The Societal Role of Blockchain in a Changing World

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- This presentation reflects the personal views of the author and can under no circumstances be interpreted as an official position of the European Commission. -

Tokens are “stone-old”. Literally.

STONE MONEY OF UAP, WESTERN CAROLINE ISLANDS.

(From the paper by Dr. W. H. Furness, 3rd, in Transactions, Department of Archæology, University of Pennsylvania, Vol. I., No. 1, p. 51, Fig. 3, 1904.)

Conceptually, Indeed Nothing Is New

Blockchain is based on **ledgers**, i.e. records of timestamped transactions. They have existed offline since centuries.

Tokens (as we saw) are even older. Our ancestors just did not call them so.

Decentralised autonomous organisations (DAOs) are online forms of offline cooperatives. Think of e.g. local banks (Raiffeisen) or (the tragedy of) the commons).

Digital finance is crowdfunding 2.0. It existed offline long ago but also online before anyone called it "crypto".

A More Profound Look at Blockchain: Awareness Usually Starts With a Crisis

15 September 2008:

The insolvency of Lehman Brothers marks the climax of the US subprime mortgage crisis and triggers a global chain reaction first on financial markets and then in the real economy.

(Bildquelle: euractiv.com)

31 October 2008:

The as yet unidentified "Satoshi Nakamoto" publishes a White Paper entitled "Bitcoin: A Peer-to-Peer Electronic Cash System" (https://bitcoin.org/bitcoin.pdf). Shortly thereafter, the genesis block of the first cryptocurrency is minted.

(Bildquelle: bitcoin.org)

Consequences: Towards Decentralisation

- The 2007/08 financial crisis exposed huge **systemic risks** inherent **in** legacy capital and financial markets.
- The key risk factor consisted of weaknesses within and interlinkages between **centralised systems**.
- For years to come, regulators had to operate in a defensive mode to stabilise rotten centralised structures.
- In parallel, technological innovation created **distributed systems** that could serve **as decentralised alternatives**.
- This happened at **historically unprecedented speed**, further accelerated by inter-technological spillovers (e.g. DLT and AI).
- Consequently, the **traditional regulatory system** became **dysfunctional**. It has to be replaced by fluid governance.

Necessity for a New Approach for Policy Making and Regulation on Tech

Legacy System: Top-down

- Mature markets
- Limited number of incumbents
- Few new competitors
- Incremental innovation (for more efficiency)
- Regulation in long cycles
- Regional ringfencing possible

➔ ***solid, durable structure***

Examples: banking, securities

Digital Economy/Web3: Bottom-up

- Emerging markets
- No established incumbents
- Many new competitors
- Disruptive innovation (for the market)
- Innovation outpaces regulation
- Global yet decentralised

➔ ***open, fluid approach***

Examples: crowdfunding, crypto assets, tokens

This Can Go Either Way

The picture displays the triple watershed at Pass Lunghin (CH). Water originating from the same place can end up in *the North Sea, the Black Sea or the Mediterranean*.

Nearly identical starting points (technologies, infrastructures, formal – but not informal! – rules) can lead to totally different outcomes, depending on mindset:

Top-down / centralised vs.
Bottom-up / decentralised
(distributed) systems

Possible Futures: Scenarios for 2035

(Example: Wharton Blockchain and Digital Asset Project)

The traditional and digital assets worlds will be …	distinct	integrated
centralised	Two parallel systems develop based on distinct tokens; AI (or sheer antagonism) place people in either system; confrontation.	Society is cashless; permissioned blockchains are used by central authorities; decentralisation is a fading ambition from the past; Web2 dominates top down.
decentralised	The decentralised crypto world coexists with the legacy system; bridges between systems become powerful gateways/-keepers; multiple metaverse(s).	Steady decline of nation states amidst the proliferation of self-selected DAO governed communities; sovereign judicial systems enhanced by AI, the metaverse and zero knowledge proof privacy.

Shaping the Future and Becoming More Resilient: Blockchain as an Example

2016 European Commission report on **EU innovation priorities** (https://web-archive.oecd.org/2016-09-16/413930-geis2016-madelinreport-full.pdf):

"European Innovation Mission"

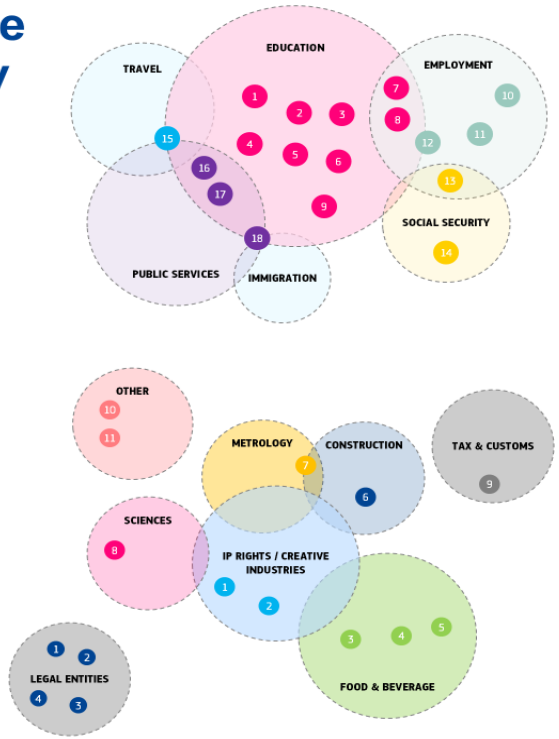
➔ *"We will make together … bold bets on change in tricky areas: education, health, universities, tax; and some bolder bets on potential breakthrough technologies, notably genomics, the brain, **distributed ledgers** and quantum.";*

Cf. section on **"Blockchain and its application in fintech and beyond"**

#1: Public Infrastructure (EBSI)

+25 projects for EBSI use cases, activ e in +10 sectors

Together, they experiment with EBSI to make information easy to verify and almost impossible to fake. This for better mobility of our citizens, better quality of our products, and better economic development of our enterprises.



Verification of documents

1. Educational ID (Link)
2. Formal accreditation (Link)
3. Bachelor / Master Degree (Link)
4. University Alliances (Link)
5. Transcript of records (Link)
6. Specific course (micro-credential) (Link)
7. Micro-credentials (Link)
8. Vocational Education and training (Link)
9. VECTOR Education
10. Résumé credentials (Link)
11. Licence to practice (Link)
12. Employment credentials (Link)
13. Social security (Posted workers) (Link)
14. EHIC
15. Ferry ticket (Link)
16. Municipality credentials (Link)
17. Public Administrations Interoperability (Link)
18. European Qualification Passport for Refugees (Link)

Verification of products and traceability

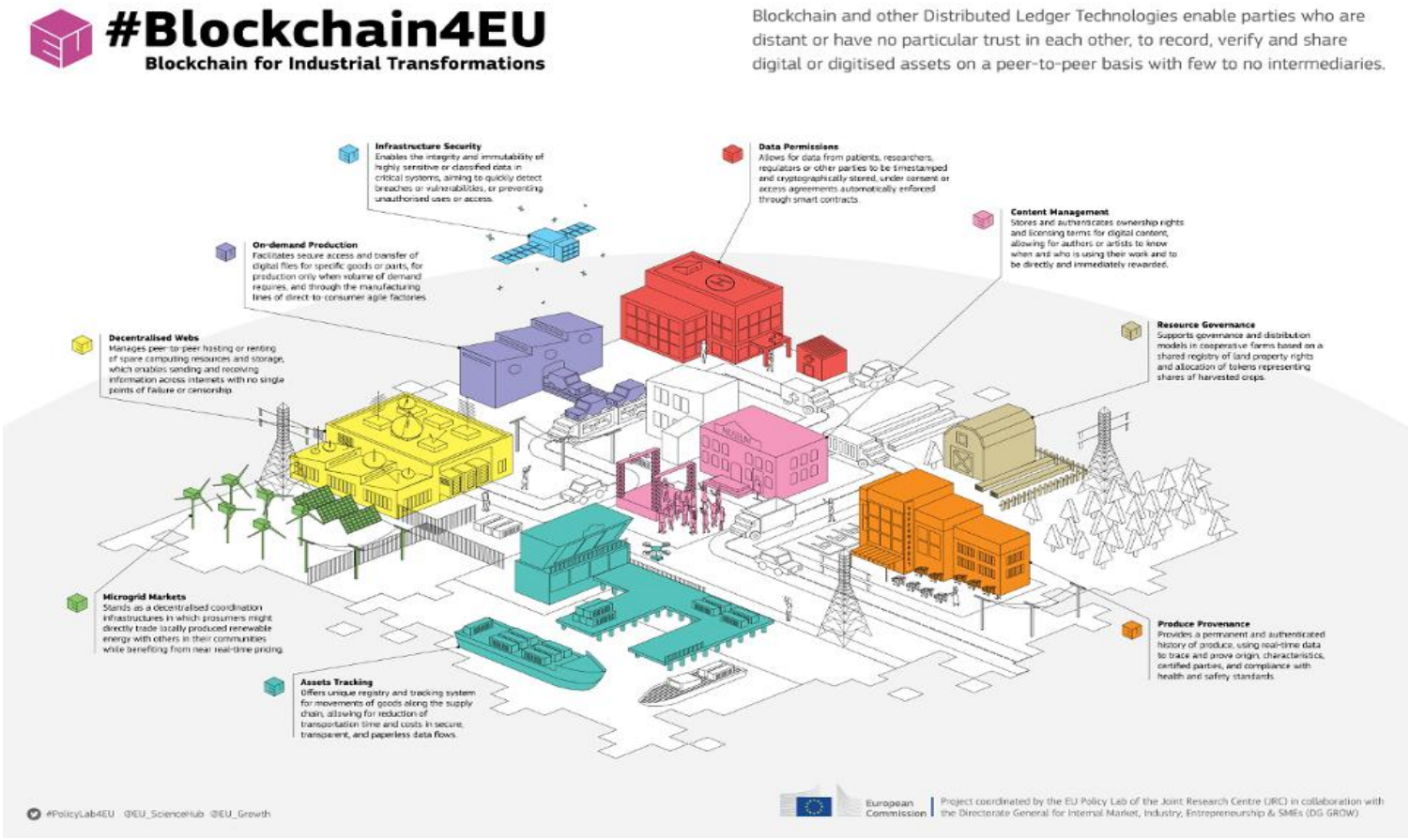
1. EUIPO (Link)
2. Open Rights Data Exchange (Link)
3. Seafood tracing application (Link)
4. Agrifood tracing application (Link)
5. Halloumi cheese tracing application (Link)
6. Materials Tracing Application (Digital Product Pass) (Link)
7. Random red (Link)
8. Democratisation of Academic Publishing (Link)
9. eOrigin (Link)
10. Know Your Customer (Link)
11. Electronic Registered Delivery (ERD) (Link)

Verification of legal entities

1. SME Financing
2. Business Registries
3. Company passport
4. eInvoicing

EA Programme
Digital Europe Programme
EC-based projects

#2: Public-Private Hackathon-Based Prototypes (here: Industrial DLT System)



#3: Matching of Tech Demand and Supply (here: Programmable Payments)

Search for viable private alternatives to ensure programmable money supply and digital functionalities for the token economy

Example:

Tokenise Europe 2025

A pan-European industry, finance and public sector initiative with active participation from Liechtenstein

INITIATED BY

bankenverband

European Commission
Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs (DG GROW)

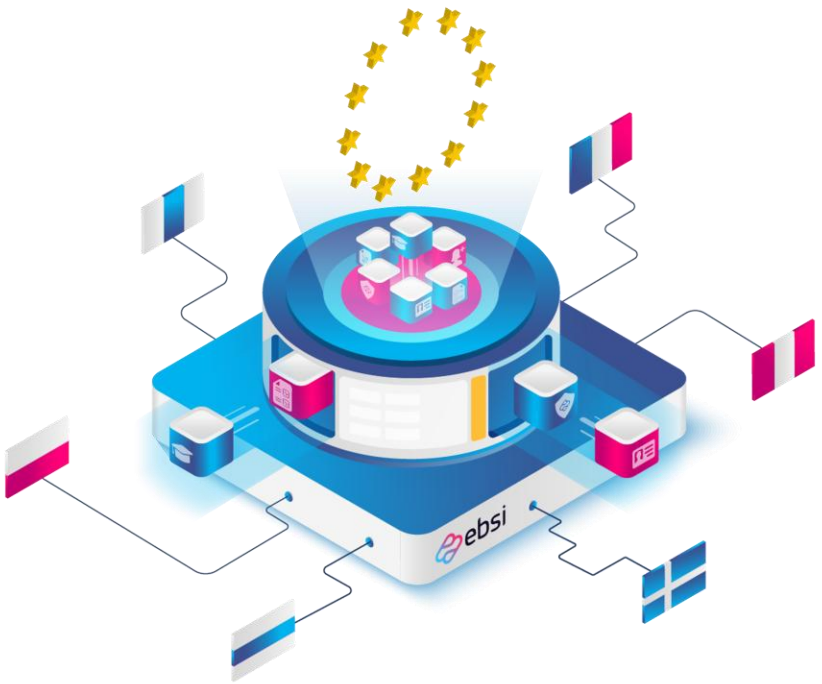
European Commission
Directorate General for Communications Networks, Content & Technology (DG CONNECT)

MODERATED BY

Roland Berger

#4: Co-Learning, e.g. European Blockchain Regulatory Sandbox

- 3-year programme with 20 projects per year;
- Comprehensive mix of authorities and use cases;
- Including exploration of decentralised space (e.g. DAOs);
- Integration of financial regulation with real-economy regulation;
- Very steep learning curve

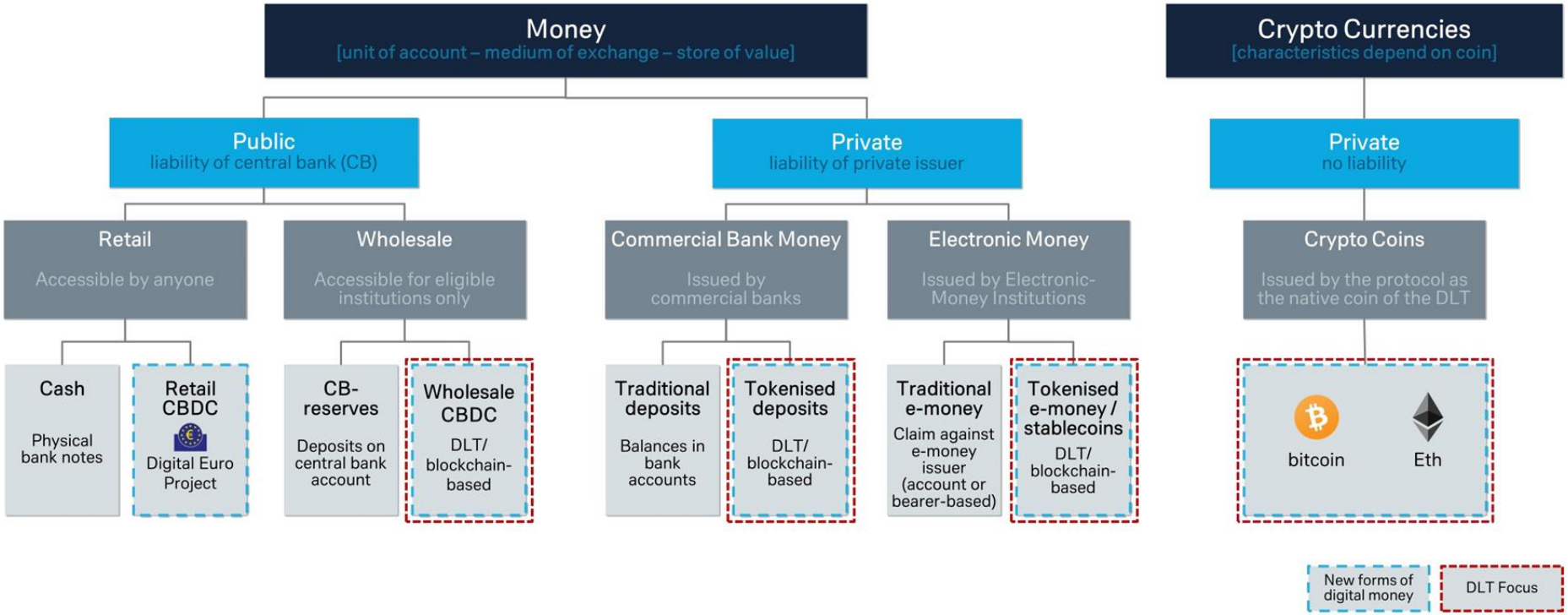


Is All of This Really Complicated? No.

- ✓ **Tokens** define rights related to an underlying set of values that emerge from shared belief systems.
- ✓ They **enable** the **safe creation and transfer of** these tokenised **values** within communities.
- ✓ There are **offline and online examples** of tokens.
- ✓ As such, a token is a digital container – functional, standardised, ubiquitous.

Example: The Money Landscape

(source: cbmt project – Evonik + DZ Bank)



At the End of the Day, It Is Code – and thus a Common Language

Bottom line: Understand the logic of code and take a functional approach. A string of 0s and 1s at the same time has a legal, economic, IT but also anthropological meaning.

Combine this with an understanding of *history* and an approach towards digital (self-) organisation that embarks from *systems theory*, and help building a *common language*.

European Commission

The Biggest Challenge

No Freedom Without Privacy

Centralised systems have an in-built momentum towards (total) control.

Checks and balances that protect civil rights can only work with technologies and behaviour that can neither be centrally controlled nor prohibited, notably privacy-enhancing technologies.

See for more:
https://digitalfreedom.page

European Commission

Many thanks for your attention!

More information:

https://ec.europa.eu/growth/index_en