



Blockshine
SINGAPORE

Blockchain and What Does it Mean for Africa?

Helping Africa Leap Forward

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“Blockchain ... will fundamentally change market structures, and maybe even the architecture of the Internet itself.”

Abigail Johnson, Chairman, CEO and President, Fidelity Investments



WHAT IS BLOCKCHAIN?

The Blockchain is the Byproduct



- The first use of blockchain technology
- Decentralized medium of exchange
- It has a finite supply that will cap out at 21m



“Blockchain is the tech. Bitcoin is merely the first mainstream manifestation of its potential.”

Marc Kenigsberg, founder of Bitcoin Chaser



~~WHAT IS BLOCKCHAIN?~~ ~~WHY IS BLOCKCHAIN?~~



March 16 2008:
Bear Stearns Collapses

September 15 2008:
Lehman Brothers Collapses

October 30 2008:
“Bitcoin: A Peer-to-Peer
Electronic Cash System” by
Satoshi Nakamoto is released

January 3, 2009:
Genesis Block is mined

Characteristics of a Blockchain

Consensus

For a transaction to be accepted and recorded on the blockchain, all the participants **must agree to follow the same rules**

Provenance

Participants know **where the assets came from** and how its ownership has changed over its entire history

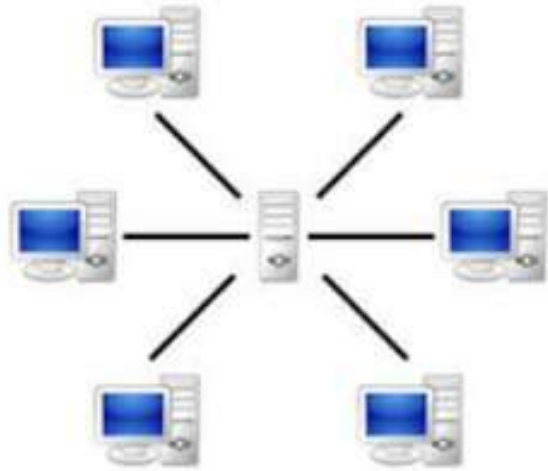
Immutability

No participant can modify a transaction after it has been recorded on the ledger

Finality

In a blockchain network, there is only one source of truth - **only one ledger for the whole network**

How is it secure?



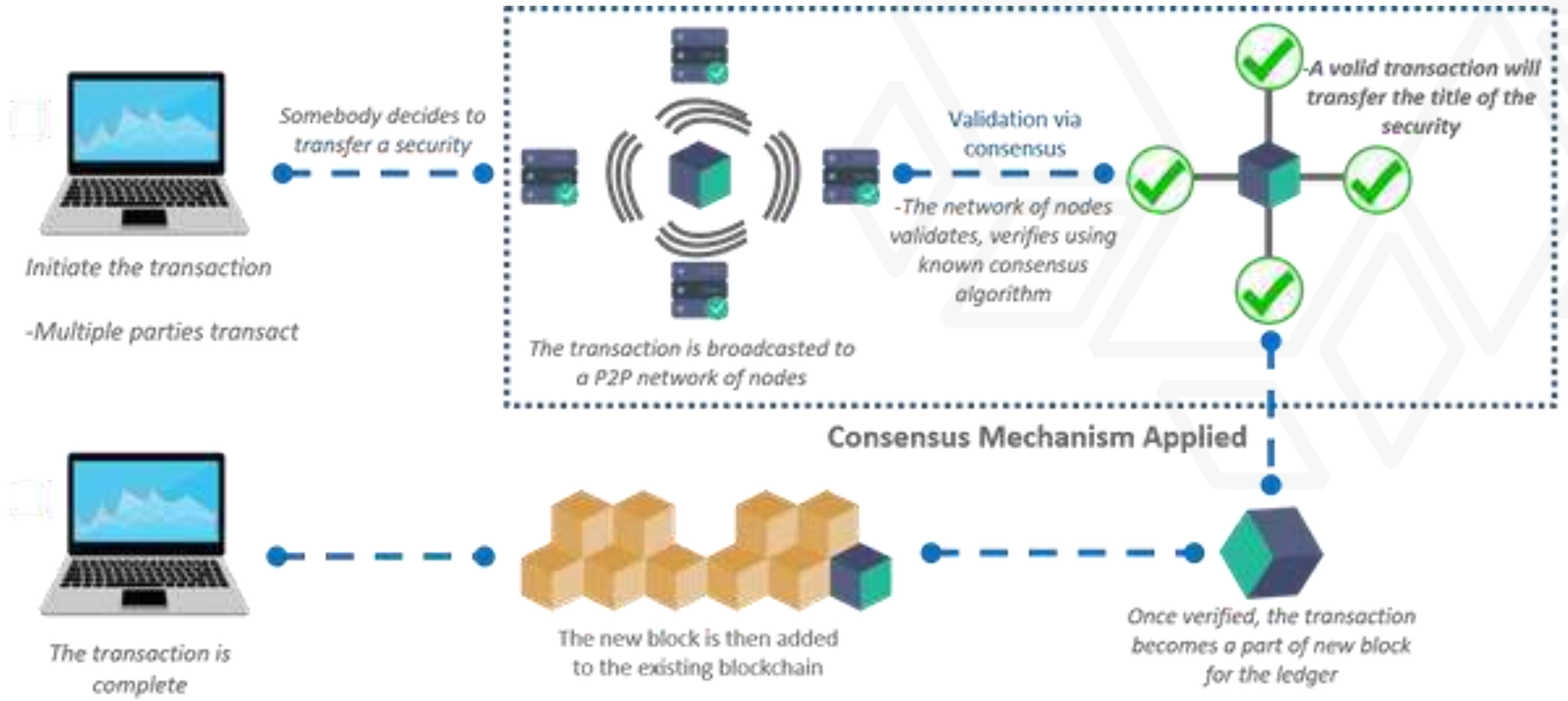
Server-based



P2P-network

By distributing ledgers across many network participants, single point of failure data breach can be avoided

The Mechanism



A blue-tinted photograph of the Singapore skyline, featuring the Marina Bay Sands hotel on the left and the Singapore Flyer on the right. The text 'BLOCKCHAIN PARADIGM SHIFT' is overlaid in white, bold, sans-serif font across the center. A faint, light-colored geometric pattern of hexagons and diamonds is visible in the background.

BLOCKCHAIN PARADIGM SHIFT

\$1,009,640,877

of Bitcoin moved in Sep 2019

\$472.62

of fees paid to the network

~10 minutes

To be confirmed by the network

Bitcoin transfer

Block	Time	Amount	Balance	Balance, USD
593560	2019-09-06 13:39:57	+0.00061298 BTC (6.66 USD)	94,505.75426019 BTC	\$1,027,112,492 @ \$10,868.25
593559	2019-09-06 13:29:25	+0.00041829 BTC (4.55 USD)	94,505.75364721 BTC	\$1,027,112,485 @ \$10,868.25
593512	2019-09-06 06:06:30	+0.0000546 BTC (0.59 USD)	94,505.75322892 BTC	\$1,024,092,466 @ \$10,836.3
593500	2019-09-06 04:35:27	+0.00002631 BTC (0.28 USD)	94,505.75317432 BTC	\$1,014,233,480 @ \$10,731.98
593499	2019-09-06 04:21:38	+0.00009319 BTC (1 USD)	94,505.75314801 BTC	\$1,014,233,480 @ \$10,731.98
593475	2019-09-06 00:40:13	+0.61840334 BTC (6,644.62 USD)	94,505.75305482 BTC	\$1,015,444,859 @ \$10,744.79
593468	2019-09-05 23:30:05	+94,505.13465148 BTC (1,009,640,876.64 USD)	94,505.13465148 BTC	\$1,009,640,877 @ \$10,683.45

\$96,783,448

of Litecoin moved in May 2018

≈ \$0.40

of fees paid to the network

150 seconds

To be confirmed by the network

Litecoin transfer

Block	Time	Amount	Balance	Balance, USD
1422825	2018-05-17 07:16:42	-0.01 ₁ LTC	0 LTC	\$0 @ \$139.99
1422715	2018-05-17 03:06:19	-699,999.99 ₃₁₄₄₆₂ LTC	0.01 ₁ LTC	\$2 @ \$138.11
1422692	2018-05-17 02:10:10	+0.00 ₁ LTC	700,000.00 ₄₁₄₄₆₂ LTC	\$96,782,448 @ \$138.26
1410635	2018-04-26 22:16:10	-0.1 LTC	700,000.00 ₃₁₄₄₆₂ LTC	\$101,912,403 @ \$145.59
1406345	2018-04-19 18:47:50	+700,000.09 ₃₁₄₄₆₂ LTC	700,000.10 ₃₁₄₄₆₂ LTC	\$98,532,060 @ \$140.76
1406337	2018-04-19 18:23:20	+0.01 LTC	0.01 LTC	\$1 @ \$140.76
1406074	2018-04-19 09:09:37	-0.99 ₉ LTC	0 LTC	\$0 @ \$141.25
1406072	2018-04-19 09:00:15	+0.99 ₉ LTC	0.99 ₉ LTC	\$140 @ \$140.15

QuadrigaCX

Forbes Billionaires Innovation Leadership Money Consumer Industry

3,331 views | Feb 5, 2019, 09:54am

QuadrigaCX: How To Lose \$140 Million In An Instant

 **Dante Disparte** Contributor
Crypto & Blockchain
I write about technology, low-friction economics, strategy and risk.

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The strange case of QuadrigaCX and how to lose \$140 million in crypto in an instant. (Bitcoin, Ethereum and Litecoin) GETTY

As if crypto winter could not get any colder, the bizarre case of QuadrigaCX, a Canadian cryptocurrency exchange, is both a bucket of cold water and a 101-level lesson in operational risk management. The exchange, home to more than \$140 million in cryptocurrencies is in the news and in the Canadian courts due to the death of its founder, Gerald Cotten, who passed away in December and took with him the only passwords to their crypto vaults. By every measure,

Movement of Value



santi 🌱 🇲🇪 🌐
@santisiri

Follow



a friend who escaped venezuela 🇻🇪 tells me about government officials in the caracas airport confiscating gold from the families leaving. these families risk their life savings in their luggage and chavistas take advantage.

“but they can’t confiscate your bitcoin” he tells me.

4:21 PM - 25 Sep 2018

387 Retweets 1,162 Likes



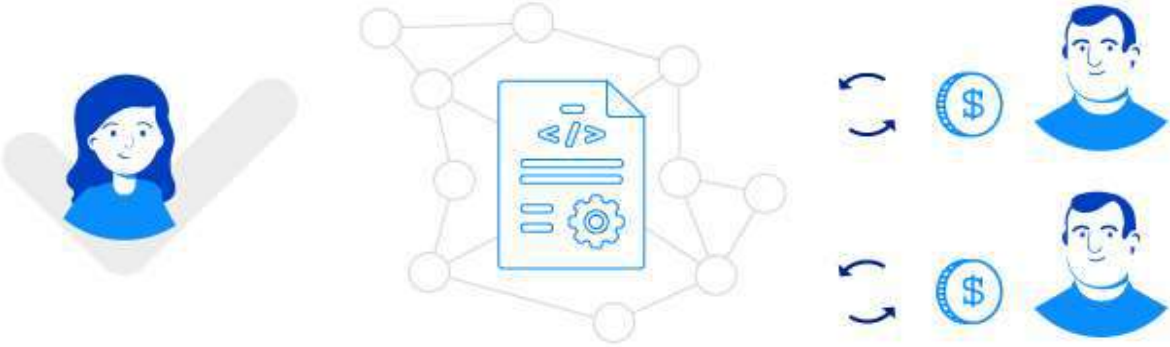
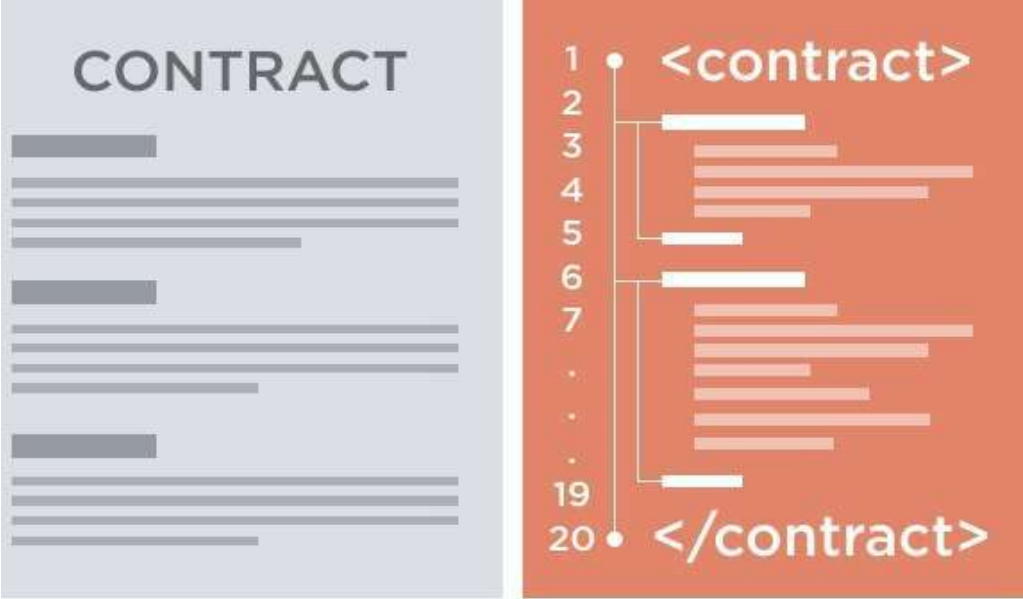
34

387

1.2K



Smart Contracts



A blue-tinted photograph of the Singapore skyline, featuring the Marina Bay Sands hotel on the left and the Singapore Flyer on the right. The text 'WHAT BLOCKCHAIN CAN'T DO' is overlaid in white. A faint, light-colored geometric pattern of hexagons and diamonds is visible in the background.

WHAT BLOCKCHAIN CAN'T DO

Blockchain can't solve human error

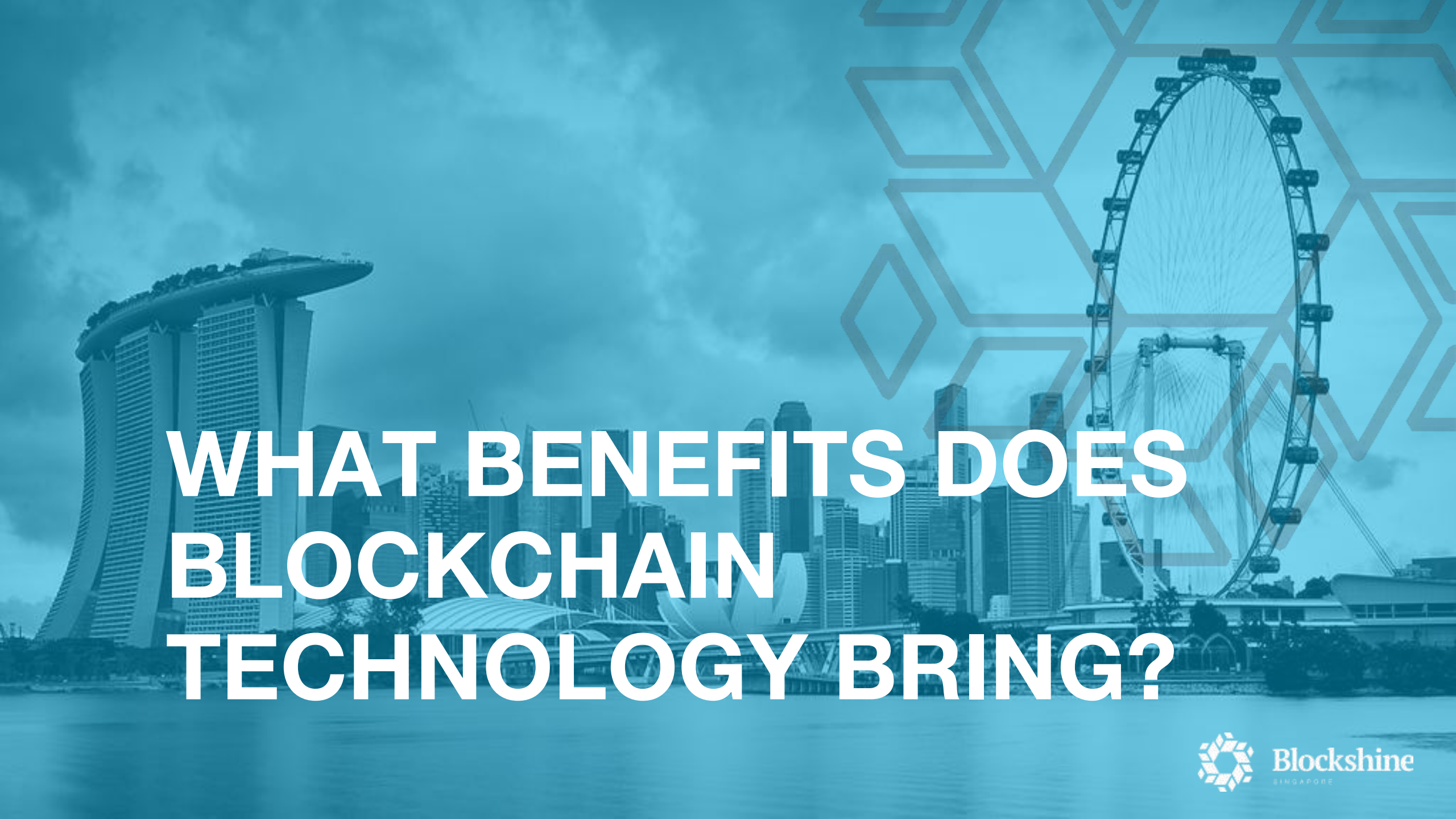
- Data has to be accurate initially
- Is immutability or permanence a good thing?
- Bias
- Transactions Size





“Whereas most technologies tend to automate workers on the periphery doing menial tasks, blockchains automate away the center. Instead of putting the taxi driver out of a job, blockchain puts Uber out of a job and lets the taxi drivers work with the customer directly.”

Vitalik Buterin, Co-founder of Ethereum

The background of the slide is a blue-tinted photograph of the Singapore skyline. On the left, the Marina Bay Sands hotel is prominent. In the center, the Singapore Flyer is visible. The foreground shows a body of water. A faint, light-colored geometric pattern of hexagons and diamonds is overlaid on the right side of the image.

WHAT BENEFITS DOES BLOCKCHAIN TECHNOLOGY BRING?

Greater Transparency

- All network participants **share the same documentation** as opposed to individual copies
- That shared version can only be updated through consensus - everyone must agree on it
- Thus, data on a blockchain is **more accurate, consistent and transparent** than when it is pushed through paper-heavy processes
- It is always accurate and available to all participants who have access
- To change a single transaction record would require the alteration of all subsequent records and the collusion of the entire network - **impractical and often impossible**



Enhanced Security

- Transactions **must be agreed** upon before they are recorded
- After a transaction is approved, it is **encrypted and linked** to the previous transaction
- This, along with the fact that information is stored across a network of computers instead of on a single server, makes it **very difficult for hackers to compromise** the transaction data
- In any industry where protecting sensitive data is crucial — financial services, government, healthcare — blockchain has an **opportunity to really change how critical information is shared** by helping to prevent fraud and unauthorized activity



Improved Traceability

- When exchanges of goods are recorded on a blockchain, you end up with an **audit trail** that shows where an asset came from and **every stop it made on its journey**
- This historical transaction data can help to **verify the authenticity** of assets and prevent fraud



Increased Efficiency & Speed

- When you use traditional, paper-heavy processes, trading anything is a **time-consuming** process that is prone to **human error** and often requires **third-party mediation**
- Record-keeping is performed using a single digital ledger that is shared among participants, **you don't have to reconcile multiple ledgers** and you end up with less clutter
- And when everyone has access to the same information, it becomes **easier to trust each other** without the need for intermediaries
- Thus, clearing and settlement can **occur much quicker**



WHY AFRICA?

Willingness to Embrace Change

- The last fifteen years has witnessed a vast technological revolution in Africa, with companies ready to innovate, and people enthusiastically embracing this innovation
- According to Pascal Gerken – the 2018 - 2019 YPO chairman – YPO believes that Africa is a continent of the future
- United Nations is predicting that by the beginning of the next century, Nigeria will be the third largest country on the planet with a population in excess of one billion



Willingness to Embrace Change

*“Africa has enormous growth, and as a continent, **it is truly rising at the moment**. So it's a unique market that's untapped in many areas, but it also needs help. For this reason, I believe countries don't need lessons; what they need is **Impact Investments**”*



Africans Become Early Adopters

- Africa has less to lose by embracing it and has quickly adopted mobile money
- 66% of sub-Saharan Africans are considered 'unbanked'
- Africa is ahead of Western countries in adopting P2P finance
 - Mobile banking services such as mPesa have been enthusiastically taken up by African consumers
- Trade agreements with BRICs nations



Fertile Regulatory Environment for Innovation

- Many startups have headed straight to Africa, and found that the region is ready to accept them
- Zipline was initially turned down when attempting to test fixed-wing drones in US airspace
 - Rwanda welcomed the company with open arms
 - Zipline is now pioneering the time-critical delivery of blood and medical supplies to remote areas



Balance Shifting Towards Opportunity

- While Africa continues to pose unique challenges, the balance between challenge and opportunity is now beginning to tilt in favor of the latter
- Investors are inevitably looking to the continent as a space for innovation
- The private sector will undoubtedly drive growth in Africa, as the continent continues its process of evolution in the years to come



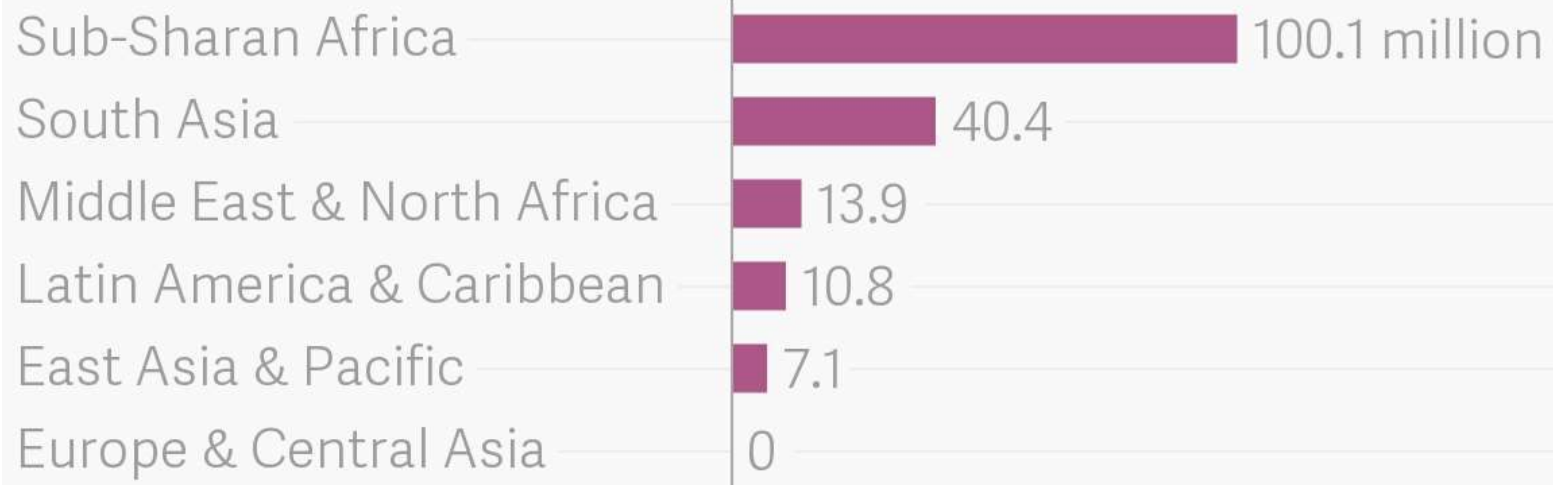
HOW CAN BLOCKCHAIN BENEFIT AFRICA?

Digital Money

- African countries have the highest percentage of foreign currency holders in the world
- Much of this foreign currency is not held in bank accounts, but in mobile accounts (over 12% of the continent's population)

Africa is the global leader in mobile money

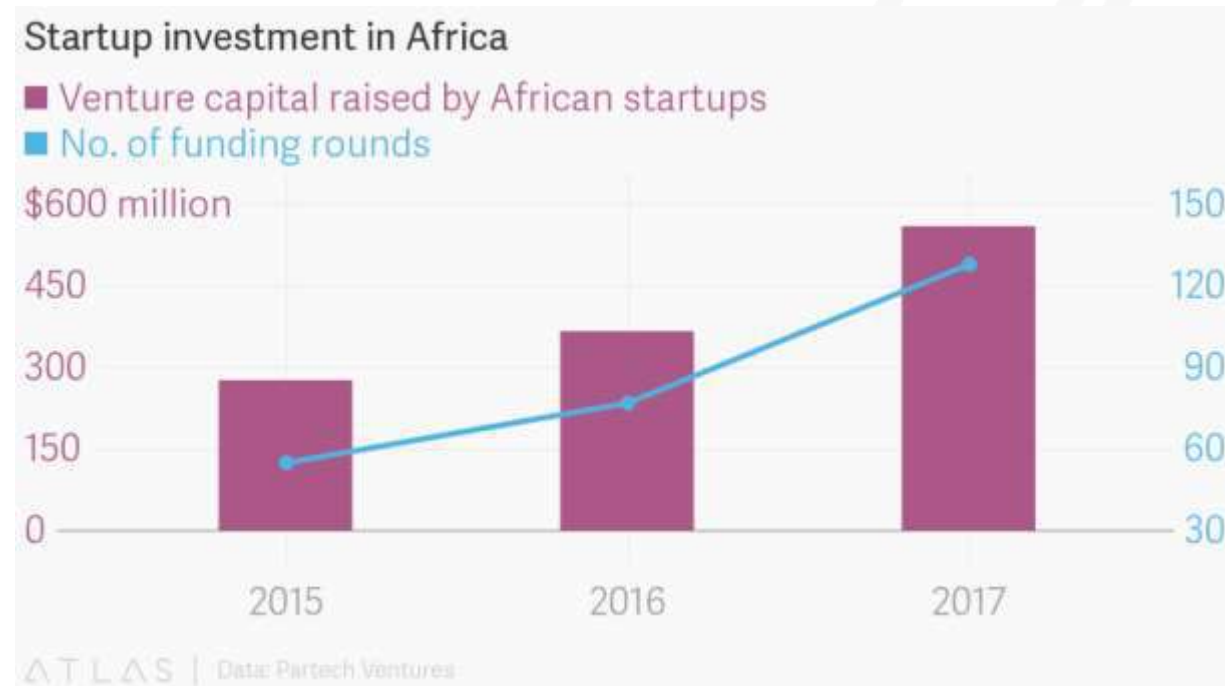
Active mobile money accounts (2016)



△ T L △ S | Data: McKinsey&Company

Startup Financing

- Zynecoin business incubator, which uses blockchain technology and smart contracts to finance promising startups
- Zynecoin is already collaborating with the Hayat platform,
 - Application designed to decentralize the storage of healthcare data and improve interaction between patients and healthcare providers.



Banking

- Of the 20 countries with the highest inflation in the world, 13 are located in Africa
- Only 43% of residents in sub-saharan Africa over 15 have bank accounts, versus 69% in the rest of the world
 - Cryptocurrencies can provide the financial structure that Africans desperately require, but do not have access to
- Digital Assets will help solve microcredit problems such as high-interest rates, high overhead costs, slow registration times and corruption.



Land Registry

- According to the World Economic Forum, 90% of the territory on the continent is not registered anywhere, nor is it reflected in any official documentation

“If you have a squatter versus somebody with a title, the squatter just wants to take, take, take, and then run away if the law comes. If you own the land with a clear title, you want to make it better, you want to improve it.” - Richard Branson



Solar Energy

- Africa will leapfrog the developed world in renewable energy deployment
- Blockchain technology has been used both to fund as well as to assetize and collateralize solar energy while deploying them in the most remote locations

“Together, we are working towards a world where no one is forced to cook with unsafe kerosene or wood-burning stoves, no child has to worry about how they will study after dark, and lack of energy access ceases to propel cycles of poverty.”



THANK YOU

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