



**CLAR** PANAMÁ, 3-4 de Septiembre 2018

**III Congreso Latinoamericano  
de Riesgos**



# Convergence of Blockchain, Artificial Intelligence and Technology Risk Management

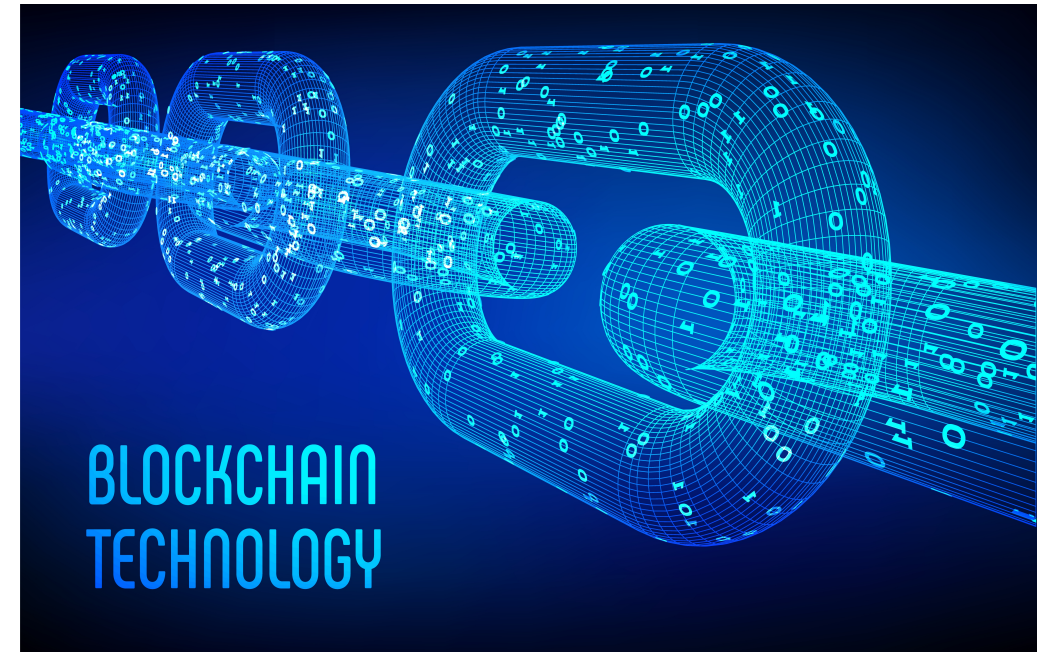
**Ray Guzman - CISSP, CISA, CRISC, CGEIT, CPM**

# Agenda

- What is Blockchain?
- What is Artificial Intelligence (AI)?
- Blockchain and AI Combined. Perfect Match to Handle Big Data
- Blockchain, AI and the Risk Management Function
- Blockchain and AI Use Cases

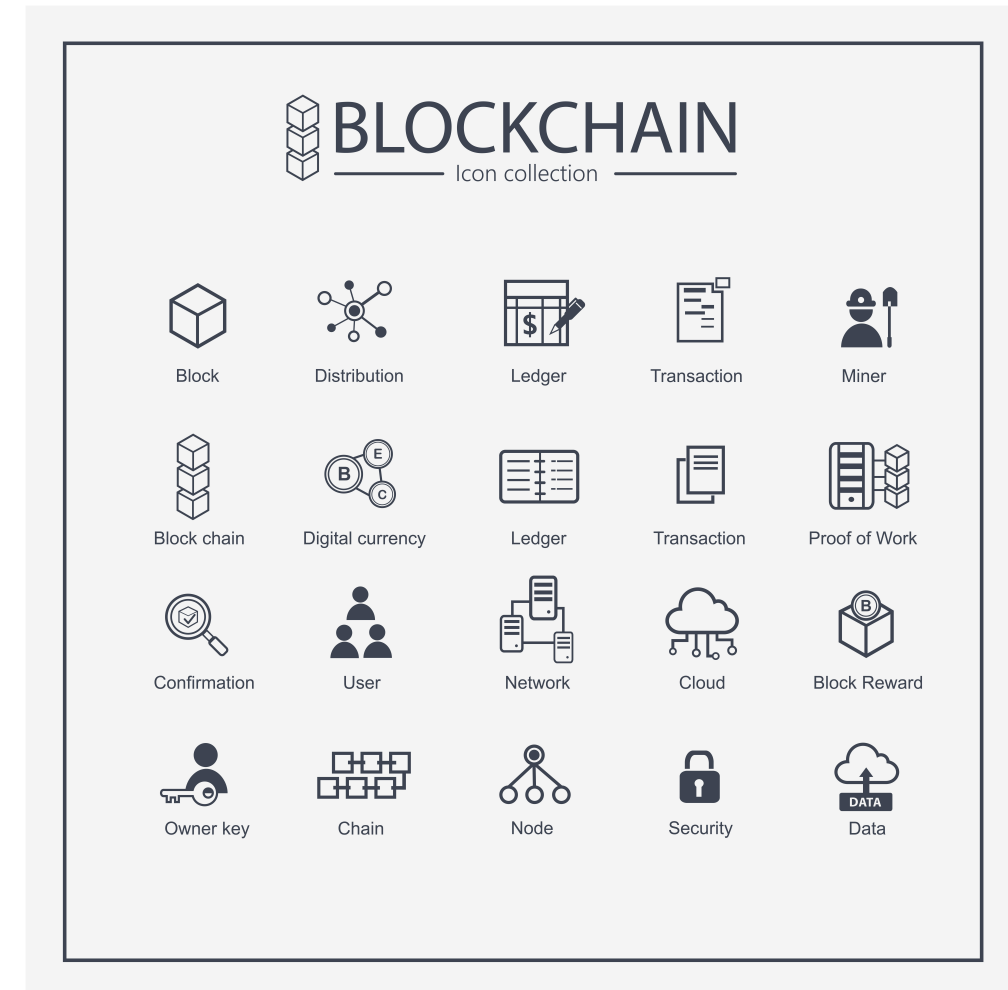
# What is Blockchain?

- Chain of blocks that contain information.
- Originally designed in 1991.
- Used by Satoshi Nakamoto in 2008 to create Bitcoin.
- First Bitcoin was mined in January 3rd, 2009.



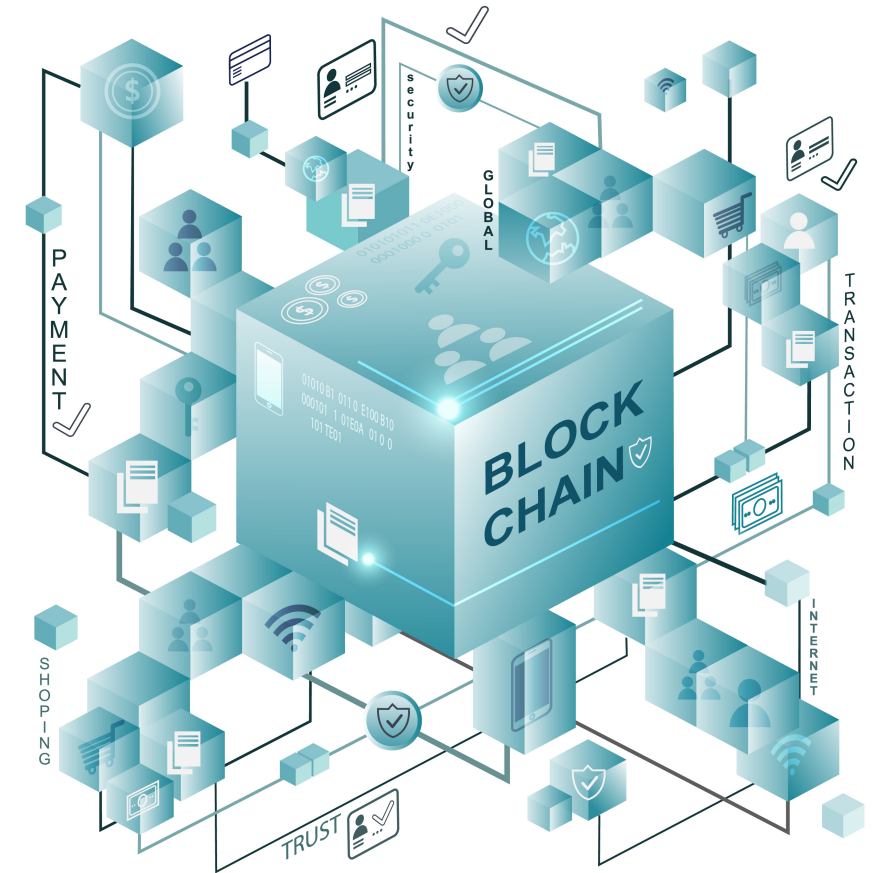
# What is Blockchain?

- A Blockchain is a “Distributed Ledger”.
- It is open to anyone on the Blockchain Network.
- Once data is recorded inside the Blockchain, it is very difficult to change.
- Each block contains a “Hash” which becomes the Fingerprint of each transaction .



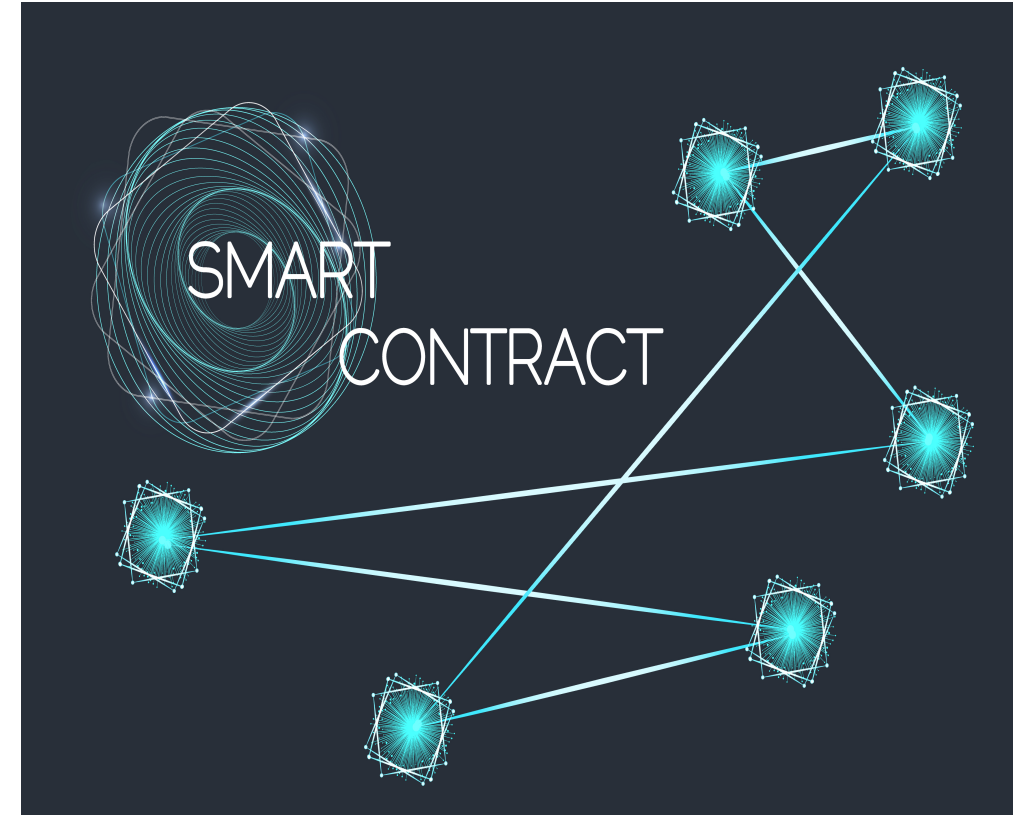
# What is Blockchain?

- Peer to Peer Network to manage the Chain.
- All Nodes have a full copy of the Blockchain.
- Each Node verifies new blocks before it is added to the Blockchain.
- All Nodes create Consensus about the validity of each new Block.



# What is Blockchain?

- Evolution of Blockchain with Ethereum. Released in July 2015.
- Ethereum: Open-source public service that uses Blockchain technology to facilitate “Smart Contracts”.
- Smart Contract is a written technical Program.
- Smart Contracts, by default, are not legally enforceable contracts.



# What is Artificial Intelligence (AI)?

- The concept of AI dates back to the 1950s.
- By 1980, “deep learning” techniques that mimicked human decision process were introduced.
- In 1997, World chess champion Gary Kasparov was defeated by IBM’s Deep Blue.
- Today, AI is everywhere.



# What is Artificial Intelligence (AI)?

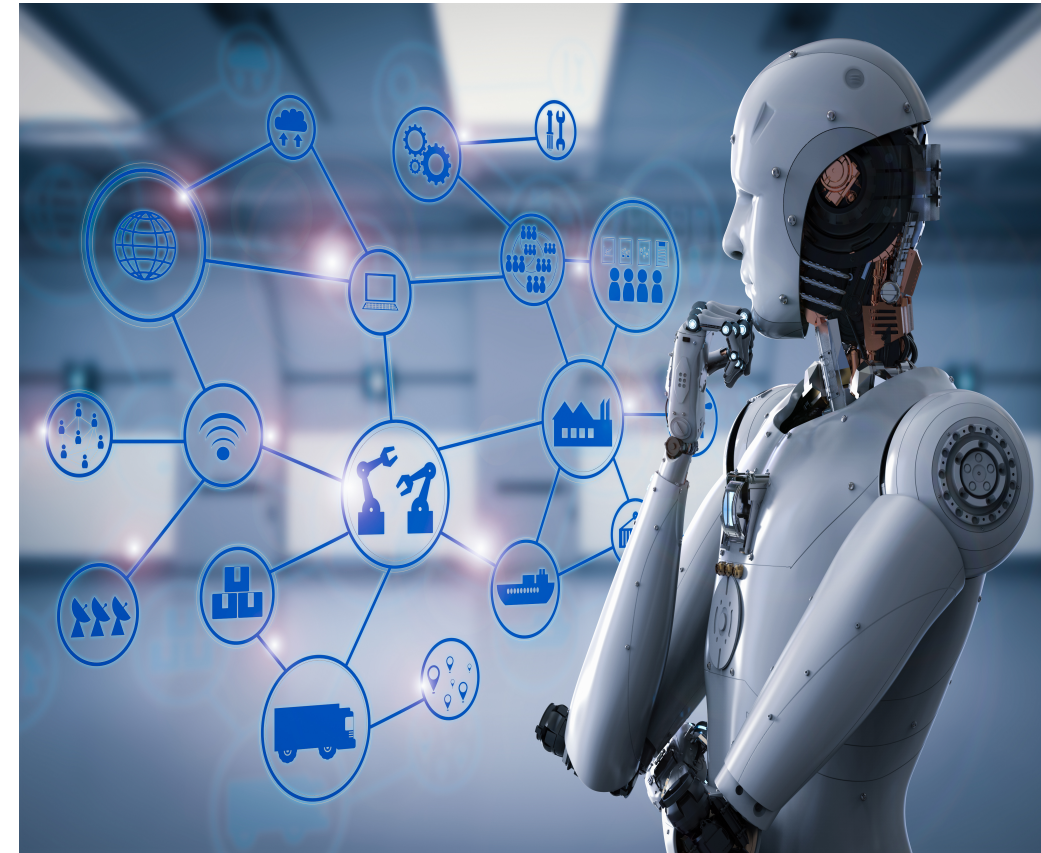
- There is AI, and then Artificial General Intelligence (AGI).
- AI is a machine's ability to imitate human abilities such as problem solving and learning.
- AI is known as narrow AI because is designed to perform specific tasks.
- Examples of AI applications are Siri, Alexa, Tesla, etc.





# What is Artificial Intelligence (AI)?

- Dr. Ben Goertzel introduced the term AGI in 2003.
- AGI machines can successfully perform any intellectual task that a human being can.
- AGI promises benefits such as curing diseases, eliminating car accidents, etc.
- An example of AGI follows. Meet Sophia, the first Robot declared a citizen by a country (Saudi Arabia)





What do you hope for when you are 400?

# Blockchain and AI Combined Perfect Match to Handle Big Data.

- Decentralized Ledgers need the security of automated analysis offered by AI solutions.
- AI can manage the huge amount of data in Blockchains more efficiently.
- The use of Blockchain and AI for Big Data Analytics is transforming many industries.
- AI create new opportunities to Audit Decentralized Ledgers using graph analytics and new algorithms tailored to the business.



# Blockchain, AI and the Risk Management Function

- Understanding of Technologies such as Blockchain and AI by Risk Managers is of the essence.
- Regulatory and legal ramifications of implementing these technologies (Smart Contracts).
- Integration of these technologies with existing legacy systems.
- Intrinsic business, cybersecurity, operational, compliance and other risks must be considered.



# Blockchain, AI and the Risk Management Function

- What is the impact of these technologies for the Risk Management Function?
- Blockchain and AI technologies will enable Risk Managers to be the second line of defense.
- Lack of Legal Frameworks and Standards should be a concern for Risk Managers.
- Regulators will enforce the rules on KYC and AML.



# Blockchain, AI and the Risk Management Function

- Risk Management Function must be involved from project inception.
- Risk Managers must be properly trained to understand the risk of these technologies.
- Blockchain and AI, with Big Data and automation, will make the job of Risk Managers more efficient.
- Blockchain and AI are already here. Are we ready to learn more about them?



# Blockchain and AI Use Cases



## Use case: **Ripple**



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100<sup>+</sup>

Customers

75<sup>+</sup>

Deploying Commercially

## Growing Global Network

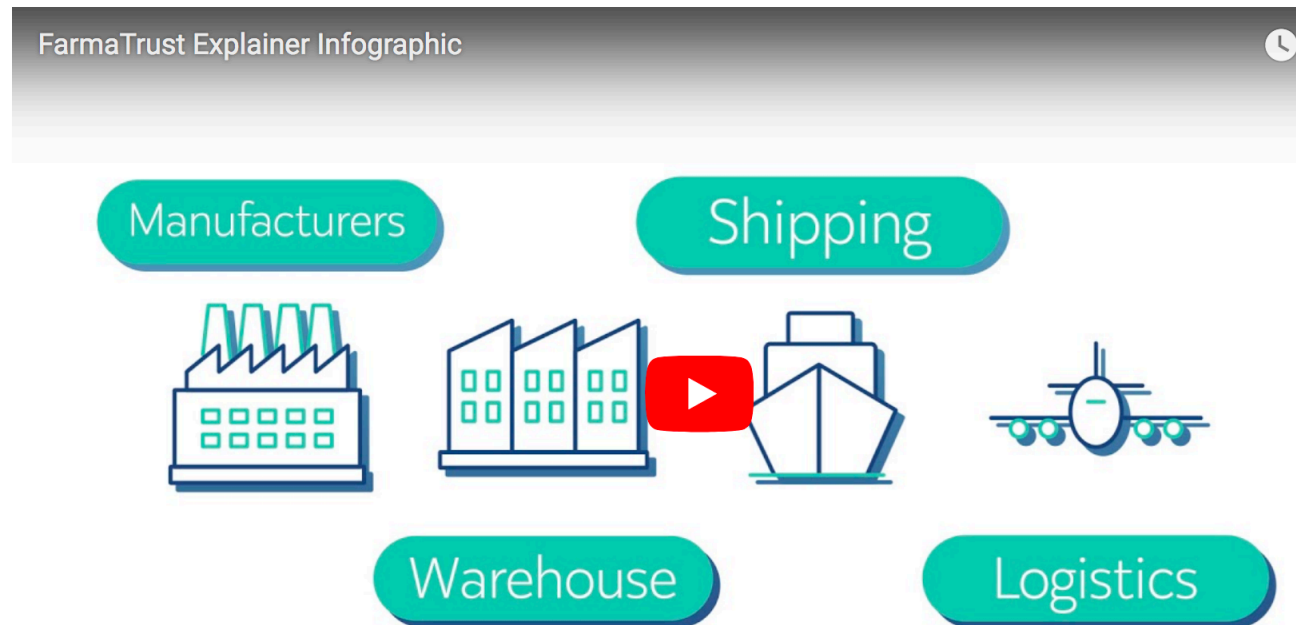
Banks, payment providers and digital asset exchanges process and provide liquidity for payments on RippleNet, creating new, competitive cross-border payments services for their customers.



# Blockchain and AI Use Cases

## Use case: **FarmaTrust:**

A platform with the latest technology of blockchain and AI to provide genuine and cost-effective medicines to the customers and resolve other issues affecting the pharmaceutical industry.







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¡¡ THANK YOU !!



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