

ASIA INVESTMENT RESEARCH

Tracking Global Investment Flows Into Asia

• October 2023 Issue •

AIR

THE MIDDLE EAST FOREIGN INVESTMENT TRENDS WITH FOCUS ON THE UAE

Leading the world in Energy Transition and playing
a vital role in building the new Europe



A Joint Publication From China Investment Research and Dezan Shira & Associates

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INTRODUCTION

We are very pleased to present these materials on economic developments across sectors of the UAE. As is customary, we focus on near term performance, 2022-2024, but also address additional major projects post 2024 including the rail and logistic linkages across the GCC and MENA linking to additional countries

Specifically

- FDI - In 2022, the UAE achieved its highest FDI inflows in history, reaching AED 84 billion (\$23 billion), representing 10% growth from 2021, despite a 12% decline in global FDI
- Infrastructure (2022-2024) – we discuss the launch of freight, the pending launch of passenger service and longer term links to Oman in Ethiad Rail. We also discuss the opening of the new air terminal, the opening of the UAE's 3rd largest desalination plant, climbing the rankings in regional and global health care, plans to increase the size of the rapidly growing digital economy and the launch of four major tourism businesses.
- Green energy transition - actions not talk. In this section, we update 2022-2024 progress on solar, hydropower and waste to energy; two of these represent the world's largest by segment.
- UAE stock exchanges – growing global recognition- In 2022, the ADX was the best-performing market in the GCC for a 2nd consecutive year with an increase of 61.4% in its market cap, led by an IPO boom. On 13th July 2023, DFM reached its highest point since August 2015. DFM was up nearly 20% ytd in July 2023, far surpassing MSCI World Index's 12.6% increase ytd. We also note studies by Goldman and Morgan Stanley on global reweighting to come to this region
- M&A - According to the *EY MENA M&A Insights 2022* report, the MENA region saw unprecedented M&A deal volume with 754 announced deals, a 13% volume increase over 2021 levels; aggregate amounts were \$82.5 billion. The UAE also saw 4 of MENA's largest announced M&A deals. During H1 2023, announced MENA M&A activity saw declines; volume fell by 23% from H1 2022 record levels while aggregate amounts fell 35% to \$31.9 billion
- Venture Capital (VC) - as the global investment community has learned, the UAE has done an outstanding job of building a world class VC ecosystem. While 2022 and H1 were affected by global downturns in seed and pre-seed, VC M&A/consolidation started in 2022 and increased throughout 2023- attracting capital from investors across many geographies – in particular in fintech, e-commerce and healthtech.

We hope you enjoy reading it as much as we did preparing it.

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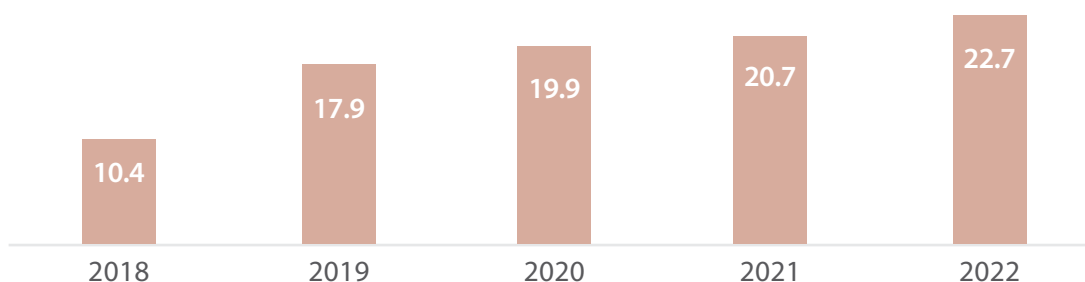
UAE – FDI 2022

Overview

In 2022, the UAE achieved its highest FDI inflows in history, reaching AED 84 billion (\$23 billion), representing 10% growth from 2021. This was achieved despite a 12% decline in global FDI, due to multiple global crises, including the war in Ukraine which led to inflation – evidenced in high food and energy prices, and rising interest rates, which affected capital markets and cross border M&A volumes.

As shown below in Table 1 UAE inbound FDI has grown at 21.5% CAGR since 2018 and has grown every year including during the COVID years. This growth reflects the long term commitment by the UAE to build a business ecosystem including regulatory, legislative and service entities which contributed to building the UAE as one of the world's best international investment hubs. This hub has also effectively leveraged the UAE's strategic location and global connectivity.

UAE FDI Inflows (2018-2022) (\$ billions)



Source: World Investment Report 2023.

Regionally/Globally Rising in the Rankings

The UAE ranked #2 in 2022 MENA inbound FDI rankings, trailing leader Israel by circa \$5 billion, but nearly double the amount by #3 Turkey. Within the GCC economic bloc, the UAE was the top FDI destination accounting for 61% of total investments in the region.

Globally, the UAE ranked 16th globally in inbound FDI, up 6 places from 2021. It also ranked 4th globally in greenfield investments with 997 projects (an increase of 15%), trailing only the USA, UK and India.

In H1 2022 alone, Dubai maintained its position as the world's leading FDI hub, attracting 492 projects (a record), an 80% increase compared to the same period in 2021 (Dubai attracted 418 greenfield projects for full year 2021). Greenfield projects represented 56% of Dubai's H1 2022 FDI for a total of \$3.73 billion. FDI investments and projects represented 15,164 new jobs in H1 2022, up 33.5% from H1 2021.

- India, UK, US, France, Singapore and Switzerland were top countries for inbound FDI
- Medium /high tech investments accounted for 62% of H1 2022 FDI projects
- Dubai was the world leader in FDI projects in Creative Industry, Business Services, Financial Services, Transport & Warehousing, industrial equipment and sales & marketing support

In cross border corporate investments, there were two major inbound deals/JVs totalling circa \$3 billion in healthcare/healthtech and green hydrogen set out below.

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Green Energy

In June 2022, three South Korean companies, Korea Electric Power Corporation (Kepco), Samsung C&T and Korea Western Power, along with Petrolyn Chemie (UAE), signed agreements to develop a \$1 billion green hydrogen and ammonia production plant with a production capacity of 200,000 tonnes of green ammonia/year from 40,000 tonnes of green hydrogen.

The plant is being developed by Helios Industry (UAE). Previously, Thyssenkrupp (Germany) was appointed by Helios as technical adviser. The planned facility will integrate Thyssenkrupp's green hydrogen and green ammonia technologies with the first phase set to incorporate a multi-megawatt electrolyser plant.

The plant will be built in two phases in the Khalifa Industrial Zone Abu Dhabi (Kizad), with the first phase due to produce 35,000 tonnes before the second phase will capacity to 200,000 t/yr. The project will be powered by 800MW of solar power.

GCC Cancer Care Centre

In March 2022, the Royal Strategic Partners (RSP) in Abu Dhabi, the MIG group based in Dubai and the Austrian Star Energy (SE) company signed an agreement to build a Neutron Therapy Hospital in addition to a Medical University and a Convention Center. The initial investment is for \$1.8 billion into the project, the first Neutron Therapy Hospital for advanced cancer treatment to be built in the UAE.

The partnership with Austrian Star is designed to build state-of-the-art medical facilities consisting of a University Hospital for neutron cancer treatment and a Medical University that will be the main hub and headquarters for R&D of the latest technologies to treat advanced cancer in the GCC region. This complex will be considered a large domestic scientific research centre based on the Hospital, University, and Convention Centre".

The project will be implemented in two phases; first phase is a pilot project in Abu Dhabi for the Hospital, the Medical University, and the Convention Centre, while the second phase will focus on powering it with green energy sources.

The UAE not only increased its 2022 ranking in inbound FDI but also played an increasing role in global investment. FDI outflows also rose by 10% to \$25 billion in 2022, resulting in the UAE's outbound FDI ranking rise to the world's 15th largest investor, up from 20th in 2021.

Abu Dhabi's sovereign investment arm, Mubadala Investment Company, world's 13th largest sovereign wealth fund was also among the top funds globally in terms of investment in the renewable energy sector last year.

As part of efforts to tackle climate change, public pension and sovereign wealth funds are increasingly focusing on sustainability strategies, directing more of their assets towards the energy transition.

Future Growth

We see the UAE as well positioned to continue its growth trajectory both in inbound and outbound FDI led by its focus on emerging growth industries including fintech, agtech, healthcare, e-commerce, advanced (SMART) manufacturing and creative industries supplemented with an increased focus on new energy and led by such global brands such as Masdar.

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UAE – INFRASTRUCTURE

Overview

The majority of this section is focused on near term developments (pre 2024) of major infrastructure projects, the largest of which is Ethiad Rail, the largest infrastructure project to date in the emirates. In the 2022-2024 section, we discuss the freight launch (2023), preparations for passenger launch, links to Oman, the 1st in GCC (funded in 2023), all of which help sustainability and reduce CO2 on the roads. We then discuss the launch of the new terminal at the Abu Dhabi airport later in 2023, additions to their desalination capabilities, global acknowledgement in their healthcare rankings, plans to double the size digital economy as part of GDP and the launch of four projects (dating back to 2022) to continue the growth in tourism.

Post 2024, we focus on showing how developments at Ethiad Rail, combined with those in Saudi Rail, are major steps in ultimately linking all 6 GCC countries by rail- which could also open up links into Iraq and Turkey, into Europe, even into Jordan and potentially into Egypt. We close with the future opening of two creative hubs/zones to continue to strengthen the UAE's regional leadership in the creative arts.

2022-2024

Ethiad Rail Project

Domestic Operations

Ethiad Rail's (formed in 2009) plan involves a 1,200 km the network that will connect 11 cities, major ports and logistics hubs across the UAE's seven emirates and stretch from the border of Saudi Arabia to the border of Oman. At a cost of \$13.6 billion, Ethiad Rail represents the largest infrastructure project to date in the emirates.

The project is being implemented in stages. Phase one involved 264 km between the inland gas fields of Liwa and Shah to the port town of Ruwais. This became operational in January 2016.

Phase two construction of the 605 km from Ghufeifat, on the border of Saudi Arabia, to Fujairah, on the UAE's eastern coast, was launched in 2020. The first track for this phase was laid in early 2021.

However, Ethiad Rail's pivotal moment came in December 2021, when the two rulers of Dubai and Abu Dhabi launched the UAE Railways Programme, an initiative that aimed to revolutionize the transportation sector in the country and pave the way for a sustainable future, integrating a vast network of railways for both goods and passengers. With an investment of Dh50 billion, the UAE Railways Programme comprises three strategic projects, each designed to transform the nation's transportation landscape.

As at January 2023, the entire system was 74% completed to be finalised in 2024. Once complete, the railway project will span 1,200 km across the UAE, passing through nine tunnels and covering seven logistics centers and four major ports in Ruwais, the Industrial City of Abu Dhabi (ICAD), Khalifa Port, Dubai Industrial City (DIC), Jebel Ali Port, Al Ghayel Dry Port and Fujairah Port.

Freight

The first part of the freight network saw successful completion of the UAE National Rail Network, which both Sheikh Mohammed bin Rashid and Ethiad Rail announced in Q1 2023 inaugurated its 900 km network expansion, linking all the seven emirates and launched freight operations across the UAE. To accomplish this, the line had 593 crossings and bridges as well as the first marine rail bridge (1 km) in the UAE connecting Khalifa port to the rest of the UAE network.

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The network consists of a fleet of 38 locomotives and more than 1,000 wagons. Each freight locomotive operates with a power of 4,500 horsepower, equivalent to 3,400 KWs. It is one of the most powerful freight train engines in the Middle East operating at 120 km/hr.

In 2023, the freight network is expected to transport about 20 million tonnes of cargo across the UAE with up to 60 million tons/year by 2030. In May 2023, the new CEO of the Etihad Rail freight network, outlined how the service would bring big social and environmental benefits, replacing lorry usage with rail, thus reducing road traffic. By 2050, the UAE aims to reduce its CO2 emissions in the road transport sector by 21% annually and this will make a significant contribution.

Upon completion, the project aims to link the centers of industry, trade, and population of the UAE. It is projected to grow from running heavy goods services, carry everything from shipping containers to construction materials to facilitating the transportation of millions of passengers, all within and between the major cities by 2030.

Passenger Service

Etihad Rail is also planning to launch a passenger service, integrated with smart transportation solutions, with the goal of transporting more than 36.5 million passengers every year by 2030.

In June 2022, Etihad Rail announced that passenger trains will connect 11 cities and regions in the UAE from Al Sila to Fujairah, including Al Ruwais, Al Mirfa, Dubai, Sharjah, Al Dhaid, and Abu Dhabi. They will reduce commute time by 30-40% compared to other modes of transport, where travelling from Abu Dhabi to Dubai, and from Dubai to Fujairah, will take only 50 minutes only, travelling from Abu Dhabi to Al Ruwais will take 70 minutes only, while travelling from Abu Dhabi to Fujairah will take 100 minutes only.

The passenger trains will travel at speeds of 200 km/hr and provide various amenities, entertainment, and comfortable seating at high levels of security, efficiency, and quality, allowing passengers to enjoy exceptional journeys. A start date has not been announced but the first passenger station is being built in Fujairah.

Orient Express Service – Arsenale

In May 2023 Etihad Rail and Italian luxury hospitality company Arsenale agreed to bring a luxury rail service to the UAE. A launch date was not revealed but the “rail cruise” is expected to feature luxury train travel across the UAE with 15 sophisticated carriages reminiscent of the great railway journeys such as those on the Orient Express. Arsenale said the carriages will reflect Emirati heritage, while the production and craftsmanship will be Italian.

When operational, Arsenale luxury passenger train carriages will run between the emirate of Fujairah with a mountain view overlooking the sea, towards the border with Oman, and passing through Mezeira’a and the Liwa Desert. Longer term this Orient Express-style service to the UAE will later be extended throughout the GCC.

SMART Rail Links – Uber

In May 2023, Etihad Rail and Uber agreed to collaborate on expanding passenger transport options and to explore opportunities to integrate e-hailing services and assess the possibility of creating an Uber dedicated pick-up and drop-off area for passengers within stations.

Etihad Rail already announced that the railway will be integrated in some way with existing public transport such as buses and Dubai Metro. Park-and-ride facilities are also envisaged.

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More than two-thirds of the line has already been constructed. Etihad Rail said the mega network will offer a range of cutting-edge benefits to commuters, that will be “cheaper, faster, safer, more reliable and offer more environmentally sustainable services”.

Etihad Rail Expansion to Oman

In September 2022, on the sidelines of the UAE President’s visit to Oman, Etihad Rail and Oman Rail signed an agreement to establish Oman and Etihad Rail, a JV, equally owned by the two entities, with the goal of designing, building and operating a railway network that links Sohar Port to the UAE National Rail Network, with an investment of \$3 billion.

The deal will see the two GCC countries linked by a 303-km passenger rail line, connecting Abu Dhabi with Sohar in the north of Muscat. The passenger trains will reduce travel time from Sohar to Abu Dhabi to 100 minutes, and from Sohar to Al Ain to 47 minutes, travelling at a maximum speed of 200 km/hr.

In February 2023, Mubadala Investments signed a cooperation agreement to that end with the Oman and Etihad Rail Company, a JV between Oman Rail and Etihad Rail. As a part of the agreement with Mubadala, the parties involved will set up working groups and committees to share expertise. They will also work together in developing economic and financial feasibility studies.

In May 2023, UAE and Oman signed a major train deal with Brazilian Vale, one of the world’s largest mining companies. It marks the start of a process to transport iron ore between the two countries and is a huge step forward for the region’s developing rail network. The MoU will explore using rail to transport iron ore and its derivatives between Oman and the UAE, connecting Vale’s industrial complex in Sohar Port and Freezone to its planned mega-industrial complex in the UAE.

In August 2023, Oman and the UAE funded the Omani & Etihad Rail Company (OERC), to create a railway network between the two countries. The new entity has recently inked a contract with Jindal Shadeed Iron & Steel, one of the largest steel producers in Oman, to move their products on the rail. However, it needs to be mentioned that it is not yet clear when the Omani rail network will be commissioned and rail freight services for Jindal Shadeed could start.

Abu Dhabi Midfield Terminal

In August 2023, it was reported that Abu Dhabi’s highly anticipated Midfield Terminal is said to be scheduled for its inauguration in late 2023. According to information from Mombberger Airport, the terminal is projected to commence operations on December 2, the UAE’s National Day.

The Midfield Terminal Building at Abu Dhabi International Airport is a new \$2.94 billion facility being developed to support the UAE capital’s 2030 vision of increasing tourism in the region. The 700,000 m² terminal, comprising a full terminal building, passenger, and cargo facilities, duty-free shops and restaurants, will have the capacity to accommodate up to 11,000 passengers/hour, equivalent to approximately 30 million passengers annually.

There were also a number of key infrastructure enhancements, including a road tunnel connecting the midfield terminal to the existing terminal, simplifying passenger transfers, and the potential expansion with a satellite boarding concourse. An existing tunnel can accommodate an APM (Automated People Mover).

The terminal will also employ advanced AI technology becoming the first international airport with biometric capabilities at all customer touchpoints, from self-service baggage to immigration e-gates.

Construction of the Midfield Terminal began in 2012 and was initially scheduled for completion in 2017. However, various challenges led to significant delays. Once the new terminal is operational, existing

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terminals 1 and 2 will be permanently closed, with the possibility of reopening T3 during peak times or converting it into a standalone terminal for budget carriers.

Originally planned to support the growth of Etihad Airways, Abu Dhabi Airports partnered with the Etihad Aviation Group (EAG) in 2020 to train 17,000 employees to operate the new facility.

Desalination

Most of the drinking water used in the UAE comes from the sea. To manage the growth in water consumption and to compensate for the aging of existing facilities, mainly thermal desalination plants, the UAE has decided to use the latest advanced technologies and engineering processes to increase its desalination capacity while reducing its energy consumption.

In July 2023, Veolia, the world leader in water technologies, announced that it will lead, via its subsidiary SIDEM, a consortium in charge of the EPC on the Mirfa 2 desalination project commissioned by TAQA and ENGIE. Located in Abu Dhabi, this state of the art Reverse Osmosis Desalination (M2 RO) will be the third-largest desalination plant in the UAE. With a production capacity of 550,000 m³/day of potable water, it will provide clean drinking water to approximately 210,000 households. The contract represents revenue of approximately €300 million for Veolia. Project construction will begin in Q2 2023 so the plant can be commissioned by 2025.

This plant is in addition to the three water desalination plants the UAE is developing in Abu Dhabi, Dubai and Umm Al Quwain with a combined capacity of 420 million imperial gallons per day (MIGD) that will raise the country's total water capacity to 1,590 MIGD when completed by 2023. This was announced by Suhail Al Mazrouei, UAE Minister of Energy and Infrastructure, during the opening of the three-day fifth Arab Water Forum (AWF5) in Dubai in September 2021.

Healthcare Infrastructure

UAE's healthcare sector leads regionally, globally with scientific breakthroughs in 2023

The UAE's healthcare sector is continuing to excel and lead regionally and globally in 2023 in terms of medical services and scientific achievements. According to the Prosperity Index report by the Legatum Institute, the UAE ranked first in three key global competitiveness indexes in the healthcare sector, for its national early detection programmes, scope of medical coverage, and the antenatal care coverage.

The country also ranked second globally and first regionally in the Health Outcomes Index published by the Open Data Watch in their 2022 Open Data Inventory report.

The UAE topped the list of countries in the Middle East and Africa in terms of innovative drugs containing new active substances and the speed of assessing and approving regulatory drug files.

UAE has the highest healthcare spending growth rate in the GCC, with its healthcare spending projected to reach \$30.7 billion (AED112.6 billion) by 2027, at a compound annual growth rate of 7.4%, according to a report by Alpen Capital.

Emirati health authorities, represented by the Ministry of Health and Prevention, the Department of Health-Abu Dhabi, and the Dubai Health Authority (DHA), officially launched a national drug tracking system called "Tatmeen," the first platform of its kind in the region, designed to track and trace pharmaceutical products, and to secure and safeguard supply chains for healthcare facilities in the country.

This year witnessed the launch of the Innovation Strategy 2023-2026 by the Emirates Health Services (EHS), which aims to enhance the sustainability of the future healthcare sector and help achieve the National Strategy for Wellbeing 2031 and "We the UAE 2031" vision, in line with the UAE Centennial 2071.

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The UAE's spending on the healthcare sector has shown steady growth in recent years. For example, in the federal budget in 2016, AED3.835 billion was allocated to healthcare and community protection services, but this increased to AED4.8 billion in the general budget for 2023.

The UAE continues to enhance its international partnerships in the healthcare sector and is committed to promoting innovation and development. In recent years, the country has extensively utilised AI in healthcare as part of a plan to fully integrate AI in medical services, in line with the UAE Centennial 2071.

The UAE has prioritised its healthcare infrastructure, especially hospitals and medical centres. By the end of 2021, there were 166 hospitals in the country, including 54 government and 112 private hospitals. Additionally, there were around 5,301 medical centres and clinics.

The UAE has also focused on developing its healthcare workforce. According to the Federal Competitiveness and Statistics Centre, in 2021, the country's healthcare workforce totalled 135,929 individuals, including 27,268 physicians, 7,476 dentists, 12,481 pharmacists, 59,798 nurses and 28,906 medical technicians.

Digital Infrastructure (2022-2024)

Digital Economy Strategy

In 2022, the UAE announced its Digital Economy Strategy with the goal of increasing the contribution of the sector to GDP by 20% over the next 10 years, up from 9.7% in 2022, as it seeks to leverage cutting-edge technologies and attract high-skilled talent.

The new initiative is also a step towards Dubai's target of attracting 300 digital start-ups to the emirate by 2024 to help it boost its non-oil GDP.

Dubai is home to more than 40% of all scale-ups in the MENA region and 90% of all scale-ups in the UAE, the report said. It defines scale-ups as start-ups that have raised \$1 million or more in capital.

The 306 scale-ups based in Dubai have collectively raised more than \$11.7 billion in funding from 2010 to 2022, which represents 60% of the total cumulative fundraising in the MENA region, the study said.

The report reflects Dubai's "long-term commitment to developing smart digital solutions and deploying these to build a new and future-facing model for the economic sector in the UAE, and Dubai in particular, and underline the emirate's position as a global capital for the future economy".

Tourism Projects Launched in 2022/2023

- **Sea World Abu Dhabi** – In May 2023, SeaWorld Abu Dhabi officially opened with a grand ceremony featuring performances by Emirati superstar Hussain Al Jassmi and Scottish recording artist Red, accompanied by an orchestra of 120 musicians. The event celebrated the launch of the region's first state-of-the-art marine life theme park. SeaWorld Abu Dhabi joins Yas Island's portfolio of theme parks and attractions, including Warner Bros World Abu Dhabi, Ferrari World Abu Dhabi, Yas Waterworld and Clymb Abu Dhabi.
- **Dubai's Hindu Temple** – In August 2023, Dubai's Hindu temple announced that it had recorded more than 1.6 million visits in its first year. Open to all faiths, the temple has also welcomed people from different countries, including Ukraine, China, Sri Lanka and Colombia, who chose it as the venue for a traditional Indian marriage ceremony. The temple first opened its doors in August 2022, before holding a grand official opening ceremony in October.

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- **Abrahamic Family House** – encompassing three separate houses of worship – a mosque, a church, and a synagogue – the Abrahamic Family House began welcoming visitors in March 2023. Located in the Saadiyat Cultural District in Abu Dhabi, the Abrahamic Family House is rooted in the UAE's values of bringing people and cultures together. Each building has the capacity for anywhere from 200 to 350 worshippers. Visitors are guided around the site by signs written in Arabic, English, and Hebrew. There is also a Centre of interfaith dialogue, a first-of-its-kind site for learning and interfaith dialogue.
- **Pixoul Gaming** – PIXOUL Gaming, the Middle East's first integrated immersive virtual reality (VR) and Esports hub, successfully opened in November 2022. Pixoul Gaming is one of the main attractions within the Al Qana Development in Abu Dhabi. It is an integrated entertainment destination suitable for families and gaming enthusiasts of all ages looking to connect with the gaming community, parents who want to enjoy an interactive VR experience with their children, or a group of friends looking to unleash their competitive side at the latest tournament.

This gaming complex not only features both world-class eSports and futuristic VR games for entertainment, but the first-ever certified eSport academy in the region. A collaboration between Al Barakah International Investment and Robocom VR, Pixoul Gaming is a part of Al Qana, the unique waterfront social, dining and entertainment destination in Abu Dhabi.

2025+

Future Trans GCC Network

The UAE-Oman rail link is an important link in the oft-discussed GCC network. It followed the Gulf Railways Authority approvals from the General Secretariat of the GCC in December 2021. In 2022, Saudi newspaper Al Eqtisadiyah said several studies, including for estimates on the number of passengers and goods, were complete for a unified GCC Rail scheme.

Several member GCC countries are at various levels of progress that could help develop the GCC Rail network, planned to span over 2,000 kms, some of which we address below:

- UAE- Oman – the rail link between Sohar in Oman and Al Ain in the UAE will likely be the first GCC interconnected line. As discussed previously, the UAE-Oman link originated in the 2022 agreement between the two GCC countries to develop the trans-border network. In March, the \$3 billion JV began inviting pre-qualification bids from firms specialized in mega infrastructure projects.
- In January 2022, Saudi Arabia announced plans to more than triple its rail network's size by building 8,000 kms of track to add to KSA's 3,650km of existing track at a cost of over \$22 billion. Currently, the Kingdom runs three passenger networks – Riyadh to Dammam built in 1981; Riyadh to Qassim, Hail, Jauf; and the Haramain high-speed railway linking Mecca, Medina and Jeddah. The first phase of Riyadh Metro is also reportedly set to open by the end of 2023.
- Kuwait's Public Authority for Roads and Land Transport also tendered phase 1 rail consultancy work in 2023. The planned 110km network will run from Kuwait's southern border to the Shaddiyah region.
- Manama (Bahrain) revealed development plans for the four-phased 109km driverless metro in 2018. The phase 1 PPP project has an estimated cost of \$2 billion (BHD754 million).
- Plans are also in place to extend Doha Metro lines. There are also plans to build 10 stations each for Doha Metro's green and gold lines.

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GCC railway plans have been discussed for at least the past decade. The collaborative rail network with shared standards spanning the six GCC nations was approved in 2009 with a deadline of 2018. Apart from financial and political factors, environmental issues like dune buildups from sandstorms, issues with wildlife/camels and high temperatures for most of the year, resulted in a relatively slow progress

Saudi Arabia's plans for the long-awaited land bridge project (since 2004) from Jeddah through Riyadh to Dammam is a core component of all regional rail networks. The Kingdom shares borders with all GCC countries, making it a key element of a Gulf rail network. The Landbridge is one of Saudi Arabia's most anticipated infrastructure projects. In 2021, Crown Prince Mohammed bin Salman confirmed the government's commitment to the \$7 billion Saudi Landbridge project, which involves building a railway network across the kingdom from the Red Sea coast to the Gulf.

IMEC and INSTC Connectivity Potential

In early September 2023, Saudi Arabia, India, the United States and the EU proposed the development of the "India-Middle-East-Europe Corridor" which would extend from India via maritime links to Saudi Arabia, then connect with a new rail network across Saudi Arabia to Jordan and further west to Israel's Mediterranean Ports with connections to the southern EU.

Other multi-modal connectivity opportunities for Saudi Arabia could come from partnering with the International North-South Transportation Corridor (INSTC) countries. This currently exits south at Iran's Bandar Abbas Port. With the two countries enjoying warmer relations, it is feasible that maritime connections would carry freight across the Gulf to Dammam Port with rail connectivity to Jeddah and the Red Sea, as well as potential connectivity with ports in East Africa. This would position Saudi Arabia as a regional transport hub for East Africa, the Middle East, Europe, Central Asia and South Asia.

Yas Creative Hub

This world-class ingenuity hub located in Yas Bay, is set to become a thriving community of creativity. Described as a smart ecosystem that prioritises data, tech and resource efficiency, the twofour54 project hosts a walkable campus, sustainable intelligently conceived landscape design, innovation incubation spaces, amphitheatre, studios, and production facilities.

Abu Dhabi's media, gaming and entertainment hub is home to more than 600 global and local companies, including 270 SMEs and 5,000 professionals. It offers 5,500 m² of studio and post-production space, an 835-seat outdoor amphitheatre, Abu Dhabi Gaming Hub and direct access to Etihad Arena.

AI Quoz Creative Zone

With AI Quoz Creative Zone, Dubai is set to be home to one of the largest creative hubs in the world. The project, scheduled to complete in 2026, aims to create a vibrant cultural and creative destination and community that supports the journey of creative industries and entrepreneurs through all stages of the creative industry value chain, from design and implementation to distribution and marketing; and encourages the public to engage with art, culture, and creativity.

Slated to be one of the largest communities of its kind in the world, when completed the zone will host 20,000 creatives, including providing housing for 8,000, and will attract 33,000 visitors per day.

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UAE – GREEN ENERGY TRANSITION

Overview

Industry observers who follow green energy transition will be well aware of the UAE's relatively early start and the strong commitment to energy transition. This is embodied in its Net Zero by 2050 strategic initiative, a national drive to achieve net-zero emissions by 2050 and 25% of its energy requirements from renewable sources by 2030. This positions the Emirates as the first Middle East and North Africa (MENA) nation to do so.

That said, in drafting this section, we were particularly impressed at the progress across energy components to date. In it, we update 2022-2024 progress on solar, hydropower and waste to energy; two of these represents the world's largest by segment. We also update progress on longer term (2025 onwards) on the Barakah Nuclear Energy Plant and the initial discussions with China (summer 2023) regarding thorium MSR.

2022-2024

Mohammed bin Rashid Al Maktoum Solar Park

The world's largest single-site solar park spread over a total area of 77 km² in Saih Al-Dahal is located approximately 50 kms south of Dubai. The project is one of the world's largest renewable projects based on an independent power producer (IPP) model.

It is being built by the Dubai Electricity and Water Authority (DEWA). Besides solar farms using PV technology, the long-term project, the total capacity of which is set to reach 3,000 MWs, will also include concentrating solar power (CSP). When completed, the AED50bn project will save more than 6.5 million tons of carbon emissions annually when it is fully completed in 2030.

In June 2023, Dubai inaugurated the fifth phase of the Mohammed bin Rashid Al Maktoum Solar Park. The 900 MW phase five coincides with the UAE's Year of Sustainability, and the year it is hosting the Cop28 climate change summit in November.

Phase five of the Solar Park, a Dh2 billion project, is a partnership between Dewa, (60 % stake) and a consortium led by Acwa Power and Gulf Investment Corporation (40% stake), through Shuaa Energy 3. The fifth phase is one of the first projects in the Middle East to use AI as part of an advanced robotic cleaning system for the operation and maintenance of photovoltaic panels. The total area of the fifth phase is about 10 km², half of the total area of the 800MW third phase. The fifth phase of the solar park was completed ahead of scheduled opening date of December 2023, despite being launched during the Covid-19 pandemic.

In August 2023, DEWA announced that Masdar is the Preferred Bidder to build and operate the 1,800 MW 6th phase of the Mohammed bin Rashid Al Maktoum Solar Park costing up to AED 5.51 billion. DEWA said it received 23 expressions of interest from international applicants to develop this project.

DEWA has achieved, through this phase VI, the lowest Levelised Cost Of Energy (LCOE) of \$1.6215 cents per kilowatt hour (kWh) for any of DEWA's Solar IPP Projects so far.

The Park's current total production capacity of solar projects is 2,427 MW. DEWA is building another project with a total capacity of 433 MW. The 1,800 MW 6th phase of the solar park will increase the total production capacity to 4,660 MW.

The 1,800 MW 6th phase of the solar park using PV solar panels based on the IPP model will become operational in stages starting from Q4 of 2024. The project documents, Power Purchase Agreement (PPA), and financial close agreements will be signed in due course. The share of clean energy in Dubai's energy mix is about 16.3% of its total installed capacity. This percentage will reach 24% in 2026 with the completion of the Sixth Phase and the remaining phases under construction of the solar park.

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Hydroelectric Power Plant, Hatta

Near the community of Hatta, approximately 140 km southeast of Dubai in the Hajar Mountains on the northern border with the Sultanate of Oman, there is an existing reservoir created by the Sadd Hatta Al Awwal Dam. Together with the French consultant EDF (Électricité de France), DEWA developed a concept to create a new upper reservoir at a distance of 1.3 km and 150 m higher than the existing lower reservoir. The plan involved constructing two small dams with heights of 65 m and 30 m close to an old meander in the Hajar Mountains. A 1,300 m-long tunnel with some 7 m in diameter will connect the two reservoirs. With a capacity of approximately 200 m³/s and partially lined with steel, the tunnel is a key feature of the new Hatta Pumped Storage Power Plant.

The hydroelectric power station in Hatta is the first of its kind in the GCC region. The 250 MW station will generate electricity, which could power up to 250,000 homes/ year, by making use of the water stored in Hatta Dam. It will have a storage capacity of 1,500 MWh and a life span of 80 years.

The hydroelectric power station will use water in the Hatta Dam and an upper reservoir that is being built in the mountain. During off-peak hours, advanced turbines will use clean energy to pump water from the dam to the upper reservoir. Turbines operated by the speed of the waterfall from the upper reservoir will be used to generate electricity through a 1.2 km subterranean water canal, with high efficiency in power generation and storage of up to 78.9% and with a 90-second response to demand for electricity.

DEWA is implementing two projects in Hatta: the Dubai Mountain Peak and the Hatta Sustainable Waterfalls. The Dubai Mountain Peak project includes the construction of a 5.4-km cable car to transport tourists to the summit of Um Al-Nesoor. At 1,300 metres above sea level, it is the highest natural summit in Dubai.

The project is expected to be a major tourist attraction in the UAE. The cable car route passes over the Hatta Dam Lake and the Upper Dam Lake for the hydroelectric power station, as well as through mountains, ending at the summit of Um Al Nesoor mountain. The Hatta Sustainable Waterfalls project will use the slope of the upper dam to create a natural waterfall.

In May 2023, that Dubai Supreme Council of Energy (DSCE) has announced that steady progress is being made on its pumped-storage hydroelectric power plant at Hatta region with 70% of the work already completed.

The plant, which is being built by Dewa at a total investment of AED1.42 billion (\$387 million), is on track for completion in Q4 2024.

Dubai's waste-to-energy mega project

The world's largest and most efficient waste-to-energy facility in Dubai will become fully operational in the first quarter of 2024.

In July, Consortium members BESIX and Hitachi Zosen Inova (HZI) said in a joint press statement that energy production on two lines at the waste-to-energy plant in Warsan is set to commence in August 2023, and the project aims to be fully operational across all five lines in Q1 2024.

The waste-to-energy plant, which is undergoing commissioning, currently processes 1,000 tonnes of waste daily. At its peak, the plant will process 5,666 tonnes of waste daily, equivalent to 2 million tonnes annually, to generate 220 MW of electricity. Additionally, the residual ash produced during combustion would be further processed to recover and recycle metals for commercial use.

Once completed, JV between HZI and BESIX will provide operation and maintenance services for 35 years under an agreement with Dubai Municipality. The waste-to-energy project, also known as Dubai Waste

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Management Centre, is structured as a Build-Operate-Transfer (BOT), and is being developed by Dubai Waste Management Company, a SPV jointly owned by BESIX, Hitachi Zosen Inova, Dubai Holding, DUBAL, Tech Group and ITOCHU.

The statement said the plant will play a key role in helping Dubai achieve its goal of 75% waste diversion by 2025.

This is in addition to the Sharjah Waste to Energy Plant which has generated enough power to supply 2,000 homes, using household rubbish and industrial waste, in its first year in operation, ending May 2023.

The Sharjah Waste to Energy plant, the first such project in the region, offset 150,000 tonnes of carbon emissions. It processed more than 100,000 tonnes of waste — equivalent to that produced by 180,000 people — which was diverted from landfill and turned into clean energy. About 250 tonnes of metal were recovered during the same period. The plant is the first initiative under Emirates Waste to Energy, a joint venture involving Beeah Energy and Masdar.

About 60% of all greenhouse gas emissions in the Emirates come from waste decomposing in landfills; Sharjah sent only 10% of its waste to landfill since the plant's launch, down about 25% compared to previous periods, a significant step forward in its ambition to become the Middle East's first zero-waste city.

"The Sharjah Waste to Energy plant is an example of successful collaboration towards the UAE's sustainability agenda," said the group chief executive of Beehah. "In partnership with Masdar, we have pioneered a waste-to-energy innovation that adds to the national clean energy mix, while also accelerating towards our zero-waste to landfill targets in Sharjah.

"We have also achieved 90% landfill waste diversion, a record for the Middle East, which highlights the positive impact energy innovations can have for sustainable waste management.

"The Sharjah Waste to Energy plant demonstrates how clean energy can not only help meet energy demand, but also recover valuable material and tackle the mounting challenge of waste in growing cities across the Middle East."

Beyond 2024

Barakah nuclear power plant project

Developed jointly by Emirates Nuclear Energy Corporation (ENEC) and Korea Electric Power Corporation (KEPCO) in the Dhafra Region of Abu Dhabi, Barakah nuclear power plant (NPP) is the first nuclear power station in the UAE and in the Arabian Peninsula and the first commercial nuclear power station in the Arab World.

It consists of four Advanced Power Reactor (APR)-1400 nuclear reactors, two of which are already complete and operating and the rest at an advanced stage of completion. The Barakah NPP's total capacity is 5380 MW, which is intended to supply up to 25% of UAE's energy needs. The Barakah NPP is already the largest single generator of electricity and the largest source of clean electricity in the region.

The Barakah NPP began operating in 2020, after a three-year delay. Operations for the first reactor began on 1 August 2020. The activation of the second reactor came a year after the start-up of the first reactor and five months after commercial operations of the first reactor began. Commercial operations of Unit 3 commenced in February 2023, which joined Units 1 and 2 in generating 30TWh annually. Combined these would reduce carbon emissions by 21 million tons, equivalent to 3.2 million cars off the road annually, according to the UAE government.

In June, The Emirates Nuclear Energy Corporation (ENEC) announced that Unit 4, the fourth and final unit at the Barakah Nuclear Energy Plant, had begun operational readiness preparations.

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Once commercially operational, Unit 4 will raise the Barakah Plant's total clean electricity generation capacity to 5.6GW, equivalent to 25% of the UAE's electricity needs, delivering more than 40TWh of clean electricity/year.

The Barakah Plant has already had an impact on the UAE's energy landscape, according to ENEC. During the winter months, the plant met up to 48% of Abu Dhabi's electricity requirements with zero-carbon electricity.

HE Mohamed Ibrahim Al Hammadi, Managing Director, and Chief Executive Officer of ENEC, said: "Every year since 2020, we have added another unit to deliver 10TWh of 24/7, emissions free power to the grid. "With Unit 4 now moving towards becoming operational we will soon meet our mission to generate 25% of the Nation's electricity."

Barakah is just the beginning, according to ENEC. The agency says that it is focused on exploring and incubating strategic investments in nuclear energy locally and internationally that support the UAE's growth and development goals. ENEC's other efforts in research include areas like development of Small Modular Reactors (SMRs), clean hydrogen and other clean technologies.

Chinese Involvement In UAE Energy

In May 2023, the UAE signed three agreements with Chinese nuclear energy organizations, which experts believe is only the beginning of the nuclear energy goals for the country, and region.

ENEC, which is developing the UAE's nuclear energy sector, signed MoU's with China's Nuclear Power Operations Research Institute, the China National Nuclear Corporation Overseas, and the China Nuclear Energy Industry Corporation. The meetings took place 6 months before the UAE hosts the COP28 global climate summit, amid its strategy to shift 6% of its energy needs to nuclear to fulfill its net zero by 2050 plan.

After Iran and Israel, the UAE is the first country in the MENA region to actively use nuclear energy. The 123 Agreement with the United States in late 2009 established a legal framework for commerce in civilian nuclear energy between the two countries. It allowed the UAE to develop its civilian nuclear program and also provide US firms the opportunity to participate in its nuclear programs.

More recent agreements are starting a new chapter in the region's nuclear energy goals with a wider range of partners. "These nuclear agreements with the UAE and China come in the backdrop of the Saudi-Iran deal and could have been discussed as part of the brokering deal that happened in March," he said, citing the nuclear agreements as an entry point into the region for China, which he said operates more than 53 nuclear energy projects and has about 20 more under construction.

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UAE – VENTURE CAPITAL (2022-2023)

Overview

We have been tracking the development of the UAE's venture capital (VC) ecosystem for the past several years. This has been truly incredible to monitor. However, in keeping with the near term format of Asia Investment Research, we focus our UAE VC analysis in this document in 2022 and H1 2023. We also view it in context of developments in the MENA/GCC region as well as globally.

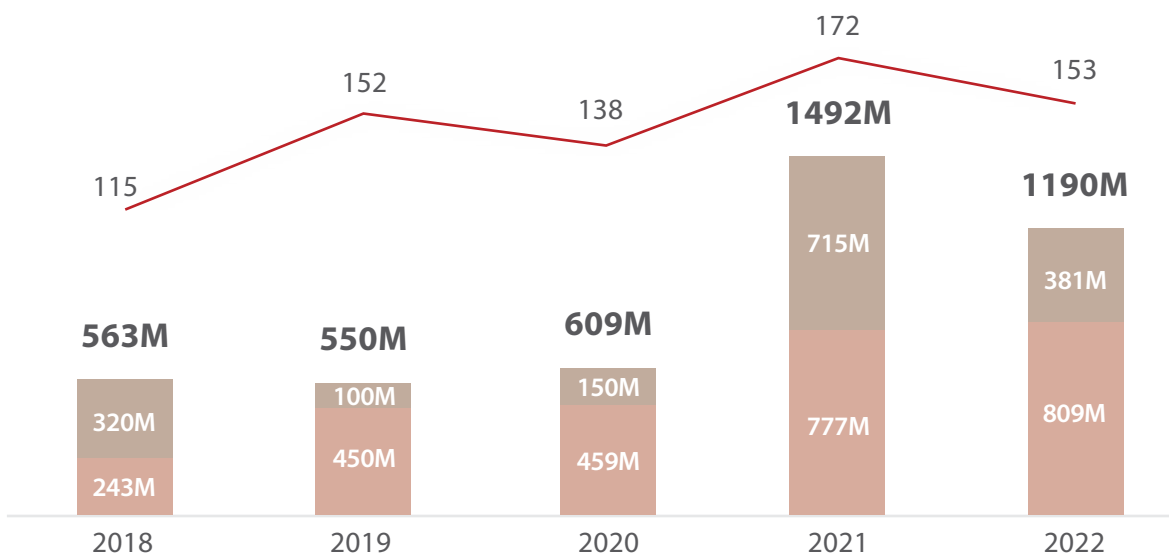
2022

The UAE continued to lead the MENA region in funding. In addition, according to MAGNiTT, in 2022 the UAE was the only country in the MENA region to attract over \$1 billion aggregate VC investment. Similar to the rest of the world, both volumes (-11%) and aggregate amounts (-20%) declined in 2022, but by lower percentages, outperforming other geographic hubs.

Global VC funding was \$415.1 billion in 2022, a 35% decline from a record 2021. The funding slowdown was especially severe in H2, with Q4'22 funding only \$65.9 billion — down 64% YoY to return to pre-Covid levels. US-based companies accounted for just 48% of all funding and 34% of all deals in 2022.

The global decline was particularly acute in the early stages (Seed, pre-seed) tranches.

UAE FDI Inflows (2018-2022) (\$ billions)



The decline in UAE funding was mainly due to a decrease in the value of MEGA (Middle East government related) deals; we list two below totalling \$381 million –marking the 10th straight year that the UAE has hosted a mega-round, which is funding worth \$100m or more.

- In October, UAE-based real estate start up EMPG raised \$200 million at a higher valuation than during its \$150 million 2020 round. EMPG operates several online classified platforms such as Bayut, dubizzle, and OLX across emerging markets in the MENA region, as well as South and Southeast Asia. This round was led by Affinity Partners (USA), with new funding from KCK (USA), Acacia Partners (USA), plus several other investors including Prosus (Netherlands), which maintained its stake

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- Pure Harvest Smart Farms, a UAE controlled environment ag (CEA) company, raised \$180.5 million in its latest funding round. The convertible note financing was led by the Olayan family, which runs one of Saudi Arabia's largest conglomerates, the Olayan Group. Also participating in the round were the UK's Metric Capital Partners and South Korea's IMM Investment.

The largest capital raise of 2022 was Astra Tech's \$500 million financing. Abu Dhabi's AI and cloud computing company G42 was the lead investor in this latest funding round. Astra Tech, which also acquired FinTech platform PayBy and Rizek, the UAE-based super app for on-demand home services, in 2022, plans to use this funding to acquire other consumer platforms globally.

Other significant deals included:

- In March 2022, fintech Tabby (UAE) raised \$54 million in a Series B extension round. The raise follows the firm's initial \$50 million Series B in August 2022, which at the time valued the company at around \$300 million. The latest round was led by Sequoia Capital India and STV and saw participation from existing investors Arbor Ventures, Mubadala Investment Capital and Global Founders Capital
- In June 2022, Wahed Inc. (Islamic wealthtech) announced that Wa'ed Ventures, the venture capital arm at Saudi Aramco Entrepreneurship Center (Wa'ed), led their \$50 million Series B funding. Other investors in this round include footballer Paul Pogba, who has also joined Wahed as their latest brand ambassador.

Relative to deal sizes, the UAE tracked global changes; deals below \$1 million declined from 61% in 2020 to 31% in 2022 while deals in the \$1-\$5 million range more than doubled from 18% in 2020 to 42% in 2022. Still, early-stage deals accounted for 80% of total volume followed by series A (11%) and series B (8%) which was not the case in many of the countries.

FinTech led the industry in H1 2022 by total funding and transactions closed, followed by agriculture, fashion and lifestyle and healthcare.

Fintech deals included Pemo raising a \$12 million seed round, co-led by Cherry Ventures and Shorooq Partners, Qashio raising \$10 million in a seed round through a mix of equity and debt financing, and Pluto raising a \$6 million seed round led by Global Founders Capital.

A total of 139 investors financed UAE-based start-ups; UAE-based investors led (1/3 of total investors), followed by USA investors with 22% of the total. VC firms dominated funding institutions with a share of 54%, while investment companies followed saw 15%.

The share of international investors has been increasing since 2020, representing nearly half the total number of investors in 2022, highlighting the increased international appetite towards investing in the UAE as seen in the investors set out in several of the deals above.

2023

Q1

The UAE continued to lead its MENA peers in terms of (deals under \$ 100 million) funding for start-ups, having secured more than \$150 million across 30 deals Q1; that said more than 50% of aggregate amounts came from the two deals:

- Tabby raised \$58 million in a series C
- Qclub raised \$25 million in its 2023 seed round

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Tabby (Dubai based) raised \$58 million in Series C, led by Sequoia Capital India and STV, at a valuation of \$660 million. PayPal Ventures, the global corporate venture arm of PayPal, also invested ..which marks its first investment in the GCC, and its 2nd in the MENA region after Egyptian fintech Paymob). Other investors in Tabby's new financing round include Mubadala Investment Capital, Arbor Ventures and Endeavor Catalyst.

In deals under \$25 million:

- Numi (metaverse/VR start-up) raised \$20 million from Venom Ventures Fund (VVF)
- Cofe secured \$15 million to expand its e-commerce operations into new markets
- Alaan (fintech) raised \$4.5 million in pre-series A; led by Presight Capital and Y Combinator
- Investsky (fintech) raised \$3.4 million in pre-seed round led Emkan Capital (KSA)

In light of the shrinking VC markets, in part led by increasingly higher interest rates, the market for exits and/or M&A/consolidation, which showed signs of growth in 2022, accelerated in Q1. The UAE accounted for 10 in 11 exits recorded in MENA in Q1.

We list below some of the Q1 consolidations/M&A deals:

- Astra Tech (UAE-tech), backed by G42, acquired voice-calling app "Botim", with the aim of creating a super app with instant messaging and digital payments. In July 2022, Astra Tech raised \$490 million (see above), enabling it to acquire the Emirati fintech PayBy
- Noon (KSA), the region's largest e-commerce platform acquired Namshi (UAE), a regional fashion shopping platform. With this acquisition, noon's digital base of services and products will include a broader range of fashion and lifestyle offerings. Namshi will continue to operate as an independent entity
- Physics Wallah (India)acquired UAE-based startup Knowledge Planet in an undisclosed deal. This marks the first international acquisition by the Indian edtech unicorn. Physics Wallah is looking to expand across the GCC region and also plans to invest an undisclosed sum in the target
- makeO (India) acquired healthtech Smileneo (UAE), to assist it to become the largest clinical beauty technology platform across both the Asian and MENA markets
- Etisalat (UAE), branded as etisalat by e&, acquired "ServiceMarket", a leading online marketplace for household services. It currently offers more than 40 services under several segments across the UAE
- Hala, a Saudi based fintech company, acquired Paymennt.com (UAE).This deal is designed to help Hala's SMSE customers process payments online and offline.

While USA investors showed the greatest growth in volume, aggregate amounts were led byThe UAE's Al Dhabi Capital, Venom Ventures and Singapore's Arbor Ventures were among the top start-up investors during Q1 with investments of \$25 million, \$20 million and \$12 million respectively.

H1

UAEVC activity in H1 2023 saw continuing declines from H2 2022 levels. H1 saw only \$239 million aggregate amounts across only 60 deals – the lowest since the 2020 pandemic. These declines are consistent with global trends. For example, in H1 2023, global funding saw only \$144 billion, a 51% decline from the \$293 billion invested in H1 2022 and a 10% decline from the H2 2022.

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These numbers, while down considerably, were despite large rounds to AI-driven companies led by corporate investors Microsoft, Nvidia and Google alongside venture firms; the \$1.3 billion acquisition of language model training platform MosaicML by data warehouse company Databricks; and the precipitous stock market climb of Nvidia.

FinTech still led sector activity during H1 2023; however, UAE fintech deal volume declined 54% in H1 2023 versus H1 2022. During H1 2023, fintech companies based in the UAE raised a combined total of \$101 million, a 72% decrease compared to the same period in 2022. Fintech startups in the sector raised a mere \$3 million in Q2 across 5 deals.

Blockchain/ crypto companies accounted for 42% of fintech deal volume in H1 2023. The DFSA has also announced plans to establish a comprehensive regulatory framework for cryptocurrencies. In line with its Emirates Blockchain Strategy 2021, the UAE aims to utilize blockchain technology to digitize at least 50% of its government transactions.

Despite the H1 drop in activity, longer term growth in e-commerce/retail and fintech in the UAE remain promising.

The UAE is focussed on building a number of domestic unicorns. Once they reach a significant enough size, they will be able to attract senior debt. We note previously that Tabby's most recent round was at a valuation in excess of \$650 million.

In this regard, Q2's largest financing was in fact debt financing, and involved Tabby, the MENA's leading shopping and financial services app. After successfully closing its new equity financing round, Tabby was able to upsize its debt facility to \$350 million, over a 2X increase since its last debt raising announcement.

The round involved the participation of key global credit investors base in the USA, led by San Francisco-based Partners for Growth (PFG), who provided Tabby's first institutional debt facility and supported the ongoing expansion to include Atalaya Capital Management, and CoVenture, a multi-strategy asset-management firm from Miami rather than UAE banks.

Watch this space as the number of unicorns continues to grow and banks enter the sector.



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UAE STOCK EXCHANGES – INCREASING GLOBAL RECOGNITION (2022-H1 2023)

Overview

We begin this section with a brief overview of each of the UAE exchanges but more quickly to recent developments, which are very positive. In 2022, the ADX was the best-performing market in the GCC for a second consecutive year demonstrating an increase of 61.4% in its market cap led by an IPO boom. This is in marked contrast with global indices in 2022...these suffered the worst performance since the 2008 financial crisis.

This IPO boom has continued into H1 2023, with some major IPOs, with a full H2 pipeline, and an 8 year record high closing for the DFM in July 2023.

We close this section discussing how Goldman and Morgan Stanley forecast the MENA region to be of increasing prominence among global investors throughout the foreseeable future.

Brief History/Structure

The UAE has three principal stock markets; the Dubai Financial Market (DFM), the Abu Dhabi Securities Exchange (ADX) and Nasdaq Dubai. The DFM was established in March 2000. DFM was fully owned by the Government of Dubai until November 2006 when it turned into a public joint-stock company through an IPO, selling 20% of its shares to the public and 80% to Borse Dubai (owned by Dubai government). DFM has 27 institutional owners and shareholders including some of the world's leading fund managers/funds.

The ADX is based in Abu Dhabi and was established in November 2000. In March 2020, ADX was converted from a "Public Entity" to a "Public Joint Stock Company PJSC". ADX is part of ADQ, one of the region's largest holding companies with a broad portfolio of major enterprises spanning key sectors of Abu Dhabi's diversified economy.

Nasdaq Dubai, launched in September 2005 under the name of Dubai International Financial Exchange (DIFX), was designed for electronic trading of international stocks across GCC, MENA, Turkey and the Indian sub-continent. In 2010, DFM acquired a two-thirds stake in NASDAQ Dubai, with Borse Dubai retaining a one-third stake. In 2012, the DFSA reduced the minimum market capitalisation for companies from \$50 million to \$10 million to increase listings by SMSEs, including family owned businesses; by 2014, NASDAQ Dubai also ranked 3rd in the world for Sukuk listings.

Over the past decade the UAE has emerged as a hub for international business for a number of industries including construction, banking and finance.

Recent Performance (2022-H1 2023)

2022

The Central Bank of the UAE (CBUAE)'s Financial Stability Report for 2022 stated that the FTSE ADX General Index (FADGI.FGI) gained more than 20% in 2022. In 2022, the ADX was the best-performing market in the GCC for a second consecutive year. Foreign investment in ADX increased, with total net foreign investments recording an inflow of Dhs24 billion in 2022. In addition, net institutional investments inflow reached Dhs8 billion. ADX market capitalisation increased by 61.4% in 2022 to Dhs2.62 trillion. The increase was supported by a series of listings. In 2022, ADX listed 18 securities, including shares, bonds, warrants, and investment funds.

This is in marked contrast with global indices in 2022...these suffered the worst performance since the 2008 financial crisis, with the MSCI All-Country World Index falling more than 20%, the Nasdaq 100 by 33% and the S&P 500 19.4%.

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The GCC dominated global IPO activity in 2022, raising about 23% (\$21 billion) of the \$91 billion raised in all 2022 IPOs worldwide, according to EFG Hermes.

2023

Regional IPO Boom

The regional IPO boom from 2022 continued into 2023. In Q1 2023, the UAE capital attracted \$3 billion, placing it third worldwide (14% globally):

- Adnoc Gas raised about \$2.5 billion from the sale of a 5% stake in March. At the time of its listing, Adnoc Gas was the largest IPO globally in 2023 – it is also Abu Dhabi's largest company at listing
- Presight AI Holding PLC, a G42 company, raised circa \$500 million, which was 136 times oversubscribed
- Al Ansari Financial Services raised \$210.5 million in an IPO for 10% of the business in April in Dubai
- In May, ADNOC announced completion of its \$769million IPO of ADNOC Logistics & Services (ADNOC L&S), a global energy maritime logistics leader. ADNOC L&S sold 19%, previously upsized from 15% after seeing overwhelming demand from both UAE retail and professional investors: total gross demand amounted to over \$125 billion, thus oversubscribed by 163X, the highest-ever oversubscription of a UAE bookbuild IPO.

In terms of future pipeline:

- In March, the deputy CEO of the Securities and Commodities Authority said that he expected 11 companies to list in UAE capital markets in 2023, raising up to \$2 billion \$1 billion of which is set out above
- Also in March, G42 (AI,cloud – Abu Dhabi) which listed its geospatial data products and services provider Bayanat's shares in Q4 2022, announced it has at least 6 IPOs in the pipeline in 2023, including G42 Healthcare, and AIQ, its JV with ADNOC
- In May, Abu Dhabi IPO Fund, launched in 2021, designed to invest in 5-10 SMES/year met with Chairman of Morgan Stanley, re a possible IPO
- In June, Peninsula's Real Estate's planned \$550 million ADX IPO was delayed until H2 as it had not yet secured regulatory approval
- In July, Investcorp Capital (Bahrain), MENAs largest alternative asset manager, began discussions involving its planned Q3/Q4 IPO on the ADX

That said, in July we started hearing that some issuers want to delay their planned 2023 listings to 2024 in light of continued market uncertainty.

H1 2023 Performance – 8 Year Highs for DFM Reached in July 2023.

In H12023, Dubai led the GCC markets with the DFM General Index rising 14%, or 456 points, to close at 3,792 points. On 13th July 2023, DFM reached its highest point since August 2015, crossing the 3,987 level. DFM was up nearly 20% year to date in July 2023, far surpassing MSCI World Index's 12.6% increase year to date. DFM recorded the lowest P/E ratio of 9.69x over the last 12 months.

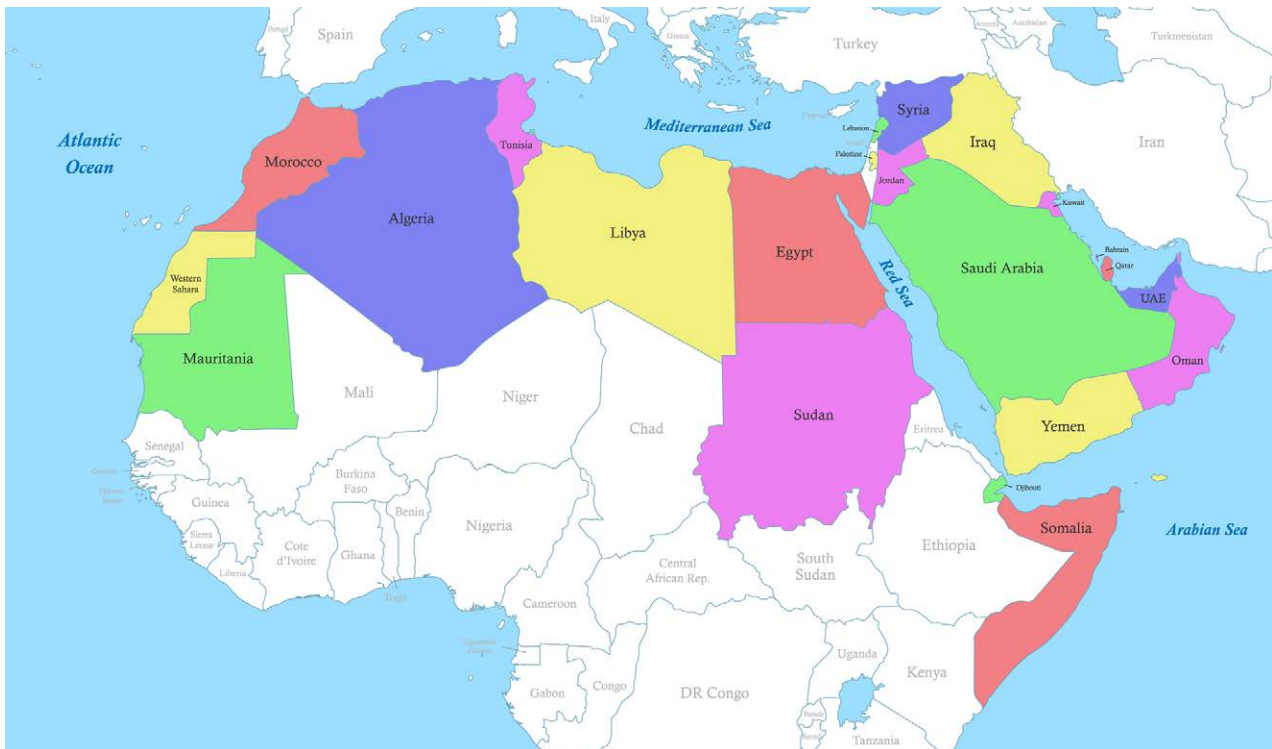
ASIA INVESTMENT RESEARCH

MENA's Increasing Weight in MSCI Index

In a recent report, Goldman Sachs said MENA markets are set to continue posting strong growth, driven by the GCC, thus MENA's weight in the MSCI emerging market index can be expected to rise to 10% from 7.3% currently. Goldman calculated that this re-rating will see emerging market investors moving from their current underweight position to market weight in MENA and thus drive more than \$50 billion of inflows over the medium term.

Goldman also expects MENA equity markets to increase by circa 10X by 2075 from their current levels, and become a sizeable bloc within the emerging markets market cap.

Thus, while there are many positives, there remains considerable geopolitical uncertainty and even in oil demand, which continues to underpin the MENA markets (despite the growing number of non-oil IPOs discussed above).



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UAE M&A (2022-H1 2023)

Background/Overview

We begin this section with a brief overview of each of the UAE exchanges but more quickly to recent. In this section, we discuss domestic, inbound and outbound MENA M&A for full year 2022 and through H1 2023, with a special focus on the UAE. In each component we focus on trends in volume, aggregate amounts and by sector. We also calculate average deal size to emphasize the significant discrepancies between domestic deal sizes (outside of construction and real estate) and cross border.

We also identify a number of cross border strategic partnerships which have been announced over the past 18 months involving leading UAE players partnering with international organisations.

While the positive trends across each component seen during 2022 have come off somewhat as 2023 has progressed, the region, and in particular, UAE, remain an increasingly important M&A location.

2022

According to the EY MENA M&A Insights 2022 report, the MENA region saw unprecedented M&A deal volume with 754 announced deals, well above historical averages of 500-600 and a 13% volume increase over 2021 levels; aggregate amounts were \$82.5 billion.

Announced outbound MENA deals represented 26.7% of total volume but 49% of aggregate amounts (average deal size \$200 million); domestic deals represented 51% of total volume but only 34% of aggregate value (average deal size of \$72.3 million); inbound deals represented 21.9% of volume and 17% of total disclosed value (average deal size \$85 million).

MENA saw 137 deals involving government-related entities (GRE), a volume increase of 78% from 2021 and the highest number since 2017. GRE-involved deals accounted for 49% of 2022 disclosed deal value (average deal size of \$295 million).

In terms of sectors, technology saw 25% of the total deal volume. The United States had the highest MENA deal volume of 35; 19 of which were in the technology sector.

The UAE dominated the lists of target countries as well as bidder countries by value last year, followed by KSA in both rankings. Egypt and Oman also ranked in the top five MENA target and bidder countries.

The UAE saw 4 of MENA's largest announced M&A deals, aggregating some \$14.7 billion or 17.8% of 2022 aggregate amounts of the entire MENA region. Note, all were strategic in nature:

Inbound

- In February, FAB sold a 60% stake in its payment processing business Magniti to a Brookfield Business Partners (Canada) for \$ 1.2 billion
- In June, Caisse de Depot et Placement du Quebec's (CDPO) acquired a 22% stake in each of three DP World entities; the Jebel Ali Free Zone FZE (largest free zone in the Middle East), National Industries Park, and Jebel Ali Port companies (the 2nd largest outside of Asia) , plus \$3 billion in cash for an investment totalling \$5 billion.

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Outbound

- In May, Emirates Telecommunications (E&) acquired a 9.8% stake in Vodafone Group for \$4.4 billion, increasing its position as largest shareholder to 14.6% as part of a global strategic partnership. E& also agreed not to increase its stake to over 24.99% or dispose of any shares for the next two years
- In December, ADNOC agreed to acquire a 24.9% shareholding in OMV from Mubadala for \$4.1 billion. ADNOC will own 24.9% of OMV, Österreichische Beteiligungs AG (ÖBAG), an Austrian independent holding company, holding 31.5%. ADNOC will increase its shareholdings in both Borealis and Borouge, bolstering its footprint in the chemicals sector.

2023

Q1

In Q1 2023, MENA saw aggregate amounts of \$25.8 billion in announced M&A deals, up 42% from Q1 2022. However, deal volume fell to 165, a decline of by 20% compared to Q1 2022. Declining oil prices, inflation fighting efforts and geopolitical uncertainty continue to effect MENA M&A flows.

Domestic deals saw 43% of volume but only and 15% of aggregate amount (average deal size of (\$54.5 million); outbound deals represented 34% of volume but 76% of the aggregate amounts (average deal size of \$346 million).

M&A activity involving PE/SWFs represented 32% and 68% of volume and aggregate amounts, thus average transaction size was \$330 million; in line with all Q1 outbound deals. It is worth noting that both outbound and PE/SWF related deals were 605% larger than the average domestic deals.

Inbound

Q1 2023 saw inbound volume fall to 39 (from 44 in Q1 2022) with a disclosed value of \$2.4 billion, a decline from \$3.4 billion in Q1 2022. The three oil and gas inbound deals were in exploration, production, and equipment and services. Only one of the oil and gas deals had a disclosed value of \$1.6 billion (66% of Q1 total).

The UAE remained the favoured MENA investment destination, although volume dropped from 22 in Q1 2022 to 16 in Q1 2023. France was the top bidder country ranked by volume(7) as well as amounts (\$1.6 billion). Hong Kong followed with \$400 million on two deals; others included China (\$200 million), India (\$100 million) and (\$100 million).

Outbound

In Q1 2023, the MENA region saw 55 outbound deals (flat from 2022), totalling \$19.6 billion compared to \$8.4 billion in Q1 2022.

The chemicals, technology and provider care sectors contributed 96% of the total outbound deal value. The tech sector saw 20 outbound deals, representing 36% Q1 2023 volume. The three outbound chemicals deals had a combined value of \$11.7 billion and were focused on petrochemicals and specialty chemicals (set out below under H1).

Domestic – by Sector

The technology sector led in volume in Q1 2023, with 19 deals totalling \$461 million in disclosed value-representing average deal size of \$24 million. There were a number of small fintech- and e-commerce-related deals which we discuss in our VC section.

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The construction industry saw the largest domestic deal in Q1 2023, while the real estate sector saw eight domestic deals, with Tamdeen Investment Company acquiring an additional 52% stake in Tamdeen Real Estate Company for \$1.1 billion, marking the second-largest domestic deal.

The professional firms and services sector witnessed seven deals worth \$236 million by disclosed value (average \$33 million), compared to 12 deals totalling \$54 million (\$4.5 million) in Q1 2022.

H1

During H1 2023, announced MENA M&A activity saw declines in both volume and aggregate amounts; volume fell by 23% from H1 2022 record levels while aggregate amounts fell 35% to \$31.9 billion- the lowest H1 total since 2017. The Financials sector led in volume while manufacturing deals represented 57% of MENA target M&A during the first half of 2023.

Deals involving a MENA target totalled \$15.1 billion, down 43% from H1 2022, a six-year low.

Inbound deals involving a non-MENA acquiror declined 13% to \$7.6 billion, while domestic deals saw aggregate values decrease by 58% to \$7.6 billion.

MENA outbound M&A totalled \$16.0 billion, led by Saudi Arabia's total of \$10.9 billion. Two of these announced deals, set out below, represent \$8.5 billion aggregate value:

- Scopely Inc. (US) is to be acquired by Savvy Games Group, wholly owned by PIF (KSA), for \$4.9 billion, making it the largest announced deal in H1
- ARAMCO's planned acquisition of a stake in Rongsheng Petrochemical Co (China) for \$3.6 billion.

The UAE continued to rank #1 among inbound MENA countries, followed by Saudi Arabia and Oman.

One key UAE based H1 2023 deal was the June \$2.7 billion acquisition of Network International, a UAE based payments business, by a consortium led by Brookfield Asset Management (Canada), and including First Abu Dhabi Bank, Mubadala, ADQ, and Olayan. Brookfield, which took a 60% stake in FAB's payments business Magnati in 2022, saw a strategic fit between the two businesses.

VC M&A

In light of the increasingly difficult VC capital raising market, beginning in H2 2022 and accelerating in 2023, M&A/consolidation began in the UAEVC market, which we discuss separately in our Venture Capital section.

These are mostly smaller deals, but they are attracting capital from many countries both inside and outside MENA.

AIIB Abu Dhabi Branch

Indicative of the increasing role China is playing in the Middle East, the Beijing headquartered Asia Infrastructure Investment Bank (AIIB) opened an operational branch in Abu Dhabi, in September 2023 - the bank's first outside China.

Since its establishment in January 2016, the AIIB has funded 232 development projects valued at US\$44.41 billion (Dh163.12 billion), playing a pivotal role in driving Asian economic and social development. Currently, the bank boasts 106 member countries worldwide.

The move to open a branch in Abu Dhabi comes as four of the proposed new BRICS members are based in the MENA region, including Egypt, Iran, Saudi Arabia and the UAE, while Ethiopia is also a regional presence. AIIB operations in the region will serve as a conduit for Arabic and Chinese financial project development throughout Eurasia and Africa.

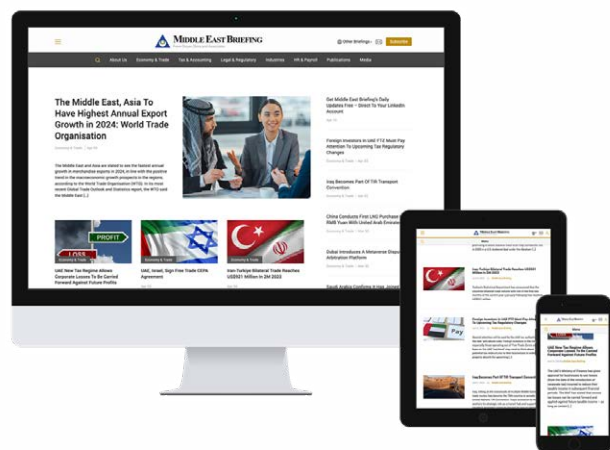


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