Blockchain Technology and Insurance

AIMU Presentation
October 5th 2018

The Institutes®
RiskBlock Alliance

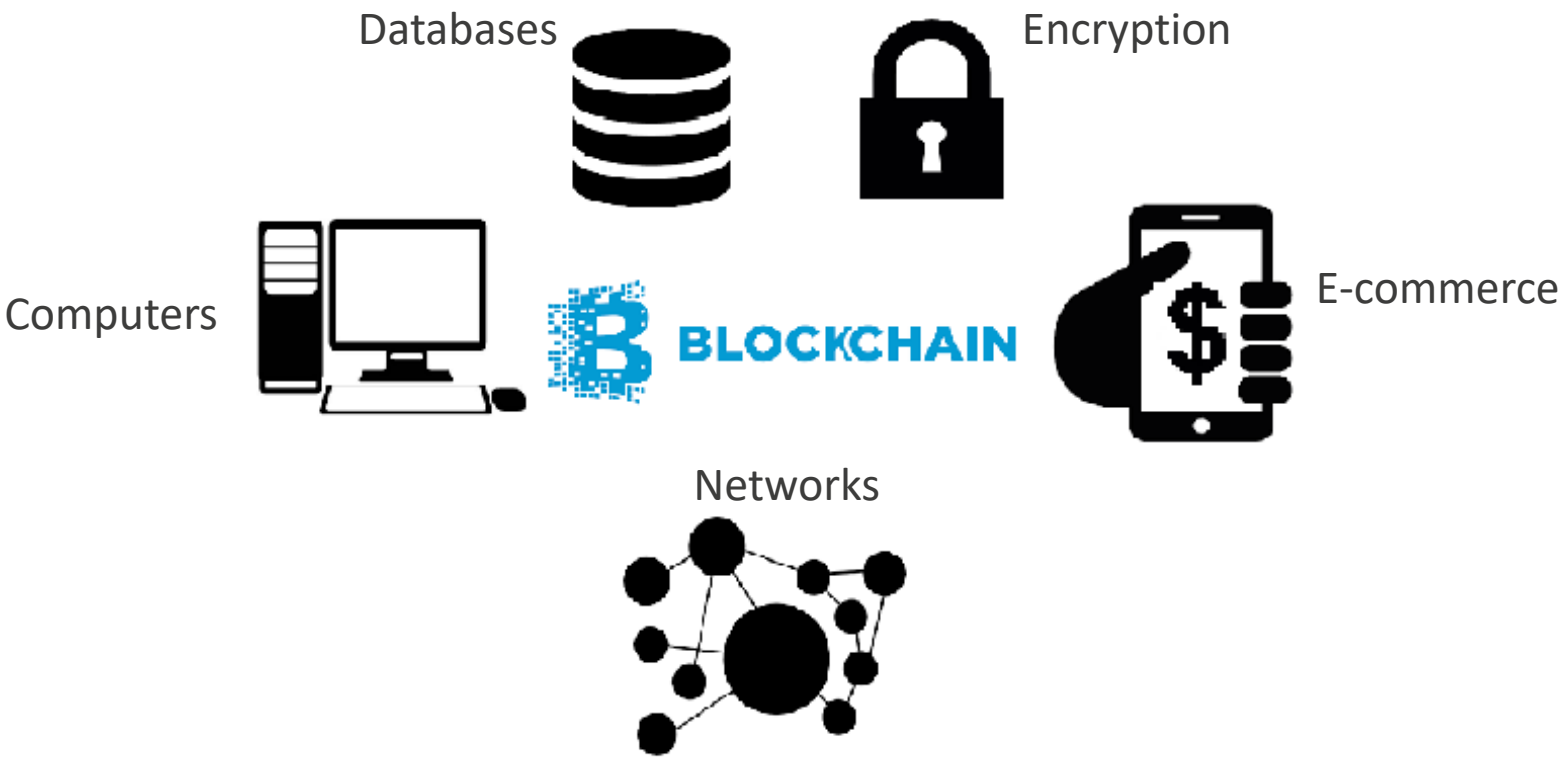
Outline for Today's Discussion

Part 1	Technological Advancement: The Building Blocks to the Blockchain	**Part 4**	Blockchain in Business
Part 2	Bitcoin – the First Blockchain	**Part 5**	Blockchain in Insurance
Part 3	What Exactly is a Blockchain? What does it do?	**Part 6**	An Overview of The RiskBlock Alliance

Part 1

The Building Blocks to the Blockchain

Blockchain Stems From Advances in Technology



Part 2

Birth of the Blockchain

Bitcoin: The Very First Blockchain

Originator:
Satoshi Nakamoto (pseudonym)

Bitcoin: A Peer-to-Peer Electronic Cash System

Satoshi Nakamoto
satoshin@gmx.com
www.bitcoin.org

Abstract. A purely peer-to-peer version of electronic cash would allow online payments to be sent directly from one party to another without going through a financial institution. Digital signatures provide part of the solution, but the main benefits are lost if a trusted third party is still required to prevent double-spending. We propose a solution to the double-spending problem using a peer-to-peer network. The network timestamps transactions by hashing them into an ongoing chain of hash-based proof-of-work, forming a record that cannot be changed without redoing the proof-of-work. The longest chain not only serves as proof of the sequence of events witnessed, but proof that it came from the largest pool of CPU power. As long as a majority of CPU power is controlled by nodes that are not cooperating to attack the network, they'll generate the longest chain and outpace attackers. The network itself requires minimal structure. Messages are broadcast on a best effort basis, and nodes can leave and rejoin the network at will, accepting the longest proof-of-work chain as proof of what happened while they were gone.

Watching True Transactions Come in

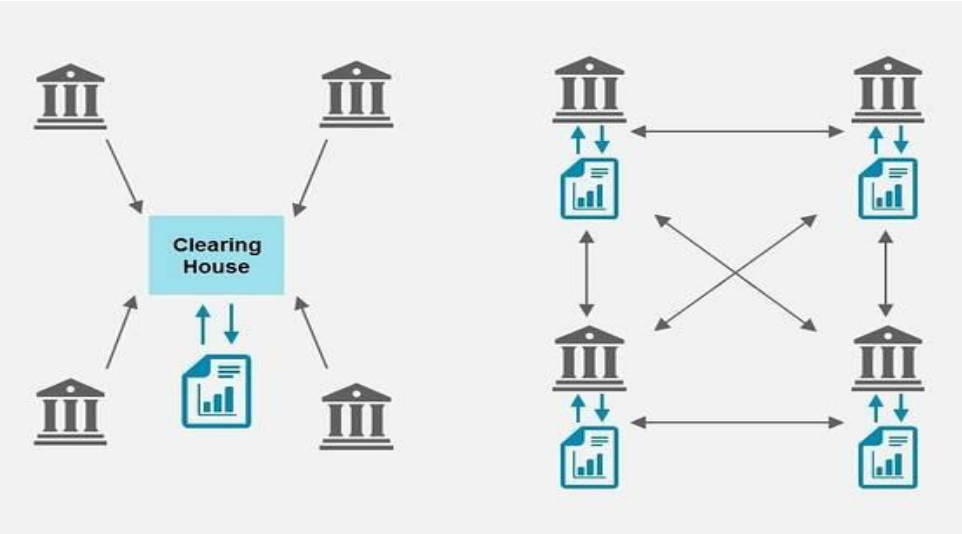
https://blockexplorer.com/

Part 3

What Exactly is Blockchain? What Does it Do?

Blockchain Fuses Database with Network and Establishes Trust

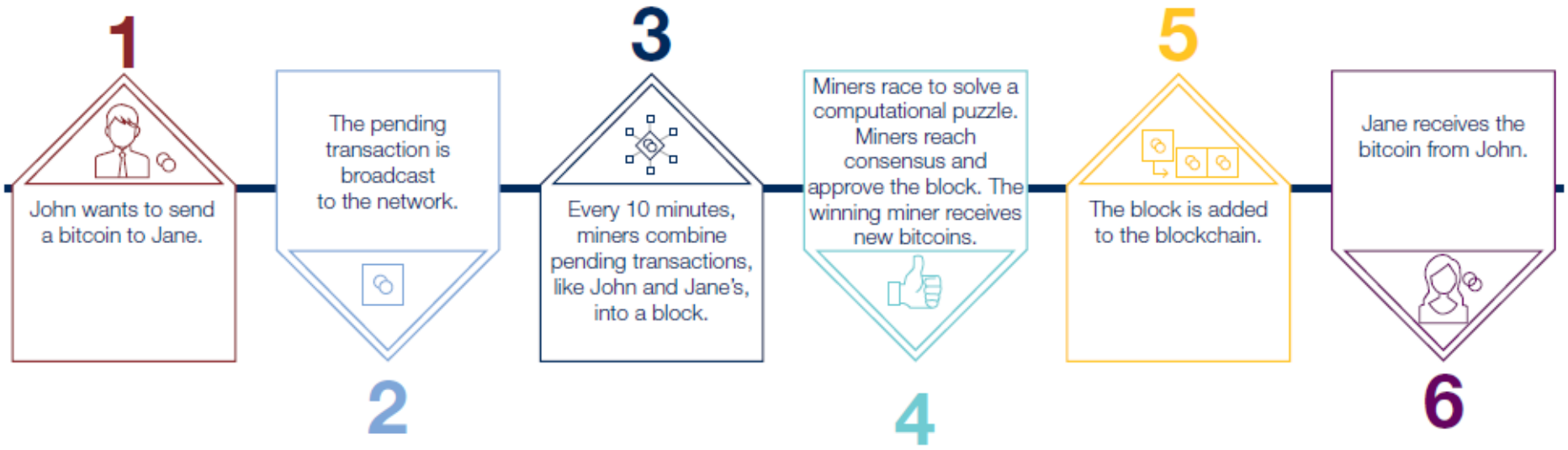
Blockchain is a distributed database and shared ledger that maintains a continuously growing list of chronologically added records called blocks. In most blockchains new blocks and the data within (transactions, smart contracts, and so forth) are confirmed and verified through a decentralized consensus process called mining. This verification process removes intermediary validation and establishes trust without the use of a centralized authority



Blockchain:

- Adding anything to ledger is permanent
- Solves double-spending problem
- Establishes trust and eliminates middlemen which:
  1) increases security
  2) tears down walls
  3) speeds up transactions
  4) improves privacy

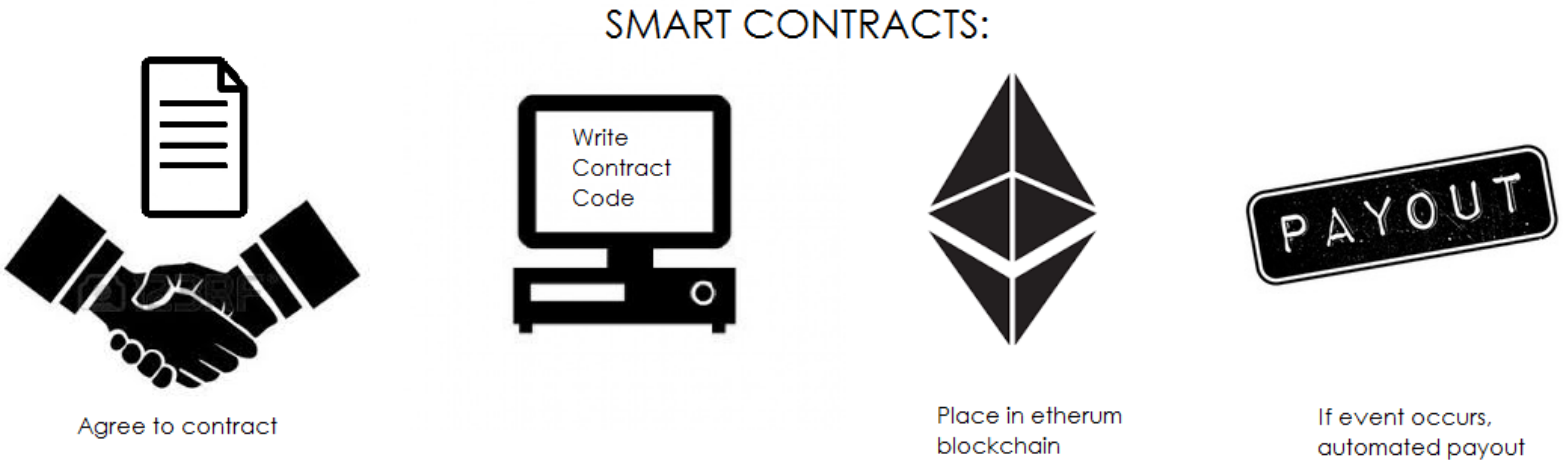
How the Blockchain Process Works



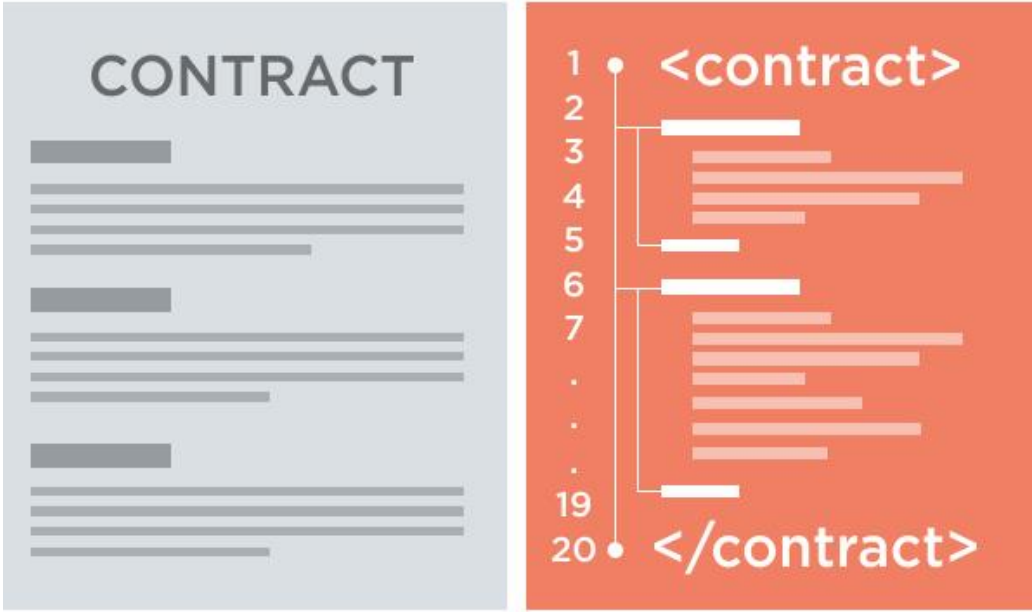
Other Public Blockchains: Ethereum

ethereum

Ethereum is a public blockchain-based distributed computing platform, featuring smart contract functionality. It provides a decentralized virtual machine, the Ethereum Virtual Machine (EVM), that can execute peer-to-peer contracts (smart contracts) using a cryptocurrency called Ether.



Smart Contracts



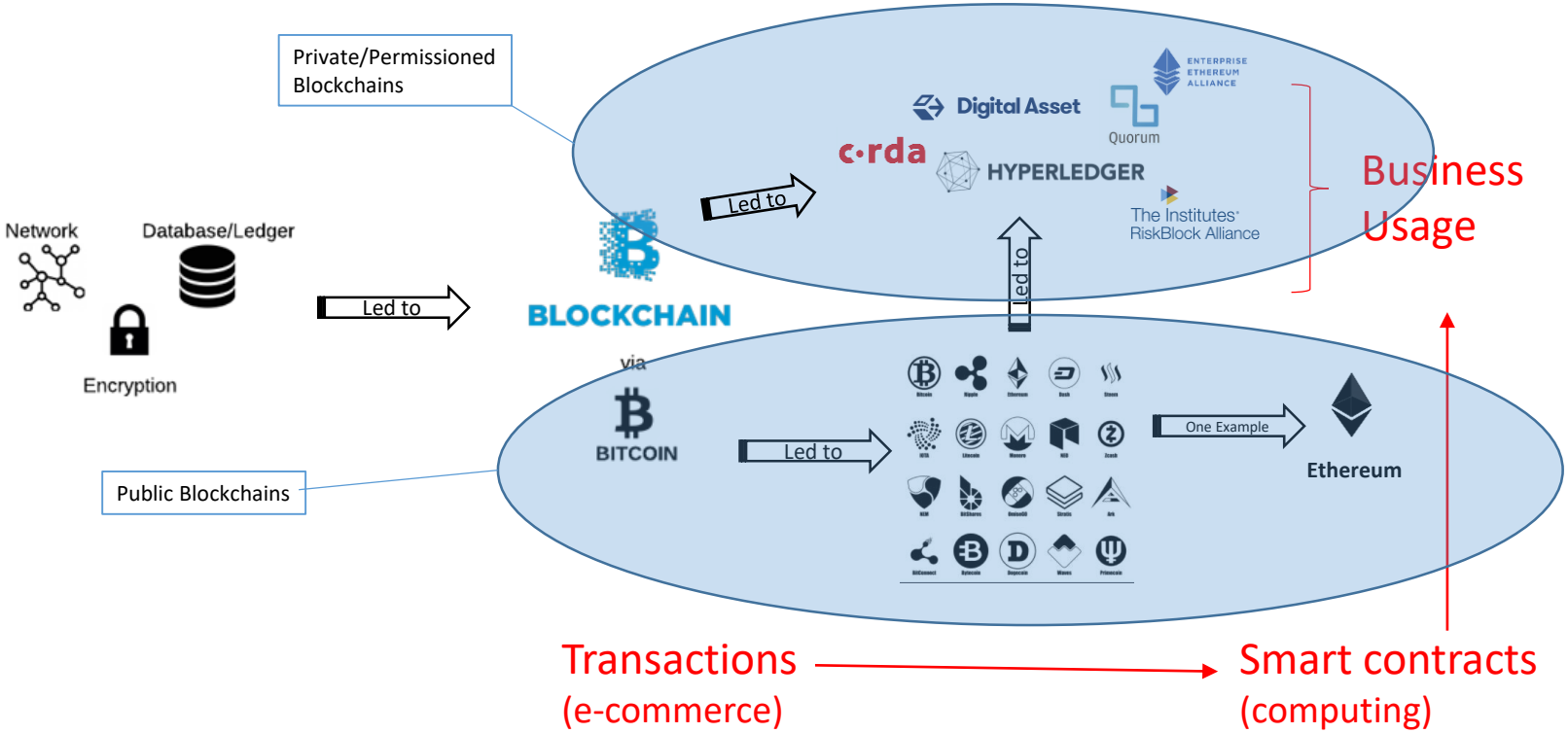
Smart contracts are just pieces of programmable code that can run in the blockchain.

The analogy of a series of "if then" statements works well to describe smart contracts.

Part 4

Overview of Blockchain for Business

Everything Started with Public Blockchains. They Can't Be Ignored.



Public, Private and Hybrid Chains

Public blockchain: A public blockchain is a platform where anyone on the platform would be able to read or write to the platform. This is a fully decentralized blockchain.

Private blockchain: A private blockchain allows only the owner to have the rights on any changes that have to be done. This could be seen as a similar version to the existing infrastructure wherein the owner (a centralized authority) would have the power to change the rules, revert transactions, etc. based on the need.

Hybrid (or consortium) blockchain: A consortium blockchain would be a mix of both the public and private. Wherein the ability to read and write could be extended to a certain number of people/nodes. This could be used by groups of organization/firms, who get together, work on developing different models by collaborating with each other. Hence, they could gain a blockchain with restricted access, work on their solutions and maintain the intellectual property rights within the consortium.

We are here

A Few Non-insurance Use Cases Under Development

1. Automobile Sales
2. Accounting
3. Banking
4. Education
5. Energy
6. Healthcare
7. Internet of Things
8. Mass Media Entertainment
9. Social Media
10. Supply Chain

Part 5

Blockchain in Insurance

Why blockchain for Insurance?

Pain Points

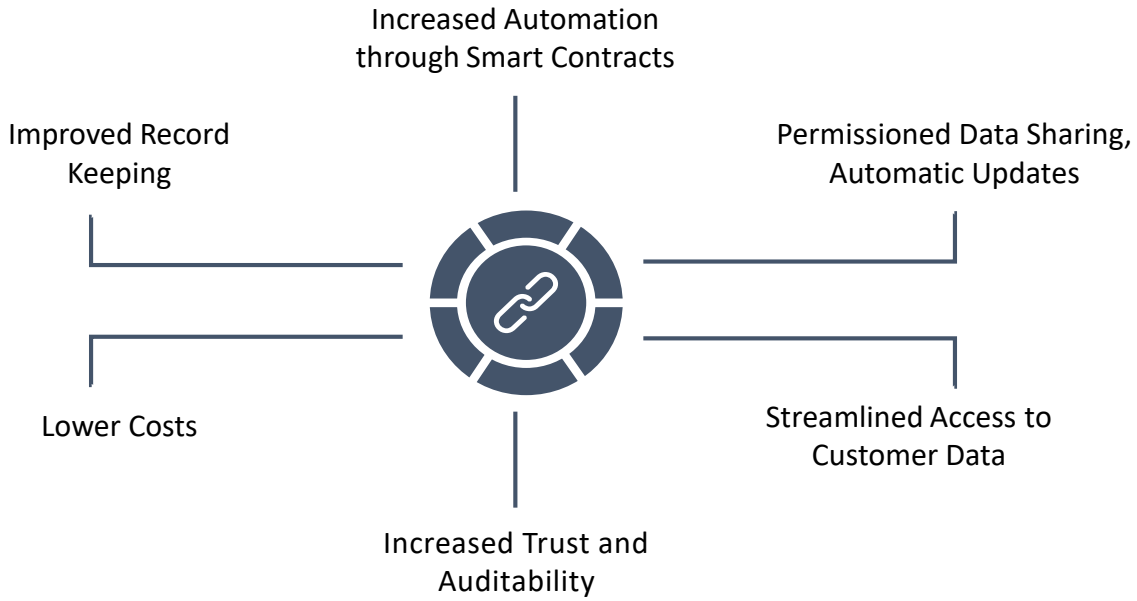
Insured

- Poor Customer Experience
- High Premiums
- Slow Entry into Emerging Markets
- Weak Product Innovation

Insurer

- High Administrative Costs
- Costly Intermediaries
- Fragmented Data Sources
- Manual Processes
- Fraud Prone
- Stringent Regulation

Benefits



Blockchain Use Cases Across Entire Insurance Value Chain

Products, Pricing and Distribution

Parametric Insurance

Underwriting and Risk Management

Data Sharing and Risk Registries (FNOL)

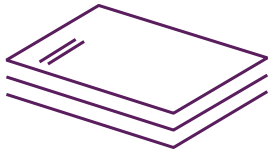
Policyholder Acquisition and Servicing

Claims Management

Finance, Payments and Accounting

Subrogation

Regulatory and Compliance



Proof of Insurance

Part 6

The RiskBlock Alliance

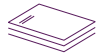
Membership – 31 Member Companies and Counting

Risk Block Accomplishments

Four Use Cases Underway, More to Come…

	Problem Addressed	Solution Provided
Proof of Insurance	Insurance policy validation is performed both physically and digitally, but the process can be complex and costly	▪ Institute electronic safekeeping ▪ Enable real-time access to information
Parametric Insurance	Insurance product that is triggered when a low-frequency, high-severity event occurs; only represents a small portion of the P&C market, but has large potential to expand	▪ Expand parametric insurance offerings ▪ Automate data collection and contract execution
First Notice of Loss	Initial claim made to insurance provider following the loss, theft, or damage of an insured asset; process can be made simpler	▪ Optimize information flow and notifications ▪ Facilitate data sharing ▪ Act as immutable record
Subrogation	Exchange between insurers to collect money from the party legally responsible for a loss; opportunity for process to be streamlined	▪ Facilitate netting of payments ▪ Optimize costs and streamline process

Blockchain Use Cases Across Entire Insurance Value Chain



Products, Pricing & Distribution	Underwriting & Risk Management	Policyholder Acquisition & Servicing	Claims Management	Finance, Payments & Accounting	Regulatory & Compliance
Parametric Insurance	Provenance	Policyholder Acquisition	First Notice of Loss Data Sharing	Subrogation	Motor Vehicle Proof of Insurance
Oracle aggregation service	Data Sharing and Risk Registries	Document Reconciliation (Placement Documentation)	Asset Transfer (Certificate of Title–IoT)	Workers Comp Bill Review and Medical Claims Processing	Real-time Regulatory Reporting
Telematics or IoT-Based Use Cases	Self-sovereign IDs Linked to Insurance	Surety Bonds (verification/validation)	Worker's Compensation (EMR)	Reinsurance (Premium/Loss Cessions/Execution of Treaties)	Agent/Broker Licensing
Insurance for transactional purchases	Digital Twinning	Certificates of Insurance	Fraud Registry	Technical Accounting (maintaining/sharing of financial records)	Sovereign ID (KYC/AML)
Microinsurance Mobile Insurance for Developing Countries	Marine Use Cases	Policy Cancellation and Non-Payment (use of smart contract to trigger)	Multi-layer claims settlement	New Forms of Raising Capital (Crowd Sourcing)	Auto Titles
Peer-to-Peer Insurance	Creation of a Repository of Truth for Underwriters	Onboarding and Policy Administration/Customer Service Requests	Marine Claims Management	Multiple Payees	Education Licensing

The RiskBlock Value Proposition

Questions? Comments?

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