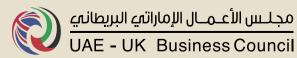
UAE-UK 2021 | 2022

PARTNERSHIP OF THE FUTURE



10TH ANNIVERSARY



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HE Dr Thani Bin Ahmed Al Zeyoudi

UAE Minister of State for Foreign Trade



HE Dr Thani Bin Ahmed Al Zeyoudi

The post-pandemic era will be one of opportunity, we must do everything to make the most of it

2021 marks the United Arab Emirates' 50th anniversary and is indeed a cause for great celebration and appreciation for all that a young but ambitious country can achieve. However, the last eighteen months have been defined by unprecedented change and challenges across the globe, with the Covid-19 pandemic altering the way we live, work and think.

Though there is no doubt that we are living in a rapidly shifting world, this change brings considerable opportunities. If we begin to embrace innovation and creativity, the post-pandemic era can be one defined by the emergence and prosperity of exciting sectors such as HealthTech, artificial intelligence and space that make our lives better.

However, we cannot realise this potential on our own. We must collaborate with international partners and bring together the best minds to achieve success. The United Kingdom is a well-established partner of the UAE, yet one with considerable untapped potential.

The UK is a global leader in emerging technologies that are shaping the future economy. From an AI sector that has grown over 600% in the last decade, to a digital climate technology sector expected to deliver a 15% carbon emission reduction by 2030, the conclusion is simple: the innovations that the world needs can benefit from strong UK-UAE relations.

While traditional sectors such as machinery and logistics have been the cornerstone of our relationship for decades, we can embrace the new alongside the established. This will mark another step towards delivering on the goals of Vision 2021 and continuing our transition to a knowledge-based economy.

Achieving this means showcasing the UAE as a place where Britain's multinational companies, fast-growing businesses, and entrepreneurs can explore new opportunities and thrive in a nurturing and positive environment. We can show UK businesses that the UAE is home to the world, connecting people and communities with new ideas and fresh thinking that will define our futures.

Even in our current virtual world, personal connections are key. The UAE-UK Business Council sits at the heart of these efforts, helping to build relationships that drive trade and investment between the two countries. We must continue to utilise their wide network of senior business leaders and entrepreneurs to drive forward commercial collaboration in these emerging sectors. With their support, we can deliver an exciting new era of UK-UAE relations.

As we reflect on the UAE's 50 years, we appreciate the remarkable journey to where we are today. However, now is also the time to look forward, to consider how we can continue this journey over the next 50 years and how we achieve our future success. The opportunities in front of us are vast, we must now do everything to realise them.

Lord Gerry Grimstone

Minister for Investment at the Department for International Trade and Department for Business, Energy and Industrial Strategy



Lord Gerry Grimstone

For centuries, the Gulf has been one of the world's great crossroads of civilisations and trade.

The journey of one of the earliest explorers to the Gulf, the famous merchant Ralph Fitch aboard the Tiger, even gets a mention in Shakespeare's Macbeth.

It was pioneers like Ralph Fitch who opened up Britain's first access to the great trade routes of the Middle East, India and Southeast Asia and beyond: access that remains a vital engine of prosperity to this day.

On 23rd March 2021, we reached another landmark in our relationship with one of our most important trading partners in the Gulf, the United Arab Emirates.

The recently established UK Office for Investment (OfI) and Abu Dhabi's Mubadala Investment Company, one of the world's leading sovereign investors, signed a long-term investment agreement, a first of its kind for the UK.

The UAE-UK Sovereign Investment Partnership (SIP), was launched with a landmark £1 billion investment deal centred around life sciences, and this was followed up in September 2021 by a further £10 billion of planned investments in the next five years in the technology, infrastructure and energy transition sectors. The deal will deepen existing UAE-UK trade and investment ties that were worth £18.4 billion in 2019.

This is a vote of confidence in the UK, strengthening our innovation led industries of the future, and enabling closer business ties benefitting both the economies of the UK and UAE.

We hope that this cornerstone example of economic cooperation between our two countries will initiate a tide of new investment agreements with a wider range of UAE entities and catalyse further development of this long standing and mutually beneficial relationship far into the future.

MESSAGES

HE Ambassador Mansoor Abulhoul

UAE Ambassador to the UK



HE Ambassador Mansoor Abulhoul

10th Anniversary of the UAE-UK Business Council

The UK has been a trusted and valued friend of the UAE since our foundation in 1971. In support of the vision of our Founding Father, HH Sheikh Zayed, the UK has helped us on the path to being a source of stability, economic growth, and innovation.

Our relationship has thrived in the 50 years since then, and there are two major developments that I see as catalysts to facilitate a deepening UAE-UK partnership.

First, we have strong ambitions to secure a Free Trade Agreement with the UK. As the UK continues to shape its new global role post-Brexit and post-Covid, the complementary nature of our two economies will generate ample trade and investment opportunities across industries and sectors, firmly benefitting both our economies.

Back at home, Britons in the UAE will benefit significantly from recent reforms concerning business and residency, including new visa schemes allowing for greater options for Britons to live and work in the UAE, and changes to the commercial companies' law allowing for full foreign ownership of mainland companies. Opening up the UAE's economy further, we recently announced the 'Projects of the 50'- programme to celebrate our Golden Jubilee, including the launch of 50 ground-breaking economic initiatives, such as a 10% increase in exports to ten key markets, including the UK, by 2030.

In addition, Expo 2020 Dubai will bring together over 190 countries and organisations from October 2021, providing a knowledge sharing platform for the UAE and UK to jointly explore innovative solutions to some of humanity's most pressing challenges.

As the UAE-UK Business Council celebrates its 10th anniversary, I wish to stress the vital role it plays in shaping our close partnership. Your work over the past decade as a forum for business leaders and entrepreneurs from both countries to exchange ideas and opportunities has significantly strengthened our bilateral trade and investment.

Focusing on a variety of sectors – from education and social and cultural development, to industry, infrastructure and energy – your efforts have led to tangible, long-lasting benefits for both the UK and the UAE's economy. I was recently proud to witness the signing of the joint £1 billion strategic investment in Life Sciences between Mubadala and the UK Government – the first agreement of its kind.

But, it is our shared future that holds the greatest promise – with both countries focused on delivering ambitious targets at COP26, energy transition and sustainability will underpin the growth of our economies, and create new opportunities for collaboration.

In this context, I have no doubt that the UAE-UK Business Council's strategic focus on harnessing new partnerships, promoting new technologies, and encouraging entrepreneurship will ensure closer engagement between UK and UAE businesses and innovators in the years ahead.

Simon Penney

HM Consul General to Dubai and the Northern Emirates & HM Trade Commissioner for the Middle East



Simon Penney

I congratulate the UAE-UK Business Council on its 10th anniversary. When the UUBC was founded, bilateral trade between our countries was £10.4 billion. At the end of 2019, before the onset of the pandemic, bilateral trade reached £18.4 billion.

This increase is testament to the appetite from British and Emirati companies to do business together, spurred on by the catalysing influence of the UUBC.

In ten years, the UAE has grown as a regional and global leader. In areas from energy transition to AgriTech and Al to mobility, the UAE is playing a role on the world stage.

The UK has been the UAE's partner every step of the way. Our governments' visions and priorities align in many areas, creating a solid foundation upon which to grow.

The signing in 2021 of the UAE-UK Sovereign Investment Partnership between the UK's Office for Investment and Mubadala is just one example of the collaborative work that deepens our trade and investment relationship, which goes from strength to strength.

Other areas of joint working include identifying – and solving – market access barriers to ensure that business can be done more easily and efficiently, as well as joint engagement on a range of UAE projects supported by UK Export Finance.

The UUBC's milestone happens in a momentous year when the UAE opens its doors to the world at Expo 2020 Dubai, and celebrates its 50th anniversary, and when the UK holds the G7 Presidency and hosts COP26.

It is truly an exciting time for our bilateral relationship and I look forward to seeing what the UK and the UAE can achieve together in the years ahead.

HE Ahmed Ali Al Sayegh

UAE Co-Chair, UAE-UK Business Council and Minister of State, Government of the UAE



HE Ahmed Ali Al Sayegh

The 50th anniversary of the founding of our nation has given us the opportunity to reflect on the UAE's strong relationship with the United Kingdom. While we are proud to celebrate the bilateral commercial successes we have achieved during this time, what struck me most during the launch of the UAE-UK Partnership for The Future in London in September 2021, was that our trading relationship is now very much focused on the challenges and opportunities that will emerge over the next five decades.

The opportunities will come in the form of new industries and sectors that are still in the early stages of evolution — such as artificial intelligence. I was delighted to sign an MOU on AI with the UK Government in 2021 that will create a strategic partnership on AI, enabling both countries to exchange knowledge, commercial opportunities and standards with each other.

The challenges will range from global threats such as climate change and the flows of illicit finance, and the Partnership for the Future will foster closer bilateral collaboration in addressing these issues too.

The UAE places great importance on innovation, technology and skills. These are the tools that will enable us to accelerate the diversification of our economy and strengthen our readiness for the Fourth Industrial Revolution, which is already upon us. We see a like-minded passion in the UK, and this explains why the UK has been such an attractive partner for us in sectors such as smart technologies, life sciences, education, food security and space.

Mubadala's £10 billion commitment to the UK, in partnership with the UK Office for Investment, will drive a significant increase in investment across a further three sectors: technology, infrastructure, and energy transition, as well as build on the existing £1 billion programme of life sciences investment.

Like the UK, the UAE is developing new trading relationships with the world and launching new initiatives to realign our economy with emerging trends. We aim to be the most significant, high-value manufacturing hub for the region by 2030, and we plan to create 75,000 new private sector jobs for Emirati nationals within the same timeframe, so that we have skilled professionals driving forward this economic transition. By relaxing restrictions on foreign ownership of UAE-based businesses, and by making it easier for the most talented professionals in the world to work in the UAE, we will sustain our reputation as one of the most investor-friendly economies in the world.

The next decade will be a critical one for bringing our bilateral ambitions to fruition, and, through its thought leadership, events and campaigns, the UAE-UK Business Council will be playing an increasingly important role in this.

Lord Udny-Lister

UK Co-Chair, UAE-UK Business Council



Lord Udny-Lister

This is a hugely important year for the UAE-UK trade and investment relationship. The visit to London in September 2021 by His Highness Sheikh Mohammed bin Zayed Al Nahyan, Crown Prince of Abu Dhabi, was marked by the signing of several agreements that demonstrate the ambition of both countries to establish a future-facing commercial partnership that harnesses our shared passion for innovation.

The agreements included a £10 billion partnership between Mubadala and the UK Office for Investment for stimulating the growth of the UK's technology, infrastructure, and energy transition sectors, on top of £1 billion already committed in March 2021 to the UK's life sciences sector. These announcements, along with DP World's recent decision to invest £300 million into the expansion of the Thames Freeport, will help to deliver a more accessible digital and physical infrastructure for all parts of the UK, inject more resilience into our logistics and supply chains, and boost our progress towards becoming a net zero economy.

The Partnership for the Future Agreement, also announced during the Crown Prince's visit to London, demonstrates the strengths of shared interests and capacity for collaboration in tackling some of the world's most intractable challenges, such as climate change and access to healthcare and education.

The UAE-UK Business Council plays an important role in helping to shape the future trajectory of our bilateral relationship. As a thought leadership organisation, our key purpose is to identify and assess the barriers to doing business, as well as the emerging trends and opportunities across multiple sectors. Our UAE Co-Chair, His Excellency Ahmed Al Sayegh, and I act as the connector between the Business Council and Government, representing our respective business communities at the annual Ministerial Joint Economic Committee. This enables us to ensure that the important trade policy decisions taken by our governments during a time of transition for both of our economies reflect the concerns and interests of business. I believe this function of the Business Council will become increasingly important over the years ahead.

The global economy has changed considerably since the UAE-UK Business Council was founded ten years ago. The economic drivers of the future will be centred around the decarbonisation of every industry and the development of future technologies that will enable us to live sustainably. The commitments made by the UAE and the UK in 2021 demonstrate that we have the unique ability to overcome these challenges. The UAE-UK Business Council will continue to support businesses, innovators and entrepreneurs in both markets seeking to develop new partnerships to embrace the opportunities that come with these challenges.

Bradley Jones

Executive Director, UAE-UK Business Council



Bradley Jones

The 10th anniversary of the founding of the UAE-UK Business Council also marks the first anniversary since our relaunch in 2020. The relaunch gave us the opportunity to rethink how we could best add value to the strong and rapidly growing bilateral trade and investment relationship.

Uniquely, we are a joint organisation, representing the interests of companies and organisations from both the UAE and the UK. I and my team run a Joint Secretariat and, in the spirit of the times, we are an entirely virtual operation, dividing our time between the UAE and the UK.

We are primarily a thought-leadership organisation — we bring business leaders, academics and practitioners from both countries together to discuss market access barriers, trade policy issues and emerging trends and opportunities across a range of sectors, but with a particular focus on the industries and cross-cutting themes of the future — such as decarbonisation, AI, EdTech and FinTech. Through our expert-led Working Groups and our campaigns and events, we aim to raise awareness in both markets of new areas for collaboration and commercial success. We also ensure that the interests of our member companies are raised at Government-to-Government dialogues, particularly in relation to regulatory and market access issues.

One of our aims over the last year has been to make the Business Council more inclusive by encouraging SMEs, academic institutions and not-for-profit organisations to join and participate. I am pleased to say that we have been able to attract new members in these categories from both the UK and the UAE, and we will continue our expansion over the years ahead. We are also keen to highlight the potential for trade and investment opportunities in the Devolved Administrations and English Regions of the UK, as well as the Northern Emirates of the UAE.

As our Co-Chairs have noted in their respective Forewords, the signing of the Partnership for The Future and the £10 billion Mubadala - Office for Investment Agreements during the visit to London of HH Sheikh Mohammed bin Zayed, Crown Prince of Abu Dhabi, in September 2021, will send our trade and investment relationship on an exciting new trajectory. The UAE-UK Business Council will now align its priorities with these two Agreements by delivering new campaigns and events to highlight the strong potential for future collaboration between our two countries. The next ten years promise to be as exciting as the first ten!

Creating opportunities as economic and investment partners

The UAE - UK Sovereign Investment Partnership

2021 has seen a step-change in the United Arab Emirates – United Kingdom investment relationship as a result of the £10 billion UAE UK Sovereign Investment Partnership.

Setup in March 2021 and expanded in September, the UAE UK Sovereign Investment Partnership (UAE UK SIP) serves as the coordinated investment framework to grow a future-focused relationship between the two nations, driving economic recovery, jobs and growth.

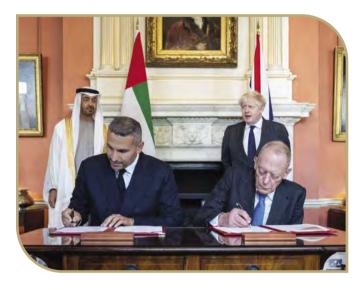
With a focus on technology, renewable and clean energy, life sciences, and infrastructure, the UAE UK SIP also accelerates funding and innovation across sectors that are foundational to the economic growth of both nations.

In September 2021, the UAE UK SIP also became the central investment platform under the UAE UK Partnership for the Future bilateral framework. This bold and future-focused framework builds on historical ties to formalise and guide trade, investment, and innovation between the UAE and the UK and establish new collaborations across priorities, including climate change, education, regional stability, and food security.

The UK Office for Investment (Ofl) and Abu Dhabi's Mubadala Investment Company oversee the Sovereign Investment Partnership for both nations, with multiple UAE and UK institutions investing under the SIP per the four priority industry verticals.

Investment opportunities are prioritised against investment criteria and the potential to support job creation in both countries, strengthen national research and development capabilities and originate new areas of investment collaboration and economic links.

The UAE's ambitious economic roadmap for the coming decades also presents a significant opportunity for the UAE UK trade and investment relationship to



create value for both nations, focusing on the exchange of knowledge, skills, and ideas to drive prosperity in both countries.

The UAE UK SIP is the first of its kind for the new UK Office for Investment, set up by the Department for International Trade and the Prime Minister's Office in 2021.

The UAE UK SIP also reflects Mubadala's strategy as a Government of Abu Dhabi owned investor. In recent years, Mubadala, as one of the world's largest sovereign investors, has refined its strategy to take advantage of the enormous shifts in technology and innovation across sectors with significant 'tailwinds', including life sciences, renewables, technology, advanced manufacturing and mobility.

Strong links forged in history

The UAE's independence from the UK in 1971 heralded not the end of a special relationship, but rather a new beginning. Half a century later, with around 120,000 Brits living in the UAE and some 40,000 Emiratis visiting UK shores annually, the ongoing exchange of culture and commerce continues to create opportunities between our two nations.

Shared heritage is a source of pride for both countries. Many UAE leaders were educated in British schools and universities. Several UK educational institutions now have campuses in the UAE, including Bath Spa, Birmingham, Heriot Watt, Stirling and Middlesex universities.¹

Away from politics and education, sporting acquisitions and sponsorship deals have become routine. The media flourishes across both countries, with UK brands such as the Financial Times, The Telegraph, The Times and Sky having a presence in the Emirates.

The benefits of legislative harmony are mutual. The UK accounted for 60% of the UAE's FDI in 2018. The UAE, meanwhile, has spent heavily on UK projects, notably the £1.5 billion invested by Dubai Ports World in the UK's London Gateway deep-sea container port and logistics park.²

Fifty years of respect and collaboration make 2021 a landmark year for UK-UAF links.

Long tradition of trading ties

Four thousand miles might separate the UK and UAE geographically, but fresh energy is infusing this unique relationship thanks to a new investment framework, the UAE-UK Sovereign Investment Partnership (SIP). The five year agreement, sealed in 2021, is designed to boost investment in clean energy, technology, infrastructure and health. The SIP is off to a winning start via a one billion pound investment in the UK life sciences sector, including £800 million from the Mubadala Investment Company, the UAE's Sovereign Wealth Fund. This was substantially expanded in September 2021, with a further £10 billion investment pledge from Mubadala in the UK's clean energy, technology and infrastructure sectors.

These profound economic ties can be regarded as a modern-day manifestation of the original 1971 Treaty of Friendship, itself intended to ensure ongoing cooperation between the countries once the UAE ceased being a British protectorate.

The relationship was further enhanced by the founding of the UK-UAE Joint Economic Committee in 2009. The committee set itself the initial task of increasing trade between the two countries by 60% by 2016, to £12 billion. In hindsight, this ambition was far too modest, with UK-UAE trade reaching £12.36 billion by 2013, two years early.³ Since then, it has risen ever higher, to reach £18.4 billion in 2019.

The UAE is now the UK's largest export partner in the Middle East – and one of its largest export partners in the world. More than 5,000 British companies currently operate in the UAE.

Today the UK is the only country with two embassies in the UAE, one in Dubai and one in Abu Dhabi. Close diplomatic links are matched by equally close ties in security, with the 1996's Defence Cooperation Accord promoting military cooperation and arms exports.

Looking to the future

With the UK destined to weather the twin disruptions of a Covid-19 recovery and Brexit realignment in the coming decades, nurturing closer links with our historical partners will prove pivotal to achieving economic stability.

Pooling financial resources and top-tier talent will unlock research and development opportunities across future-proofed areas such as technology, healthcare and renewable energy.



The UK's global leadership on climate change presents further synergy, helping the UAE reduce its reliance on fossil fuels and simultaneously diversifying its economy. By keeping both countries at the cutting edge of these exciting sectors, economic growth will flow naturally from expanding business opportunities and jobs.

The journey which began in 1971 is far from over, with both governments voicing their support for deeper UK-UAE trade links to stimulate even greater trade and investment opportunities between the two countries.



¹httns://study-uk-hritishcouncil.org/find/study-ontions/studying-uk-degree-outside-uk/uak

²https://www.egic.info/uae-uk-free-trade-agreement

³https://sp.mofaic.gov.ae/EN/DiplomaticMissions/Embassies/London/AboutEmbassy/Pages/BilateralRelations.aspx

50 transformational years in the UAE

Nick Cochrane-Dyet MBE, Chairman, British Business Group

While most expatriates will spend just a few years of their working lives in the UAE, for one man it became a lifelong affair, beginning even before the UAE was created in December 1971. Nick Cochrane-Dyet MBE, now Chairman of the British Business Group in Abu Dhabi and a special adviser to BP, recalls his life in the Gulf and reflects on a dramatic half century of change.

I first came to Abu Dhabi as a young boy in 1965, at a time when the Arabian leopard roamed Jebel Hafeet and going to the cinema meant watching films projected on to palace walls. Life was touched by the immense possibilities that followed the discovery of oil, yet tempered by lingering poverty. As a child, all I remember seeing was sand dunes everywhere and only later, returning as a teenager, did I realise just how poverty-stricken it had been at the time.

My first visits in the 1960s were summer-time trips to see my father, who was serving as an army officer with the Trucial Oman Scouts during the final days of the British presence. In 1975, four years after the founding of the UAE, I returned to work at Sheikh Zayed's royal stables in the Al Ain village of Mezyad. The country was now unified and I lived with a Bedouin family in a rudimentary barasti dwelling.

Life in the Gulf was transforming rapidly. New roads, hospitals and schools were opening and the landscape was also changing. Sheikh Zayed started a massive tree and flower planting initiative in the 1970s across the Emirate to provide shade and a habitat for wildlife, with the help of an Indian-born agricultural adviser called Abdul Khan. Sheikh Zayed's determination led to the arrival of sweet-smelling grass, vibrant hibiscus, tantalising bougainvillea and other colourful shrubs.

Sheikh Zayed is a central character in my book, Early Days in the Emirates, and I was a great admirer of his understated leadership style. He was someone who led by example, always took time to think before answering and eschewed large entourages. There was no big to-do at the time of any visit by him, no fancy tents or armchairs brought out for him upon his arrival, but merely a rug laid out on the sand

I paid a poignant final visit to Sheikh Zayed in London in 2004, just a few months before he died, where from his hospital bed he was watching footage of a new project in Al Ain. Overseeing this venture through a live satellite feed to his hospital bed reflected how a man with his unfaltering determination was able to achieve the enormity of the feats he did. Yet, he remained humble to the very end of his life.



This process of transformation offers huge opportunities here to British firms in a whole range of areas.



After leaving the UAE in the late 1970s to join the British Army, my love for the region, and the warmth and kindness of the Emirati people, soon brought me back and I returned permanently in 1985. After being President of the UAE's Royal Stud, I then worked as the Representative of Citicorp Investment Bank in Abu Dhabi, where I learned a great deal about the importance of training and continuous education as well as the vital importance of the latest information and technology.

From Citicorp I moved to BP, a company which pre-dated the Abu Dhabi National Oil Company (ADNOC) and had been in the region since the 1930s. BP was happy to share and there was a real sense of partnership that was enabled by Sheikh Zayed, who did not nationalise BP as other countries in the region did during the 1970s. Instead he believed BP and partnerships were the way forward.

Of course there have been huge changes in the UAE's hydrocarbon sector since my arrival here. One of the first steps Sheikh Zayed took towards climate change was as far back as 1970. He realised that flaring was bad, so he helped to change matters with BP and others by creating ADgas – now ADNOC LNG. Then Masdar Clean Energy was launched in 2006 and Lord Browne of

BP was at the inauguration in the Emirates Palace hotel, led by HH Sheikh Mohammed Bin Zayed.

Looking ahead, the sector is playing its part in the global race to net zero, through such things as the Hydrogen Alliance – with Mubadala, ADNOC, Masdar ADQ – a real team effort, and major UK investment here going into solar power and wind farms. This process of transformation offers huge opportunities here to British firms in a whole range of areas, relating to all forms of energy, digitalisation, algorithms, FinTech, innovation, engineering, R&D and education.

I am delighted to see that the legacy laid down by the UAE's founding father, Sheikh Zayed, is being continued in the new era, and I was at 10 Downing Street in September 2021, to witness the signing of a deal by Prime Minister Boris Johnson and Crown Prince Mohammed bin Zayed al-Nahyan, under which the Abu Dhabi Sovereign Wealth Fund, Mubadala, has committed to invest £10 billion in the UK in the energy transition, infrastructure and technology sectors.

"Early Days in the Emirates" by Nick Cochrane-Dyet MBE

UAE

Growing opportunities with a regional giant

It is no accident that UAE-bound exports from the UK hit more than £10.5 billion in 2018, or that the country attracted some £10 billion of FDI in 2020.¹ As a great example of how to remove legislative hurdles, synchronise financial strategies and encourage international trade, the UAE has fast established itself as the economic powerhouse of the Middle East.

More than 5,000 UK businesses have already found a beneficial presence in the UAE, including multinationals from BAE to BP, Mott McDonald to Marks & Spencer.

As the UAE Government continues to steer its economy towards a sustainable future, it is emerging as a leader in future-proofed sectors such as FinTech, healthcare and green energy.

New laws for the first time permit 100% foreign ownership of companies in selected onshore sectors. The UAE's Vision 2021 masterplan meanwhile, aims to establish long-term confidence in the country's future prosperity.

These changes, combined with a relaxation of visa rules to encourage incoming talent, are likely to secure even more investment opportunities in the coming years for international investors — none more so than with the UAE's longstanding cultural and diplomatic partner, the UK.

Partnering on profitability

The newly signed UAE-UK Sovereign Investment Partnership (SIP) is a framework agreement designed to stimulate economic growth in the two countries post-Covid. It encompasses the health, technology, clean energy and infrastructure sectors. Signed in March 2021, it has already led to investment

pledges of over £10 billion from Mubadala Investment Company, Abu Dhabi's Sovereign Wealth Fund.

The UAE has long been perceived as investor friendly. Businesses can be established in a matter of days, while corporation tax applies only to foreign banks and oil companies.

Abu Dhabi, home to the Abu Dhabi Global Market, First Abu Dhabi Bank, Abu Dhabi Investment Authority and Abu Dhabi Securities Exchange, is the regional hub for the banking, insurance and management sectors.

Dubai, the leading financial hub in the MEASA region, is hailed for its track record on FinTech and professional services, the latter of which contributed 3.7% of GDP in 2019, a growth rate of 2.9%.³

The other emirates of Sharjah, Ajman, Umm Al Quwain, Ras Al Khaimah, and Fujairah also have burgeoning reputations as growing commercial and trading centres in their own right.

Major global consultancies are active in the UAE such as Deloitte and PwC, while more than 20 international banks offer financial services there.

Significant new opportunities in sectors spanning technology, infrastructure and renewable energy will emerge at Dubai's (pandemic-delayed) Expo 2020, scheduled for 1 October 2021 to 31 March 2022.

The Expo's theme, 'Connecting Minds, Creating the Future', is based around the three principles of opportunity, mobility and sustainability – with the UK contingent tasked with focusing on opportunity.

Business environment goes from strength to strength

The benefits of conducting business in the UAE are numerous. Consider its strategic location in the Gulf — a regional hub and commercial capital for the Middle East, North Africa and beyond, and a natural entry point for other Gulf Cooperation Council (GCC) states.

Recent legislative updates have made the UAE even more attractive economically. Changes to Commercial Companies Law (CCL) now permit foreign nationals to own 100% of companies operating in the UAE mainland. New five and ten year visas have been introduced, along with a virtual work programme, allowing remote working from Dubai for 12 months at a time.

The unveiling of the UAE's Vision 2021 has helped bolster business confidence by clarifying a coherent direction for the country's economy. The long-term plan has four pillars which are:

- **United in responsibility:** An ambitious and confident nation grounded in its heritage
- United in destiny: A strong union bonded by a common destiny
- **United in knowledge:** A competitive economy driven by knowledgeable and innovative Emiratis
- **United in prosperity:** A nurturing and sustainable environment for quality living.

English is not only widely spoken but also the default language of business in the UAE. All tiers of the economy feature a high concentration of expatriates, comprising more than four out of five workers.



While Islamic traditions guide the UAE's indigenous culture, people of other nationalities are largely able to practise their own customs. Furthermore, with a notably low crime rate, the UAE is safe for families looking to relocate.

The ever-expanding flight networks offered by Abu Dhabi's Etihad, plus Dubai's Emirates Airline, ensures that logistically the UAE remains very well connected to the rest of the world. It is no surprise that the World Bank ranks the country as one of the easiest countries for carrying out business globally — 16th out of 190, as of 2020.⁴

¹https://www.great.gov.uk/markets/united-arab-emirates/

²https://www.egic.info/uae-uk-free-trade-agreement

³https://invest.dubai.ae/investment-sectors

⁴https://www.great.gov.uk/markets/united-arab-emirates/

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more than banking

Professional services: A powerhouse of potential

With its investor-friendly financial laws and convenient location as the geographic midpoint between Asia, Africa and Europe, the UAE is synonymous with buoyant money markets and world-class professional services.

Already the UAE plays host to many UK financial services companies. These firms are active across a range of investment opportunities: from stock exchanges to sovereign funds, insurance markets to Islamic finance.

The market is primed to accommodate more UK financial services spanning the banking, legal, consultancy and insurance sectors.

Two financial free zones exist to attract global investment to the UAE and stimulate commerce: the Dubai International Finance Centre (DIFC) and the Abu Dhabi Global Market (ADGM).

Free zones' dual dominance

Regulated by the Dubai Financial Services Authority, the DIFC provides access to English common law via its courts system.

The DIFC is classed as an offshore free zone and specialises in:

- Capital markets
- Asset management
- Banking
- Fund registration
- Insurance/reinsurance
- Islamic finance
- Professional services

Founded in 2002, it enjoyed a record year in 2020. The number of new firms topped 2,900, a 20% growth year on year. Some 915 financial companies were active on the DIFC, with more than 300 businesses in the FinTech and innovation sphere. Over the same period, activity in the DIFC grew market size to £564 billion, up 12% from the previous year.¹

The ADGM operates from Al Maryah Island, northeast of Abu Dhabi, and is regulated by federal authorities. A key component of Abu Dhabi's 2030 economic vision is to unite local, regional and international financial centres and legislators to create a marketplace ripe for competition and growth.

The ADGM is classed as an onshore free zone and specialises in:

- Asset management
- Private banking
- · Wealth management

As of late 2020 the ADGM (founded in 2015) had 2,932 licences in issue, with more than 16,600 people working at companies licenced by the financial centre. They have some £24 billion of assets under management.²

Stable financial environment

The UAE's own financial profile is robust, providing a sophisticated and high-performing environment for bankers and traders.

As of Q3 2020, the country's financial sector remained well-capitalised, with a regulatory capital/risk-weighted asset ratio of 18%. Furthermore, banks have increased provisioning to prepare for any deterioration in asset quality.³

Public debt is expected to fall back to pre-Covid levels of around 60% of GDP by 2025. Repayments are manageable (despite external debt increasing from 58% of GDP in 2019 to 70% of GDP in 2021) because Abu Dhabi is plugged into international capital markets, raising some £11 billion in 2020. Debt servicing costs presently hover at a low 8% of goods and services.

Solidifying its reputation as the Middle East's most attractive investment destination, the UAE received £10 billion of FDI in 2020, exceeding outward FDI investments. The country's financial resilience is high. Foreign reserves are double the external gross financing needs, while the Sovereign Wealth Fund provides access to large foreign assets.

The Government continues to steer the economy away from fossil fuels and toward knowledge-based sectors such as FinTech. The UAE's status as an international investment hub has been further strengthened by new rules allowing 100% foreign ownership of companies, and a relaxation of visa requirements to attract world-class talent — both strategies likely to secure higher FDI inflows.

Abu Dhabi and Dubai: Unparalleled opportunity

Abu Dhabi and Dubai are the twin jewels in the UAE's financial crown, with proven markets and supportive regulatory frameworks.

Abu Dhabi can claim the banking, insurance and asset management sectors as regional standouts, all of which are predicted to remain high performers.⁴

Big name players include:

- The Abu Dhabi Global Market (ADGM)
- The First Abu Dhabi Bank (FAB)

- The Abu Dhabi Investment Authority (ADIA)
- The Abu Dhabi Securities Exchange (ADX)

Major activities comprise banking and insurance, asset management, Islamic finance, sovereign funds, capital markets, commodities, trading brokerages, financial free zones and stock markets.

In Dubai, FinTech and professional services take centre stage.⁵

As the leading financial hub in the MEASA region, Dubai operates at the market's cutting edge, strategically placed to ride the FinTech wave.

Dubai boasts the region's leading 'FinTech accelerator', uniting thousands of active FinTech companies with FinTech start-ups globally and helping to encourage innovation in the sector throughout the region.

The UAE as a whole was responsible for 47% of all global FinTech deals in 2019 and accommodates almost half of the region's FinTechs.

Professional services have experienced rapid growth in Dubai, contributing 3.7% of GDP in 2019, a growth rate of 2.9%.

Offering access to the region's largest melting pot of local and global clients, Dubai makes a convincing destination for large international companies.

The largest global consultancies are active in the UAE, including organisations such as Deloitte and PwC. More than 20 international banks offer financial services within the emirates.

As a gateway to the entire region, professional services firms based in Dubai can benefit from the kind of consolidations and efficiencies that can lower the cost of business.

Dubai's worldwide profile is set to rise further now it is hosting the Dubai Expo 2020, confirming its place at the heart of one of the world's most fruitful and dependable markets.

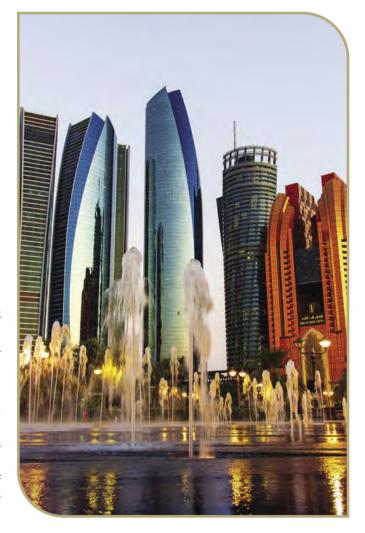
Springboard to success

The potency of Dubai and Abu Dhabi within global financial markets has helped the UAE attain economic primacy in the GCC states.

Benefitting from a liberal economy, high annual trade surplus and high per capita income, the UAE has long appealed to UK financial and professional services firms eyeing growth.⁶

As a financial and business hub connecting emerging with developed markets, the UAE provides new opportunities for businesses.

Whatever the nature of that business — be it creating, holding, trading or financing platforms for international commerce, or coordinating regional operations from a UAE hub, or conducting local business within the UAE itself — UK financial and professional services firms should find a receptive home and a springboard for future success.⁷ ■



https://www.arabianbusiness.com/banking-finance/460018-dubais-difc-enjoys-best-year-on-record-as-saudi-arabia-stakes-regional-claim

²https://www.adgm.com/about-adgm/annual-report

³https://atradius.co.uk/reports/country-report-mena-uae-may-2021.html

⁴https://www.investinabudhabi.ae/en/Sectors

⁵https://invest.dubai.ae/investment-sectors

⁶https://www.pwc.de/de/internationale-maerkte/assets/doing-business-in-the-uae.pdf

⁷https://assets.kpmg/content/dam/kpmg/ae/pdf-2021/05/doing-business-in-the-uae.pdf



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Why all eyes should be on Abu Dhabi

Souad A. Al Hosani, Head of Investor Care, Abu Dhabi Investment Office



Souad A. Al Hosani

Abu Dhabi is one of the easiest places in the world to do business.

As the second largest economy in the Middle East, the UAE has been the strongest regional performer for ease of doing business, according to the World Bank's Doing Business 2020 report. Abu Dhabi is the first capital city in the world to develop a 100% fibre-to-the-home connection and the smartest city in the Middle East on IMD's global city smart ranking for 2020.

Ease of doing business in Abu Dhabi is a reflection of the strength of partnership between the government and the private sector, including both UAE-based and foreign investors. The government has built an innovation ecosystem that exists to support the ambitions of businesses, setting them up for sustained growth in and from Abu Dhabi. I believe this resilient and business-friendly environment has been able to grow due to three reasons:

1| Abu Dhabi is doubling down on its support for innovation. Despite the pandemic putting a pause on global business exchanges and decreasing global FDI flows, the UAE bucked the trend with FDI inflow jumping over 44%

to US\$19.88 billion in 2020 as compared to the previous year. The increase can be attributed in part to a growing number of FDI deals in the digital economy, supported by Abu Dhabi's business-friendly policies to boost the private sector.

Throughout the pandemic, Abu Dhabi offered strong support to the business community to bolster its economic recovery. It also continued engaging with the private sector to understand their needs during this time. Using digital platforms for business registration and payment, adjusting to trends in the investment ecosystem, collecting feedback on the investor journey and taking the extra mile to bring Abu Dhabi to investors, have all marked a year of immense growth in the emirate.

2| The Abu Dhabi business community has always been close-knit and adaptive to challenges and changes. This adaptability has been supported and led by the government, which prioritises the welfare of businesses. All five free zones in Abu Dhabi, for example, have tailored regulations to the needs of the relevant industries they serve. They are also offering business packages customised to their customers' requirements.

Across industries, the Abu Dhabi business ecosystem has gone digital in the past year, cutting away red tape and streamlining processes. And these changes are here to stay.

Digitalising government services across many business sectors has boosted Abu Dhabi's global connectivity. Today, investors can apply for business permits from the comfort of their home anywhere in the world. This everevolving approach demonstrates how resilient the emirate's business ecosystem has become and how much more space there is to create new opportunities for both current and future investors.

3 | **Abu Dhabi places emphasis on the development journey of each businessperson and investor.** This custom approach stems from our commitment to support businesses at every stage and is exemplified by the ADIO Innovation Programme, which provides tailored financial and non-financial incentives to eligible companies based on their growth needs.

The government has been implementing a customer-first approach in its policies, placing the needs of businesses and its residents at the heart of it all. Customer care is a form of investment in the future and Abu Dhabi has the perfect enabling environment for it.

For an ecosystem to function, each member — including investors, entrepreneurs and businesspeople — needs to work in sync. As a former entrepreneur and now as the Head of Investor Care at ADIO, I have witnessed a tremendous shift towards greater alignment in Abu Dhabi.

My role is to make sure that investors and businesspeople understand the opportunities for this long-term partnership with Abu Dhabi, coupled with awareness of rules and regulations. My team ensures that investors remain



happy and do well throughout their Abu Dhabi journey, be it through the provision of incentive packages or advisory work.

ADIO has made it our mission to support and guide investors, helping them to achieve success in Abu Dhabi. ADIO facilitates a continuous dialogue between the Abu Dhabi business ecosystem and the government, highlighting areas for growth in the private sectors and crafting long-term partnerships.

When thinking about mitigating the long-term consequences of the Covid-19 crisis and sustaining Abu Dhabi's vibrant business ecosystem, we put the investor at the centre. Every investment story is different and seeks a unique and tailored approach.

Understanding the opportunities at each step of the investor journey and connecting to key stakeholders within the ecosystem are key to success within the emirate's vibrant network. Make ADIO your first port of call in Abu Dhabi.

Get in the zone

Few initiatives symbolise the concept of opportunity within the UAE more than the nation's world-class free trade zones.

There are around 45 free zones across the seven emirates, the majority being located in Dubai. They were created to attract investors, with an easier startup process, employment regulations and immigration procedures. They also have liberal tax, customs and import regimes to attract foreign investment.

Each free zone is independent and is governed by its own authority, so the specific rules and regulations vary between each one. Many focus on businesses in specific industries, such as healthcare, tech or media. However, they are all subject to certain UAE federal laws.

Some of the benefits of free zones include 100% foreign ownership of companies, 100% exemptions from import and export taxes, zero personal income taxes, and 100% repatriation of capital and profits. They also provide assistance with issues such as labour recruitment, sponsorship and housing.

There are three main types of entity that can be established within a free zone:

Branch: An existing business within the UAE or abroad can simply establish a branch or representative office in the free zone.

FZE: A new company can be registered as a 'Free Zone Establishment' (FZE). An FZE is the simplest form of a legal entity that can be established in a free zone. It can have only one shareholder. The minimum share capital requirement will vary according to the specific free zone.

FZCO/FZLLC: A Free Zone Company (FZCO) or Free Zone Limited Liability Company (FZLLC) requires a minimum of two shareholders. The minimum share capital requirement will vary according to the specific free zone.

A dual licencing system has been introduced by certain free zones to allow businesses to operate on the mainland UAE. Dubai has also announced a "One Free Zone Passport" initiative, which will allow companies to operate across free zones in one emirate without needing to apply for multiple licences.

Some of the best known free zones include:

Abu Dhabi

Twofour54 Masdar City Abu Dhabi Global Markets Industrial City of Abu Dhabi Abu Dhabi Airport Free Zone Khalifa and Industrial Zone

Dubai

Dubai Airport Free Zone Dubai Healthcare City Dubai International Finance Centre Dubai Media City **Dubai Industrial City Dubai Internet City** Dubai Science Park Jebel Ali Free Zone Authority **Dubai Production City**

Sharjah

Hamriyah Free Zone Sharjah International Airport Free Zone Sharjah Media City

Aiman

Aiman Free Zone

Ras Al Khaimah

RAK Investment Authority Ras Al Khaimah Free Trade 7one Ras Al Khaimah Media Free Zone **RAK Maritime City**

Fujairah

Fujairah Free Zone Creative City Fujairah

Umm Al Quwain

Umm Al Quwain Free Trade Zone ■





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Introducing Ras Al Khaimah

Ras Al Khaimah (RAK) is one of the seven emirates that comprise the UAE, along with Dubai and Abu Dhabi. It is less than an hour's drive from Dubai and offers a strategic geographical location that helps companies easily take advantage of the trade flows between East and West.

Under the leadership of His Highness Sheikh Saud bin Saqr Al Qasimi, the Ruler of Ras Al Khaimah, RAK has witnessed tremendous economic growth in recent years. Today it has the highest level of industrialisation in the UAE, while diversification across many sectors has also taken place, including services, trading and tourism.

Why is tourism important to Ras Al Khaimah?

Tourism is one of the largest, most dynamic and fastest developing economic sectors in the world. It creates employment, contributes to GDP growth, attracts investment and enhances the quality of life. For these reasons, it is a central pillar of Ras Al Khaimah's economic growth and diversification strategy.

Ras Al Khaimah is considered one of the most diverse emirates, offering world-class experiences and attractions, which enables it to assert its position as the fastest growing destination in the region. Being named the Gulf Tourism Capital for a second year in a row at the annual meeting of Tourism Ministers of the GCC is testament to its early and sustained action to curb the spread of the Covid-19 pandemic, resulting in global recognition as a safe destination for inbound tourism.

What are the emirate's principal attractions?

As the first city and emirate in the world to receive both the prestigious 'Safeguard Assurance' Label from Bureau Veritas, a leader in testing and inspection services, and the World Travel and Tourism Council (WTTC) Safe Travels Stamp, Ras Al Khaimah is home to a number of exciting and innovative tourist attractions.

These include the Bear Grylls Explorer Camp, featuring the world's first branded accommodation, as well as the highest restaurant in the UAE – 1484 by Puro – with both attractions being located on Jebel Jais, itself the highest mountain peak in the UAE. The emirate is also popular for its exhilarating attractions such as the Jebel Jais Flight: The World's Longest Zipline, the Jais Sky Tour and the Jais Sky Maze. In addition, four sites in Ras Al Khaimah, namely Julfar, Jazirah al-Hamra, Shimal and Dhayah, have been included in UNESCO's tentative list of World Heritage Sites. Also located in the emirate is the Suwaidi Pearl Farm – the only pearl farm in the UAE – that seeks to offer guests a glimpse into the city's pearling industry through experiences such as pearl diving and shucking.

What plans are there for further tourism developments?

The emirate is looking to grow its tourism, offering to attract further visitation through a long-term investment strategy aimed at developing Jebel Jais as a standalone destination. This will be achieved through the diversification of its offering and introducing several new nature-based sustainable projects on the UAE's highest mountain in the coming months.

Ras Al Khaimah Tourism Development Authority (RAKTDA) has also announced plans to invest US\$136 million (AED 500 million) in 20 sustainable tourism development projects across the emirate, as part of a partnership with RAK Hospitality Holding and RAK Chamber of Commerce and Industry.

The new projects are aligned with the emirate's strategy to be the go-to destination for UAE residents and tourists around the world, with a focus on nature, leisure, adventure, accessibility and authenticity. Appealing to those seeking safe and expansive experiences in the new normal of travel, all projects are purpose built with sustainability standards and processes.

Over the next year the emirate will expand, adding around 6,700 tourist bedrooms including a number on Jebel Jais.



Ras Al Khaimah is considered one of the most diverse emirates, offering world-class experiences and attractions.



How is RAK seeking to attract new international investors and business?

In order to enhance the emirate's position as a beacon for global entrepreneurship and innovation, as well as provide broader business opportunities and incentives to investors, Ras Al Khaimah Economic Zone (RAKEZ) has been launched. RAKEZ offers extensive support to business, with three local offices in Ras Al Khaimah, Dubai and Abu Dhabi, and international offices in India and Germany.

RAKEZ is a powerhouse business and industrial hub that offers wide-ranging customisable solutions to investors from all over the globe. Today RAKEZ accommodates more than 15,000 multi-national companies, and thousands of freelancers from more than 100 countries spanning more than 50 industries, making it one of the largest economic zones in the region.

What are the advantages for business in locating within RAKEZ?

RAKEZ uniquely offers free zone and non-free zone entity formations, and provides its clients easy access to fast-growing markets in the Middle East, North Africa, Europe and South and Central Asia through the major logistical hubs available in the emirate. These include: an international airport; multilane superhighways that connect to the rest of the Emirates and neighbouring countries; and five seaports, notably Sagr Port, the largest bulk handling port in the Middle East.

The authority is a customer-focused entity offering a high level of 'ease of doing business' through its simplified business set-up processes and firstclass services in one-stop shops. From licencing, visa, leasing and other support services, clients can accomplish everything in one location. RAKEZ one-stop shops also serve as a focal point to various government entities, relieving the clients from the task of approaching various entities just to submit their applications.

Committed to meet individual company needs, RAKEZ provides a variety of facility choices. For entrepreneurs, start-ups and freelancers, the economic zone offers coworking spaces. SMEs looking to build a permanent presence in the market can choose from offices of various sizes located in premier business centres. Manufacturers and traders, on the other hand, can set up their operations in RAKEZ's state-of-the-art warehouses or build their own facilities in land plots of unlimited size.

How are businesses located in RAKEZ?

RAKEZ has six specialised zones to cater to various industries, these include: Al Nakheel and Al Hamra Business Zones for the service and commercial industries; Al Hamra, Al Ghail and Al Hulaila Industrial Zones for manufacturing and large industrial projects; and RAKEZ Academic Zone for educational institutions and service providers.

SMEs make up a large proportion of the 15,000 RAKEZ clients, operating in various fields, such as trading, e-commerce, media, and education. To further support the segment, RAKEZ recently launched its Compass Coworking Centre, a vibrant collaborative hub that encourages the entire community to connect and network with like-minded individuals. It is equipped with private and open workstations – ideal to test the market – and also offers on-demand meeting rooms, recording studios and event space.

How does Ras Al Khaimah help international businesses and private investors with global structuring?

Ras Al Khaimah is home to RAK International Corporate Centre (RAK ICC), a Corporate Registry responsible for the registration and incorporation of International Business Companies, as well as providing a full suite of Registry services related to International Business Company activity. RAK ICC is a modern, world-class Company Registry operating in full compliance with international standards and best practices.

RAK ICC is well positioned as a premium international jurisdiction offering a variety of services that provide clients with flexible options to establish their corporate entities in a way that best suits their needs, whether for international business or private wealth needs. RAK ICC entities are best suited for investment and trading, holding purposes, international tax planning, wealth management, securitisation, asset protection and succession planning. The RAK ICC regulations are set in accordance with common laws and international best practice with access to independent judicial systems. Companies at RAK ICC are established through a network of Registered Agents, many of which have an international presence, hence providing the registry with a global reach.

Flexibility, convenience, legal certainty and low cost are just some of the key advantages. With a variety of company types and legal structures, clients can be assured that their requirements will be met in a manner that best suits their needs within a favourable tax environment.

Furthermore, RAK ICC has much to offer companies considering redomiciling. From being a 'whitelisted' jurisdiction, offering a fast, easy and cost-effective registration process, to providing all relevant infrastructure and resources to meet the Economic Substance Requirements, whilst maintaining confidentiality.

How is RAK ICC helping international investors own property in Ras Al Khaimah and the UAE?

Investors can purchase and register properties anywhere in the UAE and structure their investments under a RAK ICC entity. Under this structure, a RAK ICC company can own one or more properties and/or other types of investments without impacting each other, protecting them from personal liabilities, as well as offering a simplified and more streamlined transfer of property ownership in terms of inheritance and succession planning.

Other benefits include the eligibility for the RAK ICC company to open a bank account for rental income and payment purposes; simplified book-keeping



and taxes through the proper segregation of properties under the structure; and flexibility of transferring shares upon selling the property.

How is RAK ICC helping international investors expand their businesses in Ras Al Khaimah?

RAK ICC has also introduced the opportunity for global investors to set up a corporate structure allowing offshore companies to carry out their commercial activities in Ras Al Khaimah by establishing subsidiaries with RAK Department of Economic Development (RAK DED).

The cooperation allows RAK ICC companies to expand and engage in various activities within the emirate of Ras Al Khaimah through their subsidiaries at RAK DED. Investors will also enjoy both offshore and mainland benefits, which include zero corporate or personal tax, 100% repatriation of capital and profits, low import duty, no currency restrictions, options for office spaces, ability to open corporate bank accounts, global trade and investments and eligibility for UAE residence visas.



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Banking on a digital transformation

Rushdi Duqah, Lead of Deloitte Digital, Middle East



Rushdi Duqah

As the first fully-independent digital bank launches in the UAE, the established banking sector needs to embrace digital transformation if it is to survive and prosper post-pandemic, according to Rushdi Duqah, Lead of Deloitte Digital in the Middle East.

Covid-19 and the resulting acceleration of digital transformation has forced radical changes in customer behaviour, moved significant portions of the economy online, and increased customers' comfort and willingness to engage digitally.

Banks weren't the exception. Deloitte's recent Digital Banking Maturity 2020 study showed a number of limitations brought by Covid-19. For example, 60% of banks closed or shortened opening hours of branches, and 11% of banks turned off selected methods of account opening.

Beyond the pandemic, banks now face a myriad of other challenges including evolving customer expectations and new technologies. Against this changing environment, the emergence of FinTech as a new sector and the implication of open banking brings even more threats and opportunities to banks. This, says Dugah, should enable them to be

flexible enough to adapt to evolving business models and be customer-centric. Deloitte Digital is working with both new and established banks to help them define and deliver the transformation that best fits their strategic ambitions.

Across all age groups, interaction preferences were shifting quickly towards digital before Covid-19 and have only accelerated since, with digital experience now being the primary driver of attrition and a major factor when choosing a primary bank.

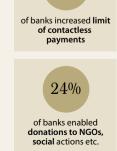
Traditionally, banks have sought to replicate in-person transactions using digital to reduce cost without much consideration given to replicating the in-person experience. However, customer expectations have been changing and there needs to be more focus on customer experience, especially with competition increasingly being digital and frictionless, and emotive digital experiences quickly becoming core to a bank's value proposition.

There has been a rapid switch from branch-heavy sales and operational targets to fully digital sales and marketing, with one recent survey suggesting that around one-third of retail

banking customers planned to increase their use of online and mobile banking services post-pandemic, while 52% of retail bank customers classified as branch dependent before Covid-19 have transferred to digital channels.

The switch to digital was evident in Deloitte's Digital Banking Maturity 2020 study. The study revealed a number of initiatives and functionalities implemented by banks to enable digital experiences as shown in the figure below:

NEW FUNCTIONS IMPLEMENTED DUE TO COVID-19



41%



of banks implemented fully digital processes (product opening etc.)





of banks introduced appointment bookings in branches



of banks launched contactless payment methods



Banks need to rapidly adapt to a post-pandemic digital era by introducing new sales incentives for staff in place of branch-selling and cold calling, integrating the customer experience across all digital channels — online and mobile, embracing lower-cost cloud-based advertising and marketing techniques and using technology to enhance their understanding of customers to enable greater targeting and segmentation.

To aid this transformation and overcome the significant post-pandemic challenges, Deloitte Digital has developed a number of solutions to address four key issues facing the banking sector: development of digital sales, optimising contact centre experience and efficiency, understanding the new digital customer's habits and behaviours, and redefining the role of a branch network.

To learn more about Deloitte Digital, go to www.deloitte.com



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Greenwashing: The Environmental, Social & Governance (ESG) red flag

Umera Ali, Partner, Head of Banking & Finance (Middle East), Global Head of Islamic Finance Dubai, DWF



Umera Ali

In the world of ESG investing, this is called 'greenwashing'. Greenwashing can be defined as a process of projecting a false impression or conveying false impression by an entity to project it as an environmentally sound or ESG compliant business.

ESG has hurriedly become the need of the hour. Especially in the wake of the aggravating climate crisis, there is a growing demand for environmentally sound products and environment friendly businesses. Our recent research says that 62% of companies are considering incorporating environmental and social policies in to their business. To capitalise on this sentiment, simply put, more profit maximisation, several companies have found clever gimmicks to appear 'greener' than their competitors. However, with the increasing number of developments in ESG principles and regulations, many marketing and advertising gimmicks have been unveiled.

It is estimated that over the coming years, genuinely environmentally sound enterprises will experience an increase in share prices, while the entities practicing greenwashing might see short-term growth only. The year 2020 saw an estimated US\$38 trillion spent on assets for ESG; this figure is expected to reach US\$53 trillion by 2025. However, corporations need

to know that with the expected tightening of ESG rules in the future, several investments made to conform to ESG principles will likely diminish. Europe saw a drop in the value of ESG investments by US\$2 trillion between 2018 and 2020, due to tightening of rules to rectify labelling exaggerations.

It is important for companies to realise that greenwashing is a problem. Not only is it unjust to the cause that ESG plays in the preservation of the environment, it is a counterproductive business practice. However, it may not always be simple for companies to define greenwashing from environmental compliance. The unfortunate truth is many companies even accidentally end up greenwashing, which could not only tarnish their brand reputation in the long-run but also dissipate large ESG driven capital investments.

Fortunately, through our understanding of ESG, we regularly provide our clients with legal insights and thought leadership, addressing global challenges and updates to modern ESG regulations. We also assist our clients in identifying the various ESG challenges and prevent accidental greenwashing.

Contact: umera.ali@dwf.law

Be financially ready for your expatriate lifestyle

Daniel Dickinson, Chief Executive, AHR Private Wealth



Daniel Dickinson

Many expatriates arriving in the UAE for the first time will not have prepared financially for the changes they face, according to Daniel Dickinson, Chief Executive of Dubai-based AHR Private Wealth, who explains the how business people should prepare for their new lifestyle.

What distinguishes AHR from other offshore advisers?

AHR was created in June 2020 after we had identified the need to not only look after the affairs of expatriates while they were in Dubai, but also to continue that relationship once they had returned to the UK. There are not many financial advisory firms in the UK willing to take on clients with an ongoing international dimension to their investments, so we bridge that gap.

Our 185-strong team manages total assets of around US\$1.5 billion and aims to look after our 2,500 clients from cradle to grave – an expatriate will typically leave the UAE wealthier than when he or she arrived, so it seems crazy to lose that client when they return to the UK. Our network of UK offices allows us to retain the client, retain the value of their assets and assist them on their continuing financial journey.

How should an expatriate prepare financially for life in the UAE?

One key consideration will be whether or not they plan to rent out their UK residence and do they get a manager in to manage their property? They also need to obtain the right tax code to leave, and ensure that their financial affairs are in order.

We typically first meet a client after they have been in Dubai for six months, often when a UK consultant they may have, can no longer advise them as expatriates with their offshore financial affairs. Here in Dubai they are very much left to their own devices – there are no pensions here, but there is an ongoing review of the existing Gratuity System and how this may be improved to bring it in line with more conventional systems to support financial security.

Years ago the Gratuity System was effectively a repatriation tool, so you would come here for five years and every year around 6% of your salary was put into an end-of-service pot. That was designed around a time when Dubai and the UAE was a hardship location and was devised to repatriate people by paying for flights and relocation expenses rather than a fundamental part of the financial planning process. As years have passed, people are remaining offshore for longer and as such, the system is not sufficient in isolation to provide what would be considered a 'pension' in other parts of the world.

What are the firm's core areas of expertise?

AHR offers a full range of wealth planning services. From private client financial planning where we take a holistic approach and invest according to their risk rating, to corporate advisory where we sit with business owners and C-Level executives and look at a range of services from business transformation and cost reduction, through to investment management via our managed portfolio service. We operate risk-rated model portfolios denominated in three

major currencies — Pound Sterling, Euro and US dollar — for our clients of higher net worth, and we develop bespoke portfolio management strategies suited to their individual needs. Our in-house tax team can help expatriates with a whole range of services from tax returns and HMRC enquiries to tax reports for those both leaving and returning to the UK.

Who is a typical client of your Dubai office?

It covers a very broad spectrum, but a typical client for us would be at director level, married with children and generally planning to come to Dubai for a set period, though almost invariably staying a lot longer than initially planned. They would typically have a primary residence in the UK, £500,000 of investable assets and a reasonable disposable income per month, which is often the key driver behind the move. With that said, our typical scenario cannot really be described as such. Each client often requires very different services, be that someone embarking upon their financial journey or at the alternate end of the spectrum, a client looking to instigate plans to pass on their wealth to future generations.

How do you typically work with clients in the UAE?

We see our clients a minimum of once every three months. They pay a management fee each year which aligns us with them and ensures we remain accountable for the level of service they expect.

What would be your top financial advice to anyone preparing to work in the UAE?

It is really simple — get an adviser that you trust from a reputable firm that is regulated and licensed, and who can look after you for the life-cycle of your financial plan. I don't think there is any benefit in coming to Dubai, being with a Dubai-based entity only, staying five years and then repatriating or going onto a different country and having to find a new adviser in that jurisdiction. We have worked extremely hard to create a proposition where continuity of service and familiarity are the cornerstone of our offering.



What are the most important tax considerations for any expatriate returning to the UK?

We have dedicated repatriation advisers in the UK and will make sure that any investments held are suitable – there are certain types of highly personalised assets that you cannot hold in the UK, so we just make sure that there are no adverse taxable events which could occur. Understandably, UK based advisers don't fully understand the nuances of the international space and unless they come and live in a place like Dubai they are never going to. With our team predominantly originating from the UK, we understand the picture in both locations. This gives us a distinct advantage and creates a situation whereby we often assume the on-going advice on assets managed by alternative businesses which don't offer a repatriation service.

To learn more about how AHR Private Wealth could help you, go to www.ahrprivatewealth.com or call the Dubai office on +971 4571 2600





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Securing the best talent for your UAE business

Matt Hayfield, Managing Partner, Global Management Solutions Consulting



Matt Hayfield

There is far more to finding the right hire than a quick browse on Linkedin, according to Matt Hayfield, Managing Partner of UAE-based Global Management Solutions (GMS) Consulting, who explains why he sees his role as more talent advisory than recruitment.

What distinguishes GMS Consulting in the market?

We are 100% UAE-centric business, we can therefore provide expert advice, with up-to-date knowledge and certainty on the local market. The services we offer have synergies to what is happening in organisations across the country and we combine multiple service lines focused on transformation and the future of work. These include senior and executive-level talent search, a consulting division and an interim management team operating under a partnership model.

We are not only looking at attracting talent from overseas to the UAE, but we also help talented individuals who are already working in the region along with championing Emiratisation, that is placing local national talent into solid career opportunities. They only make up 10% of the population, but there is a great talent pool of Emiratis who are really smart, have seen the world through education overseas, and are brilliant strategists and innovators.

How easy is it to attract foreign talent to the UAE?

Many people I meet tell me so many times that they were coming out here for two or three years, but they are still here 15 years later! Once you experience all that the UAE has to offer it's hard to find any reason to leave, there's such a buzz about the place and the entrepreneurial ecosystem is fantastic. Things are always developing and advancing so quickly that people want to remain here for many years — including myself, eight years now and no desire to leave ever!

The challenge that we sometimes face is a lack of understanding about what it is actually like here — with some perceptions of it being very different from the reality. It is wonderful to be able



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We are not only looking at attracting talent from overseas to the UAE, but we also help talented individuals who are already working in the region.



to explain that it is one of the most diverse countries in the world in terms of culture and population, and in the Arab world, the UAE has led the way in terms of tolerance and inclusion for all.

What are the typical roles you help your clients fill?

We set up our business in 2021 because we wanted to change the conventional recruitment firm model, and also move away from just servicing traditional roles.

Our focus is on transformation and change and also emerging and future roles, so we look at business transformation, project and change management, and we also look at service excellence; for example customer experience and category management.

A big part of our business is looking at jobs of the future, so we are helping our clients hire for positions in digital, artificial intelligence, R&D and product development.

What's the duration of the visa's for foreign talent coming to work in the UAE?

There have recently been some brilliant announcements about changes to visa arrangements for expatriates working in the UAE. Generally you bring people in for permanent roles and they are offered a three year limited or, more often, an unlimited contract. Then every three years their contracts are renewed, so people will stay on for much longer than their original contract.

One recent change has been the introduction of a Golden Visa, which is geared towards specialist talent in areas such as advanced technologies, and also for investors. These visas are for ten years and renew automatically.

Another change has been the introduction of the Green Visa, which is not tied to employment and allows the sponsorship of parents and siblings, which is a real statement that the UAE is committed to supporting families. There has also been an extension of the time you can stay if you lose your job from 30 days to 180 days.

What changes have you seen during the pandemic?

The way people work has changed hugely and for the better. Companies were forced to allow staff to work from home, which was relatively unheard of in the region before the pandemic. When I talk to our clients it is clear that their big fear of a nose-dive in productivity did not happen and productivity actually increased, so much so that many companies have now adopted a hybrid model of staff working from both office and home.

Roles and responsibilities have changed, in particular for those who are in leadership positions. We see more C-suite people involved in direct management and rolling their sleeves up to better understand their organisation in case of future crisis.

To find out how GMS Consulting could help you with your talent acquisition or project requirements go to www.gms-consulting.com







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An Employer of Record can support your UAE expansion plans

Ann Ellis, Founder & CEO, Mauve Group



Ann Ellis,

Businesses seeking to expand globally in places like the UAE can often find local corporate and labour laws a major obstacle in their plans and their recruitment of international workers. Ann Ellis, Founder and CEO of Mauve Group, explains how her team helps companies to manage the compliant employment of their workforce.

When we set up Mauve 25 years ago, companies were increasingly looking to expand on a global scale but needed help in dealing with local laws and customs when it came to employing local staff. Today our core service is to be an Employer of Record (EoR), by which a local Mauve company will compliantly employ workers on behalf of a client, in countries where the client does not have their own entity or the ability to employ locally themselves.

Entering a new country can often seem daunting to the uninitiated, particularly with the variances in corporate and labour law from country-to-country. We are often approached by clients that have applied the legislation of their own country to an international situation, and have got themselves into difficulty as a result. Our services help companies to manage the compliant employment of their international workers — an area that can carry heavy penalties if poorly managed.

An EoR is a company that compliantly employs workers on behalf of a client, in countries where the client does not have their own entity or the ability to employ locally themselves. The EoR takes care of all the necessary tasks to facilitate the employment, such as payroll, contract management and other HR responsibilities, while the client retains day-to-day management of the worker.

The concept of EoR has become extremely popular during the pandemic as the remote work phenomenon has exploded. Companies with workers who have returned to their home countries, or have been assigned to overseas business, have utilised EoR to facilitate their employment.

By using an EoR such as Mauve, a company seeking to expand internationally can realise its global vision without the need, costs and delays that it would face in establishing its own local entity. A company can build a local presence quickly without the need to navigate local red tape and set up a costly subsidiary to hire and manage workers. In short, with EoR, global employment is consolidated into one simple solution — saving time, money and risk.

Why Mauve?

Mauve offers its EoR services in around 80 locations across its 150+ country network, employing workers through owned entities in 60 of these locations, and through due-diligence-checked local partners in the remaining countries. We are one of the only companies in our industry to own such a vast

number of our own entities and consider ourselves to be a truly international provider of global workforce mobility solutions, with extensive local presence and expertise.

We take full ownership of all solutions, managing everything in-house and holding stringent contracts with any partners who represent us locally. We avoid the "aggregator model" used by many competitor companies, where client requirements are outsourced to local EoRs, and control of the service is given over to them, preferring to offer the security of transparency and simpler contract chains. This business model ensures that Mauve never refers enquiries on to third-party EoR companies, with all solutions managed inhouse by Mauve staff.

In the UAE we have a fully-staffed hub office in Dubai (Mauve Technologies International) and have become one of the key players in global HR and business solutions in the Middle East. Mauve Group has been operational locally since 2005 and its EoR offer has helped to staff organisations with national and expatriate workers across the region, successfully navigating complicated immigration systems and local quota requirements.

Besides EoR, Mauve offers a myriad of solutions designed to ease the way for workers and businesses operating and expanding overseas. This includes Global Payroll, Global Visa and Immigration, and International HR Consultancy amongst others. Organisations also engage us to set up new international companies for them, and consult on a variety of international compliance and corporate concerns, such as tax and permanent establishment risks.

At Mauve, our people are our central focus and as a result we have retained an expert workforce with longevity, commitment and enthusiasm. Every department in the Group can boast at least one employee with more than ten years' experience, and some with the expertise of more than twenty years apiece. These commitment levels translate to a wealth of experience and expertise, offering our clients the best support network in the business.



What it costs

Mauve will charge an initial set-up fee to cover the on-boarding of a worker and then a percentage monthly margin based upon the worker's salary. We will also request a salary deposit to ensure each of our client's workers are paid on time — any remaining deposits are returned at the end of the worker's employment. There are no hidden fees within Mauve Group's pricing structure — if additional charges were to be incurred during the course of employment, Mauve guarantees transparency and will advise of anything additional in advance, to avoid unanticipated costs.



The concept of EoR has become extremely popular during the pandemic as the remote work phenomenon has exploded.



How it works

Under an EoR arrangement, a master service agreement exists between the EoR provider and the client, and then an employment contract exists between the worker and the EoR. This employment contract would override any between the client and worker – if the worker is an existing employee of the client at the time an EoR solution is engaged, they would need to be "terminated" from the client's employment and enrolled onto that of the Employer of Record.

Frequently asked Questions

Can we use our existing contract templates for an EoR solution?

Mauve Group's Contracts Department will advise on the right contract type for the worker's assignment on a case-by-case basis and raise the employment contract using fully compliant local templates. The Contracts team can explore inclusion of your company's specific terms where it is compliant.

How does payroll work under EoR?

Mauve will provide local payroll calculations, register the worker on the payroll and set up local bank accounts. An invoice is sent to the client on a monthly basis for the salary amount plus any expenses, benefits or rewards. Once the funds are received, Mauve pays tax, social security and other payroll contributions to the authorities and the net salary to the worker each month. We can also work with salary deposits if desired by the client.

Can you provide visa support for expatriate EoR workers?

Yes, dependent on location, nationality and fulfilment of required criteria. The Immigration team will advise on and apply for the right visas and permits for your expatriate worker's individual circumstances and work location. We will process renewals and residence requirements, and also assist with business travel.

What happens after on-boarding?

We continue to manage the employment of your staff member, and work together with you to be as hands-on as you require. Our dedicated Client Liaison team and on-the-ground staff will perform regular check-ins with the worker as part of our in-country worker support promise. To ease the transition into country, we can offer add-on relocation and destination services through our partner network.

Can we manage and discipline staff as normal?

The golden rule of EoR is that universal communication between client, EoR provider and worker is essential. This is to ensure the employment arrangement stays compliant with local legislation and best HR practices - rules in each country vary considerably and some locations have harsh penalties for non-compliance.

You can manage your staff member's day-to-day activities as normal, but it is very important to report all disciplinary and performance matters to your dedicated Global Account Manager at Mauve, so they can advise on any contraventions with local law.

To learn more about how Mauve Group's Employer of Record, and its range of other business support services could help your company grow in the UAE and UK, please go to www.mauvegroup.com or call our Dubai office on +971 (0)4 432 8528



Tailored to suit your processes across the asset lifecycle, Asite is helping the Middle East digitally transform and build and manage better



Take control with our fully customisable and user-friendly software



Reduce risk with seamless integration using our open APIs



Enhance processes with an ISO 19650 compliant software

UK technology helps deliver sustainable construction and asset management in the UAE

Rob Jackson, Chief Growth Officer, Asite



Rob Jackson

A London-headquartered technology business that is a global leader in providing ways of designing, building and managing assets in the built environment is expanding fast in the UAE. Rob Jackson, Chief Growth Officer of Asite, describes how its technology is helping build better in the UAE.

For the past 20 years, we have been building and evolving a cloud-based software and collaboration platform that serves diverse stakeholders in the built environment. We help stakeholders at all stages of a built asset lifecycle, from designing, planning, financing, or constructing a building, right through to those managing the finished asset, whether it be a highway, a rail project, an industrial plant, a residential or commercial building.

Our platform is all about driving collaboration and data sharing and analysis. As part as our solution, we have built a comprehensive Common Data Environment (CDE). It allows all stakeholders involved in the different stages of project delivery or asset management to share data within our single common platform. This means everybody is getting a single version of the truth and can access the most up-to-date information in real-time.

Leading organisations throughout the UK have utilised the Asite Platform for many years. This includes Transport for London (TfL), who use our technology for all of their project delivery, and Laing O'Rourke—one of the world's biggest contractors. In a fast-changing world, we collaborate with our customers

because we believe our platform needs to constantly evolve with them and consistently provide them with the tools they need to build and manage assets better.

Addressing a fragmented market-place

The sector we operate in is notoriously fragmented. There are multiple technology platforms available; some will cover the design stage, others will cover tendering for projects, and some focus only on construction activities. These are what we would call 'point' solutions.

This presents a problem. Users have to learn how to use numerous pieces of technology (whilst paying various license fees) and a major challenge is then how this multitude of systems can store or produce consistent data in real-time.

We have become a platform of choice in this space. Rather than trying to compete with these individual point solutions, we have built an end-to-end collaborative environment. This is not to say those point solutions are out of bounds. Whilst Asite does have products that sit on top of our CDE and allow extensive functionality at all stages of a project, should a client want to continue using an existing point solution, we can push and pull data from these systems using open APIs so that despite using different tools, all project or asset data and information remain in one place i.e. on the Asite Platform.

From a users' perspective, this is very beneficial. Users no longer need to dip in and out of various tools and software to find their required information. Instead, the



Our presence and growth in the UAE is growing significantly as we support stakeholders and partner organisations.



Asite Platform stores all of their project information in one single area. This reduces project timescales, costs, risks and numbers of disputes.

Historical inefficiencies in the construction sector

A 2017 McKinsey report found that productivity improvements in the construction and built environment sector were one of the lowest globally. They put this down to several factors including the fragmented and noncollaborative delivery mechanisms, lack of standards and also the industries reluctance to adopt and embrace technology and digital transformation. The fragmented and siloed stages of an asset lifecycle means that historically, there has been very little data sharing in the sector. This leads to increased risk and errors, which results in disputes and increased costs.

Projects are prone to running over schedule and budget. According to McKinsey, 98% of megaprojects become delayed and/or over budget. This is often attributed to the sector's uncollaborative and acrimonious nature. As parties are often working together for the first time, relationships are not as strong, and given some tendering approaches, a claims culture can often be the result. It could be said that without collaborative delivery mechanisms, many projects are doomed to fail before a 'spade has been placed in the ground'!

The industry is however starting to drive collaborative delivery and conflict avoidance, which in turn allows more productive project delivery and overall success for all parties involved. The Asite Platform is the facilitator for collaboration and therefore plays a pivotal role in driving this necessary change.

By opening up data to all stakeholders, Asite encourages collaboration. The Platform provides stakeholders with the tools to share data and work from a

single source of truth. Change, which is inevitable on any project, becomes easier to manage. The Platform ensures all parties are instantly aware of the revision. Stakeholders no longer have to worry about components built in the wrong location or using incorrect materials. Ultimately, the Asite Platform reduces risk at all levels whilst driving major efficiencies and therefore cost savings.

Building a Sustainable Presence in the UAE

Technology platforms need to be user-friendly and intuitive if the technology is to be adopted and embraced.

That is particularly important in the UAE, where we have a diverse multi-cultural workforce with different language skills. Therefore, to ensure everybody works seamlessly from one common platform, making sure the platform is simple to use is essential. Asite is probably the most straightforward, intuitive and userfriendly platform available.

Our presence and scale in the UAE is growing significantly as we support stakeholders and partner organisations to deliver success in their construction and asset management activities.

We don't just sell software 'out of a box' and leave the client to fathom it out. Instead, we have consulting and customer care teams on the ground in the UAE to work in partnership with customers and provide ongoing support 24/7/365. One distinctive feature of the Asite Platform is that it is customisable and configurable. We recognise that each client or government entity may have their own prescriptive processes and that these may change from project to project, therefore we have designed our products so that even after initial implementation, the customer can easily modify their digital workflows and related forms without incurring additional costs or need for Asite to deliver the configuration.

Whole lifecycle costing and building sustainably

When it comes to building an asset — a building, a railway, an industrial plant, or a fly-over — it's not just the initial cost you must consider. While the capital cost of physically building the asset is essential, so is the price of maintaining and operating that asset for the next 50+ years. More and more clients realise that the bulk of the cost is in the operational phase of the asset and that to manage the assets efficiently is therefore paramount. This is only possible if the 'as built' details and ongoing operational performance data are known and readily accessible.

Asset owners now want to benchmark their lifecycle costs against other assets, and to do so requires shared data that has been captured in line with international standards. This data and information should then be structured and reported in a standardised way. New standards like ISO 19650 — which encourage all stakeholders to classify and manage their data consistently — allow us to benchmark on a like-for-like basis. Asite is one of only a handful of platforms that is certified to ISO 19650, thus ensuring our customer's data and information is compliant.

Asite is also working on embedding international standards that will not only facilitate lifecycle cost data, but also total project embodied carbon data as well as common metrics surrounding building operating standards.

Smart buildings of the future

Smart buildings are becoming more common and the UAE is investing heavily in this space. New builds are installing smart sensors — utilising the Internet of Things (IoT) — and existing building stock is being retrofitted with the technology. Retrofitting and repurposing buildings is becoming as important, if not more important than new build projects and again, managing these activities with successful outcomes is only possible if the data is available to all stakeholders in a clear and transparent manner.

Asite is responding to these trends and are taking our platform beyond conventional dynamic twinning i.e. 3D representation of a physical asset, by developing 'dynamic' digital twinning which allows our platform to talk to all of the technology in a building in real-time. This will drive major benefits for efficient asset management based on a plethora of metrics and real-time data.



As part of the ongoing trade discussions and collaboration between the UK and UAE, the UAE is committed to not only provide leading infrastructure to support economic growth, but also carve out a position for the UAE as a leading global technology hub and is investing heavily into the technology sector. Part of this initiative, is the role technology can play in the construction and real estate sectors.

We believe the role of Asite will be critical to helping the UAE achieve its ambitions in several fields of technology, sustainability and infrastructure, whilst also supporting the education and up-skilling of prospective and existing professionals in the UAE to embrace and drive the digital transformation that the built environment needs.

Securing a world-class infrastructure

The UAE's rapid growth, urbanisation and young population are fuelling demand across the leisure, real estate and utilities sectors, driving substantial growth and investment opportunities in infrastructure.

The Vision 2021 National Agenda lays out an ambitious strategy for the country to become a standard-bearer for infrastructure and construction projects, not just in the Gulf region but globally.¹

A sign of this global intent is the Sovereign Investment Partnership agreed between the UAE and UK in March 2021, with the UAE's Sovereign Wealth Fund, Mubadala Investment Company subsequently pledging to invest over £10 billion in key UK industries, including both digital and hard infrastructure.

The Government is aiming to ensure sustainable development while preserving the environment, and to achieve a perfect balance between economic and social development. The objective, it says, is "to develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all."²

This entails world-class roads, airports, ports and power grids, as well as a future-proofed telecommunications infrastructure to enable the introduction of ground-breaking smart services.

It also means rolling out new housing and leisure projects to ensure that all UAE citizens can achieve a high standard of living and guarantee their future security.

An increasing share of investments will cluster around projects promoting greater economic diversification among the emirates, as they slowly move away from their traditional fossil fuel roots.

Construction, inevitably, has not been entirely immune from the twin setbacks which have struck the global economy in recent years: the financial crisis and later the Covid-19 pandemic.

Some industry watchers note that credit risks across many sectors, such as the Dubai construction market, remain strained.³ Meanwhile, modest economic growth has negatively impacted budgets for building projects, tightening profit margins particularly for smaller operators.

There are however signs for optimism, with the UAE's construction output expected to grow by 4.5% in 2021, and the Purchasing Managers' Index, a measure of economic growth in manufacturing, showing an upward trajectory.

Looking further ahead, the total value of projects in the UAE is expected to reach £65.7 billion by 2026, according to a report by BMI Research. This would make the country the 19th biggest construction market in the world, accounting for 13.8% of the country's GDP in the same year. This strong pipeline of projects is one of the key reasons the country was named among the world's top locations in which to invest in infrastructure by Bank of America Merrill Lynch.

As an illustration of the scale of its ambition, in January 2021, the Minister of Energy and Infrastructure noted there were around £1.98 billion worth of projects underway along the country's east coast alone, as part of the UAE's 2018-2023 five-year plan.

These include a new HQ for Fujairah Police and the upgrading of major roads and highways. The latter includes the £50 million upgrade of the existing Sheikh Hamad bin Abdullah Road in Fujairah, involving the construction of new intersections, as well as three car tunnels and three pedestrian underpasses.

The Government is also keen to implement a federal road network to improve links between cities and residential communities, including the final phase of the 7km Emirates Road (ring road) that passes through Ras Al Khaimah

Proven operators in high demand

Most infrastructure investments currently originate from either the Government or the established merchant families who lead the private sector.

Spending from these sources has proved resilient across the construction industry, most notably with projects involving social infrastructure and tourism.⁴ Services and products associated with these initiatives remain in very high demand.

Possibilities are therefore plentiful to establish foreign partnerships across a wide range of schemes.

Opportunities exist for specialist consultants with industry track records; for producers and suppliers of quality building materials; for designers, builders and associated subcontractors; for experts in green construction and sustainability solutions; for makers and installers of water-saving devices; for manufacturers of automated building technology and air conditioning units; for producers of security systems; even for experts in the field of swimming pool equipment.

The UAE is a geographically vast, financially wealthy and forward-thinking country, with a track record for attracting and retaining top construction talent from all around the world.

Powerful portfolio of projects

The UAE could never be accused of a lack of ambition when it comes to landmark projects. Major developments currently underway include:

• **Dubai Creek Tower** — with a budget of £1 billion and a reputed height of over 1km, Dubai Creek Tower is now scheduled for completion in 2024 after construction was delayed during the pandemic.



- Al Maktoum International Airport a new airport anchoring the residential, commercial and logistics development known as Dubai South, partially complete but set to fully open in the late 2020s.
- **Etihad Rail** a major 1,200km freight and passenger rail network spanning all seven emirates.
- **Ciel Tower in Dubai Marina** a 260m high construction containing 1,209 suites over 82 levels and a glass observation deck with panoramic views.
- **Al Qana** a new 2.6km waterfront entertainment hub in Abu Dhabi featuring a sports academy, aquarium and prestige restaurants.
- **Sharjah's Corniche** a revamp of this major tourist draw, with a historic house set to be restored to its former glory and a new sail-shaped seaside museum known as the Kalba Heritage Museum due to open.
- **20-25,000 new hotel rooms in Ras Al Khaimah** to serve the needs of the three million annual visitors it is planning to attract by 2025.



The UAE is a geographically vast, financially wealthy and forward-thinking country, with a track record for attracting and retaining top construction talent.



- The Dibba Sports Club a new stadium under construction in Fujairah with capacity for 10,000 sports fans. With a £19.7 million budget, the venue will be able to accommodate UAE Pro League and Asian Football Confederation matches
- Reem Mall a vast shopping centre on Abu Dhabi's Reem Island scheduled to accommodate more than 450 stores, plus a cinema, food courts and a hypermarket.

Export finance aids partnership

Construction (and related) companies in the UK can capitalise on the country's strong international reputation by becoming a stakeholder in the multiple building projects underway.

The UAE uses UK Export Finance to help fund projects, allowing UK companies to bid for work.

Key industries likely to find themselves in high demand include residential and commercial real estate developers, public utilities firms, heavy industry operators, engineers, architects, urban planners and construction experts.

Substantial numbers of new infrastructure projects are expected to be greenlit as the UAE continues its gradual shift to a greener economy and away from hydrocarbons.

Under the UAE Energy Plan 2050, the Government aims to rely on renewable sources for almost half of its energy generation by that target date.⁵ This will undoubtedly involve substantial investment from both the public and private sectors to develop the infrastructure required to achieve these ambitions.

Companies and investors contemplating entry to the UAE infrastructure sector will find not only a significant standalone market, but also a potential gateway to the entire Middle East region.

¹https://www.vision2021.ae/en/national-agenda-2021/list/environment-circle

²https://u.ae/en/information-and-services/infrastructure/infrastructure-and-vision-2021

³https://atradius.co.uk/reports/country-report-mena-uae-may-2021.html

⁴https://www.great.gov.uk/markets/united-arab-emirates/

⁵https://store.globaldata.com/report/gd-cn0392mr--construction-in-the-uae-key-trends-and-opportunities-to-2022/

Transforming skylines in the UAE

Mace

When it comes to major programmes and awe-inspiring projects, there is no better place to be than the Middle East.

We have been providing clients in the UAE with world-class expertise and industry best practice from our office in Dubai for more than two decades. In fact, it was in the UAE that our Middle Eastern journey began in the mid-1990's.

Founded in London in 1990, we saw an opportunity early on to branch out into the Middle East and offer the best of UK construction expertise, coupled with cultural know-how from talented local teams on the ground. The UAE became our first international destination.

The journey began with Ajman City Centre for Majid Al Futtaim, and iconic projects including Jumeirah Beach Residence soon followed. Under the watchful eyes of the rest of the world, we delivered the largest ever single-phase residential scheme in just 40 months. With its 40 towers reaching on average 40 storeys each, Jumeirah Beach Residence set a new world standard. It was the start of a client roster which has since evolved to include globally recognised programmes and projects, such as the Opera District, Ain Dubai and Expo 2020 Dubai.

We are proud of our track record, and especially proud of our experienced employees, many of whom have been with us from the start.

Across the UAE we employ more than 450 staff, who draw on Mace's best practice in innovation, sustainability and health and safety, to continuously push the boundaries on project delivery for greater certainty around time, quality and cost.

With a broad range of experience working for some of the largest developers, contractors and specialists in the region, we understand the complex challenges and risks associated with major projects at all stages of the project cycle.

As we set our sights on the next five years in line with our 2026 business strategy, we look forward to being an integral part of the economic recovery of the UAE through the programmes and projects that we deliver.

Read on for a snapshot of some of our work.

Ain Dubai

Standing at over 250m tall at the heart of Bluewaters, the magnificent Ain Dubai is the latest landmark to join Dubai's long list of record-breaking attractions.

Drawing on best practice developed during the delivery of the London Eye, Mace was appointed to provide project management and cost consultancy services to Dubai Holding and North25 on the complex project.

Nearly twice the size of the London Eye, Ain Dubai is made with 11,200 tonnes of steel and can carry up to 1,750 visitors in its 48 custom-built cabins, allowing visitors to take in 360° views of the Dubai Marina, the Palm lumeirah and beyond to the Burj Al Arab and Burj Khalifa.

As part of our strategy to mobilise the project team, we brought in key experts from previous major engineering projects, such as the London Eye and The Shard. This approach enabled Mace to gain valuable insight into the contractor's planning methodology and to find practical solutions to the numerous engineering challenges that the project team encountered along the way.

Ain Dubai, the world's largest and tallest observation wheel, offers a majestic perspective on Dubai's dazzling skyline — ready for visitors from 21 October 2021.



Expo 2020 Dubai

More than a 150 years of World Expos have showcased life-changing inventions and cultural treasures. The first World Expo, held in 1851 at the Crystal Palace in London, showed what a world that embraced science and technology could look like.

Expo 2020 Dubai continues this history with a promise to hold an inclusive and global event with more than 192 participating countries from around the world – from unlocking development opportunities for the next generation, to reimagining how people move and connect, to finding sustainable solutions around energy and water. Today, new innovations are being created that, five years ago, would have been unimaginable.

Mace was appointed as programme management consultant in 2014, as part of a JV with Jacobs, to help manage the design and construction of the Expo 2020 Dubai site, overseeing everything from logistics and sustainability to project management of the Thematic Districts, infrastructure, public realm and Al Wasl Plaza centrepiece. We also monitored the design and construction of the Dubai Exhibition Centre (DEC), Sustainability Pavilion (Terra) and Mobility Pavilion (Alif) and almost 100 self-build pavilions for international participants and partners.

Expo 2020 opens on 1 October 2021, and it is anticipating 25 million visits during it's six-month run. When they do visit, they will be greeted with incredible experiences at a world-class site.

Opera District

When it comes to awe-inspiring developments, you need look no further than Dubai, one of the fastest growing cities in the world and home to the world's tallest tower, largest mall and grandest fountain.

Adding to the region's breadth of ground-breaking projects is The Opera District, answering the ever-growing demand for high-end accommodation. Set within Downtown Dubai, its location is unrivalled.

As project manager for eight of the mixed-use luxury residential and hospitality towers within the district and the entire public realm, Mace is using its



expertise of working within constrained sites and across multiple projects to help deliver these new landmarks. The towers will stand tall and proud next to their iconic neighbours — the sky scraping Burj Khalifa, the striking Dubai Fountain, and the Dubai Opera, which is the venue of choice in showcasing local talent and world-class shows.

Our approach is to treat these projects as one major programme, allowing all the sites to benefit from shared knowledge and standardised systems; guaranteeing best practice and continuous improvement is embraced across all the projects to drive efficiencies through economies of scale and lessons learnt.

With nearly 25 years of experience in the region, Mace is setting the standard for complex builds in this fast-paced and ever-changing landscape.

www.macegroup.com

Logistics unleash UAE's potential

Geographically and economically, the UAE serves as a dynamic, strategic hub for the wider Middle East region. The country has transformed itself in recent decades to embrace the opportunity of international trade and commerce. In doing so, the movement of goods and people — not just within its own borders, but to and from all corners of the globe — has become central to unlocking the country's full potential.

So impressive is the UAE's modern transport infrastructure that in 2019 it ranked eighth in the World Economic Forum's Global Competitiveness Report.¹

Arguably its jewel in the crown is the Port of Jebel Ali in Dubai, the largest manmade harbour in the world. Serving a market of more than two billion people, it is the largest container port between Rotterdam and Singapore.

As the country begins its fightback from Covid-19, the Government and leading private sector businesses have acknowledged the importance of logistics to the UAE economy by maintaining their investment in infrastructure projects.

A seamless and efficient logistics network can further aid the UAE in reducing the percentage of its GDP dependent on fossil fuels. Currently, around 30% of GDP derive from them. It is targeting a more sustainable 25%, making the country truly fit for third millennium trading.

Comprehensive logistics will also be integral to supporting the 18.4% industry sector growth predicted between 2020 and 2030, and the 32.3% growth expected in transport, storage and IT over the same time period.²

Joined-up approach to logistics

The logistical capabilities are being increased and upgraded across the board. This means new and expanded airports in addition to rail and metro projects.

Dubai is seeking to transform its economic capacity via the Dubai South development, envisaged as a new standard-bearer for global logistics.

Servicing sectors as diverse as life sciences, perishables, IT and e-commerce, the 145km² Dubai South – centred around a significant expansion of Al Maktoum International Airport – will enable sea and air freight to be processed, packaged and distributed to up to three billion customers.

A customs bonded logistics corridor will link Dubai South with the Port of Jebel Ali, permitting a four-hour sea to air freight transfer.³

Abu Dhabi is ushering in a raft of logistics improvements which it is hoped will diversify the economy, and in the process attract more international and private sector investors.



When complete, Etihad Rail will comprise 1,200km of track, connecting major manufacturing centres with import and export points, spanning all seven emirates.



Projects in the pipeline or already in progress include new ports and terminals, an enhanced rail freight system, more investment in road haulage, new logistics hubs, extra warehousing capacity, industrial parks, metro services and light railways.

Stage One of the ambitious freight and passenger Etihad Rail project began operating in 2016. Stage Two is currently under construction. When complete, Etihad Rail will comprise 1,200km of track, connecting major manufacturing centres with import and export points, spanning all seven emirates.

If longer term plans come to fruition, Etihad Rail could eventually join up with networks in other GCC countries: Saudi Arabia, Bahrain, Kuwait, Oman and Qatar.

There are even tentative plans for a high-speed hyperloop system in the UAE, with the potential to move freight and people at an unprecedented 1,200kmph via an underground tunnel – the equivalent to a journey between Abu Dhabi and Dubai taking less than ten minutes.

Dubai based firm, DP World, a global provider of smart end-to-end supply chain logistics, is the largest investor in Virgin Hyperloop, which has partnered with the UAE's Mohamed bin Zayed University of Artificial Intelligence (MBZUAI) on research and development work.

It is hoped the hyperloop will eventually enable faster, cheaper and greener logistics than any rival transport mode, connecting roads, rails and ports with manufacturing, economic and urban hubs.

Seven-in-ten Emirate nationals would opt for autonomous rather than conventional transportation (dwarfing the global average of 58%), signifying a mental readiness for cutting edge technologies to save time and money in the highly-competitive logistics sector.

Maritime envy of the world

Thanks to the Port of Jebel Ali and others on its coastlines, Dubai is rated among the top ten maritime centres in the world – and number one in the Middle East. Dubai hosts around 7,400 maritime companies which together create some 76,000 jobs, securing its reputation as the Gulf's nautical gateway. Dubai's maritime services are responsible for more than £3.6 billion annually, or 7% of the Emirates' GDP.5

Neighbouring Sharjah's profile is also rising by exploiting its advantageous location between the northern emirates and the capital of Abu Dhabi, to become a trade, commerce and industrial hub in its own right. It has a 20m deep port and a rapidly growing export and re-export market. In Sharjah, 62% of industrial hubs are dedicated to freight forwarding.6

Customs duty rates on goods imported into the UAE are around 5% (often higher for tobacco and alcohol).

Certain documents are compulsory for exporting goods to the UAE: certificates of origin, supplier invoices, and bills of lading or airway bills.

Some types of goods are exempt from duty rates. These include pharmaceuticals, agricultural products and printed materials, as well as goods brought into the UAE for manufacturing or industrial purposes.

Note, customs duties are not charged in the UAE within the country's free zones.

The power of free zones

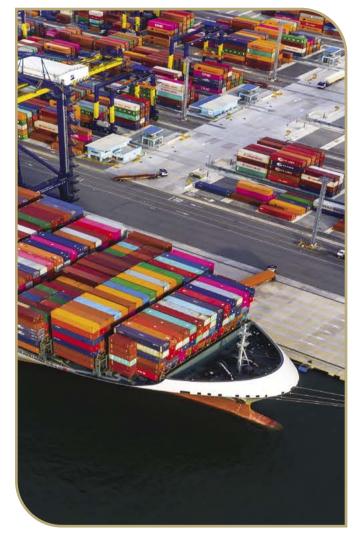
With more than 40 free zones across the UAE, they serve as a significant inducement for foreign investors. Not only do they create thousands of jobs, they also encourage the transfer of skills, technology and knowledge between the Middle East and the rest of the world.

They also enable importers, exporters and foreign companies of all descriptions to conduct business more economically and flexibly within the country. No customs duties are charged on imports and re-exports (excluding re-exports into onshore UAE).

They permit 100% foreign ownership through branches, single or multiple shareholder companies; either Free Zone Enterprises (FZEs), Free Zone Companies (FZCOs) or Free Zone Limited Liability Companies (FZ-LLCs).

Furthermore, it is not necessary to have a national agent for branch offices or foreign companies. Special assistance is available for obtaining work permits for staff, and for securing a guaranteed dispensation from corporate taxes.

As proof of their potential, free zones have been successful in luring many giants of the corporate world to establish a base in the region. Tyre and mobility leader Michelin, for example, opened new regional headquarters for Africa, India and the Middle East in the Dubai Airport Free Zone in 2019.



¹http://www3.weforum.org/docs/WFF_TheGlobalCompetitivenessReport2019.pd

²https://content.knightfrank.com/research/794/documents/en/uae-industrial-logistics-market-review-q1-2020-7081.pdf

³https://www.seyfarth.com/dir_docs/publications/slides---global-movements-and-trade-dubai-as-a-worldwide-logistics-conduit---72220.pdf

⁴https://www.investinabudhabi.ae/

⁵https://invest.dubai.ae/-/investment-sectors/maritime

⁶https://www.investinsharjah.ae/en/invest-in-sharjah/#Key-Industries

Energy: Plans for alternative options and opportunities

The UAE boasts a thriving energy sector. Its traditional strength in oil & gas has more recently been complemented by a powerful commitment to renewable energy by a government that is determined to provide a clean, sustainable future for the country.

This commitment is defined in the UAE Energy Strategy 2050, which aims to produce 44% of the country's power from clean energy sources by that time, and reduce the carbon footprint of power generation by 70%.¹

Broken down further, the strategy aims to reach the following environmental goals:

- 44% of power generation from clean energy sources
- 38% from gas
- 12% clean coal
- 6% from nuclear energy

With this ambitious plan in place, a dynamic economy and a supportive government, the UAE energy industry is developing fast, providing plenty of investment opportunities for UK businesses.

Renewable energy

The renewable energy market is one of its most dynamic industries, driven by a strong government determination to reducing reliance on fossil fuels and establishing the UAE as a global leader in renewables.

The nation's Energy Strategy sets out its ambitions to generate 25% of total power consumption from renewable sources by 2030, and 50% by 2050.² There is also a push towards increasing the number of sustainable energy sources, which include wind, solar, waste to energy and geothermal power.

Given the country's climate, it is no surprise that solar power in particular is seen as a priority area for investment. Already, the world's largest solar power plant is under construction at Al Dhafra in Abu Dhabi,³ and solar power is expected to represent 94% of the country's total renewable capacities by 2025.⁴

Waste to energy is another growing renewable power source. This involves turning the high volume of waste deposited in landfills throughout the country into energy. This initiative falls in line with the Government's Vision 2021 project of reducing the waste from landfills by 75% by the end of 2021.⁵

There are a number of areas of the market that could hold strong potential for UK companies. Businesses that specialise in sustainable energy products are sure to make a positive impact and solar powered products would be of particular benefit. The solar power market itself presents further opportunities, as the UAE is looking for ways to overcome the expense of installing solar technologies at scale, such as photovoltaic (PV) and Concentrated Solar Power (CSP) systems.

The burgeoning hydrogen market is another area of huge potential. In September 2021, BP, Abu Dhabi National Oil Company (ADNOC) and Masdar

Clean Energy formed a strategic alliance to develop 2GW of clean hydrogen hubs in the UK and the UAE as part of a wider clean energy project potentially involving billions of dollars of investment. The partners have signed three strategic framework agreements, the first of which will see the companies develop 1GW of hydrogen capacity in the UAE and 1GW in the UK, with the intention to expand as the project progresses.

Oil & gas

The UAE oil & gas market was impacted by the Covid-19 pandemic through lower oil prices and a drop in demand for petroleum products. This also resulted in a reduction in the country's budget by 5.3% in 2021 compared with 2020.6

However, experts expect the oil & gas industry to bounce back into growth in the coming years, particularly in the upstream sector, boosted by an increase in the nation's refining capabilities.

A recent example of this is the expansion of the Upper Zakum field owned by the Zakum Development Company (ZADCO). The field holds around 50 billion oil barrels and they are looking to increase oil production in the area from 500,000bpd to 750,000bpd.

With this growth comes several investment avenues for UK businesses to explore:

- **Refinery project investment:** As demonstrated with Upper Zakum, there is significant potential to invest in the growing number of refineries and contribute to greater efficiency and a better quality of oil production.
- **Working with ADNOC:** The Abu Dhabi National Oil Company (ADNOC) is one of the world's leading oil & gas companies. It has a strong track record in



helping foreign companies develop new business opportunities in the sector. In 2020, ADNOC brought in around £12 billion in international investment.⁷

• **Gas self-sufficiency:** In line with the UAE Energy Strategy 2050, the country is focusing on reducing gas imports and switching towards more sustainable sources. There is a great opportunity for UK investors to help achieve this goal through alternative power sources such as solar. In fact, the UAE is boosting solar power production through 2021 and beyond with the construction of four plants that are set to generate 5.6GW of electricity.⁸

Nuclear

The UAE's nuclear energy industry has grown steadily in recent years, with its first nuclear reactor — Barakah unit 1 — reaching full power in 2020.9 This is part of a wider plan that would see four units in total providing 25% of the nation's electricity and avoiding up to 21 million tonnes of carbon emissions on a yearly basis.¹⁰



Given the country's climate, it is no surprise that solar power in particular is seen as a priority area for investment.



Another key development in the sector is the creation of a radioactive waste management strategy. This initiative involves storing and disposing of the waste safely and efficiently. One possible option is returning the fuel to suppliers, which is then stored in reactor ponds for 20 years, or transferred to a dry storage facility after six years.

The UAE has been working closely with other countries on this programme, including Sweden and France. For instance, the Swedish Nuclear Fuel and Waste Management (SKB) Company has been looking into the possibility of a geological waste repository in the UAE.

In terms of investment opportunities in the sector, there are many to explore:

• Research and development: R&D unlocks a lot of potential for UK businesses wanting to invest in the nuclear industry. This could involve collaborating with key stakeholders, such as the Federal Authority for Nuclear Regulation (FANR), the Emirates Nuclear Energy Corporation (ENEC) and the Nawah Energy Company.

- Waste management: Finding ways to help safely remove nuclear waste is another exciting opportunity for UK businesses, particularly in areas such as setting up geological repositories, fuel reprocessing, short-term storage, streamlining supply chains and more.
- Education and training: Achieving the nuclear energy ambitions requires a labour pool with the appropriate skills and training to contribute. The UK's strong reputation in education and training, combined with its recognised expertise in nuclear power, puts it in a strong position in this regard.

With a plethora of exciting initiatives and government programmes driving forward the development of the UAE's energy sector, the industry will continue to go from strength to strength in the coming years.

While there is no one-size-fits-all approach to investing in such a dynamic energy market, it is clear that new opportunities will continue to become available.

- 2https://www.irena.org
- 3https://gulfnews.com
- 4https://www.pv-tech.org
- 5https://u.ae/en/information-and-services/environment-and-energy
- 6https://www.mordorintelligence.com/industry-reports/united-arab-emirates-oil-and-gas-market
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- 10https://world-nuclear-news.org/Articles/First-UAE-nuclear-reactor-reaches-full-power

World Climate

Climate change is not a choice.

It's billions of them.

Mitigating the impacts of climate change is a monumental task. Yet, we know progress is possible if we act collectively. It is vital that we all (business and society) take urgent and immediate action.

To do our part to help the world achieve the goals of the Paris Agreement, Deloitte has launched <u>WorldClimate</u>, our strategy to drive responsible climate choices within our organization and beyond.

We recognize change starts within. Deloitte must set and meet higher standards for itself, including achieving net-zero emissions by 2030. We will also connect with others, empowering our professionals and engaging our broader ecosystem to create solutions that facilitate the transition to a low carbon economy. This will require reimagining, reinventing and redesigning many of the day-to-day experiences of our lives, as well as how businesses and economies operate.

The opportunity to create a more sustainable world is at our collective fingertips. We all are compelled to act.





Changing energy landscapes

Bart Cornelissen, Partner - Energy, Resources & Industrials Leader, Deloitte Middle East



Bart Cornelissen

The oil & gas industry is at an inflection point. Oil prices are trapped between softer demand and rallying equity markets and the Covid-19 pandemic has only accelerated long-term trends such as the need for cleaner energy and digital transformation. Moreover, the current context combines social, technological, environmental, economic, and political drivers that are impacting the future of the energy sector: for oil & gas companies one thing is for sure, resiliency is not a choice, but a necessity. Energy players must be prepared with a set of no-regret and robust strategies to face any future market environment scenario.

While the depth and duration of this new era are not clearly defined, societies worldwide need to provide solid answers to impactful phenomena such as climate change while, at the same time, addressing unprecedented global economic and political dynamics that are now shaping the future of the oil & gas sector. Therefore, divergent scenarios will impact oil & gas companies differently. The question we need to ask is: how quickly will this transition happen? While historical data such as the cost and complexity of energy transformation points to a slow transition of around 50-60 years, different market drivers (such as climate change, evolving customer demand, and excessive supply) and technological advancement can greatly accelerate this shift down to just ten years.

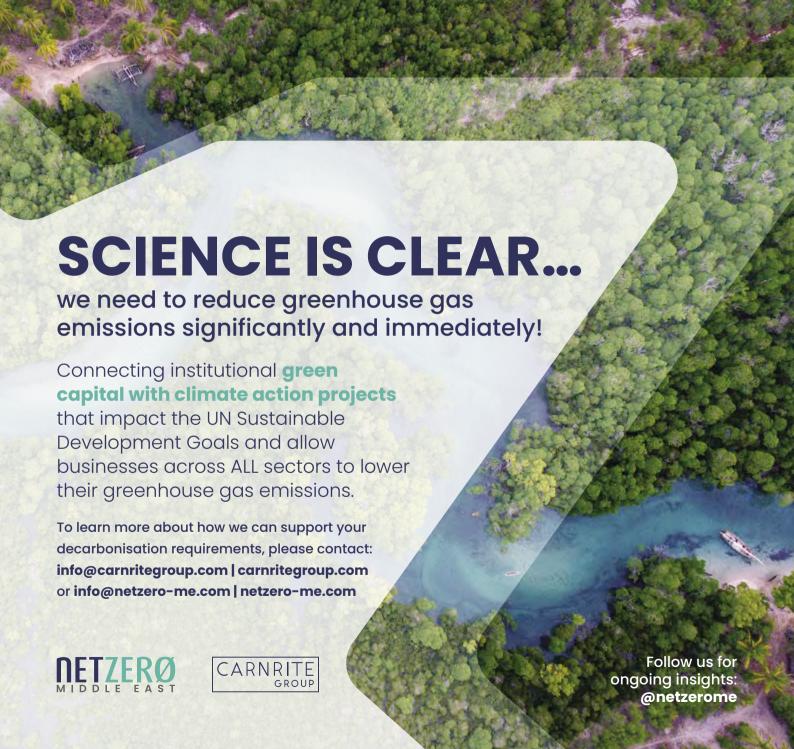
The ability of these energy players to react to the future market environment will depend highly on their current strategic positioning. One thing we know is that decarbonisation and netzero carbon footprint have become defining factors in oil & gas companies' immediate and long-term plans.

With evolving stakeholder expectations, the industry landscape presents different examples of companies' ambitions towards carbon management, which are typically centered around two key objectives: reducing the carbon footprint of existing operations on the one hand and introducing lower carbon products on the other. On top of that some oil & gas companies (e.g. Shell) consider also the carbon impact of their products (i.e. scope 3).

While energy typically represents anywhere between 20%-50% of an asset's operating cost, reducing these costs remains an untapped opportunity for many companies, due mostly to the time and cost required and the inability to accurately manage the process and measure results. Yet, there is a broad landscape of options available to industry to reduce emissions by managing more efficiently energy and GHGs: some leading IOCs and independents have been gradually building their capabilities and have launched successful initiatives that have led to valuable learnings and decreased costs.

On the other hand, profitability, market share, and the share of renewable energy in the power production capacity remain top of mind for companies when setting goals for their low carbon business, this drives them to opt for differentiating strategies concerning the where (geography), the what (type of business) the who (customer), the why (value chain) and the how (regulation) of the business.

As a result, the next decade will look very different for the entire oil & gas value chain, and how the sector as a whole, and companies individually, respond will determine whether 2021 and 2022 will turn out to be leapfrog years, or a standstill, for many.



Achieving net-zero: creating an engine for economic growth and sustainable development

NETZERO Middle East

Countries within the Middle East and North African (MENA) region such as the UAE are doubling down on Environmental, Social, Governance (ESG) frameworks for both their medium-term capital-raising strategies and in line with their envisioned economic development plans. NETZERO is helping government organisations as well as public and private businesses understand the benefits of investing in decarbonisation to positively impact the 'E' in ESG.

Our work within the UAE and the UK aligns very well with Memorandum of Understanding (MoU) signed between the UAE and the UK in September of 2021. The agreement aligns the two countries in recognising that mobilising climate finance and collaborating on pathways to lower greenhouse gas (GHG) emissions will result in an engine for economic growth, job creation and sustainable development.

NETZERO in conjunction with its partners (The Carnrite Group) offer a decarbonisation solution that begins with the adage 'you can't manage what you can't measure'. NETZERO promotes the use of blockchain transparent smart contract data with a carbon management platform to provide baseline carbon footprint measurements. In addition, we provide impartial and independent advisory support to link business planning and corporate strategy with decarbonisation roadmaps. These roadmaps allow executives and sustainability teams to understand, measure and forecast carbon exposure data against financial risks.

As regulatory pressures take hold and while many organisations grapple to implement emission reduction processes and technology, carbon offsetting will be required to help companies reach net-zero targets. Whilst offsetting in isolation will certainly not solve climate change, the Voluntary Carbon Market (VCM) can certainly be part of the solution.

At NETZERO we believe that the VCM will play an important role in allowing businesses to decarbonise and for small to medium sized climate action projects to gain access to green capital. NETZERO is focused on generating a portfolio of high-quality carbon offset products sourced from a diversified pool of nature based and engineered projects. The portfolio is actively monitored and managed to maintain a stream of internationally recognised carbon credits that enable strong returns on the carbon market.

The Carnrite Group

Investor, employee, and popular sentiment increasingly favour net-zero carbon outcomes, and governments are in many cases promising these outcomes without a complete understanding of the costs and risks which they involve. While the developed economies attempt to define and navigate the Energy Transition, global oil and gas demand growth is increasingly driven by industrialising Asian nations, while other developing regions experience prolonged energy poverty, putting them under pressure to shift long-standing geopolitical alignments.

In the face of these uncertainties, energy industry participants need to devise and adopt long-term strategies adapted to their internal assets and capabilities, and these strategies must also succeed in the face of their competitors' strengths and external stakeholders' demands.

Carnrite's Energy Transition practice is focused on strategy selection, on the operating model required to put the selected strategy into action, and on the pursuit of post-tax value-accretive projects aligned with that model. This suite of service offerings leverages Carnrite's in-depth strategy, transformation, and operational experience in the energy and industrials sectors.

Right time for life sciences

Life sciences is seen as a key area for strategic collaboration by both the UK and UAE governments, and they are keen to see greater alignment on funding for major innovation in the sector.

Their joint sovereign investment partnership for life sciences, comprising £800 million from the UAE's Mubadala Investment Company and £200 million from the UK Government, is helping life science start-ups in the UK realise their full potential at home and in the Middle East.¹

Life sciences, along with public health in general, has been thrust under the spotlight in recent times by the Covid-19 pandemic, which has claimed several million lives worldwide, and cost GDPs trillions.

With long-term investment in the sector secured, UK businesses can begin to examine the UAE's vibrant life sciences sector and explore ripe opportunities for commercial alliances.

Financial analysts note that import demand for pharmaceuticals and chemicals in the UAE remains strong, with stable business performance recorded in 2020/21 even as many other industries faltered in the face of the pandemic-led recession. 2

How the sector is managed

Although the UAE generally charges customs duty on imported goods at a rate of 5%, pharmaceuticals are among the categories of goods classed as exempt from such levies.

The Ministry of Health and Prevention (MOHAP) is in charge of oversight and inspections for all private pharmaceutical and medical facilities – as well as any advertisements they generate – to ensure they adhere to agreed standards.³

MOHAP's legislative framework is intended to enhance the competitiveness and performance of the sector.

Inspectors have a number of roles:

• Checking technicians hold valid licences

- Monitoring storage conditions for pharmaceutical medications
- Maintaining safety requirements and engineering standards
- Checking infection controls
- Protecting patient privacy

Their remit also includes upholding drug pricing laws, controlling the supply of antibiotics, and ensuring medical waste is disposed of in a manner which meets international standards

Capitalising on global reputation

The UK's global reputation for excellence in the life sciences ecosystem is driving consistent growth in the sector, both domestically and internationally.

For the UAE, the twin benefits of life science collaborations with the UK – the UK's proud heritage of cutting-edge treatments and the unique data hub embodied by the NHS – will help motivate deal-making now and in the future.

The UK develops more medical products than any other European country, with 5,800+ life sciences companies and combined exports of around £30 billion.

Almost a quarter of a million people are employed in the sector in the UK, with 11,000+ more working specifically in the ground-breaking fields of Al and digital health.

The life sciences industry is experiencing significant expansion while simultaneously opening its doors to more international alliances, with the UK seen as a key source for potential collaborations.

A life sciences legacy

The emirates are striving to become even bigger players in the global market, and one major hub for example is the Dubai Science Park, established in 2005 and located in Al Barsha South, close to Dubai International Airport.⁴

The Park, which hosts hundreds of multinational corporations and SMEs employing thousands of people, serves as a centre for research and

development, prototyping and innovation in all areas of science, including the human sciences.

As a destination for expertise, it goes from strength to strength and helps maintain Dubai's status as a focal point for life sciences.

Recent endorsements include the opening of Al Ittihad Drug Store's Pharmax facility, a £14.6 million plant designed to manufacture generic pharmaceuticals for the UAF market ⁵

The Pharmax site, capable of producing hundreds of millions of tablets and capsules annually, meets strict global standards and is embellished with the latest European technology.

Dubai's Industrial Strategy 2030 highlights the emirate's pharmaceutical industry as a priority sector for development, noting its economic impact, export potential and future prospects.⁶

With regulatory support assured, and with its population predicted to reach 3.5 million people by 2030, it is little wonder that some of the biggest names in global pharmaceuticals – AstraZeneca, Novartis and Pfizer – have already established regional offices in Dubai.

Abu Dhabi, meanwhile, has a proud and growing knowledge economy of its own, with the Government investing heavily in initiatives to boost state-of-the-art technological services.

When it comes to global partnerships, Abu Dhabi is fast emerging as a life sciences trendsetter.

In July 2021, it was announced that the Abu Dhabi Department of Health (DoH) had signed an agreement with Israel's Clait Health Services to share information and expertise in the healthcare and pharmaceuticals fields.⁷

The deal will cover a diverse range of disciplines, from digital health to Al, from professional training to clinical trials.

Describing the arrangement as one of the most comprehensive health information exchanges worldwide, Sheikh Abdullah Bin Mohamed Al Hamed, Chairman, Department of Health Abu Dhabi, hailed the emirate as an environment ripe for any investor or entrepreneur interested in the future of health.

Having secured a reputation as a global hub for start-ups and leaders in life sciences, he said Abu Dhabi "remains committed to implementing cutting-edge initiatives, partnerships and programmes that will undoubtedly accelerate the sector's potential and improve its outcomes."

The timing for international investors is ideal. As an ambitious, fast-moving economy, the UAE is looking to ramp-up its international research and design collaborations across the life sciences value chain, while encouraging more alliances at home and abroad.

https://www.forbes.com/sites/drkathmackay/2021/04/26/how-to-make-the-most-of-a-new-1bn-fund-life-sciences-scale-up-challenge/?sh=6740e470345f

²https://atradius.co.uk/reports/country-report-mena-uae-may-2021.html

³https://www.mohap.gov.ae/en/MediaCenter/News/Pages/2948.aspx

⁴httnc://den.ag/

⁵https://www.pharmax.ae/press-releases/major-pharmaceutical-manufacturing-facility-begins-production-at-dubai-science-park/

⁶https://invest.dubai.ae/-/investment-sectors/healthcare

⁷https://www.doh.gov.ae/en/news/DoH-Abu-Dhabi-signs-MoU-with-Clalit-Health-Services

Healthcare: Growing role for private investment

The Covid-19 pandemic has reaffirmed the importance of an energetic healthcare sector at the heart of a modern economy.

The crisis has accelerated a booming health sector trend which was already underway in the UAE, even before the emergency hit.

KPMG notes that healthcare expenditure in the Gulf grew from £44 billion to £55 billion between 2013 and 2019 and expects further growth by 2022 to £65 billion — an increase of almost 50% in the space of a decade.

Private investment is deemed pivotal to the UAE's current healthcare sector and its development going forward.

Until now the Government has acted as prime investor in the country's healthcare sector, funding more than two-thirds of its total healthcare bill in 2019, for example.

However, the period 2018-2022 is expected to show a change in momentum, with government spending on healthcare tipped to rise 4.4% annually, compared to a much faster 9.5% growth from the private sector.¹

The Ministry of Health (MoH) administers the health sector across the country and implements national strategy, but each emirate has some degree of autonomy.

In the southern region, the Health Authority of Abu Dhabi regulates the sector and the Abu Dhabi Health Services Company (SEHA) oversees delivery of services.

In the central region those duties fall to the Dubai Health Authority (DHA), excluding private hospitals and clinics in the medical free zones, whose regulatory bodies are approved by the MoH and DHA. The MoH, meanwhile,

delivers all health services in the five northern emirates: Ajman, Fujairah, Ras Al Khaimah, Sharjah and Umm Al Quwain.²

Healthy outlook for collaborations

The healthcare sector is thriving partly due to the growing population, presently around ten million, a more than threefold increase since the turn of the millennium. There is also the relatively high per capita income, around £31,400 as recently as 2019, up from £23,400 a decade earlier.³

Most infectious diseases like malaria, measles and poliomyelitis that were once common have been eradicated. Pre and post-natal care is on par with the world's most developed countries: the new-born mortality rate has been reduced to 5.54 per 1,000 and infant mortality to 7 per 1,000. Maternal mortality rates have dropped to 0.01 for every 100,000. Due to the success of this high standard of healthcare across society, life expectancy is 76.8 years, reaching levels similar to those in Europe and North America.

Against this background, the increasingly wealthy and educated citizens are ever-more conscious of their health, even as – like many prosperous countries – they face a rising tide of 'lifestyle diseases' such as heart conditions, cancers and diabetes associated with affluent economies.

Any organisation considering investment in the UAE healthcare sector will join some illustrious company. The UK is already well represented in the market via high profile brands such as Kings College, Moorfields, The Maudsley and Imperial College.

Opportunities for new entrants remain plentiful, with a likely programme of new-build medical centres and hospitals opening the door for a range of service providers.



Any organisation considering investment in the UAE healthcare sector will join some illustrious company.



Current shortfalls exist in departments such as paediatrics, trauma, oncology, rehabilitation, mental health and primary care.

From a wider perspective, associated opportunities will include:

- Building and infrastructure
- Digital health technology
- Elderly care
- Maternity and fertility services
- Training and education schemes for medics
- Facilities management
- Specialist equipment supply

As the country strives to develop healthcare to match international standards, UK investors can target PPPs to secure market entry. By providing insurance to exporters and guarantees to banks, UK Export Finance support can help the UAE's free zones attract world-class hospitals and medical services.

Market set for consolidation

The future of healthcare provision and investment is still taking shape, but market insights suggest a shifting landscape.

Liquidity challenges triggered by the pandemic are expected to spur a series of consolidations among smaller healthcare groups through mergers and acquisitions.

Other changes are in the pipeline.

- New healthcare models based around digitalisation
- Greater spending on research and development
- More innovation in technology
- Neighbourhood healthcare centres for rapid diagnosis
- Telehealth communication enabling remote access to healthcare.

It is not just the domestic population of the UAE fuelling the healthcare boom.

Medical tourism is also experiencing steady growth, for everything from cosmetic procedures to major surgery.

The Medical Tourism Index ranks Dubai and Abu Dhabi sixth and ninth respectively for global medical destinations 2020-21.4

Big names drawn to the Emirates

Opportunities are rife within the UAE across multiple healthcare fields: personnel, technical, logistics, infrastructure and digitisation.

Across the Emirates a number of prestigious partnerships have resulted in state-of-the-art medical care and research facilities.

Abu Dhabi hosts the Cleveland Clinic run by Mubadala Healthcare and the Al Tawam Hospital run by Johns Hopkins University – with more investment openings in the pipeline.

In Dubai, the Emirate's Industrial Strategy 2030 highlights pharmaceuticals as a priority sub-sector, zeroing in on its medium and long-term economic impact, export potential and growth trajectory. The world's leading pharma players, AstraZeneca, Novartis and Pfizer, have all established regional offices there, while initiatives like Dubai Healthcare City serve to attract more big names to the region.

Dubai Healthcare City is a free zone specifically focused on the healthcare sector. It was established in 2002, with one phase dedicated to healthcare and medical education, and a second focused on wellness. It is currently home to more than 150 clinical partners, including hospitals, outpatient medical centres and diagnostic laboratories, plus the Mohammed Bin Rashid University of Medicine and Health Sciences.

With more than nine out of ten Dubai residents owning mobile phones, the telehealth industry has also taken off during the pandemic, with 75% of consultations at some hospitals now happening 'virtually'.

Sharjah has opportunities across the healthcare value chain, from medical retail to wellness provision. As of 2019, there are 19 public and private hospitals, with an average health expenditure per capita of £930, and insurance and private healthcare for all.

In Ras Al Khaimah public-run hospitals remain prevalent and the emirate benefits from a dedicated medical zone, improved hospitals and training



institutions. Private entities are increasingly focusing efforts on specific maladies such as cancer care, heart disease and diabetes.

With strong government support, a culture of private-public collaboration and a proven commitment to innovation, the UAE's healthcare ecosystem is a fertile location for healthcare investors, and looks set to remain so for some time to come.

https://gulfbusiness.com/private-investment-in-uae-healthcare-to-rise-by-9-5-annually-kpmg-report.

²https://oxfordbusinessgroup.com/overview/building-healthy-future-increased-investment-will-be-vital-making-emirate-more-competitive

³https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=AE

⁴https://www.medicaltourism.com/mti/home

Sports in the UAE

Portas Consulting

National strategy

The UAE sports sector is evolving. Investment into major events has put the UAE on the sporting map, and sport is an increasingly integral part of community life. As the importance of sport and physical activity grows, the government has developed a national strategy for the sector. To facilitate the national strategy, the cabinet has approved the formation of the Sports Coordination Council to increase collaboration between the federal government and the sports councils, promoting strategic coordination and integration on a national scale. The UAE's vision 2071 for its centennial also incorporates targets that highlight the role of sport, whether on the societal level — a happy and cohesive society — or on the economic level — diversified economy.

Participation & performance

The national sports participation survey conducted in 2019 by the General Authority of Sport (GAS) indicates that 43% of residents are active on a weekly basis, with that figure declining to 30% when accounting for locals only. While the figures compare well against neighbouring nations, these participation rates fall behind international best-practice. On the high-performance side, despite its relatively small local population, the UAE has been present in the last ten Olympic games, although with limited medal success. Heritage and cultural sports such as camel racing and equestrian remain highly popular, with the UAE leading on resources, venues and events regionally. There has also been significant investment into sports such as jiu jitsu and cycling, with

recent successes including UAE Team Emirates success in the 2020 Tour de France. In addition, the large expat population has imported sports like cricket, rugby, golf and badminton into the UAE sporting participation and event landscape.

Federations

Sports federations will play an important role in improving participation and high-performance. The General Authority of Sports and the National Olympic Committee are kicking off a transformation programme for the 40+ sports federations and associations. This includes the recent publication of the "Sports Federations Governance Guidebook", a document that outlines mandates, roles, responsibilities and processes for effective sports federations governance and operation — a first in the region. All federations will be encouraged to lead the development and growth of their sport. The UAE Football Association has recently launched a comprehensive strategy with a vision for success by 2038. This holistic strategy sets a plan and targets for everything from participation, youth sports development, national teams, and commercial and fan engagement.

Events

On the sports events front, the UAE has a long-standing history of staging world-class international events, which is driving sports tourism, enhancing social cohesion and promoting sports as a lifestyle. The UAE currently boasts a



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Sports is one of the most impactful sectors with tremendous potential to enhance the wellbeing of a society, all the while driving significant economic growth. This has become particularly true in the new normal in the wake of the Covid-19 pandemic, where individual and public health have taken centre stage, making exercise and activity more necessary than ever and turning sports into a much-needed source of entertainment.

Sport is poised to be a leading contributor to the UAE's sustainable development and its presence on the world stage. As the Emirates works towards implementing its Vision 2071 under the guidance of our visionary leadership, we have developed a robust strategy to further enhance and expedite the sector's growth, attract new international sporting events, and produce competitive global athletes.



His Excellency Dr Ahmad Belhoul Al Falasi, Chairman of the General Authority of Sport

portfolio of high-profile events, including the Formula 1 season finale in Abu Dhabi, the Cricket Indian Premier League and the UFC, all bringing in world-famous athletes to the country. In 2019, the UAE hosted both the Asian Cup in football and the Special Olympics World Games — which was the largest ever, uniting 7,500 athletes from 190 countries — a testament to the nation's support for social inclusion. More recently, the UAE has become a safe hosting venue during the pandemic, successfully hosting a series of events including IPL, AFC Champions League matches, FIFA World Cup qualifier, Asian Boxing Championships and matches from the suspended Pakistan Super League, in addition to co-hosting the Cricket T20 World Cup in October 2021.

Sports tourism

Sport plays a role in the UAE's development plans and is being leveraged to drive domestic and international tourism. The northern emirate of Ras Al Khaimah launched a US\$136 million (AED 500 million) tourism investment plan that incorporates adventure sports at its core including paragliding, hiking, cycling, and trekking. The UAE has become an attractive training base for international athletes and teams, providing warm winters and world-class facilities. In 2021 Dubai welcomed various national teams and athletes who selected Dubai as their training base for the Tokyo

Olympics. The newly launched one year remote working visa has further increased the simplicity for athletes to base their training programmes out of the UAE. Hosting world-class athletes for training and leisure contributes to the sports & tourism economies, creates organic sporting interest, inspires local youth and helps position the UAE as a sporting destination.

Sector opportunity

The UAE sports sector is renewing its efforts to engage the private sector. This includes new opportunities for public private partnerships and joint collaborations. The recent launch of the National Sports Development Fund by GAS seeks to address this by identifying pillars for change and providing seed investments that will build on partnerships to generate compounded sport and financial returns. As sport continues to grow, the private sector can benefit from increased sports participation, improved high performance, growing sports tourism and an increasing portfolio of sporting events. Portas Consulting remains committed to developing the ecosystem through supporting GAS and other sports entities. UK companies can support sector growth through their advisory and operational expertise across the entire sporting ecosystem, and support the UAE as it looks to take the next step in its sporting development.



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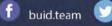
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The story of BUiD as a research-based institution - the first 20 years

The British University in Dubai



HH Sheikh Ahmed bin Saeed Al Maktoum



HE Mirza Al Sayegh

The British University in Dubai (BUID) was established by law number 5 in 2003, by His Highness the late Sheikh Maktoum bin Rashid bin Saeed Al Maktoum, Ruler of Dubai, as a not-forprofit entity. The University grew out of collaborations between British and Dubai academic, government and commercial organisations to make a unique contribution to the UAE and the Gulf region. The founders of the University are the Al Maktoum Foundation, Dubai Holding, Rolls-Royce, the British Business Group of Dubai and the Northern Emirates, Emirates NBD, and the British Council.

The University is governed by a Council formed every three years by His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, under the chancellorship of His Highness Sheikh Ahmed bin Saeed Al Maktoum. His Highness our Chancellor notes: "BUiD's contribution to the knowledge-based society in Dubai in the last two decades has been remarkable. It is among the best examples of collaboration between the UAE and the UK. I'm very pleased to witness the progress and success of BUiD with each cohort of graduates.

BUID continues to look forward, taking progressive strides into the future with confidence."

BUID is licenced by the UAE Ministry of Education and our qualifications are also recognised internationally by NARIC. The academic support that BUID enjoys from its alliance with Russell Group universities in the UK has contributed to its success. These universities include the University of Edinburgh, the University of Glasgow, and the University of Manchester – all in the world's top 100.

His Excellency Mirza Al Sayegh, member of the University Council and Director of the Al Maktoum Foundation, adds, "I was involved in the creation of the University in 2003 and I'm very proud of what it has become today. BUID is a unique institution modelled on the very best of UK higher education."

Having started as a postgraduate university offering Masters and doctoral programmes, we offer seven PhD programmes along with more than twenty programmes at Masters level in areas of Education, Management, Law, Computer Science, Engineering, and Sustainability. After carving a niche as

an exclusively postgraduate university, we started offering undergraduate programmes in 2018, including the first Artificial Intelligence programme in the UAF.

BUID was established as a university promoting research-based activities in different fields of knowledge through its innovative academic research. Students are assessed by original research elements. This is benchmarked to international standards through expert external examiners from leading international universities; the focus of these standards, our quality assurance, and our external examiners are based on world-class British higher education.

For almost 20 years, the University has concentrated on research and research-based programmes fostering growing communities of learning which help in developing a mind-set of critical and scientific thinking. BUID is considered today to be the leading university in Doctorate programmes in the UAE. The number of our doctoral students graduating each year grew from three in 2012 to over 40 in 2021 (180 in total).

We support our students to be independent learners, both at undergraduate as well as postgraduate levels, and we place significant importance on students as researchers in their own right — all Masters and doctoral students are encouraged and supported to publish in top-ranked journals. BUID was recognised by QS World Rankings Arab Region 2021 as the top university for papers per academic and third for citations per paper. In addition, three of BUID's academic staff are ranked in the top 2% of researchers in the world. Publications by faculty and students have tripled in the last six years. The attention that BUID devotes to research is extensive and supported by a centre that develops policies, which aid faculty and students at various levels in the University. We expect to improve BUID's research output and performance in rankings in the future, in fulfilment of the vision of our founders.

To enhance our students' learning experience as well as their campus life, the University is in the process of building a new campus, which will be its first independent, purpose-built home. Within our new university grounds will



come an open learning commons which will act as a hub and centre for all library, IT, student affairs, and community outreach. Research development and professional training centres will also have a dedicated space. The new campus will feature state-of-the-art AV-equipped teaching spaces and technology-enhanced facilities for all our programmes. Its design will be distinctive and sustainable, focusing on the student experience, encouraging interaction between students and staff, and providing an exciting environment in which to study, learn, research, and work.

Education: Examining the opportunities

A fast-growing, knowledge-based economy like the UAE's, requires first-class education to help the country affirm its global status. This means attracting ambitious funding and top tier talent to nurture an eager generation of learners.

Such far-sighted priorities converge to create an education and training environment which is ripe for both international collaboration and commercial enterprise.

The UAE has in recent decades undergone an education transformation.¹ It's literacy rate, for example, has grown from 53.5% in 1975 to 90% forty years later. The number of out-of-school children has plunged from 20,000+ in 2012 to around 1,000 today.

The number of graduates has also risen substantially in recent years, while an on-going focus on initiatives to strengthen the country's education ecosystem had resulted in considerable improvements before the pandemic, according to the World Economic Forum's Global Competitiveness Index.

The 2019 index measures 141 economies across 103 indicators, divided into 13 pillars. The UAE is the highest-ranked Arab economy and its score rose for all but one indicator in both Skills and Innovation Capability pillars. This progress saw it advance two positions to 25th overall, illuminating the potential economic ripple effects of enhanced innovation and education provision.

The expansion and development of the education sector is being driven by the National Strategy for Higher Education 2030.

Launched in 2017, the Strategy aims to "introduce a new model of education that empowers our students with the knowledge to face the future."

It focuses on four key pillars and explicitly supports private sector involvement in achieving its objectives:

Quality: Applying high-quality accreditation standards and providing incentives for institutions and teaching staff to enhance competitiveness and increase global rankings.

Efficiency: Achieving optimal productivity in higher education institutions, and increasing the student completion rate.

Innovation: Creating an educational environment which fosters scientific research and provides competitive funding in order to increase research outputs, which contribute to the advancement of a knowledge-based economy.

Harmonisation: Preparing a generation of qualified graduates to compete in the labour market in both the public and private sectors by building partnerships with the private sector in key areas such as curriculum design and training.

Potential for investment

Some 1.8 million of the country's present ~10 million population is engaged in education. The system is broken down into four phases: Pre-Primary (4-5), Primary (6-10), Secondary (11-17) and Tertiary (18-22). Education between the ages of 6 and 18 is classed as compulsory. Academic years run from September to July.

Education is a busy, well-funded and growing sector.² Supported by government investments and PPPs, Abu Dhabi alone has more than 450 schools, with 370,000+ students, almost 30,000 teachers and 12,500 administrators. In Dubai, enrolment in private schools has increased by

around 10,000, or approximately 4%, during the most recent academic year. Ten new schools are tipped to open in the academic year 2021/22. 61% of courses offered by training institutes in Dubai focus on professional and management training.³

The education sector is thriving and likely to grow further.

Recent changes in the law to allow ten year residency visas and 100% foreign ownership of companies in certain sectors outside free zones, have prompted an influx of private equity firms to expand their education portfolios. In the Middle East, education ranks near the top for private equity transactions among all sectors.⁴

An increase in the use of digital services, boosted by the knock-on effects of the Covid-19 pandemic, could also open up opportunities for overseas education providers and investors.

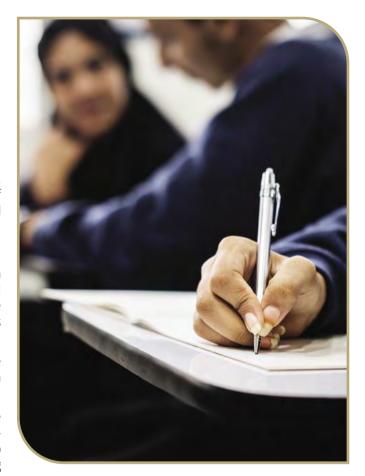
The Network Readiness Index 2020,⁵ from the Portulans Institute, shows the country is well equipped to capitalise on the growing demand for digitally-enabled education technologies. It is the only Arab economy in the top quartile, and is ranked as a global leader for ICT usage and skills among individuals, and for internet access in schools.

Who runs UAE education?

In Dubai educational institutions are regulated by the Knowledge and Human Development Authority (KHDA).

The Ministry of Education oversees public schools in Dubai and the five northern emirates of Ajman, Fujairah, Ras Al Khaimah, Sharjah and Umm Al Quwain.

Elsewhere, the Government in Abu Dhabi has established the Abu Dhabi Education Council (ADEC) to promote and improve education throughout the city.



Abu Dhabi itself is a hub for many domestic and international schools and universities including the New York Institute of Technology, Sorbonne University Abu Dhabi, INSEAD and many others.

Opportunities within the sector are encouraging, with the quest for further international collaborations ongoing.

The UK's Department for International Trade (DIT) is working alongside KHDA and ADEC to encourage more British curriculum schools. UK universities currently with a presence in the UAE include Bath Spa, Birmingham, Birmingham City, Heriot Watt, Middlesex, Bolton, The University of Manchester, City, University of London, British University in Dubai, Stirling



Educators can also turn to the UAE for personal career development. With a youthful population turning its eye towards global opportunities.



and West London. Further alignment between the sectors of both countries is likely. Already the UK and UAE authorities have begun working together to secure recognition of UK Further Education (FE) and Higher Education (HE) qualifications within the UAE.

The UAE has founded new licencing bodies for providers of Technical and Vocational Education and Training (TVET). Abu Dhabi and the northern emirates are covered by the Abu Dhabi Centre for Technical and Vocational Education and Training (ACTVET), while the corresponding organisation for Dubai is Qualifications and Awards in Dubai (QAD).

The smaller emirates also boast burgeoning education sectors. Sharjah, for instance, prides itself on world-class nursery and primary education for its fast-growing two million strong population.

As a major regional hub for higher education it hosts centres of excellence across multiple campuses, providing investment openings across the supply chain. It records a 95% literacy rate, 21 higher learning institutions, 232 schools and 16,000 university graduates per annum.⁶

Quality collaborations in the pipeline

UK educators will find the UAE fertile ground for further collaborations and a possible gateway for wider rollout across the Gulf Cooperation Council (GCC).

Opportunities could include:

- New satellite branches of schools and universities headquartered in the UK
- Setting up and running assessment quality centres
- Curriculum design
- Innovation around resources and strategic direction

Educators can also turn to the UAE for personal career development. With a youthful population turning its eye towards global opportunities, appetite for a British education is enthusiastic and ever-increasing. This means steady demand for multilingual teachers, particularly those who are — or who desire to be — Arabic-speaking, as well as opportunities for teacher training.

Expertise is key, whether imported or locally trained, will always carry an economic value.

¹http://uis.unesco.org/en/country/ae

²https://www.investinabudhabi.ae/en/Sectors?tabid=Education

³https://www.khda.gov.ae/en/news/article?newsId=106337

⁴https://www.pwc.com/m1/en/industries/education/education-country-profile-united-arab-emirates.html

⁵https://networkreadinessindex.org/

⁶https://www.investinsharjah.ae/en/invest-in-sharjah/







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A UAE-UK higher education success story

Randa Bessiso, Founding Director, The University of Manchester Middle East Centre



Randa Bessiso

Supporting the development of UAE higher education

The University of Manchester is one of the world's leading universities, according to QS (Quacquarelli Symonds) which ranks Manchester 27th best university in the world, and a member of the UK's Russell Group of elite research universities. The University also has a unique track record of innovation and 25 former faculty and students have been awarded a Nobel prize.

As a transnational education provider, the University has a mission with a focus on three main elements — teaching, research and social responsibility. The University aims to make a positive impact across all three elements wherever we work across the world, including in the UAE.

Since opening our Middle East Centre in Dubai in 2006, we have pioneered blended learning and provided access to high quality Master's level qualifications and learning opportunities for working professionals across the region. We continue to attract students from the UAE (around 50% of all our students are resident in the UAE) and the GCC to our programmes, and

from our other international centres for the regular face to face student workshops we host in Dubai. In addition, we have undertaken research work and an active CSR programme in the UAE to ensure we play a full role in the local community.

Our teaching impact is clear – we have supported over 2,800 students and graduated more than 1,800 since 2006, and continue to introduce new part-time Master's programmes, all led by Manchester faculty. The Middle East Centre has been the largest and fastest growing centre in the University's international network almost from the beginning, reflecting the strong level of interest in our part-time Master's programmes. The centre is also the most diverse (nationality, culture and gender) of the university's five global centres in key cities around the world (comprising Dubai, Hong Kong, Shanghai, Singapore, and Manchester) and attracts a growing number of highly qualified candidates to the dynamic portfolio of part-time Master's programmes. We have also developed a strong regional alumni network and regularly collaborate with government, industry and professional bodies, as well as supporting local charities and making freely available to the public many of our faculty-led masterclasses.

The UAE has established a world-class education system and this includes the higher education sector, where licencing, regulating and rating plays an important role in the development and growth of this vibrant and growing sector. The UAE is working hard to create a mature and diverse higher education with many top universities attracted to the country and offering a wide range of quality learning opportunities to nationals, residents and overseas students.

The university free zones strategy aims to accelerate Dubai's transition to a global knowledge centre, prioritising collaboration with top international research institutions and universities, and fostering entrepreneurship and innovation. This will increase the appeal of Dubai's institutions to domestic and international students – and offer a skilled graduate pool and steady flow of global talent to employers, helping to enhance the economy's long-term competitiveness. The strategy has encouraged global universities to establish a presence in the emirate, including institutions from the UK's Russell Group.

Many of the higher education programmes now offered in the UAE are more closely linked to the potential career opportunities in the country and region. We have also responded to this and in addition to our flagship Global Parttime MBA, we have launched the Kelley-Manchester Global MBA and two parttime specialist Master's programmes – MSc Real Estate, and MA Educational Leadership in Practice – to support the development of these two important sectors. In September 2021, the part-time MSc Financial Management joined the dynamic portfolio of programmes.

Marking 15 years of excellence in the Middle East

The University of Manchester has pioneered business education in the Middle East with the introduction of the Global Part-time MBA for working professionals, bringing a top MBA programme within easy, flexible and



convenient reach for working professionals looking to accelerate their careers, switch roles, or even become entrepreneurs, all supported by the team at the permanent regional centre.

Every one of these students has an inspiring personal story to share and many of these stories are about transformation and this is important — the part-time MBA (or other Master's) is a life and career-changing experience.

Learning is also a social experience and many students and alumni are lifelong friends of the centre and University. Many of our earliest students are still closely connected to the University in the region and some have gone on to become regional Ambassadors and even Teaching Assistants on the Global



The University has a mission with a focus on three main elements - teaching, research and social responsibility.

Part-time MBA, reflecting the quality of our students and the progress they have made since graduating. Today, many of our new students join us following a referral or recommendation from an alum. They also enjoy the opportunity to experience their MBA graduation here in the UAE.

Our faculty-led programmes bring our top academics to the region, as they lead the regular face to face student workshops we host in Dubai. Academics speak very highly of the quality and diversity of students we support at the Middle East Centre. In fact, many students from other centres within the University's network also choose to attend workshops in Dubai, because of the opportunity to network with our regional students and to explore the attractions and opportunities of this dynamic, world-class smart city.

Choosing Dubai as the location for the Middle East Centre was a straightforward decision thanks to its business-friendly approach, world-class infrastructure and communications, and the active support of the local authorities and UK community. Since then, we have grown our regional community tremendously to include students and alumni from across the region. The Middle East Centre

also works in a range of collaborations with professional bodies and industry groups in the region and has forged close partnerships with leading public and private sector organisations through the University's Strategic Talent Partnership programme.

This means we have a lot of people to thank for our continued success, reflected in the regional awards and recognitions we have earned, and this is the focus of our 15th anniversary celebrations. It's also an opportunity to give back to the community through a series of social responsibility initiatives.

We are delighted that our celebration of 15 years in Dubai coincides with the 50th anniversary of the foundation of the United Arab Emirates, and also when the country hosts the World Expo. We are very confident and optimistic about the future of Dubai, the UAE and the Middle East, and our aim is to continue to play our part in supporting the country and region in achieving its ambitious visions. The University is committed to creating access to world-class blended learning opportunities designed to meet the needs of working professionals.



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The courage to do things differently

Professor Steve Thomas, Associate Dean, MBA Programmes, Bayes Business School (formerly Cass), City, University of London



Professor Steve Thomas

The Business School at City, University of London recently began an exciting new chapter in its history. The School – which has had an established campus at the Dubai International Finance Centre since 2007– was recently renamed as Bayes Business School ahead of the 2021/22 academic year, following an extensive consultation and rebranding process.

The School was previously known as Cass Business School and was renamed because, in June 2020, there was increasing awareness in the UK of the historical links between the School's namesake Sir John Cass and the Atlantic slave trade. This made us, and our stakeholders, reflect on whether such a link was consistent with our values and principles and it was decided that the School should change its name and also increase its focus on diversity, equity, and inclusion.

Thomas Bayes was a theologian and mathematician who is best known for Bayes' Theorem, which suggests that we get closer to the truth by constantly updating our beliefs in proportion to the weight of new evidence. It is this idea that is the motivation behind adopting this name.

Inspired by Thomas Bayes' ideas, our approach as Bayes Business School is to have the courage to do things differently. As a community, we nurture diversity to stimulate new perspectives and learn from each other. On education, we focus on teaching our students how to think rather than what to think. In our research, we explore imaginative new angles, asking difficult questions to produce research that has real impact on business, society and the environment.

We are currently focusing on addressing inequality and participation more widely. For example, over two thousand new students will undertake inclusive teamworking workshops as part of their induction in London in 2021. A complete curriculum review is underway to embed ethical and socially responsible values throughout and to ensure that Bayes educates professionals and business leaders who work towards building an equitable and sustainable future.

We pride ourselves on a culture of inclusivity within our global community — something which has always been a part of our Dubai campus where we have run a weekend Executive MBA for 14 years. Our triple accredited (AMBA, EQUIS, AACSB) MBA ranks among the best in the world and its flexible structure allows students to balance work, life and study.

Each month, a diverse international cohort of ambitious middle to senior managers commute to our Dubai campus from a multitude of countries to attend this prestigious programme. Together with their peers, the students spend time in immersive four-day study blocks from Thursday to Sunday. This allows them to build a deep and practical understanding of business and management, giving them the opportunity to learn from our internationally renowned business, management and finance academics and practitioners, all of whom travel in to teach in Dubai from our home campus in London.

Students are prepared for their next career move – whether that is into senior management or leadership, or pursuing their own venture. Key workstreams such as the Business

Mastery Project — where students engage directly with an organisation to define a real world business question or challenge, and then to analyse, evaluate and recommend solutions — are aligned to personal career goals, giving students the autonomy to choose their own direction of study and focus their development on a relevant area.

Crucially, throughout the programme students are supported by our careers team who help them develop their leadership skills with coaching and workshops. Students are also allocated to a study group at the start of their programme. This is designed to provide a support mechanism to students throughout their MBA. Our cohorts contain an incredible amount of talent and experience and all members have a common goal — career advancement.

Experiential learning — learning by doing — is key to putting knowledge into practice and developing life-long connections. Therefore, we put this at the heart of the MBA in Dubai. Stimulated by a diverse class, the insights our students gain from a wide range of industries and cultural differences help to develop a global mindset, which is essential for today's workplace.

For example, in their second year Dubai students can join our International Consultancy Week, along with a variety of international electives in countries such as Chile, China, Cuba, Israel and Palestine, South Africa, the USA and Vietnam. This gives them the opportunity to build powerful networks and connections, while putting the theory learnt in the classroom into practice in an international environment.

Students also have direct access and first hand exposure to our City of London community by taking electives at our London campus, including our flagship elective, the London Symposium. This brings together over 150 students from all Bayes MBA cohorts, as well as MBA teams from partner schools in South Africa and Europe.

The Symposium celebrates the Business School's unique network inside the heart of one of the world's best global cities by mixing thought leadership in plenary sessions with a 'backstage pass' to some of London's most iconic brands and organisations which drive the city's prosperity. Previous host venues have included the British Museum, the Royal Academy, the Science Museum and Tate Modern, with some of London's most prominent and respected business figures speaking to our students.



Most importantly, after our students graduate, they remain part of the Bayes community, close to our network of international businesses and alumni. They are able to continue to seek advice from our careers team and can continue learning with us by choosing to take a complimentary elective module each year.

Over the past 50 years, our School has been on an amazing journey. As City University Business School (CUBS) we became renowned for our focus on the City of London and finance. Then, as Cass Business School, we developed into a leading global business school. We have produced generations of business leaders, provided new insights into the way business and markets work, and transformed business practices. We are consistently ranked among the leading business schools in the world, which is testament to the excellence of our faculty and the quality and enterprise of our students.

At Bayes we are always curious, always bold and always learning. We welcome those who share this vision to join us — might this be you? ■

Travel & tourism: Travelling in the right direction

With 1.5 million UK residents visiting the UAE annually, cultural links are a powerful bond between the two countries. As the UAE continues to establish itself on the global stage, travel and tourism will become an increasingly pivotal component of the nation's economy — and provide a wellspring of investment and partnership opportunities.

The UAE tourism sector is booming. Revenues hit £27.7 billion in 2019, up from £15.3 billion the year before, part of a fivefold increase over the past decade.¹

In popularity terms, the UAE has asserted itself over its geographic neighbours. Tens of millions of passenger arrivals each year make the UAE the leading tourist spot in the Middle East.

Even greater things are expected in the future, with the travel and tourism sector predicted to contribute more than £55.4 billion to the UAE economy annually by 2028.² By the same date, it is expected almost 400,000 UAE workers will operate within travel and tourism.

With success comes confidence. In 2016 investment in the sector reached £5 billion, or 7% of total investments that year; by 2027 this is forecast to climb to £14.8 billion, or 11.2% of all investments.³

Coordinated boost for tourism

The UAE launched the Emirates Tourism Council (ETC) in January 2021, to make the country even more enticing for foreign visitors. The ETC is charged with supporting the growth of tourism industries and providing assistance to SMEs involved with the sector. Members of the ETC span all seven emirates and include Abu Dhabi's Department of Culture and Tourism, Dubai's Department of Tourism and Commerce Marketing, the Sharjah Commerce and Tourism Development Authority, the Ajman Tourism Development Department,

the Department of Tourism and Archaeology Umm Al Quwain, the Ras Al Khaimah Tourism Development Authority and the Fujairah Tourism and Antiquities Authority.⁴

How do these regional strategies differ? Abu Dhabi's Department of Culture and Tourism encourages green tourism and promotes environmental conferences and exhibitions. Dubai's Tourism Strategy 2021 aims to broaden Dubai's range of events and attractions to draw a wider audience of overseas visitors. Sharjah Commerce and Tourism Development Authority is emphasising its strength as a family tourism haven, promoting heritage and culture to raise its international profile. In Ajman, the Strategic Plan for Tourism targets partnership models to optimise financial investments and enhance sustainable growth.

Although clustered under the umbrella of the UAE, each emirate has a distinct and compelling pitch to attract visitors from around the globe.

- Dubai's name is synonymous with luxury hotels, resorts and shopping experiences. Its most striking attraction is the landmark Burj Khalifa, which at over 800m is currently the tallest building in the world. Old Dubai attracts those seeking the historical immersion of its famed Al Fahidi quarter. Dubai Opera House helps pull high-end tourists to the culture-packed Downtown Dubai district.
- In Abu Dhabi the Sheikh Zayed Grand Mosque the largest mosque in the country and Louvre Abu Dhabi draw tourists in their thousands daily, while desert dunes at Liwa Oasis and the Eastern Mangroves lure those favouring the outdoors.
- Sharjah, designated Cultural Capital of the Arab World by UNESCO in 1998, attracts visitors with its Heritage Area of restored buildings and the Sharjah Museum of Islamic Civilization.

- Ras Al Khaimah has a diverse offering of golden beaches for relaxation and the Hajar Mountains for more action-packed activities like climbing and ziplining.
- The coast around Fujairah is considered a premier scuba diving spot, but Fujairah also offers expansive deserts and mountain vistas for road trippers.
- Ajman has immaculate beaches for sun worshippers and the acclaimed Al Zorah Nature Reserve, a protected area renowned for migratory birds. Ajman Museum, with ethnographical exhibits and dioramas depicting traditional lifestyles, is housed within an 18th century fortress.
- Umm Al Quwain offers a huge range of water sports on its beaches and boasts the Dreamland Aqua Park for family fun. Meanwhile, those preferring archaeology and history can explore the excavations of Tell Abraq and Ed Dur, the latter a 2,000 year old town containing ancient tombs.

UAE plugged into the world

Options for getting to and travelling around the UAE are expanding all the time. Etihad Airways based in Abu Dhabi, and Emirates based in Dubai, both rank among the top three fastest growing airlines worldwide.

There are five top-class international airports in the county: Dubai International Airport is one of the world's leading passenger and cargo hubs; Abu Dhabi International Airport is the second largest airport in the UAE; Sharjah International Airport caters to a 75% international tourist base; Fujairah International Airport has one of the largest fuel bunkering facilities in the world; and Ras Al Khaimah International Airport has two passenger terminals as well as cargo, maintenance and training facilities.

Additionally, the new Al Maktoum International Airport (AMIA) in Dubai, currently undergoing a phased launch, could convey millions more international tourists to the UAE by final completion in the late 2020s.

Once in the UAE, movement around and between the various emirates is being streamlined by the roll-out of an ever more sophisticated railway network. Stage One of the ambitious freight and passenger Etihad Rail project began operating in 2016. Stage Two is currently under construction. When



complete, Etihad Rail will comprise 1,200km of track connecting major urban, commercial and tourist locations.

If longer term plans come to fruition, Etihad Rail could eventually join up with networks in other GCC countries, for a pan-Middle Eastern reach.

There are even tentative plans for a high-speed hyperloop system in the UAE, with the potential to move freight and people at an unprecedented 1,200kmph via an underground tunnel – the equivalent to a journey between Abu Dhabi and Dubai taking less than ten minutes.

Sector shows no signs of slowing

Even during the Covid-19 crisis, progress has continued on new projects set to further enhance the UAE's global tourism profile.⁵

Already home to the world's tallest skyscraper, Dubai is preparing to host the world's tallest hotel too. The 360m Ciel Tower in Dubai Marina will contain



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1,209 suites over 82 levels and a glass observation deck with panoramic views. Nearby, on Palm Jumeirah island the new Royal Atlantis resort has opened, with almost 800 suites and an infinity pool suspended 90m above sea level. Dubai's eye-catching Museum of the Future aims to showcase an array of exhibitions, immersive theatre experiences and themed attractions. For shoppers, Meydan One will prove it can reinvent the notion of a typical shopping mall, with a 1km long indoor ski slope, winter village, sports facilities and 400m Central Canyon.

Along the highway in Abu Dhabi the development schedule is just as exciting. Al Qana, a new 2.6km waterfront entertainment hub, features a sports academy, an aquarium, and a determination to become the capital's new culinary epicentre. SeaWorld Abu Dhabi, in the Yas Island leisure and entertainment district, is set to open in 2022. The 183,000m² site invites visitors to observe aquatic creatures within a sprawling sanctuary of manmade habitats and ecosystems. Fairmont Marina, a new hotel evocative of neighbouring Dubai's The Palm, will offer 563 rooms across 39 floors as well as a private beach, swimming pools and sports facilities.

In the northern emirates, Sharjah is braced for a major tourism boost thanks to the revamping of its Corniche. A historic house is being restored to its former glory, and a new sail-shaped seaside museum known as the Kalba Heritage Museum project is set to open. Ras Al Khaimah is aiming to construct 20-25,000 new hotel rooms to serve the three million annual visitors it is planning to attract by 2025. And in Fujairah, a new stadium is under construction with capacity for 10,000 sports fans. The Dibba Sports Club is budgeted at £19.6 million and will be able to accommodate UAE Pro League and Asian Football Confederation matches

Know-how in demand

All of these developments, with associated infrastructure improvements, will help elevate the UAE's reputation worldwide and ensure those ambitious tourism numbers fulfil their rich promise.

As these projects unfold, and as they are joined by other schemes designed to capitalise on their allure, opportunities for commercial collaboration with UK businesses will continue to emerge.

Services and products likely to be in demand include general construction and specialist sub-contracting, consulting work, supply of building materials, automation systems, sustainability solutions, air conditioning technology, security equipment and more.

²https://www.statista.com/topics/4643/tourism-industry-of-the-uae/#:--:text=The%20Inbound%20tourism%20expenditure%20in,international%20tourist%20arrivals%20in%202017

³https://u.ae/en/information-and-services/visiting-and-exploring-the-uae/travel-and-tourism

⁴https://u.ae/en/information-and-services/visiting-and-exploring-the-uae/travel-and-tourism

⁵https://www.thenationalnews.com/uae/uae-megaprojects-2021-new-developments-taking-shape-in-dubai-abu-dhabi-and-the-northern-emirates-1.1207798

Space: Lift off commences

Many leading companies in the UAE - and their partners abroad - are helping the country to meet its goal of becoming a global leader in the aerospace industry.

Its ambition is to "explore celestial bodies, develop satellite communications technology and deploy the latest space technologies in terrestrial applications." 1

To help deliver this, the National Space Policy sets out the vision for developing a strong and sustainable space sector which protects national interests, supports vital industries, contributes to economic diversification, boosts skills and innovation and strengthens the country's role regionally and globally.

The pathway to achieving this is further defined in the National Space Strategy 2030, launched in 2019. This sets out the general framework for the industry and key activities for the period up to 2030, including government, commercial and scientific activities carried out by the public and private sectors, academic institutions and R&D centres.

The UAE Space Agency (UAESA) is responsible for following up on the implementation of the strategy, in cooperation with partners and more than 20 agencies and space centres abroad.

In 2014, UAESA was admitted into the International Space Exploration Coordination Group – the first Arab country to join. International partnerships are a key component of UAESA's vision. Development deals have so far been signed with the UK, Japan, China and the USA.²

Aiming high

With such a comprehensive supporting framework, it is no surprise that the space technology sector contributes around £3.8 billion to the country's economy, which when added to the £34.1 billion aviation sector, accounts for more than 13% of GDP.³

The sector was boosted in exciting fashion in early 2021, when the UAE became only the fifth country worldwide to successfully send a probe to Mars. The UAESA's Hope orbiter, developed and led by the Mohammed Bin Rashid Space Centre (MBRSC) in Dubai, has been designed to study planetary weather cycles, atmospheric conditions and the origins of Mars' climate change.

Announced in September 2020, Emirates Lunar Mission is a plan to develop a lunar rover and send it to the moon by 2024. The aim is to study aspects such as the thermal properties of the lunar surface and the formation and

components of the soil. It involves carrying out a series of measurements and tests that will expand human understanding of moon-plasma, photoelectrons and dust particles located over the illuminated part of the lunar surface.

Once completed and launched, the UAE will become the first Arab country and only the fourth country in the world to successfully land on the moon, after the United States, Russia, (formerly the USSR) and China.

The Emirates Lunar Mission is one of the key components of the MBRSC Strategy 2021-2031. This aims to boost the centre's international competitiveness, build new international knowledge partnerships and develop the country's capabilities in space exploration and space technologies.

The strategy includes the objectives of the UAE National Space Programme in addition to five key components, including the Emirates Mars Mission (Hope probe), the Mars 2117 project, the UAE Astronaut Programme, the UAE Satellite Programme and the UAE Space Sector Sustainability Programme.

Partnerships driving progress

UAESA and NASA signed a framework agreement in 2016 to further the cause of aeronautics research and exploration. The deal encompasses space science, Earth observation, technology and safety – in addition to manned spaceflight.

Further collaborations are expected to promote the joint use of aircraft, scientific instruments, and ground-based antenna, reflecting commitments outlined in the Artemis Accords (the global effort to return man to the Moon by 2024).

The Government has consistently demonstrated it is committed to investing in this exciting sector over the past decade and into the future. In 2015, Abu



Dhabi's Khalifa University opened its new £19.4 million Spacecraft Platform for Astronautic and Celestial Emulation (SPACE) laboratory, complete with unmanned vehicles and robots to help replicate conditions in space.

Yahsat, a Mubadala subsidiary, has launched a fleet of communication satellites into orbit. So too has MBRSC via its DubaiSat and KhalifaSat projects, the latter an advanced imaging satellite designed to increase sustainable development. ■

THAE government nortal science and snace technology

²https://www.trade.gov/knowledge-product/united-arab-emirates-aerospace

³https://invest.dubai.ae/-/investment-sectors/transportation





Etihad Business - Elevated style

Fully flat beds on Boeing 777 and 787 Dreamliner aircraft, generous recline on A320/321 aircraft with comforters and pillows on all flights.

Drinks service throughout the journey, including a selection of Champagne and premium wines. Dine anytime and choose from a range of Emirati and destination inspired cuisine from an a la carte menu.

Hundreds of hour's of on-demand movies, boxsets, music and interactive games. Live TV channels with news and sport on selected aircraft. Mobile connectivity & Wi-Fi services on selected aircraft. Laptop power supply and USB charging ports at every seat.



Etihad First - Your private universe

Full turndown service with an all-natural mattress, duvet, bed linen and pillows in 100% Egyptian cotton. Luxury amenity kit and toiletries by ACQUA DI PARMA. Stylish and comfortable loungewear designed by Emirati fashion designers. Personal wardrobe for each suite. Turn two adjoining suites into a double bed when travelling together. Travel in complete privacy by keeping the sliding doors closed. Extra-large changing room/lavatory to slip into for more comfort.

Choose to dine at leisure from an a la carte menu or fully curate each dish to individual preferences, accompanied by a boutique wine list. Enjoy a selection of beverages from the personal in-suite chilled beverage compartment.

Hundreds of hours of on-demand entertainment with mobile and Wi-Fi connectivity. Noise-cancelling headphones. Complimentary Wi-Fi.

Leading the way for sustainability in air travel

Etihad Airways

Sustainability is going to play an even bigger role in a post-Covid-19 world. While commercial aviation still only represents around 2% of global human-made CO₂ emissions, the airlines and infrastructure that support them are those that will lead the future of flying.

Even through 2020, despite the challenges of Covid-19, Etihad Airways continued to pave the way for more environmentally friendly travel by implementing key sustainability initiatives under its Greenliner Programme. The airline remains at the forefront to pioneer new and effective ways of mitigating aviation's environmental impact to reduce carbon emissions and create cleaner and more sustainable transportation for future generations.

We have highlighted some initiatives by the airline on this front:

Zero net carbon emissions by 2050

In January 2020, Etihad announced an ambitious target of zero net carbon emissions by 2050, with an additional goal of halving 2019 net emission levels by 2035. This will be achieved through a combination of internal initiatives and collaboration with industry partners to harness technology and innovation for operational efficiencies.

Supporting the ecoDemonstrator programme

Under its Greenliner programme, Etihad partnered with industry leaders

Boeing, NASA and Safran on the 2020 ecoDemonstrator programme. This saw an Etihad Boeing 787 aircraft test initiatives to enhance safety and reduce CO_2 emissions and noise, including two innovative wellness technologies to combat Covid-19 — a handheld ultraviolet light disinfecting system and an antimicrobial coating to prevent growth of bacteria on tray tables, armrests and other surfaces.

Developing sustainable biofuel

Exploring the use of sustainable aviation fuel has been at the core of Etihad's business for the last decade with the airline a key partner of Abu Dhabi's Sustainable Bioenergy Research Consortium, along with Boeing, and the Abu Dhabi National Oil Company. In fact, Etihad's first flight using plant-based fuel was back in 2012, while in 2020 Etihad used 50,000 gallons of a 50/50 blend of sustainable aviation fuel on the final flight of the ecoDemonstrator 787-10 flight tests between Washington DC and Abu Dhabi.

Etihad's carbon offset programme

In December 2020, Etihad announced the launch of the Middle East's first aircraft carbon offset programme by committing to purchase carbon offsets to completely neutralise CO₂ emissions of its flagship Greenliner aircraft for a full year of operations in 2021. The carbon credits are linked to Tanzanian forestry project, Makame Savannah. ■

Aviation: Advances and opportunities

The UAE's ambitions in the aviation sector, together with its enviable location at the nexus of worldwide travel and trade, make it a prime destination for UK businesses seeking profitable partnerships in the Middle East.

The sector is expanding at pace. It supports around 800,000 jobs and contributes £34.1 billion to the economy. Combined with aerospace, this accounts for around 13.3% of the country's GDP.¹ It is a particular catalyst for economic development in Dubai, where it currently accounts for more than a quarter of GDP.

Etihad Airways based in Abu Dhabi, and Emirates based in Dubai, are both among the top three fastest-growing airlines worldwide. The country also boasts two low-cost carriers, in flydubai and Sharjah based Air Arabia, along with five top class international airports:

- **Dubai International Airport** one of the world's leading passenger and cargo hubs, recorded 86.4 million customers in 2019 on behalf of 100 airlines and 260 destinations globally.
- Abu Dhabi International Airport the second largest airport in the UAE and is also the hub for Etihad Airways, carrying more than 4.5 million passengers to 100+ cities worldwide in 2019.
- **Fujairah International Airport** has one of the largest fuel bunkering facilities in the world due to its location by the Straits of Hormuz, and is currently undergoing a £130 million expansion and refurbishment.
- **Ras Al Khaimah International Airport** located around 20km from the city, has two passenger terminals as well as cargo, maintenance and training facilities.

• **Sharjah International Airport** – caters to a 75% international tourist base, accommodated 13.6 million passengers in 2019 and is currently expanding to target 20 million passengers annually by 2027.

Government support

There are a host of government programmes and investments in the aviation industry which reflect its high priority as a key part of the country's economic development strategy.

Such initiatives include the Emirates Offset Program, strategic tenant ownership, land lease subsidisation, Dubai Industrial Aerospace Cluster, 3D Printing Proliferation Strategy and global maintenance, repair and overhaul (MRO) championing. These have all contributed to an environment which has helped drive robust demand for collaboration opportunities and business partnerships that have helped the UAE's aviation sector to outpace other regional markets.

Legacy of collaboration

The Government continues to invest in new airport facilities and technologies to enhance the passenger experience and expand their capabilities as the highest profile gateways into the country.

Around £6.25 billion has been invested in Al Maktoum International Airport, £5.5 billion for phase 4 of the expansion of Dubai International Airport, £4.9 billion for Abu Dhabi Airports development and around £288 million in Sharjah's International Airport terminal expansion.

Of these, there are particular opportunities for collaboration on the two largest developments currently in progress: Abu Dhabi International Airport and Al

Maktoum International Airport (AMIA) in Dubai. AMIA which along with the Mohammed bin Rashid Aerospace Hub (MBRAH) will strengthen Dubai's reputation as an aviation hub for the entire region.

AMIA's expansion includes larger terminal facilities, new runways and contact berths for additional aircraft, with associated rail links. Biometrics and smart passenger tracking are being introduced, which will enable hundreds of millions of passengers to use the airport annually. Full completion is expected by the mid-to-late 2020s.²

At Abu Dhabi International Airport, a new terminal is being constructed to double passenger capacity, along with new runway, tower and freight facilities. Abu Dhabi International Airport is the only Middle East airport to secure United States border pre-clearance, meaning all passengers on direct flights to the US are processed for entry pre-boarding.³

Manufacturing strengths

The UAE's strategy to establish itself as a next-generation hub for aviation and aerospace manufacturing is also showing results.

In Abu Dhabi, the two largest players in the aviation sector are the EDGE conglomerate and Mubadala Investment Company. Over the past few years, these groups have formed partnerships with many international aviation companies, including Rolls-Royce, Airbus, BAE Systems, Boeing, Lockheed Martin, Northrop Grumman and Piaggio Aerospace.

In Dubai, the Emirates Engine Maintenance Center (EEMC) is the main service provider for aircraft maintenance, tests, repairs, modification and overhaul of a range of components, and engine service. The company has been working closely with Rolls-Royce, Engine Alliance and GE Aviation to develop a better understanding of the technology involved in the maintenance of aircraft engines.



Both Rolls-Royce and Airbus also enjoy established partnerships with Etihad and Emirates Airways, as well as with aviation and aerospace specialists Strata, wholly owned by Mubadala, and AMMROC, now part of the EDGE conglomerate.

Strata manufactures composite aero structures for clients around the world and is helping to transform Abu Dhabi into a leading aviation and aerospace hub.

AMMROC, also based in Abu Dhabi, is a third-party provider of MRO services for military aircraft, and has agreements in place with Lockheed Martin, Black Hawk and more.

As a thriving region for airport expansion and associated services, the UAE demonstrates time and again its range of opportunities for foreign companies operating at the sharp end of technology.

¹US Dent of Commerce International Trade Administration

²https://www.airport-technology.com/projects/al-maktoum-international-airport-expansion-dubai/

³https://www.investinabudhabi.ae/en/Sectors

UK

Join a global success story

The UK is a mature, stable economy with world-class educational standards, a diverse workforce and a reputation for innovation. It is the fifth largest global economy — tipped to grow a further 7.5% in 2021 — as well as the largest venture capital market in Europe and the continent's top destination for FDI.

These defining qualities translate to a rapid bounce-back after the onslaught of Covid-19 and the destabilising influence of Brexit. Manufacturing orders are at their highest ever level, service activity is growing faster than at any point in the last two decades, and retail sales are surging.¹

The UK enjoys a prestigious global standing in innovative industries. In renewable energy the UK ranks as the fifth most attractive country for investment opportunities, while in FinTech the UK has captured more than 10% of worldwide market share.²

Little wonder the rest of the world is eager to trade with the UK. With a shared history and proud diplomatic and economic track record, the UAE is in prime position to continue capitalising on this special relationship.

For UAE based businesses and investors seeking the latest opportunities, the UK is a destination of choice now more so than ever.

An international leader across multiple sectors

New businesses in the UK can be established in a matter of days, all backed by a supportive regulatory and legal framework which maximises opportunities across many sectors.

Here are just some of the industries for which the UK can justifiably claim to be global standard-bearers. $^{\rm 3}$

- **Healthcare:** Life science clusters connect investors with innovators, suppliers and customers. Medical product development generates an £80 billion turnover.
- **Technology:** No less than five UK cities rank among Europe's top 20 for tech investment. Some £9.5 billion was raised for tech start-ups in the UK in 2019 alone.
- **Green energy:** The UK is a world leader in decarbonisation, distributed generation and smart energy, recently bolstered by £256 million of government funding to further develop the energy storage market.
- **Manufacturing:** The UK is home to more than 100,000 advanced manufacturing companies, while the Government is targeting public and private investment in R&D to reach 2.4% of GDP by 2027.
- **Education:** 18 of the world's top 100 universities are based in the UK. By 2030, the Government aims to increase the number of international higher education students studying in the UK to 600,000.

Help and support where it is needed

The Department for International Trade (DIT) is tasked with helping international investors and businesses expand their interests to the UK.⁴

Its specialist team provides market insights on the UK and neighbouring countries, as well as bespoke research on specific UK industries. Against a backdrop of fast-moving markets DIT highlights opportunities for interested parties as soon as they emerge, and makes key connections between R&D personnel, industry leaders and chambers of commerce.

It also produces a series of guides on critical matters such as tax, visas and migration, and maintains an Investment Support Directory to provide detailed help on expansion mandatories including law, accountancy and marketing. Meanwhile, DIT's Global Entrepreneur Programme offers mentoring, relocation and investor assistance for tech founders worldwide.

Growing opportunities show the UK is open for business

Technology is the beating heart of many of the UK's flagship industries and significant opportunities exist for ambitious international collaborators. Among the most promising openings currently are:

- **5G and digitalisation:** Adastral Park in East Anglia hosts more than 100 telecoms and tech firms, spearheading the UK's £173 billion 5G and fibre broadband rollout.⁵
- **Rail infrastructure:** Over the next 15 years some £35 billion will be invested in rail network expansion, with opportunities across supply chains and construction.
- **Autonomous automobiles:** Up to £63 billion has been earmarked for investing in the development of high-tech sensors for self-driving vehicles.
- Aerospace: Enormous opportunities exist at Leicester Space Park – Europe's largest – in space and satellite technologies for this bouyant industry.
- Smart materials: More than £32 billion is set to be invested in the next generation of smart materials for the rail, automotive and aerospace industries, including light alloys, graphene, 2D materials and technical textiles

Regional development agencies exist for each corner of the UK to highlight investment opportunities beyond the traditional economic epicentre of



London: The Midlands Engine, the Northern Powerhouse, Scotland, South England, Wales and Northern Ireland.

UAE investors can take inspiration from the landmark agreement in September 2021, which saw the UAE pledge to invest £10 billion in clean energy, technology and infrastructure in the UK.⁶ The agreement came on the back of a five-year Sovereign Investment Partnership (SIP) between the two countries signed in March 2021, with an initial pledge that Mubadala would invest £800 million in the UK's life sciences sector. It is hoped these deals will open the door to many more big-budget, high-growth collaborations between two truly global players.

¹https://www2.deloitte.com/us/en/insights/economy/emea/uk-economic-outlook.html

²https://www.ey.com/en_uk/recai

³https://www.great.gov.uk/international/content/about-uk/industries/

⁴https://www.great.gov.uk/international/content/capital-invest/

^{\$}https://www.great.gov.uk/international/invest/#high-potential-opportunities?_gl=1*vf41y6*_ga*Nzl2MjM0NjEwLjE2MjQ1Mzl2MjA.*_ga_6H60RML3PL*MTYzMjc0Nzk5Ny4xNS4xLjE2Mzl3NDg2NDEuMA

⁶The Financial Times, "UAE pledges to expand investment in Britain", 16 September 2021

Innovation and technology: Giant steps into Industry 4.0

The UK is the world's third largest digital economy. It is home to thousands of established technology business and entrepreneurial start-ups, leading the digital transformation across some of the largest industry sectors, including agriculture, financial services and healthcare.¹

The 2020 Global Innovation Index named the UK the fourth most innovative place in the world out of the 131 economies featured. The country's tech start-up and scale-up ecosystem is valued at £430 billion and it ranks third in the world in tech venture capital investment at £11 billion, behind only the US and China

In the last decade, the UK's artificial intelligence (AI) sector has increased by 145%. London has been named the AI European capital with almost double the number of AI companies as cities such as Berlin or Paris. It added seven new tech unicorns in 2020, taking the total to 80 – more than Germany and France combined.³

Role of industry 4.0

Recent years have seen the birth of what has become known as the fourth industrial revolution, or Industry 4.0 - using tech to completely transform traditional industrial processes.

An example is AgriTech where the UK ranks fourth in the world in attracting investment. Around 70% of UK land is dedicated to agriculture and tech is helping to transform farming, from helping to eradicate the viral disease Rinderpest in cattle to the first 'hands-free' cultivation of wheat and barley using autonomous vehicles and drones.⁴

Through a collaboration between the Government, industry stakeholders and scientific centres of excellence, the UK is using AgriTech to improve the welfare of farm animals and efficiency of livestock production. UK farmers are integrating new technologies such as robotics, sensors and data to make more informed decisions on cropped areas, animal husbandry and land management. One of AgriTech's fastest growing areas, precision technology, is already widely used to improve the efficiency of farm operations, including targeted fertiliser and agrochemical applications.

Industry 4.0 is also revolutionising the financial services industry in what has become known as FinTech. The UK ranks within the world's top ten countries for consumer FinTech adoption. It has 44% of Europe's FinTech unicorns, and 71% of consumers use FinTech products. Around 76,500 people work in FinTech in the UK and its 1,600 FinTech firms are expected to double by



One of AgriTech's fastest growing areas, precision technology, is already widely used to improve the efficiency of farm operations.

2030. Regional hubs across the UK are London, Edinburgh, Belfast, Leeds and Manchester.5

Collaboration between start-ups, scale-ups, industry leaders and Government is helping to create a complex and vibrant FinTech ecosystem and regulatory environment. An example is the Financial Conduct Authority driven Regulatory Sandbox – a network of regulators and incumbent organisations that are developing a suite of tools to 'test' innovative products and services. Another is the Al Sector Deal – the Government strategy for funding the Al industry. The UK's home-grown future tech talent pipeline includes initiatives to advance FinTech and STEM education in all levels of schooling.

The heath technology (HealthTech) sector is also thriving. Of the 3,000 UK HealthTech start-ups and scale-ups, 400 have recorded 20% year-on-year growth over 2020 and 2021.6 In 2020, venture capital investment into the sector reached a record high of £1.7 billion – on a global scale only behind the US and China. On a UK level, this was second only to FinTech at just under 12% of all investment into UK tech firms.7

During the Covid-19 pandemic, UK healthcare innovations came into their own, with apps that allow patients to video call doctors on demand, ask medical questions 24/7, order prescriptions from the nearest pharmacy to their door and monitor their vital signs through wearable devices. Other innovations have been designed to support the NHS in sourcing temporary medical staff.

Immersive tech and cyber security

There are more than 1,000 UK companies within the immersive industry (virtual and augmented reality – VR and AR) with highly skilled specialists working across different sectors and disciplines. It is forecast that there will be 400,000 immersive tech jobs and £66 billion added to the economy by 2030.

Both VR and AR are proving instrumental in medical innovations. One example is the Ventilator Challenge UK consortium, which deployed AR to capture the crucial assembly steps needed to rapidly manufacture ventilator systems during the pandemic. Another industry example is aerospace, where VR is being used across the board from training through to design, manufacturing and in-flight entertainment.

Cyber security has been an increasing concern over recent years, and here also the UK is making its mark. With a workforce of over 46,000 and more than 1,400 existing companies, it is Europe's largest and most concentrated cyber security market.

In 2021, the sector received £2 billion in investment as part of the Government's National Cyber Security Strategy. There are now 19 universities certified as Academic Centres of Excellence in Cyber Security Research by the National Cyber Security Centre (NCSC), which also provides expert support to businesses.

Increasing role of Industry 4.0

Innovation and technology will continue to play a crucial role in the digital transformation across all industries. Advances in AgriTech for example, are already seeing a growing industry trend in vertical farming using technologies such as hydroponics, which require no soil and can reduce water consumption by 95%.

In healthcare, researchers are developing ways to customise medical prosthetics for both adults and children at a fraction of the cost through 3D printing.

The role of Industry 4.0 will be just as prevalent in the UK's ambitions to be net zero in carbon emissions by 2050. In the meantime, technological innovation will be integral in shaping the most competitive businesses, both in embracing emerging opportunities and operating sustainably in the years ahead. ■



https://www.great.gov.uk/technolog

²https://www.wipo.int/edocs/pubdocs/en/wipo_pub_gii_2020/gb.pdf

³https://www.great.gov.uk/technology

⁴https://www.great.gov.uk/technology

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⁷https://technation.io/uk-healthtech-hub/#uk-healthtech

Education and skills: Building capabilities for new generations

The UK has some of the world's most renowned higher education institutions. In 2021, 18 of the UK's universities were placed in the world's top 100 QS World University Rankings, four of which were in the top ten – the universities of Oxford and Cambridge, Imperial College London and University College London. The Government's ambition is to have 600,000 international students studying in the UK by 2030.¹

Education technology (EdTech) is also expanding the possibility for students both at home and overseas to study for UK university or college courses through remote online portals. The country is a leading provider of Transnational Education (TNE) programmes, where UK university courses can be accessed by overseas students — either online or through a network of 40 overseas UK campuses. Around 80% of universities currently offer TNE programmes. With over 1,000 UK EdTech companies, the UK is home to more than half of the European top 20 list, with exports worth an estimated £175 million to the economy.²

Solid education structure

The UK's wide network of schools includes both state-funded and fee-charging private (some of which are confusingly known as 'public schools'). For overseas

students, there is also a considerable choice of boarding schools, which are always fee-charging.

The National Curriculum is highly rated for gaining entry into both UK and overseas universities. Primary (lower years) and secondary (upper years) schools across all learning age groups are assessed and regulated, although there are some differences between England and the devolved governments of Scotland, Wales and Northern Ireland. For example, school education standards in England are regulated by the Office for Standards in Education (Ofsted), and in Scotland by Education Scotland. There are also curriculum differences — in Wales for example, the study of the Welsh language is compulsory in all state schools up to age 16.

Growing momentum towards EdTech

EdTech is increasingly helping children to learn at a pace that suits them and accounts for their individual needs. Schools have spent more than £1 billion on digital learning over the past five years and 70% of primary and secondary students use a tablet in lessons.³

The UK is becoming a global EdTech hotspot through mixed reality, immersive content and Massive Online Open Courses (MOOCs). The UK higher education



EdTech is increasingly helping children to learn at a pace that suits them and accounts for their individual needs.



EdTech initiative, FutureLearn, partners with world-leading institutions to offer innovative, tailored online education from free short courses to a full Bachelor's or Master's degree. It currently has 15 million students from 150 countries.

Number one in EdTech venture capital and angel funding in Europe (investment models where high-net-worth individuals provide financial backing for small businesses in exchange for equity in the company), the UK is home to more than 1,000 innovative EdTech companies and 12 of Europe's top 20. UK companies attracted 41% of all investment in EdTech in Europe in 2019 and Nesta, an innovation foundation, is investing £5 million into an Adult Learning Technology Fund.⁴ With £5 billion of scale-up investment in tech companies, the UK ranks fourth in the world.5

The Covid-19 pandemic has only served to accelerate EdTech in the UK. As in many countries, school and university students experienced severe interruptions to their face-to-face education for a prolonged period. Universities also faced huge disruption, with students often confined to their rooms.

In the midst of these disruptions, classrooms needed to respond quickly and turn virtual, and EdTech innovation had to rapidly pick up pace to meet demand of online home schooling. As a consequence, EdTech businesses saw a 91% increase in investment in 2020.6

Defining an EdTech Strategy for future generations

In 2019, the Government announced its Education Technology Strategy, backed by an investment of £10 million, to boost student outcomes and ensure those working in education are equipped with the necessary skills and tools, to meet the needs of students in schools and higher education establishments.

The EdTech Strategy brings together teachers, lecturers and learning specialists with education technologists to imagine, prototype and implement ways to harness technology to tackle common challenges, such as:

- Reducing the time teachers spend preparing and marking homework assignments
- Boosting teacher training opportunities, and making training more accessible and tailored to individual teachers' needs

- Identifying how anti-cheating software can be improved setting out more
 detail on how the Government can help to tackle the problem of essay
 mills (businesses which allow students to commission an original piece of
 writing on a particular topic so they can commit academic fraud, particularly
 in universities)
- Promoting the use of innovative technology to level the playing field for people with special educational needs and disabilities, and identifying the technology which best suits individual needs.⁷

Another initiative is the Raspberry Pi — a single board computer that teaches children how to code from an early age. The Raspberry Pi Foundation, a UK based charity, aims to make computing and the digital world accessible to both adults and children in the UK and globally. It organises events and partners with youth organisations and schools to provide resources and develop learning opportunities in computer science. 8

The UK's education sector continues to grow through its school and tertiary education network, a growing base of EdTech companies, investments from both the Government and private sectors and a widening reach to international markets. While Covid-19 may have brought its own unique challenges, this sector is stronger than ever and on its current trajectory is showing huge prospects for the future.



¹https://www.great.gov.uk/education

²https://www.gov.uk/government/news/edtech-strategy-marks-new-era-for-schools

³How education is going digital, Dept for International Trade, 2020

⁴https://www.grantfinder.co.uk/nesta-announces-5m-adult-learning-technology-innovation-fund/

⁵https://www.great.gov.uk/edtech

⁶https://www.great.gov.uk/edtech

⁷https://www.gov.uk/government/news/edtech-strategy-marks-new-era-for-schools

⁸https://www.raspberrypi.org/about/

Healthcare: A benchmark in life sciences and technology

The UK healthcare system is predominantly government-funded. Its National Health Service (NHS) is the world's largest integrated service of its kind. It has operated for more than 70 years, serves more than 65 million people and is by far the country's largest employer of healthcare workers. NHS practitioners see 1.4 million patients every 24 hours and generate over 500 million patient days of data each year.¹

During Covid-19, although hugely overburdened by the pandemic, the NHS was able to roll out one of the world's most successful coronavirus vaccination programmes, largely supported by a vaccine developed by the University of Oxford in partnership with pharmaceutical firm AstraZeneca.

The NHS is the first national healthcare system to introduce genomics (the mapping of genes and DNA) into mainstream medicine. Today, the UK has Europe's leading industry cluster for cell and gene therapies and continues to build its advanced therapies infrastructure. It is also home to more than one in four of the 2020 Global Digital Health 100 companies.²

Huge investment opportunities

The UK Government's Life Sciences Vision,³ published in July 2021, outlines the sector's ambitions over the next decade. It builds on previous years of government-industry partnerships to address some of the world's most significant healthcare challenges, including cancer, dementia and obesity.

Partnerships between UK universities and NHS organisations have created a platform for clinical research, with strategic government investment in specific growth areas such as cell and gene therapy.

The UK is home to more than 6,300 life sciences companies, employing over 250,000 people and securing more than £81 billion in funding over the past ten years. The Life Sciences Industrial Strategy,⁴ updated in 2020, has already delivered billions of pounds of new funding through joint investment in areas such as advanced therapies, genomics, digital health and early diagnosis. Through designated Life Science Opportunity Zones (LSOZ) across six locations, companies will be able to access research, higher education and



Medical technology is perhaps the fastest growing area in healthcare globally and the UK is no exception.



business expertise, capitalise on available laboratory space or land to build new facilities.

Four of the world's top ten universities for clinical and health sciences and two of the top three for life sciences are in the UK. In 2019, 1,200 new Masters and PhD places and 16 Centres for Doctoral Training were announced.

Medical technology high on the agenda

Medical technology (MedTech) is perhaps the fastest growing area in healthcare globally and the UK is no exception. Its MedTech sector employment is ranked 4th in the world. with more than 3.800 MedTech companies across an extended supply chain, many of them innovative small businesses.

The Government continues to support the MedTech industry in remaining at the forefront of digital innovation in medicines manufacturing. It is increasing its investment in digital infrastructure, 5G testbeds (performance testing), and in backing companies to harness technologies such as the Internet of Things (IoT), Artificial Intelligence (AI), robotics, virtual reality within therapy scenarios and 3D printing for prosthetics.6

An interesting development first conceived in 2018, is a collaboration between Bradford Teaching Hospitals NHS Foundation Trust and GE Healthcare to build an Al-driven command centre – the first of its kind in Europe. 7 Using advanced analytics and machine learning, the command centre is designed to help staff coordinate patient flow in real time across all its hospitals, in turn greatly enhancing patient care and operational efficiency.8

Fast growing biotech

The UK has Europe's largest preclinical and clinical biomedical programme and one of the largest globally, with more than 500 new biotechnology based drugs and 600 pharmaceutical product candidates.9 The main regulator, the Medicines and Healthcare products Regulatory Agency (MHRA), works with companies to develop innovative manufacturing processes and access global markets, while maintaining high regulatory compliance across the industry.

More than 1,300 UK companies are involved in medicines manufacturing and the biopharmaceutical sector employs over 120,000 people across product developers, expert services and the supply chain. 10

The Government and industry have jointly formed the Medicines Manufacturing Industry Partnership (MMIP) to ensure the UK maintains its status as a world-class advanced centre for medicines manufacturing. It has also invested £150 million to create and expand research and innovation centres which specialise in the manufacture of small molecules, vaccines, cell and gene therapies, and biologics (pharmaceutical products manufactured or extracted from biological sources).

At the forefront of R&D

Over time, UK based researchers and institutions have pioneered some major scientific breakthroughs – from the discovery of penicillin and the structure of DNA to advancements in neuroscience and medical imaging, stem cells and In Vitro Fertilisation (IVF).

This pioneering spirit continues today. International companies currently sponsor the majority of UK commercial clinical trials for Advanced Therapy Medicinal Products (ATMPs) — relating to a rapidly growing category of complex, innovative treatments including gene and cell therapies. The UK accounts for more than 12% of global cell and gene therapy clinical trials and the industry currently supports more than 3,000 jobs. By 2035, it is estimated the industry could be worth almost £10.3 billion and employ 18,000 people.¹¹

Since 2009, the Government has committed more than £300 million in investment to support commercial research and development via innovation grants, for initiatives including the expansion of the GSK 'Cell and Gene Therapy Catapult' manufacturing plant in Hertfordshire to make it one of Europe's largest biotechnology clusters. The research community has also gathered a large population of more than 130,000 pre-consented patients that it can invite to participate in studies based on genotype (gene-type) and phenotype (traits such as eye colour, height and blood-type) profiles.

Through its legacy of medical science, continued government interventions and the continued role of the NHS, the progression of healthcare, scientific research and advances in MedTech remain firmly on the UK's agenda as a community and economic mainstay and a key investment opportunity with high yield potential.



¹Choose LIK Life Sciences Dept for International Trade 2020

²https://www.great.gov.uk/health and life sciences

³Life Sciences Vision, HM Government, July 2021

⁴https://www.gov.uk/government/publications/life-sciences-industrial-strategy

⁵https://directory-cms-public.s3.amazonaws.com/documents/Invest_in_UK_MedTech_factsheet_v2.pdf

⁶https://directory-cms-public.s3.amazonaws.com/documents/Invest_in_UK_Medicines_Manufacturing_v2.pdf

⁷https://directory-cms-public.s3.amazonaws.com/documents/Invest_in_UK_MedTech_factsheet_v2.pdf

⁸https://www.bradfordhospitals.nhs.uk/2019/11/12/bradford-teaching-hospitals-set-to-transform-care-with-command-centre/

⁹Invest in UK Clinical Research, HM Government, 2020

¹⁰Bring your medicines manufacturing to the UK, HM Government, 2020

¹¹Advanced Therapies Factsheet, HM Government, July 2021

Industry and infrastructure: Developing a smart future

For more than a century, the UK has developed an advanced engineering industry which has evolved into a complex network of companies delivering precision products and specialist services across the industrial supply chain.

Most recently, there has been substantial progress in developing highgrowth areas such as low carbon technologies, digital process engineering, 3D printing or 'additive manufacturing', robotics and autonomous systems.

In the manufacturing sector alone, there are more than 100,000 companies. As digitisation within the sector advances, industry investments into automated processes could potentially add more than £200 billion to GDP each year.¹

This potential already attracts significant sums in FDI, not least from the UAE. In March 2021, the UK and UAE governments signed a Sovereign Investment Partnership to drive investment in key industries. Initially focusing on life sciences, it was expanded in September 2021 to include infrastructure, technology and energy transition, and Mubadala Investment Company committed to investing over £10 billion in these vital UK industries.

The UK is also at the forefront in the development of advanced materials such as graphene. The world's thinnest, lightest, strongest and most conductive material for both electricity and heat, graphene promises to revolutionise industries such as electricity production, photovoltaics, batteries, pharmaceuticals and DNA sequencing.

On track for growth

The UK has one of the world's most developed, and advancing railway sectors. It employs 240,000 people and comprises a complex 15,847km network, reaching all parts of the country.

Although the sector has been around for almost two centuries, it has been greatly enhanced by a number of key projects in recent years.

A signature example is High Speed 1 (HS1) – the UK's first high-speed railway. Linking London to Paris in just two hours at maximum speeds of 300kmph, HS1 is the first railway to run entirely on renewable energy.

The UK's next high-speed mega rail project is HS2. Construction is well underway, and on completion HS2 will provide a high-speed link from London in the south, via the Midlands through to the north of England.

Through projects such as HS1 and HS2, UK rail companies are developing digital and low carbon technologies which are improving performance for users, and will significantly contribute to the 2050 net zero target.

Green utilities infrastructure

Within a highly-regulated environment, the Government and industry are working together to address climate challenges — not least in the utilities sector. With an annual £122 million water research and innovation budget, research institutes are known internationally for their work on freshwater ecology, treatment technologies, urban drainage and flood management solutions.²

Likewise since 1990, the power sector has reduced its emissions by 72%, primarily through an Electricity Market Reform (EMR) to incentivise investment in secure, low-carbon electricity, improved the security of electricity supply and affordability for consumers.

The Government is determined to increase the amount of power produced by renewable sources to help drive the transformation of industry and infrastructure and hit its net zero targets. In its ten point plan for a 'green' revolution, published in November 2020, the Government committed to generating 40GW of offshore wind power by 2030. This is four times more than the 10GW currently produced and enough to power every home at current electricity usage levels. However, more needs to be done. The Climate

Change Committee has suggested the UK will need 140GW to meet its net zero ambitions and respond to increasing demand for clean energy from both homes and businesses.³

Towards industry 4.0

New technologies are set to transform efficient and sustainable productivity over the next few years in what has been coined as the 4th Industrial Revolution, or Industry 4.0. The World Economic Forum considers the UK a leader, ranked 2nd for technology and innovation and 1st for available financing.⁴

Supporting the drive towards Industry 4.0, the Government is targeting R&D investment in both the public and private sectors and aims to reach 2.4% of GDP by 2027. Around 4,000 engineering companies with more than 100 employees each are likely to invest in robotics, and 71% of companies with an annual turnover of £10 million or more are interested in automating their processes.⁵

The Made Smarter Review is an industry-led review to explore how UK manufacturing can maximise the benefits from adopting digital technology through a strong industry and government partnership. It is also part of the industrial strategy. It has made recommendations to transform the landscape for UK manufacturing through the adoption of Industry 4.0 technologies.

Another initiative, the High Value Manufacturing Catapult, provides innovation support for businesses with growth potential in strategically important global markets.⁷ With more than £200 million in government investment since

2011, the High Value Manufacturing Catapult has greatly accelerated the development of new manufacturing technologies.

Decarbonising industrial clusters will be another essential component to the UK reaching its 2050 net zero target. It will mean the deployment of carbon removal technologies such as Carbon Capture, Usage and Storage (CCUS) and Bio Energy Carbon Capture and Storage (BECCS). Although CCUS technologies attracted £815 million of funding in 2020, Energy UK, the trade association for the energy industry, suggests that there is much scope for further funding models.

Plans for renewable heating

Energy UK is also working on a Heat Sector Deal — a partnership between the Government and Industry to form a strong regulatory and financial support framework for the heat sector and complement the £275 million Green Heat Network Fund — a capital grant fund open to public, private, and third-party sector applicants in England, 8 as announced in the UK's March 2020 Budget.

The Heat Sector Deal will capitalise on the progress made by the Heat Network Investment Project (HNIP) — a government funding programme to support the development of low and zero carbon heat networks. The Deal aims to have one million heat pumps installed by 2025.9

This initiative creates significant potential economic opportunities, and within a larger sustainability framework, forms a major component of the UK's wider low carbon future for industry and infrastructure.

¹https://www.great.gov.uk/advanced manufacturing

²https://www.great.gov.uk/water

³https://www.nationalgrid.com/stories/energy-explained/what-offshore-wind-power

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⁶https://www.gov.uk/government/publications/made-smarter-review

⁷https://hvm.catapult.org.uk/who-we-are/#what-is-catapult

⁸https://www.gov.uk/government/publications/green-heat-network-fund-ghnf-transition-scheme

⁹https://www.energy-uk.org.uk/publication.html?task=file.download&id=7655

Energy: An industry transformation

The UK's energy sector is going through perhaps the most game-changing transformation in its history, driven by three major trends. First, in line with the Government's sixth Carbon Budget, it is committed to reducing greenhouse gas emissions by at least 78% by 2035, compared to 1990 levels. In 2019, 51.6% of the country's electricity came from low carbon sources, including wind, solar and hydro power.

Second, electricity is being generated closer to where it is consumed, reducing costs, decreasing the reliance on larger, more centralised power stations and improving security of supply. More than 30GW of new capacity has been added to the grid since 2010, with 75% from renewable sources.

Third, UK energy companies are increasingly focused on digitisation and data analysis to improve efficiency, sustainability and cost performance. A case in point is the £7.6 billion subsea oil & gas sector, which has a 55% share of the global market, largely driven through its leadership in technology.

Zero carbon agenda

With its sixth Carbon Budget, the UK has set into law the world's most ambitious climate change target; one which would bring more than three-quarters of the way to net zero by 2050³ – a commitment that is also enshrined in legislation.

The Government has provided more than £261 million in funding to develop the energy storage market, and in 2019 low carbon resources comprised more than 50% of electricity generated.⁴ It also has Europe's largest advanced materials research centre and is increasing funding in R&D across clean growth sectors.

Navigating its path to net zero is a 'Build Back Greener' clean growth initiative, backed by £12.2 million of government investment and potentially three times that from the private sector. The Government estimates that up to 250,000 green jobs could be created.

For now, oil & gas remains a key component of the energy mix. While oil & gas investments are notoriously sensitive to price and market volatility, the value of potential capital development projects in the UK is estimated at almost £41 billion. The industry supports around 280,000 jobs, with 1,400 UK companies providing oilfield goods and services.

The UK Continental Shelf (UKCS) has yielded around 44 billion barrels of oil equivalent (boe) over the last 50 years and the Government is investing more than £14.7 million into new seismic surveys. It is estimated that up to 20 billion boe could be produced, both through new explorations and maximising brownfield recovery.

Renewables and nuclear powering forward

In the meantime, the UK continues to lead the way in renewable energy. It generates more electricity from offshore wind than any other country, with around 40% of global installed capacity.⁵ In December 2020, the world's largest offshore wind farm was commissioned 120km off the Yorkshire coast at a value of £886 million.

Wind farm ambitions continue with a government promise to power every home in the UK with offshore wind energy within a decade, and a pledge to make the Covid-19 pandemic a catalyst for green growth - CO $_2$ emissions dropped by almost 11% from 2019 to 2020 in the UK alone, mainly due to the fall in road transportation during lockdown.

Leading through to 2030, the Government has committed to investing £160 million in manufacturing the next generation of turbines, including floating windmills that can deliver 1GW of energy – more than 15 times the current capacity of floating offshore volumes. Initial investments are forecast to create around 2,000 construction jobs and support up to 60,000 jobs directly and indirectly in factories, ports and across supply chains.



With its sixth Carbon Budget, the UK has set into law the world's most ambitious climate change target.



The Government has also identified nuclear power as a way to achieving its net zero target. The country has used nuclear energy for more than 60 years. Today, nuclear power plants generate 21% of electricity, but around half of that capacity is to be retired by 2025. The Nuclear Decommissioning Authority is responsible for the decommissioning and cleaning up of the civil public sector nuclear legacy, with an annual budget of £2.3 billion.

The construction and operation of the nuclear new-build programme, led by the Hinkley Point C nuclear power station, will produce 3.2GW of low-carbon electricity and create 26,000 job and training opportunities. A number of proposals have been put forward to build new nuclear power facilities. They include the use of future technologies for lower-cost, safe power generation such as Small Modular Reactors (SMRs) which reduce capital expenditure, decrease construction times and provide power away from large grid systems. The new-build programme will provide significant opportunities for investment.

Room for investment

Between 2010 and 2019, £90 billion was invested into UK renewable energy

generation projects, 8 and according to the Infrastructure and Projects Authority there has been a programme of more than £58 billion of energy investment projects from 2018 through to 2021.9

There is still ample opportunity for private investment. The UK Department for International Trade estimates that there is a further £45 billion in investment needed to upgrade energy networks and an additional 500MW needed from waste-to-energy programmes.

Should the investment be forthcoming, there is every indication that renewables will be the primary energy source moving forward. In 2020, for the first time ever, renewable electricity outpaced fossil fuel generation at 42%, compared with 41% generated from gas and coal plants combined. 10

Also, unlike many countries, the UK's electricity demand has been in decline, falling to 331,448GWh in 2020 compared to 406,455 in 2005. This is despite a population increase of around five million people over the same period. Attributing factors are thought to include energy efficiency regulations, energyefficient lighting and changing consumer habits. 11 As we move towards 2050. the country's zero carbon ambitions could well become a firm reality.

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⁵Energy Investment Opportunities, Dept for International Trade, 2018

⁶²⁰²⁰ UK greenhouse gas emissions, provisional figures

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Freeports: Set to free up trade

Government plans to establish eight new 'freeports' in England could provide an added boost to UAE-UK trade.

Like free trade zones in the UAE, freeports are a special kind of port – airports as well as seaports – that are exempt from customs duties and tariffs to enable added-value processes to take place. Duty is only paid on goods that leave the freeport area as a finished product and enter the UK market. No payment is due if goods are re-exported.

The last freeports in the UK were effectively abolished in 2012, but plans are well underway to reintroduce them to boost post-Brexit trade. The Government set out its 'five principles of freeports' in November 2020, with the ultimate aim of increasing trade and investment, boosting regeneration through job creation, and super-charging innovation across the four nations of the UK.

Tax: Freeports will include some tax reliefs and duty exemptions, including business rates relief and enhanced capital allowances.

Planning: Freeports will include an expansion of permitted development rights to bring seaports in line with airports and encourage the use of local development orders where appropriate.

Innovation: The freeport model will encourage innovation and R&D, with some funding for this made available by the UK Government.

Customs: Goods entering a freeport customs site will be eligible for duty deferral, duty exemption and duty inversion. Freeports will also create more

streamlined declarations procedures. Primary customs sites may be placed at an inland site away from the port.

Regeneration: Freeports can kickstart regeneration of the UK's coastal towns through the creation of skilled jobs.

The locations of eight new freeports, which can be up to 27 miles across, were announced in the March 2021 Budget:

- East Midlands Airport
- Felixstowe and Harwich
- Humber region
- Liverpool City region
- Plymouth
- Solent
- Thames
- Teesside

The freeports are due to become operational by the end of 2021.

As well as the eight freeports in England, the UK Government hopes to establish at least one freeport in both Wales and Northern Ireland, while the Scottish Government has announced plans for its own programme of freeports, called 'Green Ports'.

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Emirates: A catalyst for growth

The United Kingdom has been a key part of Emirates' network with the launch of Dubai-London Gatwick flights in 1987. Since then, Emirates has steadily increased capacity and routes across the UK in line with growing market demand. With more than three decades of operations to and from the UK with 140 weekly widebody flights (pre-Covid), Emirates delivers efficient air links to ensure UK trade, exports, investments and tourism.

Emirates' most recent passenger network in the UK included London (Heathrow, Gatwick and Stansted), Manchester, Birmingham, Glasgow, Newcastle and Edinburgh, in addition to dedicated freighter services to London Heathrow.

Operating with care throughout the Covid-19 pandemic

Emirates, along with all other aviation industry stakeholders, has been navigating the exceptional circumstances caused by the pandemic. During this time, Emirates' foremost priority has been the health and safety of its customers, crew and communities.

Emirates played a key role in the transportation of Covid-19 vaccines, with over 240 million doses moving through Emirates' GDP – Good Distribution Practice – certified hub between October 2020 and August 2021.

Connecting UK regions

Connectivity has a significant role in enabling tourism, international business relationships, FDI and international trade of goods and services. In 2019, Emirates was the only carrier serving non-stop flights between Dubai and Birmingham, Edinburgh, Glasgow, Manchester, Newcastle and London Gatwick and Stansted. This unique connectivity created a catalytic impact on British GDP, FDI and international trade.

The UK is among the most critically important markets on the Emirates network for passenger travel demand and profitability, with the Dubai to London Heathrow route making up the highest share of departing seats in 2019 (or simply, Emirates' biggest route by capacity).

Emirates' flights to the UK have facilitated the trade and timely transport of goods across the world, particularly to the Far East. Emirates regularly transports high value, time sensitive and specialty cargo such as luxury vehicles, automotive and engine parts, animals, pharmaceuticals, food, textiles, electronics, machinery, oil-well equipment, construction material and works of art into and out of the UK.

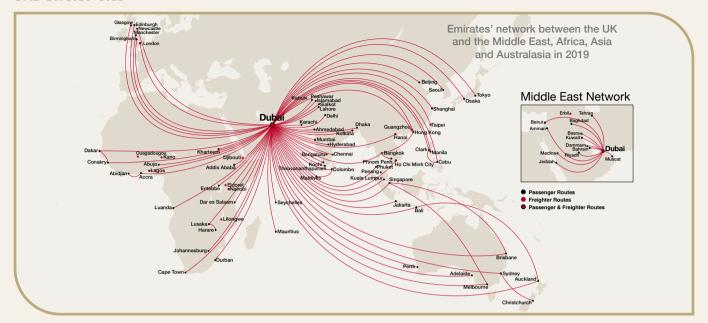
Impact on the British economy

Emirates' commitment to the UK market throughout the years is demonstrated not only by this measured capacity growth, but also via the purchase of British goods and services as well as sponsorships of British entities. Emirates directly contributes over £602 million annually to the British economy through operational expenditures such as fuel uplift, over-flight costs, aircraft landing and handling costs, crew layover costs and area overheads, as well as advertising, promotions and sponsorships.

However, the economic impact of Emirates' operations in the UK by far exceeds direct expenditure, and employment in the UK when taking into account supply chain economic activity as well – for example that induced by ground handling and catering companies and their employees. In 2019, the UK welcomed over 553,000 tourists from the UAE, with inbound tourists spending £869 million. 39% of these visits were for holidays, while 39% were visiting friends and/or relatives and 13% were business travellers.

A loyal customer of British aerospace

In November 2019, Emirates confirmed an order for 50 Airbus A350-900 XWB aircraft to be delivered from 2023, which will be powered by Rolls-Royce Trent XWB engines. Emirates is also the biggest customer of the Airbus A380 by a large margin with 123 aircraft purchased. The buying of Emirates' A350 and A380 support thousands of jobs at Airbus, and affiliated suppliers in the UK. One of the major components of these aircraft, the wings, are manufactured in Broughton and Filton.



Emirates continues its long-term commitment to Rolls-Royce with its future A350 aircraft, having used its engines on previous Airbus A330 and A340, as well as Boeing 777 aircraft.

Sponsorships in the UK

Emirates has numerous sponsorships in the UK spanning sports and iconic infrastructure. It has held a shirt partnership with Arsenal Football Club since 2006-07, and the latest extension of this partnership until the 2023-24 season, makes it the longest running in the Premier League and the longest relationship in world sports. The airline also holds the naming rights to Arsenal's home ground, the Emirates Stadium, up to 2028 and is the title sponsor of the FA Cup. In addition, Emirates holds various other sponsorships in cricket, tennis, and horse racing in the UK.

Our planet

Emirates is fully committed to minimising the environmental impact of its operations, with efforts which are focused on three areas – reducing emissions, consuming responsibly and preserving wildlife and habitats.

Operating modern and fuel efficient aircraft has been central to Emirates' business model from the airline's inception. The airline's current fleet of Airbus

A380 and Boeing 777 aircraft average under seven years in age, significantly lower than the industry average. Emirates also has a comprehensive fuel efficiency programme to find ways of reducing fuel burn and emissions wherever it is operationally feasible.

Emirates puts into practice its commitment to responsible consumption through initiatives such as waste reduction and recycling, using a dry wash technique to clean aircraft – saving 11 million litres of water a year – and careful sourcing of products.

Emirates is committed to supporting the preservation of natural habitats and putting an end to the illegal trade of wildlife. It has a zero tolerance policy on transporting banned species, hunting trophies or any products associated with illegal wildlife activities, and is a founding signatory of the 2016 Buckingham Palace Declaration.

Established in 1985, the company's growth has been measured in line with the demand for air travel. Prior to the Covid-19 pandemic, Emirates operated a global network of 157 destinations in 83 countries across six continents, independently of the three global airline alliances, and the airline continues to resume operations in line with increased demand for international travel.

Midlands: Innovation across a diverse industry base

The UK's Midlands region has a growing, diverse economy across key areas such as advanced manufacturing, transportation, professional and financial services, life sciences and technology.¹

The region has a rich cultural mix, bringing a uniquely diverse element to the economy. It produces more than 55,000 graduates each year, and has a strong base for research and innovation.

A hub for advanced manufacturing

The Midlands is the UK's most dynamic engineering and manufacturing cluster, supporting 14% of the country's advanced engineering workforce. Around 53,500 people are employed in transport technologies, with extensive R&D into areas such as autonomous vehicles and intelligent transport networks as well as the automotive, rail and aerospace sectors. Approximately 25% of the UK's aerospace sector is located within the wider Midlands region, including industry heavyweights Collins Aerospace, Rolls-Royce Control Systems, Moog Inc and Meggitt Energy Products.²

It is also a long established automotive hub, exporting 40% of all cars made in the UK, and home to global innovators such as Changan UK R&D Centre, Rolls-Royce, Tata, Jaguar Land Rover and London Electric Vehicle Company which manufactures the TX5 electric London taxi.³

In addition, the region is a catalyst for Europe's largest rail infrastructure project, High Speed 2 (HS2), linking London to the Midlands and on to the North. Housing around 1,000 employees at its Birmingham headquarters, HS2

will build on the region's advanced engineering sector with a critical mass of rail industry consultancies, capabilities and expertise.⁴

The West Midlands Combined Authority area is responsible for 49,000 railway related jobs and Birmingham is the UK's largest regional railway engineering hub. A further 109,000 people work for transport and logistics companies. Centres of excellence include the Birmingham Centre for Rail Research and Education, and the University of Warwick's WMG which specialises in very light rail, battery and energy storage.

The Midlands is also the UK and Europe's number one location for low carbon and energy storage technology. Research-led institutes include the UK Battery Industrialisation Centre and the £1 billion Advanced Propulsion Centre at Warwick, which is spearheading research into low carbon powertrains for the next generation of vehicles. Aston, Birmingham, Coventry and Warwick universities are pioneering research into bio-energy, hydrogen materials, future power systems and low-carbon transport technology such as fuel cells.⁵

New innovations in transportation

The Midlands represents 30% of all the UK's automotive employment. It also has the UK's largest concentration of automotive R&D institutions. This includes the £330 million National Manufacturing Technology Centre (MTC) at Ansty Park, part of the Government's Faraday Battery Challenge — a research and innovation project to drive the growth of the battery business through more sustainable and high-performing product technologies.⁶



The Midlands is also the UK and Europe's number one location for low carbon and energy storage technology.



The UK Battery Industrialisation Centre at the University of Warwick is another large-scale public investment research and production technology centre, while Coventry University's National Transport Design Centre is a new facility focusing on education in transport design.⁷

The Midlands also has one of Europe's largest aerospace sectors. The Midlands Aerospace Alliance (MAA) represents the UK's largest regional aerospace alliance, with 300 companies coming together to create one of the region's distinct specialisms – metals and composite materials. A number of specialist aerospace materials producers, such as Timet Metals Corporation (titanium) and Arconic (aluminium) are based in the region. These regional specialisms in component aerospace design and manufacture are supported by a wellintegrated supply chain and links to other manufacturing sectors.

Forging the way in life sciences

The Midlands has the largest number of medical technology and device companies in the UK at more than 13,000. Its well-connected life sciences R&D community includes 6,500 medical graduates each year. Regional life science research centres and institutions include the Institute of Translational Medicine - a clinical trials hub at the University of Birmingham, 8 BioCity Nottingham the UK's largest science incubator, 9 MediCity – a pharmaceutical incubator also in Nottingham, 10 and the life science opportunity zones, Charnwood Campus and Birmingham Life Sciences Park. 11

With its large ethnically-diverse population of 4.6 million, the region also has one of Europe's largest clinical trial portfolios, enabling new treatments to

move efficiently from trial to dispensary. The UK National Health Service (NHS) and international life sciences partners have important centres linked to West Midlands universities. 12

Thriving professional services and technology sectors

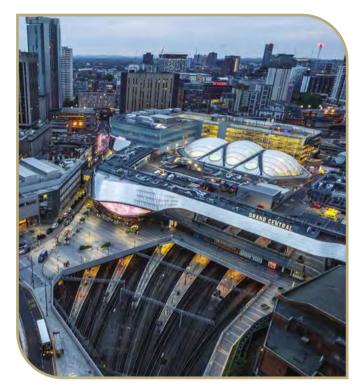
Employing 53,000 people across more than 4,400 companies, the city of Birmingham is the UK's largest financial and professional services hub outside of London, from start-ups to global brands such as HSBC, Deutsche Bank and Hogan Lovells. It is the chosen location for the largest regional offices for each of the Big Four accountancy firms – PwC, EY, Deloitte and KPMG, as well as the European headquarters of major international law firm Gowling WLG. Generating £27.7 billion gross value added (GVA) annually, financial and professional services account for almost a third of the region's total GVA, with a forecast to double to £50 billion over the next ten years. 13

The thriving technology sector provides a fertile ground to drive the growth of financial and professional services firms, centred around a number of digital and technology clusters including Innovation Birmingham, the area of Digbeth, Leamington Spa's gaming cluster, and incubators and co-working spaces such as Birmingham's WeWork and Spark Wolverhampton. An extensive roster of meet-ups, networking groups and events further drive the region's digital innovation.14

Regional employment in the technology sector is projected to grow by 31% by 2030 and its economic contribution as measured by GVA is expected to double. The evolving FinTech sector is also receiving an increasing amount of support from the region's major universities. The West Midlands' 12 universities contain 50 tech-related centres of excellence and turn out 16,000 graduates with FinTech-related qualifications every year. 15 With more than 74,000 highly qualified employees across 13,900 businesses, the West Midlands Combined Authority is now home to the largest regional FinTech cluster in the UK. 16

Innovation Birmingham is the region's leading digital and technology campus, with more than 170 companies and regional universities which maintain close links with industry to advance programmes in areas such as Al and virtual reality (VR). There are 65,000 people working within 12,500 technology and digital businesses – the largest regional cluster in the UK.¹⁷

The Midlands' rich and diverse talent and skills-base across a number of key industries and specialist business parks, supported by a robust university R&D environment, are all factors through which will continue to show its growth leadership. With continued investment and an economic environment which draws both UK and international companies, the Midlands can only continue to thrive as one of Europe's fastest growing and attractive business destinations.



¹https://investwm.co.uk/ahout-us.

²https://investwm.co.uk/sectors/advanced-manufacturing/

³https://investwm.co.uk/sectors/advanced-manufacturing/

⁴https://investwm.co.uk/sectors/advanced-manufacturing/

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¹¹https://investwm.co.uk/sectors/life-sciences/

¹²https://investwm.co.uk/sectors/life-sciences/

¹³https://investwm.co.uk/sectors/business-professional-financial-services/

¹⁴https://investwm.co.uk/sectors/tech-creative-services/

¹⁵https://investwm.co.uk/sectors/business-professional-financial-services/

¹⁶https://investwm.co.uk/sectors/tech-creative-services/

¹⁷https://investwm.co.uk/sectors/tech-creative-services/

The North: A global gateway

Home to 15.2 million people and with more than one million businesses, the North of England has one of the UK's most dynamic economies, with a wide supply chain and a strong consumer base. Five of the country's main cities are located in the region: Leeds, Liverpool, Manchester, Newcastle and Sheffield.

In terms of global connectivity, the North has seven international airports and 12 major foreign trading ports. When complete, the High Speed Rail 2 (HS2) rail line will connect the North and South through the Midlands at speeds of 360kmph. A number of rail stations are being built or upgraded to accommodate the project.

Employment costs are lower than many comparable cities both in the UK and mainland Europe, while industrial land values and rental costs are also very competitive.

Driving the Northern Powerhouse

The North is building its reputation as an innovation hub. Through more than 2,500 advanced engineering companies, it is responsible for 50% of UK nuclear projects, 30% of all renewable energy and 25% of Europe's electric car production.¹ Its economy is currently worth £325 billion – for reference, larger than Norway, Sweden, Austria or Belgium – and this is set to grow further through the Government's Northern Powerhouse initiative, aimed at accelerating the region's economic growth.²

The Northern Powerhouse is a partnership between national and regional government, businesses, local partners and civic leaders. It includes 17 enterprise zones which offer additional commercial tax and planning advantages, with further government-supported opportunities across the infrastructure, regeneration, retail and housing sectors.

In 2021, the Government announced a further £100 million investment into the Northern Powerhouse.³ At the same time, private investment has been hugely important to the initiative's success, totalling over £150 million.⁴

Private sector investors to date include telecoms giant Vodafone, which is expanding its current service centre near Manchester Airport and creating 800 new customer support jobs. The company is creating a further 600 jobs in Newcastle.

Similarly, aircraft manufacturer Boeing recently invested £20 million into a new manufacturing facility in Sheffield — its first in Europe. Through the purpose-built plant, the company will design and manufacture composite components for Boeing's next-generation 737 and 777 aircraft.

Also in Sheffield, high-performance car manufacturer McLaren has invested £50 million in a new site, creating more than 220 skilled jobs. The University of Sheffield Advanced Manufacturing Research Centre (AMRC) will make the carbon-fibre chassis for the cars. McLaren plans further investments into the region.⁵

Multi-modal transport planning and delivery is seen as a key component to sustaining the growth of the Northern Powerhouse initiative. In 2018, Transport for the North, a public/private body, published its Strategic Transport Plan, which sets out an investment strategy aimed at generating an additional 850,000 jobs and a £100 billion economic benefit for the region.

Advanced industries powering growth

Through the Northern Powerhouse, the region is widening its industry capability across a number of key sectors — not least in advanced engineering materials. It was within the walls of the University of Manchester that the thinnest, lightest and one of the strongest materials in existence — graphene — was first discovered. This is considered a major breakthrough in advanced materials due to its unique properties, which show huge potential within engineering applications. The National Graphene Institute in Manchester, AMRC in Sheffield and the Centre for Process Industries in Darlington are all at the forefront of new advances in materials technology, new engineering methods and the digitisation of manufacturing.

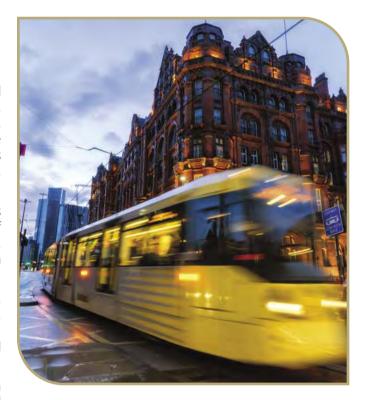
The North also has one of Europe's largest concentrations of financial and business services, employing 850,000 people – 11 times more than Frankfurt, and the digital and tech economy is growing 12.5% year-on-year. In 2020, Newcastle was ranked above Hong Kong, San Francisco and Dublin in the Smart City Index (published by IMD Smart City Observatory), which measures the technological provisions of cities on health and safety, mobility, activities, opportunities and governance.⁶

Energy has long been a strength of the region's industrial base, and this continues with renewable energy. The Dogger Bank Wind Farm, situated off the northeast coast in the North Sea is the world's largest offshore wind farm. On completion in 2026, it will have a total capacity of 3.6GW and will then power millions of homes per year.⁷

Within life sciences, the North supports activities from initial research, product development and testing to clinical trials and production facilities. Pharmaceutical manufacturers GSK, Accord Healthcare, MSD, FUJIFILM Diosynth Biotechnologies and Piramal Pharma Solutions develop, test and distribute life-saving medications across the globe from their bases there.

A strong record in clinical trials provides life sciences companies with a large and established base of study participants. For example, the National Innovation Centre for Ageing (NICA) in Newcastle, runs the VOICE network which researches and designs products and services to improves the lives of elderly citizens.^{8,9}

In summary, with major clusters of research expertise supporting both existing businesses and new start-ups, combined with a large, highly educated labour



pool, the North of England is ideally placed to drive business growth across key sectors such as digital technology, manufacturing, life sciences, professional services and energy. Through its extensive network of rail, road, air and port links, it is extremely accessible to international markets, and with increasing independence in certain areas of decision making, the region is rapidly growing its reputation as an economic powerhouse of global standing.

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The South: Building on existing strengths

The South of England is the UK's fastest growing region. Covering the southeast and southwest, it also has the country's fastest employment growth and attracts the highest FDI into the UK.

Strong economic growth in cities such as London and Oxford in the southeast, Bristol in the southwest, Reading in the Thames Valley and Cambridge in eastern England is driving demand for office, residential, energy and infrastructure services. Reading has become a centre for technology-based businesses, while 50% of economic growth in the city of Cambridge is from high value ICT and professional services sectors.¹

In terms of connectivity, major airports in the region include London Heathrow, Gatwick, Luton, Stansted and Bristol – currently serving more than 160 million passengers combined. There are direct east-west road connections including the M25 motorway, and a substantial rail network which connects all of its major population centres, as well as Europe. This includes the new Crossrail line connecting areas to the east and west of London, and the High Speed 2 (HS2) line, which when complete will connect the north and south of the UK through the Midlands at speeds of 360kmph.² HS2 is the next stage of high-speed rail in the UK after the success of HS1, which connects London to Paris in a little over two hours. Sea ports in the region include Southampton, Felixstowe, Bristol, London Gateway and Dover.³

Education and skills hub

The South of England is home to two of the world's top five universities — Cambridge and Oxford. It is also home to nine of the 24 Russell Group universities — an association of the top universities in the UK. Russell Group universities produce more than two-thirds of the UK's world-leading university research. By working with major multinational businesses and international organisations, they support more than 260,000 jobs across the country and inject almost £100 billion into the economy every year. In the academic year 2018–19, 446,450 undergraduates and 155,655 postgraduates were studying at a Russell Group university. Around 32% of students are of non-UK nationalities.⁴

There are also a number of specialist colleges in the region with international reputations. The National College for Nuclear (NCfN), for example, based in the southwest county of Somerset, is a key component in the UK's nuclear power ambitions. The Government is aiming to use nuclear power as a key part of its low carbon energy mix with the goal of being a zero-carbon economy by 2050. A partnership between industry employers, regulators, skills bodies and training providers, NCfN is responsible for designing the UK's nuclear curriculum.⁵

The National Film and Television School, based in the southeast county of Buckinghamshire, is the UK's leading centre of excellence for education in film and television programming. It has developed some of the UK's and the world's top creative talent and collected accolades such as the 2018 BAFTA for Outstanding Contribution to British Cinema and the Queen's Anniversary Prize for Higher and Further Education.⁶ Alumni include Wallace & Gromit director Nick Park and Harry Potter director David Yates.

Supporting enterprising industries

More than 300 businesses have expanded into the South of England every year, with 9,000 new jobs created specifically from overseas businesses. Space, aerospace and defence play a big role in the region's economy through globally recognised players such as Lockheed Martin Corporation, Airbus, BAE Systems, and Marshalls Aerospace and Defence Group. London and the southeast are also important finance centres, not just in the UK but internationally. It alone employs 280,000 in the financial sector, contributing £20 billion to the economy.

Technology is another established and fast growing sector, with a significant presence from companies such as Cisco, Microsoft, Huawei, and Intel. In Cambridge, around 1,500 tech firms generate annual revenues of £13 billion.⁷

The south also has a number of Enterprise Zones – hubs which focus on specific industries. For example, Discovery Park in Kent has a focus on health

science, ⁸ while Aerohub Business Park in Cornwall specialises in the aerospace sector. ⁹ Harlow Enterprise Zone located along the UK's 'Innovation Corridor' between London and Cambridge, serves businesses within the medical technology, life sciences and ICT sectors and has the largest data centre development in the southeast. ¹⁰ The Great Yarmouth and Lowestoft Enterprise Zone offers opportunities for businesses in the offshore wind sector. ¹¹

Driving success in the southwest

Another major business initiative is Great South West – a partnership between business leaders, local enterprise partnerships, universities, colleges and local government with the aim of adding almost £45 billion to the economy by 2035.

Great South West encompasses the areas of Cornwall, Isles of Scilly and 'Heart of the South West' (Devon, Somerset, Plymouth and Dorset)¹² – an area of more than 17,000km². It has a population of more than three million, with an economy of £65 billion and almost 128,000 businesses. It is also the largest single tourist region in the UK outside of London, attracting 17 million staying visitors, contributing £8.1 billion of gross value added (GVA), and supporting 199,000 full-time equivalent jobs.¹³

Building on its traditional sector strengths in food, farming and hospitality, Great South West has ambitions to develop its business base in areas including hi-tech engineering, data science, low carbon energy, financial services and the creative industries. The city of Exeter, in Devon, has a burgeoning reputation as a financial and professional services hub, while the region in general is seeing rapid growth in sectors such as the marine industry, environmental science, aerospace and defence, advanced engineering and agriculture technology.

It is also home to Hinkley Point C in Somerset, the UK's first nuclear power station in 20 years. Hinkley Point C will provide low-carbon electricity for around six million homes, create an estimated 25,000 jobs and offset nine million tonnes of carbon dioxide emissions a year — or 600 million tonnes over its 60 year lifespan.¹⁴

In the meantime, investment opportunities are booming across the whole of the South of England. From Bristol's City Leap programme to transform the city into a zero-carbon, smart energy city by 2030 through low-energy projects, 15 to Cyber Central in Cheltenham, Gloucestershire, which will provide 220,000m² of high-tech commercial space, 16 the South remains one of the world's major powerhouses in commerce and innovation.

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Northern Ireland: A hotbed of innovation

Kevin Holland, CEO, Invest Northern Ireland



Kevin Holland

It is of little surprise that innovation has become a powerful driver for growth, not only for businesses but also for economic development and prosperity. The small but resilient nation of Northern Ireland continues to be at the forefront of many ideas that have transformed industries, as innovation is a key pillar of the country's economic strategy.

With Northern Ireland in the global spotlight this year, here's a look at our story and how innovation is embedded in our culture and DNA.

100 years of innovation - Our story in the making

Let's take Harry Ferguson for instance. A Northern Irish mechanic who invented the modern tractor, Harry gives us a clue as to how his idea evolved amid the green fields of Northern Ireland. The invention of the modern tractor began with a problem. Early tractors were not only inefficient but downright dangerous, often overturning while pulling a plough. Harry's solution was the three-point linkage system, where the tractor and plough became an integral unit – his genius of which would soon transform agriculture around the world.

Harry is just one of many great Northern Irish innovators, and like him, their innovations began with a problem. Another is William Thompson (later known as Lord Kelvin) who is sometimes described as the "father of modern science". He was the first to determine the correct value of absolute zero, among a host of other achievements. Additionally, Northern Irish physicist, Ernest Walton, was a member of the team that first split the atom. And not to forget, James Martin whose aeroplane ejector seat is responsible for saving more than 7.600 lives to date.

The tradition continues

Northern Ireland has kept up its tradition of innovating to provide solutions, with world-changing breakthroughs in many fields — once known for its ship building prowess, Northern Ireland has emerged not only as a dynamic centre for cybersecurity, but also FinTech and life and health sciences. This has been made possible today, with the ever growing ecosystem ably supported by our world class universities, industry and government.

Let us take Covid-19 for example. Global health diagnostics company, Randox Laboratories, plays a leading role as we adapt to the post-pandemic world. Based in Northern Ireland, their highly efficient rapid test is a game changer, especially for the travel industry.

Meanwhile, CrowdVision delivers real-time data to ensure the safety of millions of Hajj pilgrims in Makkah, and queuing management software for Muscat International Airport in Oman. Their technology has been critical in ensuring social distancing during the pandemic.

Over 1,000 hospitals worldwide use the TRITEMP™ non-contact thermometer, developed by Northern Ireland firm TriMedika. It has been instrumental in specialist units such as neonatal wards and ICUs to advance their infection control strategies.

However, I would say that FD Technologies' story sums up what I love about Northern Ireland the most — humble beginnings and resilience. Founded by Brian Conlon in his mother's spare bedroom with a £5,000 loan in 1996, the company now leads the data-driven digital revolution that is transforming the

global capital markets sector. The company's powerful Kx technology accesses and analyses trillions of historical and streaming data records in real-time and is now being used by NASA to tackle exploration research challenges. Today, FD Technologies is one of the largest indigenous software companies in Northern Ireland.

The spirit of Northern Ireland's people and their resilience is sure to impress anyone. It is absolutely no wonder that Northern Ireland's knowledge economy is one of the fastest growing in the UK. Innovation, people and ultimately, a country can only thrive with adequate support and backing through both capital investment and academic research and R&D. Our two world-class universities, Queen's University and Ulster University are vital to achieve this. Over 72% of Northern Ireland's university research activity is recognised as world-leading or internationally excellent, a statistic to be proud of. As well as generating a stream of highly skilled graduates, these institutions have developed globally recognised research centres like The Institute of Electronics, Communications and Information Technology (ECIT) at Queen's and Ulster University's Intelligent Systems Research Centre (ISRC). In partnership with Invest NI, Queen's have also founded the prestigious Precision Medicine Centre of Excellence.

With a strong pool of talent, world-class technology and a high quality of life for knowledge workers, Northern Ireland is the #1 international investment location for US cybersecurity firms and the world's top region for FinTech inward investment.

What lies ahead for Northern Ireland in the UAE?

The UAE is a no stranger to Northern Ireland. A number of companies from Northern Ireland have set up regional offices in the UAE. From supplying carpets to some of the best hotels in the UAE, to working with relevant stakeholders in the waste management sector, to helping set up a college of medicine in Dubai, Northern Ireland continues to script its growth story in the region.



Belfast, Co. Antrim" / Image Credit - Invest NI

Like the rest of the world, I am excited about the UAE hosting Expo 2020 in the new normal. The UK's participation with the theme 'Innovating for a Shared Future' is apt for the current world we live in. Working with the UK pavilion, Northern Ireland will showcase some of its best stories over several breakthrough moments whilst continuing to work with stakeholders in the UAE to make the world a better place.

Kevin Holland is the Chief Executive of Invest Northern Ireland. He previously served as Minister-Counsellor for Life Sciences, Health and Social Care at the British Embassy in Beijing from 2016 to 2019. Before then, Holland was with Baxter for 15 years where he led the company's businesses in the Middle East and Africa based in Dubai, Russia, Turkey and across Europe. Kevin has led multiple scientific innovations from R&D to industrialisation, commercial launch and patient access. Holland graduated from Oxford University with an MA in Chemistry and received his MBA from the IMD Business School in Switzerland.

Northern Ireland: A centre for innovation and investment

Northern Ireland is located in the northeast of the island of Ireland and is separated from the UK mainland by the Irish Sea.

It is the only region of the UK to share a land border with a separate state – namely, the Republic of Ireland to the south and west.

It has a strong tradition of industry innovation. One in five computer drives include components made in Northern Ireland, and it produces one in three of the world's aircraft seats.¹ Its capital, Belfast has been ranked in the top ten "Tech Cities of the Future" for 2020/2021 by the Financial Times fDi Intelligence² and is rated the number one international investment location for US cyber security projects.

The incentives Northern Ireland provides have made it highly attractive for private investment. Operating costs are up to 30% lower than other locations within the UK and Europe, and it has some of Europe's lowest prime office rental costs. At 19%, it has one of the lowest corporation tax rates in the G20 and the second lowest in Western Europe. Over 1,100 international companies have invested in operations there and 75% of new investors have reinvested.³

One of the key factors attracting global brands to the region is its excellent communications infrastructure. With a fully-digital, fully-fibre optic

communications network, it is the first region in Europe to achieve 100% broadband coverage and one of the first to operate high-speed, next-generation services, with a 100GB per second link to North America and Europe. In terms of travel connectivity, its three airports have daily direct flights to a variety of European business locations and it is under two hours by road or rail from Belfast to Dublin, the capital of the Republic of Ireland.

Unique educational environment

With 53% of its residents under the age of 40, Northern Ireland has one of Europe's youngest populations. Its network of regional colleges enrols almost 154,000 students in its professional and technical programmes. It also attracts large numbers of overseas students to its universities, schools and vocational colleges.

Students in the region consistently outperform candidates from other areas in the UK at GCSE and A-Level. According to a major survey, it has the best performing education system for primary maths in Europe, and the sixth best in the world. Employers also benefit from lower than average labour turnover rates.⁵

It is home to two world-class universities. Queen's University Belfast is more than 175 years old and a member of the Russell Group of 24 leading



Northern Ireland has one of the UK's fastest growing technology clusters with more than 1,200 companies.



UK research-intensive universities. Ulster University has more than 27,000 students from 100 countries across four campuses.

Both universities have world leading expertise in large-scale data analysis, machine learning and artificial intelligence in health, financial services and cyber security. This leaves the region well placed to develop services and solutions to government, civic and private organisations. The Institute of Electronics, Communications and Information Technology (ECIT) at Oueens University is host to the award-winning UK Innovation & Knowledge Centre for Cyber Security and The Centre for Secure Information Technologies, among other globally recognised research hubs. In fact, over 70% of Northern Ireland university research activity is rated world-leading or internationally excellent, according to the most recent Research Excellence Framework (REF) assessment.6

Building industry on innovation

Food and drink manufacturing is Northern Ireland's largest industry sector, valued at £5 billion. Traditionally based on family farms and fishing businesses, it has become home to a number of centres of excellence. The Agri-Food and Biosciences Institute (AFBI), for example, conducts high-technology research and development, diagnostic and analytical testing for Northern Ireland's Department of Agriculture, Environment and Rural Affairs (DAERA), other government departments, public bodies and businesses.

Similarly, the Institute for Global Food Security at Oueen's University Belfast advises the UK and other governments on food safety. While at Ulster University, the 100 strong team at the Nutrition Innovation Centre for Food and Health is researching the potential impact of diet and food quality on conditions such as ageing, obesity, cancer, heart disease, osteoporosis and cognitive decline.

Unleashing technology

Thanks in part to its superfast digital communications infrastructure, including its high capacity, low-latency transatlantic cable system, providing direct connectivity to North America, Northern Ireland has one of the UK's fastest growing technology clusters with more than 1,200 companies. These include 100 global technology leaders such as Fujitsu, SAP, Cisco-owned Broadsoft, semiconductor manufacturer Xilinx, cyber security giant Rapid7 and leading application security firm Whitehat Security.⁷

In health and life sciences, the region benefits from a strong collaborative approach between industry, academia and clinicians. Through its engineering, technological and construction expertise, it is also positioned as a renewable energy hub. It has more than 150 companies with the capability to provide a range of innovative products and services to address the specific needs of the clean energy and water supply chains.

In the creative and digital space, Northern Ireland is home to a cluster of companies who work with international partners to deliver creativity within animation, audio technology, mobile content, e-learning and music. Its burgeoning animation sector is supported by specialised graduate and undergraduate courses in computer animation for games, visual effects, feature and TV animation.

Its advantages as a uniquely scenic destination for location shoots also regularly attracts international names. Universal Pictures, Disney and HBO have all chosen Northern Ireland for recent productions and much of the fantasy epic, Game of Thrones, was filmed there.

Eyes on Northern Ireland

Northern Ireland is set to remain a key location for future investment. It has a strong base of innovative local companies, highly-developed infrastructure and a competitive investor environment which has already proved to be a strong combination for success.

Add into the equation a youthful population, an advanced technological base attracting some of the most innovative international organisations, and Belfast's ranking among the top ten cities of the future, it is clear Northern Ireland is continuing to forge its future as a leading global business location.



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Scotland: Forging opportunities north of the border

Scotland is an increasingly popular location for inward investment into the UK outside of London. The region prides itself on its leading reputation for R&D, its strong manufacturing and financial services sectors, commitment to innovation and high levels of employee retention.

As an indication of its dynamism, over £20 billion has been invested into its transport infrastructure and services over the past five years, exports of chemicals have averaged £4 billion annually, and there are 220,000 people employed in its construction sector.¹

There are more than 500 contact centres and global business services companies, while the digital media sector is at the forefront of innovation in applications, music, TV, publishing and games.² There is also significant potential for investment and growth in other sectors including aerospace, financial services, life sciences and renewable energy, with 25% of Europe's developed offshore wind and tidal resources in Scotland.³

As a devolved nation within the UK, Scotland makes its own decisions in areas including education and training, health and social services, housing, agriculture and the environment.

However, there are still some aspects of governance which remain centralised in London. These include the constitution, defence, employment, immigration, trade and industry and foreign policy.

Pioneering in technology

Digital technology is Scotland's fastest growing sector for inward investment – 11,200 tech companies contribute £6.5 billion to the economy. It has centres of excellence offering collaboration platforms within several sectors.

These include cyber security, data, FinTech, games, global business services, software and IT, space and waste and wastewater technology. Its Internet of Things (IoT) network is the UK's most advanced of its kind, creating an environment for companies to test, develop and commercialise new services.

Scotland's universities produce 15,000 graduates in digital technology each year, and it employs 100,000 people across its digital and technology industries. Edinburgh is the UK's top city for start-ups and Glasgow is one of the largest technology investment hubs.⁴

Advances in energy

With 12,000km of coastline, significant government support and world-class research and development facilities, Scotland is also a world leader in the renewable energy sector.

Known as the 'windbreak of Europe' due to its location, Scotland has more than 4GW of offshore wind already operational or under construction – enough to power around 1.4 million homes – and 6GW scheduled.

It is home to the world's first tidal array (an emerging technology to turn tidal energy into electric power), the world's first floating offshore wind farm, and one of Europe's largest hydrogen bus fleets. It also has the world's largest energy research group of more than 700 renewable energy scientists, engineers and academics.

A new power plant at Peterhead in the northeast of Scotland is the world's first gas-fired power station to be equipped with carbon (CO_2) capture and storage technology. The facility can capture up to 1.5 million tonnes of CO_2 every year - 15% of the UK's 2030 target.



As an indication of its dynamism, over £20 billion has been invested into its transport infrastructure and services over the past five years.



There is a huge forward programme. Launched in 2020, the ScotWind initiative, for example, aims to deliver an extra 10GW of wind energy by 2035 and a further 16GW in future years. It enables companies of offshore renewables to apply to build Scotland's new generation of offshore wind farms. It has the potential to power every home in Scotland with green electricity, and help achieve net zero carbon emissions by 2045.5

Another significant energy development is the Acorn Hydrogen project in St Fergus in the northeast. This will be Scotland's first large-scale hydrogen infrastructure programme aimed at meeting the Scottish and UK Governments' 2050 net zero targets.6

The project will initiate, test and develop a cost-effective way of converting North Sea gas to cleaner fuel – blue hydrogen linked to carbon capture, utilisation and storage. The wider aim is to develop large-scale hydrogen production. The project is intended to be a catalyst for developing the hydrogen market both within Scotland and other markets.⁷

Food for thought

Food and drink are among the world's most staple industries, and Scotland is no exception. There are 122,000 people working within the sector and it has set an ambition to be among the lowest carbon and most efficient food producers in the world by 2032.

With a £15 billion turnover and £5.5 billion gross value added (GVA), it already leads the way in Europe for food production, food manufacture, food and drink research, and food technology – and it is on track to meet its revenue target of £30 billion by 2030.8

Top for tourism

In terms of tourism, Scotland is considered to be one of the UK's most scenic locations and consistently outperforms the rest of the country in attracting visitors. It saw £11.5 billion total visitor spend in 2019, with 13.8 million overnight domestic visitors within Scotland and elsewhere in the UK, plus 3.5 million international visitor overnight stays.9

Over recent years, Scotland's profile on the world map has continued to grow. It has harnessed the advantages of its natural beauty, and the geographical advantages that have made it a world leader in renewable wind energy. And by increasing its leadership in areas such as sustainable food technology and the digital economy, it has placed itself in the unique position of keeping one foot in its heritage and the other firmly in the future.

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³https://www.great.gov.uk/international/content/about-uk/regions/scotland/

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Wales: A fast-growing economic hub

Positioned on the west of the UK and bordering it from north-to-south, Wales has fast become a major investment hub — home to 6,000 businesses, including more than 700 multinational companies such as Ford, Toyota, GE and Panasonic. With more than 30 seaports and the UK's fastest growing manufacturing sector, it exports goods valued at over £16 billion annually.

In the 2019/20 academic year, Wales' eight universities and 13 further education colleges were home to 226,375 students from more than 170 countries. Over 47% of working-aged people in Wales are graduates, the second highest proportion outside London, while businesses can also tap into the UK's pool of over 14 million graduates.²

Robust and secure technology industry

Wales' well-established technology infrastructure employs 45,000 people and contributes more than £8 billion a year to the country's economy. There are 3,600 tech businesses in Wales, which include over 400 electronics businesses and more than 250 telecoms-related companies.³

Welsh tech businesses have a secure and robust technical backup infrastructure. Europe's largest Data Centre Campus, run by Vantage Data Centers, is based in Cardiff, the country's capital. It can house IT hardware infrastructure of any capacity and provide regional, national and global connectivity.

Compound semiconductors (CS) in south Wales is at the heart of the next industrial revolution, with academia, government and industry all collaborating to establish the world's first compound semiconductor cluster – CS Connected. IQE – another giant in the industry and headquartered in Cardiff, has a 55% global market share in the sector, meaning a high proportion of the world's smartphones contain a component made at the company. Compound semiconductors are integral to the development of smartphones, Wi-Fi, satellite communication systems, robotics and energy-efficient light-emitting diodes (LEDs).

Advanced manufacturing innovator

Wales' productivity in the advanced manufacturing sector is higher than the UK average, with a 165,000 strong workforce and more than 2,700 engineering graduates every year.⁵

The country's aerospace industry continues to thrive, with 160 aerospace and defence companies employing 20,000 people, generating almost £5 billion in annual revenues⁶ and attracting some of the world's leading companies. These include BAE Systems, British Airways, GE Aviation, General Dynamics UK, Raytheon UK, Safran and Qioptig S.A.R.L.

The aviation sector also benefits from specific enterprise zones at Cardiff Airport and Bro Tathan Business Park in the Vale of Glamorgan and it forms



Around 58,000 people work in Wales' energy and environment sectors, with innovations in marine energy and low-carbon projects.



a key component of Anglesey, Snowdonia and Deeside enterprise zones.⁷ Airbus Group in North Wales alone employs 6,500 people at its civilian aircraft wing plant.

Wales' automotive industry is equally buoyant. Powerful links between industry and its universities have created a strong R&D foundation for future automotive innovation. Toyota's Deeside plant, for example, produces around 1,300 hybrid engines per day.

Two luxury car makers are also investing in Wales to bring their latest prototypes to market. Aston Martin has opened a plant in St Athan (within Cardiff Airport) to build its new DBX Crossover model. At full capacity it will employ 750 workers.8 Likewise, TVR will build its new high-performance car at Ebbw Vale Enterprise Zone using an innovative iStream carbon system manufacturing process.9 These projects will add considerably to the £140 million investment already committed by the Welsh automotive sector.¹⁰

Pioneering a low carbon economy

Around 58,000 people work in Wales' energy and environment sectors, with innovations in marine energy and low-carbon projects, generating more than £5 billion in revenue. Utility companies are investing in sustainable energy sources and the country's deep seaports are also equipped to support renewable projects.

The Government aims to make the country a low carbon economy and to eliminate landfill by 2050. It also wants to be globally recognised as a leading location for the development and delivery of emerging technologies by 2027 - particularly in the automotive sector. It has also pledged to invest around £100 million in the Tech Valleys programme (the advancement of technology into artificial intelligence, autonomy, advanced robotics and machine learning for industry, academia and the public sector)¹¹ through to 2027. It is thought the programme will create more than 1,500 jobs in emerging disruptive technologies, including advanced automotive materials/manufacturing and autonomous processes.12

A £20 million state-of-the-art R&D facility in North Wales, the Advanced Manufacturing Research Centre (AMRC Cymru), 13 opened in 2019 with a focus on advanced manufacturing sectors including aerospace, automotive, construction, energy and health. The Centre provides support to key manufacturing firms, multi-sector supply chain companies and more broadly, the SME economy.

In terms of life sciences, Wales is developing significant capabilities in MedTech, e-health diagnostics and cell therapy. Its fast-growing regenerative medicine ecosystem includes academics, the UK National Health Service (NHS), Government and clusters of excellence in areas such as vitro diagnostic (tests that can detect disease, conditions and infections), wound care and single-use technologies which are greener to produce with lower production costs. ¹⁴ As a whole, the Welsh life sciences industry has a turnover of around £2 billion, employing over 12,000 people across more than 360 companies, ranging from SMEs and start-ups to large blue-chip firms. ¹⁵

Culture of collaboration

The Western Gateway project, launched by the British and Welsh governments in 2019, aims to encourage economic cooperation between south Wales and southwest England.

The initiative is focused on cities on both sides of the River Severn which joins the two regions. These include Newport, Swansea, Cardiff, Bristol, and Bath. It aims to rival similar regional cooperations such as the Northern Powerhouse – the UK Government's vision for a super-connected, globally-competitive northern economy, and the Midlands Engine – a partnership which brings together businesses, universities and the public sectors to generate added value.

Wales has already made huge strides in progressive areas of industry. These strides, combined with building national cooperations, sets the country on a firm footing for the future.



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