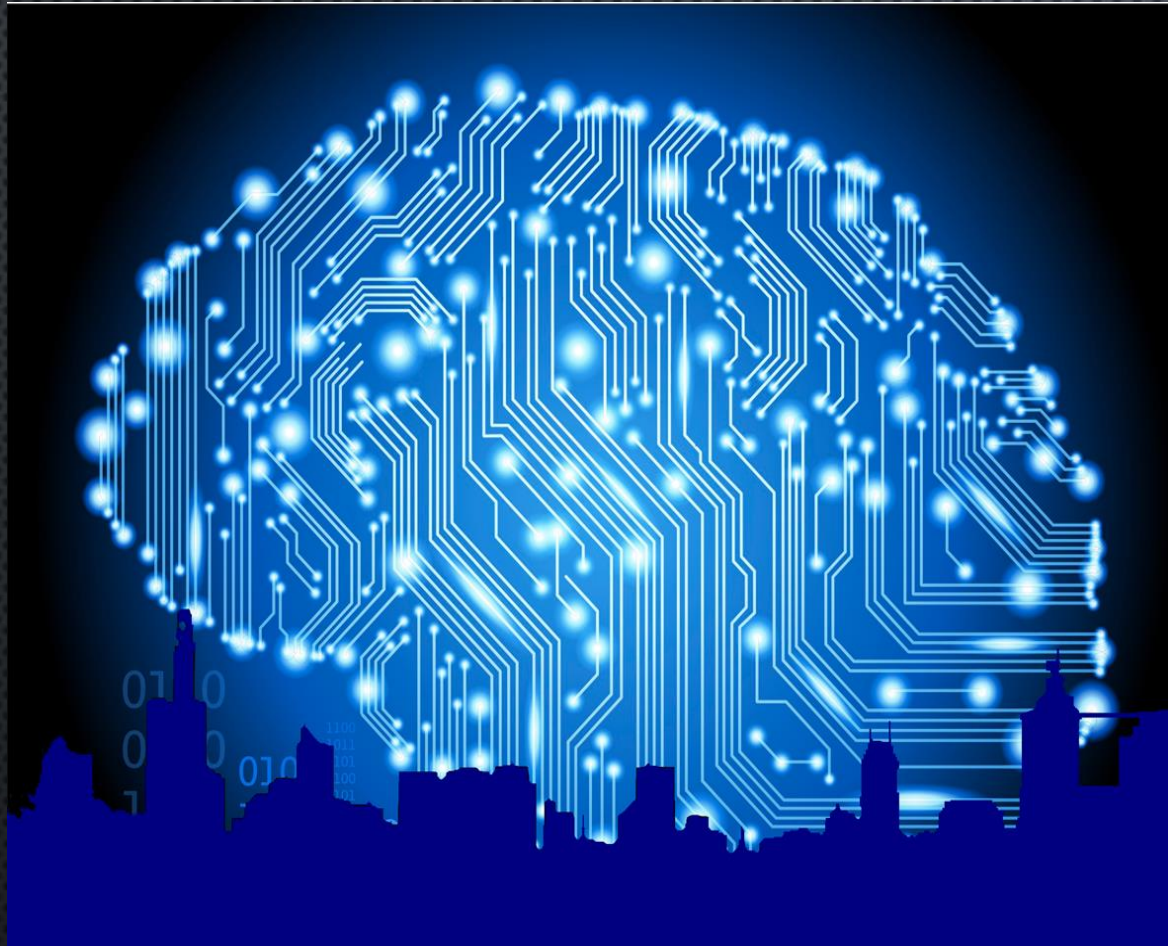


USING BLOCKCHAIN TO ACHIEVE SUSTAINABLE DEVELOPMENT GOALS

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february 2019 – mumbai



using blockchain to achieve SDG's



- BLOCKCHAIN TECHNOLOGY
- UN SUSTAINABLE DEVELOPMENT GOALS
- USE-CASES – BLOCKCHAIN FOR SDGS

blockchain



blockchain – information



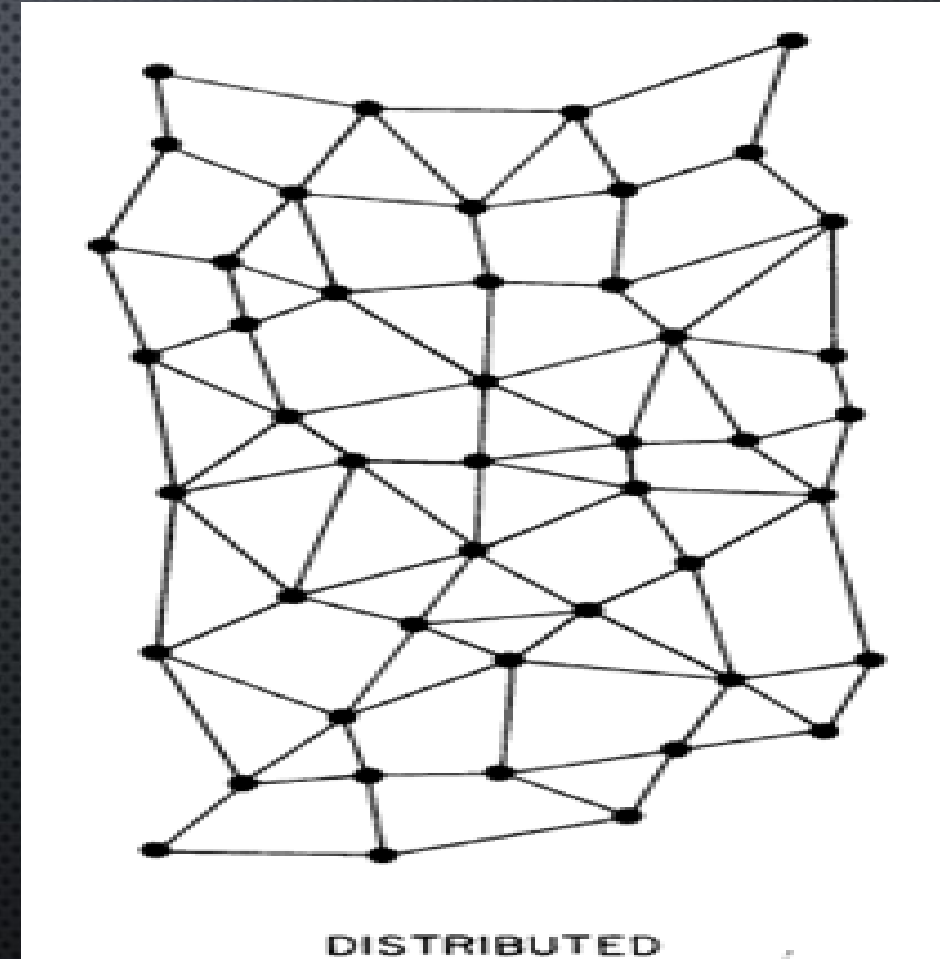
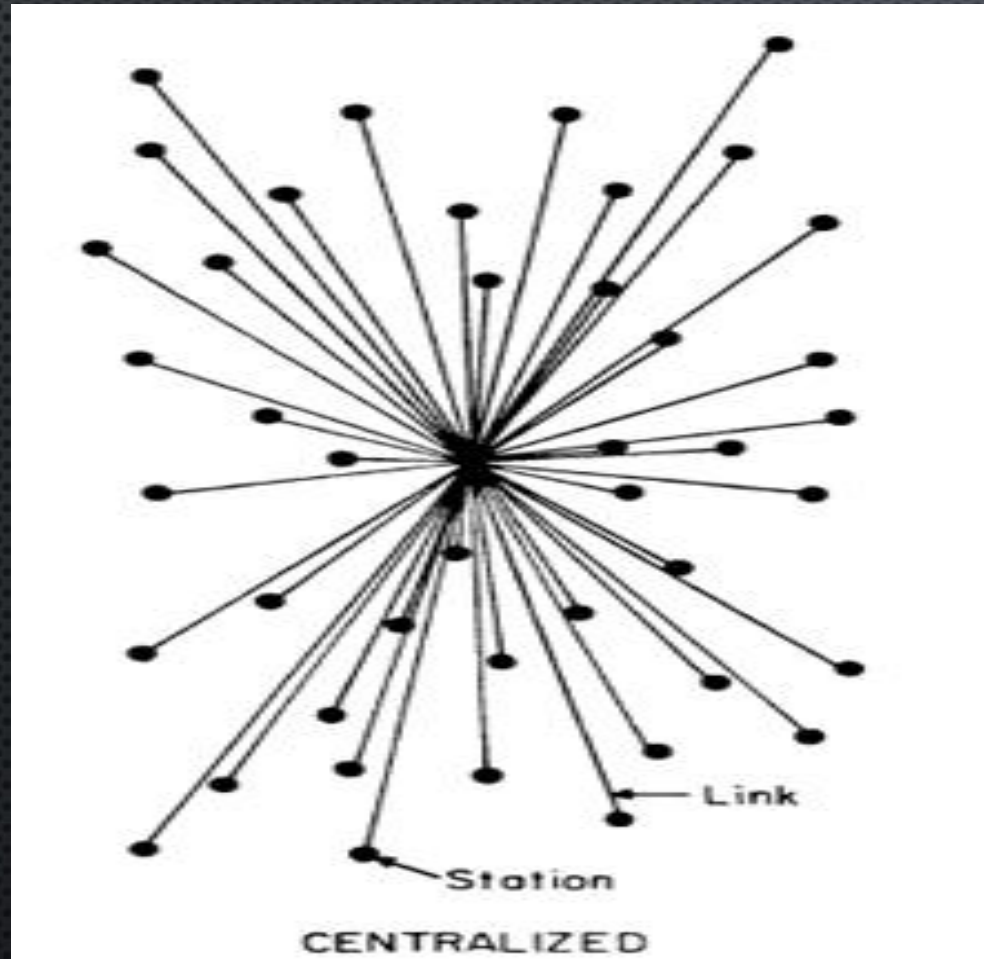
Email - several copies
Risks - amended, tampered



Bank- central ledger, trusted third party
Risks - single point of failure, tampering



blockchain - centralised v/s distributed



Source: Baran, Paul, 1964, "On Distributed Communications: Introduction to Distributed Communications Networks", United States Air Force Project Rand

How Does a Blockchain Work: A Step-by-Step View



1 A user requests for a transaction



2 A block representing the transaction is created



3 The block is broadcasted to all the nodes of the network



4 All the nodes validate the block and the transaction

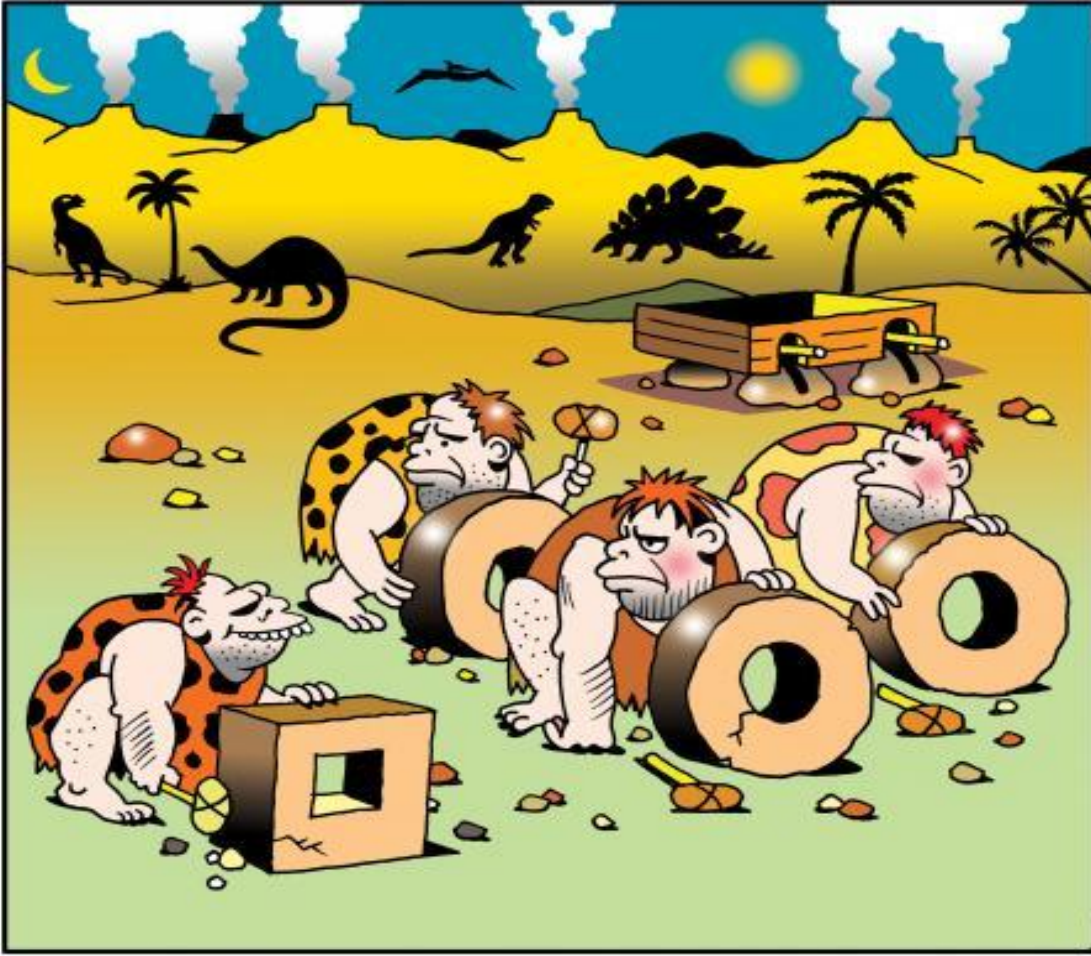


5 The block is added to the chain



6 The transaction gets verified and executed

blockchain - distributed ledger



- Collation and storing of data
- Record of anything of value/importance
- Multiple nodes
- Benefits
 - ☐ Distributed
 - ☐ Incorruptible
 - ☐ No central verifying authority
 - ☐ Transparent
 - ☐ Secure

blockchain - smart contracts



1. Accurate
2. Transparent
3. Clear
4. Efficient (Speed, cost)
5. Secure
6. Paperless
7. Stored and backed up
8. No middlemen
9. Trustworthy
10. Guaranteed outcomes

blockchain - new models?



blockchain - new models



1. Decentralised systems
2. Peer to peer
3. No middleperson (disintermediation and automation)
4. Increased transparency, tracking and traceability
5. Immutable, reliable and shareable record
6. Trading of non traditional assets (e.g. value of natural resources)
7. Monitoring, auditing and compliance
8. New financial models (e.g. democratising investment, funding)

UN Sustainable Development Goals



UN Sustainable Development Goals



Some statistics



Source: UNDP, 2019



VIDEO - WE THE PEOPLE – FOR CLOBAL GOALS

[HTTPS://WWW.YOUTUBE.COM/WATCH?V=RPQVM
VMCMP0](https://www.youtube.com/watch?v=RPQVMVMCMP0)



blockchain use-cases

SDGs





no poverty

Blockchain Securitization of programmes

- Tracking of donations
- Limit organization inefficiency and corruption
- Greater transparency and accountability
- Disintermediation

2 ZERO
HUNGER



zero hunger

World Food Programme (WFP) - building blocks

- Programme - 100million people - 80 countries
- Use blockchain to transfer food and money
- Syria - biometric scan of the eye to collect food

uWIN

- Marketplace - matching remote sellers with market



3 GOOD HEALTH AND WELL-BEING



good health and well-being

E-health interagency information sharing systems

- Once only principle
- Interoperability, secure storage e-patient records
- Creation of formats to be widely standardized
- Different access rights
- Use by all stakeholders in the health community
- AI enabled database - prediction



strengthening of academic performance

- Unicef - South Africa - Enable early childhood development services (tracking of school attendance)
- Ensure accurate and secure data storage of students
- Formal and informal academic record

5 GENDER
EQUALITY



gender equality

UN Women – blockchain simulation lab

- Digital identity
- Identification documents storage for stateless refugees for identity proof
- Identification of women or girls who have been trafficked or who have gone missing.



natural resources

Peer to peer trading

- Connects producers with consumers
 - E.g - Energy

Traceability

- E.g - water source
- Data metering

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DECENT WORK AND
ECONOMIC GROWTH



decent work and economic growth

Security of workers' legal status and contracts

- Secure registry for workers' legal status and their contracts.
- Enhanced transparency and efficiency in applying labour policies

Inclusive economy enabler



industry, innovation and infrastructure

Efficient and secure methods for global trade

- More efficient and secure method for global trade
- Reduced global trade barriers
- Bridging existing gaps in information sharing in supply chains
- Guaranteeing visibility of shipment events

10 REDUCED
INEQUALITIES



reduced inequalities

Inclusion

- Inclusive access
- Digital ids
 - Accurately verifies identities of individuals

Enabler of sharing economy - peer to peer

Tokenisation

- issue of tokens to be exchanged for products and services





sustainable cities and communities

Enabler - sustainable and inclusive cities

- Smart citizens, smart governance, smart health etc.

New platforms

- welfare measures, new models of exchange

New governance models

- Participatory, liquid democracy, distributed autonomous organisations

12 RESPONSIBLE
CONSUMPTION
AND PRODUCTION



responsible, consumption and production

Supply chain

- Reduces fraud risks by increasing supply chain transparency
- Guarantees access to secure information by all partners
- Provides the consumer with trusted and validated information about the origins of purchased products

13 CLIMATE
ACTION



new models for climate action

- Peer to peer trading
 - Transforming carbon (and other environmental) markets
- New financing models
 - Donor funding - disintermediation
 - Financing of projects - tokenisation
- Incentivizing circular economies - tokenisation
- Supply-chain transparency and management
- Decentralized and sustainable resource management
- Secure and automatic transactions





biodiversity protection, environment impact monitoring and mitigation

- Peer to peer trading of resource or permits
- New potential of markets (like carbon)
- Supply-chain transparency and management
- Robust auditing of information as compliance mechanism
- New financing models of environmental outcomes
- Incentivizing circular economies - tokenisation
- Decentralized and sustainable resource management

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PEACE AND JUSTICE
STRONG INSTITUTIONS



peace and justice, strong institutions

- Powerful tools to fight against fraud and corruption
 - Voting on blockchain in Sierra Leone
 - Track transactions
 - Declaration of assets
- World Identity network (WIN) (blockchain for humanity)
 - To fight against child trafficking (Moldova)
 - To provide permanent identities to youths at-risk and other vulnerable ones



partnerships for the goals

Ease of partnering - Trust, Peer to Peer

Cooperation enabler

- EU's central baltic interregional cooperation programme
 - Advancing paperless trade
 - Reducing time for cross-border transactions
 - Simplifying trade processes
 - Removing data duplications

challenges ?



what cities can do ?



धन्यवाद

