Blockchain

– utilization for Anti-Corruption
UNDP, JIACC Amman, 16.06.2022

Per Aarvik

CMI/U4

Secure ledgers through time

- Engraved bones, DR Congo and South Africa – for tallying?

- Sumerian clay tablets in Uruk

- Quipus knotted strings, Inka empire South America

- Sticks of wood – engraved and split to prevent cheating, China, Europe

- Carbon copies, rubber stamps, water marks

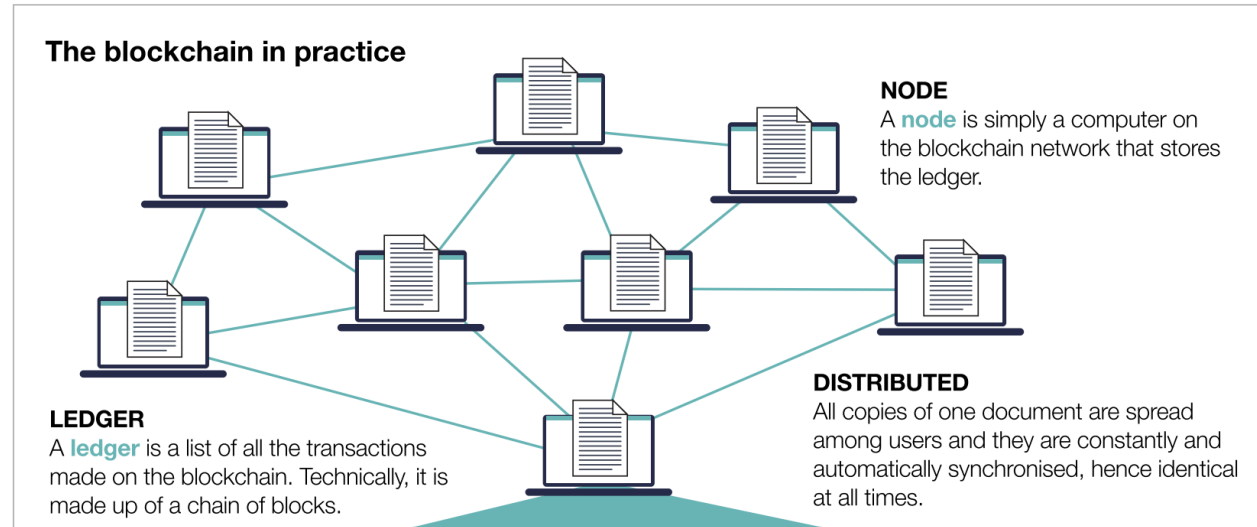- Digital records – open data and transparency - blockchains

Sumerian language pictographic tablets from Uruk (Erech), evidently lists or ledgers of commodities.
https://www.britannica.com/topic/cuneiform
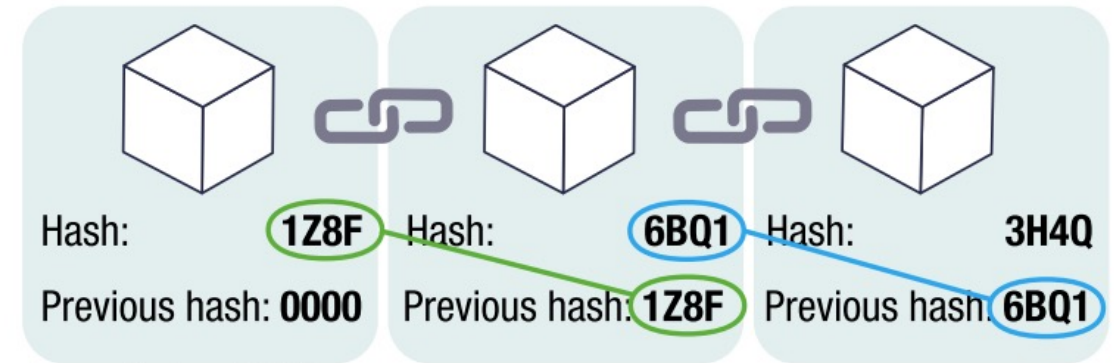
What is blockchain:
Distributed approval

- A **network** of computers holding a clone of the complete ledger + a **consensus protocol** to agree on new entries

- Transparent overview of events

- Network open for all (bitcoin) or only for members (Tradelens)

http://www.oecd.org/finance/OECD-Blockchain-Primer.pdf

What is blockchain:
An encrypted chain of data

Source: Savjee, (2017)

http://www.oecd.org/finance/OECD-Blockchain-Primer.pdf

- Records - grouped in blocks and encrypted

- Code representing the block is added as a part of next block

- Becomes a "chain" of data

- The chain structure prevent records from being changed
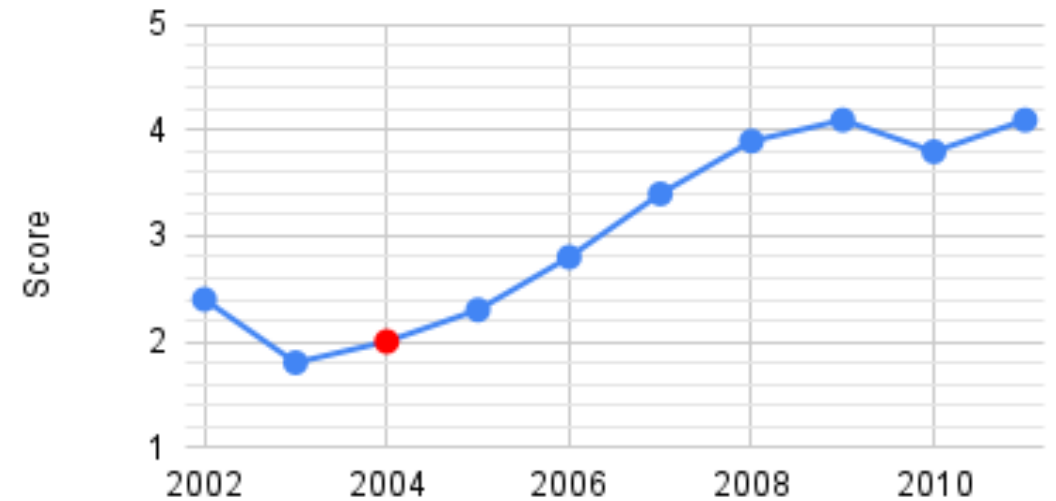
- Think of knots in a knitwork

https://no.depositphotos.com/1299403/stock-photo-crochet-knitwork-and-blue-yarn.html
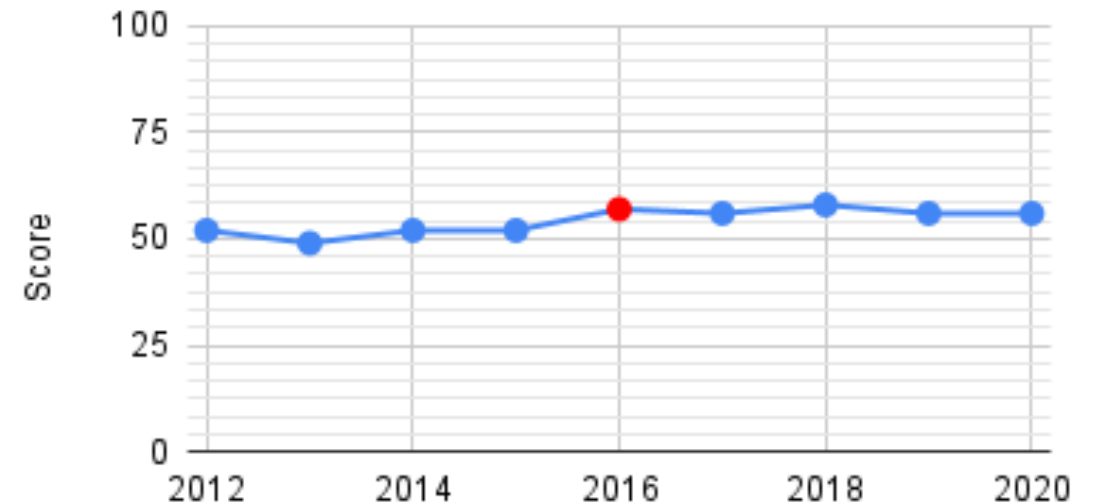
Does blockchain technology prevent corruption?

- Land registry in Georgia; mentioned as successful case of blockchain for anti-corruption

- 2004; institutional-, regulatory- and legal reforms

- Digitalisation of land registries, maps and service through a decade

- 2016; Bitcoin-mining established

- Blockchain applied as a security layer on top of registry
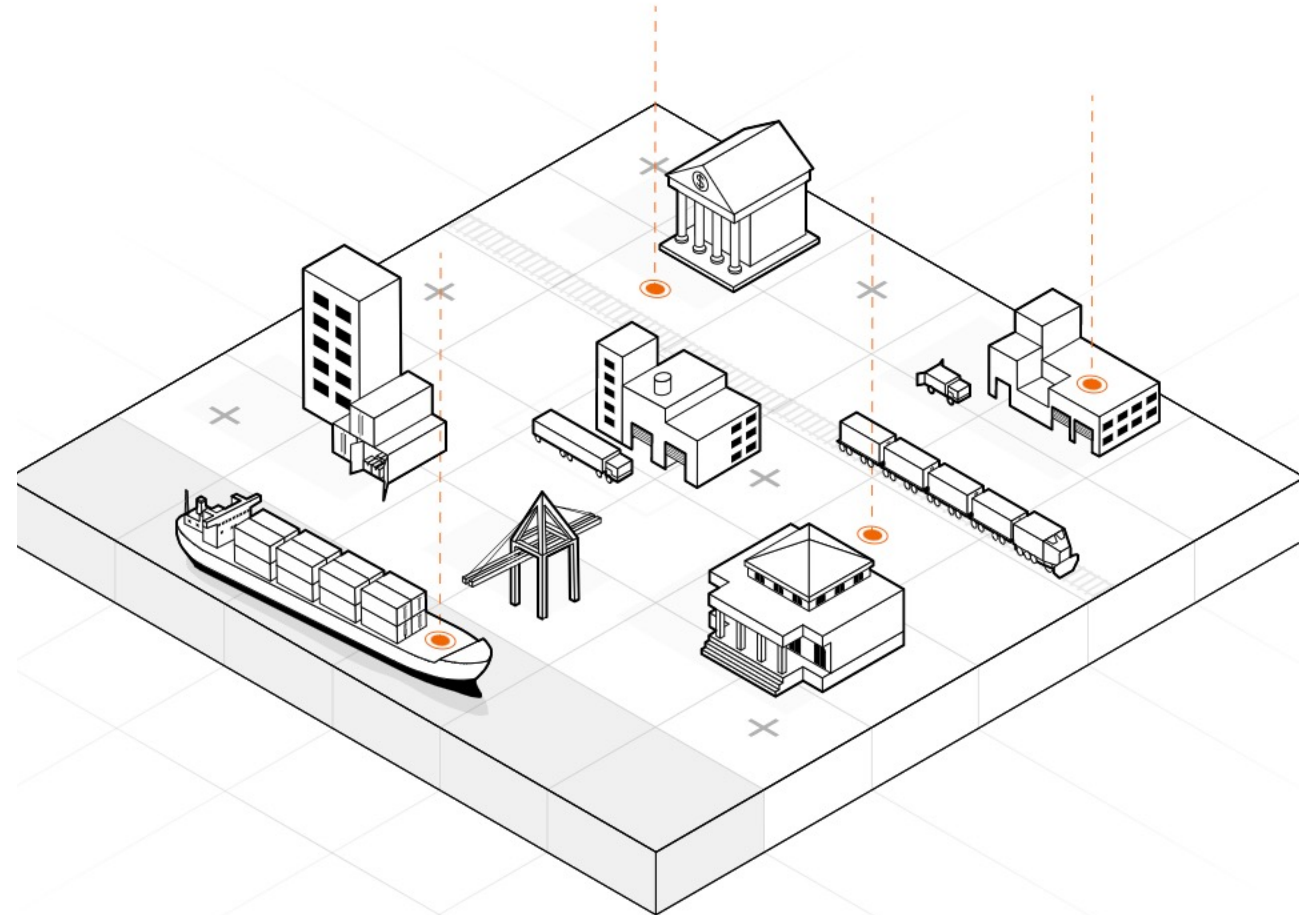

Georgia, CPI score 2002-2011

Georgia, CPI score 2012-2020

https://www.transparency.org/en/countries/georgia

Blockchain in practice

- Maersk and IBM - Tradelens (2018)
- Carrefour, Nestle, supply chains
- University of Sharjah, UAE, academic credentials on the chain
- Vaccine distribution (Covid-19
- Increase efficiency, transparency, security
- Replace slow, paper-based systems
- Need for trust in the transition between physical and digital

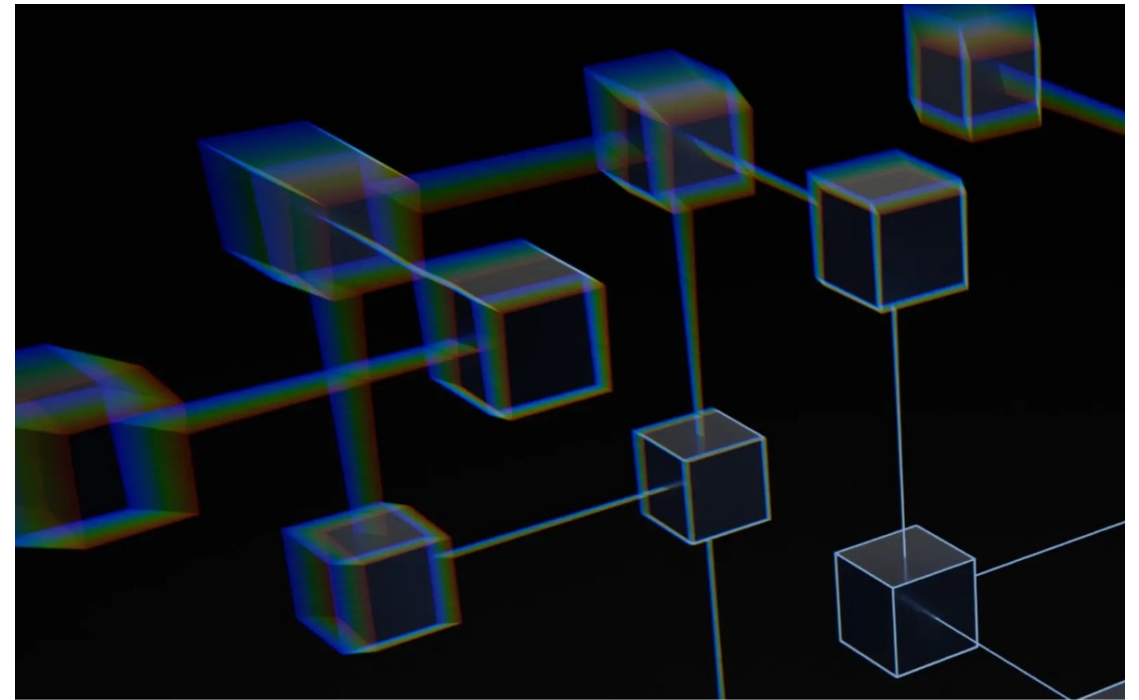https://www.tradelens.com/network

Study: Blockchain in Covid-19 vaccine distribution

Advantages:

- Securing supply chains

- Authenticity, tracking, storage verification

- Transparency, trust

Key challenges:

- Complex supply chains

- Lack of regulatory frameworks

- Technical infrastructure & skills

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Safeguarding the Covid-19 vaccine distribution: Evaluating the role of blockchain

https://www.u4.no

Thank you