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The Defence Industrial and Technological Base of the Gulf countries

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INTRODUCTION

Over the past decade, 7 of the 10 countries with the highest share of military spending in the world are in the Middle East: Oman (12% of GDP), Saudi Arabia (10% of GDP¹), Kuwait (5.8% of GDP), Jordan (4.8% of GDP), Israel (4.8% of GDP), Lebanon (4.5% of GDP) and Bahrain (4.1% of GDP)².

The Gulf's largest economic power, Saudi Arabia (GDP \$796 billion³), is the largest defence investor (3rd in the world after the United States and China) and the largest arms importer in the Middle East. Since the arrival of Mohammed Ben Salman in June 2017, military expenses have increased again, reaching \$69.4 billion⁴ (\$76.7 billion according to *Military Balance*⁵).

The Gulf's second largest economy, the United Arab Emirates (UAE) (GDP of \$456 billion⁶), is also ranked second in terms of military spending in the Middle East. In 2014⁷, it spent \$24.4 billion⁸.

Although all the Arab Gulf countries (Iran is not mentioned in this note) spend large sums of money on their defence⁹, only two countries have decided to take the plunge

¹ The 15 countries with the highest military spending allocate on average 4.2% of their GDP.

² For the United Arab Emirates, there are no data after 2014. However, the country allocated on average 4.8% of its GDP between 2005 and 2014, according to World Bank data.

³ French Treasury Directorate General, "Letter of the Arabic Peninsula n°3" January 2019, p. 15 <https://www.tresor.economie.gouv.fr/Articles/a58ebd9c-45dc-4cce-a38e-8e263f0f4337/files/521e6d30-1534-4d40-bca8-5e54c4a90496>

⁴ *SIPRI Military Expenditures Database*, p. 22. https://www.sipri.org/sites/default/files/1_Data%20for%20all%20countries%20from%201988%E2%80%932017%20in%20constant%20%282016%29%20USD.pdf

⁵ (2018) Chapter Ten: Country comparisons and defence date, *The Military Balance*, 118:1, 499-508.

⁶ French Treasury Directorate General, "Letter of the Arabic Peninsula n°3", January 2019, op. cit.

⁷ Latest data available.

⁸ *SIPRI Military Expenditures Database*, op. cit. p. 21.

⁹ On average \$130 billion per year for the Gulf Cooperation Council countries.

into a logic of technology transfer via financial or non-financial compensation (offsets). For Saudi Arabia and the UAE, the ambition to create a modern military industry that can compete in the international defence market is emerging as a strategic priority for the 21st century. It highlights a range of national and international interests.

These two States wish to develop their military defence industries with the rather traditional aim of:

- ➔ respond to threats against their national security;
- ➔ reduce their dependence on the powers that dominate the international defence market (Saudi Arabia is the second largest arms importer in the world, after India, accounting for 7% of the world's \$46 billion in arms imports, while the UAE ranks 4th, accounting for 4.6% of global imports);
- ➔ diversify their economies;
- ➔ consolidate their influence on the regional scene through the prestige resulting from the creation of a Defence industrial and technological base (DITB) and increase their military credibility;
- ➔ amplify their diplomatic power and achieve greater autonomy.

The other countries either do not have the human and technical resources to establish an autonomous DITB, despite their financial means (Qatar, Kuwait, Oman), or their autonomous political capacity (Bahrain).

But the financial and economic dimension is not the only vector that pushes the main Gulf States to undertake the establishment of a DITB. They are increasingly suspicious of the reliability of the United States as the sole guarantor of their security. The country's behaviour during the "Arab springs" and the declarations of the American presidents on the "strategic pivot" towards Asia-Pacific led them to an accelerated reflection towards the search for an empowerment of the means of defence¹⁰.

¹⁰ See Emma Soubrier, chapter "The defence economy of the Gulf countries, between maintaining the status quo and the desire to assert" in Aude-Emmanuelle Fleurant (dir.), "Quelles stratégies face aux mutations de l'économie de défense mondiale?" *IRSEM Studies* No. 38, p. 20-27.
https://www.researchgate.net/profile/Emma_Soubrier/publication/277863423_The_defense_economy_of_Gulf_countries_between_maintaining_the_status_quo_and_volunteering_of%27affirmation/links/5575720c08ae753637500803/The_defense_economy_of_the_countries_of_Gulfe-entre-maintien-du-status-quo-et-volonte-daffirmation.pdf

See also Fatiha Dazi-Héni, "Le Conseil de coopération du Golfe : une coopération de sécurité et de défense renforcée?", Sce-Po-CERI, note September 2011, p. 4.
https://www.sciencespo.fr/ceri/sites/sciencespo.fr.ceri/files/art_fdh.pdf

I – Projections: Emirian Vision 2021 and Saudi Vision 2030, what are the Gulf ambitions?

The two leading Gulf countries, Saudi Arabia and the UAE, are integrating their approach to creating a DITB into a broader forward-looking vision that aims to embed their economies in the post-oil era. The money accumulated in their respective sovereign wealth funds is becoming the vehicle for a profound transformation of societies and the position of the two States in the future.

The UAE Vision 2021, which aims to diversify its economy so that it is no longer dependent on the oil sector, has made the *knowledge economy* a clear goal. The federation wants to be among the top 10 world powers in terms of innovation, triple their R&D spending (from 0.5% to 1.5% of GDP) and almost double the share of its skilled workers in the labour force.

As part of the implementation of this post-oil economic policy, the Vice President of the UAE, Prime Minister and Emir of Dubai, Sheikh Mohammed bin Rashid Al Maktoum announced the adoption of an "industrial strategy". While in 2015, only 10% of UAE's GDP came from the manufacturing sector, the 2021 vision foresees raising it to 30% in 2020¹¹. In addition, the weight of hydrocarbons in GDP has been less than 30% of GDP since 2015¹², the objective is to reduce this share to 20% in 2021, and to 0% within 50 years¹³. This strategy aims to make the UAE a global platform for industries based on know-how, innovation and sustainability, with a particular focus on aviation and ship-building industries for the military sector.

The plan launched by the Saudi government in 2016 to diversify the Saudi economy entitled Vision 2030¹⁴, envisages investing 50% of arms spending locally, as a reminder, currently Saudi Arabia invests 2% of its total military spending on its soil. The Kingdom aims to be on the list of the 25 largest arms sellers in the world¹⁵. Its strategy is to focus first on low-complexity industries such as spare parts, armoured vehicles and ammunition, before expanding and considering more sophisticated equipment, such as military aircraft¹⁶. The plan aims to create a national network of integrated services and industries

¹¹ Florence Gaub and Zoe Stanley-Lockman, op. cit. p. 201.

¹² Treasury "Economic and Financial Situation of the United Arab Emirates", 7 February 2019, p. 1 - <https://www.tresor.economie.gouv.fr/PagesInternationales/Pages/7ec3f7a5-21bf-441a-b155-51b426655971/files/1e028064-0363-4f2b-aad4-b11d414da4cc>

¹³ Siddesh Suresh Mayenkar, « UAE Targets Zero contribution from oil to GDP, minister says », *Gulf News*, 11 avril 2016, <https://gulfnews.com/business/uae-targets-zero-contribution-from-oil-to-gdp-minister-says-1.1708973>

¹⁴ <https://vision2030.gov.sa/en>

¹⁵ Shaul Shay, "The Saudi Arabian Military Industries (SAMI)", Herzliya Conference 2018, April 2018, p. 1, <https://www.idc.ac.il/en/research/ips/2018/Documents/ShaulShaySAMI22.4.18.pdf>

¹⁶ *Saudi Vision 2030*, 25/04/2016, p. 48.

that will accelerate the country's autonomy and strengthen defence-related exports¹⁷. To achieve this, the Kingdom wishes to integrate its defence companies into its territory, as indicated by Atiyah al-Maleki, Director General of National Production Support, "Project contracts related to military industries require a 50% nationalization rate. Plants are also obliged to produce equipment locally, instead of importing it, once the capacity has been acquired¹⁸.

The Saudi Public Investment Fund (PIF), estimated at \$224 billion¹⁹, plays a key role here. Estimates assume that by 2030, the fund could control up to \$2 trillion²⁰. The PIF will be involved in many sectors, including defence, as evidenced by the signing of a series of major agreements in 2017 between the United States and its subsidiary, SAMI²¹.

2 – The first steps in the implementation of a DITB

Saudi Arabia and the UAE were among the first Arab countries to take a first step towards the establishment of a joint defence industry in the early 1970s within the Arab Organization for Industrialization (AOI), which also includes Egypt and Qatar. The purpose of this organization, with the new means offered by the surge in oil prices, was:

- ➔ To achieve a certain degree of self-sufficiency in conventional weapons;
- ➔ To promote inter-Arab cooperation and integration, limiting external pressures;
- ➔ To reduce the unit cost of military production by increasing production;
- ➔ To establish an advanced industrial base in the Arab world and train technical manpower;
- ➔ To provide additional income through the sale of surplus products to neighbouring Arab and/or Muslim countries as well as to developing countries.

The failure of the AOI in 1979 led Saudi Arabia to reassess its own objective in terms of²² defence industrial capability. In 1983 and 1984, the country set up a dedicated programme, the primary objectives of which were the use of technology transfers and

¹⁷ *Saudi Vision 2030*, 25/04/2016, idem.

¹⁸ Nayef al-Rashid « Saudi Firm Export Advanced Military Parts Abroad », *Asharq al-Awsat*, 29 janvier 2018, <https://aawsat.com/english/home/article/1158396/saudi-firms-export-advanced-military-parts-abroad?amp>

¹⁹ "The Public Investment Fund Program (2018-2020)", p. 12, <https://vision2030.gov.sa/en/pifprogram/about>.

²⁰ Samad Khan, « Saudi Arabia's PIF targets \$2 trillion portfolio by 2030 », *The national*, 23 octobre 2018 – <https://www.thenational.ae/business/economy/saudi-arabia-s-pif-targets-2-trillion-portfolio-by-2030-1.783557>

²¹ Heiko Borchert, « The Arab Gulf defense pivot: Defense Industrial policy in a changing geostrategic context », *Comparative Strategy*, 37:4, 299-31.

²² Yezid Sayigh, « Arab military Industry – capability, performance and impact », *Center for Arab Unity Studies*, Brassey's, 1992, p. 132.

economic diversification. The first step was the construction of an arms factory in Kharj by the German company *Heckler und Koch* in the early 1980s, which could produce small and medium-sized firearms. In 1985, Saudi Arabia and the United States finalized the \$3.7 billion "Peace Shield" programme to provide a comprehensive air defence system. This contract allowed a new element to emerge in the Saudi strategy, namely the inclusion of an offset clause in the purchase contract.²³

3 – The DITB's localization strategy through offsets programs

Offsets have played a major role in defence relations between Western and Middle Eastern countries. In the Gulf, Saudi Arabia and the United Arab Emirates have developed compensation policies focusing on technology transfer.

Saudi Arabia's Economic Offset Programme (EOP) was launched in the mid-1980s.²⁴ This was the first national offsets management program in the Gulf, followed by the UAE in 1991-1992.²⁵ It has been designed to develop a number of projects that benefit private sector companies and partnerships between Saudi and foreign companies, usually in the form of joint ventures. The Saudi government is focusing on technology transfer to improve its own capacity to diversify and strengthen its economy. The first offset programme signed with the Americans in 1985 set a reinvestment rate for defence companies responding to call for tenders of 30-35% of the value of equipment sold, over a maximum period of 10 years, in industrial projects or joint ventures that would provide highly skilled jobs for Saudi Arabians. The use of products or components of Saudi manufacture is preferred. Over the years, the main offset contracts²⁶ have shown that the Saudi approach focuses on technology transfer and more specifically on training local workers. Apart from the compensation projects of the Peace Shield I & II and Al-Yamaha, the majority of foreign industrial groups have invested in sectors other than defence. Riyadh focuses on short-term security and capacity absorption rather than economic efficiency and development.²⁷ In addition, it should be noted that while the Kingdom usually requires offset conditions, it often waives them for other American contracts for security reasons.

²³ Ibid.

²⁴ Yezid Sayigh, "Arab military Industry – capability, performance and impact", op. cit.

²⁵ Al-Ibrahim, Y. and Al-Wazar, M. « Offset Perspective in Kuwait », Offset Forum – joint investment for development, Ministry of Finance, Kuwait, 13 et 14 mai 1996.

²⁶ The main contracts are: the American "Peace Shield" contract (1984-1985, 1991), the English Al-Yamaha (1986, 1988) and the French Al-Sawari (1994, 1997).

²⁷ Theodore Karasik, Giorgio Cafiero and Matthew Hedges, "Can Saudi Arabia Create an Indigenous Defense Industry?", *Real Clear Defense*, 24 October 2016, https://www.realcleardefense.com/articles/2016/10/25/can_saudi_arabia_create_an_indigenous_defense_industry_110252.html

The UAE offset programme was initiated in 1992, after the first Gulf War, in order to benefit economically and commercially from the intense defence procurement policy²⁸. This program requires a reinjection equivalent to 60% of the contract value into the UAE economy²⁹. Defence groups are generally required to meet their offset obligations over a seven-year period. The investment must take the form of a profitable and sustainable joint venture in which a local UAE partner must hold at least 51% of the shares.³⁰

In 2007, the Offset Program Bureau (OPB), which is responsible for offsets management, created a subsidiary, *Tawazun Holding*, whose objectives are to develop companies through partnerships and strategic investments to bring added value to UAE industry in sectors such as aerospace, defence, automotive, ammunition, metals and technologies³¹. In 2010, OPB announced new guidelines that allowed it to move from a model based solely on the profit generated by companies supported by parties obliged by the compensation program, to a model that places technology and goods production at the heart of the program, thus offering more flexibility to international entrepreneurs.³²

In 2012, OPB officially renamed itself *Tawazun Economic Council*, refocusing its areas of interest on aerospace systems, ammunition and weapons systems, land systems, naval systems, autonomous systems, advanced metals and materials, radars, communication systems, command and control systems and electronic systems³³.

Shortly before the opening of the UAE arms trade fair, IDEX 2019, an aspect of the new offset program was announced, allowing companies to spend in a wider range of sectors in the UAE, and no longer only in the defence sector. Although the details of the new policy are not yet clear, the general principles announced are considered an improvement by most analysts and arms suppliers³⁴.

²⁸ « *History and changes in the UEA offset program* », Blenheim Capital Partners, 6-7 septembre 2011, <http://www.ecco-offset.eu/wp-content/uploads/Forum-2.3-PRESENTATION-G.-ROGAN-UAE-History-old-versus-new-v2.pdf>

²⁹ « *History and changes in the UEA offset program* », op. cit.

³⁰ Leo G.B. Welt et Dennis B. Wilson, « *Offsets in the Middle East* », 1998, <https://www.mepc.org/journal/offsets-middle-east>

³¹ <https://www.tip.ae/about-us/tawazun-holding/>

³² « *History and changes in the UAE Offset Program*, » op. cit. ; Anderson, « *Offset in the UAE* », for an assessment of OPB's reforms, Blenheim Capital Partners, 6-7 septembre 2011, <http://www.ecco-offset.eu/wp-content/uploads/Forum-2.3-PRESENTATION-G.-ROGAN-UAE-History-old-versus-new-v2.pdf>

³³ "Interview with Mr. Matar Ali Al Romaithi, Director of Offset Unit at Offset Program Bureau (OPB) of UAE", *EPICOS*, February 10, 2011.

³⁴ DB des Roches, « *IDEX 2019 Highlights Gulf states' Move to Develop Domestic Defense Industries* », 11 mars 2019. <https://agsiw.org/idx-2019-highlights-gulf-states-move-to-develop-domestic-defense-industries/>

4 – Public defence companies, major actors in the establishment of a DITB

Saudi Arabian Military Industries (SAMI), established in May 2017, is owned by the Saudi PIF. The entity is chaired by Ahmed el-Khateeb and headed by Andreas Schwer, a former member of the Board of Directors of the German company *Rheinmetall Defense* and former member of Airbus' Directorate. SAMI is consolidating several existing companies to boost the DITB's capabilities and achieve the objectives set by Vision 2030: it plans to contribute to \$3.73 billion into Saudi GDP, increase the value of domestic exports by about \$1.3 billion, invest more than \$1.6 billion in research and development and create more than 40,000 jobs in the territory³⁵.

SAMI aims to become one of the 25 largest aeronautics and defence companies in the world, it is organised into 4 divisions:

- ➔ Defence electronics: C4Is (command, control, communication, computers and intelligence), but also sensors, radars, etc. This division focuses mainly on strengthening the kingdom's skills in electronic warfare and cyber warfare, while aiming to produce naval combat systems and communication systems;
- ➔ Ground systems: production of wheeled and tracked armoured vehicles, turrets, logistics vehicles, unmanned ground vehicles (UVG);
- ➔ Aeronautics: development, construction, maintenance, repair and overhaul (MRO) of combat aircraft and drones;
- ➔ Weapons and missiles: production of small arms and other conventional weapons used by land forces, missiles fired from land, sea and air and guided weapons, launch systems and ammunition for the Royal Saudi Armed Forces and other countries.

The creation of the *Emirates Defense Industries Company (EDIC)* in 2014 – a merger of 16 public defence companies, employing 10,000 people³⁶ – is a major event in the effort to locate UAE military spending. The company has enabled the integration and consolidation of a defence industrial base, following the merger of 3 major public investment funds, the *Mubadala Development Company*, which holds a 60% stake, *Tawazun Holding*, and *Emirates Advanced Investments Group*³⁷. As part of the government's strategy to diversify the economy, this integrated platform benefits from economies of scale, while

³⁵ Shaul Shay, "The Saudi Arabian Military Industries (SAMI)", op. cit.

³⁶ Florence Gaub and Zoe Stanley-Lockman, "Defense industries in Arab states: players and strategies", op. cit.

³⁷ Dr. Theodore Karasik et Adam Dempsey, « UAE Struggling to Build a World Class Defense Industry? », Lexington Institute, 26 avril 2017, <https://www.lexingtoninstitute.org/uae-struggling-build-world-class-defense-industry/>

improving the returns and performance of its subsidiaries. Thus, the largest Emirates offset contracts converge towards them³⁸. The Holding Company also wishes to become the regional centre for MRO³⁹.

5 – Industrial capacities and international partnerships

Saudi Arabia seems to target almost all segments of the defence industry. The tangible results will depend to a large extent on a long-term technological development roadmap that has not yet been announced and on the development of local home-grown expertise. With regard to the latter, Saudi Arabia has established the *Saudi Technology Development and Investment Company* (TAQNIA) and the Abdulaziz Royal City for Science and Technology (KACST), two essential elements of the Saudi industrial and defence ecosystem, which are involved in technology transfer from international partners to Saudi Arabia and in the diffusion of local partners' technologies and skills.⁴⁰ KACST, for example, is developing the Saqr UAV program, and T AQNIA has created various companies specializing in robotics, cybersecurity and satellite manufacturing. Together, the two companies are working with Antonov in Ukraine on the AN-132 multi-purpose light aircraft, in which KACST owns 50% of the intellectual property.⁴¹

Since the beginning of reforms in the defence industrial sector, Saudi Arabia has also begun to diversify its strategic alliances for the construction of its DITB. In 2014, Saudi Arabia signed defence cooperation agreements with three countries: Indonesia, India and Pakistan. Ukraine, as mentioned above, and South Africa are also gradually entering the Saudi market. When the Americans refused to arm the Saudi drones, they turned to the South African company Denel Dynamics to arm the *Seeker 400* drone, initially created for surveillance. The supply of drones is in line with the growing interest in border security. In 2016, the joint venture between Denel and Rheinmetall (a conglomerate of German companies) opened a projectile factory in Al-Kharj with the Saudi weapons giant, *Military Industries Corporation* (MIC). In the same year, *Denel* also began co-producing anti-tank missiles with the Saudi company *ITEAC Group*⁴².

³⁸ Such as the involvement of *Boeing, Lockheed Martin, Raytheon, Rheinmetall* and *Thales* in joint ventures with *Edic* subsidiaries.

³⁹ Florence Gaub and Zoe Stanley-Lockman, op. cit. p. 52.

⁴⁰ Heiko Borchert, « The Arab Gulf defense pivot: Defense Industrial policy in a changing geostrategic context », *Comparative Strategy*, 37:4, 299-31.

⁴¹ Heiko Borchert, « The Arab Gulf defense pivot: Defense Industrial policy in a changing geostrategic context », op. cit.

⁴² Florence Gaub and Zoe Stanley-Lockman, "Defense industries in Arab states: players and strategies", op. cit.

As for the UAE, the country has the largest number of GCC shipbuilding, aviation, unmanned systems and land systems companies, with 80 companies registered in Abu Dhabi, Dubai and Ras al Khaimah. Most of these companies are subsidiaries of various public investment funds⁴³. The federation would like to become the leading exporter in the region, diversify the country's economy and align its defence industry with its desire to provide the best possible support to the Emirates armed forces. These companies provide services; MRO; firearms; ammunition and aviation components. The UAE already exports land vehicles, landing ships and air drones to the countries of the region, which allows it to claim the status of a regional locomotive. NIMR has set itself the objective of developing its activities in Southeast Asia (Indonesia, Malaysia, Philippines and Thailand) and Eastern Europe by 2016. Recent agreements with Belarus, the Czech Republic, Estonia, Serbia and Ukraine show that the UAE are following through on these intentions – and that they are becoming more associated with Russia and Eurasia.⁴⁴ The Emirates are also actively working in partnership with other countries in the MENA region. In 2012, NIMR also signed a co-production agreement for troop transport vehicles with Algeria. The decision to produce 2,500 NIMR vehicles locally in Algeria also suggests that the UAE are seeking an entry point into African markets – a purely economic approach, as Abu Dhabi and Algiers do not share the same geostrategic interests, whether in relation to the Syrian civil war or the conflicts in Yemen and Libya⁴⁵.

The UAE also differs from the defence industries of other Arab countries in that it is the only country with proven combat systems. The intervention in Yemen was a test battlefield for Emirati munitions. In July 2015, NIMR II Ajban 440A was observed in Yemen. The Enigma 8x8, designed by *Emirates Defense Technology* specifically for the Emirates Federal Military Forces, was also reportedly deployed for the first time. The latest NIMR vehicle, the N35, was also spotted in Yemen in 2017. On the maritime front, the Saudi coalition has allowed Baynunah class corvettes as one of the few ships to enter embargoed ports⁴⁶.

⁴³ Ibid, p. 48.

⁴⁴ Ibid, p. 59.

⁴⁵ Ibid, p. 60.

⁴⁶ Zoe Stanley-Lockman, "The UAE's Defense Horizons", Carnegie Endowment for International Peace, 2 May 2017, <https://carnegieendowment.org/sada/69831>

6 – Research and development, the limits of their ambitions

The most significant obstacle that the UAE will face in creating a sustainable DITB is demographics. Indeed, with 88% of immigrants, the country has only limited human resources from which to draw to meet its aspiration of becoming a leader in the knowledge economy market. The lack of national staff pushes the Emirates to use foreign engineers and highly skilled workers, which does not necessarily guarantee sustainable industrial progress.⁴⁷ In 2008, the UAE set up the National Research Foundation to develop an innovative and internationally competitive research environment. According to World Bank data, the UAE has doubled its share of R&D spending as a percentage of GDP in 5 years. Indeed, the share of R&D spending has increased from 0.47% in 2011 to 0.98% of GDP in 2016.

With regard to Saudi Arabia, the recruitment of qualified nationals in science, technology and engineering causes also a serious problem, and the quality of education is below the standards of developed countries.

Although both countries rank above most of their neighbours in terms of *knowledge economy*, and have made enormous progress in recent years, they rank far behind the most successful economies, capable of providing the necessary framework for a national defence industry. In 2018, the Kingdom ranked 60th out of 119 countries in the Global Talent Competitiveness Index's (GTCI) global knowledge ranking⁴⁸ while UAE ranked 43rd⁴⁹.

Saudi Arabia and the United Arab Emirates have made significant progress in the education and vocational training sector, but it will take at least another five to ten years for this investment to bear fruit and have a positive impact on military industrialization efforts. At present, there are simply not enough people with a technical diploma and/or training to be employed in the production and maintenance of weapons.⁵⁰

Aware that they are not in a position to realistically innovate in future generation technologies, the emerging defence industries often focus their industrial capabilities on the multiple forces that can be integrated into systems.⁵¹ Technological limitations and lack of human resources will inevitably hamper Gulf countries' plans.

⁴⁷ Florence Gaub and Zoe Stanley-Lockman, *idem*, p. 62.

⁴⁸ GTCI Report 2018, p. 208 - <https://www.insead.edu/sites/default/files/assets/dept/globalindices/docs/GTCI-2018-report.pdf>

⁴⁹ GTCI Report 2018, *op. cit.* at 226.

⁵⁰ Bilal Y. Saab, « The Gulf Rising, Defense industrialization in Saudi Arabia and the UAE », Brent Scowcroft Center on International Security at the Atlantic Council, Washington, mai 2014, p. 19 – https://www.files.ethz.ch/isn/182154/The_Gulf_Rising.pdf

⁵¹ Florence Gaub and Zoe Stanley-Lockman, *idem*, p. 61.

The establishment of a sustainable DITB, despite heavy financial resources invested, is not a guarantee of success. Previously, countries such as Argentina, Brazil or Indonesia (in the aeronautics sector) have had good starts and then face up to the harsh reality. Saddam Hussein's Iraq, despite very strong training efforts, had failed, as had Gaddafi's Libya. On the other hand, Iran has succeeded because it has respected the criteria for success:

- ➔ A coherent society and economy;
- ➔ An efficient education system;
- ➔ Care given to intermediate professions (supervisors, technicians, etc.);
- ➔ A long-term political will.

Otherwise, the emergence of a successful technology sector in a given country is only the result of a set of positive factors which are the sum of the qualities of the entire country⁵².

Everything will depend on Saudi Arabia and the Emirates' ability to effectively meet these criteria and anticipate in the long term the departure of the United States. These countries must therefore commit themselves to a profound transformation of their societies. While the UAE seems to have some assets and a head start in this area, Saudi Arabia is actually far from having embarked on this transformation. This is the high-risk bet of Crown Prince Mohamed Ben Salman – changing Saudi society to a forced march. It is however doubtful whether this goal will be achieved.

As for France, it contributes significantly to the supply of arms to the main countries of the Arab Gulf⁵³. It is also involved in more or less binding defence agreements with Kuwait⁵⁴, Qatar⁵⁵, the United Arab Emirates⁵⁶ and Saudi Arabia⁵⁷. These cooperations, which are

⁵² With the exception of successful niche strategies at the cost of considerable renunciations, such as Pakistani nuclear power or North Korea's.

⁵³ In 2017, the countries of the Levant and Middle East accounted for just over 60% of French arms exports. According to the "Report to Parliament 2018 on Arms Exports", p. 13, <https://www.defense.gouv.fr/actualites/articles/rapport-au-parlement-2018-sur-les-exportations-d-armement>

⁵⁴ Defence agreement since 1992, following the war. Decree No. 2010-1115 of 22 September 2010 publishing the Agreement on Defence Cooperation between the Government of the French Republic and the Government of the State of Kuwait, signed in Paris on 21 October 2009 <https://www.legifrance.gouv.fr/af-fichTexte.do?cidTexte=JORFTEXT0000022845743&categoryLink=id>

⁵⁵ Signing of a comprehensive "strategic dialogue" agreement including security, economics and culture on 11 February 2019, supplementing the Technical Agreement on the modalities for implementing defence cooperation of 25 October 1998.

⁵⁶ Decree No. 2012-495 of 16 April 2012 publishing the Agreement between the Government of the French Republic and the Government of the United Arab Emirates on defence cooperation, signed in Abu Dhabi on 26 May 2009, and the Agreement in the form of an Exchange of Letters on the interpretation of the Agreement on defence cooperation, signed in Paris on 15 December 2010 <https://www.legifrance.gouv.fr/af-fichTexte.do?cidTexte=JORFTEXT000025705803>

⁵⁷ Agreement on Military Cooperation and Assistance between the Government of the Kingdom of Saudi Arabia and the Government of the French Republic of October 9, 1982.

characterized by, among other things, considerable arms transfers, could in the long term be affected by the growing empowerment of the last two countries. As in Asia in particular, large contracts are accompanied by technology transfers. Offset strategies, now systematic, contribute to the development of local industries. However, what was once symbolic has contributed, in countries such as China and South Korea, to shaping a national civil and military industry that is equivalent in quality to the industries of exporting countries, or even exceeds them in some areas. In recent years, these two countries have become direct and effective competitors of their former suppliers. Even if the conditions for a real industrial take-off are not yet in place in the Gulf countries and strong societal barriers remain, France should not dismiss itself from a general reflection on its armament policy in the area and on the support it provides in the long term.

Appendices

Table n° 1 : EMIRATI DEFENCE COMPANIES CREATED THROUGH AN OFFSET CONTRACT

Company	Area of specialization
Abu Dhabi Autonomous Systems Investment, a subsidiary of Tawazun ⁵⁸	Manufacturing of industrial capacities in autonomous systems
Abu Dhabi Ship Building ⁵⁹	Ship repair, overhaul and construction
Abu Dhabi Systems Integration, a subsidiary of Abu Dhabi Ship Building and SELEX ES ⁶⁰	Design, development, integration and maintenance of naval combat and electronic systems
Adcom Systems ⁶¹	Manufacture of drones, air targets, air traffic control radar, and advanced communication systems
Al Jaber Group ⁶²	Construction and development of infrastructure, buildings and industrial sites
Al Marakeb and Raytheon International ⁶³	Manufacture of autonomous surface vehicles to improve maritime surveillance
Advanced Military Maintenance, Repair and Overhaul Centre, a joint venture owned by Mubadala, Sikorsky Aerospace Services and Lockheed Martin ⁶⁴ , integrated into EDIC	Aircraft maintenance and support services to the UAE Armed Forces and other military operators throughout South Asia, the Middle East and North Africa
Advanced Technology Investment Company, a subsidiary of Mubadala ⁶⁵	Semiconductor industry
Al Taif Technical Services, a subsidiary of Mubadala ⁶⁶	MCO of defence system equipment and components
Al Yah Satellites Communications Company, a subsidiary of Mubadala ⁶⁷	Satellite systems

⁵⁸ [ADASI, http://www.adasi.ae/home.aspx](http://www.adasi.ae/home.aspx)

⁵⁹ [ADSB, http://www.adsb.ae/](http://www.adsb.ae/)

⁶⁰ [ADSI, http://www.adsi.ae/](http://www.adsi.ae/)

⁶¹ ADCOM Systems, <http://www.adcom-systems.com/ENG/Home.html>

⁶² Al Jaber, <http://www.aljaber.com/en/index.aspx>

⁶³ <https://blog.executivebiz.com/2016/03/raytheon-al-marakeb-jv-to-focus-on-unmanned-surface-vehicle-production-chris-davis-comments/>

⁶⁴ [AMMROC, http://www.ammroc.ae/](http://www.ammroc.ae/)

⁶⁵ Advanced Technology Investment Company, <http://www.mubadala.com/en/who-we-are/businessunit/advanced-technology-investment-company>

⁶⁶ Al Taif, <http://www.altaif.ae/about.asp>

⁶⁷ Al Yah Satellite, <http://www.yahsat.ae/SitePages/AboutUs.aspx>

ATK Middle East, a joint venture between Al Tuff International and Orbital ATK (acquired by Northrop Grumman Innovation Systems)⁶⁸	Manufacture of ammunition, precision and strike weapons, missile warning systems and tactical missile engines for air, sea and land transport
Bayanat for Mapping & Surveying, a subsidiary of Mubadala,⁶⁹integrated into EDIC	Geospatial surveying, mapping and information gathering services
Burkan Munitions Systems, a joint venture between Tawazun Holding and Al Jaber⁷⁰, integrated into EDIC	Manufacture, assembly and testing of a wide range of infantry, artillery and aircraft munitions
Caracal International, a subsidiary of Tawazun Holding⁷¹, integrated into EDIC	Manufacture of firearms, snipers and other small arms
EDIC and Reliance Defense Ltd (India)⁷²	Manufacture and MCO of land, sea and aircraft vehicles, weapons, electronic defence systems
Emirates Training Technology⁷³, a joint venture between Cubic Corporation (United States) and Emirates Defense Technology	Military training and education, range design
Fidelity Middle East⁷⁴, a joint venture between Fidelity Technologies Corporation and Al Tuff International	Various military support services
Global Aerospace Logistics⁷⁵	MCO of space systems and professional services
Gulf Logistics and Naval Support, a joint venture between Abu Dhabi Ship Building and BVT Surface Fleet⁷⁶	Wide range of maritime defence force support services covering the full spectrum of integrated logistics support and training
Horizon Flight Academy, a subsidiary of Mubadala⁷⁷, integrated into EDIC	Military aircraft and helicopter flight training
IGG-ASELSAN, a joint venture between the Emirates group IGG and the Turkish public company ASELSAN⁷⁸	Development and manufacture of remotely operated weapon systems
IGG Photonis Night Vision, a joint venture between IGG and the French company Photonis⁷⁹	Manufacture of night vision devices adapted for military use

⁶⁸ATK Middle East, <http://riguae.ae/atk-middleeast.html>

⁶⁹ [Bayanat, www.bayanat.co.ae](http://www.bayanat.co.ae)

⁷⁰ [Burkan, http://www.burkan.ae/](http://www.burkan.ae/)

⁷¹ [Caracal, http://www.caracal.ae/new/](http://www.caracal.ae/new/)

⁷² <https://www.livemint.com/Companies/1RwAgydoYhpo6vatLSfxSN/Reliance-Defence-in-pact-with-Émirates-Defence-for-strategic.html>

⁷³ Emirates Training Technology, <http://www.emiratestraining.ae/range-design-training-services/>

⁷⁴ Fidelity Middle East, <http://riguae.ae/fidelity-middleeast.html>

⁷⁵ [GAL, http://www.gal.ae/](http://www.gal.ae/)

⁷⁶ "Gulf Logistics and Naval Support is a joint venture between Abu Dhabi Ship Building and BVT Surface Fleet, Al Defaiya, 27 July 2009, <http://tinyurl.com/k6rzmm9>

⁷⁷ [Horizon, http://www.horizonuae.ae/](http://www.horizonuae.ae/)

⁷⁸ IGG-ASELSAN, <http://www.igggroup.ae/subsidiary-aselsan.html>

⁷⁹ <http://wam.ae/en/details/1395276981612>, <http://www.igggroup.ae/subsidiary-ph.html>

Mahindra Emirates Vehicle Armouring⁸⁰	Engineering, prototyping and manufacturing of armoured vehicles
Nibras Al Ain Aerospace Park, a joint creation between Mubadala Aerospace and Abu Dhabi Airport Company Mubadala⁸¹	Building a sustainable aerospace industry in the UAE
NIMR Automotive, a subsidiary of Tawazun⁸², integrated into EDIC	Manufacture of military vehicles
Rockford Xellerix, a subsidiary of Tawazun Holding⁸³	Design and manufacture of electronic and mechanical systems
Strata, a subsidiary of Mubadala⁸⁴	Aerospace industrial base for the UAE (and potentially more broadly)
Tawazun Advanced Defence Systems, a subsidiary of Tawazun Holding which merged with Caracal International	Manufacture of firearms, snipers and other small arms
Tawazun Dynamics, a joint venture between Tawazun Holding and Denel Dynamics⁸⁵, integrated into EDIC	Design, manufacture, supply and maintenance for the precision guided munitions (PGM) sector
Tawazun Precision Industries, a subsidiary of Tawazun Holding⁸⁶, integrated into EDIC	Various industrial services including engineering, production, repair and overhaul of production units
Tawazun Safety, Security & Disaster Management City, a subsidiary of Tawazun Holding⁸⁷	Technical and vocational training in security, safety, crisis and disaster management operations
Thales Advanced Solutions, a joint venture between the Thales group and EDIC⁸⁸	Satellite communication, radar, radio, network and support

⁸⁰ [Mahindra, http://www.mahindraarmored.com/](http://www.mahindraarmored.com/)

⁸¹ "Nibras Al Ain Aerospace Park: Catalyzing Abu Dhabi's Aerospace Industry," Mubadala, <https://www.mubadala.com/en/what-we-do/aerospace/nibras-al-ain-aerospace-park>

⁸² [NIMR, http://www.nimr.ae/](http://www.nimr.ae/)

⁸³ Rockford Xellerix, <http://www.rockford-xellerix.com/>

⁸⁴ [Strata, http://www.strata.ae/web/en/](http://www.strata.ae/web/en/)

⁸⁵ Tawazun Dynamics, <http://www.tawazundynamics.ae/>

⁸⁶ Tawazun Precision Industries, http://www.tpiuae.ae/?cmd=app_intro

⁸⁷ Tawazun Safety, Security & Disaster Management City (in Arabic, Jaheziya),

⁸⁸ <https://www.thalesgroup.com/en/countries/middle-east-africa/united-arab-emirates>

Table n° 2 : SAUDI DEFENCE COMPANIES CREATED THROUGH AN OFFSET CONTRACT

Company	Area of specialization
Abdallah Al Faris Armored Vehicle Factory ⁸⁹	Manufacture of armoured vehicles
Advanced Arabian Simulation Company ⁹⁰	Design, development, implementation and manufacture of military training and simulation devices, various consulting services
Advanced Electronics Company ⁹¹	Manufacture of modern electronic systems, integration and repair of maintenance systems and services
Alsalam Aircraft Company ⁹²	Aircraft maintenance, modifications and technical support
Aircraft Accessories and Components Company ⁹³	Overhaul of aircraft components in several areas such as mechanics, hydraulics, pneumatics, electrical and fuel system components
Armored Vehicles & Heavy Equipment Factory ⁹⁴	Manufacture, modernization and armoring of military vehicles
International Systems Engineering ⁹⁵	Systems engineering and development, information technology and related services
Middle East Propulsion Company ⁹⁶	Manufacture of propulsion systems and maintenance, repair and overhaul services
SADEC ⁹⁷ , a joint venture between ASELSAN (Turkey) and Taqnia Defense and Security Technologies	Design, development, manufacture and sale of electronic equipment, radars and electro-optical systems for military and civil applications
SAMI Navantia Naval Industries ⁹⁸ , a joint venture between SAMI and Navantia Naval	Integration of naval combat systems, systems engineering and architecture, hardware design, software development, testing and verification, prototyping, simulation and modeling, as well as installation and integration of combat systems on the last two ships of Project 2200, as well as logistics support and training programs.
SAMI in partnership with Rheinmetall Denel Munition ⁹⁹	Manufacture of mortars, artillery shells and air-to-ground bombs

⁸⁹ <http://www.aalfaris.com/projects.php?p=11#4>

⁹⁰ <https://www.epicos.com/company/13072/advance-arabian-simulation-co>

⁹¹ Saab, B. (2014b, 7 May), The Gulf Rising: Defense industrialization in Saudi Arabia and the UAE, The Atlantic Council: Brent Scowcroft Center for International Security. Disponible à https://www.atlanticcouncil.org/images/publications/The_Gulf_Rising.pdf

⁹² Ibid.

⁹³ Ibid.

⁹⁴ Ibid.

⁹⁵ Ibid.

⁹⁶ Ibid.

⁹⁷ <https://www.taqnia.com/en/sectors/security-defense/saudi-arabian-defense-electronics-company-sadec>

⁹⁸ <https://www.sami.com.sa/en/node/77854>

⁹⁹ <https://www.defensenews.com/home/2016/04/06/rheinmetall-denel-munition-factory-opens-in-saudi-arabia/>

Joint venture between Taqnia and DigitalGlobe (United States) ¹⁰⁰	Development of satellite recognition systems
Agreement to create a new joint venture between SAMI and Boeing ¹⁰¹	Supply, MRO services and installation of weapons on military aircraft and helicopters of the Saudi Armed Forces
Agreement to create a new joint venture between SAMI and Thales ¹⁰²	Development and manufacture of modern and high-performance turrets and armed systems for armoured vehicles
Agreement to create a new joint venture between SAMI and CMI Defence (Belgium) ¹⁰³	Development and manufacture of modern and high-performance turrets and armed systems for armoured vehicles
Agreement to create a new joint venture between SAMI and Naval Group (France) ¹⁰⁴	Development of Saudi Arabia's naval capabilities
Agreement to create a new joint venture between SAMI and L3 Technologies ¹⁰⁵	Development of an EO / IR industry (electro-optical and infrared) for sensor systems

¹⁰⁰ <https://spacenews.com/digitalglobe-and-saudi-government-sign-joint-venture-on-satellite-imaging-constellation/>

¹⁰¹ <https://www.sami.com.sa/en/node/4035>

¹⁰² <http://www.defense-aerospace.com/articles-view/release/3/199523/thales%2C-cmi-defence-sign-up-for-joint-ventures-in-saudi-arabia.html>

¹⁰³ <https://www.lecho.be/economie-politique/belgique/wallonie/l-entreprise-wallonne-cmi-produira-des-armes-en-arabie-saoudite/10092257.html>

¹⁰⁴ <https://www.sami.com.sa/en/node/93059>

¹⁰⁵ <https://www.sami.com.sa/en/node/93066>