

**Egypt** 



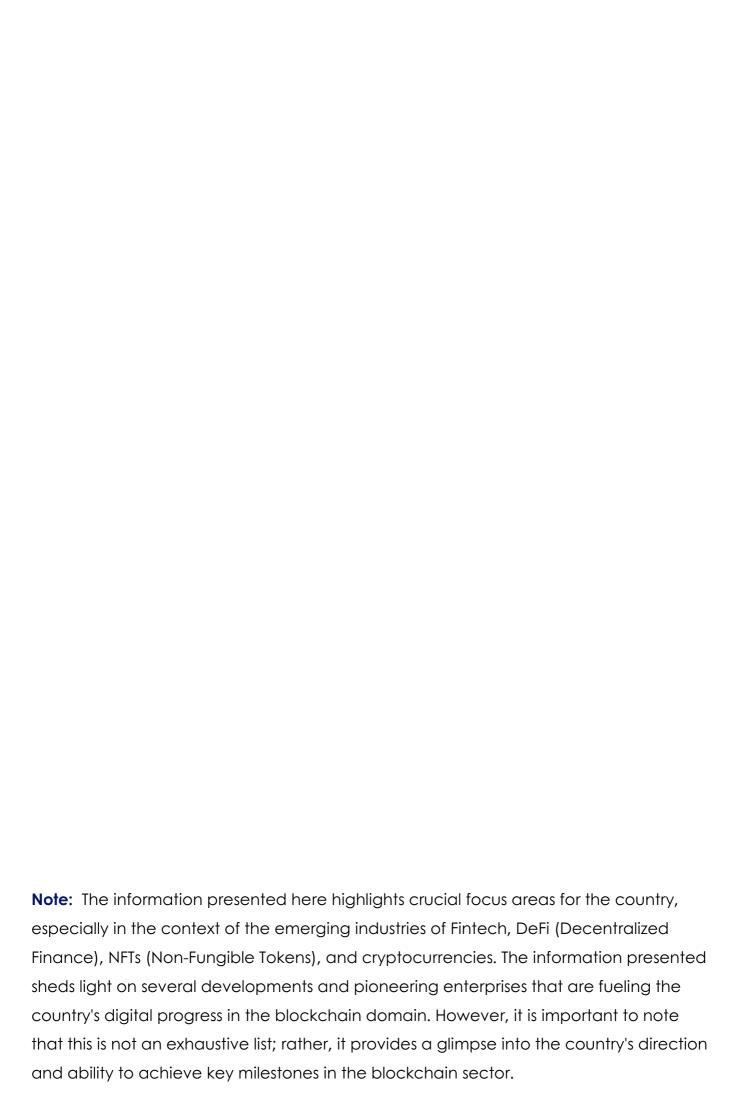
2023

Blockchain and Digital Transformation in Africa.

### **Table of Contents**

12	Copyright and Disclaimer	
09	DeFi	<ul> <li>1. Payment and Remittance Services</li> <li>2. Insurance and Risk Management</li> <li>3. Financial Inclusion and Literacy Activities</li> <li>4. Blockchain and Cryptocurrencies</li> <li>5. RegTech for regulatory compliance and risk management.</li> </ul>
07	NFTs	<ul><li>1. Art and Collectibles</li><li>2. Music and Entertainment</li><li>3. Digital Identity and Ownership</li><li>4. Supply Chain and Logistics</li></ul>
04	Fintech	<ol> <li>Digital Payments and Mobile Wallets</li> <li>Online Lending and Alternative Financing</li> <li>Digital Identity and KYC Solutions</li> <li>Wealth Management and Robo-advisory Services</li> <li>Blockchain and Cryptocurrency Solutions</li> </ol>

References



#### **Fintech**

### Digital Payments and Mobile Wallets

**Vodafone Cash:** Egypt's Vodafone Cash mobile wallet is popular. It enables mobile customers to transfer money, pay bills, replenish credit, and shop.

**Etisalat Flous:** Etisalat's mobile wallet allows customers to make financial transactions and payments on their phones.

**Orange Money:** Orange Egypt offers Orange Money as a mobile wallet. Orange Money allows money transfers, bill payments, and more.

**PayMob:** Egyptian fintech business PayMob offers mobile wallets and internet payment channels. It helps businesses accept card and mobile wallet payments online and offline.

**Vapulus:** This mobile payment solution simplifies payments for businesses and consumers. The Vapulus app enables users to send money, pay bills, and manage accounts.

**Fawry:** Fawry, a non-fintech startup, has helped digitize Egyptian payments. Through its retail and online platforms, Fawry enables bill payments, cellphone recharges, and online purchases.

**Khazna:** This financial platform offers digital payment services, including mobile wallets. The Khazna app enables users to pay, transfer, and manage accounts.

**PayNas:** A digital payment platform for consumers and companies. It offers a mobile wallet app for payments, transfers, and financial services.

**MoneyFellows:** This fintech platform mixes traditional rotating savings and credit associations (ROSCAs) with current technologies. The smartphone software allows users join money circles, contribute, and get payouts.

**Bee**: Egyptian fintech business Bee provides a digital wallet and payment solution. Bee wallet users can pay bills and transfer money using their bank accounts.

# Online Lending and Alternative Financing

**NowPay:** This fintech technology provides real-time salary access to employees. Users can access a percentage of their earned money before payday to manage their cash flow. Its salary advance concept makes it an alternate lender.

**ValU:** EFG Hermes owns ValU, a fintech platform that provides retail point-of-sale financing. The ValU app allows installment purchases.

**MNT-Halan:** A microfinance and lending platform for unbanked and underbanked Egyptians. Education, health, and business loans are available.

**Telda:** Egyptian neo-bank Telda offers debit cards, digital wallets, and mobile apps. It offers Telda Prepaid Card Program or demand deposit account debit cards.

**Masary**: This finance platform offers mobile top-ups, bill payments, and mobile wallets.

### Digital Identity and KYC Solutions

**National ID Program:** Egypt's national ID program uses FinGo's vein biometrics, a novel biometric authentication method. Near-infrared lighting and cameras collect hand vein pictures to create a biometric signature. This method is safer than fingerprints. Fast Company named the technology one of the 2020 World's Most Innovative Companies<sup>1</sup>. This could enable vein recognition's widespread application, including smartphone authentication.

ITIDA Digital Identity Initiative (ITIDA): Egypt's ITIDA is creating a single digital identity framework for residents and enterprises. This program intends to protect and simplify government and business sector services. To promote digital transformation, Egypt's Ministry of Communications, and Information Technology (MCIT) has added e-seal and time stamp services to the E-Signature Law's executive regulations. ITIDA proposed these revisions to promote e-signatures in government and business transactions in line with technology advances and international norms<sup>2</sup>. Electronic seals and stamp services are among the new definitions, services, and technological standards. The reforms allow citizens and businesses handle transactions remotely, minimize administrative hassles, and improve government services. E-signature systems enable digital identities, e-invoices, and connection to national IDs and the Commercial Register. The initiative shows Egypt's dedication to digital innovation and secure, fast digital transactions.

e-KYC Programme: The Central Bank of Egypt's groundbreaking eKYC programme to promote financial inclusion has finished testing. Customers can open bank accounts online with this initiative. The central bank also piloted internet banking laws for Egyptian banks. 32 banks nationwide offer internet banking, with 28 offering mobile banking. These new regulations, effective March 2020, attempted to improve and amend 2014 Egyptian Central

<sup>&</sup>lt;sup>1</sup> Alessandro Mascellino, "Egypt Integrates FinGo Vein Biometrics in National ID Program | Biometric Update," www.biometricupdate.com, February 24, 2021, <a href="https://www.biometricupdate.com/202102/egypt-integrates-fingo-vein-biometrics-in-national-id-program">https://www.biometricupdate.com/202102/egypt-integrates-fingo-vein-biometrics-in-national-id-program</a>.

<sup>&</sup>lt;sup>2</sup> ITIDA, "Information Technology Industry Development Agency," www.itida.gov.eg, 2020, https://itida.gov.eg/English/MediaCenter/News/Pages/Egypt-adds-E-Seal-Time-stamp-Services-to-E-Signature-law.aspx.

Bank guidelines<sup>3</sup>. Notably, the pilot project is being considered for a blockchain network. Egypt's increasing fintech sector, including bank technology adoptions, supports this development.

# Wealth Management and Robo-advisory Services

**Robo-Advisors Market:** Based on projections, the Robo-Advisors market would grow rapidly, with assets under management reaching \$4 billion by 2023 and a 25.00% annual growth rate (CAGR 2023-2027) to \$10 billion by 2027. By 2027, the market will have 1.940 million users and an average asset under management per user of \$2,000 in 20234.

**DFin Holding:** It is an Egyptian fintech platform that launched a venture loan fund, robo-advisor, and wealth management platform for Mena entrepreneurs. Camel Ventures, the company's Q2 2021 fintech fund, is collecting cash to capitalize on the region's fintech boom<sup>5</sup>. The program seeks local investors and family offices to fund fintech businesses. The company stresses fintech's significance in economic growth and financial inclusion across sectors.

#### Blockchain and Cryptocurrency Solutions

Egypt has 3.32 million bitcoin owners, 3% of the population. With a Blockchain Regulatory Assessment system score of 28.50/100, the legal framework is immature and needs clarity on crypto legality and compliance. The 2020 Central Bank and Banking Sector Law regulates cryptocurrency enterprises for consumer protection and financial stability. However, the Central Bank has warned against cryptocurrency adoption due to security threats. The United Arab Emirates and Saudi Arabia have different cryptocurrency policies, reflecting worldwide interest. Thus, these regulations will affect innovation, growth, and adoption of cryptocurrencies and blockchain technologies.

<sup>&</sup>lt;sup>3</sup> Digital Banker Africa, "Central Bank of Egypt Trials EKYC Model for Financial Inclusion," Digital Banker Africa, January 29, 2020, <a href="https://digitalbankerafrica.com/central-bank-of-egypt-trials-ekyc-model-for-financial-inclusion/">https://digitalbankerafrica.com/central-bank-of-egypt-trials-ekyc-model-for-financial-inclusion/</a>.

<sup>&</sup>lt;sup>4</sup> Statista. "Robo-Advisors - Egypt | Statista Market Forecast." Statista, 2022.

https://www.statista.com/outlook/dmo/fintech/digital-investment/robo-advisors/egypt.

<sup>&</sup>lt;sup>5</sup> Nik Pratt, "Egyptian Fintech Plans Venture Fund and Robo-Advisor," www.fundsglobalmena.com, 2021, https://www.fundsglobalmena.com/news/egyptian-fintech-plans-venture-fund-and-robo-advisor.

<sup>&</sup>lt;sup>6</sup> Triple A, "Cryptocurrency Ownership Data for Egypt 2022," Triple-A, 2023, https://triple-a.io/crypto-ownership-egypt-2022/.

#### **NFTs**

#### **Art and Collectibles**

**Next Decentrum:** A portfolio firm of Victory Square Technologies launched "Crypto Pharaohs," an NFT collection based on ancient Egyptian culture. Crypto Pharaohs honors Egyptian civilization with 7006 cryptographically distinct digital items. In conjunction with DAF, a fintech business changing Egyptian healthcare, the initiative combines storytelling and appealing images to highlight Egyptian art and culture. By January 7, 2022, collectors could claim the first 372 Crypto Pharaohs from Next Decentrum's Momentable platform on the Flow blockchain<sup>7</sup>.

Aya Tarek's "Token," an exhibition of digital and physical works inspired by Egyptian culture and legacy, was on exhibition at Downtown Cairo's Kodak Passageway. Tarek used Non-Fungible Tokens (NFTs) to broaden her reach as she moved from political street art to digital platforms. "Token" shows Tarek's unique collection, combining tangible paintings with computer created pieces that tackle consumerism and social perspectives<sup>8</sup>. This NFT-focused exhibition showcases modern Egyptian street culture and the growing awareness and empowerment of MENA artists through NFTs.

JR's illusory installation for the "Forever Is Now" exhibition in Egypt's Great Pyramid of Giza is the pyramid's inaugural contemporary art show in 4,500 years. The installation showed a huge hand sustaining a pyramid portion with a disconnected top. JR broke the artwork into 4,591 fragments using NFT technology to gather each component as an NFT. NFTs enabled this novel kind of public artwork ownership? The Art D'Égypte-organized exhibition combined Egyptian heritage with current art to promote worldwide discourse.

#### Music and Entertainment

first Egyptian company and Middle Eastern startup participating in Metaverse Fashion Week (MVFW) was luxury fashion business Christine Massarany Designs (CM Designs). In Decentraland, avatars can wear CM Designs' semi-couture design as NFTs or actual apparel. CM Designs plans to open a Decentraland store with Boson Protocol, an open-source e-

<sup>&</sup>lt;sup>7</sup> Unlock Media, "Egyptian Art, Culture and History to Inspire Crypto Pharaohs NFT Project," UNLOCK Blockchain, December 6, 2021, <a href="https://www.unlock-bc.com/82362/egyptian-art-culture-and-history-to-inspire-crypto-pharaohs-nft-project/">https://www.unlock-bc.com/82362/egyptian-art-culture-and-history-to-inspire-crypto-pharaohs-nft-project/</a>.

<sup>&</sup>lt;sup>8</sup> Kamal Tabikha, "Aya Tarek Launches Egypt's First Art Collection for an NFT Marketplace," The National, December 11, 2021, <a href="https://www.thenationalnews.com/mena/egypt/2021/12/11/aya-tarek-launches-egypts-first-art-collection-for-an-nft-marketplace/">https://www.thenationalnews.com/mena/egypt/2021/12/11/aya-tarek-launches-egypts-first-art-collection-for-an-nft-marketplace/</a>.

<sup>&</sup>lt;sup>9</sup> Helen Holmes , "JR Has Created a New NFT Installation for a Great Pyramid of Giza Exhibition," Observer, October 22, 2021, <a href="https://observer.com/2021/10/jr-has-created-a-new-nft-installation-for-a-great-pyramid-of-giza-exhibition/">https://observer.com/2021/10/jr-has-created-a-new-nft-installation-for-a-great-pyramid-of-giza-exhibition/</a>.

commerce network, where customers can browse and buy digital or physical clothing, reflecting the growing popularity of NFTs in fashion. Dina Fahmy El Rouby's Myth of the 99, a digital art project including 99 paintings influenced by Greek Mythology's 99 horses, also received notice<sup>10</sup>.

### Digital Identity and Ownership

Egypt's NFT trend, especially among artists and aficionados, offers a chance to rethink digital identity and ownership. NFTs presently focus on digital art, real estate, and gaming assets, but they will likely expand. Egypt's poor blockchain technology awareness makes NFTs difficult to implement. Thus, relevant entities and the government must prioritize blockchain literacy activities to promote active involvement and prevent spectators in this momentous shift. Blockchain's verifiable exclusivity increases digital content's value as NFTs create new business models and markets. This growth will potentially change how Egypt manages digital identities and ownership, requiring an inclusive policy to empower citizens.

### Supply Chain and Logistics

Blockchain-stored NFTs (Non-Fungible Tokens) certify the authenticity and ownership of unique items. They are increasingly affecting supply networks worldwide, including manufacturing. Manufacturers and product designers are using NFTs to track physical materials, parts, and products to improve supply chain security. NFTs stem a product's route, avoiding counterfeiting and ensuring transparency. This procedure updates the blockchain using NFC tag chips. Thus, NFTs will set a new standard for supply chain security and transparency, reducing counterfeiting concerns, maintaining product quality, and improving transparency in sectors like Egypt's supply chain and logistics.

#### DeFi

### Payment and Remittance Services

The National Bank of Egypt (NBE), Egypt's largest bank, has teamed with Ripple to create a UAE-Egypt remittance corridor to boost payment services for Egyptians working there. The NBE and LuLu International Exchange want to use RippleNet's distributed ledger technology to make cross-border payments faster and cheaper. The collaboration may employ Ripple's cryptocurrency, XRP, for remittances. This relationship is crucial given Egypt's \$24 billion remittance industry in 2020<sup>11</sup>.

Fawry for Banking Technology and Electronic Payment (FWRY) signed agreements with local banks in February 2022 to enable real-time remittances for Egyptians abroad through Fawry's Egyptian outlets<sup>12</sup>. Fawry, an Egypt-based electronic payment network provider, offers bill payment solutions via internet platforms, ATMs, mobile wallets, and retail terminals. While their cooperative trial with Banque du Caire (BDC) achieved modest real-time remittance volumes, Fawry was aggressively seeking authorisation from the Central Bank of Egypt (CBE). Fawry seeks to join the CBE's rapid payment network after the CBE endorsed their relationship in September 2020 for the real-time remittance payment initiative. The new network would collaborate with six or seven banks in June after the trial period.

**Yellow**, a Bitcoin payments startup, established a bitcoin voucher solution in Egypt to compete with expensive and difficult payment platforms. Eventtus.com consumers can buy bitcoin vouchers as "tickets" using debit cards, PayFort, or Vodafone point-of-sale machines. Yellow is the first MENA startup that allow Egyptians buy BTC with local cash, despite poor credit card adoption and constrained bank account access. Despite Egypt's high illiteracy and poor telecom infrastructure, Yellow's founder, David El Achkar, is enthusiastic about Bitcoin's potential revolutionizing payments in the region, citing growing interest in Kuwait, Saudi Arabia, Tunisia, and Egypt<sup>13</sup>.

### Microfinance and Lending

**Pursa Exchange** makes **Egypt's microfinance business** is gaining traction with the introduction of a new \$2.8 million

<sup>&</sup>lt;sup>11</sup> Daniel Palmer, "Egypt's Largest Bank Joins Ripple Network for Cross-Border Payments," www.coindesk.com, May 19, 2021, <a href="https://www.coindesk.com/business/2021/05/19/egypts-largest-bank-joins-ripple-network-for-cross-border-payments/">https://www.coindesk.com/business/2021/05/19/egypts-largest-bank-joins-ripple-network-for-cross-border-payments/</a>

<sup>&</sup>lt;sup>12</sup> Arab Finance, "Fawry Seeks CBE's Approval on Enabling Real-Time Remittances Payment via Fawry Outlets," african markets, February 2, 2022, <a href="https://www.african-markets.com/en/stock-markets/egx/fawry-seeks-cbe-s-approval-on-enabling-real-time-remittances-payment-via-fawry-outlets">https://www.african-markets.com/en/stock-markets/egx/fawry-seeks-cbe-s-approval-on-enabling-real-time-remittances-payment-via-fawry-outlets</a>.

<sup>&</sup>lt;sup>13</sup> Joseph Young, "Yellow Launches Bitcoin Voucher Service in Egypt despite Country's 'Tough Market,'" Cointelegraph, May 18, 2015, <a href="https://cointelegraph.com/news/yellow-launches-bitcoin-voucher-service-in-egypt-despite-countrys-tough-market">https://cointelegraph.com/news/yellow-launches-bitcoin-voucher-service-in-egypt-despite-countrys-tough-market</a>.

initiative. NI Capital, the National Bank of Egypt affiliate, created Tamweely, a microfinance arm, alongside government backed Ayady for Investment and Development and private equity firm Post for Investments. This effort supports NBE's local economic development in Upper Egypt and the Nile Delta. The Central Bank of Egypt (CBE) launched a microfinance program with NBE, Banque Misr, Commercial International Bank, and Faisal Islamic Bank to provide up to \$1.7 billion to 10 million customers over four years<sup>14</sup>. The initiative will promote financial inclusivity and SME finance. Egypt's fast developing microfinance sector is anticipated to profit from improved economic conditions and the domination of small enterprises, despite poor financial reporting and high interest rates.

**AxisPay**, an Egyptian fintech company's digital payments platform, offers North African entrepreneurs and their employees a digital banking option. After getting a \$8.25 million early investment from Tiger Global, Sawari Ventures, Raba, and others, the business received a CBE license for its open-loop mobile money wallet. Through axisPay mobile wallets, Axis streamlines employee and supplier payments for salaries, expenditures, cashback, and earned wage transfers. The venture seeks to increase financial inclusion, reduce small businesses' cash reliance, and fill Egypt's \$15 billion SME funding gap through a lending product<sup>15</sup>.

### Insurance and Risk Management

Egypt's restrictive banking laws and legislative uncertainties, bitcoin and other cryptocurrencies are in high demand. Egypt's DeFi landscape, notably asset tokenization and trade, will benefit from this development. Tokenizing assets from the real world like real estate, products, or local companies will grow as Egyptians seek alternate revenue streams owing to economic problems. Egyptians will gain financial inclusion and liquidity by fractionally owning and trading tokenized assets using blockchain technology. Hence, cryptocurrency adoption in Egypt indicates a desire for decentralized financial solutions.

The Egyptian HoggPool crypto fraud highlights the need for effective cryptocurrency insurance and risk management. In difficult economic conditions like Egypt's currency devaluation and rising inflation, risky investment strategies become more appealing. As more people invest in cryptocurrency, fraud and large losses arise. Cryptocurrency insurance and risk management solutions will shield investors from such dangers by assuring due

<sup>&</sup>lt;sup>14</sup> Oxford Business Group, "New Microfinance Initiative Worth \$2.8m Launched in Egypt - Oxford Business Group," 2017, August 30, 2017, <a href="https://oxfordbusinessgroup.com/articles-interviews/new-microfinance-initiative-worth-2-8m-launched-in-egypt">https://oxfordbusinessgroup.com/articles-interviews/new-microfinance-initiative-worth-2-8m-launched-in-egypt</a>.

<sup>&</sup>lt;sup>15</sup> Tage Kene-Okafor, "Tiger Global-Backed Axis Launches Digital Payments Platform for Egyptian SMEs Months after Its \$8.25M Seed," TechCrunch, May 17, 2023, <a href="https://techcrunch.com/2023/05/17/tiger-global-backed-axis-launches-digital-payments-platform-for-egyptian-smes-months-after-its-8-25m-seed/">https://techcrunch.com/2023/05/17/tiger-global-backed-axis-launches-digital-payments-platform-for-egyptian-smes-months-after-its-8-25m-seed/</a>.

diligence, regulatory compliance, and fraud protection.
Thus, these strategies will help individuals and organizations navigate the turbulent bitcoin investing landscape, creating trust and long-term prosperity.

## Financial Inclusion and Literacy Activities

The Central Bank of Egypt's (CBE) Defi (Digital Financial Inclusion and Literacy) initiative uses digital financial services and new technology to promote a cashless economy. The National Payment Council and Presidential Decree are promoting digital payment alternatives to increase financial access for all, including the informal sector. It includes establishing a regulatory sandbox to encourage innovative financial products and services, using blockchain technology to improve KYC processes, and expanding mobile payment use cases like the digitization of Village Savings and Loans Associations and the Fast-Moving Consumer Goods project<sup>16</sup>. Thus, Egypt's Defi initiative promotes financial inclusion and a robust, digital economy by increasing electronic payments, financial literacy, and cybersecurity.

#### **Copyright and Disclaimer**

Chaintum Research has copyrighted this work in 2023 and released it under the Creative Commons Attribution-NonCommercial-NonDerivatives 4.0 International Public License. To view a copy of this license, visit http://creativecommons.org/licenses/by-nc-nd/4.0/

The content is for informative purposes only and does not constitute investment/regulatory advice or management consultancy. This content does not indicate a commercial connection with Chaintum Research, and Chaintum Research is not liable for its usage.

This content may be copied, distributed, and cited under the Creative Commons license. Users should include separate citations for pictures, figures, and tables used with thirdparty authorization or under a different Creative Commons license.

To seek permission to remix, modify, build upon, or distribute any derivative of this content, email info@chaintumresearch.org with "Permission request" in the subject line. Thank you for your interest!

#### References

AFI. "Financial Inclusion Through Digital Financial Services And Fintech: The Case Of Egypt Case Study," 2020. <a href="https://www.afi-global.org/wp-content/uploads/publications/2018-08/AFI\_Egypt\_Report\_AW\_digital.pdf">https://www.afi-global.org/wp-content/uploads/publications/2018-08/AFI\_Egypt\_Report\_AW\_digital.pdf</a>.

Arab Finance. "Fawry Seeks CBE's Approval on Enabling Real-Time Remittances Payment via Fawry Outlets." african markets, February 2, 2022. <a href="https://www.african-markets.com/en/stock-markets/egx/fawry-seeks-cbe-s-approval-on-enabling-real-time-remittances-payment-via-fawry-outlets">https://www.african-markets.com/en/stock-markets/egx/fawry-seeks-cbe-s-approval-on-enabling-real-time-remittances-payment-via-fawry-outlets</a>.

Digital Banker Africa. "Central Bank of Egypt Trials EKYC Model for Financial Inclusion." Digital Banker Africa, January 29, 2020. <a href="https://digitalbankerafrica.com/central-bank-of-egypt-trials-ekyc-model-for-financial-inclusion/">https://digitalbankerafrica.com/central-bank-of-egypt-trials-ekyc-model-for-financial-inclusion/</a>.

Enterprise. "Egyptians Have Their Eyes on NFTs." Enterprise, 2022. https://enterprise.press/stories/2022/03/14/egyptians-have-their-eyes-on-nfts-66891/.

Holmes, Helen. "JR Has Created a New NFT Installation for a Great Pyramid of Giza Exhibition." Observer, October 22, 2021. <a href="https://observer.com/2021/10/jr-has-created-a-new-nft-installation-for-a-great-pyramid-of-giza-exhibition/">https://observer.com/2021/10/jr-has-created-a-new-nft-installation-for-a-great-pyramid-of-giza-exhibition/</a>.

ITIDA. "Information Technology Industry Development Agency." www.itida.gov.eg, 2020. <a href="https://itida.gov.eg/English/MediaCenter/News/Pages/Egypt-adds-E-Seal-Time-stamp-Services-to-E-Signature-law.aspx">https://itida.gov.eg/English/MediaCenter/News/Pages/Egypt-adds-E-Seal-Time-stamp-Services-to-E-Signature-law.aspx</a>.

Kene-Okafor, Tage. "Tiger Global-Backed Axis Launches Digital Payments Platform for Egyptian SMEs Months after Its \$8.25M Seed." TechCrunch, May 17, 2023. https://techcrunch.com/2023/05/17/tiger-global-backed-axis-launches-digital-payments-platform-for-egyptian-smes-months-after-its-8-25m-seed/.

Mascellino, Alessandro. "Egypt Integrates FinGo Vein Biometrics in National ID Program | Biometric Update." www.biometricupdate.com, February 24, 2021. https://www.biometricupdate.com/202102/egypt-integrates-fingo-vein-biometrics-in-national-id-program.

Oxford Business Group. "New Microfinance Initiative Worth \$2.8m Launched in Egypt - Oxford Business Group." 2017, August 30, 2017. <a href="https://oxfordbusinessgroup.com/articles-interviews/new-microfinance-initiative-worth-2-8m-launched-in-egypt">https://oxfordbusinessgroup.com/articles-interviews/new-microfinance-initiative-worth-2-8m-launched-in-egypt</a>.

Palmer, Daniel . "Egypt's Largest Bank Joins Ripple Network for Cross-Border Payments." www.coindesk.com, May 19, 2021.

https://www.coindesk.com/business/2021/05/19/egypts-largest-bank-joins-ripple-network-for-cross-border-payments/.

Pratt, Nik. "Egyptian Fintech Plans Venture Fund and Robo-Advisor." www.fundsglobalmena.com, 2021. <a href="https://www.fundsglobalmena.com/news/egyptian-fintech-plans-venture-fund-and-robo-advisor">https://www.fundsglobalmena.com/news/egyptian-fintech-plans-venture-fund-and-robo-advisor</a>.

Statista. "Robo-Advisors - Egypt | Statista Market Forecast." Statista, 2022. https://www.statista.com/outlook/dmo/fintech/digital-investment/robo-advisors/egypt.

Tabikha, Kamal. "Aya Tarek Launches Egypt's First Art Collection for an NFT Marketplace." The National, December 11, 2021.

https://www.thenationalnews.com/mena/egypt/2021/12/11/aya-tarek-launches-egypts-

first-art-collection-for-an-nft-marketplace/.

Triple A. "Cryptocurrency Ownership Data for Egypt 2022." Triple-A, 2023. <a href="https://triple-a.io/crypto-ownership-egypt-2022/">https://triple-a.io/crypto-ownership-egypt-2022/</a>.

Unlock Media. "Egyptian Art, Culture and History to Inspire Crypto Pharaohs NFT Project." UNLOCK Blockchain, December 6, 2021. <a href="https://www.unlock-bc.com/82362/egyptian-art-culture-and-history-to-inspire-crypto-pharaohs-nft-project/">https://www.unlock-bc.com/82362/egyptian-art-culture-and-history-to-inspire-crypto-pharaohs-nft-project/</a>.

Young, Joseph. "Yellow Launches Bitcoin Voucher Service in Egypt despite Country's 'Tough Market.'" Cointelegraph, May 18, 2015. <a href="https://cointelegraph.com/news/yellow-launches-bitcoin-voucher-service-in-egypt-despite-countrys-tough-market">https://cointelegraph.com/news/yellow-launches-bitcoin-voucher-service-in-egypt-despite-countrys-tough-market</a>.