



CRYPTOCURRENCIES AND THE BLOCKCHAIN TECHNOLOGY IN THE MIDDLE-EAST

Government stance, regulatory framework, actors and projects

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البلوكتشين و العملات الرقمية في الشرق الأوسط

موقف الحكومة والإطار التنظيمي والجهات الفاعلة والمشاريع

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Introduction

Cryptocurrency was born controversial. The volatile nature of cryptocurrencies, along with the lack of understanding and control over their use, has then pushed many countries to hold a vigilant stance towards them. Instead, national digital currencies (CBDC) and various blockchain technology applications have become new hypes. However, regulation of digital currencies is steadily growing in most countries, with a decisive impact on the development of their business ecosystems.

In the Middle-East, only two governments have issued a **strong framework** to fight financial crimes while promoting innovation (UAE, Bahrain), whereas the others have **banned** (Egypt, Iraq, Qatar) or strongly **advised against** (Jordan, Lebanon, Oman, Saudi Arabia) the use of decentralized digital currencies. Meanwhile, Iran, Turkey and Kuwait have adopted ambiguous or **contradictory stances** on the matter, in part with geopolitical implications, leaving the private sector in the dark. Other uses of the underlying blockchain technology are usually promoted, at the exception of Iraq and Syria where the war and devastated economy hinder the government's ability to encourage the tech sector.

This study aims at clarifying the government stance and regulatory environment for digital currencies and the blockchain technology in each of the 13 Middle-Eastern countries covered, as well as identifying the institutions, individuals and businesses that shape or constitute their ecosystems.

COUNTRIES WITH A COMPREHENSIVE FRAMEWORK

Bahrain, United Arab Emirates

1. Digital currencies

The two countries of the region with the most advanced regulatory framework for digital assets, and consequently the most thriving business ecosystems, have experienced differing processes to reach this point. While Bahraini authorities have started expressing their interest in both digital assets and the blockchain technology at least since 2017, the UAE Central Bank had first prohibited “all virtual currencies [and any transactions thereof]” in January 2017, before recognizing them as commodities in October in its Regulatory Framework for Stored Values and Electronic Payment Systems¹. Central Bank Governor Mubarak Rashid al-Mansouri however issued a public warning against the use of virtual currencies as a medium of exchange². Early 2018, the UAE authorities were still strictly focused on warning investors about the risks of ICOs and cryptocurrency scams. But the official stance changed after December 2018, when the government started issuing strong regulations on ICOs and crypto assets, based on a previous light ICO guidance. New funding was opened through a regulatory sandbox, and the country became an ICO hub, with over 160 projects funds this way in 2018.

But it is in the first half of 2019 that Bahrain and the UAE released some of the most advanced digital assets regulatory frameworks in the world.

1.1. Bahrain

In February, after a public consultation, the Central Bank of Bahrain (CBB) was first in the region to introduce its final regulations to boost innovation while ensuring strict Know-Your-Customer & Anti-Money-Laundering (KYC/AML) compliance and security. Its new Capital Markets Rulebook module on crypto assets requires any VASPs to obtain a

¹ [Regulatory Framework for Stored Values and Electronic Payment Systems](#), UAE Central Bank, January 2017

² [UAE Central Bank warns against cryptocurrencies — again](#), Gulf News, February 2018

CBB license and insurance for cryptocurrency funds, while ensuring wallet retrievability and traceability and monitoring of funds and transactions³. The CBB had also created a Regulatory sandbox in 2017 to ease the fintech industry and investigate the credentials of interested organizations⁴. After a green signal from the authorities, these companies are registered in Bahrain. Then, the Fintech Bay establishes the company, which can test its solution locally. Of the 33 companies that were approved, half of them are VASPs, including exchange and trading platforms. Rain, in particular, was certified by the Shariah Review Bureau as the first Sharia-compliant digital currency exchange, and the Stellar blockchain payments network was certified halal by the same institution 2018^{5,6}. In January 2020, Central Bank governor Mubarak Rashid al-Mansouri said it will pilot a new CBDC toolkit developed by the World Economic Forum to evaluate whether a CBDC is adapted to the Bahraini economy and guide through the process.

1.2. United Arab Emirates

Three months after Bahrain, the UAE's Abu Dhabi Financial Services Regulatory Authority (FSRA) enhanced its basic June 2018 "Guidance for the Regulation of Crypto Asset Activities" and amended its Financial Services and Markets regulations to include additional requirements for "Operating a Crypto Asset Business"^{7,8}. Chapter 17 of the FSRA Conduct of Business Rulebook now requires crypto asset businesses to apply for a Financial Services Permission and thus become an OCAB holder subject to the FSRA's AML and sanctions rules and guidance as well as to the recommendations of the Financial Action Task Force. Among these requirements, and following a KYC-AML risk-based approach, "the FSRA expects that OCAB Holders may seek to utilise technologies and solutions available in the market to meet their regulatory obligations (e.g., KYC, detection of fraud, transaction identification and reporting)". The Securities and Commodities Authority drafted a resolution on regulating crypto-assets in October

³ [CRA Crypto-Assets](#), Central Bank of Bahrain, April 2019

⁴ [FinTech & Innovation](#), Central Bank of Bahrain, 2017

⁵ [Shari'a Compliance](#), Rain, February 2019

⁶ [Stellar Becomes First Sharia-Compliant Certified Blockchain for Payments and Asset Tokenization](#), Cointelegraph, July 2018

⁷ [Guidance – Regulation of Crypto Asset Activities in ADGM](#), FSRA, June 2018

⁸ [Financial Services and Markets \(Amendment 2\) Regulations](#), ADGM, June 2018

2019, and published it for public consultation from the industry⁹. In February 2020, OCAB regulations were updated to align with the FATF terminology and moved to the Regulated Activities chapter¹⁰. There are at least between 15 and 20 virtual asset service providers in the UAE, and half a dozen in Bahrain. The most famous ones are Rain, Palmex, BitOasis and FICE, the ‘Shariah-compliant’ First Islamic Crypto Exchange. Joining the debate over the compatibility of digital currencies with Islam, a group of Emirati entrepreneurs founded in 2017 OneGram, a Swiss-based, gold-backed, and Shariah-compliant digital token¹¹. Considering the emergence of a tech-savvy youth in the country, authorities tried to keep them away from foreign exchanges and decided to promote local, regulated and shariah-compliant platforms such as FICE, that support local currency instead of dollars.

Meanwhile, in January 2019, the UAE Central Bank and Saudi Arabia Monetary Authority (SAMA) announced the development of Aber, a joint cryptocurrency for interbank transactions for use by the two countries’ central banks and a selection of private banks¹². The project was confirmed in November 2019¹³.

Similarly but on the e-commerce side, Dubai’s Department of Economic Development has developed an electronic currency, EmCash, to facilitate point-of-sale payments in a partnership with Singaporean blockchain payment provider Pundi X and Emirati PoS terminal provider Ebooc. EmCash is pegged to the national dirham.

2. Blockchain innovations

Unsurprisingly, the two countries are also innovation hubs with regards to the blockchain technology.

⁹ The SCA seeks the opinion of partners in the financial industry on a draft decision regulating crypto-assets, Securities and Commodities Authority, October 2019

¹⁰ Financial Services and Markets (Amendment 2) Regulations, ADGM, June 2018

¹¹ OneGram: The Gold Backed Cryptocurrency, OneGram, September 2018

¹² Statement on Launching “Aber” Project, SAMA, January 2019

¹³ Saudi-UAE Leaders Confirm Forthcoming Jointly-Issued Digital Currency, Cointelegraph, November 2019

2.1. Bahrain

As early as February 2017, Bahrain has held talks with Singapore's Monetary Authority on plans for a pilot blockchain project for interbank payments¹⁴. The matter is understood at highest level: at a major cybersecurity and blockchain conference, Ministry of Electricity and Water Affairs Abdulhussain Mirza stressed the importance of blockchain for the country's economy, especially "to facilitate transactions... [and] to protect user's data (...) in different industries"¹⁵.

But the first live applications of the technology were introduced in 2019 with the General Directorate of Traffic (GDT) launching a tender for a blockchain-powered vehicle registration system¹⁶, the Saudi British Bank and HSBC Bank completing a blockchain-based transaction between Saudi Arabia and Bahrain using R3's Corda system¹⁷, and the University of Bahrain announcing they would record diplomas on Blockcerts' blockchain¹⁸.

2.2. United Arab Emirates

The UAE are even more ambitious: in 2016, Dubai launched a Blockchain Strategy to become the first blockchain-powered city by 2020¹⁹. Concomitantly, the Dubai Future Foundation created the Dubai Future Accelerators as well as a Global Blockchain Council with 46 public, private, local and international members to explore applications, and organize transactions through the Blockchain platform²⁰. In April 2018, the government launched the Emirates Blockchain Strategy 2021 to transform 50% of government transactions into the blockchain platform by 2021²¹. The Dubai

¹⁴ [Bahrain in talks with Singapore on blockchain pilot](#), Arabian Business, February 2017

¹⁵ [Bahrain: Government Official Hails Blockchain as 'True Mark of Progress'](#), Cointelegraph, September 2017

¹⁶ [Design and Implement a Vehicle Registry for the General Directorate of Traffic Using Blockchain Technology](#), Kingdom of Bahrain Tender Board, July 2019

¹⁷ [Scrapping Papertrail Via Blockchain Technology](#), Gulf Business, January 2020

¹⁸ [BlockChain](#), University of Bahrain, 2019

¹⁹ [Dubai Blockchain Strategy](#), Smart Dubai, 2016

²⁰ [Global Blockchain Council](#), Dubai Future Foundation, March 2016

²¹ [Emirates Blockchain Strategy 2021](#), UAE Government Portal, April 2018

Blockchain Center was inaugurated by the Prime Minister in May 2018, to bring together blockchain thought leaders, developers, investors, and educators.

Dubai also launched the Dubai Tourism Blockchain Marketplace connecting hotels and tour operators for more tailored travels in the Emirates²².

In October, IBM and Smart Dubai, which has a full blockchain pillar, announced the launch of the Dubai Blockchain Platform which will be the core infrastructure through which all Dubai government blockchain applications would run²³. For instance, the Smart Dubai Office has launched in association with the Dubai Department of Finance a blockchain-powered 'Payment Reconciliation and Settlement' System²⁴. This system enables real-time payments within and between government structures, such as the Dubai Electricity and Water Authority, the Knowledge and Human Development Authority, the police, courts, airports, customs, municipality, etc.

The same month, Abu Dhabi Ports' subsidiary Maqta announced it is working in collaboration with logistics giant Mediterranean Shipping Company (MSC) on streamlining the transit of cargo ships with its Silsal blockchain²⁵. Abu Dhabi Ports has also partnered with the Port of Antwerp to test blockchain-based freight documents management.

In September, the Dubai International Financial Centre (DIFC) announced its partnership with Smart Dubai to develop a 'Court of the Blockchain'²⁶. The organization aims to explore the potential of the technology in addressing the shortcomings of the UAE's legal system, for example by introducing blockchain-based verification of court judgements.

Shortly after, Abu Dhabi National Oil Company partnered with IBM to track oil products and automate transactions with IBM's Hyperledger product²⁷.

²² [Dubai plans to create Blockchain marketplace for tourism](#), Arabian Business, March 2018

²³ [Smart Dubai and IBM to Offer First Government-Endorsed Blockchain Platform](#), Smart Dubai, October 2018

²⁴ [Smart Dubai Launches Blockchain-Powered System](#), Smart Dubai, September 2018

²⁵ [Abu Dhabi Ports first local entity to test Blockchain Trade Solutions internationally at GITEX Technology Week](#), Maqta, October 2018

²⁶ [DIFC Courts and Smart Dubai launch joint taskforce for world's first Court of the Blockchain](#), DIFC Courts, July 2018

²⁷ [Adnoc pilots blockchain programme across value chain with IBM](#), The National, December 2018

In December, Abu Dhabi's Financial Services Regulatory Authority along with KPMG and major Abu Dhabi banks concluded the first phase of their blockchain-based e-KYC utility project²⁸.

As part of the Dubai Multi Commodities Centre, blockchain marketplace Trade Assets was launched in February 2019 to modernize access to the secondary trade market. Several banks from the UAE, India, Egypt, the Netherlands and Bangladesh joined the platform.

Dubai Future Accelerators and Emirates Airlines launched 3 Blockchain Challenges in March 2019: Build a platform that will redefine B2B purchasing and procurement for the airline; Create an integrated platform to support a seamless pre-airport arrival experience for customers; and Develop an online system that consolidates all the different processes and steps involved in a cabin crew duty travel. For instance, the third one was won by the British VChain Technologies.

In May 2019 the Dubai Land Department partnered with Mashreq Bank to launch a blockchain based e-mortgage platform.

In June, the Dubai Chamber of Commerce signed a MoU with the International Chamber of Commerce to offer blockchain trade solutions, supporting Dubai Chamber's Digital Silk Road trade platform²⁹.

The Department of Economic Development in Dubai announced in October the launch of a unified business registry platform hosted on the Dubai Pulse blockchain platform to enable license issuers to manage trade licenses and corporate registries³⁰.

In October, Emaar, the largest real estate company in the UAE and owner of the Burj Khalifa, announced it would issue security tokens on JPMorgan's Quorum platform and may launch an ICO enabling its customers and stakeholders access to the referral and loyalty system across the entire company³¹. The EMR token was expected to be issued

²⁸ [ADGM successfully concludes 1st industry E-KYC utility project with UAE financial institutions](#), ADGM, December 2018

²⁹ [Dubai Chamber Partners With ICC and Perlin to Boost Adoption of Blockchain Trading Solutions](#), Dubai Chamber, June 2019

³⁰ [Dubai Economy, Dubai Pulse unveil blockchain-based unified registry platform](#), Saudi Gazette, October 2019

³¹ [Emaar to Launch Blockchain-Based Token Rewards Program EMR By Year-End on JPMorgan Quorum Technology](#), Emaar, October 2019

at the end of 2019 with an early sale of rights conducted by Bitcoin Suisse AG, but its launch was delayed.

The Ministry of Health and Prevention (MoHAP) launched in February 2020 a blockchain-based health data storage platform³².

In March, the DIFC and Mashreq Bank launched their new blockchain KYC data-sharing platform for all licensed businesses to open digital bank accounts instantly by verifying their identity³³. DIFC-incubated fintech firm Norbloc provided the blockchain platform. Six banks are part of the consortium: Emirates NBD, HSBC, Emirates Islamic, RAKBank, Abu Dhabi Commercial Bank and Commercial Bank of Dubai.

³² [MoHAP launches blockchain-based platform for storing data](#), Emirates News Agency, February 2020

³³ [DIFC and Mashreq Bank Launch Instant Bank Account Opening with the Region's First KYC Blockchain platform](#), DIFC, March 2020

COUNTRIES THAT HAVE BANNED CRYPTOCURRENCIES

Egypt, Iraq, Qatar

1. Digital currencies

Digital currencies are viewed by several governments in the region as a highly risky and illegitimate innovation, both because of their volatility and the fear of their use for financial crimes, terror-financing, and undermining the national currency's sovereignty. There has also been debates in the religious communities over the haram or halal nature of cryptocurrencies.

1.1. Egypt

In Egypt, the Central Bank (CBE) shut down several early projects between 2015 and 2017, such as Lebanese crypto startup Yellow's Bitcoin vouchers and planned exchange platform, and the Bitcoin Egypt cryptocurrency exchange. CBE deputy governor Gamal Negm made it clear in 2017: banks are not allowed to deal with any other currency than the official one, and no entities are authorized to trade Bitcoin³⁴. The same year, Egypt's Islamic legislator Dar Al Ifta prohibited Bitcoin in a religious decree³⁵. In 2018, Egypt's Grand Mufti Shawki Allam issued a fatwa against cryptocurrency trading, considering that its volatility and anonymity could undermine the legal system by enabling tax evasion, money laundering, fraudulent activities and terrorism³⁶. Although a fatwa doesn't have any legal power, this statement counts as a high-level opinion. However, in December 2018, CBE sub-governor Ayman Hussein said feasibility studies were being conducted to develop a digital version of the Egyptian pound³⁷. The CBE also took part in a multi-bank, multi-national study for trial credit transactions based on the R3 blockchain platform. A few months later, a banking draft law was introduced to

³⁴ [Authorities nix notion of bitcoin banking in Egypt](#), Al Monitor, July 2017

³⁵ [Fatwa on Bitcoin trading](#), Dar Al Ifta, Deember 2017

³⁶ [Mufti of the Republic: Dealing in "Bitcoin" currency is not permissible under Islamic law](#), Al Ahram, January 2018

³⁷ [Egypt Might Have Its Own Digital Currency Soon](#), Al Bawab, December 2018

lift the ban on the creation, trading and promotion of cryptocurrencies in the country³⁸. The bill would allow the Central Bank to regulate the sector, including by issuing licenses to operate a crypto business. But the Central Bank has not expressed its position on the bill yet. In spite of a constraining regulatory environment, there seems to be a blooming crypto community with a black market, established on social networks. This is probably pushed by the severe inflation that has prevailed in the country, where only about 15% of citizens have bank cards and accounts. A few companies also seem to be operating in the crypto business without any licence. The government however seems to be luring at the profits that cryptocurrencies can generate. According to a report from The Citizen Lab, it seems that the government has been secretly infiltrating its citizen's computers to mine cryptocurrencies³⁹. This scheme is called AdHose.

1.2. Iraq

The prohibition of digital currencies is even more clear in Iraq, where the Central Bank has issued a 2017 statement prohibiting their use⁴⁰. It stated that traders who carry out transactions in cryptocurrencies will be punished by penalties cited in the country's AML law. "This currency [Bitcoin] involves several risks that may result from circulation, especially with regard to electronic piracy and fraud, although there is no popularity within Iraq." Some say that cryptocurrency could help bypass the Iraqi blockade on Kurdistan, but there is no evidence of this.

1.3. Qatar

The Central Bank of Qatar issued a similar warning in a February 2018 circular⁴¹, confirmed in January 2020 by the Qatar Financial Centre Regulator (QFCRA) which issued a ban on all cryptocurrency services in and from Qatar⁴². However, in March

³⁸ [CBE to ban issuance of cryptocurrency without licenses](#), Egypt independent, May 2019

³⁹ [Sandvine's PacketLogic Devices Used to Deploy Government Spyware in Turkey and Redirect Egyptian Users to Affiliate Ads?](#), The Citizen Lab, March 2018

⁴⁰ [Bitcoin virtual currency trading warning](#), Central Bank of Iraq, December 2017

⁴¹ [Circular no. 6/2018 on Trading in Bitcoin](#), Central Bank of Qatar, February 2018

⁴² [Qatar Financial Centre Puts Blanket Ban on Cryptocurrency Business](#), Cointelegraph, January 2020

2019, the QFCRA announced the I-Dinar digital exchange platform, first hybrid e-stock exchange in Qatar, and the IDinar token which is equal to 1g of gold but can also be used as transfer of value and settlement denominator for exchange, trading, and payment settlements⁴³. The Idinar was developed by the QFC and Ibadah, a Malaysian company with offices in Qatar which was authorized to operate the I-Dinar platform. The platform and token are not yet operational.

2. Blockchain innovations

2.1. Egypt

In spite of its strong stance against digital currencies, Egypt has a thriving fintech scene and demonstrates a clear appetite for blockchain-based digital transformation. The government's 2030 ICT strategy of digital transformation indeed paves the way for blockchain innovation⁴⁴. In April 2018, Egypt's first blockchain-focused incubator called NU TechSpace was opened in Nile University. It partnered with IBM Egypt, local innovation accelerator Novelari, and zk Capital, an American research-focused blockchain investment fund⁴⁵. The goal was "to walk the government through the blockchain technology by giving them hands-on experience with established blockchain they have incubated". It held an Egypt Blockchain Day in January 2018. In October 2018, the Codeaku blockchain coding school was launched. It became Teknolojia, and also proposes blockchain services and educational events. The Central Bank started expressing its interest on the matter at the end of 2018, when it started studying the issuance of a CBDC⁴⁶. A year later, it launched a pilot e-KYC service to aid financial inclusion and said it was looking into the possibilities of deploying the new pilot on a blockchain-based system⁴⁷. In February 2020, the National Bank of Egypt signed a cooperation agreement with Ripple to support receiving remittances from Egyptians abroad through the RippleNet blockchain payments network of over 300

⁴³ [World's first gold-backed digital e-token launched](#), The Peninsula Qatar, March 2019

⁴⁴ [Egypt's ICT 2030 Strategy](#), Egypt Ministry of Communication and Information Technology portal

⁴⁵ [Inside Egypt's Brand New Blockchain-Focused Incubator](#), NU Techspace, Startup Scene, April 2018

⁴⁶ [Egypt's central bank studies issuing digital currency](#), Unlock-Blockchain, December 2018

⁴⁷ [Central Bank of Egypt pilots eKYC solution for financial inclusion](#), Fintech Futures, January 2020

financial institutions over the world⁴⁸. It had joined the global R3 blockchain consortium for electronic transactions in 2018.

2.2. Qatar

In Qatar, the blockchain technology has been implemented in the banking, e-commerce and telecommunications industries. In 2017, the Commercial Bank of Qatar, the country's first private bank, introduced a blockchain network to process international transfers in partnership with its regional alliance banks ABank in Turkey, National Bank of Oman, and United Arab Bank in the UAE, in addition to other banks in Egypt and India. In 2019, it also joined the global R3 Corda blockchain banking consortium⁴⁹. Early 2020, the bank completed its Blockchain Open Account Trade Finance Trial on R3 Corda's Marco Polo Platform. In 2018, QPay, Qatar's largest fintech company offering made-in-Qatar electronic payment solutions, has launched a major Ethereum-based blockchain e-commerce initiative and platform. The following year, major telecom company Ooredoo launched the Blockchain Initiative to promote blockchain innovation through partnerships between public, private and academic actors⁵⁰. Its R3 Corda-based Ooredoo Exchange platform focuses on interoperability to allow merchants and end-users to create or accept various digital wallets, loyalty points, reward programmes and instant digital payments. Additionally, the University of Qatar's Kindi Center for Computing Research has a Blockchain & Cryptography Lab.

2.3. Iraq

There are currently no implementations of the blockchain technology in Iraq. However, American blockchain consulting firm ConsenSys and Turkish-Iraqi coding school Re:Coded created a tech hub in Erbil in 2019 with sponsorship from the German GIZ, UNDP and others. The hub proposes blockchain workshops and training for tech entrepreneurs, with a special focus on social impact projects. They organize the Erbil Tech Fest in August.

⁴⁸ [The National Bank signs a cooperation agreement to support receiving remittances from Egyptians abroad](#), youm7, February 2020

⁴⁹ [Commercial Bank joins international blockchain collective](#), Commercial Bank of Qatar, March 2019

⁵⁰ [Ooredoo Group launches blockchain initiative](#), The Peninsula Qatar, March 2019

COUNTRIES THAT STRONGLY ADVISE AGAINST CRYPTOCURRENCIES

Saudi Arabia, Lebanon, Oman, Jordan

1. Digital currencies

1.1. Saudi Arabia

Saudi Sheikh Assim al-Hakeem warned in December 2017 that Bitcoin was not compatible with Islam because it was ambiguous and its anonymity made it “an open gate for money-laundering, drug money and haram money”⁵¹. The Saudi Central Bank, Saudi Arabia Monetary Authority (SAMA), also issued a warning in 2018 against the trading of cryptocurrencies, saying that “virtual currencies are not regulated in the Kingdom”: “virtual currencies are not approved as official currencies in the kingdom and no parties or individuals are licensed for such practices by regulators”⁵². Citizens and residents are urged not to drift “after such illusion and get-rich scheme due to the high regulatory, security and market risks involved”. However, cryptocurrencies are not formally illegal. There are even two Bitcoin ATM machines in the kingdom, though one is reported as non-operational.

In October 2017, SAMA Governor Ahmed Al-Khulaifi announced its institution would implement a pilot project to issue a national digital riyal that would be traded exclusively among banks to avoid any economic impact⁵³. Two months later, SAMA’s Director of Innovation Mohsen Alzaharani also announced its institution was working with the UAE Central Bank on a cross-border cryptocurrency⁵⁴. The distributed ledger Proof-of-Concept design mainly focuses on the transfer of ownership of a central bank asset among participants. “Using a settlement coin, a kind of currency that can settle between two different fiat currencies is our idea of exploring the technology”. The digital tokens would be issued and exchanged between the two central monetary

⁵¹ [Islamic ruling on Bitcoin and Cryptocurrency](#), Sheikh Assim Al Hakeem Youtube Channel, December 2017

⁵² [The standing committee for awareness on dealing in unauthorized securities activities in the foreign exchange market \(Forex\) warns: “The virtual currencies are not regulated inside the kingdom of Saudi Arabia”](#), SAMA, August 2018

⁵³ [SAMA to launch virtual riyal for banks](#), Arab News, October 2017

⁵⁴ [Statement on Launching “Aber” Project](#), SAMA, January 2019

authorities as well as a number of commercial banks in both countries. Saudi Crown Prince Mohammed Bin Salman confirmed in 2019 that the joint digital currency, called Aber, was under development⁵⁵. In February, 2018, the SAMA has entered an agreement with Ripple to launch a sweeping blockchain pilot that will see regional participating banks use Ripple's enterprise blockchain for 'instant' international payments.

1.2. Lebanon

In Lebanon, Central Bank governor Riad Salameh issued the region's first official warning against the trading of digital currencies by financial and exchange institutions in 2013⁵⁶. He later stated in 2017 that Bitcoin is neither an asset nor a currency, probably a kind of commodity⁵⁷. Cryptocurrency-related activities are forbidden for Lebanese banks, and the Central Bank (BDL) advises against their use, without forbidding them officially.

Riad Salameh however evoked in 2017 and confirms in 2019 the possibility of launching a state-backed digital currency ("عملة رقمية") which would be the digital version of the Lebanese Lira (an e-Lira or Lebcoin) for exclusive use in Lebanon, and controlled by the Central Bank⁵⁸. "Its goal is to ease payment methods, to implement a technological transformation of financial institutions and to lower the costs borne by consumers". Though the BDL's plans do not seem very advanced, the governor confirmed at the Euromoney Lebanon conference in June 2019 that they were still working on it.

In October 2018, the Parliament adopted Law No. 81/2018 on e-transactions and personal data⁵⁹. Article 61 of the law makes the first official mention of "electronic and digital currencies" in a jurisdictional text. With this text, the Parliament dodged the

⁵⁵ [Saudi-UAE agree to build oil refinery and plan to launch joint digital currency](#), The National, November 2019

⁵⁶ [Information No. 900 Risks Related to Electronic Money](#), Banque du Liban, December 2013

⁵⁷ [Lebanon Central Bank to launch digital currency](#), Zawya, October 2017

⁵⁸ [The Banque du Liban closing in on the launch of its own crypto-currency](#), Le Commerce du Levant, January 2019

⁵⁹ [Law No. 81/2018 on Electronic Transactions and Personal Data](#), Banque du Liban, October 2018

issue by giving the BDL full responsibility on the enactment of a regulatory framework for these currencies.

Even though the use of cryptocurrencies is not forbidden, they are hard to buy in the country, except in small quantities on the P2P platform LocalBitcoins.com. It is indeed impossible to buy cryptocurrencies on exchange platforms with a Lebanese bank account. Bahraini exchange Rain used to accept Lebanese customers, but banned them in 2019 following a Central Bank decision. With the strict capital controls exerted by Lebanese banks on their customers since October 2019, it was reported that people were buying Bitcoin en-masse to transfer funds abroad⁶⁰. However, such a process seems to have been largely exaggerated, since there are no efficient ways to buy cryptocurrencies in the country. Bitcoin is indeed sold at a 40% premium on average against the Lebanese pound.

1.3. Oman

There is no legislation in Oman concerning cryptocurrencies. In December 2017, the Central Bank of Oman (CBO) board warned about investments in cryptocurrencies, stating that these are not subject to any regulation and that the CBO would not take any responsibility in the aftermath of losses arising from such investments⁶¹.

1.4. Jordan

In 2014 the Central Bank of Jordan (CBJ) sent a circular to local banks, financial companies, payment processors and currency exchangers prohibiting them from dealing with crypto-currencies⁶². It stated that “virtual currencies are not legal tender and there is no obligation on any central bank in the world or any government to exchange its value for real money”. However, buying or selling cryptocurrency as well as organizing ICOs has remained technically legal in the country, where it is possible to trade on the crypto-market by using alternative channels.

⁶⁰ [Distrust in Lebanese banks spurs bitcoin boom](#), Aljazeera, February 2020

⁶¹ [Press release](#), Central Bank of Oman, December 18, 2017

⁶² [Central bank warns against using bitcoin](#), The Jordan Times, February 2014

2. Blockchain innovations

2.1. Saudi Arabia

In spite of Saudi Arabia's stance on digital currencies, the kingdom has made use of the underlying technology in various sectors, notably as part of the Saudi Vision 2030 program aimed at diversifying and modernizing the country's economy. SAMA launched the FintechSaudi initiative with Deloitte and a Regulatory Sandbox in 2018 to support the fintech ecosystem, thereby contributing to financial inclusion and the rise of digital transactions^{63,64}. The Capital Markets Authority (CMA) has also provided a simplified regulatory framework for fintech with its Financial Technology Experimental Permit (FinTech ExPermit) that allows local and international firms to test their products in Saudi Arabia⁶⁵. Tested projects include e-wallets, P2P transfers, mobile payments through QR codes, and direct international transfers.

The main area of interest for blockchain-based projects is transactions. SAMA signed an agreement with Ripple in February 2018 to improve banks payment infrastructure and cross-boarder payments with the xCurrent software⁶⁶. In July, the Riyadh Municipality selected IBM to develop a strategy to streamline government services and transactions on a blockchain, jointly with the Elm Company, Riyadh's technology partner. Saudi tech experts and the Elm Company would also be hosting workshops to understand which services can be updated by using this new blockchain system. In December, the Saudi Customs concluded a pilot scheme linking its cross-border trade platform FASAH with Maersk's TradeLens IBM platform. In January 2019, the Saudi-Emirati Coordination Council announced a pilot project for a common cryptocurrency for bank institutions. Saudi Aramco also announced a digital transformation program including blockchain for financial services. It is also trialing blockchain technology to track quality in the oil and gas industry. The state oil company went

⁶³ [SAMA and Deloitte to develop Fintech ecosystem in line with Saudi Arabia Vision 2030](#), Deloitte, May 2018

⁶⁴ [Regulatory Sandbox Framework](#), SAMA, November 2019

⁶⁵ [Financial Technology Experimental Permit Instructions](#), Saudi Arabia Capital Markets Authority, April 2018

⁶⁶ [Ripple and Saudi Arabian Monetary Authority \(SAMA\) Offer Pilot Program for Saudi Banks](#), Ripple, February 2018

further a year later by buying into British blockchain-based oil trading company Vakt⁶⁷. Its trading subsidiary Aramco Trading is also set to use the Vakt platform.

In April 2019, Swiss WISeKey and Saudi Advanced Technologies created a JV, WISeKey Arabia, to explore cross-sector opportunities⁶⁸. They also announced a Blockchain Center of Excellence which will be interconnected to other Blockchain Centers of Excellence around the world via 3 Hubs (Geneva, Toronto and Beijing) using WISeKey's blockchain tech. The same month, Saudi British Bank (SABB) launched a blockchain-based Instant Cross-Border Transfer Service with Ripple.

2.2. Lebanon

A small blockchain community exists in Lebanon too, which used to be limited by the government's unwillingness. The official stance changed and starts promoting actively Lebanon as a digital and tech hub. Former Ministry of Information and Technologies Adel Afiouni was pro-actively in this logic, as well as former Prime Minister Saad Hariri. The BDL's circular 331 in particular was designed in 2014 to authorize the funding of startups by banks⁶⁹. Its \$ 400 million funding basis had already dried up in 2017. However, at the Euromoney Lebanon conference in June 2019, BDL's governor and Vice President of the Capital Markets Authority Firas Safieddine confirmed their ambition to develop multi-form funding for digital innovation. In 2019, the Beirut Digital District (BDD) launched a new Startechus Finhub while also teaming with Visa to propose a Fintech Fast-Track Program for fintech startups. SmartESA, the Beirut-based French business school's incubator, is also launching a Fintech incubator. But the economic crisis and social unrest since October 2019, followed by the coronavirus outbreak, nipped these hopes in the bud.

Blockchain-based projects have been tested in the humanitarian sector, without gaining much momentum afterwards: in 2015, Ireland-based AID:Tech partnered with humanitarian experts to give out international aid to Syrian refugees using the

⁶⁷ [Saudi Aramco Energy Ventures makes \\$5m investment into VAKT and joins platform](#), Vakt, January 2020

⁶⁸ [WISeKey established WISeKey Arabia, a JV with Saudi Advanced Technologies company Ltd](#), WiseKey, September 2019

⁶⁹ [Circular No 331](#), Banque du Liban, August 22, 2013

blockchain⁷⁰. In 2018, Tristan Cole of Australia-based Sempo partnered with Lebanese NGO Arcenciel for a pilot project to get cash to Syrian refugees in Lebanon, as well as managing sub-contracted field workers⁷¹. More recently, the Lebanon office of the United Nations Development Program (UNDP) has been slowly working on three blockchain projects: CedarCoin to use diaspora remittance for reforestation⁷²; a smart management system for solar energy in the South of Lebanon; and one more for the Lebanese Army in the North-East. In June 2019, they called for proposals to implement the second one⁷³.

In 2020, the ESA Business School announced a partnership with Lebanese startup BlocRecs to store job and university certificates on the blockchain to fight diploma fraud⁷⁴. At the same time, the CMA CGM launched The Hub Digital Center in Beirut, hiring a few blockchain engineers.

2.3. Jordan

Jordan is a major digital and FinTech hub in the MENA region. The Central Bank launched a FinTech Regulatory Sandbox in 2013 and a FinTech Council was announced in February 2019 by Int@j (ICT Association)⁷⁵. In 2018, Jordan's Arab Bank launched a new \$30 million venture capital fund targeting FinTechs as well as an Innovation Hub in Amman to promote FinTech startups⁷⁶. Similarly to Lebanon, the first implementation of a blockchain technology in Jordan was in the field of humanitarian aid. Jordan is home of a refugee camp running on blockchain, with the help of a program called Building Blocks⁷⁷. Founded in early 2017 using a variant of the Ethereum blockchain and vouchers, it helps the World Food Programme to distribute cash-for-food aid to

⁷⁰ [Aid in Lebanon](#), AID:Tech

⁷¹ [Sempo partners with Arcenciel](#), Sempo Blog, June 2018

⁷² [Adopting a cedar tree brings diaspora money home](#), UNDP, February 2019

⁷³ [National or International Assessing Blockchain Based Enablers for Local Renewable Energy Micro-Grids](#), UNDP Jobs Platform, June 2019

⁷⁴ [Blocrecs Twitter Account](#), January 2020

⁷⁵ [FinTech Regulatory Sandbox](#), Central Bank of Jordan, April 2018

⁷⁶ [Jordan's Arab Bank to launch \\$30mln fintech venture fund](#), Zawya, September 2018

⁷⁷ [Building Blocks](#), World Food Programme (Last updated: 31/01/2020)

over 100,000 Syrian refugees in the country, especially in Zaatari. In 2019, the Arab Jordan Investment Bank deployed the Oracle blockchain platform to upgrade its banking infrastructure with real-time cross-border transactions⁷⁸.

2.4. Oman

Despite being cryptocurrency-averse, Oman is actively showing interest in blockchain as part of the eOman strategy. In May 2018, Oman held a Blockchain Symposium under the patronage of Abdullah Al Salmi, Executive President of the Capital Market Authority. A government-owned entity was created, the Blockchain Solution and Services Company (BSS). The BSS soon after sealed an agreement with Oman Medical Specialty Board to enable blockchain-based electronic transactions. At the same time, BankDhofar joined RippleNet⁷⁹. The bank is the leading blockchain-mover in the country, as it joined the BankChain consortium of 37 banks around the world to explore blockchain solutions for the banking industry.

In 2019, BSS, the IT Authority of Oman, and technology service provider Omantel deployed the national HyperLedger Fabric Platforms to speed the digital innovation efforts in Oman⁸⁰. This Blockchain-as-a-Service platform called Blockchain Factory allows startups, businesses, entrepreneurs, ministries and universities to explore their blockchain use cases in an agile environment. An incubation platform and a national Regulatory Sandbox environment were also created on this occasion.

The first blockchain-based trade finance transaction in Oman occurred in November 2019, executed by Oman Oil and Orpic Group and HSBC Bank Oman SAOG on R3's Corda platform⁸¹. The transaction was for polypropylene sold to Abu Dhabi National Carpet Factory and took less than 24 hours instead of the usual 5 to 10 days.

⁷⁸ [Jordan's Top Bank Becomes Regional Blockchain Leader with Oracle](#), Oracle, November 2019

⁷⁹ [BankDhofar First Bank in Oman to Join RippleNet for Instant Blockchain Payments](#), Bank Dhofar, May 2018

⁸⁰ [Blockchain Solutions and Services Deploys First Blockchain Platforms in Oman](#), BSS, May 2019

⁸¹ [Oman Oil & Orpic Group, HSBC execute first blockchain trade transaction in Oman](#), Oman Observer, November 2019

In 2020, Oman's main port of Salalah joined IBM and Maersk's TradeLens blockchain-based supply chain platform, in a network of over 90 ports and terminals and 150 participants over the world⁸².

⁸² [Port of Salalah joins blockchain-enabled digital shipping platform](#), Times of Oman, January 2020

COUNTRIES WITH AN AMBIGUOUS OR CONTRADICTIONARY STANCE

Iran, Kuwait, Turkey

1. Digital currencies

1.1. Iran

The fate of digital currencies in Iran has been intrinsically tied to geopolitical considerations. Due to international sanctions, Visa and Mastercard are not operating in the country, and the Iranian rial (IRR) has lost nearly half of its official value between its 2013 devaluation and 2018, because of high inflation rates⁸³. But if the official IRR-USD rate is now standing at around IRR 42,000 for one dollar, price on the free market has reached around IRR 160,000 in 2020⁸⁴. Thus, Bitcoin has gained local popularity on black markets, and is mainly being used for speculation or to purchase digital goods like VPNs and servers. Iran tries to prevent capital flight by discouraging citizens from using Bitcoin and restricting access to foreign exchanges. In 2017, the Parliament's Economic Commission head Mohammad Reza Pour-Ebrahimi expressed his concerns over cryptocurrencies with a religious perspective, saying that "Deals and transactions made through Bitcoin are in no way in accordance with Islamic and economic fundamentals, therefore related entities, especially the central bank, must exert the necessary supervision over these deals"⁸⁵. In April 2018, the Central Bank (CBI) banned cryptocurrency trading as part of its AML policy, in a directive stating that "Iranian [currency exchanges could] not deal in cryptocurrencies"⁸⁶. A new framework drafted in early 2019 on "Obligations and Rules Regarding Cryptocurrencies" was supposed to ban only cryptocurrency payments, not holding and transferring them, and required exchanges to have permits to function, but never came into force⁸⁷.

There are two distinct plans for a national digital currency in the country. In May 2018, Mr. Pour-Ebrahimi reportedly met with Russian officials to discuss how cryptocurrency

⁸³ [XE Currency Charts: USD to IRR](#), Xe

⁸⁴ [Live Exchange Rates in Bazar of Iran](#), SarafiBazar, as of March 31, 2020

⁸⁵ [Iranian Lawmakers to Discuss Bitcoin](#), Financial Tribune, December 2017

⁸⁶ [Central Banking in Iran](#), Central Bank of Iran, April 2018

⁸⁷ [Obligations and Rules Regarding Cryptocurrencies](#), Central Bank of Iran, January 2019

can help bypassing the embargo⁸⁸. In July, Alireza Daliri, deputy for management and investment at the Directorate for Scientific and Technological Affairs, revealed that plans for the creation of a national virtual currency were being developed by the National Cyberspace Center based on Hyperledger Fabric platform technology (private blockchain)⁸⁹. It “is supposed to be an ecosystem available for Iranian banks and active companies in cryptocurrencies.” The first rollout is described as “a token and interbank payment instrument” while the second phase will be “an instrument for retail payments in a society.” The issuer would be the CBI, and the token would be a stablecoin pegged to the Iranian Rial. In November, CEO of the Informatics Services Corporation, the informatics provider of the CBI, said that the national cryptocurrency has been developed and can be used in a distributed and one-to-one framework for transferring without any institute's interference⁹⁰. A few months later, American lawmakers issued the bill “Blocking Iran Illicit Finance Act” to levy further sanctions on Iranian financial institutions and national digital currency project⁹¹. Nevertheless, in January 2019, four Iranian banks developed a gold-backed cryptocurrency called PayMon to tokenize assets and excess properties of the banks⁹². Local over-the-counter exchange Iran Fara Bourse was set to host the new currency. Bypassing international sanctions via the use of cryptocurrencies is often a leitmotiv in the country, as was reminded by a Telegram publication from Revolutionary Guard's commander Said Muhammah in February 2020: “We are demanding the creation of a more sophisticated mechanism to bypass sanctions. To circumvent sanctions, we must develop solutions such as the exchange of products and the use of cryptocurrencies with our partnerships [in other countries]”⁹³. The intergovernmental Financial Action Task Force had just added Iran to its list of blacklisted countries for non-compliance with anti-terrorism financing requirements⁹⁴.

⁸⁸ [Cryptocurrency a Means to Bypass US Dollar](#), Financial Tribune, May 2018

⁸⁹ [Iran prepares to launch cryptocurrency ‘to overcome US-led financial blockade’](#), International Finance, August 2018

⁹⁰ [Iranian National Cryptocurrency to be Granted to Commercial Banks](#), IBENA, November 2018

⁹¹ [Bill H. R. 7321](#), USA Congress, December 2018

⁹² [Iran Unveils Gold-Backed Cryptocurrency](#), Financial Tribune, January 2019

⁹³ [Coinit Telegram Channel](#), February 2020

⁹⁴ [Iran faces global anti-terrorism financing watchdog blacklist: sources](#), Reuters, February 2020

But the main project of the CBI is the Borna platform, a regulatory sandbox and national blockchain infrastructure to modernize the local finance and banking sector, as well as for startups. It is based on IBM's Hyperledger Fabric. According to a consultant at Areatak, the blockchain services firm contracted by the CBI to develop Borna, "tokenization of assets or Rial in the future is limited to Borna platform transaction cases, not an international transaction"⁹⁵. It would mean that a national digital currency would not aim at bypassing sanctions.

In May 2019, Finnish platform LocalBitcoins announced a ban on users in Iran due to new regulations in Finland⁹⁶. Even though Iranians still have access via VPN, it is a blow to the crypto community: in February, Iranians had tripled their trade on the P2P platform. There are alternatives, though less practical: for instance buying tether tokens through tether.land, then buying other cryptocurrencies, and finally trade on Bittrex or Binance with a VPN. New platforms have also filled the void, like Hodl Hodl and keepchange.io.

In July 2019, a directive recognized crypto mining as an industry⁹⁷. Legitimate local and foreign miners would have to obtain an establishment license and an operation permit, declare their devices and energy consumption and so on. Cryptocurrency use would be allowed. But proposed electricity prices for mining and other costs are very high, and large-scale miners have been moving abroad. Miners may be exempt from paying taxes if they repatriate their foreign currency yields into NIMA, an online currency system run by the central bank, at a unique rate lower than the open market. As of January 2020, over 1000 mining permits have been issued by the Ministry of Industries, Mining and Trade⁹⁸.

⁹⁵ [Here's how Iran wants to take its financial system on the blockchain](#), AI Monitor, May 2019

⁹⁶ [Iran](#), LocalBitcoins

⁹⁷ [Directive on the Mining of Cryptocurrencies](#), Iran Government Portal, August 2019

⁹⁸ [1,000 Cryptocurrency Miners Given Permits](#), Financial Tribune, January 2020

1.2. Kuwait

Kuwait's Ministry of Finance banned the Central Bank (CBK) and financial institutions from trading and dealing with Bitcoin in 2017⁹⁹. However, both the Ministry and Central Bank claimed they were not in a position to regulate Bitcoin, meaning that the trading of cryptocurrencies is not illegal for individuals. There has even been a Bitcoin exchange platform operating in the country since 2014: Bitfils. But it seems that there are some disagreements between the politic and economic authorities. The Commerce and Industry Ministry and the Central Bank are studying the implications of Bitcoin in the country with the aim of potentially implementing a regulation framework. Commerce and Industry Ministry officials also disclosed they have been monitoring social media ads of local companies which promote Bitcoin dealing. The e-Government program has opened to Kuwaitis an access to online trading tools. That led to a commentary by the Kuwaiti prosecution office in December 2017, which states that Bitcoin Internet trading is allowed in the country. Meanwhile, on the religious side, Dr. Ahmad al Hajji al Kurdi, member of the Fatwa Committee in the Ministry of Awqaf and Islamic Affairs, launched a fatwa in 2018 against Bitcoin trading due to its "unclear" nature¹⁰⁰.

These contradictory stances have created a climate of uncertainty concerning the present as well as the future of crypto in Kuwait. This may be why there are at least two Kuwait-based DCEs. In January 2018, the CBK confirmed news that it was building "a technical infrastructure for the banking sector, including electronic payments systems such as a digital currency, which differs virtual currencies such as Bitcoin"¹⁰¹. The CBK explained that "digital currencies are characterized by the centralization of processing for operations and transfers in order to enhance the integrity of financial and commercial transactions, and carry the characteristics of the banknote in terms of the reward value and the issuance number. They are used to purchase goods and services and can be exchanged against other currencies, while the virtual currency is considered an asset that is used as a method of exchange for any services or commodities". The Central Bank further assessed that "virtual currencies are decentralized and hard to

⁹⁹ [Ministry of Finance Says Does Not Recognize Virtual Currency Bitcoin](#), Arab Times, December 2017

¹⁰⁰ [Kuwait issues fatwas against Bitcoin trading](#), Zawya, January 2018

¹⁰¹ [Press Statement Concerning what has been discussed in some media and social media about the issuance of a digital currency by the Central Bank of Kuwait](#), Central Bank of Kuwait, January 2018

monitor”.

1.3. Turkey

Turkey has also had evolving policies regarding digital currencies, though the country has the most Bitcoin-friendly population in the world according to Statista¹⁰². The government’s Directorate of Religious Affairs (Diyanet) stated in November 2018 that such assets were “not compatible” with Islam because of the speculative nature of the market and lack of government control¹⁰³. Turkish Deputy Prime Minister Mehmet Şimşek also warned on Twitter against investing in Bitcoin¹⁰⁴. On the legal side, digital currencies are not regulated. Law no. 6493 of 2013 on Payment and Security Settlement Systems, Payment Services and E-Money Institutions defines electronic payments and e-money but the Banking Regulation and Supervision Agency stated in its announcement of the new law that digital currencies like Bitcoin do not enter within the scope of Law 6493¹⁰⁵. However, the Central Bank’s president Murat Cetinkaya stated in 2017 that digital currencies were positive for financial stability if they were well designed: a sign that the government was considering moving into this new realm, probably with plans to test a national digital currency¹⁰⁶. The hint was confirmed in late 2019 when President Erdogan announced that the government should finish testing the national CBDC — dubbed Digital Lira or TurkCoin — by the end of 2020¹⁰⁷.

In February 2019, a report by the deputy chair of Turkey’s Nationalist Movement Party Ahmet Kenan Tanrikulu not only proposed regulations for the market, but also confirmed the possibility of a national blockchain-based digital currency called the TurkCoin¹⁰⁸. Similar plans were also voiced by Turkey’s Deputy Prime Minister Mehmet Simse and approved by the Parliament as part of the 11th Development Plan for

¹⁰² [How Common is Crypto?](#) Statista, June 2019

¹⁰³ [Din İşleri Yüksek Kurulu: Bitcoin uygun değildir](#), Enson Haber, November 2017

¹⁰⁴ [Mehmet Simsek Twitter Account](#), December 2017

¹⁰⁵ [Law no. 6493 of 2013 on Payment and Security Settlement Systems, Payment Services and E-Money Institutions](#), Central Bank of Turkey (TCMB), June 2013

¹⁰⁶ [Merkez Bankası'ndan flaş sanal para açıklaması](#), Gazete Vatan, November 2017

¹⁰⁷ [Official Gazette](#), Government of Turkey, November 4, 2019

¹⁰⁸ [Turkey mulls 'national' bitcoin](#), AI Monitor, February 2018

2018-2023¹⁰⁹. Following the European Union's fifth AML Directive and recommendations, the Capital Markets Board of Turkey announced guidelines for 2020 to audit and regulate the crypto markets and transactions¹¹⁰. The coming framework is expected to mirror that of European countries such as France, and promote regulated projects in the cryptocurrency sector. Turkey would thus be categorized in the first section of this study, with the UAE and Bahrain.

Given the earlier lack of regulation, virtual asset service providers in the country had found it difficult to maintain operations, in particular with regards to bank accounts. The BTCTurk exchange, which opened in 2013, terminated operations in 2016 after local banks abruptly discontinued services and closed accounts associated with it. BTCTurk has since reopened, along with the Turkish exchange paribu.com where users can trade the Turkish Lira for BTC or ETH through their bank account. A number of Turkish businesses and real estate companies however accept Bitcoin as payment. Trading volume on Turkey's near 20 exchanges has considerably increased as the national fiat was plunging in late 2018. According to a study conducted by ING Bank, 18% of people in Turkey own cryptocurrencies. The evolution of the government stance on the subject has encouraged major global exchange platforms to open offices in the country, such as Binance and Huobi.

2. Blockchain innovations

2.1. Iran

In Iran, blockchain technology research and development is encouraged by the government and has been boosted after the reimposition of US sanctions on Iran in 2018, with the help of Russian developers¹¹¹. The Sharif University of Technology in collaboration with the Central Bank of Iran established the Iran Blockchain Labs, a research, advisory and innovation hub focused on blockchain innovation. This incubator offers specifically designed C-suite courses, developer courses and e-learning. They develop projects and PoC covering various industries and business areas by leveraging

¹⁰⁹ [11th Development Plan for 2018-2023](#), Turkish Parliament, July 2019

¹¹⁰ [Kripto paralara SPK denetimi](#) , Hurriyet, January 2020

¹¹¹ [US sanctions accelerate Iran's blockchain drive](#), AI Monitor, December 2018

on the blockchain technology. Another research center was established with similar goals: Borna Blockchain.

In 2018, the Ministry of ICT signed a memorandum of understanding with Iran's National Library to use blockchain technology to digitize the country's archives¹¹².

IRAN Blockchain Ecosystem v0.9 (DRAFT) – March 2019

<http://openchain.ir>

2.2. Kuwait

The National Bank of Kuwait (NBK) announced in December 2018 the launching of a new product called NBK Direct Remit, offering Ripple-based cross-border payments: the solution allows the bank's customers to "make money transfers within seconds" and "anytime of the day"¹¹³. It will also be available in Jordan, and will subsequently expand to other countries. In January 2019, Kuwait Finance House (KFH), the country's

¹¹² [Tapping Blockchain Technology, Iran National Library Archives to Go Online, Financial Tribune, August 2018](#)

¹¹³ [Kuwait: NBK launches "NBK Direct Remit" for immediate cross-border transactions using the RippleNet international network, National Bank of Kuwait, December 2018](#)

first Islamic bank, made Kuwait's first blockchain-based International and instant transaction using Ripple's xRapid, with Saudi Al Rajhi Bank, in Saudi riyals. Al Ahli Bank also uses it¹¹⁴. In the oil sector, the Kuwait Petroleum Company unveiled in March 2020 plans to use a blockchain pilot to allow stakeholders to quantify and follow the oil and gas produced as well as exchanged by companies daily, from the production well to refinery and export ports¹¹⁵.

2.3. Turkey

Turkey really is a major hub for blockchain technology, with a vast network of private, public and academic actors. In August 2018, the Istanbul Blockchain and Innovation Center (BlockchainIST Center) was inaugurated at Bahçeşehir University (BAU). In September, Turkey's Borsa Istanbul Stock Exchange (BIST) developed a blockchain-powered customer database, to manage the addition of new customers and KYC documents¹¹⁶. In January 2019, MenaPay launched its blockchain-based payments app for the MENA region. It had raised \$6.5M, was licensed by Dubai and Bahrain's central banks, and also has applied for a Sharia law certificate. It uses its native USD-pegged MenaCash cryptocurrency.

At the government level, the Ministry of Commerce Ruhsar Pekcan stated in June 2019 that they were working on a new system that would expedite both export and import transactions via blockchain technology¹¹⁷. The Turkish Informatics Foundation has also launched the Blockchain Turkey Platform with the Ministry of Commerce as the first public member, and dozens of partners. In September, the Ministry of Industry and Technology unveiled plans for a national blockchain infrastructure for public administration, as part of the government's Strategy 2023. Various use cases will be studied, such as land registration, academic certificates or customs. Meanwhile, the Southeastern city of Konya's Science Center has been working on blockchain projects

¹¹⁴ "بيتك" ينفذ أول عملية تحويل مالي في الكويت بتقنية "بلوك تشين" عن طريق منصة "ريبيل" , KFHGroup Youtube Channel, August 2018

¹¹⁵ [Kuwait Petroleum to develop Blockchain platform for oil & Gas](#), Unlock-Blockchain, March 2020

¹¹⁶ [Borsa Istanbul builds blockchain-based database system](#), Daily Sabah, September 2018

¹¹⁷ [Turkey's Ministry of Commerce to utilize blockchain technology](#), The New Turkey, January 2019

COUNTRIES WITH NO CRYPTOCURRENCY STANCE

Syria

Syria

Due to the civil war raging in the country since 2013, the government has not implemented any regulation or adopted any stance on digital currencies and blockchain technology. There has been projects for using the blockchain technology in the Rojava, the autonomous Kurdish region in North Syria under economic sanctions. Amir Taaki, a Bitcoin pioneer who spent almost two years fighting alongside the Kurds and helping them on economic matters, is helping to build a decentralized system with the blockchain for administration and money. Rachel Rose O'Leary, a journalist for CoinDesk, also moved to Rojava to assist in a newly formed academy of media and technology¹²⁰.

There has also been an attempt to create a Syrian stablecoin pegged to the Syrian pound, called SyriaCoin, by a group of developers from Latakia, but it has not been implemented yet.

Meanwhile, ISIS and Al Qaeda have tried several times to raise funds via cryptocurrency since 2016¹²¹. They usually call for donations on social media¹²², and in 2017 a group of Western fighters called Al Sadaqa launched a crowdfunding campaign with a unique Bitcoin address, which they shared on websites, Telegram, WhatsApp and social networks¹²³. But the campaign was not a success and the address was frozen by US authorities. The same outcome followed Al-Qaeda affiliate Hurras Al Deen's attempt to get funds in Bitcoin to buy weapons and ammunition for its soldiers in Northeastern Syria in 2019¹²⁴. In July 2019, Malhama Tactical, a mercenary group of trainers for jihadi

¹²⁰ [Sand, Death and Cryptocurrency: Life in a Decentralized Syria](#), CoinDesk, March 2019

¹²¹ [Terrorist Use of Virtual Currencies: Containing the Potential Threat](#), CNAS, May 2017

¹²² [How Criminals And Terrorists Use Cryptocurrency: And How To Stop It](#), Forbes, August 2018

¹²³ [Online Campaign In English Raising Funds For The Jihad In Syria In Bitcoin](#), MEMRI, November 2017

¹²⁴ [Tales of Crypto-Currency: Bitcoin Jihad in Syria and Beyond](#), The Daily Beast, October 2019

fighters of Hay'at Tahrir al-Shams (HTS), fundraised in Bitcoin to buy drones¹²⁵. HTS shortly after praised Bitcoin as “the currency of the future economy” in its magazine¹²⁶. Its parent organization Al Ikhwa shared 9 Bitcoin addresses are received a total of \$1,600 in donations. ISIS even promoted a service based in Idlib, called Bitcoin Transfer, to receive Bitcoin transfers from abroad. To legitimate this practice, HTS religious official Abu al-Fateh al-Farghali released a video explaining why Bitcoin is “halal”¹²⁷. But all these attempts have had little success, with little funds raised but also due to the fact that Bitcoin is traceable and addresses can be frozen. Moreover, it is technically difficult to use Bitcoin to buy food, clothing, weapons or other equipment, especially in Syria, or convert it against Syrian pounds. Similarly, Palestinian Hamas Izz ad-Din al-Qassam Brigades have been linked to a Bitcoin address that had seen movements of Bitcoin amounting to around USD 24 million¹²⁸, but analysis of the transactions has been largely over-estimated and ownership of the address and funds cannot be clearly attributed to the brigades¹²⁹. Generally speaking, the use of cryptocurrencies to bypass international sanctions or finance criminal or terrorist activities has largely been misrepresented and has never been demonstrated as efficient¹³⁰.

¹²⁵ [HTS Special Forces Training Group Requests Bitcoin Funds for Military Equipment](#), SITE Intel Group, July 2019

¹²⁶ [HTS Magazine Promotes Bitcoin As “Currency of the Future Economy”](#), SITE Intel Group, April 2019

¹²⁷ [HTS Cleric Gives Shariah Perspective on Bitcoin Regarding Charity and Transactions](#), SITE Intel Group, July 2019

¹²⁸ Bitcoin address [1LaNXgq2ctDEa4fTha6PTo8sucqzieQctq](#), [blockchain.com](#)

¹²⁹ [Chainalysis Twitter Account](#), January 2020

¹³⁰ [Are Cryptocurrencies an Efficient Way to Circumvent Sanctions?](#) NIGMA, September 2019

Conclusion

The Middle-Eastern landscape of blockchain and digital currencies is quickly evolving, with some countries recently embracing these technologies to boost their wider economic transition, others modifying their stance depending on the geopolitical context. But the overall trend indicates that part of these countries are starting to understand how to make the best of innovation without easing off on financial crimes, while others have not taken the leap yet, usually because they have other concerns on their plate.

In any case, in spite of a dominantly traditional approach of digital currencies — which is not the hallmark of Arab states only, most of the covered countries have demonstrated a taste for blockchain innovation in the fields of finance, public administration, supply chain management, and so on. More intriguing is the phenomenon of frenzy around central bank-issued digital currencies, with many governments of the region claiming to be developing or testing a digital version of the national currency, while sometimes having banned decentralized cryptocurrencies and tokens.

A specificity of the region is the development of an 'Islamic crypto finance', parallel to the booming Islamic finance: after long debates over the compliance of Bitcoin or other cryptocurrencies with the Shariah, several 'halal' cryptocurrencies or exchange platforms have been launched to address a market of 2 billion Muslims.



About NIGMA

NIGMA is a business intelligence and blockchain analytics firm developing advanced AMU/CTF tools for virtual assets service providers, banks and government agencies.

97, rue du Bac
75007 Paris
France

+33 7 88 44 68 17
contact@nigma.global



[@Nigma_Crypto_FR](https://twitter.com/Nigma_Crypto_FR)

