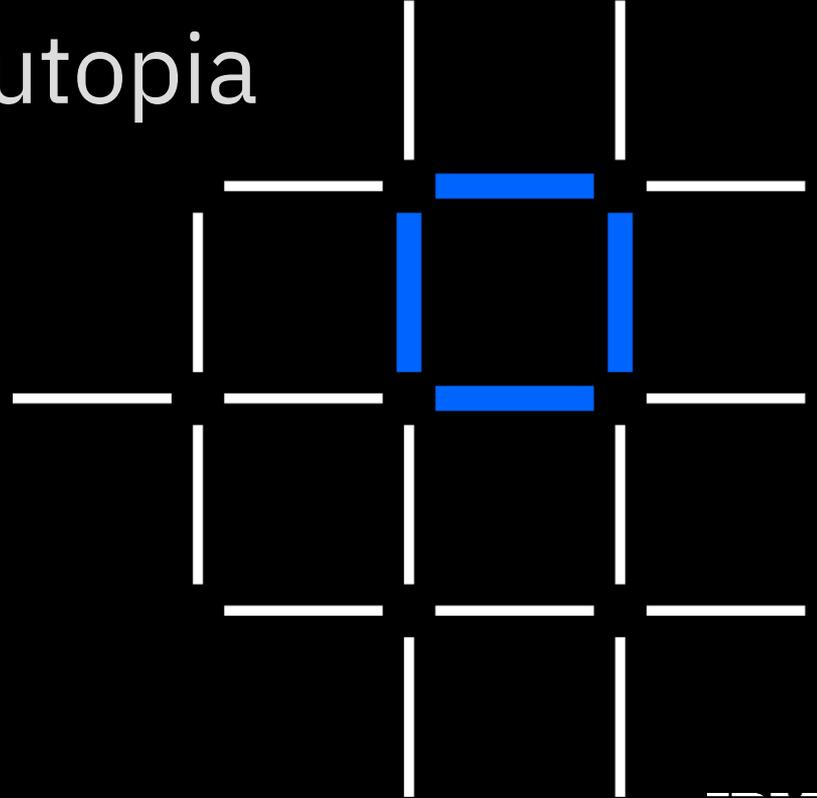


Towards the economic utopia of a waste-less world

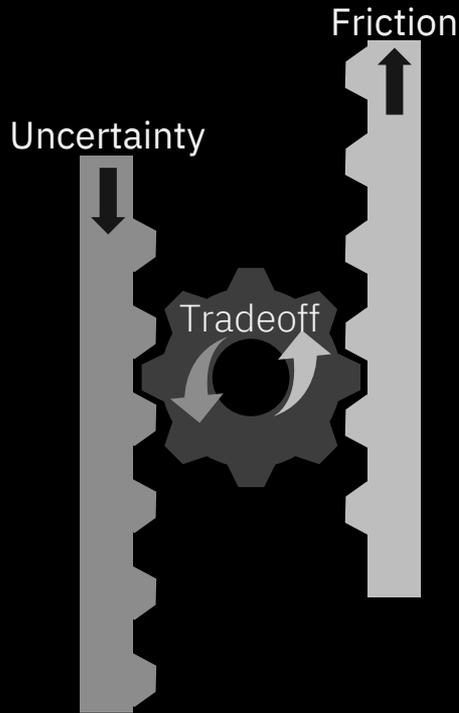
with friction-free trust assurance
using blockchain

—

Rajesh Nambiar
General Manager – Application Services



The cornerstone of economic progress has been the ability to exchange value with minimal uncertainty (maximum trust)



Classical mechanisms to reduce uncertainty end up increasing friction (aka. Economic Waste)

- X Intermediation cost
- X Contracting costs
- X Arbitration costs
- X Transaction time
- X Size related constraints (like marketable lot, minimum transaction size, etc.)

Uncertainty Reduction Mechanisms – an historical perspective

Every mechanism addressed the trust-deficit indirectly through trust inspired intermediation



Communities

Shared Trust & Fear



Sovereign

Authority



Institutions

Systems & Regulation



Technology

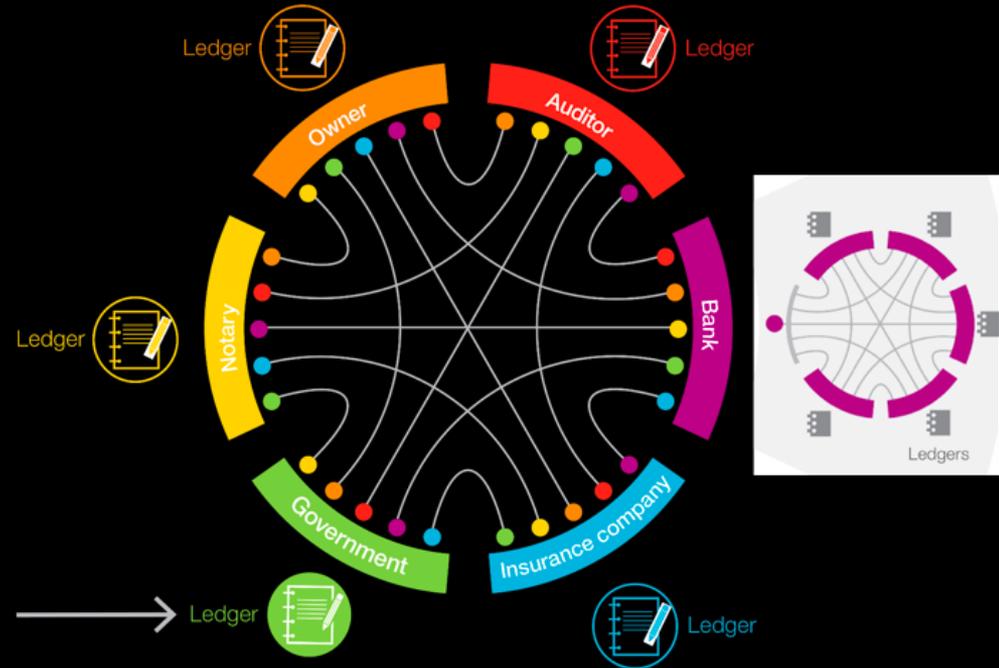
Digital Trust

Mechanisms enforced through human intervention: vulnerable to cognitive limits & tampering

Autonomous Mechanism

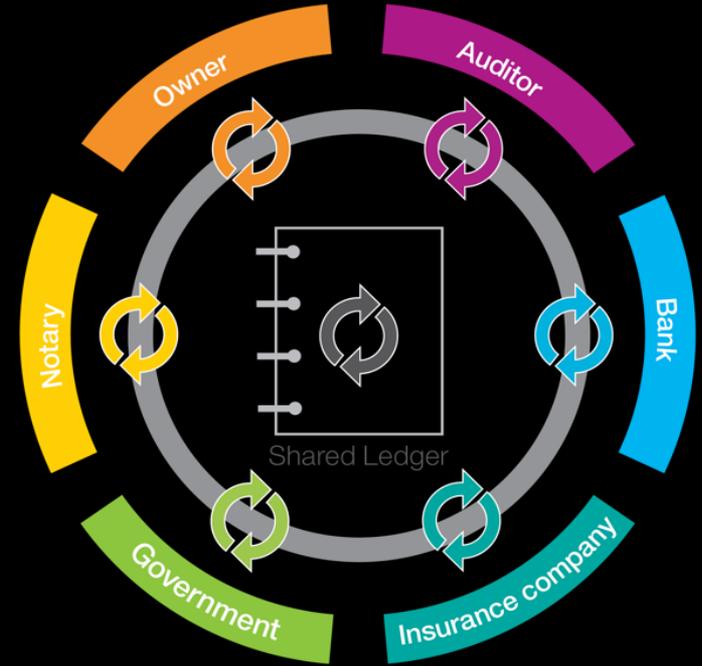
Complex trust assurance mechanisms with human intervention vulnerable to cognitive limits and tampering

- ✗ Every participant keeps their own ledger updated with their transactions
- ✗ Each organization in the network has complex silos that require reconciliation
- ✗ Asynchronous state management of assets requires messaging based communication



Blockchains shift the paradigm from information held by a single owner to the lifetime history of an asset or transaction

- ✓ Instead of messaging-based communications, the new paradigm is state-based communications
- ✓ Information that was once obscure now becomes transparent



Quantum of economic waste – a supply chain perspective

+5% Global GDP

+15% Trade

Possible
improvements by
removing supply
chain barriers to
trade & increasing
efficiency

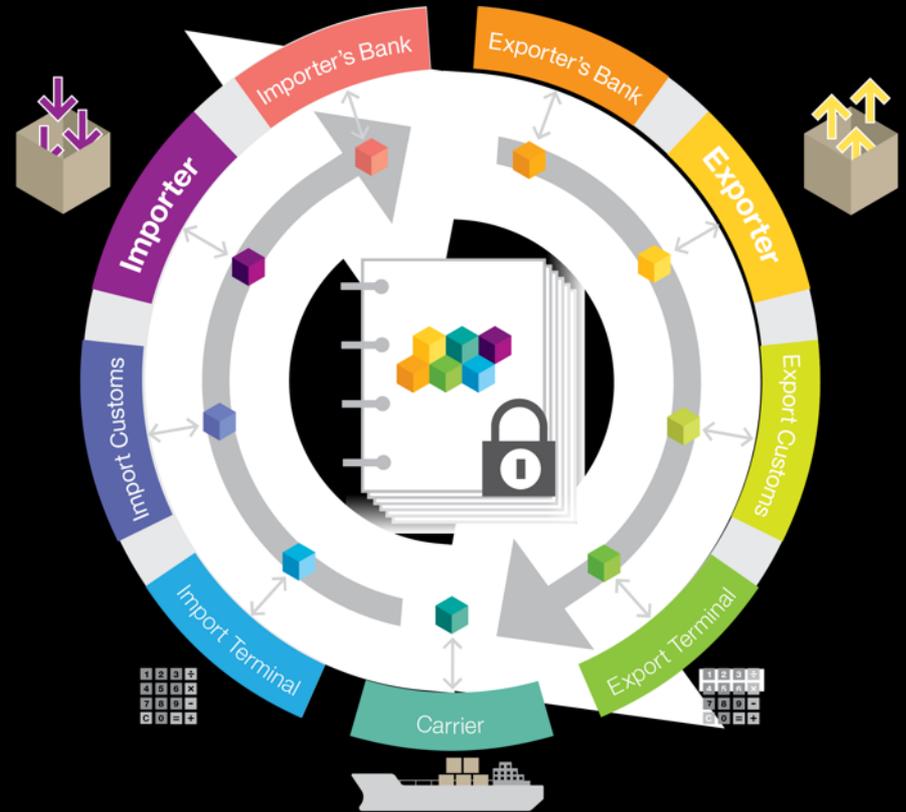
Sources of inefficiencies

- ✗ Since 1998 20 percent of all containers handled by ports have been empty
- ✗ The estimated cost of repositioning these empty containers around the globe exceeded USD 15 billion
- ✗ It takes an average of 28 days or more to receive payment after the sale of goods/services
- ✗ It takes 45 days or more to pay their own invoices



The power of network externality – the biggest barrier & the biggest incentive to embrace blockchain

- Supply chains are prime examples of blockchain's potential for transformation that spans industries
- The value derived from something as fundamental as a blockchain-enabled bill of lading ripples out beyond the port of entry to span many industries



More than USD 4 trillion in goods are shipped each year, more than 80 percent of which are carried by the ocean shipping industry

The TradeLens blockchain-enabled shipping network that recently scaled to [more than 100 ecosystem partners](#) promotes more efficient and secure global trade, supports information sharing and transparency and spurs industry-wide innovation.

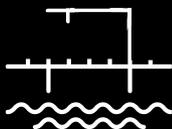
TradeLens is backed by a [collaboration agreement between Maersk and IBM](#) and lays the foundation for digital supply chains by empowering multiple trading partners to collaborate – publishing and subscribing to events data – establishing a single shared view of a transaction without compromising details, privacy or confidentiality.



TradeLens sees strength in numbers

Ports, terminal and operators

48



Shipping lines

4



Government authorities

8



Inland providers

3



Shippers and others

41



Shipping events tracked YTD

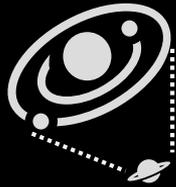
200M

“A much-needed, open, neutral and consistent standards-based solution for our industry.”

Charles Wellens
President and Chief
Operating Officer
Flexivan

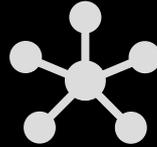
Catalysts for blockchain adoption

Towards a waste less world with frictionless trust assurance



Habitual Prototyping

To learn and identify
priority use-cases



Incentives for Network Formation

Permissioned & Public
Networks at Scale



Standards for Digitization

The next frontier of
human intervention

