BlockChain
in the Shipping Industry

BIPC 2018

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Contents

1 Understanding Block Chain Technology

: What is Block Chain Technology?

2 Block Chain Technology in the Shipping Industry

: Why Block Chain is useful in the Shipping Industry?

3 Global Trend of adopting Block Chain in the Shipping Industry

: Brief history and trend of adopting Blockchain in the Shipping Industry

4 Upcoming impact of Block Chain Technology in the Shipping Industry

BlockChain
in the Shipping Industry

HMM

Gartner

Top 10 Strategic Technology Trends for 2019

" Blockchain's business value-add will grow to slightly over $360 billion by 2026, then surge to more than $3.1 trillion by 2030"

- Autonomous Things
- Augmented Analytics
- AI-Driven Development
- **Block chain**
- Smart Spaces
- Digital Twin
- Empowered Edge
- Immersive Experience
- Quantum Computing
- Privacy & Ethics

Source : Gartner

1 Understanding Block Chain Technology

Block chain is a **Ledger** that maintains a continuously growing list of data records or transactions

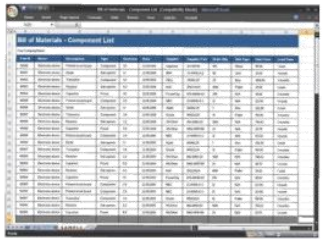
clay tablets

papyrus

tally sticks

double entry book keeping

spreadsheets



distributed ledger

Source : www.coindesk.com

BlockChain in the Shipping Industry

1 Understanding Block Chain Technology

Block chain is a **Ledger** that maintains a continuously growing list of data records or transactions – What is different with Blockchain

Physical Transaction

Using a Physical Token (or Money) for Transaction

Simple but will be limited by distance/time

Digital Transaction

Transaction can not be the same way
As we are sending an e-mail or attachment

Money (Token) Should not be copied
Or used several times

Digital Transaction: Ledger

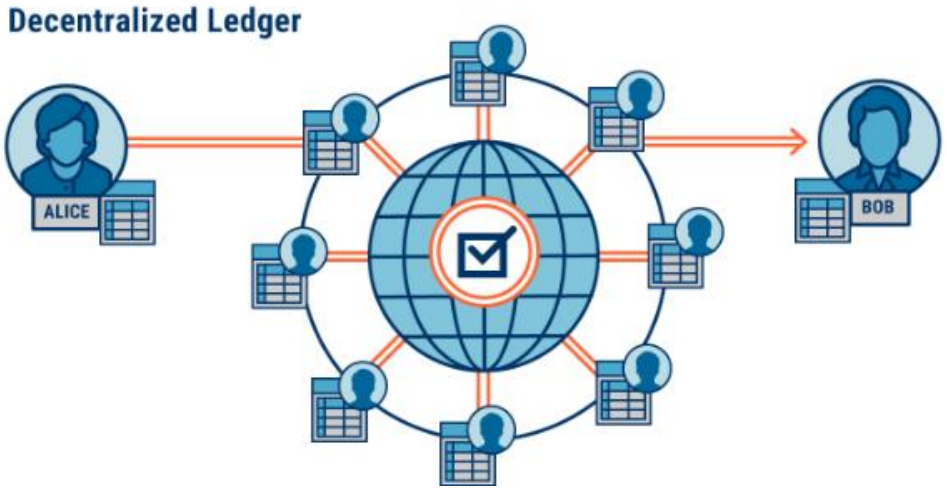
Digital Transaction enabled by
Trusted 3rd Party who records and manage
All the Transaction

What if you can not trust the third party??

Image Source : www.cbinsights.com

1 Understanding Block Chain Technology

Shared / Decentralized **Ledger** replaces requirement of trusted 3rd party, which is vulnerable to hack or cyber attacks



Distribute the Ledger to all the trusted Parties, share and decentralize trust.

Now every one holding a copy of the Same digital ledger.

Shared Ledger

Secured

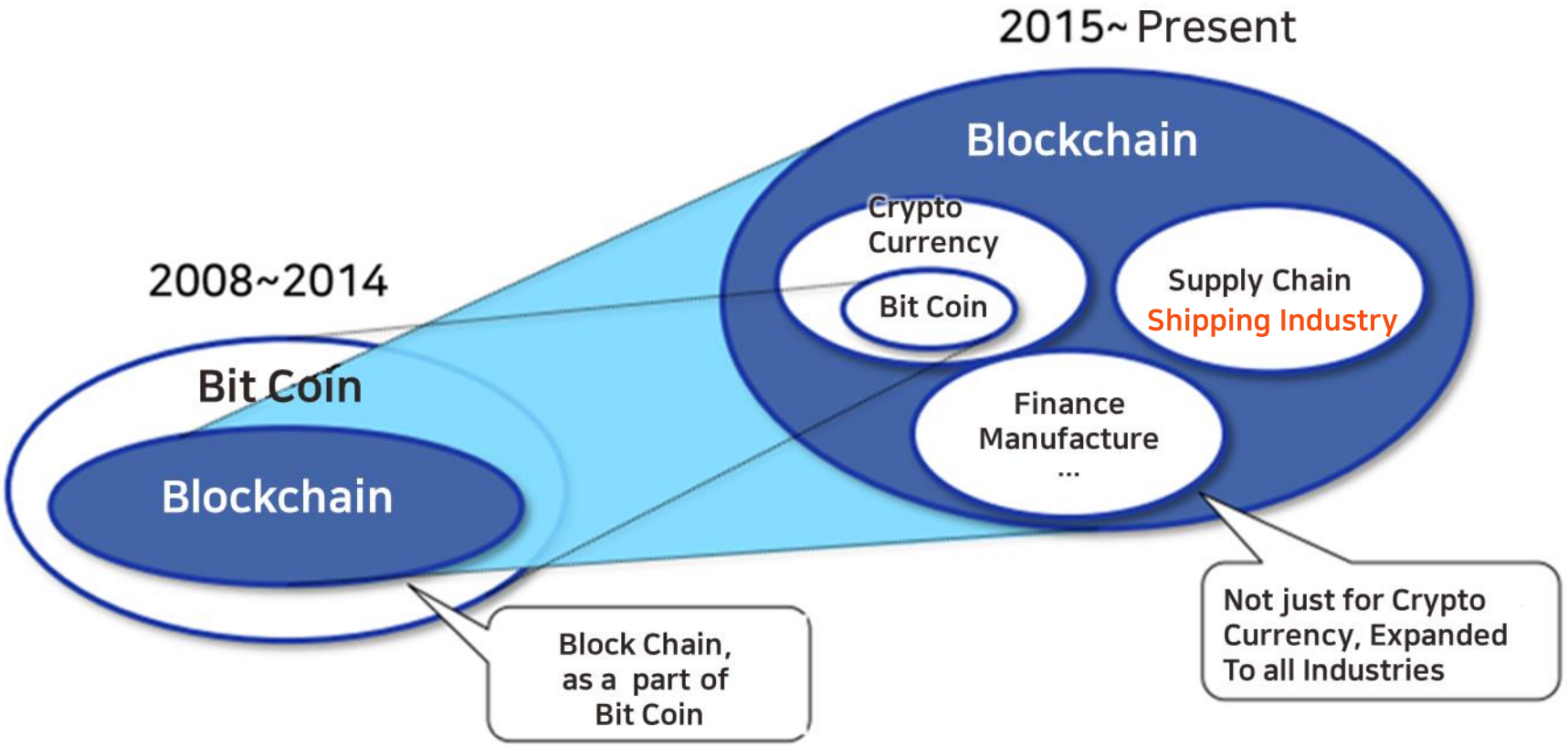
Trusted

Automation (Smart Contract)

Image Source : www.cbinsights.com

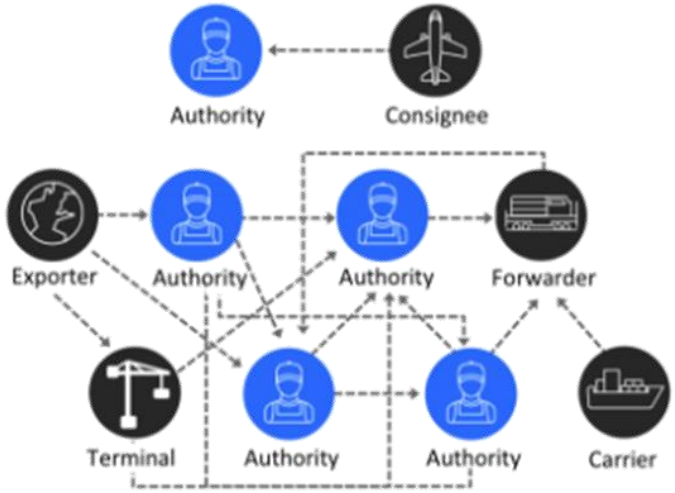
2 Block Chain Technology in the Shipping Industry

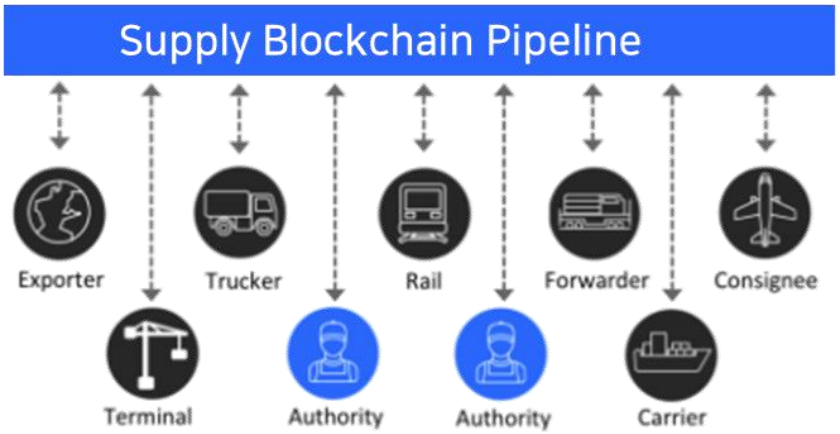
Since 2008 of its beginning, Blockchain expanded to cover various industries Including Shipping Industry.



2 Block Chain Technology in the Shipping Industry

Block chain technology will bring more transparency and efficiency to Shipping Industry





- Dependent to Massive Document Work (Paper Either Electronic Document)
- Lack of Consistency, Complex work
- Risk of insufficient information, fraud issues
- Administrative cost of handling Manual Document Jobs

- Shared / Distributed Ledger will be working as a Single Pipeline of all required information
- End to End visibility with trusted / verified information
- Manual cumbersome jobes can be replaced with Smart Contract (Automation)

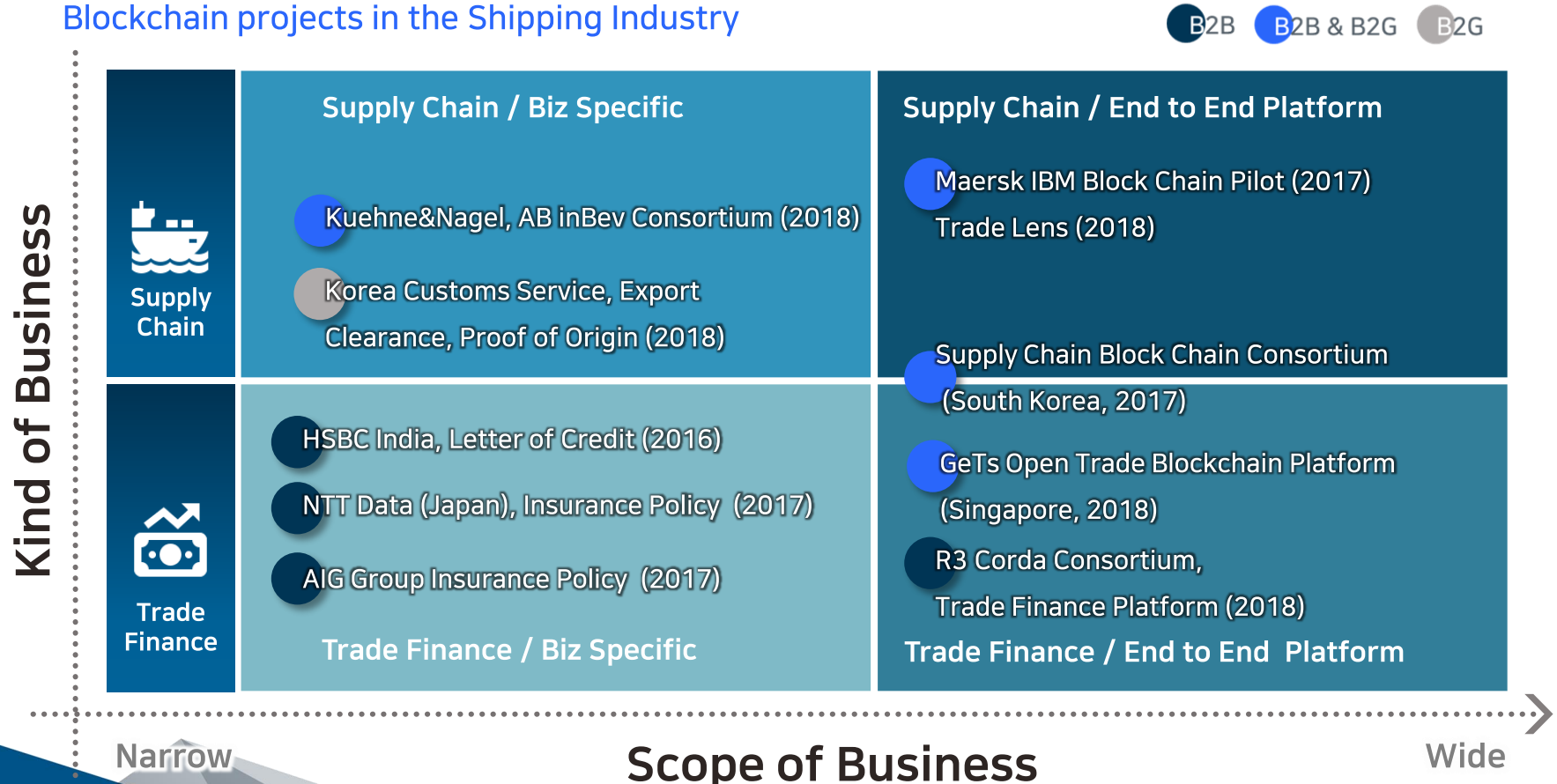
Source : Maersk-IBM Blockchain

3 Global Trend of adopting BlockChain Technology in the Shipping Industry

From 2016 Maersk-IBM Block Chain Pilot, Various kind of PoC and Test projects

Been carried out by B2B/B2G Sectors in Shipping Industry

Blockchain projects in the Shipping Industry



3 Global Trend of adopting BlockChain Technology in the Shipping Industry

South Korea's shipping logistics companies, government shipping arms like the Oceans, Fisheries, and the Customs, alongside major ocean liners Participated And performed PoCs in 2017

2017. May
Launch

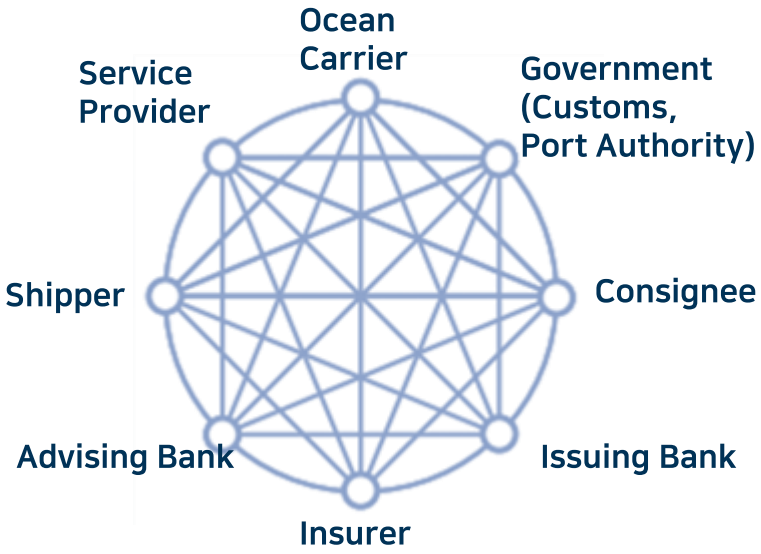
2017.Aug~Sep
PoC 1st Stage

2017. Oct.~Dec.
PoC 2nd Stage

2017.Dec
Final Report

3 Global Trend of adopting BlockChain Technology in the Shipping Industry

Concept of PoCs Performed by Blockchain Consortium



TEST Process (Documents)

PoC 1st Stage – Shipping Documents

- Booking Request
- Booking Confirmation
- Inland Transporation
- Shipping Instruction
- Bill of Lading
- Customs Clearance
- Container Terminal Gate In/Out
- Container Tracking using IoT Devices

PoC 2nd Stage – Added Trade Finance

- Open Account
- NEGO
- Settlement
- Insurance Policy

2017. May Launch

2017.Aug~Sep PoC 1st Stage

2017. Oct.~Dec. PoC 2nd Stage

2017.Dec Final Report

3 Global Trend of adopting BlockChain Technology in the Shipping Industry

Ministry of Science and ICT of Korea supporting 6 Blockchain research projects in 2018. and will invest over $200 mil. Into blockchain by 2022

Management of livestock records

information of livestock from their breeding, then shipping and sales.

Electronic document distributions between countries

Document/Certifications can be shared between countries

Online voting

Improve reliability in online voting, With transparent vote counting

Customs clearance

Replace current customs clearance process and sharing Documents with Blockchain

Easy real estate transaction

Register information can be easily shared to required party (Govt, Bank) for faster transaction

Shipping logistics

ITT (Inter Terminal Transportation) process based on blockchain

3 Global Trend of adopting BlockChain Technology in the Shipping Industry

PoC Proved Possibility of Improving work efficiency by automated Document creation with shared data on the Block Chain Pipe line

Automated Issuance of Bill of Lading
With Shared Data / Information by Block Chain

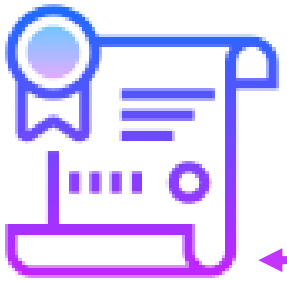
Booking Request

Commercial Invoice

Packing List

Shared with Block Chain

65%~75%
of Bill of Lading
Data / Items (Components)
Can be reused
from Prior Documents
Shared by Block Chain



Bill of Lading

Automated Creation

Standardization of document and work procedure required

For further progress of automated process.

4 Upcoming impact of Block Chain Technology in the Shipping Industry

Block Chain will bring disruptive change in the Shipping Industry,

But there are more things to consider

Types of Blockchain Biz Model	Requirements / Key Factors
End to End Blockchain Platform Providing End-To-End Document Visibility through out supply chain	Participants, Legal / Regulation, Standard, Affiliation, Governance, Integration
Limited Scope (Business Specific) Trying to apply blockchain technology to specific business process or business model	Robust Biz Model, Integration with Existing Process / System
Based on Blockchain Unique feature Focused to Unique features of blockchain such as crypto token (by start-ups)	Uniqueness, Keen understanding of Blockchain

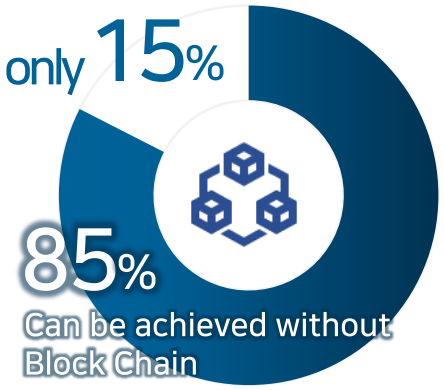
4 Upcoming impact of Block Chain Technology in the Shipping Industry

Block Chain will bring disruptive change in the Shipping Industry,

But there are more things to consider

Gartner

Through 2018, 85% of projects with “blockchain”
in their titles will deliver business value without
actually using a blockchain



It’s Difficult to Build a Business Model,

Based on the Unique Features of Block Chain Technology

Need Capabilities / Readiness for New Business and Paradigms

to successfully adopt Block chain technology

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