



hanetf

Recording the Fourth Industrial Revolution

Blockchain

2020

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Overview

The fourth industrial revolution is the current environment where disruptive technology trends such as the Internet of Things (IoT), Robotics, Artificial intelligence (AI), Future Cars/Autonomous Vehicles, Blockchain, Cloud Computing, Genomics and Social Media are changing the way we live and work.

Unlike previous industrial revolutions, these technologies are rapidly combining to create an accelerating, virtuous cycle of nearly unlimited disruption. While previous industrial revolutions were often localized, today is interconnected and global and its impact is already visible in homes and businesses across the world.

This is a short guide to help investors understand the main sectors of the fourth industrial revolution and their features, applications, and growth potential:

Robotics & Automation

Genomics

Future Transport

Social Media

Cloud Computing

Blockchain

Cyber Security

Augmented & Virtual Reality

Blockchain

Many people will have first heard about Blockchain through its association with Bitcoin, but its applications go far beyond cryptocurrencies as it stands ready to create huge efficiencies across almost every industry vertical.

At its simplest, a Blockchain is a decentralised list of records (blocks) that are linked by cryptography. Each block contains a cryptographic record of the previous block in the chain, a timestamp and transaction data. A verified transaction can include financial, contracts, legal records or other information. Once verified, this new block is then added to the existing blockchain.

Any additions to the Blockchain must be validated by a majority of users, and a block cannot be altered once added, making it highly secure, hard to tamper with and fast.

While the world of record-keeping conjures up images of musty, leather-bound tomes, rooms of filing cabinets or cavernous archives, it is the near universal need to record, validate and store information securely that is providing real-world applications for Blockchain and generating increased investment interest in the sector.

Why Blockchain is Useful

Security, tamper-resistance and speed are the qualities that give Blockchain the potential to offer huge efficiencies for any organisation or institution that needs to keep records or transfer sensitive information securely; such as money transfers, medical records, contracts, shareholder information, trade details or a vote.

Financial services is the sector that has most rapidly embraced Blockchain, representing about 60% of spending. This is perhaps unsurprising given the importance of transactional data for their business, but Blockchain stands to impact a wide array of industries.



A recent Deloitte survey¹ polled nearly 1,400 executives from around the world on their perceptions of, and use of Blockchain. 53% reported that Blockchain has become a critical strategic priority for their company, with 71% citing improved security as it's key appeal. Of those polled, 40% are spending more than \$5 million a year on R&D or implementation.

An amazing 86% reported that Blockchain could be a source of growth for their business in future, indicating that Blockchain is not simply about creating efficiencies in existing processes, but driving the creation of entirely new revenue streams and business lines. This is a clear indication of the interconnectedness of the fourth industrial revolution where advances in one area, in this case Blockchain, can help propel advances in other sectors and industries.

With small and medium size companies increasingly adopting shared and private Blockchain solutions, it is likely to play a significant role supporting the innovators and disruptors of the fourth industrial revolution.

The full scope of Blockchain's potential remains uncovered, but Blockchain stands to confer significant benefits to a variety of sectors over the shorter term, including:

Digital IDs and Passports: Reduce bureaucracy and ID fraud

Voting Systems: Prevention of voter fraud or manipulation of e-voting results

Healthcare: Use of blockchain technology could allow hospitals, doctors and other parties in healthcare provision to share access to data securely and confidentially. This could result in faster and more accurate diagnosis and more cost-effective treatment.

Cybersecurity: The immutability of the Blockchain can help prevent hacking, theft or fraud and, by removing human intermediaries, Blockchain reduces the risk of hacking or human error.

Cloud Technology: Increased security during a shift from centralised to decentralised cloud-based digital solutions

Real Estate: Track titles, deeds and help ensure documents are accurate and verifiable. Speed up and simplify the process of buying and selling properties

Smart Contracts: One of the most exciting applications for Blockchain, smart contracts automatically create, monitor and execute legal contracts, providing a more secure, more automated alternative to traditional contract law.

Finance and Banks: Faster cheaper and more secure transactions and settlements.

Ecommerce: Lower transaction cost and heightened security

Supply Chain Management: Supply chains are essentially a series of transaction between parties moving goods. Blockchain enables secure and transparent tracking of supply chains - as products change hands move through the supply chain, the transactions can be recorded in a permanent decentralized ledger — reducing time delays, added costs, and human errors.

Digital Currencies: Bitcoin and other alternative digital currencies

The real-world applications of Blockchain are rapidly extending beyond cryptocurrencies as heightened awareness of different uses grows and more R&D dollars are directed towards the technology.

¹ https://www2.deloitte.com/content/dam/Deloitte/se/Documents/risk/DI_2019-global-blockchain-survey.pdf



Industry Trends and Growth

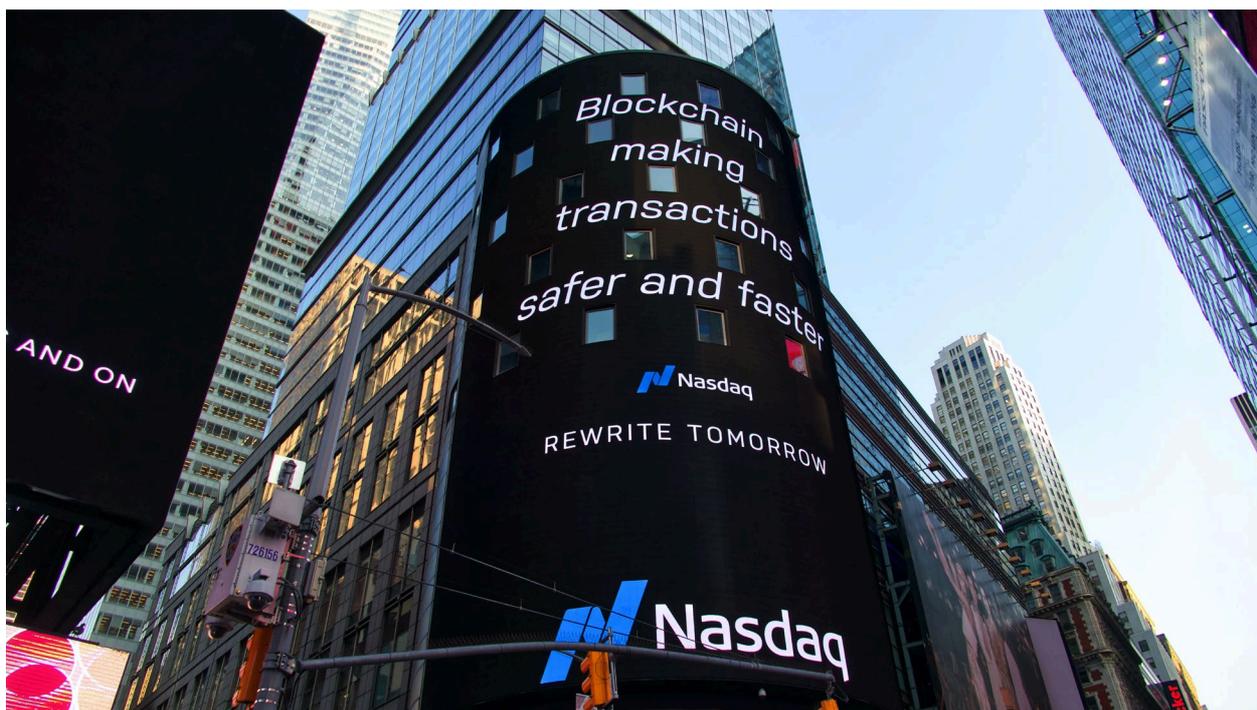
In some ways, blockchain's long association with cryptocurrencies made it difficult for business leaders to see real-world usage for the technology, but now a change in sentiment is occurring as the applications of blockchain become better understood and the technology becomes cheaper and more accessible.

Companies in almost every sector are investing in the technology and human capital needed to implement their own solutions, and many are creating their own private blockchains to serve specific purposes.

Against this background, worldwide spending on blockchain solutions is expected to grow from \$1.5 billion in 2018 to reach \$23.5 billion by 2030 ²- a CAGR of 48.7%. Some analysts³ predict an ever higher CAGR of 69.4%, making Blockchain one of the highest growth-potential segments of the fourth industrial revolution.

Investing in the Blockchain Theme

For Blockchain, the near ubiquity of the need to send, record and store data securely creates a massive addressable market. With applications in almost every sector, Blockchain can offer long-term cost savings, increased operational efficiency and heightened security while feeding into and benefiting from growth in other sectors. Investors who see long-term opportunity can consider an allocation to The HAN-GINS Tech Megatrend Equal Weight UCITS ETF (ITEK). ITEK includes Blockchain as part of 8 transformational technology trends that are reshaping the world alongside Robotics & AI, Cloud Computing & Big Data, Cyber Security, Genomics, Social Media, AR & VR and Future Transportation.



² <https://www.businesswire.com/news/home/20200409005307/en/Global-Blockchain-Devices-Market-Forecast-2020-2030-->

³ <https://www.grandviewresearch.com/industry-analysis/blockchain-technology-market>



Fund Details

When you trade ETFs, your capital is at risk

EXCHANGE	BB CODE	RIC	ISIN	CURRENCY	INCOME
London Stock Exchange	ITEK LN	ITEK.L	IE00BDDRF700	USD	Acc
London Stock Exchange	ITEP LN	ITEP.L	IE00BDDRF700	GBP	Acc
Borsa Italiana	ITEK IM	ITEK.MI	IE00BDDRF700	EUR	Acc
XETRA	T3KE GY	T3KE.DE	DE000A2N5XE0	EUR	Acc
SIX	ITEK SW	ITEK.S	IE00BDDRF700	CHF	Acc

- [ITEK Factsheet](#)
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Name	TER	Bloomberg Codes				
		LSE \$	LSE £	Borsa €	XETRA €	SIX
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HAN-GINS Tech Megatrend Equal Weight UCITS ETF	0.59%	ITEK LN	ITEP LN	ITEK IM	T3KE GY	ITEK SW
HAN-GINS Cloud Technology UCITS ETF	0.59%	SKYY LN	SKYP LN	SKYY IM	5XYE GY	SKYY SW
HAN-GINS Indxx Medical Innovation UCITS ETF	0.59%	WELL LN	WELP LN	WELL IM	W311 GY	WELL SW
KMEFIC FTSE Kuwait UCITS ETF	0.80%	KUW8 LN	KUWP LN	KUW8 IM	KUW8 GY	-
The Medical Cannabis & Wellness UCITS ETF	0.80%	CBDX LN	CBDP LN	-	CDSX GY	CBDX SW
The Royal Mint Physical Gold ETC	0.22%	RMAU LN	RMAP LN	-	RM8U GY	-
BTCcfc Bitcoin Exchange Traded Crypto*	2.00%	-	-	-	BTCE GY	-

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