations prevails, characterizes the worldview of key leaders such as Mohammed bin Zayed Al-Nahyan (MbZ), Crown Prince and Deputy Supreme Commander of the UAE Armed Forces, and Mohammed bin Salman (MbS), Crown Prince, First Deputy Prime Minister and Minister of Defense of Saudi Arabia.² This translates into an assertive foreign policy underwritten by military power. The defense industry is considered to be a strategic asset that helps advance military capabilities and promote foreign policy ambitions.

An active and powerful foreign policy responds to the challenging regional security environment. Five aspects define the regional conflict picture: First, there is the unresolved question as to which extra-regional partner is best suited to help stabilize the region, as Washington's policy vis-à-vis the GCC is fuzzy. Second, the Qatar crisis, which emerged in summer 2017 over Qatar's alleged proximity to Iran and its sponsorship of international terrorism, underlined the vulnerability of some of the GCC members and has effectively brought GCC-wide cooperation to a halt. This is of particular relevance for military cooperation, which had gained steam until then and showed promising signs of delivering tangible results on long-held plans like the Peninsula Shield Force and the establishment of new maritime components. Third, the Qatar crisis is the tip of a proxy conflict between Saudi Arabia and Iran over regional hegemony that is supplemented by legacy problems that create bilateral rifts among all GCC members. Fourth, domestic conflicts emanate from the rise of anti-establishment opposition forces that demand broader political participation. Demographic challenges that will significantly increase the financial burden of all GCC nations reinforce domestic challenges. Finally, various threats such as piracy, smuggling, illegal money laundering, and cyber-attacks create additional strain.³

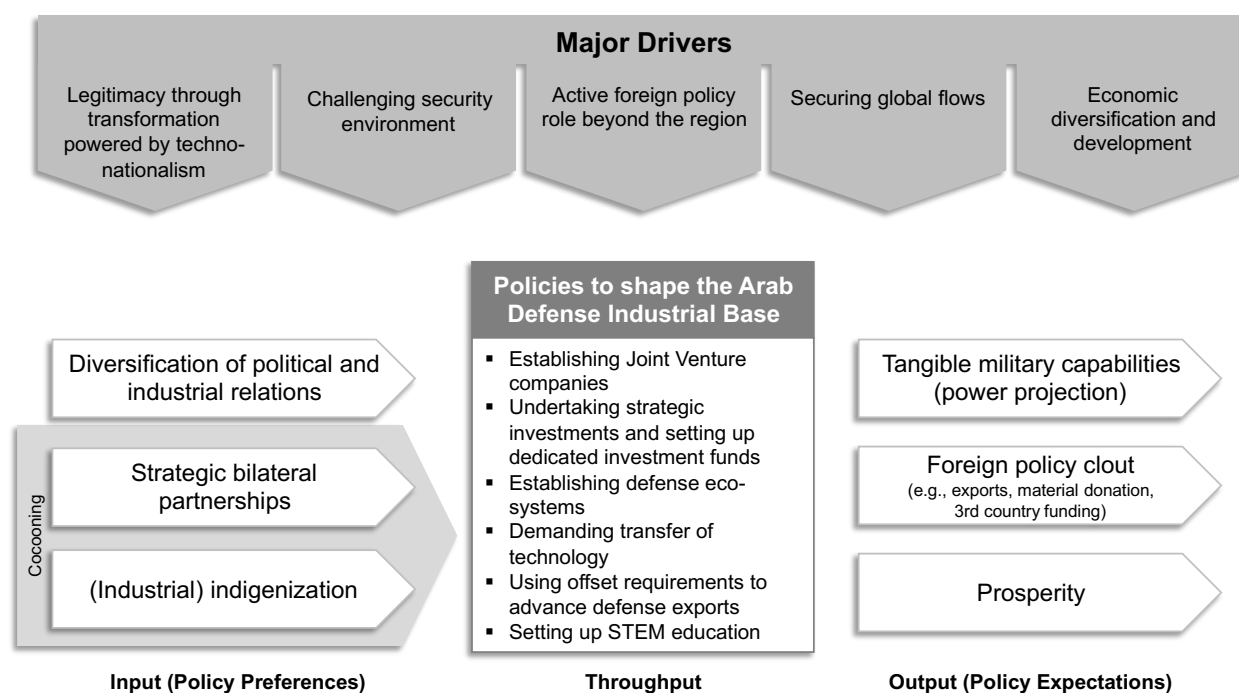


Figure 1. Arab Gulf defense industrial model (source: author).

Risks that affect the GCC nations' proper integration into the global economy are becoming more important, as the six are increasingly aware that global connectivity is a key currency in the 21st century. Thus, they strive to integrate local economies into global supply chains. Already today, the Asia-Pacific region plays the most important role as the GCC's pivotal energy partner. GCC nations learn that investments in the security of global flows of goods, capital, services, and information are important to ensure connectivity, which in turn spurs local and regional prosperity through trade and foreign direct investment. This also underlines the importance of economic diversification and development in light of global energy markets that are transforming due to the gradual shift from fossil to renewable energy. Changes in energy consumption patterns—with lower long-term energy demand in Europe but growing energy consumption in the Middle East and in the Asia Pacific region—reinforce the GCC's political and economic pivot to the East. This comes with increasing demands for military power projection into areas of strategic interest beyond the Arabian Peninsula, such as Northern Africa and Eastern Africa, which are essential for providing food security for

Arab Gulf nations. Trade and energy relations with partners in the Asia-Pacific region increase the relevance of blue water naval capabilities to secure the sea lanes of communication.⁴

Spurred by the need to develop new economic models for long-term societal sustainability, GCC ruling elites engage in identity, nation, and citizen building. Innovation in general plays a key role, as it underlines the nations' readiness to embark on societal transformation. Command of cutting-edge technology is of particular importance, as it bestows legitimacy on the ruling elites that portray themselves as smart stewards that are able to steer the respective nations into the 21st century, where high technology exemplifies economic diversification and promises alternative sources of economic growth. Establishing an indigenous defense industrial base therefore serves different purposes: Local defense industries epitomize societal transformation from the age of "oil for security" to the dawn of a new era in which the local defense industrial base is considered to be an element of national pride and identity that furthers the GCC nations' international esteem.⁵ The fact that the defense industry is central to the leading rulers' worldview and to societal transformation explains why a lot of political attention is devoted to this policy area. But it also makes clear that failure to deliver tangible results will backfire—not only on the industry but also on the elite that supports it.

Who Wants to Partner for Independence?

The core rationale for an indigenous defense industrial base is straightforward: If you want to conduct active foreign policy with a military footprint, you must be able to use the respective defense systems whenever and wherever needed. Traditionally, defense systems provided by foreign partners come with strings attached that limit their use and encroach upon the recipient's foreign policy leeway. The ultimate goal, therefore, is to overcome these limitations by establishing an indigenous defense technological and industrial base that is largely self-sufficient.

Against this background, reducing dependence on foreign suppliers by diversifying sources of supply and ramping up indigenous defense industrial capacities is key to design future relationships with foreign defense partners. GCC nations like the UAE, Saudi Arabia, and Qatar have set up a two-pronged approach. First, they step up demands for the transfer and localization of skills and technology that partners must meet in order to establish the foundation of an indigenous defense technological and industrial base. Saudi King Salman left no doubt in April 2017 that any future strategic arms deal with Saudi Arabia would be contingent upon localizing advanced technology in the Kingdom. The localization ratio should reach 50% for deals in excess of US\$500 million. This goes hand in hand with the ambitious Vision 2030 to localize 50% of all military spending by 2030.⁶ Second, the UAE and Saudi Arabia in particular start manufacturing their own defense goods thereby striving to advance cooperation among themselves in order to further reduce dependence on outside partners, as will be discussed later.

The challenge, however, is two-fold. Reference to defense industrial independence is ubiquitous, but the concept remains opaque. Ultimately, conceptual and technological independence in the defense sector is hard to achieve. Some authors even argue that true independence is detrimental to producing cutting-edge defense material that depends on closely integrated supply chains involving partners from many different countries.⁷ This argument notwithstanding, design and concepts, research and development, production and integration, maintenance, repair, and overhaul as well as distribution would all have to be mastered indigenously to achieve full defense industrial independence. Until today, however, it remains unclear which levels of self-sufficiency the leading Arab Gulf defense industry players have achieved in each of these areas of work.

In addition, not all partners are ready to share skills and technology, because their own competitive advantages depend on them. Thus, the search for partners that are ready to share will broaden the supplier base and change client-supplier relationships.⁸ This fits into the overall foreign policy drive of Saudi Arabia, Qatar, and the UAE. But the question is if those

countries that are ready to share skills and technology are suitable to provide enough foreign policy leverage for ambitious GCC nations to shape the international agenda. Doubts are justified:

- Ukraine, Belarus, Serbia, and Bulgaria are important partners to modernize former Soviet equipment in use with GCC countries and co-develop and supply unmanned aerial vehicles (UAV), electronic warfare systems, and transport planes. These countries also provide investment opportunities and contribute to GCC food security, but their ability to advance GCC foreign policy clout is limited.
- Turkey is different, as the country has become a strategic partner for Saudi Arabia, Qatar, and the UAE in segments like land systems, naval systems, missiles, UAV, and defense electronics. Ankara also engages in defense research and provides advice on armed forces modernization. But despite the fact that Saudi Arabia and the UAE have invested heavily in the Turkish defense industry, Turkey's support for Qatar is affecting its role in the region, as will be discussed below.
- Asia-Pacific nations are on the rise as potential defense partners. For example, prior to visiting Tokyo in September 2016, MbS, who was then Saudi Deputy Crown Prince, had expressed increasing interest in naval shipbuilding cooperation with Japan. Since then, reports indicate Saudi Arabia's growing interest in exploring possibilities to localize Japanese technology in the fields of aerospace, communications, and sensors technologies.⁹ But Japan's lack of substantial international defense cooperation due to decades of self-restraint questions the plausibility of this idea. China's position is similar. Although there can be no doubt that China's strategic relevance on the Arabian Peninsula is growing—not least because of the One Belt, One Road program that is to connect Arab Gulf harbors with China's maritime silk road—it is far from sure that China would be willing to provide the security guarantees that the United States, France, and the UK had granted in the past. So far, China "perceives the Middle East as a 'market'. Its military force has therefore kept a low profile (...) to safeguard its geo-economic profile."¹⁰

- Russia, by contrast, has put herself back on a high-profile track in the region.¹¹ Moscow is again in high esteem as an energy and defense industrial partner. So far, Russia has agreed to transfer specific technologies (Table 1), but Moscow is far from willing to share everything, as current negotiations for the S-400 air defense system illustrate.¹² As Moscow and Teheran grow closer,¹³ the Saudi and Emirati attempt to reach out to Moscow in order to balance Washington is most delicate. Russia is aware that, for example, Abu Dhabi's interest in the Su-35 fighter jets could just be used as leverage in negotiations to purchase U.S.-built F-35 Joint Strike Fighters.¹⁴

Arab Gulf Defense Industrial Policy: Key Instruments

Talking about defense industrial policy in the GCC is a bit of a misnomer, as none of the nations has a full-fledged policy in the proper sense. Truly thought-through priorities in terms of the long-term capability requirements and the respective defense industrial capacities needed for local research and development, production, and maintenance have yet to emerge. Instead, defense industrial policy results from a combination of different instruments that evolve around significant procurement projects underpinned by broad ideas about long-term defense industrial ambitions.

Six priority instruments can be identified. First, the transfer of technology from foreign partners to local entities is indispensable to build up a local defense industrial base. Second, technology transfer most often comes via joint ventures with local partners that help advance knowledge and skill diffusion. Together these two elements help design defense-related ecosystems involving industry, research, and education partners as the third instrument. Fourth, advancing local skills requires increased investment in STEM¹⁵ education, which is provided by local universities and in cooperation with international defense industrial partners that engage in setting up tailored training and education programs. Fifth, these programs are part of broader offset requirements that come with additional demands for local economic return, for example via investments in defense industrial capacities or other

industry sectors. Sixth, strategic investments in defense industrial capacities abroad and dedicated funds can be leveraged to advance the local defense industrial portfolio.

The following analysis will focus on the transfer of technology and strategic investments as the primary defense industrial policy instruments. In line with political ambitions, Saudi Arabia, Qatar, and the UAE increasingly understand defense industrial policy as a means to advance foreign policy goals. This trend is important to understand, as it furthers preferential political relations among countries and will be discussed as well.

Localization and Transfer of Technology

The UAE has established a very sophisticated approach to skills and technology localization. Traditionally, defense industrial partnerships to advance technology transfer had been channeled through Tawazun Holding and Mubadala as the main government-led investment entities and Emirates Advanced Investment Groups and International Golden Group as private investment holdings.¹⁶ This led to a very diversified defense industrial landscape that was hard to control. In response, in 2014 MbZ decided to streamline the structure by bringing most of the established entities under the umbrella of the new Emirates Defence Industries Company (EDIC), which created thorny questions relating to the transfer of assets to EDIC. At the same time, the transition ignited a power game between incumbent players and the new actor with regard to evaluating if and to what extent partners had fulfilled requirements to share technology and advance local capacities.¹⁷

Localization and transfer of technology helped establish local Emirati defense outfits such as NIMR Automotive, Abu Dhabi Shipbuilding (ADSB), arms producer Caracal, and UAV manufacturers Abu Dhabi Autonomous Systems Investments (ADASI) and ADCOM Systems. But up to today, the degree of indigenous work in relation to foreign contributions is unclear. In this regard, the recent development of the B-250 counter-guerilla aircraft is illuminating. According to Intelligence Online, local manufacturer Calidus worked together with Novaer of Brazil on the design. Rockwell Collins and L-3 Technologies (United States)

and LIG Nex1 (South Korea) provided components such as optronic pods. In addition, Brazilian and South African engineers and experts at a European subsidiary of Israel's Elbit Systems have been hired to do the integration work.¹⁸

Saudi Arabia shares the UAE's defense industrial ambition but lags behind in terms of local expertise. Saudi Arabia's Economic Offset Program was launched in the mid-1980s. The program produced several defense joint ventures that did not yield tangible industrial benefits.¹⁹ Since 2015, things have been poised to change. The institutional set up has been trimmed with the new company Saudi Arabian Military Industries (SAMI), which is to act like EDIC in the UAE. In addition, the General Authority for Military Industries is the government body for the industry sector that will, among other things, propose relevant policies and strategies and handle acquisitions for the Ministry of Defense and the Ministry of the Interior.²⁰

Segment	Transfer of Technology (ToT) or Technology Acquisition Demand	Localization and (Joint) Industrialization Demand
Aircraft	<ul style="list-style-type: none"> Lockheed Martin agreed on technology and skills transfer related to Black Hawk purchase 	<ul style="list-style-type: none"> Local production of unspecified components of Eurofighter components under discussion Taqnia-Rockwell Collings joint venture for maintenance, repair and overhaul Saudi-Boeing joint venture for sustainment services
UAV		<ul style="list-style-type: none"> Local Wing Loong UCAV production Saqr 1 indigenous UAV program by KACST
Satellites		<ul style="list-style-type: none"> Cooperation with NASA on localizing satellite-related technology
Vehicles	<ul style="list-style-type: none"> Discussions with Russia on ToT related to possible purchase of T-90M main battle tanks Interest in localizing technologies for military engineering vehicles 	<ul style="list-style-type: none"> SAMI interest in licensed production of US vehicles Local production of Bradley Infantry Fighting Vehicles under discussion General Dynamics agreed to localize vehicles-related design, engineering, manufacturing, and support skills
Vessels	<ul style="list-style-type: none"> Demand for ToT related to spare parts and electronics for FREMM frigate Interest in localizing technologies for survey ships 	<ul style="list-style-type: none"> Local joint venture with SAMI and Navantia for the Avante 2200 corvette with a focus, among other things, on combat system integration, system engineering, system architecture, and electronics
Missiles and bombs	<ul style="list-style-type: none"> Russia agreed on ToT for anti-tank guided missiles and multiple launch rocket systems Raytheon agreed on missile-related ToT 	<ul style="list-style-type: none"> Demands for localization of bunker-busting bombs and air-to-ground missiles
Missile defense	<ul style="list-style-type: none"> Negotiation on ToT for S-400 air defense system Discussion with U.S. companies in transferring laser technologies for ballistic missile defense 	
Sensors and electronics	<ul style="list-style-type: none"> Demands for intelligence surveillance, and reconnaissance technology, command and control, and battle management systems technology Demands for sensor and (night) vision systems technology in particular from U.S. partners 	<ul style="list-style-type: none"> Aselsan-Taqnia joint venture for radar systems, electro-optical technology, and electronic warfare systems Common electronics industrialization with Portugal under discussion
Cyber		<ul style="list-style-type: none"> Localization of unspecified cyber technologies from suppliers in France, the United Kingdom, and the United States under discussion

Table 1. Illustrative examples of demands for defense-related transfer of technology and localization in Saudi Arabia since 2017 (source: author's compilation based on various open sources).

Within this context, Saudi Arabia is embarking on an aggressive transfer of technology agenda. As Table 1 shows, Saudi Arabia seems to be targeting almost every relevant defense industry segment at the same time. Tangible outcomes will very much depend on a long-term technology development road map that remains to be announced and the formation of local expertise to absorb technology. Regarding the latter, Saudi Arabia has

been setting up TAQNIA and the King Abdulaziz City for Science and Technology (KACST).²¹ Both are key to the Saudi defense industrial ecosystem, as they engage in transferring technology from international partners to Saudi Arabia and in diffusing technology and skills among local Saudi partners. KACST, for example, is developing the Saqr UAV program,²² and TAQNIA has set up different specialized companies in the fields of robotics, cyber, and satellite manufacturing.²³ Together, both companies work with Ukraine's Antonov on the AN-132 light multi-purpose aircraft, for which KACST owns 50% of the intellectual property.²⁴

Strategic Investments and Investment Funds

Strategic investments mainly outside GCC nations and dedicated investment funds to promote the local defense industry complement the transfer and localization of technology and skills. Strategic investments abroad can be seen as door openers that help establish relationships with foreign partners that can be leveraged for technology transfer. This is the way that the UAE has used Mubadala, the state investment and development fund.²⁵ Mubadala maintains a diversified portfolio, but its engagement with Italian aerospace manufacturer Piaggio Aero is exemplary. Mubadala had been a shareholder in the Italian company starting in 2006 and became the sole owner in 2015.²⁶ Piaggio Aero manufactures the P.180 Avanti executive transport aircraft, which was the basis for the P.1HH Hammerhead UAV. Emiratis partnered with Piaggio Aero in 2010 to develop this UAV. Italy and the UAE have both committed to purchase the platform. Thanks to this program, the UAE indirectly partners in the European DESIRE II program, which is looking at the use of satellite-based communication to integrate UAV into civilian aerospace. Most tellingly, intellectual property for the platform has reportedly been filed in the UAE. As the Emirates are not part of the Missile Technology Control Regime that provides the regulatory framework for UAV exports, the UAE has great leeway for potential future exports of the system.²⁷

The UAE approach to strategic defense investments has set the example that other GCC nations emulate:

- Saudi Arabia takes a dual-pronged approach to strategic investments. One strand runs through Saudi investment vehicles. Here the Public Investment Fund (PIF) plays the key role, as it is essential to implement the Vision 2030. Estimates assume that by 2030 the fund could control up to \$2 trillion. The fund will be engaged in many different sectors, but the signing of a series of mega deals with the United States in mid-2017 made it clear that it will play a heavy hand in defense through SAMI, its subsidiary. The PIF is said to be the brainchild of MbS, who also uses the Prince Mohammed bin Salman Foundation (MiSK) to engage with international partners. For example, MiSK and Lockheed Martin are co-financing a graduate business school in Riyadh. In parallel, Saudi Arabia uses foreign investment partners to shore up support for technology development that has a defense and security impact. PIF and Japan's Softbank are playing in a league of their own with their joint tech fund. Worth around US\$93 billion, it is to invest in artificial intelligence and robotics and counts Mubadala, Apple, Foxconn Technology, and Sharp as investors.²⁸
- Qatar is following in the footsteps of the UAE and Saudi Arabia. The Barzan Holdings was established to build local defense systems. In March 2018 Barzan Holdings signed several partnership agreements with companies like Aselsan, BMC, Fincantieri, Kongsberg, Qinetiq, Raytheon, and Rheinmetall to set up joint venture companies and explore opportunities for cooperation and transfer of technology. In 2014, the Qatar Armed Forces Industry Committee took over a 49% stake in Turkish automotive manufacturer BMC, which also produces armored protected vehicles. BMC, in turn, is part of the RBSS joint venture with Rheinmetall (Germany) and Etika Strategi (Malaysia), which is reportedly in talks with Qatar to deliver up to 1,000 vehicles.²⁹

- In 2016, Oman's State General Reserve Fund took an 32.2% stake in Mecanizados Exribano, a Spanish manufacturer of precision components for aerospace and defense and other sectors. This investment fits Oman's defense industrial expertise in land systems.³⁰

Defense Exports, Material Donations, and Third-Country Funding

Arab Gulf defense industrial ambitions have a strong outbound dimension. This is supposed to underline the proficiency of the local defense industrial base and further the countries' foreign policy clout. Defense exports, material donations, and third-country funding are the instruments of choice.

UAE defense exports mirror current defense industrial capacities. Adcom has used its know-how to develop the Yabhon Aldura UAV together with a partner in Malaysia. The Yabhon system has reportedly also caught Algeria's and Russia's interest, but purchase confirmations are lacking up to now. In contrast, reports suggest that Nigeria procured the Yabhon Flash-20 UAV. In 2012, NIMR Automotive sealed a license-produced export contract for vehicles in Algeria. Five years later, the company bagged the first export contract from Turkmenistan. NIMR also agreed on a marketing and distribution partnership with partners in Malaysia and Thailand and with VOP CZ (Czech Republic) to target Central and Eastern European and Baltic markets. In addition, ADSB has been awarded a contract by the Ministry of Defense in Kuwait to build eight different vessels.³¹

Material donations are effective means to dispose of surplus equipment. For example, Libya received armored personnel carriers and Mirage 2000 jets from the UAE, which also provided Air Tractor 802U aircraft to Yemen and Jordan. More recently, the UAE provided five light aircraft to Yemen and trained 15 Yemeni pilots. Qatar has provided Sudan, Eritrea, and Somalia with 4x4 wheeled vehicles and anti-tank rockets. In addition, Doha has also invested in developing 400 4x4 M-ATV and M1117 vehicles by Oshkosh and Textron Systems, respectively. These vehicles are to be kept in U.S. Army depots until sold or donated by Qatar. From a strategic perspective, donations can open up distribution channels for one

supplier while crowding out others. This is what could happen if Qatar were to view the 400 U.S. vehicles as an instrument to block access for Emirati suppliers in export markets.³²

Finally, third-party funding gives the financial sponsor a say in partners' weapons procurement. The UAE has funded vessels and vehicles procurement for Yemen, wheeled and tracked vehicles for Libya, and UAV and fighter jets for Egypt. Egypt also receives substantial financial support from Saudi Arabia, which helped fund the acquisition of Mistral helicopter landing decks and German submarines. Saudi Arabia's financial support for Pakistan is of equal strategic importance, in particular regarding Pakistan's nuclear program. Furthermore, Riyadh is the main sponsor of Bahrain's weapons acquisition program. Saudi funds opened the door to China, which has sold two CH-4 Rainbow UAV to Manama. Saudi Arabia has also joined forces with the UAE in funding an intelligence, surveillance, and reconnaissance program for Morocco with U.S. and Israeli equipment. Qatar is following on the heels of the UAE and Saudi Arabia and reportedly seems prepared to fund defense industrialization projects with Pakistan if Islamabad keeps neutral in the ongoing Qatar crisis.³³

Risks and Opportunities of a Diversified Military Portfolio

Despite the fact that ongoing military missions have led to a stronger focus on urgent operational requirements, the tendency to shore up loyalty with arms procurement is still alive. The 2017 arms deal between Saudi Arabia and the United States worth around US\$110 billion and Qatar's purchase of 96 fighter jets worth US\$20 billion since June 2017 are testimonies of this all too familiar tendency. But things are about to change.

Defense capabilities emerge from the interplay of four different elements: doctrine and concepts of operations, which embody the intellectual basis of why and how to conduct military operations; defense institutions made up of structures and processes to organize military power; training, that shapes the habits and routines needed to transfer doctrine and concepts of operations into action; and technology. This interplay is very much influenced by

practical operational experience of Arab Gulf armed forces, and this is where the most distinct differences emerge:

- For around 15 years the UAE have been stepping up efforts to improve military preparedness. Since the UAE's first deployment, to Afghanistan in 2003, the UAE leadership has carefully chosen ever more demanding military tasks while at the same time investing in equipment, ramping up educational efforts, and investing in capabilities for independent military operational planning. These efforts culminated in the 2014 UAE Air Force combat operations in Iraq and Libya and the landing of amphibious forces in Yemen in August 2015. Not surprisingly, the UAE has also invested in power projection capabilities through establishing an air base in Libya and air and naval bases in Eritrea and Somaliland. But the UAE also suffered losses. The country lost 45 soldiers when a camp was attacked in 2015 in Yemen. In 2016 a UAE naval vessel was hit off the coast of Yemen. Setbacks prompted the UAE leadership to focus on urgent operational requirements stemming from operations in Yemen. Among other things, reports suggest that locally manufactured armored vehicles have not fully lived up to expectations, which might explain the comeback of Finnish vehicle producer Patria and new inroads for Polish vehicle producer Rosomak.³⁴
- Saudi Arabia, in contrast, picked a fight with Houthi rebels in Yemen believing that its prestigious weapons arsenal would lead to a quick win. A fast and decisive outcome was what MbS, who was then Deputy Crown Prince and Defense Minister, wanted, as he had been in a fierce battle with Prince Mohammed bin Naif, the former Saudi Minister of the Interior, over the succession to King Salman. Open questions regarding the succession have been clarified since then but fighting in Yemen goes on. The challenging mountain terrain and the skills of Yemeni fighters matter. But overall, this case illustrates that Saudi Arabia's armed forces were not yet ready to accomplish what they had been expected to do—despite significant investments in weapon systems, training, and the intelligence and material support provided by the United States, France, and the United Kingdom.³⁵

Arab Gulf preferences for defense systems from different suppliers are reinforcing the operational challenges discussed above, because they render maintenance, repair, overhaul, and logistics more cumbersome and increase lifecycle costs. As a rule of thumb, it can be argued that diversity of foreign weapon systems in Arab Gulf nations is strongest where defense systems are less complex; in contrast, supplier homogeneity reigns, when defense systems are more complex. For example, GCC nations use 16 variants of armored personnel carriers from 12 countries or 53 patrol boat models from nine countries.³⁶ By contrast, only four nations provide main battle tanks to the region. When it comes to fighter jets, all six GCC nations fly either U.S. or European platforms. And for ballistic missile defense, the United States has so far enjoyed a near monopoly.³⁷ However, this segment seems likely to be more contested in the future, as Bahrain, Saudi Arabia, and Qatar are negotiating with Russia on the purchase of the S-400 air defense system and the Emirates are reportedly showing interest in this system.³⁸

Overall, interoperability demands grow hand in hand with the complexity of the weapons systems and the military operations conducted. Thus "homogeneity in diversity" helps keep the challenge under control. In addition, the UAE is about to turn the ability to handle a diversified weapons portfolio into an asset. Emirates' Tawazun is reportedly assisting Egypt to integrate communication, observation, and target localization systems onto the Wing Loong UAV, which Abu Dhabi financed for Egypt. At the same time, Tawazun is said to supply and integrate Al Tariq missiles, co-developed with South Africa's Denel, onto Mirage fighters of Egypt's Air Force, thereby outrivaling Dassault and MBDA.³⁹ In addition, the Emirates and Saudi Arabia are showing increasing interest in C4ISR,⁴⁰ which is key to integrating all military assets into a joint federation that provides seamless interaction between sensors and shooters. Given growing indications that both nations could join forces in establishing joint defense companies, the prospect of a Saudi-Emirati C4ISR company would illustrate that these nations are serious about addressing one of the most challenging

interoperability areas and ready to compete with traditional (Western) suppliers that have dominated this segment up to now.

Arab Gulf Defense Ambitions and Foreign Policy: It's Difficult

In the past 15 years, Arab Gulf states have achieved remarkable economic progress. With the UAE, Qatar, and Saudi Arabia, three GCC members are among the world's 30 most competitive nations according to the 2017 World Economic Forum ranking, but they are losing ground.⁴¹ This is where the current regional instability kicks in.

Arab Gulf defense ambitions are likely to change the region's foreign relations because they serve as a catalyst. As argued above, key Arab Gulf leaders today follow a neorealist, zero-sum logic of international relations. In addition, the Qatar crisis has made it all too obvious that today's rulers no longer adhere to the consensus-oriented leadership style of their predecessors.⁴² Instead, they are ready to take risks to make their point. The neorealist worldview attaches great importance to hard power, and this in turn shapes the way that leading Arab Gulf nations choose their defense partners. As Saudi Arabia, Qatar, and the UAE want to grow their local defense industrial base, they are looking for partners that are ready to buy into their worldview and agree on localizing and sharing technology. In the long run, this is likely to lead to a convergence of policy attitudes or will at least help to reduce differences that are detrimental to local defense industrial ambitions.

Limiting the Outside-In Impact

Traditionally, arms exporters argue that long-term defense industrial relations provide opportunities to engage with partners, which can positively influence the way these partners act. However, the long-term ambition of any policy aimed at defense industrial independence is to limit—if not stop—outside influence. This is exactly what is going to happen in the Arab Gulf region.

First of all, Saudi, Qatari, and Emirati rulers are fully aware that big military spenders are attractive to defense suppliers. All three nations are attempting to leverage their role in favor of policy concessions by partners. Saudi Arabia's MbS seems to have adopted the most assertive agenda, as he is reportedly demanding, in particular, that Western defense suppliers lower barriers for defense exports to Saudi Arabia in return for trade relations with the country.⁴³ In addition, he is also willing to completely overhaul defense industrial relations with partners if they do not fit his ambition. For example, after two years of strong resistance from MbS and the Saudi Ministry of Defense, the French defense export agency ODAS is no longer in charge of handling any French-Saudi arms contract. When MbS visited Paris in April 2018, the French President and the French Minister of Defense agreed that all future arms-related contacts with Saudi Arabia will be handled directly by MbS.⁴⁴

Second, relationship diversification reinforces the momentum gained through leveraging economic attractiveness. Ambitious GCC nations play a "reverse divide and conquer" game, as diversifying the portfolio of suppliers effectively limits the influence of every single partner. Defense export nations' individual interests in maintaining their own defense industrial base suggests that export nations will hardly agree on aligning export preferences with competitors, which plays into the hands of ambitious GCC rulers.

Third, extra-regional powers have diverging views on almost all policy issues relevant for the long-term stability of the Arab Gulf region. Iran is the best example. Whereas Washington and Jerusalem tend to agree on the hard line adopted by Riyadh and Abu Dhabi, European nations are more forward-leaning towards Iran. This provides leading Arab Gulf nations with the opportunity to set extra-regional powers against each other.

Finally, Saudi Arabia and the UAE increasingly engage in defense industrial cocooning—that is, they are forming an ever-closer strategic partnership that could effectively shield them against outside interference and at the same time promote independence. MbS and MbZ are said to be mulling the idea of establishing a joint military company and discussing the option of replacing—and possibly dissolving—the GCC Peninsula Shield

Force with a new joint military force also including Bahrain.⁴⁵ If this was to mature, the regional impact would be significant.

Expanding the Inside-Out Impact

If leading Arab Gulf nations sustain defense industrial ambitions at current levels, their foreign policy impact on other actors is likely to grow. First of all, the Qatar crisis is turning Arab Gulf foreign relations sour, and defense industrial preferences are reinforcing the trend. MbS is said to be taking an increasingly firm line against nations that support Qatar. He has reportedly pressured Washington to stop sales to Qatar, and the United States also seems to exert pressure on France and the UK to do likewise.⁴⁶ Qatar, on the other hand, reaches out to exactly the same nations, promising more defense deals in reward for continued support.⁴⁷ These intra-GCC differences are about to be exported to other regions that benefit from defense material donations and defense funding. Growing polarization at the Horn of Africa and Sudan is a case in point. Somaliland has taken side with Saudi Arabia and the UAE, whereas Somalia remains loyal to Qatar and Turkey, which is supporting Doha, too. Sudan, which benefits from Riyadh and Doha, is struggling to keep a balanced position.⁴⁸

Second, the increasingly assertive military action of Saudi Arabia and the UAE abroad is causing increasing domestic problems for traditional Western defense partners. The war in Yemen has prompted more and more demands in the United States, the United Kingdom, France, Germany, and Scandinavian countries to stop defense sales. Whether the respective governments give in depends on their overall political calculation and the strategic relevance attached to defense relations and defense sales. Here, the UK is of particular interest, as BAE Systems is supplying Eurofighter Typhoon fighter jets to Saudi Arabia, Oman, and Qatar.⁴⁹ Brexit reinforces London's readiness to leverage defense relations as a foreign policy tool, which gives defense industrial considerations a strong voice in resisting calls to stop defense exports, as illustrated by the March 2018 UK-Saudi Memorandum of Intent to "finalize discussions for the purchase of 48 Typhoon."⁵⁰ Germany, in contrast, might be more willing

to put defense relations with the region on the backburner, as Berlin never really felt at ease with the idea of arms sales as a foreign policy instrument.

Yet defense industrial partners like Turkey or Pakistan could increasingly feel the pressure to take sides. Turkey's future role will be indicative. Like the rulers in ambitious GCC nations, Turkish President Erdogan sees defense relations as a key foreign policy instrument and a source of domestic legitimization.⁵¹ As argued above, Turkey has carved out a special role for itself. So far, Ankara has fared relatively well in the Gulf storm, despite taking sides with Doha. However, unease with Ankara is growing in Riyadh. MbS is reportedly considering signing no arms deals with Turkey in the near future and has identified Turkey, Iran, and hardline Islamist groups as forming a "triangle of evil."⁵² Thus, Turkey's fate will be a test for both sides: for Turkey in view of withstanding pressure from the outside, and for Saudi Arabia and the UAE in view of their willingness to pull through demands for loyalty vis-à-vis a partner that shares much needed technology.

All of this suggests that the combination of raising domestic opposition in some supplier countries coupled with broad defense industrial diversification will open up opportunities for other nations. The Saudi-Chinese deal on localizing the manufacturing of Wing Loong UCAV in the Kingdom⁵³ and Qatar's purchase of China's SY400 missile system with reach against neighboring countries⁵⁴ might be a harbinger of things to come that also illustrates the potentially destabilizing consequences for Arab Gulf stability.

Conclusion

Saudi Arabia, Qatar, and the UAE have embarked on an ambitious journey to establish a local defense industrial base. This drive is motivated mainly by the will to reduce dependence on traditional outside defense suppliers and the ambition to play a more active foreign policy role underwritten by hard power. This approach will affect well-established client-supplier relations and influence Arab Gulf foreign relations.

Despite remarkable progress, several challenges lie ahead for the emerging Arab Gulf defense players. First and foremost, everything depends on sustained levels of funding. Although ambitious Arab Gulf nations have carefully established an image of big spenders on defense, recent figures from the International Institute for Strategic Studies show that defense spending among the GCC is flattening or gradually falling.⁵⁵ Saudi Arabia will undergo a challenging societal transformation in the near future that will absorb funds. Aging, which hardly hits the news headlines, is probably the single most important financial challenge across the region. Projections suggest that Saudi Arabia needs to increase age-related spending from around 6% of the national gross domestic product (GDP) right now to close to 14% by 2050.⁵⁶ Thus, the need to prioritize policy areas will grow even among the richest GCC nations.

Second, the narrative of the defense industry as an engine for economic prosperity is Janus-faced. Saudi Arabia's SAMI wants to contribute around SAR14 billion (US\$3.7 billion) to the GDP by 2030 and create approximately 40,000 jobs. Today, however, the country's GDP stands at around US\$656 billion, and Saudi Arabia's workforce counts more than 12 million. Economic contributions by the defense industry are important but limited in scale. In addition, costs of technology and skill transfer from foreign partners to regional companies will need to be weighed against the economic gains through local production and exports, but so far, no one has conducted the respective analysis. Thus instead of pushing for broad economic diversification and prosperity fueled by defense indigenization, the narrative of smart economic specialization might be more appropriate. Here, systems integration is pivotal. As more and more defense technologies are of commercial origin, pulling over commercial expertise into the defense domain is critical. Emphasizing smart economic specialization by way of mastering systems integration would position ambitious Arab Gulf nations in both worlds—the commercial technology and the defense technology camps.

This is related to the third aspect, the unresolved question as to the unique selling proposition (USP) of the local defense industry. Reengineering what is already available on

the defense market is justified to establish local skills, but it is difficult to carve out a niche in international markets with the respective products. The UAE, Saudi Arabia, and Qatar will face the challenge of focusing their defense industrial efforts in terms of market segments, technologies to be mastered, and local production development plans. Today's portfolios are too diversified to be sustained by national governments only—and current defense products are not yet ripe to compete with big ticket systems provided by Western, Russian, or Chinese suppliers. Advanced regional manufacturers such as the UAE-based aerospace company Strata have recognized the challenge. In an interview with *The National*, a local newspaper, the company's CEO Ismail Abdullah said that Strata was in talks with Taqnia to "outsource work on aerostructures production to (Saudi Arabia) in two years and *avoid duplicating efforts* of the neighbouring countries' aerospace sectors."⁵⁷

Finally, discussions about the local defense industrial USP cannot be separated from the local skillset. Up to now, this has been the Achilles' heel. Hiring foreign designers and engineers can only work as an interim solution, because it prolongs dependence on outside contributions. Thus, local defense industrial ambitions need to be translated into human resources plans. For example, not every local company needs to educate and employ all types of skills. Should systems integration be chosen as a strategic focal point, a cross-sector systems integration company could be established that would retain critical mass and at the same time support all other national companies. As long as these companies do not compete with each other, everyone would benefit from this approach to pooling critical human expertise.

Notes

- ¹ Figures from http://armstrade.sipri.org/armstrade/html/export_toplist.php. Accessed 10 May 2018.
- ² Eldar Mamedov, "Arab Neoconservatives and Peace in the Persian Gulf," *Lobe Log*, 5 February 2018, <http://lobelog.com/arab-neoconservatives-and-peace-in-the-persian-gulf/>; Kristian Coates Ulrichsen, "Can the Gulf Cooperation Council Survive the Current Crisis?" *Arab Center Washington DC*, 7 September 2017, http://arabcenterdc.org/policy_analyses/can-the-gulf-cooperation-council-survive-the-current-crisis/ (accessed 10 May 2018).
- ³ For more on this, see in particular: Andreas Krieg, "Gulf Security Policy After the Arab Spring: Considering Changing Security Dynamics," in *The Small Gulf States. Foreign and Security Policies Before and After the Arab Spring*, edited by Khalid S. Almezaini and Jean-Marc Rickli (Abingdon: Routledge, 2017), 47–63; Victor Gervais, "The Changing Security Dynamic in the Middle East and Its Impact on Smaller Gulf Cooperation Council States' Alliance Choices and Policies," in *The Small Gulf States*, edited by Almezaini/Rickli, 31–46; Kristian Coates Ulrichsen, "Links Between Domestic and Regional Security," in *The Changing Security Dynamics of the Persian Gulf*, edited by Kristian Coates Ulrichsen (London: C. Hurst & Co.), 23–43.
- ⁴ Theodore Karasik and Jeremy Vaughan. 2017. *Middle East Maritime Security: The Growing Role of Regional and Extraregional Navies* (Washington, DC: The Washington Institute for Near East Policy, 2017), <http://www.washingtoninstitute.org/uploads/Documents/pubs/PolicyNote41-KarasikVaughan.pdf> (accessed 10 May 2018).
- ⁵ Jones, Calvert W. 2017. *Bedouins into Bourgeois: Remaking Citizenship for Globalization* (Cambridge: Cambridge University Press, 2017); Emma Soubier, "Mirages of Power: From Sparkly Appearances to Empowered Apparatus, Evolving Trends and Implications of Arms Trade in Qatar and the UAE," in *The Arms Trade, Military Services and the Security Market in the Gulf States: Trends and Implications*, edited by David B. Des Roches and Dania Thafer (Berlin: Gerlach Press, 2016), 135–151; Florence Gaub, and Zoe Stanley-Lockman, *Defence Industries in Arab States: Players and Strategies* (Paris: EU Institute for Security Studies, 2017), https://www.iss.europa.eu/sites/default/files/EUISSFiles/CP_141_Arab_Defence.pdf (accessed 15 March 2018), 9–10; Richard A. Bitzinger, "Defense Industries in Asia and the Technonationalist Impulse," *Contemporary Security Policy* 36, no. 3 (2016), 453–472. doi:10.1080/13523260.2015.1111649.
- ⁶ *Vision 2030* (Riyadh: Kingdom of Saudi Arabia, 2016), 48, http://vision2030.gov.sa/sites/default/files/report/Saudi_Vision2030_EN_2017.pdf (accessed 10 May 2018) "KSA: Localization of Military Industries," *Tactical Report Weekly*, 7 April 2017, 3.
- ⁷ Stephen G. Brooks, *Producing Security. Multinational Corporations, Globalization, and the Changing Calculus of Conflict* (Princeton: Princeton University Press, 2005).
- ⁸ *UAE Security Forum 2017: Defense Industry and Economic Diversification* (Washington, DC: The Arab Gulf States Institute in Washington), 7, https://www.agsiw.org/wp-content/uploads/2018/02/UAESF-2017_ONLINE.pdf (accessed 10 May 2018).
- ⁹ "KSA: Naval Cooperation with Japan", *Tactical Report Weekly*, 2 September 2016, 3; "KSA: Military Cooperation with Japan," *Tactical Report Weekly*, 17 April 2017, 3.
- ¹⁰ Degang Sun, "China's Military Relations with the Middle East," in *The Red Star & the Crescent: China and the Middle East*, edited by James Reardon-Anderson (London: C. Hurst & Co.), 83.
- ¹¹ For more on this see in particular: Theodore Karasik, "Russia's Financial Tactics in the Middle East." The Jamestown Foundation, 20 December 2017, <https://jamestown.org/program/russias-financial-tactics-middle-east/>; Anna Borshchevskaya, "The Tactical Side of Russia's Arms Sales to the Middle East." The Jamestown Foundation, 20 December 2017, <https://jamestown.org/program/tactical-side-russias-arms-sales-middle-east/> (accessed 10 May 2018).
- ¹² Jeremy Binnie, "Saudi S-400 Talks Complicated by Tech Transfer." *Jane's Defence Weekly*, 8 February 2018, <http://www.janes.com/article/77731/saudi-s-400-talks-complicated-by-tech-transfer> (accessed 10 May 2018).
- ¹³ Robin Wright, "Russia and Iran Deepen Ties to Challenge Trump and the United States." *The New Yorker*, 2 March 2018, <https://www.newyorker.com/news/news-desk/russia-and-iran-deepen-ties-to-challenge-trump-and-the-united-states> (accessed 10 May 2018).

- ¹⁴ Reuben F. Johnson, "Dubai Airshow 2017: Russian Officials Remain Cautious Over Possible UAE Su-35 Buy," *Jane's Defence Weekly*, 16 November 2017 <http://www.janes.com/article/75735/dubai-airshow-2017-russian-officials-remain-cautious-over-possible-uae-su-35-buy> (accessed 10 May 2018).
- ¹⁵ Science, technology, engineering, and mathematics.
- ¹⁶ Gaub/Stalley-Lockmann, *Defence Industries in Arab States*, 47–52.
- ¹⁷ Author's interviews, Abu Dhabi, March 6, 2016 and August 26, 2016.
- ¹⁸ "Calidus Behind Abu Dhabi's Mystery Counter-Guerilla Planes," *Intelligence Online*, 17 January 2018, 8.
- ¹⁹ Bilal Y. Saab, *The Gulf Rising: Defense Industrialization in Saudi Arabia and the UAE* (Washington, DC: Atlantic Council, 2014), 29–31, http://www.atlanticcouncil.org/images/publications/The_Gulf_Rising.pdf.
- ²⁰ "11 targets for General Authority of Military Industries," *Saudi Press Agency*, 15 August 2017, <http://www.spa.gov.sa/viewfullstory.php?lang=en&newsid=1656691> (accessed 10 May 2018); "GAMI, SAMI: The new defence procurement decision-makers," *Intelligence Online*, 11 April 2018, 5.
- ²¹ KACST is also Saudi Arabia's scientific government institutions and as such supports the government in advancing the country's overall scientific research base. For more on this, see: <https://www.kacst.edu.sa/eng/about/Pages/About.aspx> (accessed 10 May 2018).
- ²² <https://www.kacst.edu.sa/eng/about/news/Pages/news535.aspx> (accessed 10 May 2018).
- ²³ <http://www.taqnia.com/en/portfolio/> (accessed 10 May 2018).
- ²⁴ <https://www.kacst.edu.sa/eng/rd/pages/content.aspx?dID=97> (accessed 10 May 2018).
- ²⁵ <https://www.mubadala.com/> (accessed 10 May 2018).
- ²⁶ Mubadala is in the process of selling the company's business jet unit to the Chinese-backed consortium PAC Investments. See: "Mubadala to Go Ahead with Sale of Piaggio Aerospace Unit – Source," *Arabian Business*, 1 February 2018, <http://www.arabianbusiness.com/transport/388885-mubadala-to-go-ahead-with-sale-of-piaggio-aerospace-unit-source> (accessed 10 May 2018).
- ²⁷ "Mubadala Completes 100% Takeover of Piaggio," *Arabian Aerospace*, 18 September 2015, <http://www.arabianaerospace.aero/mubadala-completes-100-takeover-of-piaggio.html>; "EDA and ESA Launch DESIRE II Demonstration Project," *European Defence Agency*, 18 May 2015, <https://www.eda.europa.eu/info-hub/press-centre/latest-news/2015/05/18/eda-and-esa-launch-desire-ii-demonstration-project>; "Discreet Race for Drones," *Intelligence Online*, 20 November 2013, 1; Tom Kington, "Italian AF First to Buy Hammerhead UAV," *Defense News*, 26 February 2015, <https://www.defensenews.com/home/2015/02/26/italian-af-first-to-buy-hammerhead-uav/>; Tom Kington, "UAE to Buy 8 Italian-Made Drones for €316M," *Defense News*, 8 March 2016, <https://www.defensenews.com/air/2016/03/09/uae-to-buy-8-italian-made-drones/> (accessed 10 May 2018).
- ²⁸ Sarah Algethami, "How Saudi Arabia is Building its \$2 Trillion Fund," *Bloomberg*, 22 October 2017, <https://www.bloomberg.com/news/articles/2017-10-22/how-saudi-arabia-is-building-its-2-trillion-fund-quicktake-q-a> (accessed 15 March 2018); "Washington and Riyadh Proceed with Plans to Make Morocco an ISR Heavyweight," *Intelligence Online*, 17 January 2018, 8; Andrew Torchia "Softbank-Saudi Tech Fund Comes World's Biggest with \$93 Billion of Capital," *Reuters*, 20 May 2017, <https://www.reuters.com/article/us-softbank-visionfund-launch/softbank-saudi-tech-fund-becomes-worlds-biggest-with-93-billion-of-capital-idUSKCN18G0NP> (accessed 10 May 2018).
- ²⁹ Burak Ege Bekdil, "Turkish Armor Makers in Talks to Produce 1,000 Vehicles for Qatar," *Defense News*, 29 December 2016, <https://www.defensenews.com/land/2016/12/29/turkish-armor-makers-in-talks-to-produce-1000-vehicles-for-qatar/>; "Enthem Sancak," *Intelligence Online*, 18 June 2014, 1; "Barzan Holdings, Doha's Mystery Defense Project, Gets Off the Ground," *Intelligence Online*, 31 January 2018, 5; "Barzan Holdings Signs Multiple Agreements to Meet Qatar's Long-Term Defence and Security Needs," *Qatar Is Booming*, 13 March 2018, <http://www.qatarisbooming.com/article/barzan-holdings-signs-multiple-agreements-meet-qatar%E2%80%99s-long-term-defence-and-security-needs>; "Fincantieri will cooperate with Barzan Holdings," *Fincantieri Press Release*, 14 March 2018, <https://www.fincantieri.com/en/media/press-releases/2018/fincantieri-will-cooperate-with-barzan-holdings/> (accessed 10 May 2018).
- ³⁰ "Oman Sovereign Wealth Fund Buys into Spanish Manufacturer Escibano," *Reuters*, 31 October 2016, <https://www.reuters.com/article/oman-spain-ma/oman-sovereign-wealth-fund-buys-into-spanish-manufacturer-escibano-idUSL8N1D12WY> (accessed 10 May 2018).

- 31 "ADSB to Build 8 Vessels for the Kuwait Ministry of Defense," *ADSB Press Release*, undated, <http://www.adsb.ae/news/adsb-to-build-8-vessels-for-the-kuwait-ministry-of-defense/>; "NIMR Automotive Expanding into Southeast Asia," *Al Defaiya*, 10 November 2017, <http://www.defaiya.com/news/Regional%20News/UAE/2017/11/10/nimr-automotive-expanding-into-southeast-asia/>; "Russia Mulls United Yabhon 40 UAV Purchase from UAE," *Air Force Technology*, 18 July 2013, <https://www.airforce-technology.com/news/newsrussia-mulls-united-yabhon-40-uav-purchase-from-uae/>; "UAE's NIMR to Supply Turkmenistan with Military Vehicles," *Arabian Business*, 6 November 2017, <http://www.arabianbusiness.com/industries/transport/382878-uaes-nimr-to-supply-turkmenistan-with-military-vehicles/>; James Bingham, "NIMR to Demo Ajban 440A to Baltic Forces." *Jane's Defence Weekly*, 14 September 2017 <http://www.janes.com/article/74006/nimr-to-demo-ajban-440a-to-baltic-forces/>; "Algeria and UAE to Jointly Produce Armored Vehicles in Algeria," *DefenceWeb*, 24 July 2012, http://www.defenceweb.co.za/index.php?option=com_content&view=article&id=26936:algeria-and-uae-to-jointly-produce-armoured-vehicles-in-algeria&catid=50:Land&Itemid=105; "Nigeria Air Force Arms Third Alpha Jet; Acquiring Yabhon Flash-20 UAVs," *Defence Web*, 23 August 2016, http://www.defenceweb.co.za/index.php?option=com_content&task=view&id=44783&catid=35&Itemid=107; Guy Martin, "Asian Region UAV Capability on the Rise." *Defence Review Asia*, 20 December 2012, <https://www.defencereviewasia.com/articles/195/Asian-region-UAV-capability-on-the-rise/>; "Algeria: reinforcing aerial defense," *The North African Post*, 19 November 2013, <http://northafricapost.com/4577-algeria-reinforcing-aerial-defense.html>; "The Agreement with NIMR," *VOP Press Release*, 20 February 2017, <http://www.vop.cz/en/clanek/29-the-agreement-with-nimr.aspx> (accessed 10 May 2018).
- 32 Heiko Borchert and Cyril Widdershoven, "The Dawn of a New Arab Defense Industrial Network." *Arab Defense Industry Papers* 1, 3 July 2017, https://www.arabdefenseindustry.com/cmsfiles/publications/ADIP_01-16_3.pdf (accessed 15 March 2018); "Yemen: Air Support Aircraft from the UAE," *Tactical Report Weekly*, 9 February 2018, 2; "Qatar: Used US Military Vehicles," *Tactical Report Weekly*, 3 March 2017, 2.
- 33 Borchert/Widdershoven, "The Dawn of a New Arab Defense Industrial Network," 17–18; "Washington and Riyadh Proceed with Plans to Make Morocco an ISR Heavyweight," *Intelligence Online*, 17 January 2018, 4; "Qatar: Military Cooperation with Pakistan," *Tactical Report Weekly*, 16 February 2018, 2.
- 34 Hussein Ibish, *The UAE's Evolving National Security Strategy* (Washington, DC: The Arab Gulf States Institute in Washington, 2017), 17–22; Heiko Borchert and Shehab al Makahleh, "Sharpening the Falcon's Claws," *European Security and Defense*, 1 (February 2017), 26–26; David B. Roberts, *The Gulf Monarchies' Armed Forces at the Crossroads. Focus Stratégique 80* (Paris: IFRI, 2018), 26, <https://www.ifri.org/en/publications/etudes-de-lifri/focus-strategique/gulf-monarchies-armed-forces-crossroads> (accessed 10 May 2018).
- 35 Glen Carey, "Saudi Cash Can't Buy Military Clout," *Bloomberg*, 11 January 2017, <https://www.bloomberg.com/news/articles/2017-01-11/saudi-cash-can-t-buy-mideast-clout-as-foreign-policy-misfires> (accessed 15 March 2018). Saudi Arabia spent around US\$267 million on Foreign Military Sales in fiscal years 2016 and 2017 for military training in the United States. See: *Foreign Military Training Report. Fiscal Years 2016 and 2017. Joint Report to Congress Volume 1* (Washington, DC: Department of Defense/Department of State, 2017), Section III, 6, <https://www.state.gov/documents/organization/275295.pdf> (accessed 10 May 2018).
- 36 *The Emerging GCC Defence Market: The \$30 Billion Opportunity* (Dubai: Strategy&, 2017), 8–10, <https://www.strategyand.pwc.com/media/file/The-emerging-GCC-defence-market.pdf> (accessed 10 May 2018).
- 37 Based on SIPRI trade registers. http://armstrade.sipri.org/armstrade/page/trade_register.php (accessed 10 May 2018).
- 38 Interest in the S-400 air defense systems because of failures witnessed with Raytheon's Patriot air defense system. See: Roberts, *The Gulf Monarchies' Armed Forces at the Crossroads*, 16. Growing interest in Russian system also illustrates the strive for diversity, but it is fair to assume that some of the challenges that have hindered Washington's attempt to establish an integrated missile defense shield on the Arabian Peninsula are likely to haunt Moscow, too. This is particularly true for the lack of trust among the GCC nations that has prevented truly collaborative solutions on data sharing for early warning and consensus about who would have the power to shoot down incoming missiles over neighboring territories.
- 39 "Abu Dhabi Exports Counter-Guerilla Material", *Intelligence Online*, 20 September 2017, 1.
- 40 Command, Control, Computers, Communications, Intelligence, Surveillance, Reconnaissance.

- 41 *The Global Competitiveness Report 2017-2018* (Geneva: WEF, 2018), ix
<http://www3.weforum.org/docs/GCR2017-2018/05FullReport/TheGlobalCompetitivenessReport2017%E2%80%932018.pdf> (accessed 10 May 2018).
- 42 Kristian Coates Ulrichsen, "Can the Gulf Cooperation Council Survive the Current Crisis?" *Arab Center Washington DC*, 7. September 2017, http://arabcenterdc.org/policy_analyses/can-the-gulf-cooperation-council-survive-the-current-crisis/ (accessed 10 May 2018).
- 43 "KSA: Rules of Reciprocity with Arms Exports," *Tactical Report Weekly*, 13 May 2016, 4.
- 44 "ODAS goes for broke in Riyadh," *Intelligence Online*, 15 June 2016, 5; "MBS en France: les contrats d'armement au service de Vision 2030", *Middle East Strategic Perspectives*, 9 April 2018, <https://www.mesp.me/2018/04/09/mbs-en-france-les-contrats-darmement-au-service-de-vision-2030/> (accessed 10 May 2018); "KSA: Armament relations with France," *Tactical Report Weekly*, 13 April 2018, 4.
- 45 "KSA-UAE: GCC Affairs and Military Industry," *Tactical Report Weekly*, 8 December 2017, 1; "KSA: A joint military task force with the UAE," *Tactical Report Weekly*, 27 October 2017, 1.
- 46 "KSA: Qatar and Arms Deals", *Tactical Report Weekly*, 30 June 2017, 1; "Qatar: Washington and Arms Deals," *Tactical Report Weekly*, 24 November 2017, 1.
- 47 Ali Bakeer, "Making Sense of Qatar's Military Buildup," *Gulf International Forum*, 8 March 2018, <https://gulfif.com/making-sense-of-qatars-military-buildup/> (accessed 10 May 2018).
- 48 "The Qatar Crisis Hits the African Continent," *The New Arab*, 12 October 2017, <https://www.alaraby.co.uk/english/indepth/2017/10/12/the-qatar-crisis-hits-the-african-continent> (accessed 10 May 2018).
- 49 For 2017 BAE Systems has posted turnover of roughly £19.6bn. The sale of 24 Eurofighter Typhoon fighters signed by Qatar in December 2017 is valued at around \$5bn. See: Preliminary Accouchement 2017, (London: BAE Systems, 2018), 1, <https://investors.baesystems.com/~media/Files/B/Bae-Systems-Investor-Relations-V3/PDFs/results-and-reports/results/2017/2017-preliminary-announcement.pdf> (accessed 15 March 2018).
- 50 "Memorandum of Intent between the Kingdom of Saudi Arabia and the UK Government," BAE Systems Press Release, 9 March 2018, <http://www.londonstockexchange.com/exchange/news/market-news/market-news-detail/BA./13562011.html> (accessed 10 May 2018).
- 51 Hüseyin Bağcı and Caglar Kurc, "Turkey's Strategic Choice: Buy or Make Weapons." *Defence Studies* 17, no. 1 (2016): 38–62. doi:10.1080/14702436.2016.1262742.
- 52 "KSA: Arms Deals with Turkey Put on Hold?" *Tactical Report Weekly*, 15 September 2017, 3; "Saudi Prince Says Turkey Part of 'Triangle of Evil': Egyptian Media," Reuters, 7 March 2018, <https://www.reuters.com/article/us-saudi-turkey/saudi-prince-says-turkey-part-of-triangle-of-evil-egyptian-media-idUSKCN1GJ1WW> (accessed 15 March 2018).
- 53 Ian Armstrong, "What's Behind China's Big New Drone Deal?" *The Diplomat*, 20 April 2017, <https://thediplomat.com/2017/04/whats-behind-chinas-big-new-drone-deal/> (accessed 15 March 2018).
- 54 Awad Mustafa, "Why is Qatar Showing Off Its New Short-Range Chinese Ballistic Missile?" *Al Arabiya*, 20 December 2017, <http://english.alarabiya.net/en/News/gulf/2017/12/20/Qatar-showcases-offensive-ballistic-missiles-targeting-neighbors.html> (accessed 15 March 2018).
- 55 *The Military Balance 2018* (Abingdon: Routledge, 2018), 327, 345, 354, 357, 358, 367.
- 56 Marko Msrnik, *Global Aging 2016: 58 Shades of Gray* (New York: Standard & Poor's Ratings Direct, 2016), http://media.spglobal.com/documents/SPGlobal_Ratings_Article_28-April-2016_Global+Aging_58+Shades+of+Gray1.pdf (accessed 10 May 2018).
- 57 Deena Kamel, "Exclusive: Strata eyes Saudi Arabia, Far East to build global supply chain." *The National*, 2 May 2018, emphasis added, <https://www.thenational.ae/business/aviation/exclusive-strata-eyes-saudi-arabia-far-east-to-build-global-supply-chain-1.726424> (accessed 10 May 2018).