

Blockchain dan Masyarakat 5.0

Tri A. Sundara

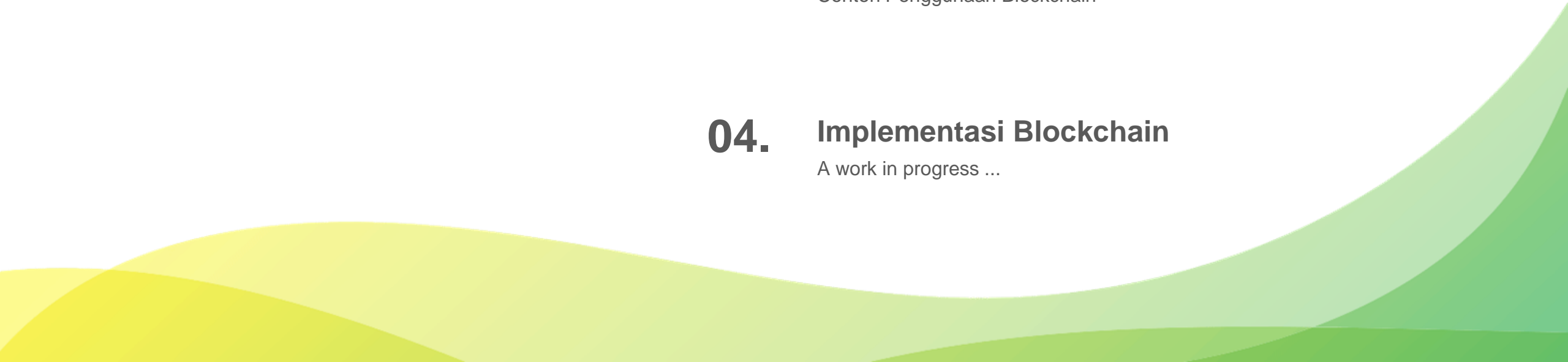
Disampaikan pada Sisfotek 4 dan
PTK UNP 2020

19 Agustus 2020

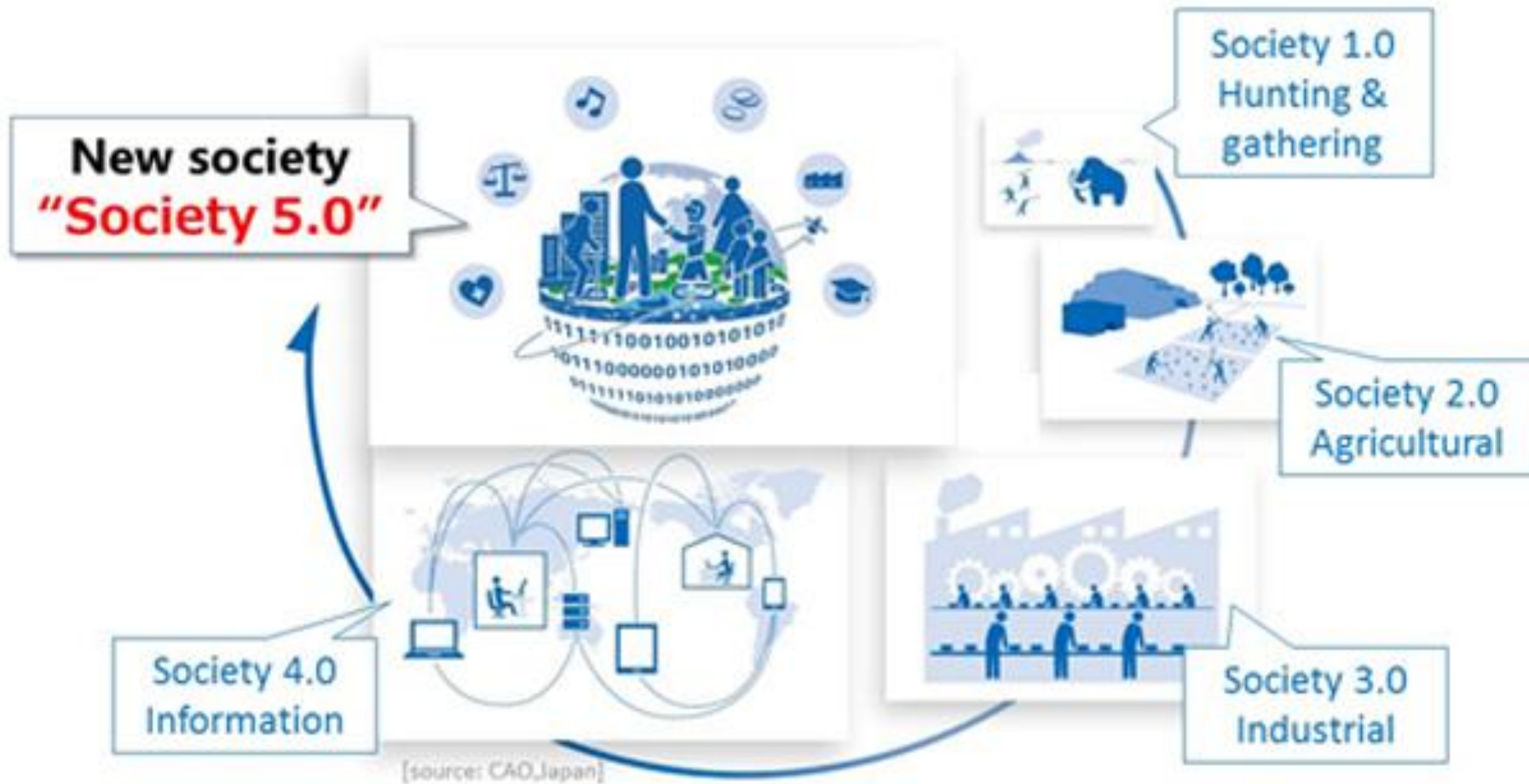


KONTEN



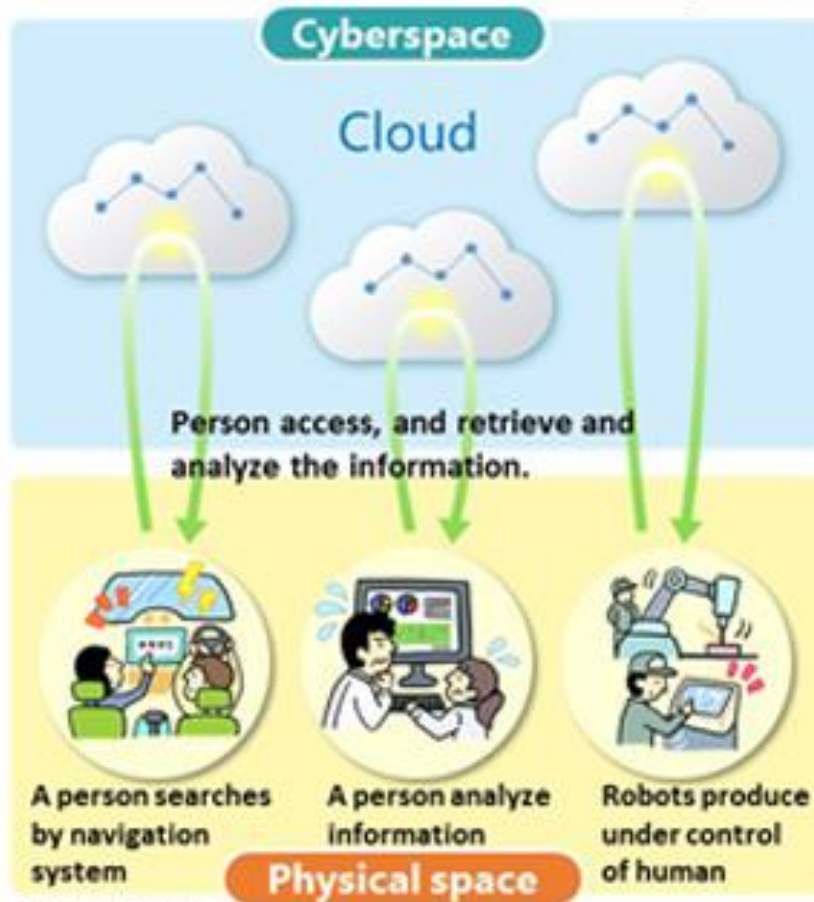
- 01. Masyarakat 5.0**
Menuju Masyarakat 5.0
 - 02. Blockchain**
Apa itu Blockchain?
 - 03. Blockchain Use-Cases**
Contoh Penggunaan Blockchain
 - 04. Implementasi Blockchain**
A work in progress ...
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01.
Masyarakat 5.0

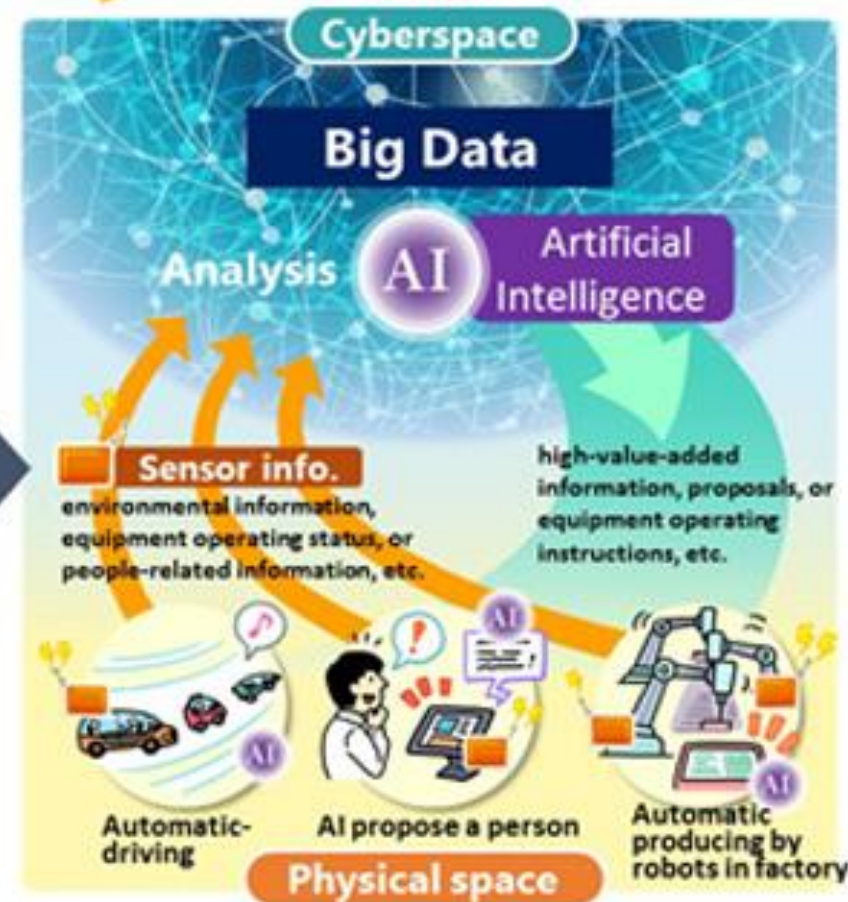


Current information society (4.0) 

Society 5.0

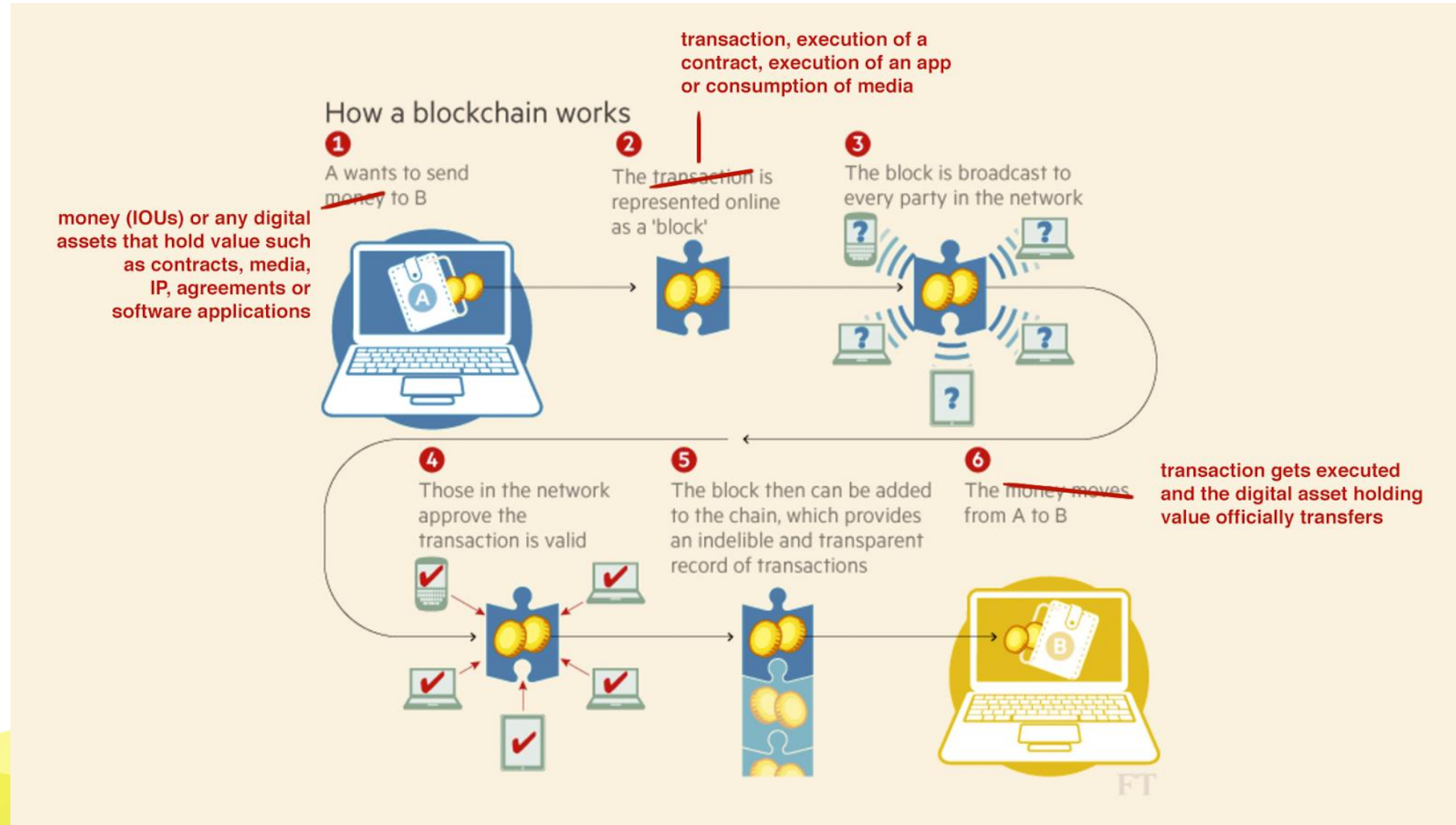


[source: CAO,Japan]

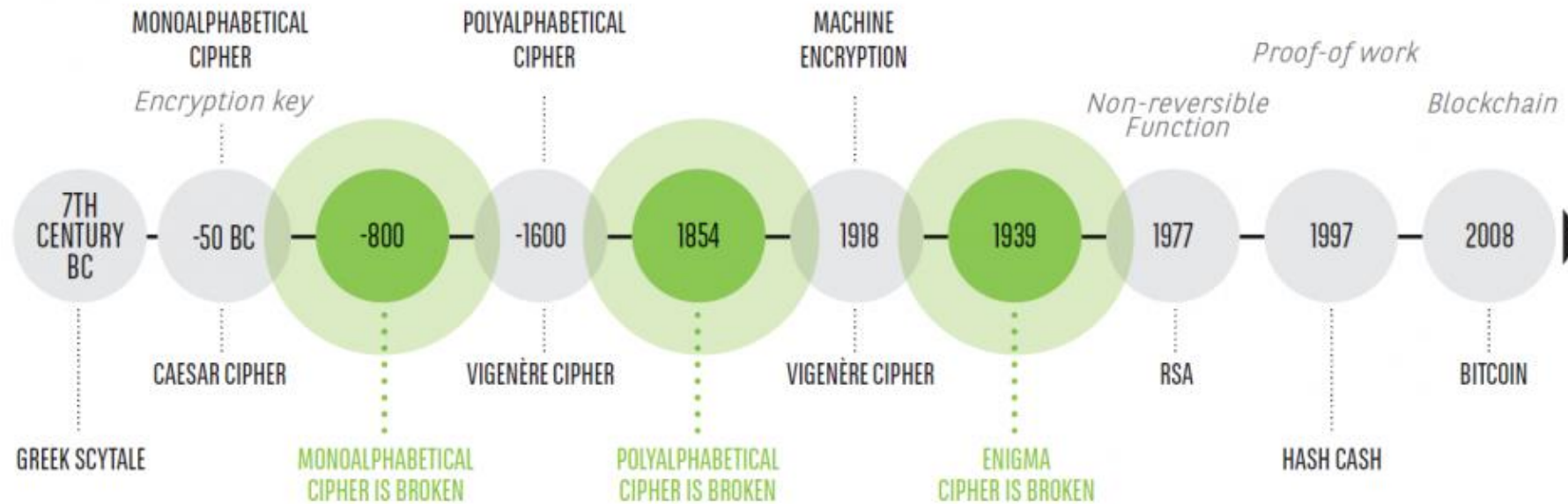


02. Blockchain

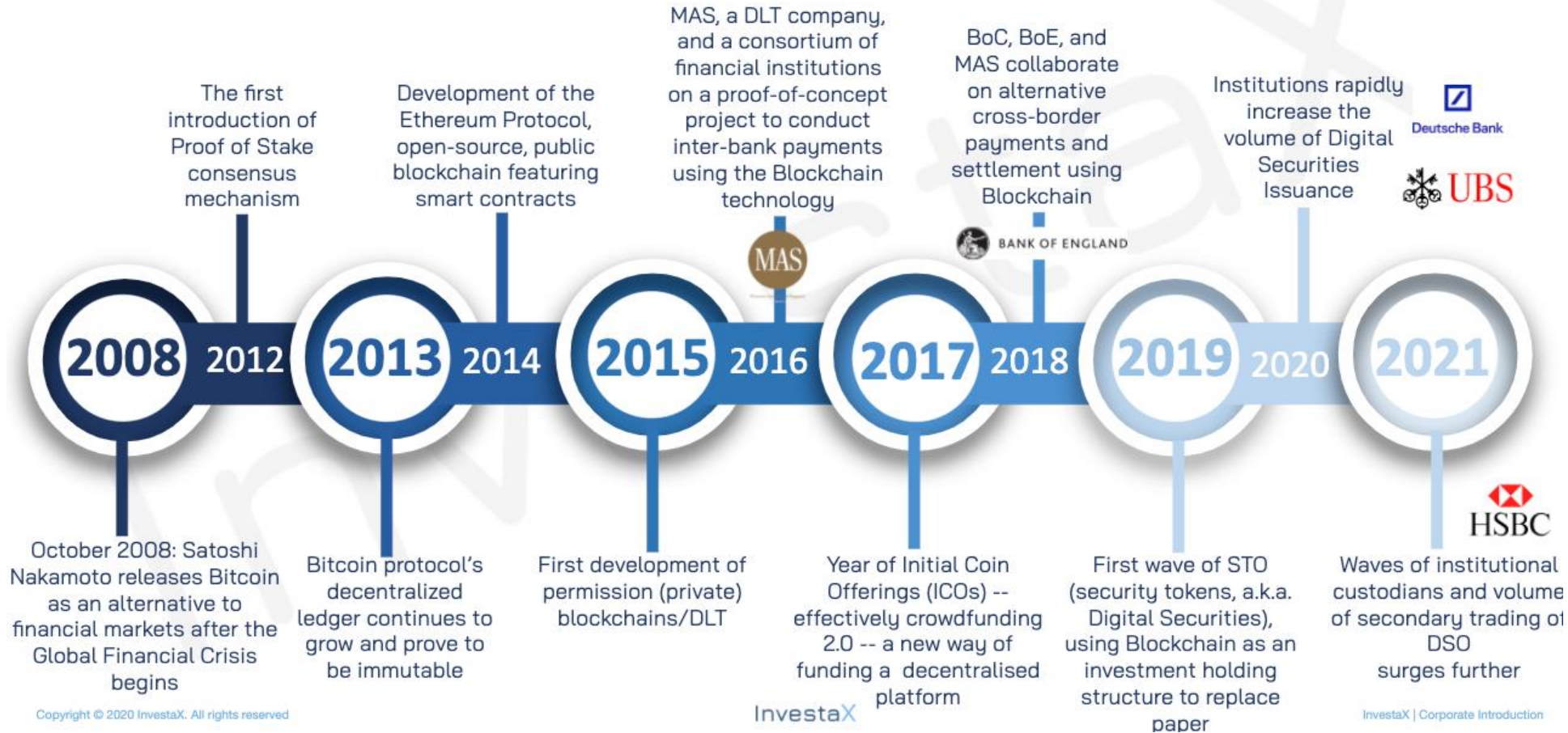
Cara Kerja Blockchain



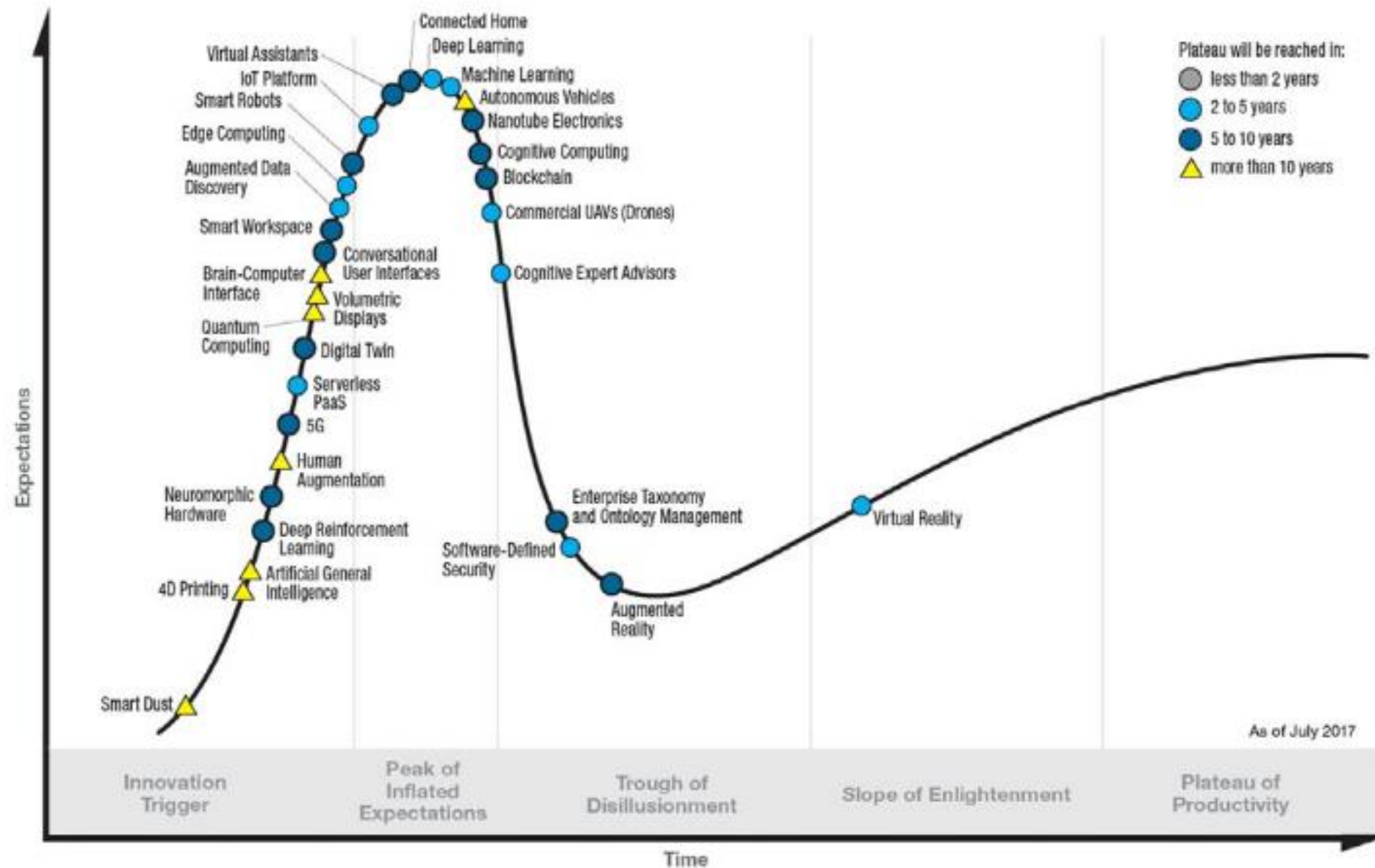
TRANSPOSITION ENCRYPTION → SUBSTITUTION ENCRYPTION → PUBLIC-KEY CRYPTOGRAPHY → CRYPTOCURRENCY



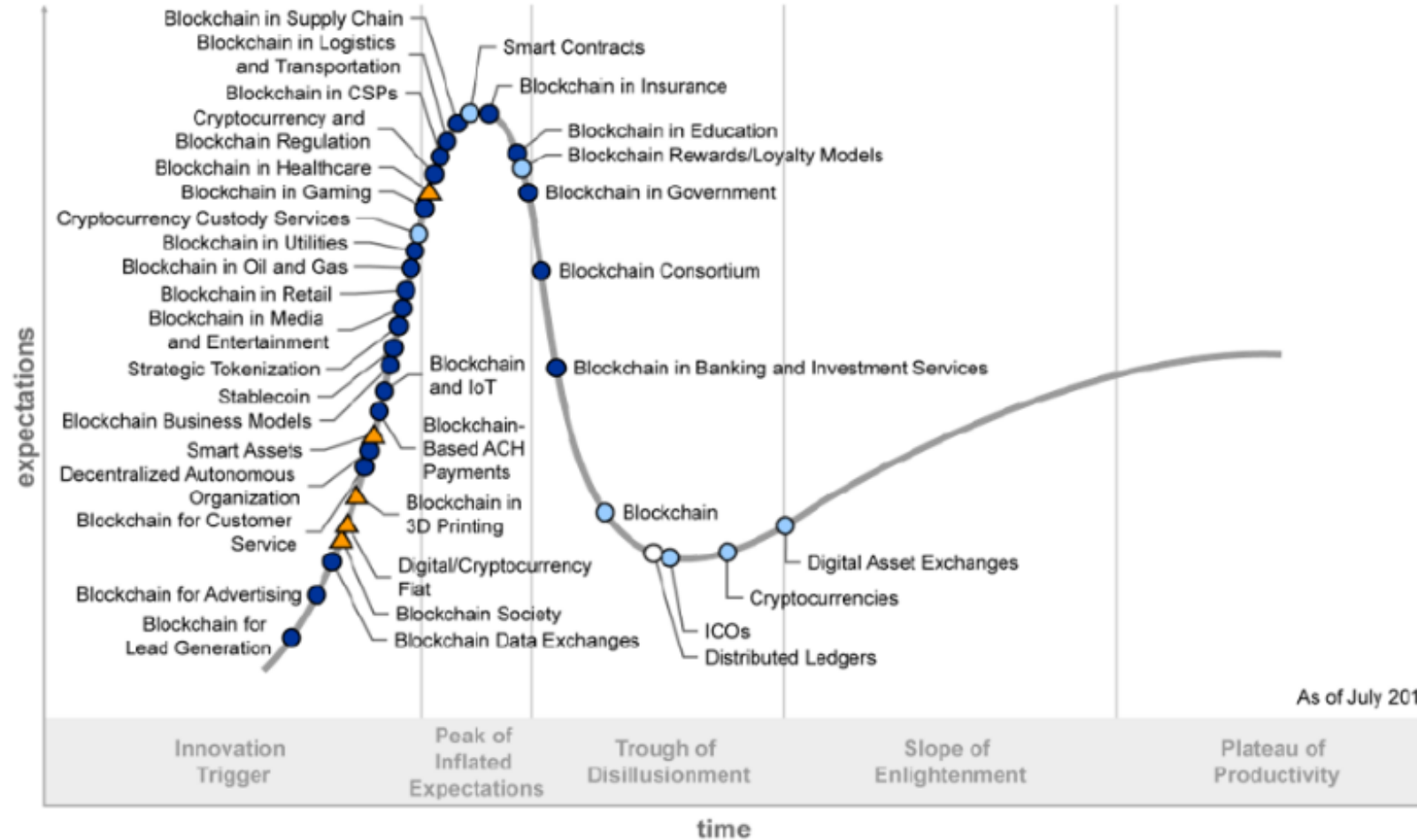
History of the Blockchain Technology



Gartner Hype Cycle



Hype Cycle for Blockchain Business, 2019



Source: Gartner
 ID: 390391

03. Blockchain Use-Cases

Use case		What the smart contract can do
Financial services	Trade clearing and settlement	Manages approval workflows between counterparties, calculates trade settlement amounts, and transfers funds automatically
	Coupon payments	Automatically calculates and pays periodic coupon payments and returns principal upon bond expiration
	Insurance claim processing	Performs error checking, routing, and approval workflows, and calculates payout based on the type of claim and underlying policy
	Micro-insurance	Calculates and transfers micropayments based on usage data from an Internet of Things-enabled device (example: pay-as-you-go automotive insurance)
Life sciences and health care	Electronic medical records	Provides transfer and/or access to medical health records upon multi-signature approvals between patients and providers
	Population health data access	Grants health researchers access to certain personal health information; micropayments are automatically transferred to the patient for participation
	Personal health tracking	Tracks patients' health-related actions through IoT devices and automatically generates rewards based on specific milestones
Technology, media, and telecom	Royalty distribution	Calculates and distributes royalty payments to artists and other associated parties according to the contract
Energy and resources	Autonomous electric vehicle charging stations	Processes a deposit, enables the charging station, and returns remaining funds when complete
Public sector	Record-keeping	Updates private company share registries and capitalization table records, and distributes shareholder communications
Cross-industry	Supply chain and trade finance documentation	Transfers payments upon multi-signature approval for letters of credit and issues port payments upon custody change for bills of lading
	Product provenance and history	Facilitates chain-of-custody process for products in the supply chain where the party in custody is able to log evidence about the product
	Peer-to-peer transacting	Matches parties and transfers payments automatically for various peer-to-peer applications: lending, insurance, energy credits, etc.
	Voting	Validates voter criteria, logs vote to the blockchain, and initiates specific actions as a result of the majority vote

Blockchain & Smart Contract Use-Cases



1.0

Cryptocurrency



2.0

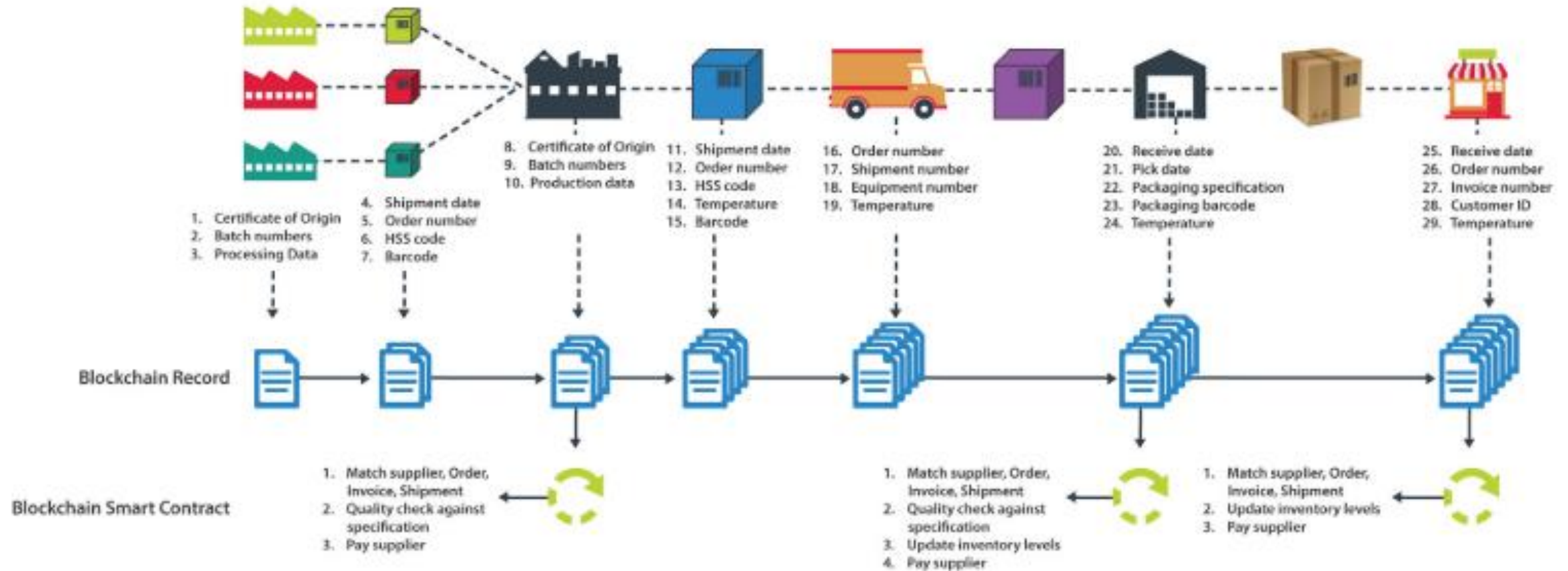
Smart Contract



3.0

Decentralized Applications

Blockchain Use-Cases



04.

Implementasi Blockchain

Sistem Informasi Ijazah Blockchain

Data Ijazah

7205494

Account	0x3b6a39f354bd8f5c4bd8351e78146fea51d887
TX	0x4e00a8ec2520b9f28a64847ddcbbd4afba92c9f93a265cd697141e60f23aa4
ID	0xf9027d6d43954e7c031e08f8228f5f035c52635e1df19a2de4480a56574868
Nama	BEBBY ILHAM AKBAR ARESTA
Tempat Lahir	Sungai Penuh
Tanggal Lahir	20 Juni 1998
NIK	11114111111211
NIM	161100216
Tanggal Lulus	2020-01-01
NIRL	2011102221222298
Nomor Ijazah Nasional	5751111120
Nomor Seri Ijazah	118/S1/073/A.14/STMIK-I/2020 9
Tanggal Wisuda	1 Februari 2020

SAVE

Transactions Analytics Comments

Latest 16 from a total of 16 transactions

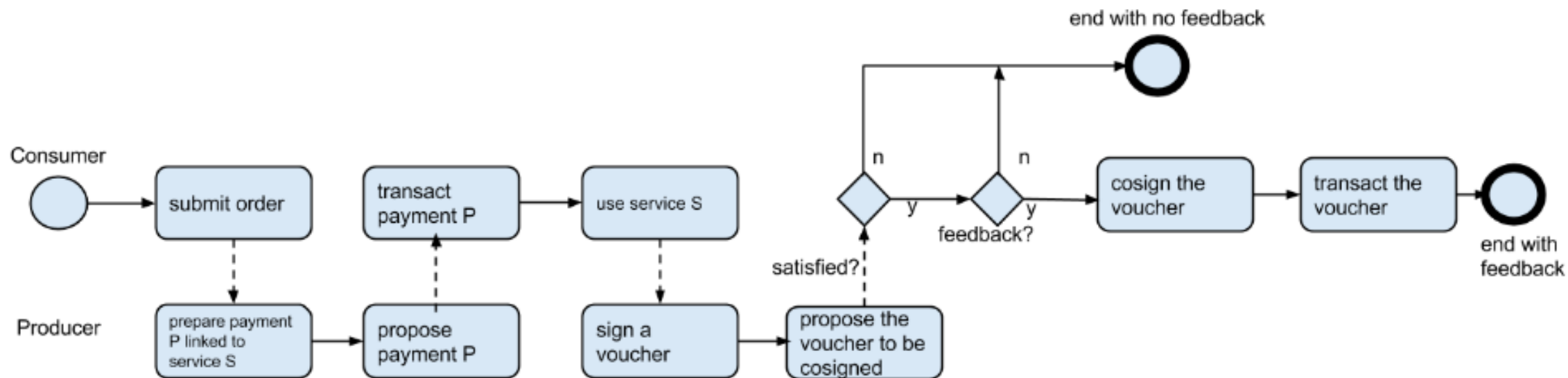
Txn Hash	Block	Age	From		To	Value	[Txn Fee]
0x3db8c8cf5f52442...	10688247	33 secs ago	0x815403a5d2791b...	OUT	0x1dbc3bdbfc85fe5...	0.24028222 Ether	0.002583
0x1864a6adfc21c25...	10683473	17 hrs 14 mins ago	0x07f0eb0c571b6cf...	IN	0x815403a5d2791b...	0.48 Ether	0.002415
0xdb341dc535ce7c...	10682956	19 hrs 10 mins ago	0x815403a5d2791b...	OUT	0x23de51f240f803e...	0.49482858 Ether	0.002646
0x2d22c4b876451a...	10677680	1 day 15 hrs ago	0x815403a5d2791b...	OUT	0x418c9c799f737a0...	0.376 Ether	0.002499
0x9c8c2fa9fc492d5...	10658024	4 days 15 hrs ago	0x815403a5d2791b...	OUT	0x1dce4c97c03ff1c...	0.0354 Ether	0.003003
0xa55f38ad2e3be71...	10644742	6 days 16 hrs ago	0x07f0eb0c571b6cf...	IN	0x815403a5d2791b...	0.273 Ether	0.00294
0xbfc01419463d01f...	10643522	6 days 21 hrs ago	0x815403a5d2791b...	OUT	0xca09dd20440746...	0.26739298 Ether	0.004389

Data IPFS Address QmegtVCEGaksZ4Sv5c388AkgWlFhoXob3EhnuUAiwx



PRINT

ROBTI (Reputation on Blockchain for Tourism Industry)

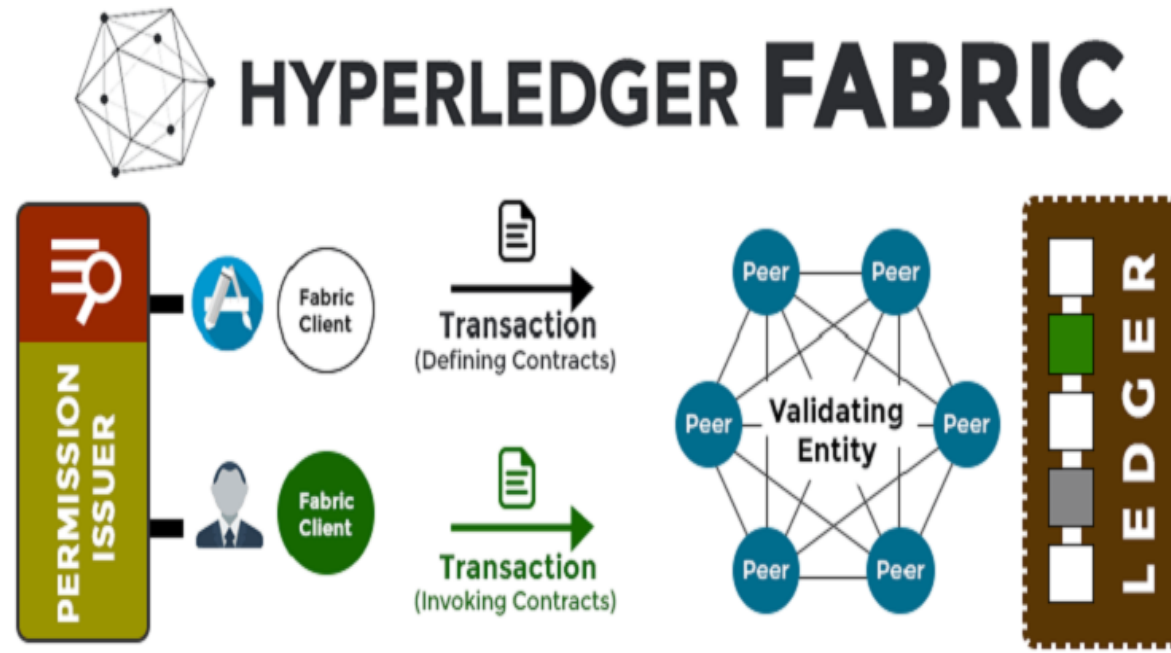


ROBTI (Reputation on Blockchain for Tourism Industry)



ROBTI (Reputation on Blockchain for Tourism Industry)

Name	Network ID	Status	Description	Framework
ROBTI	n-I55V5O5C5JCBVLXMSGJWOXRSO4	Available	ROBTI Network	Hyperledger Fabric 1.2
ROBTI 2.3	n-CP47AZNJXRBJXASWX2JHX5Q26M	Available	ROBTI Network 2/3 Voting	Hyperledger Fabric 1.2
ROBTI-3	n-XQFMTP5DZJFSPIVV3LU45CANCM	Available	ROBTI 3	Hyperledger Fabric 1.2



Terima Kasih