



#DSM

Digital Single Market

HOW CAN EUROPE BENEFIT FROM BLOCKCHAIN TECHNOLOGIES?

WHAT IS BLOCKCHAIN?



#EUBlockchain

Blockchain is the best known **distributed ledger technology**. A ledger keeps a final and definitive record of transactions. Transactions on a blockchain are not centrally stored but instead identical copies of all transactions are kept on decentralised ledgers at the same time. These data are moreover encrypted. Records, once stored, cannot therefore be tampered with on one of these ledgers without leaving a track. This is an essential difference to databases that are managed by a central operator. The decentralised nature of record keeping in combination with encryption of data provides users **trust, traceability and security** for exchanging their data and/or assets. There is high potential for blockchain to be used in many different areas such as in financial services, supply chains, energy, healthcare and the public sector.

Until April 2019, 400 Blockchain initiatives of start-ups and not for profit organisations in the European Union raised ca. €200 million from ICOs and €115 million from private equity. (Source: EU Observatory 04/2019)

The European Union has already allocated €141 million to support R&I in Blockchain / DLT through Horizon 2020 potentially up to €300 million by 2020.

POTENTIAL SECTORS (BEYOND VIRTUAL CURRENCIES)



By the **Financial Sector** for payment solutions, securities and insurance products.



By the **Transport Sector** for connecting mobility services and autonomous vehicles.



By the **Energy Sector** to integrate renewable electricity generation in Europe's grids.

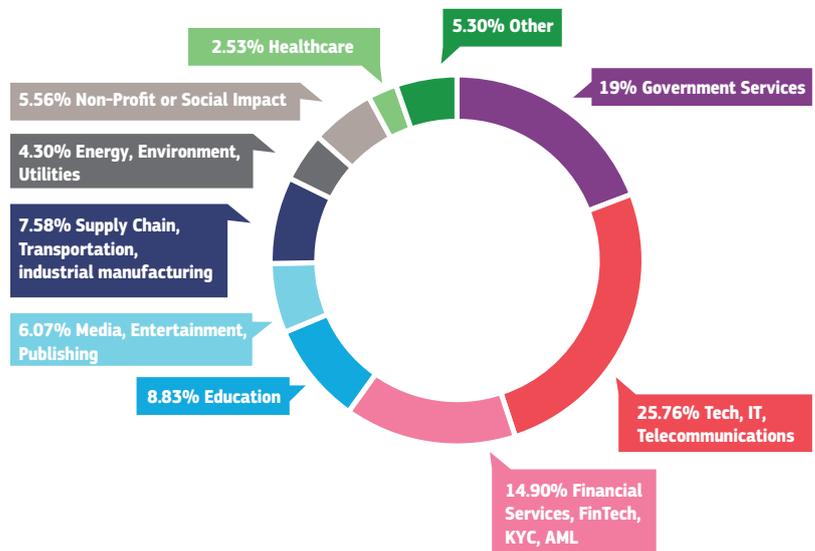


By the **Health & Pharma Sectors** to trace the origins of goods in a reliable manner.



By the **Public Sector** to protect democracy, improve e-voting and use of e-identities.

Sectors currently using blockchain in Europe



<https://www.eublockchainforum.eu/initiative-map>

Source: European blockchain observatory and forum April 2019 based on self-declarations by 400 startups and other blockchain initiatives

WHAT IS THE EUROPEAN UNION DOING FOR BLOCKCHAIN?

Blockchain and Distributed Ledger Technologies are cross-cutting technologies that can empower citizens, public services and businesses to control and share access to data in a secure, transparent and verifiable way. The European Union is supporting this important innovation in four different ways.



BUILDING EXPERTISE and KNOWLEDGE

The **European Blockchain Observatory and Forum**:

- maps blockchain initiatives in the EU
- shares experience and pools expertise
- identifies obstacles to scale innovative solutions
- organises debates at EU level



FINANCIAL SUPPORT

The EU has supported blockchain pilot projects through Horizon 2020, its research and innovation programme, investing €141 million since 2017 in areas such as digital identity, ehealth and energy. This could potentially grow to €300 million by 2020. One of the projects is a prize for the best project promoting **Blockchain for Social Good**.



BUILDING A EUROPEAN BLOCKCHAIN SERVICES INFRASTRUCTURE

The **European Blockchain Partnership (EBP)** brings together EU Member States and EEA countries, Norway and Lichtenstein in the common goal to build a Blockchain Services Infrastructure to provide digital public services across borders in a trusted environment (tax, customs, identity management, notarisation of auditable documents, professional diplomas etc).



SUPPORTING INTEROPERABILITY AND GOOD GOVERNANCE

The Commission facilitated the set up of **International Association for Trusted Blockchain Applications** in Belgium as a global multistakeholder forum that brings together developers and users of blockchain technologies. The industry lead forum will work with public authorities and standard-setting bodies to remove obstacles for scaling innovative solutions and promoting good governance.

The Commission ensures that standards for blockchain/DLT are compatible with European values and principles by actively participating in standardisation bodies like CEN/CENELEC, ISO Technical Committee 307 or the ITU-T Focus Group on DLT.