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WisdomTree Europe

Blockchain: Companies Using Blockchain Technology Performed Well In 2023. Can This Momentum Continue?

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March 2024

Blockchain Explained

By WisdomTree





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1.

Blockchain
background



Consensus around Blockchain Technology



Bob Greifeld
Former chairman, Nasdaq

“[Blockchain] is the biggest opportunity set we can think of over the next decade or so.”



Blythe Masters
Motive Partners

“The blockchain is the financial challenge of our time. It is going to change the way that our financial world operates”



Abigail Johnson
CEO, Fidelity

“Blockchain technology isn't just a more efficient way to settle securities. It will fundamentally change market structures(...).”



Gartner

“By 2023, blockchain will support the global movement and tracking of \$2 trillion of goods and services annually.”



Ginni Rometty
Ex CEO, IBM

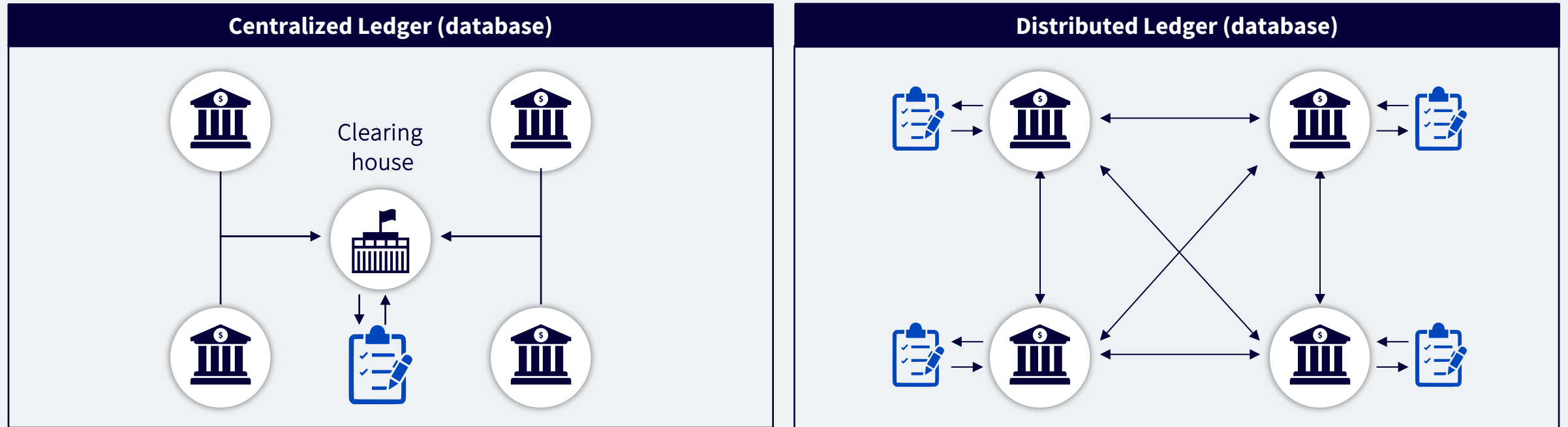
“Anything that can conceive of as a supply chain, blockchain can vastly improve its efficiency- it doesn't matter if its people, numbers, data, money.”



Kenneth C. Griffin
CEO, Citadel

“Blockchain's a very interesting technology that will have some very profound applications for society over the years to come.”

Blockchains enable direct transfer of value globally and eliminate the need for a centralised “trusted” counterparty



Distributed ledgers eliminate the need for a **central authority** or intermediary to process, validate or authenticate transactions.

Records are typically stored in the ledger/database **after consensus has been reached** by the parties involved.

Two types of blockchains: public or private

PERMISSIONLESS = PUBLIC BLOCKCHAINS

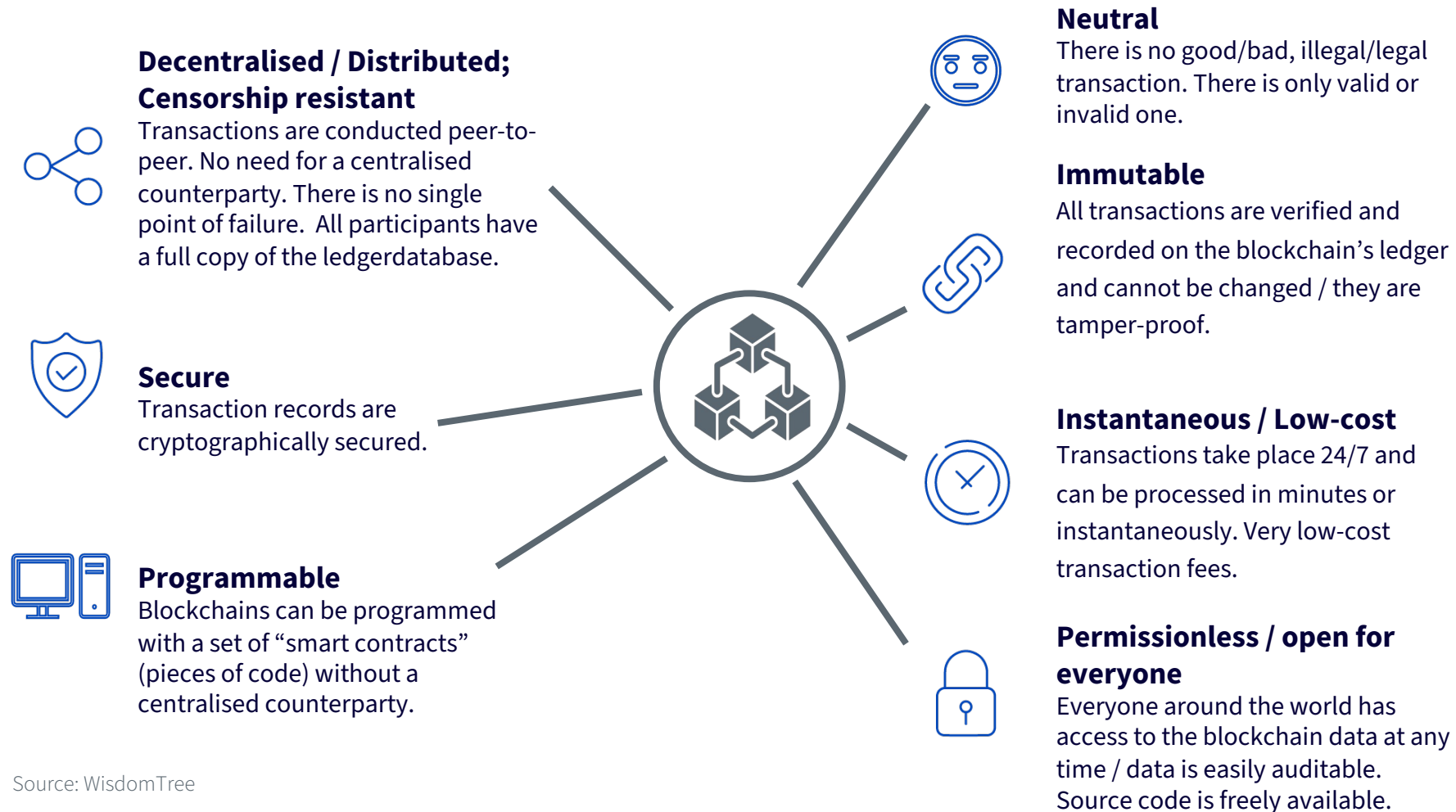
- + Anyone can freely access and use a blockchain network and participate in consensus without having to ask for permission, authorisation or approval.
- + Anyone can send/receive transactions.
- + Anyone can operate a node (PC) and review, copy and contribute to code.
- + Anyone can “fork” the code, i.e. change it.

Source: WisdomTree

PERMISSIONED = PRIVATE BLOCKCHAINS (not decentralized)

- + Private blockchains have gatekeepers who decide who can/cannot access the network, use and govern the blockchain.
- + Typical use cases:
 - + Digital ID systems, passports
 - + Land registries
 - + Voting systems
 - + Supply-chain management
 - + Marketplaces without an intermediary
 - + Cloud data storage
 - + Payments with banks
 - + Cybersecurity

What is unique about public blockchains?



Public ledgers/databases save records of transactions that represent activity on the blockchain.

These transaction records are cryptographically secured, cannot be changed, are accessible for everyone around the world and are not controlled by any one party.

Private blockchains are used by many private companies in several industries



Walmart developed a blockchain system to trace the provenance of their products



De Beers uses a 'secure and immutable trail' using a private blockchain to verify the authenticity and provenance of diamonds and ensure they are not "blood diamonds"



DHL is at the forefront of blockchain-backed logistics, using it to keep a digital ledger of shipments and maintain integrity of transactions



Comcast uses a blockchain-based system which allows advertisers to target viewers with specific adverts while maintaining viewers' privacy



JP Morgan and **MetLife**, are using their own private blockchains to simplify, streamline and verify transactions and contracts

Source: WisdomTree

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2.

Blockchain: An investment opportunity?



At the intersection of multiple Megatrends

Blockchain Technology's first application was a payments system ("Bitcoin"), but the ecosystem has evolved far and wide outside the 'payment sphere'. Several Megatrends are pushing blockchain technology adoption forward



Source: WisdomTree

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Next stage of internet is likely to be built on blockchains



Web 1.0: Invention of one-way “read-only” internet in the mid 1990s

- + Ability to scroll through static web-pages, buy items online
- + Applications such as Craigslist, Amazon.com
- + By YE1993, there were 600+ websites; by YE1996, there were 200,000 websites*

Web 2.0: Two-way internet enabled

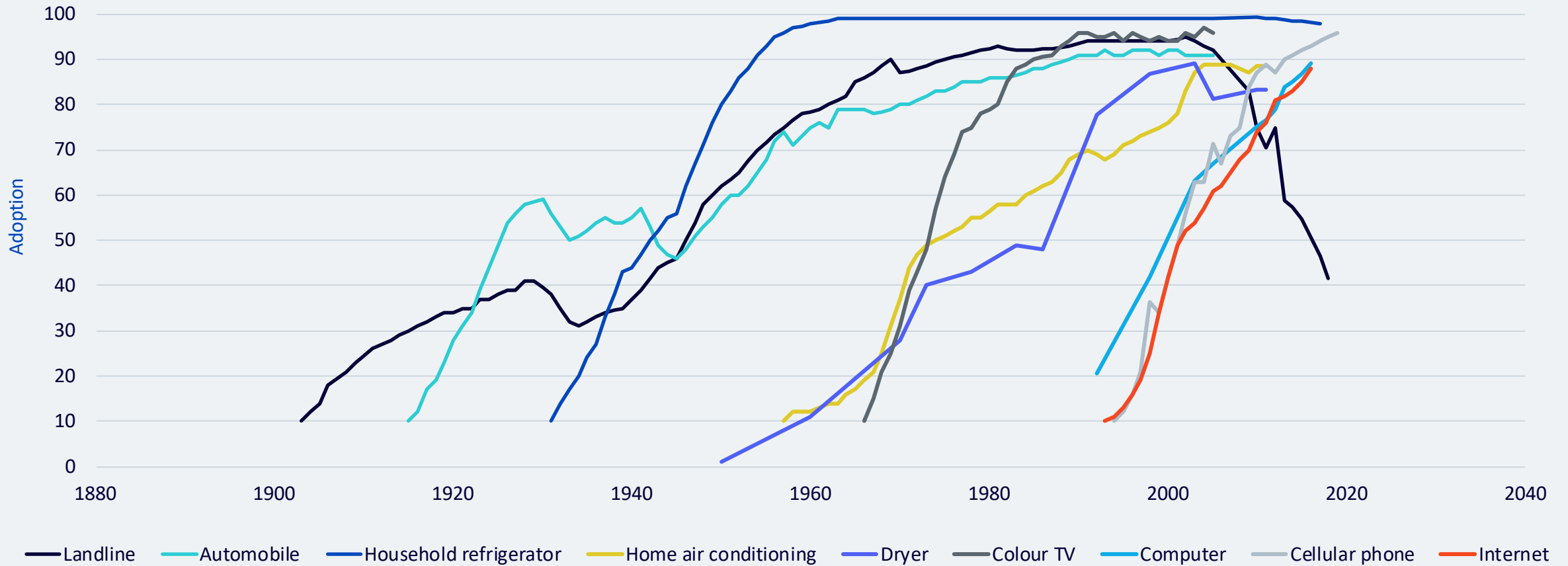
- + Ability to interact with web sites; content often resides in databases
- + Applications such as eBay, Facebook, Twitter, Instagram, Airbnb, Uber
- + Problem: big tech controls infrastructure, applications, servers – users’ personal data is monetized by selling it to advertisers; users are given access to applications-> lack of privacy, centralized control

Web 3.0: Decentralized web

- + Ability to use decentralized (shared) applications without having to “pay rent” to Big Tech
- + Users control their own data, choose who to share it with
- + Enables digital ownership and digital provenance of items and transfer of value digitally without a ‘trusted’ counterparty; users can

Source: WisdomTree. * Brave, pictures adopted from aspiresoftware.in

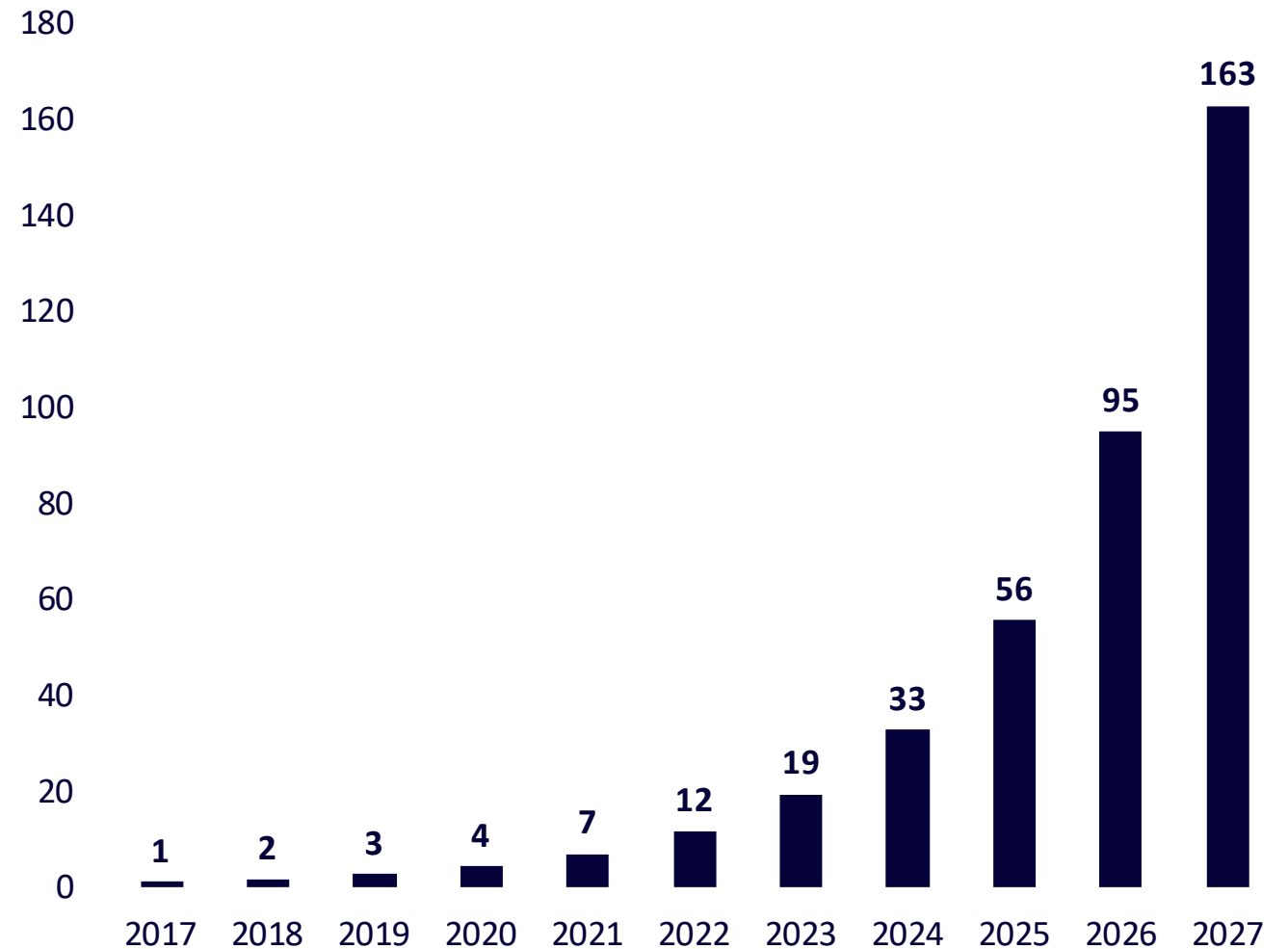
The rate of new technology adoption is increasing in an increasingly digital and globalised world



Source: Hannah Ritchie and Max Roser (2017) - "Technology Adoption". Published online at OurWorldInData.org

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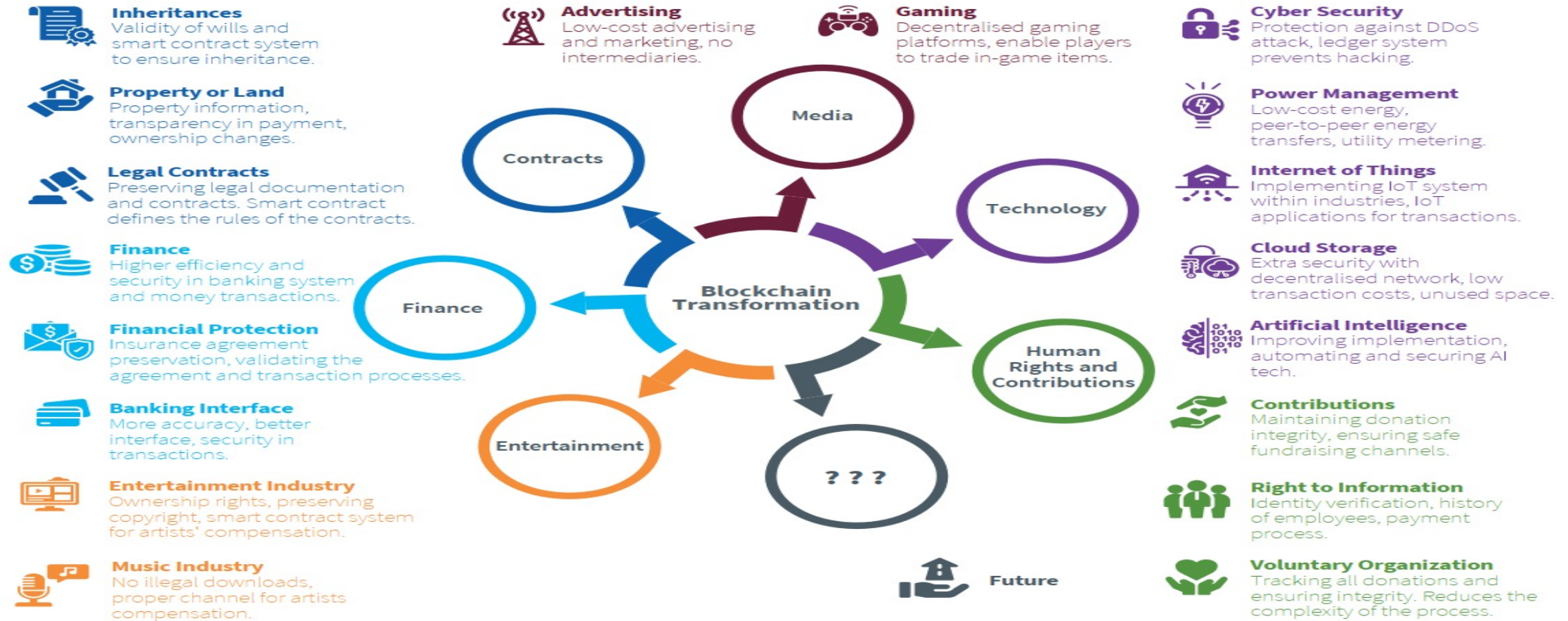
Blockchain technology likely to experience exponential growth



Source: Statista Research Department. May 2022. This statistic shows the size of the global blockchain technology market from 2017 to 2027. The worldwide blockchain market was valued at 1.57 billion U.S. dollars in 2018 and is forecast to grow more than hundred times to 163 billion U.S. dollars by 2027.

Blockchain likely to disrupt many industries over time

The variety of applications and use cases for blockchain are becoming more apparent. The range of potential applications for the technology is far-reaching, even if we are at the early stages of proliferation.



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3.

How does WisdomTree capture the Blockchain investment opportunity?



Ways to gain exposure into the technological shift

DIGITAL ASSETS and NON-FUNGIBLE TOKENS (NFTs):

- + Different use cases across taxonomy segments
- + Can be thought of like venture capital investments or small-cap technology stocks. Liquid tokens marked-to-market daily
- + Uncertainty of value reflected in high volatility short to medium term

BLOCKCHAIN EQUITIES:

- + Fractional ownership of a company that uses or develops distributed ledger technologies ('blockchains')
- + By definition, companies are later-stage as they have already done through IPO to seek funding
- + Returns influenced by volatility of digital assets but also by management decisions

'PICKS AND SHOVELS':

- + Raw commodities or equities that underpin the digital transformation (example: semiconductor chips)
- + Use case agnostic – what matters is the usage, not use case
- + Returns are predicated on competitive forces, particularly driving down cost of production and distribution

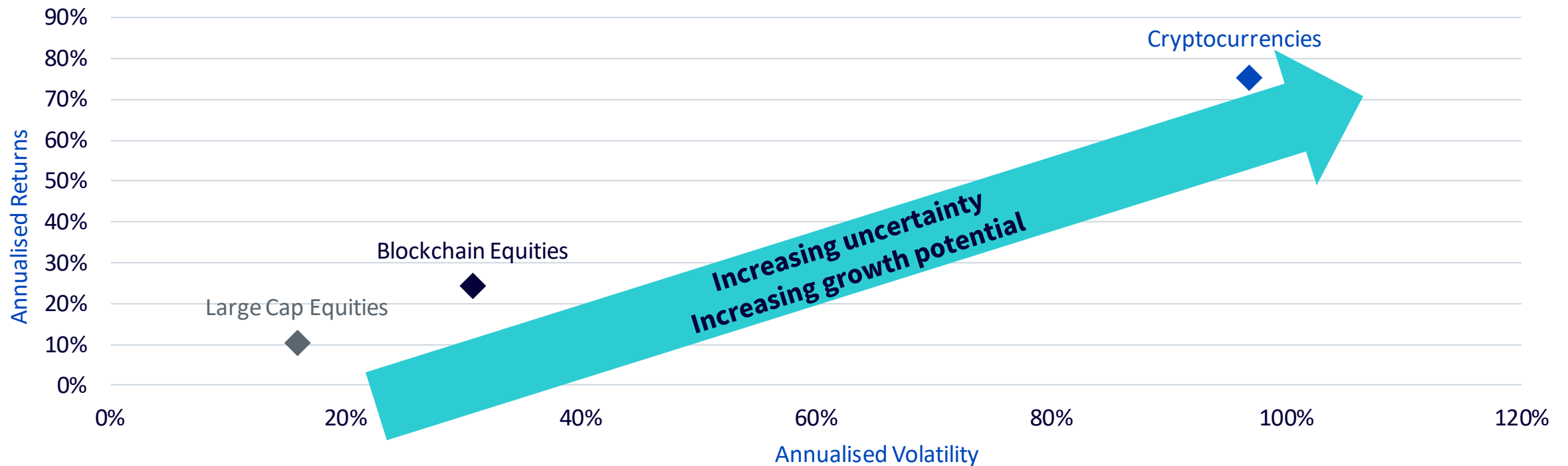


Source: WisdomTree.

Ways to gain exposure into the technological shift

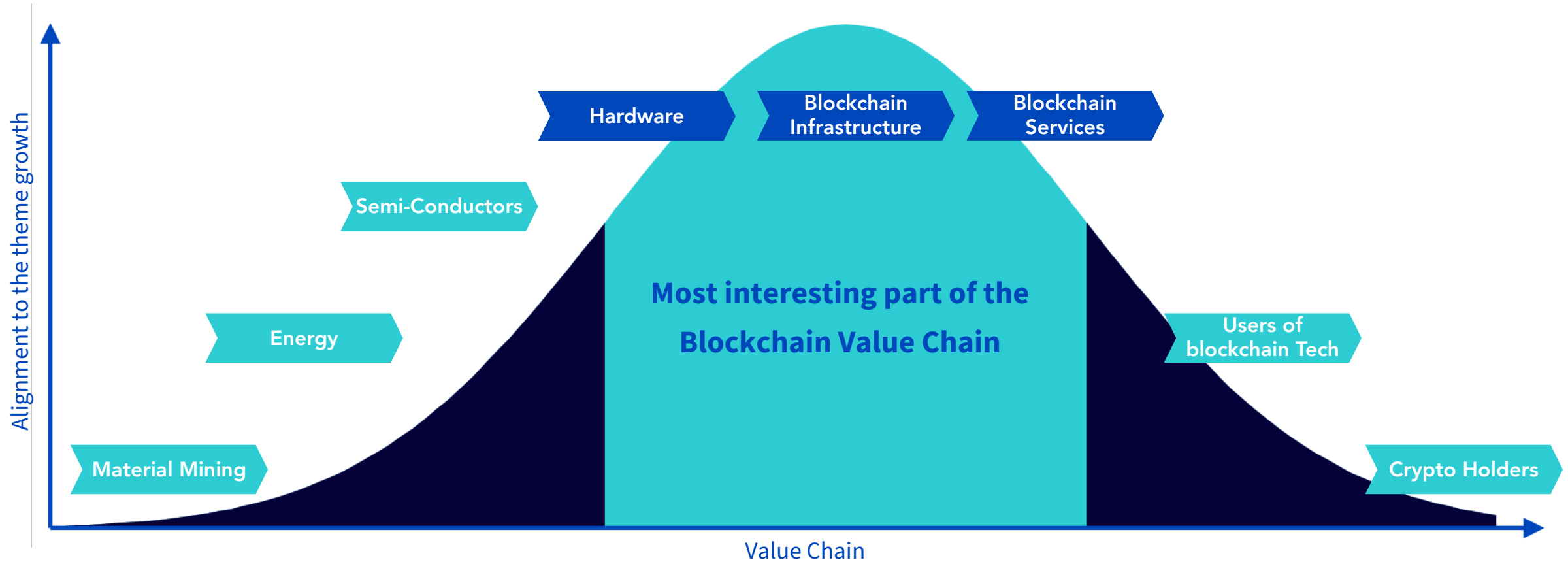
Crypto currencies show higher volatility and higher returns

- + Cryptocurrencies are the purest way to access blockchain innovation but it comes with higher uncertainty (around business models and use cases for example) and higher volatility
- + Blockchain equities represent ownership of companies that are a bit further in their development. The growth potential is reduced with the risk



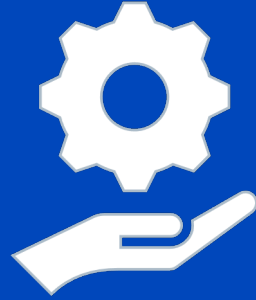
Source: WisdomTree. From November 2016 to January 2024. You cannot invest directly in an index. Historical performance is not an indication of future performance and any investments may go down in value.

The blockchain ecosystem



Source: WisdomTree

Blockchain Enablers



Crypto Mining
Mining Hardware
Patent

Helping the ecosystem grow

Blockchain Enablers are companies that make up the ecosystem and support the development of the technology

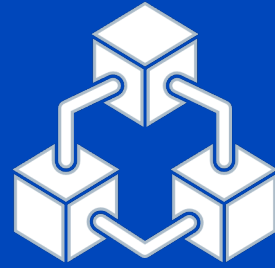
What do they do ?

This includes companies that develop components for the blockchain ecosystem, such as hardware and software infrastructure, or provide the infrastructure for the ecosystem to work such as cryptocurrency mining

This does not include semi conductor companies

Source: WisdomTree.

Blockchain Engagers



Market Exchanges
Payment Services
Banking and Asset Management Services
Consulting
Supply Chain services
Healthcare Services

Providing Blockchain services

Blockchain Engagers are companies that provide blockchain and cryptocurrency services and/or use the blockchain to improve net income through higher sales or improved efficiency and lower costs

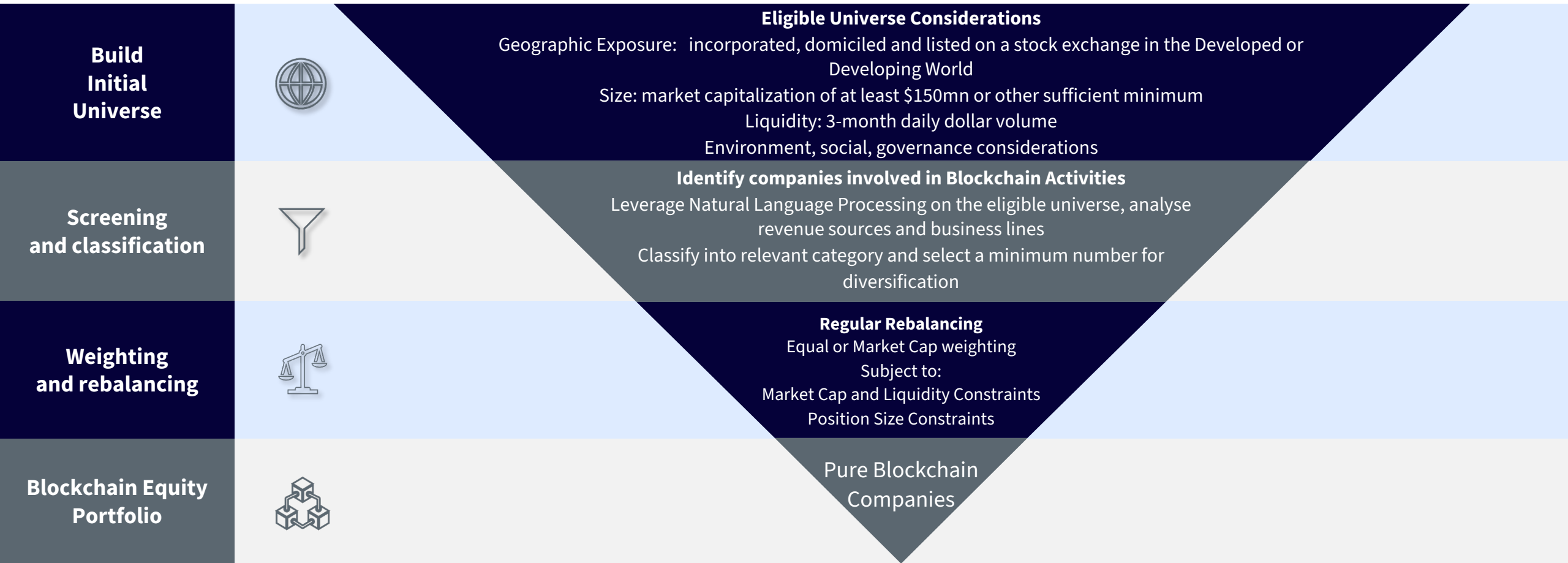
What do they do ?

This includes companies that provide services to their clients that are based on blockchain technologies like payment services, financial services and companies that are using blockchain technologies to improve efficiency in various domains like supply chain industry, food industry, healthcare.

This does not include large crypto currency holders

Source: WisdomTree.

Blockchain Company Screening Methodology



Source: WisdomTree.

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Portfolio construction process



	Number of Companies	Process stage
Eligible Universe	10,000+	The Eligible Universe is comprised of companies that are incorporated, domiciled, headquartered and listed in the relevant countries in Developed and Developing worlds. It comprises companies passing the market cap, liquidity and ESG requirements.
Activity assessment	100+	Eligible companies are assessed to determine if they have any involvement with Blockchain technology using a large selection of keywords and phrases. The relevant companies are also organised by topics
Business Assessment	~20	Using multiple sources of information (company descriptions, financial report, partnership etc.), each company's specific involvement with Blockchain is defined using criteria such as revenue and main business lines. Pure play companies, with growth stories aligned to the space, are selected for investment in the portfolio.

Source: WisdomTree

Key Takeaways



Blockchain companies are poised to benefit the most from the next evolution of the world's digitalization, with opportunity to capture long term winners by casting a wide net



Innovative approach that focuses in on companies like cryptocurrency exchanges, payment systems, and blockchain service providers more so than miners or hardware providers



Concentration on pure-play blockchain-focused companies with a blockchain related business model, without semiconductor or large crypto holders



The approach follows WisdomTree ESG framework



Appendix



E

Thermal Coal

Exclude all companies which derived more than **5%** revenue from thermal coal extraction, or having more than **5%** of their revenue from thermal coal-based power generation as defined by Sustainalytics

Unconventional oil & gas

Exclude all companies which derive more than 5% of their revenue from unconventional oil & gas exploration and/or production such as oil sands, Arctic oil or shale energy as defined by Sustainalytics

Tobacco

Exclude all companies with any involvement or significant ownership except Retail where tobacco represents less than **5%** of revenues

Controversial Weapons

Exclude all companies with any involvement, or with significant ownership in such companies as defined by Sustainalytics

S

Small Arms

Exclude all companies which derive more than 5% of their revenue from activities connected to small arms (Manufacturing, distribution, components)

G

UN Global Compact

Exclude companies found to be non-compliant with the 10 principles on Human Rights, Labour, Environment and Anti-Corruption

WisdomTree Investment Governance

WisdomTree is a **Signatory of the United Nations Principles for Responsible Investment** (“UNPRI”)

WisdomTree Europe **does not engage in securities lending**

WisdomTree Europe’s through its investment manager, **recognises and adheres to the principle of active ownership** and exercising the right to vote on issues submitted to shareholder vote as a way of **promoting good ESG policies**.

Source: WisdomTree.

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