

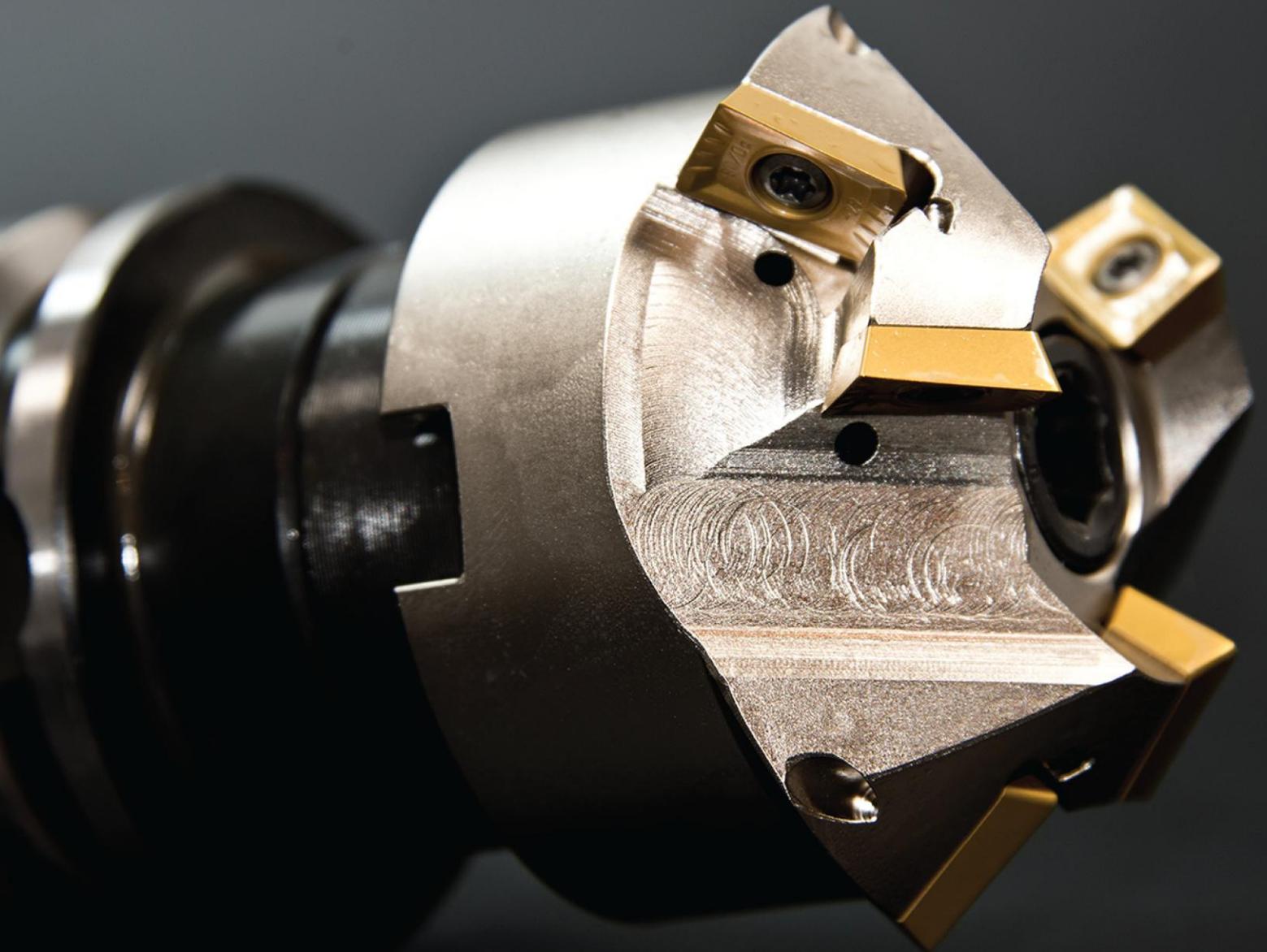


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# Making the Future

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The U.A.E.'s Growing Manufacturing Sector



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U.S.-U.A.E. Business Council  
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## The U.S.-U.A.E. Business Council

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## INTRODUCTION

Manufacturing has long been a key component of the U.A.E.'s economic diversification efforts as well as its thriving relationship with the United States. Over the past several decades, the U.A.E. has become an important producer of metals, such as aluminum and steel, and building materials, including cement, ceramics, and glass. It has also become a significant manufacturer of petrochemicals, pharmaceuticals, food and beverages, and a wide variety of consumer goods. In addition, it boasts a quickly growing aerospace and defense manufacturing sector.

Looking ahead, the prospects for U.A.E. manufacturing are bright. U.A.E.-based industry is poised to capitalize on the country's strategic location as well as its world-class transportation and industrial infrastructure. It is also set to benefit from relatively low taxes, business-friendly regulations, and the ready availability of energy, goods, and labor. These advantages should help U.A.E.-based manufacturers navigate any challenges from lower oil prices, increasing regional competition, persistent foreign dumping, or a rising global wave of protectionism.



*Ducab Aluminium, a Senaat-Ducab JV, breaks ground on facility in Khalifa Industrial Zone Abu Dhabi*

The U.A.E.'s burgeoning manufacturing sector presents a wide range of opportunities for U.S. companies and investors. First, U.S. companies could decide to establish manufacturing operations in the U.A.E. and make the country a regional hub for producing and exporting goods. Second, U.S. businesses might explore commercial relationships with U.A.E. manufacturers, either as potential suppliers to these manufacturers or buyers of their goods. Third, U.S. investors may decide to explore investments in the large number of U.A.E. manufacturers that are quickly growing in the country and beyond.

This report begins by providing an overview of U.A.E. manufacturing trends and the drivers behind these trends. It then offers insight into key sectors that have either been a focus of U.A.E. manufacturing growth or will be a focus in the future. Finally, it presents a look at the U.A.E. manufacturing sector's prospects, which look very promising indeed.

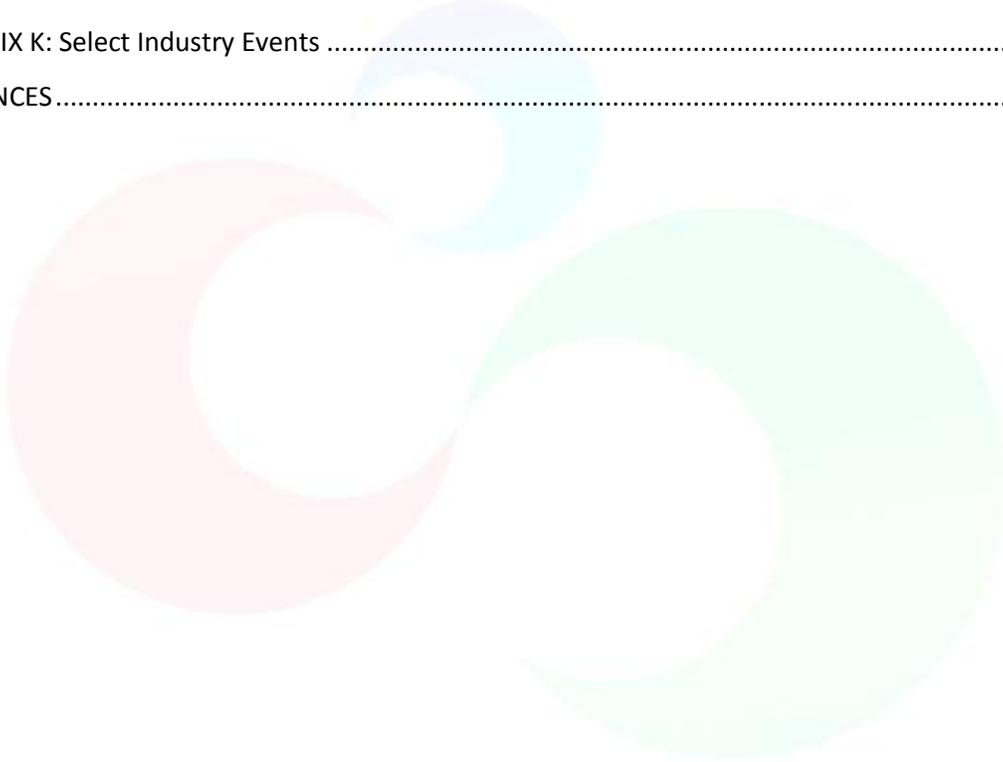
As always, the U.S.-U.A.E. Business Council stands ready to help both U.S. and U.A.E. companies better understand the commercial climate in the Emirates, so as to make informed decisions in pursuit of their long-term business objectives.

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## PART I: GENERAL TRENDS

The U.A.E.'s economic diversification efforts have led to a growth of manufacturing throughout the country, with manufacturing assuming a slightly different character in each Emirate.

### A. Economic Diversification

The U.A.E. has long been one of the world's leading oil producers. The country is the world's seventh-largest such producer, with hydrocarbon exports accounting for a projected \$65 billion (239 billion AED) in revenues in 2017. It also has the world's seventh-largest proved oil reserves, estimated at 97.8 billion barrels in January 2017.<sup>1</sup>

Not content to rely on this natural endowment, the U.A.E. has for decades capitalized on oil wealth to diversify its economy. Once dependent almost entirely on animal breeding, the pearl trade, seafaring, and fishing, the U.A.E. is now a hub for trade, finance, tourism, travel, healthcare, and industry as well as oil. As a result, the U.A.E.'s non-oil sector contributes to around 70% of its GDP. Moreover, the U.A.E.'s Minister of Economy, His Excellency Sultan Bin Saeed Al Mansouri, has spoken of the government's goal to increase that contribution to 80% in the next 10 to 15 years.<sup>2</sup>

The U.A.E. has been intentional about its diversification efforts, developing a series of long-term national and Emirate-level plans.

- The U.A.E. Vision 2021 National Agenda provides a framework for making the U.A.E. the “economic, touristic, and commercial capital for more than two billion people.”<sup>3</sup> This involves transitioning the U.A.E. to a knowledge-based economy, promoting innovation, strengthening the regulatory framework for key sectors, and encouraging high-value adding sectors.
- The Dubai Plan 2021 sets out to make Dubai “among the top 5 centers for trade, logistics, finance, and tourism.”<sup>4</sup>
- The Abu Dhabi Economic Vision 2030 outlines policies for revving the Emirate's “engines of economic growth and diversification,” which it identifies as: Energy; Petrochemicals; Metals; Aviation, Aerospace, and Defense; Pharmaceuticals, Biotechnology, and Life Sciences; Tourism; Healthcare Equipment and Services; Transportation, Trade, and Logistics; Education; Media; Financial Services; and Telecommunications Services.<sup>5</sup>

### B. Manufacturing Growth

The growth of manufacturing has been an important part of the U.A.E.'s economic diversification story since the country's independence in 1971. As early as the late 1970s, the U.A.E. had begun operations of a major cement factory in Ras Al Khaimah and large aluminum and copper wire plants in Dubai.<sup>6</sup> Since then, the U.A.E. manufacturing sector has expanded significantly, both in size and scope.

Today, the U.A.E. manufactures a wide range of products, ranging from metals and petrochemicals to pharmaceuticals and foodstuffs. As a result, the manufacturing sector, as of mid-2015, contributed 11% to the U.A.E.'s overall GDP. Moreover, the U.A.E. Minister of Economy His Excellency Sultan Al Mansouri said in 2015 that the country aims to increase manufacturing's contribution to 20% of GDP by 2020 and 25% by 2025.<sup>7</sup>

Once again, U.A.E. leadership has developed a series of plans to realize its ambitions to become a manufacturing hub.

- In May 2016, the Chairman of Abu Dhabi's Department of Economic Development, His Excellency Ali Majed Al Mansoori, announced that the Emirate is developing a plan to double the size of its industrial base as a percentage of GDP from 5% to 10%.<sup>8</sup>
- In June 2016, U.A.E. Prime Minister and Ruler of Dubai His Highness Sheikh Mohammed bin Rashid Al Maktoum unveiled the Dubai Industrialization Strategy, which aims to add \$45 billion (165 billion AED) to the economy and create 27,000 jobs by 2030 through development of particular areas: aerospace; maritime; pharmaceuticals and medical equipment; aluminum and fabricated metals; fast-moving consumable goods; and machinery and equipment.<sup>9</sup>

### C. Public and Private-Sector Involvement

Large government-linked institutions have played an important role in actualizing the U.A.E.'s industrialization plans and ambitions, chief among them:

- Senaat General Holding Corporation, which manages assets for the Government of Abu Dhabi, is one of the U.A.E.'s largest industrial holding companies. Senaat manages more than \$7 billion (25.7 billion AED) of industrial assets and has invested an average of \$52 million (191 million AED) per year in the non-oil sector over the last 10 years. The group currently operates in four of the key industrial sectors listed in the Abu Dhabi 2030 plan – Metals, Oil & Gas Services, Construction & Building Materials, and Food & Beverages Manufacturing. It is represented by nine companies: Emirates Steel, Ducab Aluminium Company (DAC), Taweelah Aluminium Extrusion Company (TALEX), National Petroleum Construction Company (NPCC), Arkan Building Materials Company (Arkan), Ducab, Agthia, Al Foah, and Al Gharbia.<sup>10</sup>
- 
- Mubadala Investment Company, also owned by the Government of Abu Dhabi, has investments in 13 strategic sectors including aerospace, ICT, semiconductors, metals & mining, and renewable energy and utilities. Important holdings include advanced composite aero-structures manufacturer Strata, integrated defense company Emirates Defense Industries Company (EDIC), and a stake in one of the largest aluminum producers in the world: Emirates Global Aluminium (EGA).<sup>11</sup>
- 
- Investment Corporation of Dubai, owned by the Government of Dubai, has investments in six sectors, including the energy and industrial sector. There, it has stakes in EGA as well as Ducab.<sup>12</sup> It also has invested in the publicly-listed "Dubai Investments," which has significant manufacturing and industrial holdings, particularly in the building materials, aluminum, and steel sectors.<sup>13</sup>
-

While state-linked institutions have helped spur manufacturing in the country, manufacturing is not the sole preserve of the state, and the U.A.E.'s private sector has also contributed to the growth of the country's manufacturing sector. For instance, Dubai-based Al Ghurair Group has nine active manufacturing companies spanning petrochemicals, metals, and packaging. These enterprises include Al Ghurair Iron & Steel and Gulf Extrusions.<sup>14</sup>

American and other foreign companies have also augmented the U.A.E.'s manufacturing output. For example, Guardian Glass, one of the world's largest glass manufacturers, operates a major facility in Ras Al Khaimah. Moreover, in December 2016, Unilever, which had already boasted the largest tea-packaging facility in the world in Jebel Ali, opened the Middle East's largest personal care products manufacturing plant at Dubai Industrial Park to produce renowned brands such as Dove, Lifebuoy, and Vaseline.<sup>15</sup>



## D. Local Trends

As a result of the above, today, there is no Emirate in the U.A.E. that does not have significant manufacturing capabilities, from the capital, Abu Dhabi, in the south to Ras Al Khaimah and other Emirates in the North. That said, there are particular trends one can observe across the country.

For instance, the centrality of manufacturing to the local economy varies by Emirate. Notably, Sharjah has come to pride itself on being the “manufacturing center of the U.A.E.,” in the words of Marwan bin Jassim Al Sarkal, CEO of the Sharjah Investment and Development Authority (Shurooq).<sup>16</sup> Indeed, Sharjah is said to be home to one-third of the U.A.E.'s entire manufacturing capacity, with manufacturing reportedly contributing to 25% of the Emirate's GDP.<sup>17</sup>



In addition, manufacturing has taken on a slightly different tenor in each Emirate due to local conditions. Abu Dhabi's hydrocarbon wealth, for instance, has led to the growth of energy-intensive industries, such as metals, and a booming petrochemical industry. Meanwhile, Dubai's port and airport have made it a hub for light and medium manufacturing firms.<sup>18</sup> Meanwhile, Ras Al Khaimah's natural resources have made it a regional center for certain goods such as ceramics.

## PART II: FOCUS SECTORS

The U.A.E.'s current manufacturing capabilities and future manufacturing aspirations center on certain key verticals, perhaps above all: metals, building materials, petrochemicals, pharmaceuticals, food and beverages, consumer goods, defense and aerospace equipment, and transportation equipment.

### A. Metals

Both Abu Dhabi and Dubai have made the manufacture of primary metals and the development of high-value downstream processing sectors a key component of their industrialization strategies. In so doing, they have capitalized on the comparative advantages of the U.A.E. in terms of energy and logistics, as well as the U.A.E.'s central global location. (See Appendix A for a select list of metal manufacturing companies).

#### Aluminum

The U.A.E. is a major player in the global aluminum industry, thanks to Emirates Global Aluminium (EGA). Owned equally by Mubadala Investment Company and the Investment Corporation of Dubai, EGA's two smelters make the U.A.E. the fifth-largest aluminum-producing country in the world. EGA is also one of the world's largest 'premium aluminum' producers, making value-added products to customers' specifications. In addition, it owns Guinea Alumina Corporation (a company developing a bauxite mining project in Guinea) and the under-development Al Taweela Alumina Refinery in Abu Dhabi.<sup>19</sup>



*Aerial View of Emirates Global Aluminium Smelter in Dubai*

EGA has developed its own technology for more than 25 years, and it has used its own smelter technology for all of its expansions since the 1990s. EGA's latest technology is amongst the most efficient in the global aluminum industry, and EGA has licensed it to others internationally.

Thanks to this technology, EGA now supplies over 350 customers in more than 60 countries. Some 75 per cent of EGA's customers have bought aluminum from the company for at least 10 years.

Domestically, supply of aluminum from EGA's dual locations, one at Jebel Ali in Dubai and the other at Khalifa Industrial Zone Abu Dhabi (KIZAD), has contributed to the growth of a downstream aluminum industry in both Emirates, with a wide variety of companies benefiting from logistics cost advantages due to proximity.

- **Dubai:** Gulf Extrusions, associated with Al Ghurair Group, has long benefitted from its proximity to EGA’s Jebel Ali facility to become a leading manufacturer of extruded aluminum products.
- **Abu Dhabi:** Taweelah Aluminium Extrusion Company (TALEX), a joint venture between Senaat and Al Ghurair Group’s Gulf Extrusions, is the first Aluminum downstream project to be established in KIZAD. It is set to produce extruded aluminum and aluminum extrusion-based products for regional and international markets, with an estimated capacity of 50,000 tons per annum of aluminum profiles and 45,000 tons per annum of aluminum billets. In addition, Ducab Aluminium Company (DAC), 40% owned by Senaat and 60% by Ducab (a Senaat subsidiary), will, following its opening in January 2018, use aluminum from EGA’s nearby Abu Dhabi facility to manufacture aluminum products, specifically aluminum alloy rods, wires, and bare overhead conductors. Finally, Emirates Aluminium Rolling (Emiroll) – a joint venture between Dubal Holding, Dubai Investments, and Mars – said in 2016 that it would build a \$120 million (440 million AED) plant near EGA’s smelter in Abu Dhabi that will produce 65,000 tons of aluminum coils annually for applications in downstream industries.<sup>20</sup>

### Emirates Global Aluminium’s “Hot Metal Road”

One of the main enablers of the downstream aluminum cluster in KIZAD, and a significant incentive for other metals businesses, is the ability of EGA to deliver liquid aluminum via its “hot metal road,” which saves its customers the significant energy costs of re-melting aluminum ingots. EGA developed a dedicated state-of-the-art liquid metal transfer facility that transfers metal via overhead crane to preheated crucibles that can keep the metal liquid for up to 18 hours. The crucibles can then be mounted on highly secured trailers and driven to customers. Ducab Aluminium Company was EGA’s first hot metal recipient in October 2016.



The U.A.E. has other significant aluminum-based manufacturing industries. For instance, Alubond USA (part of Mulk Holdings) and Alucopanel Middle East (part of Danube Group) are two very large producers of aluminum composite panels. Moreover, Can-Pack Group produces five million aluminum cans per day from facilities in Dubai.

### Steel

In addition to being a major player in the aluminum industry, the U.A.E. is also an important producer of steel. Emirates Steel, owned by Senaat, is the only integrated steel plant in the U.A.E., utilizing the latest technology to produce rebar, wire rod, and heavy sections from its strategic location in the Industrial City



of Abu Dhabi (ICAD), some 35 kilometers away from the heart of the city of Abu Dhabi. Established in 1998, Emirates Steel has grown in a relatively short period of time from a simple re-roller of imported steel billets to a complex integrated manufacturing plant that has, since the completion of two expansion projects and the acquisition of a number of small Musaffah-based steel assets in 2012, produced at a capacity of 3.5 million tons of steel per annum. Emirates Steel is an ASME (American Society of Mechanical Engineers)-certified steel maker and it is the first U.A.E. company to produce and deliver steel for construction of nuclear reactors and peripheries at the Emirates Nuclear Energy Corporation's nuclear energy plant. As of today, Emirates Steel sells its product in more than 30 countries worldwide.<sup>21</sup>

While Emirates Steel is the preeminent player in the U.A.E.'s steel sector, there are many other prominent companies as well. For instance, Conares and Hamriyah Steel both claim an annual capacity of around 1 million tons per annum of rebar. Other notable steel manufacturers include Star Steel and Al Ghurair Iron and Steel.

Moreover, the U.A.E.'s steel industry continues to expand:

- In March 2015, Senaat and two leading Japanese steel companies established Al Gharbia Pipe Company to build a \$300 million (1.1 billion AED) plant at KIZAD that, once fully operational in 2018, will be the U.A.E.'s first large-diameter, sour service capable, welded steel pipe project, with a production capacity of 240,000 tons per annum.<sup>22</sup>
- In May 2016, Dubai Investments entered into a pact with the Abu Dhabi Company for Building Materials (Bildco) to set up a \$68 million (250 million AED) steel plant in Abu Dhabi.<sup>23</sup>
- In February 2017, Al Shafar Group of Companies (ASSENT) announced a \$47.6 million (175 million AED) investment into the expansion of its steel fabrication plant at Dubai Industrial Park.<sup>24</sup>



## Copper

Beyond aluminum and steel, the U.A.E. also produces a variety of other metals and metallic products, including copper cables. Notably, Ducab, a joint venture between the Investment Corporation of Dubai and Senaat, is a leading provider of high-quality cabling products in the Middle East. The company currently runs five manufacturing facilities for cables, a copper rod mill, and a PVC plant. As such, it has a manufacturing capability of over 115,000 metal tons of high, medium, and low-voltage cables and 110,000 tons of copper rod and wire per annum.<sup>25</sup> Supplementing Ducab's output, Union Copper Rod boasts the largest production line of copper rods in the Middle East, producing 200,000 tons of copper rods per year.<sup>26</sup>



## Gold

Finally, the U.A.E. has several notable gold refineries. Kaloti Precious Metals in Sharjah claims to be one of the largest privately owned gold and precious metals refiners and trading houses in the world, producing 300 tons per annum of refined gold. Emirates Gold and Al Etihad Gold are also significant refiners of the metal.

## B. Building Materials

The U.A.E. as a whole, and Ras Al Khaimah in particular, features booming industries for construction-related materials such as cement, ceramics, and glass. This is, in part, thanks to the U.A.E.'s rapid construction of housing, retail developments, and landmark projects, such as Expo 2020 Dubai. (See Appendix B for a select list of building material companies).

### Cement

The U.A.E. is home to a large and growing cement industry. As of 2015, according to Global Cement Magazine, the country had 12 integrated cement plants, eight cement grinding plants, and 17 cement producing companies. Together, the integrated cement plants alone had a capacity of 29 million metric tons per year.<sup>27</sup>

Ras Al Khaimah has long been the heart of the U.A.E.'s cement industry. Union Cement Company, established in 1972, was the first cement producer in the U.A.E. and is still the country's largest, producing 4.8 million tons of cement per year. Thanks to Union Cement Company and other Ras Al Khaimah companies, such as Gulf Cement and Star Cement, the Emirate accounts for nearly half of the U.A.E.'s integrated cement capacity.<sup>28</sup>

While Ras Al Khaimah is the heart of the country's cement industry, there are other major producers elsewhere in the Emirates. Arkan Building Material Company, for instance, is a public joint stock company specializing in manufacturing building and construction products in Abu Dhabi. This company, which is 51% owned by Senaat, has four prominent divisions – cement, concrete blocks, pipes, and bags.

With a capacity of 3.2 million tons of clinker and 4 million tons of cement per annum, Arkan is one of the largest cement manufacturers in the U.A.E. through its Al Ain Cement Factory. Meanwhile, another Arkan portfolio company, Emirates Blocks Factories, has four facilities located in Abu Dhabi and Al Ain, with a total capacity of 235,000 blocks per day, and a wide range of dry mortar mixes. Beyond Arkan, other prominent U.A.E. cement producers include Sharjah Cement Factory, which has a capacity of 4.27 million tons of cement per year.<sup>29</sup>



### Ceramics

In addition to having several major cement manufacturers, the U.A.E. hosts one of the largest ceramics companies in the world: RAK Ceramics. Ras Al Khaimah's ruler, Sheikh Saud bin Saqr, founded RAK Ceramics to diversify the Emirate's economy by making use of key resources such as the clays and other raw materials in that Emirate.<sup>30</sup> RAK Ceramics currently has 16 plants in the U.A.E. and around the region, through which it produces 110 million square meters of tiles per year and 5 million pieces of sanitaryware. In all, it has global sales worth approximately \$1 billion (3.67 billion AED).<sup>31</sup>



## Glass

The U.A.E. is also a major producer of glass, due, in part, to Guardian Glass. Guardian Glass, a subsidiary of Guardian Industries (owned by Koch Industries), is one of the world's largest glass manufacturers with leading positions in float and fabricated glass products. Guardian Glass has operated a float glass plant in Ras Al Khaimah since September 2007 in addition to other regional plants in Egypt and Saudi Arabia.<sup>32</sup> At the time of its opening, Guardian Glass's plant in Ras Al Khaimah had a capacity of 700 tons of glass per day that could be used in construction and automotive applications.<sup>33</sup>

Guardian Glass has invested significantly in advanced coating technology to produce energy-efficient glass, as well as in high-performing environmental control technologies for its manufacturing operations. Its glass has been used on the world's tallest building, the Burj Khalifa, among other important buildings in the U.A.E.



*Guardian Glass Factory in Ras Al Khaimah*

Several other glass companies are also present in Ras Al Khaimah. For instance, French glass bottle maker Saverglass invested \$93 million (341 million AED) to build a manufacturing facility in Ras Al Khaimah with a targeted capacity of 350 tons of glass bottles per day.<sup>34</sup> Meanwhile, Ghani Glass - Pakistan, RAK Investment Authority, and Swicorp joined together to form RAK Ghani Glass LLC to produce 40,000 tons per year of pharmaceutical glass containers.<sup>35</sup> In addition, Select Glass Industries produces 550,000 square meters per year of Double Glass Products from its location in Ras Al Khaimah Industrial Zone at Hamra.<sup>36</sup>

A final player in the U.A.E.'s glass market is Glass LLC. Glass LLC is a holding company launched by Dubai Investments, which, in turn, is a publicly listed holding company that includes the Investment Corporation of Dubai among its shareholders.<sup>37</sup> Glass LLC comprises five subsidiaries: Emirates Float Glass, Emirates Glass, Saudi American Glass, Lumiglass Industries, and Emirates Insolaire.<sup>38</sup> Together, these subsidiaries had a 30% market share in the coated glass sector across GCC countries as of 2015.<sup>39</sup>

## Gypsum

Finally, the U.A.E. has several large producers of gypsum. Gypsemna claims to operate the largest gypsum plasterboard plant in the region out of the Industrial City of Abu Dhabi. Ayhaco Gypsum Products Manufacturing and Knauf also have significant gypsum factories in Dubai and Ras Al Khaimah respectively.

## C. Chemicals

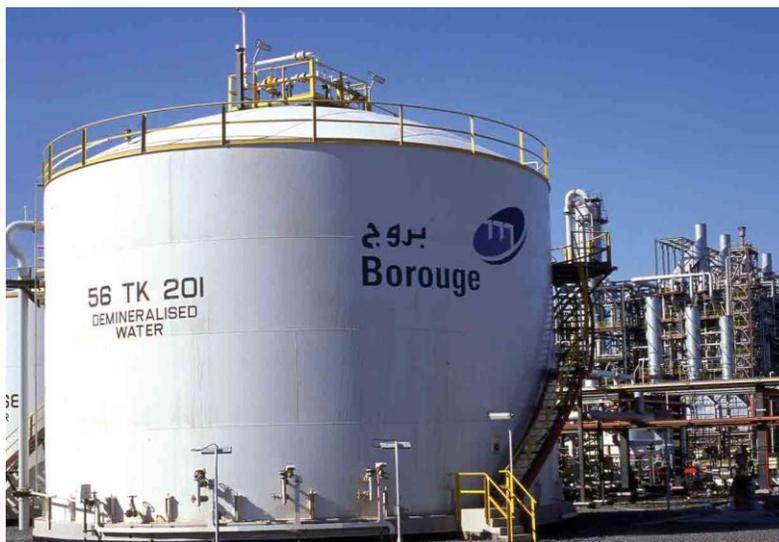
The U.A.E. has a thriving chemicals sector, centered in Abu Dhabi and driven principally by its ready access to feedstock for petrochemicals. (See Appendix C for a select list of chemical manufacturing companies).

### Petrochemicals

In 2016, the U.A.E. boasted 13.7 million tons of petrochemical capacity, according to a report by the Gulf Petrochemical and Chemical Association.<sup>40</sup> This capacity is principally in Abu Dhabi, for which petrochemicals are an important part of its diversification strategy. Key petrochemical exports from this Emirate include polyethylene, polypropylene, ammonia, and urea fertilizer.<sup>41</sup>

### Polyolefins

The key player in the U.A.E.'s petrochemical industry is Borouge, a 60/40 joint venture between Abu Dhabi National Oil Company (ADNOC) and Austria-based Borealis, which is, in turn, 64% owned by Mubadala Investment Company.<sup>42</sup> Adjacent to ADNOC's main oil refinery at Ruwais, Borouge's site is now, after three major expansions, the largest integrated polyolefins complex in the world with a capacity of 4.5 million tons per year (2.3 million tons of polyethylene, 1.75 million tons of polypropylene, and 350,000 tons of low-density polyethylene).<sup>43</sup> In July 2017, Borouge and Borealis approved the initial stage of the complex's fourth major expansion, which will eventually grow its polyolefin capacity to almost 10 million tons per year.<sup>44</sup>



*Borouge Plant in Abu Dhabi*

### Plastics

Thanks in part to its production of polyolefins such as polyethylene and polypropylene, the U.A.E. is the second-largest producer of plastic products in the GCC after Saudi Arabia. According to Business Monitor International, the U.A.E. has over 260 plastic manufacturing plants, 100 of which are in Dubai. Notable plastic manufacturers include Fujairah Plastic Factories, which is a leading producer of plastic sheets and bags; RMD Board, which makes composite polypropylene boards; and Sabin Plastic Industries, which supplies acrylics and polycarbonates.

The U.A.E.'s plastic industry continues to expand. For instance, in November 2016, Integral Plastic Industries announced the construction of a manufacturing facility in Khalifa Industrial Zone Abu Dhabi to produce 15,000 tons per annum of plastic bottles preform, plastic bottles caps, and plastic packing strips rolls.<sup>45</sup>

### ***Ammonia and Urea***

Another key player in Abu Dhabi's petrochemical industry is Ruwais Fertilizer Industries (Fertil). Fertil, a joint venture between ADNOC and French energy major Total, produces 3,300 metric tons per day of ammonia and 5,800 metric tons per day of urea from Ruwais Industrial Zone in Abu Dhabi.<sup>46</sup> Both ammonia and urea are important components of fertilizers, such as those produced by Abu Dhabi Fertilizer Industries Company.<sup>47</sup>

### ***Aromatics***

ADNOC is exploring a Gasoline and Aromatics Project (GAP) that would be integrated with existing refinery activities in Ruwais. This is currently in the front end engineering and design (FEED) stage.

### **Other Organic Chemicals**

The U.A.E. has several companies engaged in manufacturing other organic chemicals, such as grease and lubricants. The Emirates National Oil Company (ENOC) operates a lubricants and grease manufacturing plant in Fujairah Port,<sup>48</sup> Gulf Petrochem runs a grease manufacturing plant in Hamriyah Free Zone, Sharjah, and Gulf RAK Oil has a lubricant manufacturing plant and grease processing facility in RAK Maritime City.<sup>49</sup>

### **Inorganic Chemicals**

The U.A.E. also has several important manufacturers of inorganic chemicals, such as chlorine and its byproducts. Al Ghaith Industries has a chlor-alkali plant in Abu Dhabi that produces 140 metric tons per day of caustic soda lye, 160 metric tons per day of hydrochloric acid, and 70 metric tons per day of sodium hypochlorite.<sup>50</sup> Moreover, in 2016, Saif Al Khaili Group announced it was building a \$76 million (280 million AED) chemical manufacturing facility called Emirates Chemical Factory in KIZAD that will produce 150 tons per day of caustic soda and other derivatives of chlorine, such as sodium hypochlorite and hydrochloric acid.<sup>51</sup> Union Chlorine is also building a plant in Industrial City of Abu Dhabi (ICAD) with an installed capacity of 70 tons per day.<sup>52</sup>

## **D. Pharmaceuticals**

The U.A.E. has developed a significant domestic pharmaceutical manufacturing industry, particularly for generic drugs. (See Appendix D for a select list of pharmaceutical manufacturing companies).

This industry is headlined by Julphar Gulf Pharmaceutical Industries. Established in 1980 under the guidance of the former Emir of Ras Al Khaimah, His Highness Sheikh Saqr bin Mohammed Al Qasimi, Julphar now operates 16 manufacturing facilities globally, 13 of which are in the U.A.E. These factories collectively produce over one million boxes of medicines per day, making Julphar the largest generic pharmaceutical manufacturer in the Middle East and North Africa.<sup>53</sup> Leading U.S. pharmaceutical company Merck, operating as MSD in the U.A.E., manufactures some of its world-renowned products in the U.A.E. through Julphar.



The U.A.E. has several other domestic pharmaceutical manufacturers as well:

- **Neopharma:** Neopharma, which commenced operations in 2003, has an annual tablet production capacity of 1.5 billion and an annual capsule production capacity of 300 million.<sup>54</sup> The company has licensing agreements with several international pharmaceutical giants, including Wyeth (a Pfizer company) and Germany's Merck Serono.<sup>55</sup>
- **LIFEPharma:** LIFEPharma, part of VPS healthcare, has a facility at Jebel Ali Free Zone, Dubai that has the capacity to produce 1 billion tablets, 300 million capsules, and 150 million liters of liquid per year.<sup>56</sup> LIFEPharma has partnerships with global pharmaceutical companies such as U.S.-based Abbott Laboratories.<sup>57</sup>
- **Globalpharma:** Globalpharma, established in 1998 and based in Dubai Investment Park, has a manufacturing capacity of 300 million tablets, 150 million capsules, and over 7 million liters of dry syrup and liquid per year. In 2014, Dubai Investments sold a majority stake in Globalpharma to French firm Sanofi, and Globalpharma is now being integrated as a Sanofi company to become the platform to manufacture and promote the generics portfolio of Sanofi in the Middle East region.<sup>58</sup>



The U.A.E. has ambitious plans to augment its local pharmaceutical manufacturing even further, from the 17 pharmaceutical factories at present to 34 by 2021.<sup>59</sup> Along these lines, one of the U.A.E.'s leading pharmaceutical and healthcare product distributors, Al Ittihad Drug Store, is investing \$20 million (75 million AED) in Pharmax Pharmaceuticals, which is establishing an oral solid dosage facility in Dubai to develop, manufacture, and market branded general pharmaceutical products in the region.<sup>60</sup>

## E. Food and Beverages

The U.A.E. hosts a large and growing number of manufacturers of food and beverage products, particularly in Dubai. (See Appendix E for a select list of such companies).

Although the U.A.E. imports approximately 85% of the food it consumes, the country has become a regional food processing hub.<sup>61</sup>

- **Meat, Poultry, and Seafood:** BRF, a Brazilian poultry exporter that is one of the biggest food companies in the world, has a \$160 million (590 million AED) factory in Abu Dhabi that is the company's largest outside America, producing 70,000 tons of food products per year. The U.A.E. also has many other major meat, poultry, and seafood processors, including Al Islami Foods, Al Kabeer Group, Emirates Rawabi (via Emirates Modern Poultry), the International Foodstuffs Company (IFFCO), and the International Fish Farming and Holding Company (Asmak).<sup>62</sup>
- **Dairy Products:** Al Ain Dairy, Al Marmum Dairy Farm, Emirates Rawabi (via Al Rawabi Dairy), Unikai, ITALFOOD, and the National Food Products Company (via Lacnor milk and Arla dairy products) are leaders of the U.A.E.'s large domestic dairy industry. Senaat's Agthia also produces Yoplait-branded yogurt in the country.

- **Grains and Baked Goods:** Al Dahra Holdings (rice), Senaat's Agthia (Grand Mills flour and the Grand Baker), Al Ghurair Foods (pasta and flour), IFFCO (pasta and flour), and Emirates Macaroni Factory (pasta) are all major U.A.E.-based grain processors. The U.A.E. also has several sizable bakeries, such as Modern Bakery, ABC Baking, and Al Jadeed Bakery.



- **Sugar, Sweets, and Snacks:** Al Khaleej Sugar Refinery is the biggest standalone sugar refinery in the world.<sup>63</sup> Although the country currently imports much of its sweets, Mars and Nestle both have plants from which they produce their trademark confectionary products, and Patchi will soon complete a 122,000-square-foot chocolate manufacturing facility at Dubai Industrial Park.<sup>64</sup> In addition, the U.A.E. has several important producers of snack foods, such as National Food Industries, Hunter Foods, and IFFCO.

- **Fruits, Vegetables, Nuts, and Spices:** Senaat subsidiary Al Foah is the largest date company in the world.<sup>65</sup> Fruit and vegetable giant Del Monte also has a large fresh cut factory in Dubai, and Gulf Food Industries California Garden produces a wide variety of canned fruits and vegetables (as well as other products) from the U.A.E. In addition, the U.A.E. has several notable producers of dried fruits, nuts, and spices, such as Arab India Spices, Best Food Company, and Gyma Food Industries.



At the same time that it is a regional food processing hub, the U.A.E. also has a significant beverage manufacturing industry.

- **Water:** The U.A.E.'s bottled water market is dominated by several large domestic producers, including Masafi, Mai Dubai, National Food Products Company (Oasis and Safa water), and Senaat's Agthia (Al Ain, Al Bayan, Alpin Natural Mineral, Ice Crystal, Delta, and Bambini Kids waters).<sup>66</sup> Nestle also produces its water and PepsiCo and The Coca Cola Company produce Aquafina and Arwa waters respectively through local partners.
- **Soft Drinks:** Dubai Refreshments and Abu Dhabi Refreshments Company have long operated factories in the U.A.E. from which they have manufactured soft drink products for PepsiCo. Meanwhile, Al Ahlia Gulf Line General Trading Company has manufactured soft drink products for The Coca-Cola Company.
- **Fruit Drinks:** The U.A.E. has countless fruit drink producers, such as Senaat's Agthia (Al Ain Fresh and Capri-Sun fruit juice), Unikai Foods, National Food Products Company (Lacnor juices), Al Rawabi, Marmum, Al Ain Dairy, Masafi, Del Monte, Binghatti Holding (Raubi), and mango juice maker Maaza International.
- **Tea and Coffee:** Unilever runs a Lipton tea factory in Dubai that is reportedly the largest tea-packaging facility in the world.<sup>67</sup> Meanwhile, Nestle, the maker of Nescafe coffee, recently opened a factory in Dubai that produces coffee as well as other products.



The U.A.E. is laying the groundwork for the further expansion of its food and beverage industry through new infrastructure projects. In July 2017, Dubai Wholesale City unveiled a new \$1.5 billion (5.5 billion

AED) project, Dubai Food Park, to enhance the Emirate's competitiveness as the "leading regional hub in the food sector and food stuffs re-exports."<sup>68</sup> This announcement came just months after Sharjah announced in March 2017 the launch of its own food park project at Hamriyah Free Zone.<sup>69</sup>

## **F. Consumer Goods**

At the same time the U.A.E. has a plethora of food and beverage processors, it is also home to a wide range of companies that manufacture other consumer goods, ranging from fast-moving consumer goods such as toiletries to durable goods such as jewelry. (See Appendix F for a select list of these companies).

### **Personal and Home Care Products**

The U.A.E. has many manufacturers of personal and home care products. In December 2016, Unilever inaugurated the largest personal care products manufacturing plant in the region, a \$270 million (1 billion AED) factory for brands such as Dove, Fair & Lovely, Lifebuoy, Vaseline, Clear, TRESemmé, and Sunsilk.<sup>70</sup> The Gulf Center for Soap & Chemicals Industries and Scitra, both based in Dubai, are also large contract manufacturers of personal and home care products.



### **Paper Products**

The U.A.E. also has a significant paper manufacturing industry. Ittihad Paper Mill, part of Ittihad Investment Company, claims to be the largest producer of printing and writing paper in the Middle East North Africa (MENA) region, supplying around 10% of the MENA market.<sup>71</sup> The U.A.E. also has three notable producers of tissue paper: Abu Dhabi National Paper Mill, Queenex Hygiene Paper Manufacturing LLC, and Crown Paper Mill. Moreover, in April 2016, Al Nakheel Hygienic Paper Manufacturing Company announced its plans for a new \$91 million (335 million AED) factory for the production of hygienic household tissues at KIZAD.<sup>72</sup>

### **Textiles**

The textile industry plays an important role in the U.A.E. economy, particularly in Dubai, and the country has countless textile manufacturers, ranging from small shops to large enterprises.<sup>73</sup> As for the latter, United Textiles operates a \$68 million (250 million AED) cotton yarn manufacturing plant in Fujairah Free Zone that was built by the Azerbaijan government in partnership with the Fujairah Government. This plant, with a capacity of 10,000 tons of cotton yarn each year, was, at the time of its launch in 2012, the biggest textile factory in the Middle East.<sup>74</sup>

### **Jewelry**

The U.A.E., especially Dubai, is a hub for the Middle Eastern jewelry market. In addition to a large number of jewelry retailers, the country has several major jewelry manufacturers, including Malabar Gold and Diamonds, Kalyan Jewelers, and most recently Damas. Damas, the Middle East's leading international jewelry and watch retailer, opened its first production plant in Dubai in 2016 to produce three tons of gold per year and 180,000 pieces of non-gold jewelry.

## G. Aerospace and Defense Equipment

The U.A.E. is striving to become more self-sufficient in meeting its aerospace and defense needs by investing heavily in domestic capabilities and forging strategic partnerships with some of the biggest and most respected multinational companies in these industries. (See Appendix G for a select list of U.A.E. defense and aerospace companies).

Several large state-linked U.A.E. institutions have played a leading role in propelling forward the country's aerospace and defense sectors. Mubadala has made strategic investments in entities such as Abu Dhabi Ship Building Company and advanced aero-structures manufacturer Strata. Meanwhile, Tawazun Holding has formed companies such as small arms producer Caracal International, armored vehicle manufacturer Nimr Automotive, and guided missile systems developer Tawazun Dynamics. In a major move for the country's defense industry, Mubadala, Tawazun Holding, and a third company, Emirates Advanced Investment Group, merged 11 of their defense subsidiaries in 2014 to form a large integrated defense services and manufacturing business called Emirates Defense Industries Company (EDIC).<sup>75</sup>

### International Golden Group

Established in 2002 and headquartered in Abu Dhabi, International Golden Group (IGG) is a private joint stock company that is a leading supplier to the U.A.E. Armed Forces, Ministry of Interior, and other U.A.E. defense and security authorities. The company is increasingly focused on complex system integrations, assembly, and manufacturing through subsidiaries such as IGG Advanced Industries (IGAD), IGG Aselsan, IGG Photonis Night Vision, and Golden Marine Systems.<sup>76</sup>



The U.A.E.'s offset program, known as the Tawazun Economic Program and overseen by the Tawazun Economic Council, has been a second driver of the country's aerospace and defense industries. The country has sought to translate its substantial purchases of foreign defense technology into economic value by requiring foreign companies who receive a certain amount of contracts over a specified time period to meet offset obligations. One way in which contractors can fulfill these obligations is by investing in a joint venture with a U.A.E. company in specified sectors and activities. Through this means, the program has achieved two of its stated objectives: "diversifying the U.A.E.'s economy by growing the country's industrial base" and "building a critical national defense industry."<sup>77</sup>

A third major contributor to the U.A.E.'s aerospace and defense industry has been the establishment of several industrial areas dedicated specifically to these sectors.

- Aviation District in Dubai South: This district is a world-class integrated aviation and aerospace ecosystem that is designed to serve the holistic needs of both these industries and related sectors. It is located around Al Maktoum International Airport, which will eventually be the world's largest airport.<sup>78</sup>



- **Nibras Al Ain Aerospace Park:** Located in Al Ain, this park, which was created by Mubadala and Abu Dhabi Airport Company (ADAC), seeks to support the establishment of a sustainable aerospace industry in the U.A.E.<sup>79</sup>
- **Tawazun Industrial Park:** Situated between Abu Dhabi and Dubai, this development seeks to be an “epicenter of advanced precision industries,” including for foreign companies seeking to establish a secure Middle East base.<sup>80</sup> One of its crown jewels is Tawazun Precision Industries, which manufactures sophisticated components for the aerospace, oil and gas, and defense industries.<sup>81</sup>

### Aircraft Components and UAVs

A star of the U.A.E.’s aerospace sector is composite aero-structures manufacturer Strata. Strata, which was created in 2009 as a wholly owned subsidiary of Mubadala, manufactures a wide variety of components for Airbus, Boeing, and ATR aircraft.<sup>82</sup> In 2016, Strata shipped a total of 521 shipsets, consisting of over 9,103 parts, to its customers. This number is likely to expand with the growth of Strata’s floor space from 31,500 square meters in 2016 to over 60,000 square meters in 2017 and 120,000 meters by 2020.<sup>83</sup> At the same time that it has expanded its own capacity, Strata has invested in building an aerospace supply chain in Abu Dhabi, with over half of its suppliers being locally-based.<sup>84</sup>



*Strata Engineer Working on Aircraft Component*

A key development for the future of the U.A.E.’s aerospace sector is plans by British-owned engine maker Rolls Royce and Mubadala to build a manufacturing facility for aero engine components, as well as an Approved Maintenance Centre (AMC), in Abu Dhabi. The manufacturing facility will deliver parts for the Trent engine family, including the Rolls-Royce Trent XWB. The Trent XWB powers the Airbus A350 XWB, of which Etihad Airways operates or will operate 62.<sup>85</sup>

In addition to producing aerospace components, the U.A.E. has several companies involved in the manufacture of unmanned aerial vehicles (UAVs). In 2013, Adcom Systems unveiled the first UAV designed and made in the U.A.E., the Yabhon United 40.<sup>86</sup> Abu Dhabi Autonomous Systems Investments (ADASI), part of EDIC, has meanwhile managed other UAV programs such as Al Sabr, a rotary-wing UAV platform developed under a joint program between the U.A.E. and Austria that is partly manufactured in the Emirates.<sup>87</sup>

### Armored Vehicles

NIMR, a Tawazun company that is now part of EDIC, is a regional leader in manufacturing military armored vehicles.<sup>88</sup> NIMR makes transporters, cars, and lorries for armed forces and internal security organizations around the world, including the U.A.E.<sup>89</sup> At the 2017 International Defence Exhibition and Conference (IDEX), NIMR was awarded three major contracts to supply the U.A.E. Armed Forces with more than 1,750 armored vehicles: 1,500 Jais 4x4 and 6x6 infantry fighting vehicles, more than 150 Hafeet 630A artillery support vehicles, and 115 Ajban 440 vehicles equipped with guided missile



systems.<sup>90</sup>

NIMR is not the only Emirati armored vehicle manufacturer. Emirates Defense Technology (EDT), which claims to have once manufactured the Nimr 4x4 and 6x6 armored vehicles, produces an 8x8 armored vehicle known as the “Enigma” Armored Modular Fighting Vehicle.<sup>91</sup> Moreover, the U.A.E.’s International Golden Group and Great Britain’s BAE Land Systems have partnered to produce Agrab RG31 armored utility vehicles in the U.A.E.<sup>92</sup>

The U.A.E. also hosts a couple notable foreign armored vehicle manufacturers. The STREIT Group, a private Canadian company established in 1992, produces over 400 armored vehicles per month from its facility in Ras Al Khaimah. Meanwhile, ISOTREX, also founded by Canadians, produces 15-20 armored vehicles per month from a site in Ajman.<sup>93</sup>

## Naval Vessels

Abu Dhabi Ship Building (ADSB) has distinguished itself as a leading shipbuilder and support contractor for naval, military, and commercial operators in the region. Established in 1996 to support the repairs and refits of U.A.E. navy vessels, it currently has a portfolio of construction and refit projects worth over \$820 million (3 billion AED), according to its website. As part of these projects, it is leading the region’s largest-ever naval shipbuilding program to build six Baynunah class corvettes for the U.A.E. navy.<sup>94</sup>



*Baynunah Class Corvette at Navdex*

Another notable producer of naval vessels is Al Fattan Ship Industry. Al Fattan builds a wide variety of landing craft, training vessels, patrol boats, and interceptors. It also introduced the first combat boat built in the U.A.E., the Al Fattan 16 M Combat Boat.<sup>95</sup>

## Arms and Munitions

Caracal International, an EDIC subsidiary, is the U.A.E.’s leading small arms producer. Headquartered in Abu Dhabi, Caracal International’s products include a 9mm striker-fired combat pistol, a 9mm submachine gun (SMG), three tactical rifle platforms, and three modular sniper rifles. Caracal also offers a wide range of accessories for its products such as key-locks, quick-loaders, and special designed sight systems.<sup>96</sup>

Meanwhile, the U.A.E.’s Barij Munitions is a major producer of small, mid, and large munitions. Barij munitions was formed in 2017 from the merger of Caracal Light Ammunition, one of the world’s most modern manufacturers of bullets, and Burkan Munitions Systems, one of the leading munitions manufacturers in the GCC.<sup>97</sup> With the combined capabilities of these two companies, Barij Munitions will be able to produce 14 types of small, mid, and large munitions, 95% of which will be sold to the U.A.E. Armed Forces.

A final major player in this sphere is Tawazun Dynamics. Established by a joint venture between Tawazun Holding (51%) and South Africa's largest government-owned defense manufacturer, Denel Dynamics (49%), Tawazun Dynamics is the Middle East’s first and largest facility for the development, manufacture, assembly, and integration of precision-guided systems for conventional air munitions.<sup>98</sup>

## Satellites

The U.A.E.'s budding space program is a point of national pride and the U.A.E. has correspondingly begun developing an indigenous capacity to build satellites. In 2014, the U.A.E. announced that the country's first factory for making satellites would soon be completed at the Emirates Institution for Advanced Science and Technology (EIAST) in Dubai and that Emiratis would use this factory to complete the last phase of constructing the first Arab satellite, KhalifaSat.<sup>99</sup> In 2015, EIAST was rebranded as the Mohammed bin Rashid Space Center and its remit expanded to include leading the U.A.E.'s Mission to Mars.<sup>100</sup> The Mohammed bin Rashid Space Center's activities have been complemented by those of Yahsat, a Mubadala Company, which has collaborated with EADS, Thales, and Alenia Space to develop a fully integrated satellite system, launching its first satellite as early as 2011.<sup>101</sup>



*HH Sheikh Mohammed bin Rashid Al Maktoum is briefed on the progress of KhalifaSat (Nov. 2016)*

## H. Transportation Equipment

The U.A.E. is rapidly advancing its manufacturing capabilities when it comes to transportation equipment, such as motor vehicles and water craft. (See Appendix H for a select list of companies in this space).

### Water Craft

Drawing on its long maritime history of pearling, fishing, and trading, the U.A.E. has developed a sizable maritime manufacturing sector, particularly in the yacht and leisure craft segments.<sup>102</sup> Notably, Gulf Craft has become one of the world's leading



superyacht shipyards, producing around 500 vessels per year. Meanwhile, Al Marakeb has become known for its high-performance fiber-glass boats. In a big boon for this sector, Comar Yachts announced in 2015 that it would relocate its production facilities from Italy to the U.A.E., producing around 100 catamarans and powerboats per year from the country.<sup>103</sup>

### Motor Vehicles

Although the U.A.E. currently imports virtually its entire supply of cars and light vehicles, it has a growing motor vehicle industry distinguished by the presence of several notable heavy vehicle manufacturers.<sup>104</sup> It also has several niche producers of high-performance sports cars and a nascent but growing automotive parts sector.

- **Buses:** Ashok Leyland, India's second-largest commercial vehicle manufacturer, has a plant in Ras Al Khaimah with a capacity of 24 buses per day. Hafilat Industry also manufactures passenger buses from a factory in Abu Dhabi.
- **Trailers:** Mammut Industries, which claims to be the largest trailer manufacturer in the Middle East, produces 50 trailers per day from its plant in Dubai. Al Shirawi Equipment Company (ASECO), Gorica Industries, and Bion Industrial also produce trailers from the U.A.E.
- **Sports Cars:** Zarooq Motors produces the high-performance SandRacer sports car and W Motors produces the \$3.4 million (12.5 million AED) Lykan Hypersport from the U.A.E.<sup>105</sup>
- **Emergency Vehicles:** NAFFCO, one of the world's leading producers and suppliers of life safety solutions, produces custom-made emergency vehicles such as fire trucks, ambulances, mobile hospitals, and airport rescue firefighting vehicles (ARFF) from its facilities in the U.A.E.<sup>106</sup> Meanwhile, the Concorde-Corodex Group manufactures bodies for ambulances and fire fighting trucks from its facility in Mussafah, Abu Dhabi.<sup>107</sup>
- **Automotive Parts:** Cardan Service Network manufactures shafts for trucks from a facility in Dubai. In 2015, Advanced Manufacturing Solutions announced that it would establish a foundry in Abu Dhabi for the manufacture of automotive parts such as brake discs and calipers that will ultimately become one of the largest single-source automotive foundries in the world, producing 300,000 tons per year of products.<sup>108</sup>

Building on this foundation, the U.A.E. seeks to greatly expand its automotive manufacturing sector. In 2017, at the Global Manufacturing and Industrialization Summit, Zones Corp, the body responsible for developing economic zones in Abu Dhabi, unveiled plans for a major new auto hub called Rahayel City. This city, which will occupy an area of 12 square kilometers outside Abu Dhabi city, will contain space for automotive manufacturers as well as distributors, dealers, and parts providers.<sup>109</sup> Thanks to developments such as these, the U.A.E. could perhaps one day serve as a regional manufacturing platform for global automotive giants such as Ford or Tesla, the latter of which established operations in the U.A.E. in 2017.

## I. Industrial and Other Equipment

Finally, the U.A.E. is a significant manufacturer of industrial equipment, such as that used in the oil and gas industry. (See Appendix I for a select list of companies in this domain).

### Oil and Gas Equipment

The U.A.E. unsurprisingly hosts a large number of manufacturing companies that support its oil and gas industry. National Petroleum Construction Company (NPCC), for instance, is a world-class engineering, procurement, and construction (EPC) company that provides full-service EPC solutions to both the offshore and onshore Oil & Gas sector. Established in 1973 and owned by Senaat and Consolidated Contractors Group (CCC), NPCC has state-of-the-art fabrication facilities in Mussafah, Abu Dhabi, spread over an area of 1.3 million square meters, and its yard can fabricate up to 100,000 metric tons of structural steel every year. Lamprell, Technomak, and Proclad Group are just a few other recognizable companies in this sector with significant U.A.E. operations.



Notably, Honeywell, the leading software-industrial company, recently opened a new facility at Masdar City, Abu Dhabi. The facility, which also serves as the regional hub of its Honeywell Process Solutions division, is dedicated to manufacturing products that cater to the needs of the oil and gas sector as well as other industries. The expansion builds on the company's longstanding presence in the U.A.E., which is also its headquarters for the Middle East, Russia, Turkey, and Central Asia regions.<sup>110</sup>

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## Water and Wastewater Equipment

Additionally, the U.A.E. has several prominent producers of water and wastewater equipment. ANABEEB, part of Arkan Building Materials, has been supplying ADSSC-approved U-PVC pipes since 1974 for infrastructure and irrigation applications and GRP Pipes for sewerage and drainage projects, manholes, and manhole systems and fittings. In addition, since 2016, Xylem, an American manufacturing company, has operated a 19,000-square-meter facility in Jebel Ali to make equipment used for wastewater technologies, such as pumping systems.

In a notable development, five years ago, McWane, Inc., a family-owned business that is a world leader in waterworks and plumbing infrastructure, decided to invest in Abu Dhabi and build its latest large plant in the economic heart of the Middle East, the group's biggest regional export market. Following an investment of approximately \$30 million (110 million AED), and the hiring of approximately 70 team members, McWane Gulf is now in production at this site in ICAD-2 (Mussafah). From the facility, which was completed and commissioned in late 2015, McWane Gulf manufactures its well known brands including Kennedy Valves, Tyler Gulf Cast Iron plumbing pipe, WADE floor and roof drains, Tyler ductile iron fittings, and now a recently launched line of Kennedy oil and gas process valves. Building on this large manufacturing platform in Abu Dhabi, the company targets growth in the Middle East and North Africa region for many generations to come.<sup>111</sup>



*McWane President Ruffner Page, McWane Chairman Phillip McWane, U.S. Ambassador Barbara Leaf, and Sheikh Nahyan bin Mubarak Al Nahyan inaugurate McWane plant in Abu Dhabi*

## Life Safety Equipment

The U.A.E. has several prominent manufacturers of life safety equipment as well. The aforementioned NAFFCO now has 10,000 team members and four million square feet of manufacturing facilities from which it produces firefighting equipment, fire protection systems, fire alarms, addressable emergency systems, and security systems. Meanwhile, Concorde-Corodex Group has a team of 1,450 employees across 22 companies that produce a diverse portfolio of products including fire fighting products, systems, and equipment. Additionally, K5 Middle East – a firefighting products, solutions, and technologies company – is constructing a \$100 million (367 million AED) manufacturing facility in Ajman.<sup>112</sup>

## PART III: LOOKING AHEAD

The U.A.E.'s manufacturing sector is poised for growth, offering opportunities not just for local manufacturers but also for American and other foreign companies as well.

### A. Advantages

The U.A.E.'s manufacturing sector benefits from the country's strategic location, world-class infrastructure, friendly tax and regulatory environment, and ready availability of energy, goods, and labor.

#### Strategic Location and Connectivity

The U.A.E. enjoys a highly strategic location, giving it access to large and growing regional and global markets. The U.A.E. is located near the mouth of the Arabian Gulf, opening onto the major transit routes of the Gulf of Oman, Arabian Sea, and Indian Ocean. Moreover, it is within an eight-hour flight of two-thirds of the world's population, including fast-growing areas in the Middle East, Africa, and Asia.<sup>113</sup>

The U.A.E. is not just strategically situated, but it is also highly connected to surrounding markets by world-class transportation infrastructure. The 2016-17 World Economic Forum's Global Competitiveness Report ranks the U.A.E. 4<sup>th</sup> globally (out of 138 countries) in terms of the quality of its infrastructure. Indeed, this report ranks the U.A.E. #1 for roads, #2 for air transport infrastructure, and #3 for port infrastructure.<sup>114</sup>

- **Airports:** Dubai is home to Dubai International Airport, which is one of the busiest international airports in the world, servicing more than 83 million passengers and 2.5 million tons of cargo in 2016.<sup>115</sup> Moreover, Dubai is building a new even larger airport, Dubai World Central, which is ultimately slated to become the world's largest airport with a projected capacity of more than 160 million passengers and 12 million tons of cargo per annum.<sup>116</sup> Abu Dhabi has a major international airport as well, Abu Dhabi International Airport, which is currently being expanded so as to accommodate 45 million passengers per year.<sup>117</sup> Other major U.A.E. airports include Sharjah International Airport, Fujairah International Airport, and Ras Al Khaimah International Airport.<sup>118</sup>
- **Airlines:** These airports are hubs for two of the world's leading international airlines: Emirates Airline and Etihad Airways. Emirates is the world's largest international airline, flying the biggest fleets of Airbus A380s and Boeing 777s.<sup>119</sup> Etihad, the national airline of the U.A.E., is a Skytrax 5-Star certified airline that flies to over 110 passenger and cargo destinations across six continents.<sup>120</sup> The U.A.E. is also home to two significant low-cost airlines: Fly Dubai and Air Arabia.
- **Ports:** Dubai is the site of DP World's Jebel Ali Port, which is the largest marine terminal in the Middle East and the 9<sup>th</sup> largest in the world.<sup>121</sup> On top of this, in 2012, Abu Dhabi opened Khalifa Port, a deep water port located midway between Dubai and Abu Dhabi that is the first semi-automated container port in the region.<sup>122</sup> Other major U.A.E. ports include Mina Rashid in Dubai, Mina Zayed in Abu Dhabi, Mina Khalid in Sharjah, and Khor Fakkan, also in Sharjah.



Notably, world-class port operator GulfTainer operates both Khor Fakkan Container Terminal and Sharjah Container terminal.



Finally, the U.A.E. boasts world-class logistics companies such as Mohebi Logistics. This Emirati organization, founded in 2007 by enterprising CEO Mohammed Mohebi, is one of the leading supply chain specialists for food industry manufacturers and fast-moving consumer goods companies in the Middle East. Employing a multinational workforce of over 1,000 people, its clients include global brand names such as McDonalds, Subway, Nestlé, L’Oreal, Kimberly-Clark, and Marriott Hotels and Resorts.<sup>123</sup>



### World-Class Industrial Infrastructure

The U.A.E.’s manufacturing sector also benefits from a wide range of industrial or manufacturing clusters that provide land, utilities connections, communication networks, and transport links. (See Appendix J for a list of select industrial clusters)

- **Dubai:** Jebel Ali Free Zone, with its access to Jebel Ali Port, and Al Quoz Industrial Area have long been centers of manufacturing in Dubai. Three newer sites of industry are Dubai Investment Park, National Industries Park (formerly TechnoPark), and last but not least Dubai Industrial Park, which is located next to Al Maktoum Airport and in close proximity to Jebel Ali Port. Dubai is also in the process of building Dubai Food Park at Dubai Wholesale City.
- **Abu Dhabi:** The Industrial City of Abu Dhabi (ICAD) has long served as a hub for Abu Dhabi industry, hosting large industrial enterprises such as Emirates Steel. Now, Khalifa Industrial Zone Abu Dhabi (KIZAD) is quickly becoming a new industrial center, thanks to its proximity to Abu Dhabi’s deepwater Khalifa Port and the presence of anchor tenants such as Emirates Global Aluminium. In fact, U.A.E. officials hope that KIZAD accounts for as much as 15% of the Emirate’s GDP by 2030.<sup>124</sup> In addition to the above, Abu Dhabi has industrial clusters dedicated to the defense industry (Tawazun Industrial Park) and aerospace industry (Nibras Al Ain Aerospace Park). Moreover, it is in the process of building an automotive cluster (Al Rahayel City).
- **Sharjah:** Hamriyah Free Zone and the Sharjah International Airport Free (SAIF) Zone are currently hubs for industrial development in Sharjah, as Sharjah Industrial Area has historically been. Sharjah is currently also embarking on the development of a brand new industrial cluster: Al Saja’a Industrial Oasis.<sup>125</sup>
- **Ras Al Khaimah:** In 2017, Ras Al Khaimah established Ras Al Khaimah Economic Zone (RAKEZ) to oversee and consolidate the specialized parks and clients of both Ras Al Khaimah Free Trade Zone (RAKFTZ) and RAK Investment Authority (RAKIA). These investments include three industrial areas: Al Hamra Industrial Zone, Al Ghail Industrial Zone, and Al Hulaila Industrial Zone.<sup>126</sup>
- **Umm Al Quwain:** Umm Al Quwain opened a free zone and industrial area close to the U.A.E.’s primary sea ports and within one hour’s drive of Dubai International Airport and Sharjah International Airport.<sup>127</sup>



### **International Centre for 3D Printing at Dubai Industrial Park**

In May 2016, Dubai Holding launched the International Centre for 3D Printing at Dubai Industrial Park. This project seeks to bring together 3D designers and technology suppliers as well as factories. It will also include research and development centers and laboratories for testing 3D printed products. This is in keeping with Dubai's vision to become a 3D printing technology hub.<sup>128</sup>

### **Anchor Projects**

The U.A.E. government has played an important role in spurring the development of local industry through strategic investments in projects that serve as hubs for particular industries. For instance, the U.A.E.'s construction of a major aluminum smelter in Abu Dhabi has helped support numerous downstream aluminum manufacturers and is creating an entire aluminum industry in the Emirate. There has been a similar pattern surrounding U.A.E. investments in other industries, such as the aerospace and defense industries.

### **Low Taxes**

The U.A.E. provides a friendly corporate taxation environment for most industries. The U.A.E. currently does not have a federal corporate income tax regime. Moreover, while individual Emirates have issued corporate income tax decrees, they are, in practice, only enforced on corporate entities engaged in the production of oil and gas or extraction of other natural resources.<sup>129</sup>

The U.A.E. also provides tax advantages to companies operating in free zones, like many of those areas mentioned above. Businesses registered in free zones are exempt from corporate tax for certain time periods, subject to extension. Rules and regulations of independent free zones apply.<sup>130</sup>

As a result of the above, the World Economic Forum's 2016-17 Global Competiveness Report ranks the U.A.E. 8<sup>th</sup> globally in terms of total tax rate as percentage of profits. This report also ranks the U.A.E. 1<sup>st</sup> globally in terms of the effect of taxation on incentives to invest.<sup>131</sup>

That ranking could, however, slightly change once the U.A.E. introduces a VAT. The U.A.E., in coordination with other GCC states, is currently planning to levy a 5% Value Added Tax (VAT) on most goods and services from January 2018, with some categories of goods and services exempt or zero-rated.<sup>132</sup>

### **Business-Friendly Regulations**

On top of having low taxes, the U.A.E. provides industrial enterprises with a relatively friendly regulatory environment. The World Economic Forum's 2016-17 Global Competiveness Index ranked the U.A.E. 3<sup>rd</sup> globally in terms of its burden of government regulation.<sup>133</sup>

Light regulation has contributed to a general ease of doing business. The World Bank Group's Ease of Doing Business Report ranked the U.A.E. 1<sup>st</sup> in the Middle East and North Africa (MENA) region and 26<sup>th</sup> in the World in the ease of doing business. Notably, the U.A.E. leads the region, according to this report, in the ease of dealing with construction permits, getting electricity, registering property, and enforcing contracts.<sup>134</sup>

## **Ready Availability of Energy, Goods, and Labor**

The U.A.E.'s abundance of energy resources has historically been a boon to local industry. Indeed, low natural gas prices have traditionally given U.A.E. and other Gulf industrial and petrochemical companies a comparative advantage over international competitors.<sup>135</sup> Even after a recent increase in prices in the local market, they are still, according to an ADNOC spokesman, "competitive and below [international] market price."<sup>136</sup>

The U.A.E. also enjoys open and efficient markets for goods and labor. The World Economic Forum's 2016-17 Global Competiveness Index ranked the U.A.E. 3<sup>rd</sup> globally in the efficiency of its goods market, thanks to factors such as its un-burdensome customs procedures.<sup>137</sup> Meanwhile, it ranked the U.A.E. 11<sup>th</sup> globally for labor market efficiency, pegging it second and third globally in terms of its capacity to attract talent and retain talent respectively.<sup>138</sup>

## **Security**

Complementing the above, the U.A.E. provides industrial enterprises with security and political stability. The World Economic Forum's 2016-17 Global Competiveness Report ranked the U.A.E. 1<sup>st</sup> globally in terms of the least "business costs of crime and violence."<sup>139</sup> Likewise, in its 2017 Travel and Tourism Competiveness Report, the World Economic Forum ranked the U.A.E. 2<sup>nd</sup> in the world for "safety and security."<sup>140</sup>

## **Industry Events**

Finally, the U.A.E. regularly hosts industry events that provide opportunities to exhibit goods, explore suppliers, make connections, and discover industry trends. The U.A.E. hosts landmark events every year for the healthcare sector (Arab Health), food and beverage sector (Gulf Food), and energy sector (The Abu Dhabi International Petroleum Exhibition and Conference and the World Future Energy Summit). Meanwhile, in the aerospace and defense sector, Abu Dhabi and Dubai host the International Defense Exhibition and Conference (IDEX) and Dubai Airshow respectively every two years. (See Appendix K for a select list of regular U.A.E. industry events)

In addition to these sector-specific events, the U.A.E. has also hosted some visionary conferences on the future of industry. In 2017, the U.A.E. Ministry of Economy and the United Nations Industrial Development Organization held the world's first Global Manufacturing & Industrialization Summit (GMIS), which discussed the future of manufacturing.

## **B. Challenges**

While U.A.E.-based manufacturers enjoy the above advantages, they also face certain challenges, some specific to the country and others more general to industry.

### **Lower Oil Prices**

The decrease in international oil prices over the last several years has led the U.A.E. to embark on a certain degree of fiscal consolidation and rationalization. The U.A.E. has, for instance, introduced reforms to its system of energy subsidies that have brought local energy prices closer to international benchmarks. This has squeezed margins, particularly in energy-intensive industries such as cement.<sup>141</sup> Meanwhile, government spending has been reduced, tempering economic growth and impacting domestic demand for products.

## Regional Competition

U.A.E. manufacturers are facing increasing competition from countries engaged in similar industrialization strategies as the U.A.E. Notably, Saudi Arabia's 2030 Vision calls for leveraging the Kingdom's location, strategic partnerships, energy sources, and logistics to "stimulate a new phase of industrialization and to catalyze exports and re-exports." More specifically, the 2030 Vision calls for transforming the state oil giant Aramco from an oil producing company into a "global industrial conglomerate." This Vision also calls for manufacturing half of the Kingdom's military needs within the Kingdom by 2030 and localizing the Kingdom's renewable energy and industrial equipment sectors.<sup>142</sup>

## Foreign Dumping

The U.A.E. is also contending with dumping of manufactured products into local markets. Recognizing this as a problem, in January 2017, the U.A.E.'s Federal National Council passed a new anti-dumping law to protect domestic products from imports being sold for less than what is considered fair market value. The law would add a customs duty to an imported product equal to the difference between the product's fair market price and the flooding price.<sup>143</sup> Dumping is a particular concern for U.A.E. steel producers.<sup>144</sup>

## Global Protectionism

At the same time, U.A.E. manufacturers are facing a global protectionist wave. U.S. President Donald Trump's "America First" trade policies (and his subsequent decisions to withdraw from the Trans-Pacific Partnership and renegotiate the North Atlantic Free Trade Agreement) have led to widespread fear of a rise in protectionist measures worldwide.<sup>145</sup> This fear is exacerbated by Great Britain's decision to leave the European Union. U.A.E. industry could be particularly vulnerable to a protectionist wave given the country's limited domestic market and consequent reliance on exports.

## Shortage of Skilled Labor

Beyond the aforementioned macroeconomic factors, U.A.E.-based manufacturers face the challenge of recruiting adequate skilled labor. While the U.A.E. ranks highly in global measures of its ability to attract and retain talent, industrial companies have identified a shortage of Emirati engineers as an impediment to operations.

As such, leading U.A.E. companies such as Senaat have made the development of human capital a key strategic objective. Indeed, at Senaat, there are a number of training and development programs underway for U.A.E. nationals including study grants that give ambitious employees a chance to enhance their skills and become more valuable assets to the organization.

U.S. companies have also helped address this talent gap through training programs and centers. For instance, Lockheed Martin, the U.A.E. Space Agency, and Mubadala launched a workforce training program to develop emerging leaders in the U.A.E. space industry.<sup>146</sup> Moreover, leading U.S. manufacturer 3M has invested in building and operating two Customer Innovation Centers in the U.A.E. to serve as centers of knowledge transfer to U.A.E. nationals and residents.



*Emiratis visit 3M Customer Innovation Center in the U.A.E.*

## C. Opportunities for U.S. Companies

In light of the above, the U.A.E. provides myriad opportunities for U.S. companies to establish manufacturing operations, build relationships with U.A.E. manufacturers, or invest in local industry.

### Manufacturing in the U.A.E.

U.S. companies may consider establishing manufacturing operations in the U.A.E. In so doing, they can follow the example of Guardian Industries, which opened a float glass plant in Ras Al Khaimah, or McWane, Inc., which built a factory in Abu Dhabi to produce water, plumbing, and sewer products.



Alternately, U.S. companies may consider manufacturing products locally through U.A.E. partners. As seen above, Neopharma has licensing agreements with Pfizer to manufacture various pharmaceutical products locally. Likewise, Pepsi has partnered with Dubai Refreshments and Abu Dhabi Refreshments Company while Coca-Cola has partnered with Al Ahlia Gulf Line General Trading to make their products.

### GE, Mubadala, the Dubai Future Foundation, and the First Regional Microfactories

In March 2017, Mubadala, the Dubai Future Foundation, and GE Additive signed a memorandum of understanding (MoU), on the sidelines of the Global Manufacturing and Industrialization Summit (GMIS), aimed at establishing the first Microfactories in the Middle East region. The MoU looks at building an Abu Dhabi-based Microfactory focused on serving industrial companies, and a Dubai-based Microfactory focused on serving consumer goods and services companies. Vice President and Prime Minister of the U.A.E. and Ruler of Dubai, His Highness Sheikh Mohammed bin Rashid Al Maktoum, witnessed the signing of this MoU by His Excellency Mohamed Abdullah Al Gergawi, U.A.E. Minister of Cabinet Affairs and Vice Chairman and Managing Director of the Dubai Future Foundation, Khaldoon Khalifa Al Mubarak, Group Chief Executive Officer and Managing Director at Mubadala, and Beth Comstock, Vice Chair at GE.<sup>147</sup>



*His Highness Sheikh Mohammed bin Rashid witnessing the signing of an MoU between GE, Mubadala, and Dubai Future Foundation*

### Building Relationships with U.A.E. Manufacturers

U.S. companies also can benefit from forging supply relationships with U.A.E. manufacturing companies, as many companies have done with Emirates Global Aluminium (EGA). EGA purchased more than \$500 million (1.8 billion AED) in capital equipment from U.S. suppliers such as GE to build a smelter in Abu

Dhabi.<sup>148</sup> Now, EGA is responsible for approximately 27% of the \$3.36 billion (12.3 billion AED) in total U.A.E. exports to the U.S. in 2016, providing high-quality aluminum for U.S. companies. EGA has some 50 different customers in the U.S, supplying the aerospace, automotive, electronics, and construction industries.

EGA is not the only U.A.E. company supplying major U.S. industrial companies. Notably, in July 2016, Abu Dhabi's Strata Manufacturing won a multi-year contract from Boeing to manufacture vertical fins for its 787 Dreamliner aircraft. This contract finalized a commitment between Boeing and Strata's parent, Mubadala, dating back to 2012.<sup>149</sup>

### **Investing in U.A.E. Manufacturers**

Finally, U.S. companies or individuals may decide to invest in local U.A.E. manufacturers. Along these lines, many prominent such companies are publicly listed on the Dubai Financial Markets, including Dubai Investments, Dubai Refreshments Company, National Cement Company, United Foods Company, and UNIKAI Foods.<sup>150</sup> Likewise, many others are listed on the Abu Dhabi Securities Exchange, such as Agthia Group, Arkan Building Materials, Asmak, Fujairah Cement Industries, Gulf Cement, Julphar, RAK Ceramics, and Union Cement Company.<sup>151</sup> Moreover, still many others may soon with list, with rumored IPOs for industrial powerhouses such as Emirates Global Aluminium (EGA).<sup>152</sup>

It is important to note that there are currently restrictions on foreign investment in the U.A.E., with foreigners generally not allowed to own more than 49% of any U.A.E. firm unless it is incorporated in a "free zone."<sup>153</sup> However, according to U.A.E. Minister of Economy Sultan bin Saeed Al Mansouri, this will change, as the U.A.E. is developing a set of laws, including a foreign investment law, that are likely to ensure an investment-friendly environment in the industrial sector.<sup>154</sup>

#### **U.A.E. Investments in U.S. Manufacturing**

The U.A.E. has made significant investments in the U.S. manufacturing sector, particularly with regard to semiconductors. Mubadala Investment Company owns 100% of GLOBALFOUNDRIES, a leading full-service semiconductor design, development, fabrication, and innovation company based in Santa Clara, California that has approximately 18,000 employees in 14 locations, including in the United States. Mubadala also has investments in Advanced Micro Devices (AMD), a U.S.-based multinational semiconductor company that develops computer processors and related technologies for commercial and consumer electronics markets.<sup>155</sup>



## D. Resources

U.S. companies that are looking to capture the myriad opportunities in the U.A.E. manufacturing sector and forge fruitful partnerships with local counterparts can draw on a variety of resources and services, both in the United States and U.A.E., to help them navigate the terrain.

First and foremost, they can rely on the assistance of U.S. government institutions, located both in the U.A.E. and Washington, D.C.

Senior Commercial Officer: Dao M. Le  
U.S. Embassy in Abu Dhabi, Commercial Section  
P.O. Box 4009, Abu Dhabi, U.A.E.  
Tel: +971-2-414-2665  
E-mail: Dao.Le@trade.gov

Principle Commercial Officer in Dubai: Shakir Farsakh  
U.S. Consulate General in Dubai  
P.O. Box 121777, Dubai, U.A.E.  
Tel: +971-4-309-4963  
E-mail: shakir.farsakh@trade.gov

U.A.E. Desk Officer: James Cramer  
U.S. Department of Commerce  
U.S. and Foreign Commercial Service  
International Trade Administration  
14th St. & Constitution Avenue, N.W.  
Washington, D.C. 20230  
Tel: (202) 482-0879  
Email: James.Cramer@trade.gov

In addition, U.S. companies can turn to U.A.E. government institutions in the United States.

U.A.E. Commercial Counselor: Saud Al Nowais  
Chief of Staff, Advisor to the Commercial Counselor, and Director of U.S.-U.A.E. Space Affairs:  
Talal Kaissi  
U.A.E. Embassy, Trade & Commercial Office  
3522 International Court, NW  
Washington, DC 20008  
Tel: (202) 243-2425  
Email: trade@uaeembassy-usa.org  
Website: <http://www.uaetrade-usa.org/>

U.A.E. Consulate in Los Angeles  
1999 Avenue of the Stars, Suite 1250  
Los Angeles, CA 90067  
Tel: (310) 551-6534  
Email: protocol.la@mofa.gov.ae

U.A.E. Consulate in New York

535 5th Ave., 32nd Floor  
New York, N.Y. 10017  
Tel: (212) 419-7670  
Email: nycon@mofa.gov.ae

U.A.E. Consulate in Boston  
One International Pl, Suite 2901  
Boston, MA 02110  
Tel: (617) 948-8800  
Email: consboston@uaeembassy-usa.org

Finally, U.S. companies can count on major U.S. trade associations and chambers of commerce and their counterparts in the U.A.E.

U.S.-U.A.E. Business Council  
505 Ninth Street, NW  
Washington, D.C. 20004  
Tel: (202) 863-7285  
Email: info@usuaebusiness.org  
Website: www.usuaebusiness.org

AmCham Abu Dhabi  
P.O. Box 43710, Abu Dhabi, U.A.E.  
Tel: +971-2-631-3604  
Email: admin@amchamabudhabi.org  
Website: www.amchamabudhabi.org

The American Business Council of Dubai and Northern Emirates  
P.O. Box 74648, Dubai, U.A.E.  
Tel: +971-4-379-1414  
Email: director@abcdubai.com  
Website: www.abcdubai.com

National Association of Manufacturers  
733 10th Street NW, Suite 700  
Washington, DC 20001  
Tel: (202) 637-3000  
Email: manufacturing@nam.org  
Website: www.nam.org

Federation of U.A.E. Chambers of Commerce & Industry  
P.O. Box 3014, Abu Dhabi, U.A.E.  
Tel: +971-2-621-4144  
Email: info@fccuae.ae  
Website: www.fccuae.ae

Abu Dhabi Chamber of Commerce & Industry  
P.O. Box 662, Abu Dhabi, U.A.E.

Tel: +971-2-621-4000  
Email: [contact.us@adcci.gov.ae](mailto:contact.us@adcci.gov.ae)  
Website: [www.abudhabichamber.ae](http://www.abudhabichamber.ae)

Dubai Chamber of Commerce & Industry  
P.O. Box 1457, Dubai, U.A.E.  
Tel: +971-4-228-0000  
Email: [customercare@dubaichamber.com](mailto:customercare@dubaichamber.com)  
Website: [www.dubaichamber.com/](http://www.dubaichamber.com/)

Sharjah Chamber of Commerce & Industry  
P.O. Box 580, Sharjah, U.A.E.  
Tel: +971-6-530-2222  
Email: [scci@sharjah.gov.ae](mailto:scci@sharjah.gov.ae)  
Website: [www.sharjah.gov.ae](http://www.sharjah.gov.ae)

Ajman Chamber of Commerce & Industry  
P.O. Box 662, Ajman, U.A.E.  
Tel: +971-600-595-959  
Email: [info@ajmanchamber.ae](mailto:info@ajmanchamber.ae)  
Website: [www.ajmanchamber.ae](http://www.ajmanchamber.ae)

Fujairah Chamber of Commerce & Industry  
P.O. Box 738, Fujairah, U.A.E.  
Tel: +971-9-223-0000  
Email: [chamber@fujcci.ae](mailto:chamber@fujcci.ae)  
Website: [www.fujcci.ae](http://www.fujcci.ae)

Ras Al Khaimah Chamber of Commerce & Industry  
P.O. Box 87, Ras Al Khaimah, U.A.E.  
Tel: +971-7-207-0222  
Email: [info@rakchamber.ae](mailto:info@rakchamber.ae)  
Website: [www.rakchamber.ae](http://www.rakchamber.ae)

Umm Al Quwain Chamber of Commerce & Industry  
P.O. Box 436, Umm Al Quwain, U.A.E.  
Tel: +971-6-765-1111  
Email: [uaqcci1@eim.ae](mailto:uaqcci1@eim.ae)  
Website: <http://www.uaqchamber.ae/>

## APPENDIX A: Select Metal Manufacturers

Company	Location	Description	Product	Capacity
<b>Aluminum</b>				
<b>Emirates Global Aluminium (EGA)</b>	Al Taweelah, Abu Dhabi and Jebel Ali, Dubai	EGA, founded in 2014 through the merger of Dubai Aluminum and Emirates Aluminum, is owned equally by Mubadala Investment Company and the Investment Corporation of Dubai. Its aluminum products include high purity and foundry re-melt, rolled products, and billets. <sup>156</sup>	Aluminum re-melt, rolled products, and billets	2.4 million MT per annum primary aluminum
<b>Ducab Aluminium Company (DAC)</b>	Khalifa Industrial Zone (KIZAD), Abu Dhabi	DAC is a joint venture between Senaat (40%) and its portfolio company Ducab (60%). When it opens in early 2018, DAC will manufacture aluminum alloy rods, wires, and bare overhead conductors. <sup>157</sup>	Aluminum rods, wires, and conductors	
<b>Taweelah Aluminium Extrusion Company (TALEX)</b>	Khalifa Industrial Zone (KIZAD), Abu Dhabi	TALEX, which is a joint venture between Senaat and privately owned Gulf Extrusions (part of Al Ghurair Group), is the first aluminum downstream project to be established in KIZAD. <sup>158</sup>	Aluminum extrusions	50,000 MT per annum extrusions and 45,000 MT per annum aluminum billets
<b>Gulf Extrusions</b>	Jebel Ali Industrial Area, Dubai	Established in 1976, Gulf Extrusions, part of Al Ghurair Group, produces aluminum extrusions for architectural, industrial, and automotive sectors. <sup>159</sup>	Aluminum extrusions	
<b>Emirates Extrusion Factory</b>	National Industries Park, Dubai	Emirates Extrusion, a subsidiary of M'Sharie (the private equity arm of Dubai Investments), was established in 1993 in Ajman to offer a wide variety of aluminum extrusions and profiles. <sup>160</sup>	Aluminum extrusions	

<b>Alubond USA</b>	Hamriyah Free Zone, Sharjah	Alubond USA, owned by Mulk Holdings International, is an aluminum composite panels (ACP) and metal composite material (MCM) panels brand. It claims to be the world's largest ACP and MCM brand. <sup>161</sup>	Aluminum composite panels and metal composite material panels	
<b>Alucopanel Middle East</b>	Jebel Ali Free Zone (JAFZA), Dubai	Alucopanel Middle East, a subsidiary of Danube Group, manufactures non-combustible A2 Aluminum Composite Panels. <sup>162</sup>	Aluminum composite panels	
<b>Can-Pack Group</b>	Dubai Investment Park	Can-Pack Group is a Polish metal packaging company that has invested over \$136 million (500 million AED) in manufacturing facilities in Dubai. In January 2015, it opened a new 150,000-square-foot facility that increased its production from 3.5 million cans per day to 5 million cans per day. <sup>163</sup>	Aluminum cans	5 million cans per day
<b>Steel</b>				
<b>Emirates Steel</b>	Industrial City of Abu Dhabi (ICAD)	Emirates Steel, founded in 1998, is wholly owned by Senaat. Its products include steel rebar, wire rod, and heavy sections. <sup>164</sup>	Steel rebar, wire rod, and heavy sections	3.5 million MT per annum
<b>Conares</b>	Jebel Ali Free Zone (JAFZA), Dubai	Conares, founded in 1988, is the region's second-largest privately-held steel company. It manufactures steel pipes and rebar. <sup>165</sup>	Steel pipes and rebar	1 million MT per annum
<b>Hamriyah Steel</b>	Hamriyah Free Zone, Sharjah	Hamriyah Steel, founded in 2007, is a joint venture between Russia's Metalloinvest and HH Sheikh Sultan bin Khalifa Al Nahyan. It supplies rebar to the local construction market. <sup>166</sup>	Steel rebar	1 million MT per annum

<b>Star Steel</b>	Hamriyah Free Zone, Sharjah	Star Steel, founded in 2006, is part of Dubai's Al Ghurair Group. Star Steel claims to be the largest private-sector steel processor in the U.A.E. Its products include rebar and structural steel. <sup>167</sup>	Steel rebar and structural steel	360,000 MT rebar per annum and 240,000 MT sections per annum
<b>Qatar Steel UAE</b>	Jebel Ali Free Zone (JAFZA), Dubai	Qatar Steel, founded in 1978, is wholly owned by Industries Qatar. The company operates a U.A.E. subsidiary. Its products include rebar and steel wire rods. <sup>168</sup>	Steel rebar and wire rods	300,000 MT rebar per annum and 240,000 MT wire rod per annum
<b>Al Ghurair Iron and Steel</b>	Industrial City of Abu Dhabi (ICAD)	Al Ghurair Iron and Steel, which is a joint venture between Al Ghurair Group and Nippon Steel & Sumitomo Metal Corporation, claims to be the first and only steel cold rolling and galvanizing complex in the U.A.E. <sup>169</sup>	Steel coils	400,000 MT per annum
<b>SeAH Steel UAE</b>	Al Ghail Industrial Park, Ras Al Khaimah	SeAH Steel UAE is a joint venture between SeAH Steel Corporation, a leading South Korean steel pipe manufacturer, and Ras Al Khaimah Investment Authority (Rakia). It manufacturer large-diameter heavy-wall steel pipes. <sup>170</sup>	Steel pipes	150,000 MT per annum
<b>Copper</b>				
<b>Ducab</b>	Jebel Ali, Dubai and Mussafah, Abu Dhabi	Ducab, which is jointly owned by Senaat and the Investment Corporation of Dubai, is a leading provider of high-quality cabling products in the Middle East. The company currently runs five manufacturing facilities for cables, a copper rod mill, a PVC plant, and an upcoming aluminum plant—Ducab Aluminium Company (DAC). <sup>171</sup>	Copper cables, rod, and wire	115,000 MT per annum cables and 110,000 MT per annum copper rod and wire
<b>Union Copper Rod</b>	Industrial City of Abu Dhabi (ICAD)	Union Copper Rod, established in 2007, specializes in copper rod production. It claims its production line is the largest in the Middle East. <sup>172</sup>	Copper rod	200,000 MT per annum of 8mm – 20 mm copper rod
<b>Gold</b>				

<b>Kaloti Precious Metals</b>	Sharjah Industrial Area (refinery)	Kaloti Precious Metals, established in 1988, claims to be one of the world's largest privately owned gold and precious metals refiners and trading houses. <sup>173</sup>	Gold and precious metals	300 tons per annum of refined gold
<b>Emirates Gold</b>	Dubai Multi Commodities Center (DMCC) (headquarters)	Emirates Gold, operating for more than 25 years, calls itself the most influential and respected gold refinery in the Arab World. <sup>174</sup>	Gold	200 tons per annum of gold
<b>Al Etihad Gold</b>	Dubai Multi Commodities Center (DMCC)	Al Etihad Gold, established in 2009, claims to be one of the largest and fastest-growing gold and silver refineries in the region. <sup>175</sup>	Gold and silver	

## APPENDIX B: Select Building Material Manufacturers

Company	Location	Description	Products	Capacity
<b>Cement</b>				
<b>Union Cement Company</b>	Ras Al Khaimah	Union Cement Company, established in 1972, was the first cement producer in the U.A.E. It is one of few to produce oil well cement. <sup>176</sup>	Cement	4.8 million MT per annum
<b>Sharjah Cement Company</b>	Sharjah	Sharjah Cement Factory, established in 1977, is a division of Sharjah Cement & Industrial Development Company. <sup>177</sup>	Cement	4.27 million MT per annum
<b>Arkan Building Materials Company</b>	Abu Dhabi	Arkan Building Materials Company is a public joint stock company that is 51% owned by Senaat with the remaining 49% of its shares publicly traded on the Abu Dhabi Stock Exchange. Arkan specializes in manufacturing building and construction products. Its portfolio companies include Emirates Blocks Factories, ANABEEB, Al Ain Cement Factory, and Arkan Dry Mortar. Through Al Ain Cement Factory, Arkan produces over 26 products, with a capacity for 3.2 million MT clinker and 4 million MT cement per annum. <sup>178</sup>	Cement	4 million MT cement per annum

<b>Lafarge Emirates Cement Company</b>	Fujairah (plant)	Lafarge Emirates, established in 2005, is a joint venture between Lafarge and Dubai Group. The company also produces concrete. <sup>179</sup>	Cement	
<b>National Cement Factory</b>	Industrial City of Abu Dhabi (ICAD)	National Cement Factory is a wholly owned subsidiary of Emirates International Investment Company, which belongs to Abu Dhabi conglomerate National Holding. Operating out of ICAD, it runs grinding mills with an annual capacity of three million tons. <sup>180</sup>	Cement	3 million MT per annum
<b>Gulf Cement Company</b>	Ras Al Khaimah	Gulf Cement, established in 1979, is a public shareholding company. Besides cement production, the company is one of the largest domestic producers of clinker at 3.8 million tons per year. <sup>181</sup>	Cement	2.7 million MT per annum
<b>Fujairah Cement Industries</b>	Fujairah	Fujairah Cement Industries, established in 1979, is a public joint stock company that is owned by the Government of Fujairah, the Government of Abu Dhabi, the Islamic Development Bank, and shareholders from the U.A.E. and other GCC countries. <sup>182</sup>	Cement	2.4 million MT per annum
<b>Star Cement Company</b>	Ras Al Khaimah	Star Cement, established in 2001, is a wholly-owned subsidiary of UltraTech Cement, part of India's Aditya Birla Group. <sup>183</sup>	Cement	2.1 million MT per annum

<b>JK Cement Works</b>	Fujairah	JK Cement Works, established in 2014, is a wholly-owned subsidiary of India's JK Cement. The company operates one of the first dual-stream white and gray cement plants in the region. <sup>184</sup>	Cement	0.6 million MT per annum white cement or 1 million MT per annum gray cement
<b>Ceramics</b>				
<b>RAK Ceramics</b>	Ras Al Khaimah	RAK Ceramics, a publicly listed company on the Abu Dhabi Security Exchange, is one of the largest ceramics brands in the world, specializing in ceramic and gres porcelain wall and floor tiles and sanitaryware. It has 16 plants across the U.A.E., India, Bangladesh, and Iran. It has an annual turnover of approximately \$1 billion. <sup>185</sup>	Ceramics	110 million square meters of tiles and 5 million pieces of sanitaryware per annum
<b>Glass</b>				
<b>Guardian Glass</b>	Al Jazeera Al Hamra, Ras Al Khaimah	Guardian Glass operates a major float glass plant in Ras Al Khaimah. At the time of its opening, this plant had a capacity of 700 tons of glass per day that could be used in construction and automotive applications. <sup>186</sup>	Float glass	700 tons per day
<b>Emirates Float Glass</b>	Industrial City of Abu Dhabi (ICAD)	Emirates Float Glass, established in 2009, is a subsidiary of Glass LLC. It operates a \$188 million (692 million AED) glass manufacturing and processing facility in Abu Dhabi that produces glass products used in the architectural and automotive industry segments. <sup>187</sup>	Float glass	200,000 tons per annum (600 tons per day)

<b>Emirates Glass</b>	Al Quoz Industrial Area, Dubai	Emirates Glass, established in 1998, is a subsidiary of Glass LLC. It is a regional leader in the production of processed architectural flat glass. <sup>188</sup>	Architectural flat glass	
<b>Lumiglass Industries</b>	Al Quoz Industrial Area, Dubai	Lumiglass Industries, established in 2003, is a subsidiary of Glass LLC. It provides architectural glass, flat stock laminated glass, bullet resistant glass, security glass, anti-blast glass, and other glazing. <sup>189</sup>	Safety glass	
<b>Emirates Insolaire</b>	Dubai Investments Park	Emirates Insolaire, established in 2013, is a joint venture between Dubai Investments and SwissINSO Holding that produces colored solar glass and colored PV modules. <sup>190</sup>	Solar glass	
<b>Saverglass</b>	Al Jazeera Al Hamra, Ras Al Khaimah	Saverglass, a French bottle maker, operates a \$93 million (341 million AED) manufacturing facility in Ras Al Khaimah that produces glass bottles. <sup>191</sup>	Glass bottles	350 tons per day
<b>RAK Ghani Glass LLC</b>	Al Jazeera Al Hamra, Ras Al Khaimah	RAK Ghani Glass LLC is a joint venture between Ghani Glass – Pakistan, RAK Investment Authority, and Swicorp. It produces pharmaceutical glass containers. <sup>192</sup>	Pharmaceutical glass containers	40,000 tons per year

<b>Select Glass Industries</b>	Al Jazeera Al Hamra, Ras Al Khaimah	Select Glass Industries, established in 2007, produces high-performance insulating glass units, toughened safety glass, and processed glass products. <sup>193</sup>	Glass products	550,000 square meters per year of double glass products
<b>Gulf Glass Industries</b>	Sharjah Industrial Area	Gulf Glass Industries, established in 1991, is a subsidiary of the GIBCA Group of Companies. <sup>194</sup>	Glass	
<b>Gypsum</b>				
<b>Gypsemna</b>	Industrial City of Abu Dhabi (ICAD)	Gypsemna, established in 2006, claims to operate the largest gypsum plasterboard plant in the region, with an annual production capacity of 50 million square meters. <sup>195</sup>	Gypsum plasterboard	50 million square meters per year
<b>Ayhaco Gypsum Products Manufacturing</b>	Quoz Industrial Area, Dubai	Ayhaco Gypsum Products Manufacturing manufactures and supplies gypsum board, gypsum tile, false ceilings, suspensions, and accessories. <sup>196</sup>	Gypsum board	
<b>Knauf</b>	Dubai and Ras Al Khaimah	Knauf, one of the world's leading manufacturers of building materials, produces plaster, gypsum board, and drywall systems. With its head office in Dubai, Knauf has a manufacturing facility in Ras Al Khaimah. <sup>197</sup>	Gypsum board	

## APPENDIX C: Select Chemical and Plastic Manufacturers

Company	Location	Description	Products	Capacity (per Annum)
<b>Petrochemicals, Plastics, and Fertilizer</b>				
<b>Borouge</b>	Ruwais, Abu Dhabi	Borouge, a joint venture between Abu Dhabi National Oil Company (ADNOC) and Austria-based Borealis (64% owned by Mubadala Investment Company), operates the world's largest polyolefins complex in Ruwais, Abu Dhabi. <sup>198</sup>	Polyolefins	2.3 million tons of polyethylene, 1.75 million tons of polypropylene, and 350,000 tons of low-density polyethylene
<b>Fujairah Plastic Factories</b>	Fujairah	Fujairah Plastic Factories is a leading producer of plastic sheets and bags. <sup>199</sup>	Plastic sheets and bags	
<b>RMD Board</b>	Jebel Ali Free Zone, Dubai	RMD Board, a division of JRD International, makes composite polypropylene boards from its facility in Jebel Ali Free Zone in Dubai. <sup>200</sup>	Composite polypropylene boards	12,000 tons per annum
<b>Sabin Plastic Industries</b>	Sharjah	Established in 1997, Sabin Plastics Industries, part of Gadoya Holdings, is one of the largest suppliers of acrylics and polycarbonates in the U.A.E. It manufactures and supplies over 400 types of plastic components. <sup>201</sup>	Acrylic sheets and polycarbonate sheets	

<b>Ruwais Fertilizer Industries (Fertil)</b>	Ruwais, Abu Dhabi	Fertil, a joint venture between ADNOC and French energy major Total, produces 3,300 metric tons per day of ammonia and 5,800 metric tons per day of urea from Ruwais Industrial Zone in Abu Dhabi. <sup>202</sup>	Ammonia and urea	3,300 metric tons per day of ammonia and 5,800 metric tons per day of urea
<b>Abu Dhabi Fertilizer Industries Co. W.L.L (ADFERT)</b>	Mussafah Industrial Area, Abu Dhabi	ADFERT, established in 1995, is a joint venture between U.A.E.-based International Technical Trading Company and Chilean company Sociedad Quimica y Minera de Chile (SQM). It claims to be one of the regional leaders in the manufacture and export of specialty plant nutrients with production capacity of 100,000 metric tons. <sup>203</sup>	Water-soluble fertilizer, granular fertilizer, suspension fertilizer, and liquid fertilizer	100,000 metric tons
<b>Other Organic Chemicals</b>				
<b>Emirates National Oil Company (ENOC) Lubricants and Greases Manufacturing Plant</b>	Fujairah	Emirates National Oil Company (ENOC) Lubricants and Greases Manufacturing Plant, a subsidiary of ENOC, is an advanced lubricants and grease manufacturing plant in Fujairah Port. <sup>204</sup>	Advanced lubricants and grease	100,000 metric tons of mineral and synthetic-based oils and 5,000 metric tons of greases per annum
<b>Gulf Petrochem</b>	Hamriyah Free Zone, Sharjah	Gulf Petrochem has a grease manufacturing plant in Hamriyah Free Zone, Sharjah. <sup>205</sup>	Grease	

<b>Gulf RAK Oil LLC</b>	RAK Maritime City	Gulf RAK Oil LLC was formed when the Ras Al Khaimah Government and Hinduja Group's Gulf Oil International commissioned a state-of-the-art lubricant manufacturing plant and grease processing facility in RAK Maritime City. <sup>206</sup>	Lubricants and grease	
<b>Inorganic Chemicals</b>				
<b>Al Ghaith Industries</b>	Industrial City of Abu Dhabi (ICAD)	Al Ghaith Industries, established in 2006, has a chlor-alkali plant in Abu Dhabi that produces 140 tons per day of caustic soda lye, 160 tons per day of hydrochloric acid, and 70 tons per day of sodium hypochlorite. <sup>207</sup>	Caustic soda lye, hydrochloric acid, and sodium hypochlorite	140 metric tons per day of caustic soda lye, 160 metric tons per day of hydrochloric acid, and 70 metric tons per day of sodium hypochlorite

## APPENDIX D: Select Pharmaceutical Manufacturers

Company	Location	Description	Products	Capacity (per Annum)
<b>Julphar Gulf Pharmaceutical Industries</b>	Ras Al Khaimah	Established in 1980 under the guidance of the then-Emir of Ras Al Khaimah His Highness Sheikh Saqr bin Mohammed Al Qasimi, Julphar now operates sixteen manufacturing facilities globally, 13 of which are in the U.A.E. It is the largest generic pharmaceutical manufacturer in the Middle East and North Africa. Leading U.S. pharmaceutical company Merck, operating as MSD in the U.A.E., manufactures some of its products in the U.A.E. through Julphar. <sup>208</sup>	Varied	One million boxes of medicines per day
<b>Neopharma</b>	Industrial City of Abu Dhabi (ICAD)	Neopharma, which commenced operations in 2003, claims to be “Abu Dhabi’s premier pharmaceutical manufacturing company.” Neopharma has licensing agreements with several pharmaceutical giants, including Pfizer and Germany’s Merck Serono. <sup>209</sup>	Tablets and capsules	1.5 billion tablets per year and 300 million capsules per year
<b>Globalpharma</b>	Dubai Investments Park	Globalpharma, established in 1998, has a plant in Dubai Investments Park. In 2014, Dubai Investments sold a majority stake in Globalpharma to French firm Sanofi, and Globalpharma is now being integrated as a Sanofi company to become the platform to manufacture and promote the generics portfolio of Sanofi in the Middle East region. <sup>210</sup>	Tablets, capsules, and liquid	300 million tablets, 150 million capsules, and over 7 million liters of dry syrup and liquid per year
<b>LIFEPharma</b>	Jebel Ali Free Zone (JAFZA), Dubai	LIFEPharma, part of VPS healthcare, has a facility at JAFZA, Dubai that has the capacity to produce 1 billion tablets, 300 million capsules, and 150 million liters of liquid per year. LIFEPharma has partnerships with global pharmaceutical companies such as U.S.-based Abbott Laboratories. <sup>211</sup>	Tablets, capsules, and liquid	1 billion tablets, 300 million capsules, and 150 million liters of liquid per year

## APPENDIX E: Select Food and Beverage Manufacturers

Company	Location	Description	Products	Capacity
<b>Diversified</b>				
<b>Nestle</b>	Dubai Technopark; Al Quoz, Dubai; Dubai South	Nestle, the world's largest food and beverage company with more than 2,000 brands, has three factories in the U.A.E. Nestle has long operated a water factory in Al Quoz. Then, in 2010, it opened a \$136 million (500 million AED) factory in Dubai's Technopark that manufactures milk powder, chocolate, and culinary products. Finally, in 2017, it opened another \$144 million (530 million AED) facility in Dubai South, this time to produce coffee and culinary goods. <sup>212</sup>	Water, milk powder, chocolate, coffee, and culinary products	
<b>Del Monte</b>	Dubai	Del Monte produces fresh, prepared, frozen, and specialty foods. In 2007, it opened a 91 million AED (\$24.7 million) fresh cut factory in Dubai to produce fresh juices, fresh-cut leaf salads, and fresh-cut fruits. <sup>213</sup>	Juices, salads, and fruits	
<b>Agthia</b>	Abu Dhabi	Agthia, a subsidiary of Senaat, is one of the U.A.E.'s leading food and beverage groups with assets across the Middle East, North Africa, and Turkey. Established in 2004, Agthia offers a world-class portfolio of integrated businesses providing high-quality	Water and beverages (Al Ain Water, Al Ain Zero Water, Al Bayan Water, Alpin Natural Spring Water, Ice Crystal Water, Delta Water, Bambini Kids Water, Al Ain Fresh Juice, Capri-Sun Fruit Juice); food (Grand Mills Flour, Yoplait Yogurt, Al Ain	

		and trusted food and beverage products for customers and consumers across the U.A.E., GCC, Turkey, and the wider Middle East. <sup>214</sup>	Tomato Paste, Al Ain Frozen Vegetables, Monty's Bakehouse Frozen Bakery products, The Grand Baker Ambient Bakery products, Pure Natural Convenience Food items, Date Crown Dates); and animal feed (Agrivita, Al Wasmi, Anderson Hay)
<b>International Foodstuffs Company (IFFCO)</b>	Sharjah (corporate office)	IFFCO is a U.A.E.-based integrated multi food products group that has 30 manufacturing facilities in 10 countries. The Group includes Emirates Refining Company, Emirates Grain Products Company, and Unipex. Its brands include Allana, Tiffany, Al Baker, London Dairy, Igloo, Hayat, Noor, Rahma, and Allegro. <sup>215</sup>	Varied products, including grains, edible oils, frozen meat, juices, chocolate, ice cream, and biscuits
<b>Unikai Foods</b>	Al Quoz Industrial Area, Dubai	Unikai Foods was established in 1977 by His Highness Sheikh Rashid bin Saeed Al Maktoum. It claims to be among the largest and most diversified fast-moving consumer goods companies in the Middle East and North Africa. <sup>216</sup>	Dairy, ice cream, juices, and food products
<b>National Food Products Company (NFPC)</b>	Abu Dhabi	The National Food Products Company claims to be the U.A.E.'s first and largest fast moving consumable goods company in the beverage and dairy products segment. Its products include Lacnor juices, milk, and tomato paste; Oasis drinking water; and	Beverage and dairy products

		Arla dairy products. It is developing a \$410 million (1.5 billion AED) food production facility at Khalifa Industrial Zone Abu Dhabi. <sup>217</sup>		
<b>Emirates Rawabi</b>	Dubai	Established in 2000 by the merger of Al Rawabi Dairy and Emirates Modern Poultry, Emirates Rawabi claims to be the leading poultry producer in the U.A.E. It is also the owner of well-known brands of fruit juices and dairy products. Investors in Emirates Al Rawabi include the Investment Corporation of Dubai. <sup>218</sup>	Milk, dairy, and yoghurt products; fresh and long-life fruit juices; and fresh and frozen meat products and processed foods	
<b>Gulf Food Industries</b>	Jebel Ali Free Zone (JAFZA), Dubai	Established in 1989, Gulf Food Industries, which is part of American Group, produces canned and non-canned foods. Its brands include California Garden, Americana, Al Mazraa, and Mazraa Premium, while its private label partners include Heinz, Libby's, Del Monte, and Monarch. <sup>219</sup>	Canned and non-canned food	700,000 cans per day
<b>Delta Food Industries</b>	Sharjah International Airport Free (SAIF) Zone, Sharjah	Delta Food Industries produces a variety of products from its facilities in Sharjah. In March 2016, it opened a new \$11 million (40 million AED) dairy plant there. <sup>220</sup>	Tomato paste, ketchup, hot sauce, evaporated milk, cream, and milk powder	
<b>Meat, Poultry, and Seafood</b>				

<b>BRF (Formerly Brasil Foods)</b>	Khalifa Industrial Zone Abu Dhabi (KIZAD)	BRF is one of the biggest food companies in the world and a global leader in exporting animal protein. In November 2014, BRF opened a \$160 million (588 million AED) factory in Abu Dhabi that was its largest outside South America. <sup>221</sup>	Meats	70,000 tons of food products per year
<b>Al Islami Foods</b>	Dubai Investments Park (headquarters); Jebel Ali, Dubai; and Hamriyah Free Zone, Sharjah	Al Islami Foods claims to be the leading halal food company in the U.A.E. as well as one of the biggest food distributors in the region. <sup>222</sup>	Frozen and specialty products, including meat and poultry	950-1,050 metric tons per month
<b>Al Kabeer Group</b>	Al Qusais Industrial Area, Dubai and Sharjah (manufacturing units)	Al Kabeer Group produces meat and poultry products, seafood products, vegetarian products, and ready-to-eat meals. It includes Cascade Marine Foods Limited. <sup>223</sup>	Frozen meat and poultry products, seafood products, vegetarian products, and ready-to-eat meals	
<b>Emirates Meat (EDAM)</b>	Jebel Ali, Dubai (manufacturing unit)	EDAM, part of the Galadari Group, claims to be one of the leading manufacturers of frozen food in the region. <sup>224</sup>	Poultry, meat, seafood, fingerfood, and other products	12 tons per day
<b>Global Food Industries (GFI)</b>	Sharjah	Established in 1992, Global Food Industries, which is part of Albatha Group, is a frozen food manufacturing company. Its brands include Al Areesh and Arctic Gold. <sup>225</sup>	Frozen food, including chicken, beef, seafood, and vegetables	
<b>International Fish Farming Holding Company (Asmak)</b>	Ajman (factory)	Established in 1999, Asmak is an end-to-end supplier and producer of fresh and frozen seafood. Its products include calamari, shrimps, fish fillet, seafood cocktail, fish nuggets, and many other frozen and breaded goods. <sup>226</sup>	Seafood	

<b>Gulf Sea Food</b>	Jebel Ali Free Zone (JAFZA), Dubai	Gulf Seafood is one of the U.A.E.'s oldest seafood processing facilities. <sup>227</sup>	Seafood	
<b>Royal Fisheries</b>	Al Quoz Industrial Area, Dubai	Royal Fisheries, established in 1995, has a state-of-the-art seafood processing plant in Dubai called Royal Crown Fisheries Factory. <sup>228</sup>	Seafood	
<b>Magenta LLC</b>	Dubai	Magenta, a Mitras Group Company, produces fresh fish, exotic fresh fish, crustaceans and shellfish, breaded products, smoked products, and charcuterie products. It is associated with the Delsea brand. <sup>229</sup>	Seafood	
<b>Dairy</b>				
<b>Marmum Dairy Farm</b>	Dubai	Marmum Dairy Farm, a subsidiary of Dubai Investments, is one of the largest dairy farms in the U.A.E. <sup>230</sup>	Milk, yoghurt, laban, and fruit juice	20 million liters per year
<b>Gulf &amp; Safa Dairies Company</b>	Abu Dhabi	Gulf and Safa Dairies Company, established in 1978, is an important producer of dairy products as well as fruit juice. <sup>231</sup>	Dairy products, such as yoghurt, flavored milk, labnah, and cheese	16,000 liters per hour
<b>Al Ain Dairy</b>	Al Ain, Abu Dhabi (head office)	Al Ain Farms for Livestock Production was established in 1981 by Sheikh Zayed bin Sultan Al Nahyan to deliver fresh dairy products for the first time in the U.A.E. It now produces dairy products, juice	Dairy products, juice products, and camelait products	

		products, and camelait products. <sup>232</sup>		
<b>ITALFOOD</b>	Ras Al Khaimah Free Trade Zone	ITALFOOD is a fresh cheese manufacturing company that produces fresh cheese daily, buying milk from local U.A.E. producers. <sup>233</sup>	Cheese	
<b>Grains</b>				
<b>Al Dahra Holdings</b>	Khalifa Industrial Zone Abu Dhabi (KIZAD) (rice mill)	Al Dahra Holdings, a prominent U.A.E. agribusiness, operates a \$38.1 million (140 million AED) rice mill in KIZAD. <sup>234</sup>	Rice	
<b>Emirates Macaroni Factory</b>	Al Quoz Industrial Area, Dubai	Emirates Macaroni Factory has produced pasta from its factory in the U.A.E. since 1979. <sup>235</sup>	Pasta	
<b>Al Ghurair Foods</b>	Dubai	Al Ghurair Foods, part of Al Ghurair Enterprises, boasts the largest pasta plant in the Middle East and the 1 <sup>st</sup> flour mill in Dubai. <sup>236</sup>	Pasta and flour	
<b>Modern Bakery</b>	Dubai	Modern Bakery claims to be the largest bakery in the U.A.E. <sup>237</sup>	Bakery items, breads, pastries, sweets, confectionary, muffins, cakes, and biscotti	1 million buns and rolls per day
<b>ABC (Advanced Baking Concepts) Baking</b>	Dubai Investments Park	ABC Baking produces frozen bread and pastries from a 4,500-square-meter production facility. <sup>238</sup>	Frozen bread and pastries	20,000 metric tons per year
<b>Al Jadeed Bakery</b>	Dubai, Abu Dhabi, and Ras Al Khaimah	Al Jadeed Bakery is one of the leading bakeries in the U.A.E. <sup>239</sup>	Baked goods	
<b>Fruits, Nuts, and Spices</b>				
<b>Al Foah</b>	Al Ain, Abu Dhabi	Al Foah, a subsidiary of Senaat, is the largest date company in the world. Since its inception in 2005, Al Foah has revolutionized the dates industry through constant innovation by creating an array of	Dates	113,000 metric tons per year

		leading dates-based products & brands, such as Date Crown, YAS Granola Bars, and its flagship chain of culinary boutiques, 'Zadina.' <sup>240</sup>		
<b>Arab India Spices</b>	New Industrial Area, Ajman	Arab India Spices describes itself as a global leader in the pulses and spice industry. In July 2016, it inaugurated a \$95 million (350 million AED) food production facility in Ajman to process 36,000 tons of lentils per year. <sup>241</sup>	Pulses and spices	15,000 metric tons per month
<b>Best Food Company</b>	Dubai Investments Park (factory)	Bestfood is a market leader for branded nuts in the Middle East. <sup>242</sup>	Nuts and chocolates	
<b>Gyma Food Industries (Bayara)</b>	Dubai Investments Park	Bayara claims to be a leader in the processing of dried fruits, nuts, and spices in the Middle East. <sup>243</sup>	Dried fruits, nuts, and spices	
<b>Sugar, Sweets, and Snacks</b>				
<b>Al Khaleej Sugar Refinery</b>	Jebel Ali, Dubai	Al Khaleej Sugar Refinery was the first sugar refinery in the Gulf region. It now claims to be the largest standalone sugar refinery in the world, accounting for about 3% of global annual refined sugar production. <sup>244</sup>	Sugar	6,000 tons of refined white sugar per day
<b>Mars</b>	Jebel Ali Free Zone (JAFZA), Dubai	Mars, a U.S.-based confectionary giant, opened a \$40 million (147 million AED) factory in Dubai in 2010. <sup>245</sup>	Confectionary products	
<b>National Food Industries</b>	Al Quoz Industrial Area, Dubai	National Food Industries, founded in 1977, manufactures snack foods under popular brands including Mr. Krisps, Emirates Pokafi, Mr. Pofak, Bakeman's, &	Snack foods	

Sindbad. <sup>246</sup>			
<b>Hunter Foods</b>	Jebel Ali Free Zone (JAFZA), Dubai	Hunter Foods, established in 1985, produces premium, gourmet specialty food and snacks. Its brands include Safari, Aladin, and AliBaba <sup>247</sup>	Snacks foods
<b>Water</b>			
<b>Masafi</b>	Al Quoz Industrial Area, Dubai	Masafi produces water, juice, and a variety of other products, including tissues. <sup>248</sup>	Water and juice
<b>Mai Dubai</b>	Dubai	Mai Dubai, which is associated with the Dubai Electricity and Water Authority, produces bottled water. <sup>249</sup>	Water
<b>Juices</b>			
<b>Binghatti Holding</b>	Khalifa Industrial Zone Abu Dhabi (KIZAD)	Binghatti Holding is known for its Raubi Juice brand. In 2015, it announced it would build a \$41 million (150 million AED) food and beverage production plant in Khalifa Industrial Zone Abu Dhabi. <sup>250</sup>	Juice
<b>Maaza International</b>	Dubai	Maaza International, established in 1995, produces mango juice. <sup>251</sup>	Juice
<b>Aujan Coca-Cola Beverages Company</b>	Dubai	Aujan Coca-Cola Beverages Company is the authorized manufacturer of Rani and Barbican brands of drinks. It has a manufacturing facility located in Dubai. <sup>252</sup>	Rani and Barbican
<b>Soft Drinks</b>			
<b>Dubai Refreshments</b>	Al Quoz Industrial Area, Dubai (production facility office)	Dubai Refreshments is the first company in the U.A.E. to introduce soft drink manufacturing, becoming the sole	Pepsi, Mirinda, Mountain Dew, Ginger Ale, 7 UP, and Aquafina

		franchisee and distributor of Pepsi in 1962. It distributes Pepsi in Dubai and the Northern Emirates. <sup>253</sup>		
<b>Abu Dhabi Refreshments Company</b>	Abu Dhabi	Abu Dhabi Refreshments Company distributes Pepsi in Abu Dhabi.	PepsiCo products	
<b>Al Ahlia Gulf Line General Trading Company (AGL)</b>	Al Ain City (plant and head office)	Established in 1988, AGL is a joint venture between private stakeholders in the U.A.E. and Oman and The Coca-Cola Company to manufacture, package, merchandise, and distribute Coca-Cola branded beverages to customers in the U.A.E. and Oman. <sup>254</sup>	Coca-Cola, Sprite, Fanta, Schweppes, and Arwa	
<b>Tea and Coffee</b>				
<b>Unilever (Lipton)</b>	Jebel Ali	Unilever has a factory in Dubai that packages Lipton tea. Built in 2002, it is the largest tea-packaging facility in the world. <sup>255</sup>	Tea	50 million tea cups per day, or almost 20 billion tea cups per year
<b>Other</b>				
<b>Gulf Processing Industries</b>	Jebel Ali Free Zone (JAFZA), Dubai	Gulf Processing Industries, part of Sharaf Group, manufactures products such as Quality Mayonnaise, tomato ketchup, salad dressings, sauces, and cereals. <sup>256</sup>	Culinary products	
<b>United Foods</b>	Al Quoz, Dubai	United Foods is a public food company associated with brands such as Aseel, Mumtaz, Nawar, and Safi. <sup>257</sup>	Vegetable oils	

## APPENDIX F: Select Consumer Good Manufacturers

Company	Location	Description	Products	Capacity
<b>Personal and Home Care Products</b>				
<b>Unilever</b>	Dubai Industrial Park	Unilever is a global consumer goods giant that, in December 2016, opened the region's largest personal care products manufacturing plant in Dubai Industrial Park. <sup>258</sup>	Dove, Fair & Lovely, Lifebuoy, Vaseline, Clear, TRESemmé, and Sunsilk	100,000 tons per year of liquid beauty and personal care products
<b>Gulf Center for Soap &amp; Chemicals Industries</b>	Jebel Ali Industrial Area, Dubai	The Gulf Center for Soap & Chemicals Industries, established in 1985, specializes in the manufacture of personal care and home care products. It is a contract manufacturer for multinational and regional companies. <sup>259</sup>	Personal, home, baby, and institutional care products	30,000 metric tons per year
<b>Scitra</b>	Sharjah	Scitra, a member of Albatha home and personal care group, claims to be the GCC's market-leading manufacturer of home and personal care products. <sup>260</sup>	Detergent powders, soap noodles, bar soap, personal care liquids, home care liquid products, aerosols	
<b>Dabur Naturelle</b>	Ras Al Khaimah	Since 2007, Dabur Naturelle has manufactured personal care products – including perfumes, hair care, cosmetics, and soaps – from its facility in Ras Al Khaimah. <sup>261</sup>	Personal care products	
<b>Paper Products</b>				

<b>Ittihad Paper Mill</b>	Industrial City of Abu Dhabi (ICAD)	Ittihad Paper Mill, part of Ittihad Investment Company, claims to be the largest producer of printing and writing paper in the Middle East North Africa (MENA) region, supplying around 10% of the MENA market. <sup>262</sup>	Printing and writing paper	
<b>Crown Paper Mill</b>	Industrial City of Abu Dhabi (ICAD)	Crown Paper Mills, established in 1996, produces jumbo tissue paper rolls. <sup>263</sup>	Jumbo tissue rolls	35,000 metric tons per year
<b>Abu Dhabi National Paper Mill</b>	Abu Dhabi	Abu Dhabi National Paper Mill, a member of the ADNIP (Abu Dhabi National Industrial Projects) Group, produces jumbo tissue rolls that are used in making table napkins, kitchen and hand towels, and facial and toilet tissues. <sup>264</sup>	Jumbo tissue rolls	
<b>Queenex Hygiene Paper Manufacturing LLC</b>	Industrial City of Abu Dhabi (ICAD)	Queenex Hygiene Paper Manufacturing LLC, a subsidiary of Queenex Paper Products, produces tissue paper from a mill in the Industrial City of Abu Dhabi. <sup>265</sup>	Tissue paper	
<b>Textiles</b>				
<b>United Textiles</b>	Fujairah Free Zone	United Textiles, incorporated in 2005, operates a \$68 million (250 million AED) cotton yarn manufacturing plant in Fujairah. <sup>266</sup>	Cotton yarn	9,500 tons per year of yarn

<b>Abu Dhabi National Carpet Factory</b>	Abu Dhabi	The Abu Dhabi National Carpet Factory, part of the ADNIP Group, is a leading manufacturer of residential and hospitality carpets in the GCC and beyond. <sup>267</sup>	Carpets
<b>Abughazaleh Trading Company (ABCO)</b>	Dubai Investments Park	ABCO, established in Dubai in 1975, is a diversified manufacturing and distribution group. It is one of the main suppliers for Carrefour, Geant, and Hyperpanda across the GCC and MENA region. <sup>268</sup>	Uniforms, linens, and other products
<b>Jewelry</b>			
<b>Damas</b>	Nad Al Hamar, Dubai	Damas, founded in 1907, calls itself the Middle East's leading international jewelry and watch retailer. In 2016, it opened its first production facility in Dubai, a 20,000-square-foot factory that will initially produce around 40% of the company's needs and potentially produce up to 80% of its needs by 2020. Damas is owned by Qatari conglomerate Mannai Corporation, which acquired it wholly in 2014. <sup>269</sup>	Jewelry 3 tons of gold per year and 180,000 pieces of non-gold jewelry
<b>Malabar Gold and Diamonds</b>	Sharjah; National Industries Park, Dubai	Malabar Gold and Diamonds operates two facilities in Sharjah, with a combined monthly capacity of 500 kilograms. In 2015, Gulf News reported that it would open a \$20.4 million (75 million AED) facility at what was then Dubai Technopark (now National Industries Park) to design and make up to 2,000 kilograms of jewelry. <sup>270</sup>	Jewelry

<b>Kalyan Jewellers</b>	Sharjah	Kalyan Jewellers opened two production facilities in the U.A.E. since it entered the market in 2014. In 2015, Kalyan Jewellers commissioned a jewelry design plant in Sharjah with a capacity of 150 kilograms per month. <sup>271</sup>	Jewelry
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## APPENDIX G: Select Aerospace and Defense Manufacturers

Company	Location	Description	Products	Capacity
<b>Subsidiaries of Emirates Defense Industries Company (EDIC)</b>				
<b>Abu Dhabi Autonomous Systems Investments (ADASI)</b>	Abu Dhabi	ADASI offers clients a comprehensive range of services to cover all types of autonomous systems. It manages the Al-Sabr air platform, which was developed under a joint program between the U.A.E. and Austria and saw some major components manufactured in the U.A.E. <sup>272</sup>	UAVs	
<b>Barij Munitions</b>	Tawazun Industrial Park, Abu Dhabi	Barij Munitions was formed from the merger of Burkan Munitions Systems and Caracal Light Ammunition. 95% of its ammunition is sold to the U.A.E. Armed Forces. <sup>273</sup>	14 kinds of small, mid, and large-sized munitions	
<b>Caracal International LLC</b>	Tawazun Industrial Park, Abu Dhabi	Caracal International is the U.A.E.'s leading small arms producer. <sup>274</sup>	Small arms, including the Caracal EF pistol; CMP 9 submachine gun; Caracal CAR 814, Caracal CAR 816, and Caracal CAR 817 assault rifles; and Caracal CSR 308, Caracal CSR 338, and Caracal CAR 817DMR sniper rifles	
<b>NIMR Automotive</b>	Tawazun Industrial Park, Abu Dhabi	NIMR is a leading military armored vehicle manufacturer in the Middle East and North Africa. <sup>275</sup>	Medium and lightweight military vehicles, including the AJBAN class of 4x4 vehicles, the HAFEET Class of 6x6 vehicles, the Jais Class of 4x4 and 6x6 vehicles, and light RIV 4x4 vehicles	
<b>Tawazun Dynamics</b>	Tawazun Industrial Park, Abu Dhabi	Tawazun Dynamics is the Middle East's first facility for the development, manufacture, assembly, and integration of precision-guided	Al Tariq family of strap-on bomb kit systems, which are used on MK81, MK82, and MK83 bombs	

		systems for conventional air munitions. It was established through a joint venture between Tawazun and South Africa's Denel Dynamics. <sup>276</sup>	utilizing GPS/INS guidance
<b>Tawazun Precision Industries</b>	Tawazun Industrial Park, Abu Dhabi	Tawazun Precision Industries has a precision manufacturing facility in Abu Dhabi equipped with a wide range of capabilities such as machining, surface treatment, heat treatment, advanced coating solutions, plastic injection molding, metals testing, repairing, and servicing. <sup>277</sup>	Precision-manufactured products
<b>Subsidiaries of Mubadala Investment Company</b>			
<b>Strata</b>	Nibras Al Ain Aerospace Park, Abu Dhabi	Strata produces components for aircraft manufacturers like Airbus and Boeing. Strata's Abu Dhabi facility will be expanded in 2017 from 31,500 square meters to 60,000 square meters. <sup>278</sup>	Aero-structures such as wings and empennages  In 2016, Strata produced 521 shipsets, consisting of over 9,103 parts
<b>Abu Dhabi Ship Building Company (ADSB)</b>	Mussafah Industrial Area, Abu Dhabi	Established in 1996, Abu Dhabi Shipbuilding is known as a leading shipbuilder and support contractor for naval, military, and commercial operators in the region. <sup>279</sup>	Baynunah class corvettes and other ships
<b>Subsidiaries of Tawazun Holding Company</b>			
<b>Advanced Pyrotechnics</b>	Tawazun Industrial Park, Abu Dhabi	Advanced Pyrotechnics specializes in the design and manufacture of custom-made non-lethal and less-than-lethal pyrotechnics and ammunition. <sup>280</sup>	Diversory devices, diversionary ammunition, colored smoke, screening smoke, signal cartridges, and training devices
<b>Al Hosn Armored Systems</b>	Abu Dhabi	Al Hosn Armored Systems, established in 2015, specializes in the production of ballistic vests and protection solutions. <sup>281</sup>	Ballistic vests and protection solutions, such as stand-alone hard plates
<b>Subsidiaries of International Golden Group</b>			
<b>IGG Advanced Industries (IGAD)</b>	Abu Dhabi	Established in 2013 as a platform for hosting the diverse industrial activities of	Defense-related products

		the International Golden Group, IGAD has established a new high-tech facility for the production of defense-related products. IGAD's principal defense activities encompass defense and security product development, integration, manufacturing, qualification, testing, training, and after-sales support. <sup>282</sup>	
<b>IGG Aselsan</b>	Abu Dhabi	IGG Aselsan, established in 2011 through a partnership between International Golden Group and ASELSAN of Turkey, specializes in the development and manufacturing of remote controlled weapon systems. <sup>283</sup>	Remote-controlled weapon systems
<b>IGG Photonis Night Vision</b>	Abu Dhabi	IGG PHOTONIS Night Vision, a collaboration with French company Photonis, was established to become a regional leader in the night vision systems industry, specifically in the field of design and manufacturing. <sup>284</sup>	Night vision systems
<b>Golden Marine Systems</b>	Abu Dhabi	Golden Marine Systems, established in 2013 as a subsidiary of IGG, developed a marine protection system, the Floating Security Barrier System. <sup>285</sup>	Marine protection systems
<b>Other U.A.E. Companies</b>			
<b>Adcom Systems</b>	Abu Dhabi	Adcom Systems, established in 1989, is a supplier of missiles, radars, communication systems, and UAVs. It produced the first UAV designed and made in the U.A.E., the Yabhon United 40. <sup>286</sup>	UAVs
<b>Al Fattan Ship Industry</b>	Al Taweelah, Abu Dhabi	Al Fattan Ship Industry is a ship building and repair company. It introduced the first combat boat built in the U.A.E., the Al Fattan 16 M Combat Boat. <sup>287</sup>	Combat boats, landing craft, training vessels, patrol boats, and interceptors
<b>Emirates</b>	Mussafah	Emirates Defense Technology,	Armored Modular

<b>Defense Technology (EDT)</b>	Industrial Area, Abu Dhabi	part of the Bin Jabr Group, is a privately-held Emirati-owned defense contractor and manufacturer that has been supplying the armed forces of the U.A.E. for the past 40 years and has invested in Al Nimr. EDT now produces the Enigma 8x8 platform, which is an Armored Modular Fighting Vehicle (AMFV). <sup>288</sup>	Fighting Vehicles	
<b>Mohammed Bin Rashid Space Center (MBRSC)</b>	Dubai	Originally established in 2006 as the Emirates Institution for Advanced Science and Technology (EIAST), it was rebranded in 2015 as the Mohammed bin Rashid Space Center. EIAST successfully launched DubaiSat-1 and DubaiSat-2 in 2009 and 2013 respectively. MBRSC is now working on KhalifaSat, which is scheduled to launch in 2018. The Emirates Mars Mission is also in the works, with the goal of launching the Hope Probe in 2021. <sup>289</sup>	Satellites	
<b>Foreign Companies</b>				
<b>Rolls Royce</b>	Abu Dhabi	In partnership with Mubadala, Rolls Royce announced plans to open an Approved Maintenance Centre in Abu Dhabi and a manufacturing facility in Abu Dhabi that will produce discs for the Trent XWB, with the capability to make similar parts for other Trent engine types. <sup>290</sup>	Discs for aircraft engines	
<b>STREIT Group</b>	Al Hamra, Ras Al Khaimah	STREIT Group is a Canadian manufacturer of armored vehicles that has a facility in Ras Al Khaimah. <sup>291</sup>	Armored vehicles	400 vehicles per month
<b>ISOTREX Manufacturing</b>	Ajman Free Zone, Ajman	ISOTREX Manufacturing, founded in 2005, has a 25,000-square-foot armored vehicle production facility in Ajman. <sup>292</sup>	Armored vehicles	15-20 vehicles per month

## APPENDIX H: Select Transportation Equipment Manufacturers

Company	Location	Description	Products	Capacity
<b>Water Craft</b>				
<b>Gulf Craft</b>	Ajman; Umm Al Quwain	Gulf Craft, founded in 1982, is one of the world's leading superyacht shipyards. It offers a wide variety of craft, ranging from 27 feet to 155 feet in length. <sup>293</sup>	Superyachts	500 vessels per year
<b>Al Shaali Marine</b>	New Industrial Area, Ajman	Al Shaali Marine, established in 1979, manufactures luxury flybridge yachts. <sup>294</sup>	Flybridge yachts	
<b>Al Marakeb</b>	Industrial Area, Sharjah	Al Marakeb, established in 2007, is a manufacturer of high-performance fiber-glass boats. <sup>295</sup>	Fiber-glass boats	
<b>Ocean Boats</b>	Al Quoz Industrial Area, Dubai	Ocean Boats, established in 2000, claims to be the U.A.E.'s leading manufacturer of luxury boats and fishing boats. <sup>296</sup>	Luxury boats and fishing boats	
<b>Instinct Marine</b>	Drydocks World, Dubai	Instinct Marine manufactures sport fishing boats from its facility in Dubai. <sup>297</sup>	Sport fishing boats	
<b>Motor Vehicles and Equipment</b>				
<b>Ashok Leyland</b>	Ras Al Khaimah	Ashok Leyland, India's second-largest commercial vehicle manufacturer, operates a manufacturing plant in Ras Al Khaimah that was first established in 2010. The factory is a joint venture with the Ras Al Khaimah Investment Authority. <sup>298</sup>	Buses	24 buses per day
<b>Hafilat Industry</b>	Industrial City of Abu Dhabi (ICAD)	Hafilat, established in 2006, manufactures passenger buses. It has a 10,000-square-meter factory in Abu Dhabi. <sup>299</sup>	Buses	
<b>Mammut Industries</b>	Dubai	Mammut Industries, established in 1995, claims to be the largest trailer manufacturer in the Middle East. <sup>300</sup>	Trailers	50 trailers per day

<b>Al Shirawi Equipment Company (ASECO)</b>	Al Quoz Industrial Area, Dubai	ASECO, established in 1976, is one of the leading trailer manufacturers in the U.A.E. It has produced more than 100,000 different types of vehicle bodies. <sup>301</sup>	Trailers
<b>Gorica Industries</b>	Dubai	Gorica Industries, founded in 1990, manufactures trailers and commercial bodies. <sup>302</sup>	Trailers, tankers, mixers, municipality vehicles, and Frigo bodies and semitrailers
<b>Bion Industrial</b>	Dubai Industrial City	Bion Industrial, a subsidiary of Bion Group, manufactures heavy transport equipment. <sup>303</sup>	Heavy transport equipment, including platform trailers, box trailers, tipper vehicles, and demountable systems
<b>NAFFCO</b>	Jebel Ali Free Zone (JAFZA), Dubai	NAFFCO, one of the world's leading producers and suppliers of life safety solutions, produces custom-made vehicles such as fire trucks, ambulances, mobile hospitals, and airport rescue firefighting vehicles. <sup>304</sup>	Emergency vehicles
<b>Concorde-Corodex Group</b>	Al Quoz, Dubai (main site); Mussafah, Abu Dhabi (emergency vehicle manufacturing site)	The Concorde-Corodex Group, part of the M.H. Al Mana Group of Companies, manufactures bodies for commercial vehicles such as ambulances and firefighting trucks. <sup>305</sup>	Emergency vehicles
<b>Zarooq Motors</b>	U.A.E.	Zarooq Motors, the first Emirati car manufacturer, has manufacturing facilities in both the U.A.E. and Europe. It produces a car called the Sand Racer, which is a 2-seater, rear-wheel-drive, mid-engine supercar that is designed for handling off-road terrain. <sup>306</sup>	Supercars
<b>W Motors</b>	Dubai	W Motors, established in 2006, styles itself as the Arab world's first supercar manufacturer. Its first creation is the \$3.4 million Lykan Hypersport. In 2013, it	Supercars

		announced it would move its production operations from Italy to the U.A.E. and Qatar. <sup>307</sup>	
<b>Jannarely Automotive</b>	Dubai	Jannarely Automotives, in partnership with Equation Composites LLC, manufactures a car inspired by the classic sports cars of the 1960s. <sup>308</sup>	Sports cars
<b>Cardan Service Network</b>	Dubai	Cardan Service Network is a full-service Cardan Shaft manufacturer under the WiCHMANN Group umbrella. <sup>309</sup>	Shafts for trucks



## APPENDIX I: Select Industrial and Other Equipment Manufacturers

Company	Location	Description	Products	Capacity
<b>Oil and Gas Equipment</b>				
<b>National Petroleum Construction Company (NPCC)</b>	Mussafah, Abu Dhabi	NPCC is a world-class engineering, procurement, and construction (EPC) company that provides full-service EPC solutions to both the offshore and onshore oil and gas sector. Established in 1973, NPCC is owned by Senaat and Consolidated Contractors Group (CCC), an International Construction Group. <sup>310</sup>	Engineering, procurement, construction, installation, and commissioning (EPCIC) services	
<b>Lamprell</b>	Hamriyah, Sharjah and Jebel Ali, Dubai	Lamprell, based in the U.A.E., is a leading provider of fabrication, engineering, and contracting services to offshore and onshore oil and gas and renewable energy industries. <sup>311</sup>	Jackup drilling rigs, multi-purpose liftboats, and land rigs	
<b>Technomak</b>	Hamriyah Free Zone, Sharjah	Technomak is an integrated engineering, design, fabrication, and erection company. <sup>312</sup>	Structures, piping, pressure vessels, skids, and offshore structures	
<b>Proclad</b>	National Industries Park, Dubai	Proclad Group provides solutions to the oil, gas, energy, and engineering services industries. In 2016, it announced that it will invest \$136 million (500 million AED) to develop 1.5 million square feet of industrial area in National Industries Park, Dubai. <sup>313</sup>	Specialized products for the oil and gas industry	
<b>Weir Group</b>	Jebel Ali Free Zone (JAFZA), Dubai	The Weir Group designs and manufactures products and services for the minerals, oil and gas, and power industries. In 2015, it launched the U.A.E.'s first wellhead manufacturing facility in JAFZA. <sup>314</sup>	Wellheads	
<b>Water and Wastewater Equipment</b>				
<b>Xylem</b>	Jebel Ali Free Zone (JAFZA), Dubai	Xylem, a leading water technology company based in New York, opened a 19,000-square-meter plant in Jebel Ali to make equipment used for wastewater technologies, such as pumping systems. <sup>315</sup>	Wastewater technologies equipment	

<b>McWane, Inc.</b>	Industrial City of Abu Dhabi (ICAD) - 2 (Mussafah)	McWane, Inc., a world leader in waterworks and plumbing infrastructure, manufactures its Kennedy Valves, Tyler Gulf Cast Iron plumbing pipe, WADE floor and roof drains, Tyler ductile iron fittings, and Kennedy oil and gas process valves from a plant in Abu Dhabi. <sup>316</sup>	Waterworks and plumbing equipment
<b>Life Safety Equipment</b>			
<b>NAFFCO</b>	Jebel Ali Free Zone (JAFZA), Dubai	NAFFCO, founded in Dubai, is a leading producer and supplier of life safety solutions, such as firefighting equipment, fire protection systems, fire alarms, addressable emergency systems, security systems, and custom-made vehicles such as fire trucks, ambulances, mobile hospitals, and airport rescue firefighting vehicles. NAFFCO has over 10,000 team members and 4 million square feet of manufacturing facilities. <sup>317</sup>	Life safety solutions
<b>Concorde-Corodex Group</b>	Al Quoz, Dubai (main site)	The Concorde-Corodex Group, part of the M.H. Al Mana Group of Companies, has a team of 1,450 employees across 22 companies that offer a diverse portfolio of products including fire fighting products, systems, and equipment. <sup>318</sup>	Firefighting products, systems, and equipment
<b>K5 Middle East</b>	Ajman	K5 Middle East – a firefighting products, solutions, and technologies company – is constructing a \$100 million (367 million AED) manufacturing facility in Ajman. <sup>319</sup>	Firefighting products

## APPENDIX J: Select Industrial Clusters

Cluster	Location	Description	Select Tenants
<b>Industrial City of Abu Dhabi (ICAD)</b>	Abu Dhabi (Outskirts of Abu Dhabi City)	Located in the outskirts of Abu Dhabi city, ICAD spans 40 square kilometers of industrial land. <sup>320</sup>	Emirates Steel, Al Ghurair Iron and Steel, Union Copper Factory, National Cement Factory, Emirates Float Glass, Gypsemna, Neopharma, Ittihad Paper Mill, Crown Paper Mill, Queenex Hygiene Paper Manufacturing, and Hafilat Industry
<b>Al Ain Industrial City (AAIC)</b>	Abu Dhabi (Close to the city of Al Ain)	Located close to the city of Al Ain, AAIC spans an area of 10 square kilometers and caters to light manufacturing industries such as paper and wood, textiles, and small scale service and repair workshops. AAIC also caters to heavy industries such as chemical and plastic projects. <sup>321</sup>	Gadoya Holdings
<b>Khalifa Industrial Zone Abu Dhabi (KIZAD)</b>	Abu Dhabi (Near Khalifa Port, approximately 60 kilometers from Abu Dhabi City and 45 kilometers from Jebel Ali Free Zone)	Located near Khalifa Port, KIZAD, part of Abu Dhabi Ports, is an integrated trade, logistics, and industrial hub. <sup>322</sup>	Ducab Aluminium Company, Taweelah Aluminium Extrusion Company (TALEX), BRF, and Al Dahra Holdings
<b>Tawazun Industrial Park (TIP)</b>	Abu Dhabi (Between Abu Dhabi City and Dubai)	Part of Tawazun Holding, TIP is focused on the defense manufacturing sector. <sup>323</sup>	Nimr, Tawazun Precision Industries, AlHosn, Caracal Light Ammunition, Tawazun Dynamics, International Golden Group, DROO, Liburdi, Emirates Training Technology, Caracal, and Burkan
<b>Nibras Al Ain Aerospace Park</b>	Abu Dhabi (Al Ain)	Jointly created by Mubadala Investment Company and Abu Dhabi Airport Company, Nibras Al Ain Aerospace Park is a 5-kilometer development that is supporting the establishment of a sustainable aerospace industry in Abu Dhabi. <sup>324</sup>	Strata, AMMROC, Horizon International Flight Academy, and ADASI

<b>Jebel Ali Free Zone (JAFZA)</b>	Dubai	JAFZA is home to over 7,000 companies, including more than 100 Global Fortune 500 enterprises. <sup>325</sup>	Conares, Alucopanel Middle East, LIFEPharma, Gulf Processing Industries, Gulf Sea Food, Gulf Food Industries, Hunter Foods, Mars, NAFCCO, and Xylem
<b>Al Quoz Industrial Area</b>	Dubai	Al Quoz Industrial Area is one of the oldest manufacturing hubs in Dubai. <sup>326</sup>	Ayhaco Gypsum Products Manufacturing, Emirates Glass, Lumiglass Industries, Emirates Macaroni Factory, Royal Fisheries, Unikai, Masafi, Dubai Refreshments, National Food Industries, Ocean Boats, and Concorde-Corodex Group
<b>Dubai Investments Park</b>	Dubai	Dubai Investments Park, a subsidiary of Dubai Investments, is a 2,300-hectares mixed-used industrial, commercial, and residential area operated by Dubai Investments Park Development Company. It is located not far from Al Maktoum International Airport. <sup>327</sup>	Emirates Insolaire, Globalpharma, ABC Baking, Best Food Company, Gyma Food Industries (Bayara), Can-Pack, and ABCO LLC
<b>National Industries Park (Formerly TechnoPark)</b>	Dubai	National Industries Park, a subsidiary of DP World, was formed by decree in 2016 to focus on the trading and manufacturing sectors. <sup>328</sup>	Emirates Extrusion Factory, Nestle, Malabar Gold and Diamonds, and Proclad
<b>Dubai Industrial Park (Formerly Dubai Industrial City)</b>	Dubai (Next to Al Maktoum International Airport)	Dubai Industrial Park, which is part of the TECOM Group (a member of Dubai Holding), is a designated district within Dubai Wholesale City that is one of the largest industrial hubs in Dubai. It is located next to Al Maktoum International Airport and nearby Jebel Ali Port. <sup>329</sup>	Unilever and Al Shafar Steel Engineering Co (ASSENT)
<b>Dubai Multi Commodities Center (DMCC)</b>	Dubai	Dubai Multi Commodities Center, a government entity established in 2002, is a leading center for trading international commodities that claims to be the world's fastest-growing free zone. <sup>330</sup>	Emirates Gold and Al Etihad Gold Refinery

<b>Sharjah Industrial Area</b>	Sharjah	Sharjah Industrial Area is an industrial area located close to Sharjah's border with Dubai and Dubai International Airport.	Gulf Glass Industries and Kaloti Precious Metals
<b>Hamriyah Free Zone</b>	Sharjah	Hamriyah Free Zone, established in 1995, manages an area of approximately 22 million square meters of industrial and commercial land and a deep water port. This free zone recently launched Sharjah Food Park, which seeks to be a regional hub for the food industry. <sup>331</sup>	Hamriyah Steel, Star Steel, Alubond USA, Al Islami Foods, Lamprell, Technomak, and Gulf Petrochem
<b>Sharjah Airport International Free (SAIF) Zone</b>	Sharjah	Built adjacent to Sharjah International Airport, SAIF Zone is also easily accessible to seaports on the Gulf of Oman (Port Khor Fakkan) and the Arabian Gulf (Port Khalid). <sup>332</sup>	Delta Food Industries
<b>RAK Economic Zone (RAKEZ)</b>	Ras Al Khaimah	Ras Al Khaimah Economic Zone (RAKEZ) was created in 2017 to oversee the specialized parks and clients of both Ras Al Khaimah Free Trade Zone (RAK FTZ) and RAK Investment Authority (RAKIA). These investments include three industrial areas: Al Hamra Industrial Zone, Al Ghail Industrial Zone, and Al Hulaila Industrial Zone. <sup>333</sup>	Guardian Glass, Saverglass, RAK Ghani Glass LLC, Select Glass Industries, Global Glass Solutions, Middle East Specialized Cables, and Canadian Energy Equipment Manufacturing

## APPENDIX K: Select Industry Events

Event	Sector	Date	Frequency	Location	Description
<b>Global Space Congress</b>	Space	31 January - 1 February 2017	Every two years	Abu Dhabi	The Global Space Congress, held under the patronage of HH Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the U.A.E. and Ruler of Dubai, is an exclusive, strategic gathering of global space industry leaders. <sup>334</sup>
<b>International Defence Exhibition and Conference (IDEX)</b>	Defense	19-23 February 2017	Every two years	Abu Dhabi National Exhibition Centre (ADNEC)	IDEX, held under the patronage of HH Sheikh Khalifa Bin Zayed Al Nahyan, President of the U.A.E. and Supreme Commander of the U.A.E. Armed Forces, bills itself as the only international defense exhibition and conference in the MENA region demonstrating the latest technology across land, sea, and air sectors of defense. <sup>335</sup>
<b>Water, Energy, Technology, and Environment Exhibition (WETEX)</b>	Water, Energy, Technology, and Environment	23-25 October 2017	Annual	Dubai International Convention and Exhibition Center	WETEX, held under the patronage of HH Sheikh Hamdan bin Rashid Al Maktoum, Deputy Ruler of Dubai, Minister of Finance, and President of Dubai Electricity and Water Authority, is one of the largest exhibitions of its kind worldwide. <sup>336</sup>
<b>Dubai Airshow</b>	Aerospace	12-16 November 2017	Every two years	Dubai World Central, Dubai Airshow Site	Dubai Airshow is one of the largest and most successful air shows in the world, connecting aerospace professionals across all areas of the industry to facilitate successful global trade. <sup>337</sup>
<b>The Abu Dhabi</b>	Energy	13-16	Annual	Abu Dhabi	The Abu Dhabi

<b>International Petroleum Exhibition and Conference (ADIPEC)</b>		November 2017		National Exhibition Center (ADNEC)	International Petroleum Exhibition and Conference (ADIPEC), held under the patronage of HH Sheikh Khalifa bin Zayed Al Nahyan, President of the U.A.E., is one of the world's most influential events for the oil and gas industry. <sup>338</sup>
<b>World Future Energy Summit</b>	Energy	15-18 January 2018	Annual	Abu Dhabi National Exhibition Center (ADNEC)	The World Future Energy Summit (WFES), hosted by Mubadala, is the world's leading global exhibition dedicated to advancing future energy, energy efficiency, and clean technology. <sup>339</sup>
<b>Arab Health</b>	Healthcare	29 January- 1 February 2018	Annual	Dubai International Convention and Exhibition Center	Arab Health is the largest gathering of healthcare and trade professionals in the MENA region. <sup>340</sup>
<b>Gulfood</b>	Food and Beverage	18-22 February 2018	Annual	Dubai World Trade Center	Gulfood claims to be the world's largest annual food & beverage (F&B) exhibition, welcoming F&B professionals from all corners of the globe. <sup>341</sup>
<b>Global Aerospace Summit</b>	Aerospace	27-28 February 2018	Every two years	Abu Dhabi	The Global Aerospace Summit bills itself as "the most significant international forum for the true decision makers making up the executive level of the global aerospace, aviation, defense and space sectors." <sup>342</sup>
<b>Dubai International Boat Show</b>	Boats	27 February - 3 March 2018	Annual	Dubai International Marine Club, Mina Seyahi	The Dubai International Boat Show bills itself as the region's leading leisure maritime event. 2018 marks its 26 <sup>th</sup> anniversary. <sup>343</sup>

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