

The need for Standards to Enable DLT/Blockchain Adoption

- An overview of Blockchain/DLT standards development landscape,
- Blockchain/DLT adoption across the globe (Americas, Europe, Asia)
- The challenges faced in blockchain/DLT standards development.

Presented by:



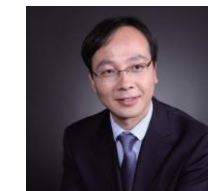
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How the technology fulfills their business needs and objectives.



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17 Lessons

- Items represent blockchain selection criteria.
- Selection via easy drop-down menus.
- Selection based on project objectives.

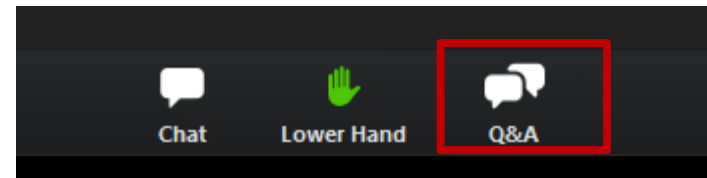
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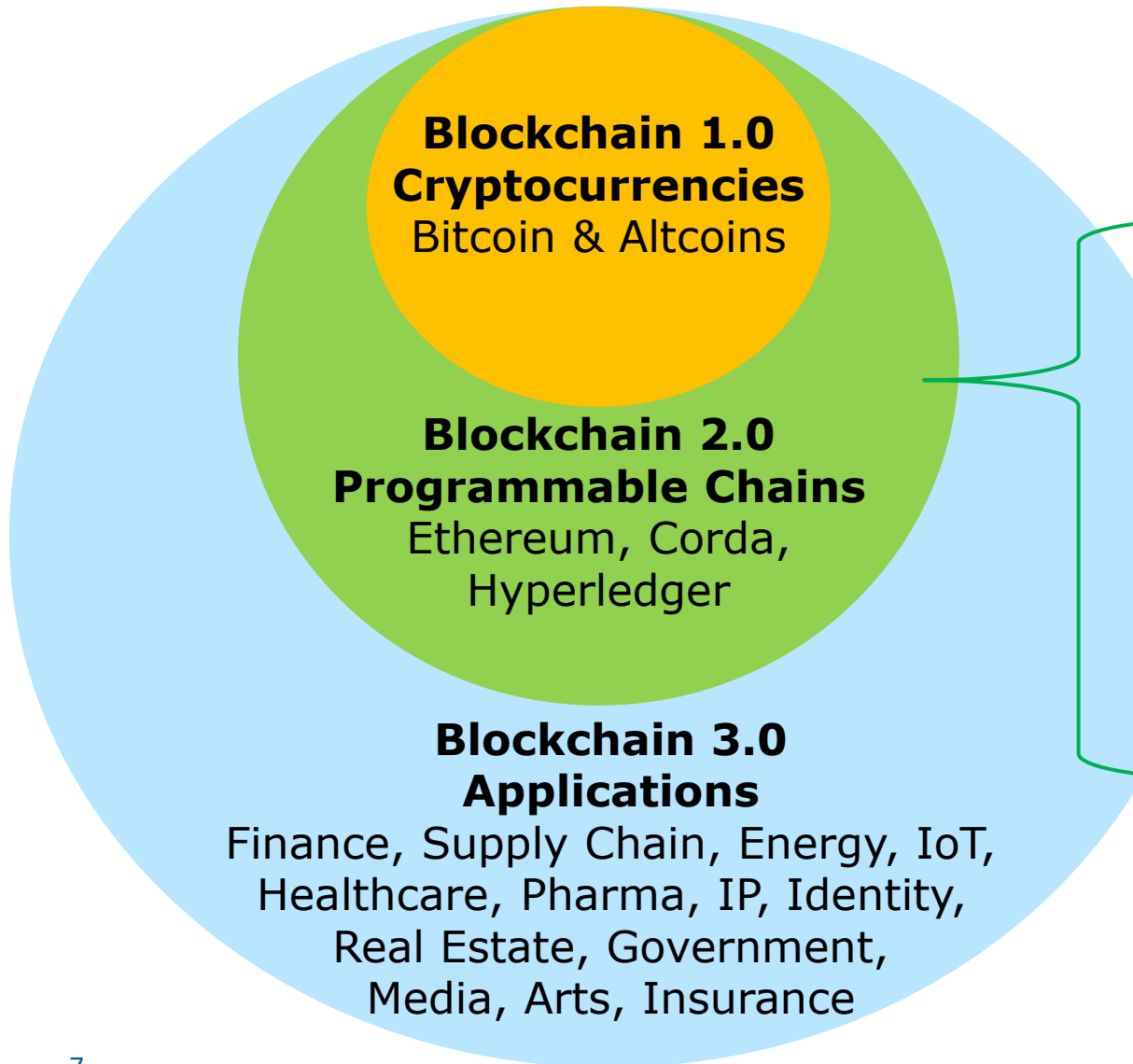


Use the **Q&A** feature to ask your questions

A few
housekeeping
tips



Blockchain Evolution



Blockchain 1.0

Jan. 2009: The **bitcoin** software was launched!
Satoshi Nakamoto solved the double-spending problem in the whitepaper “Bitcoin: A Peer-to-Peer Electronic Cash System, Oct. 2008”.

Blockchain 2.0

Jul. 2015: **Ethereum** Frontier Version went live!
Vitalik Buterin and Gavin Wood conceived this general-purpose computing platform with smart contracts.

Sept. 2015: **R3 Corda** was launched as an open-source platform for the financial industry.

Dec. 2015: **Hyperledger Project** was created by the Linux Foundation for building open source enterprise solutions using blockchain & Distributed Ledger technology (DLT).

Over the last decade, Blockchain/DLT have evolved to encompass a collection of distributed computer network architectures implementing various decentralized consensus protocols.

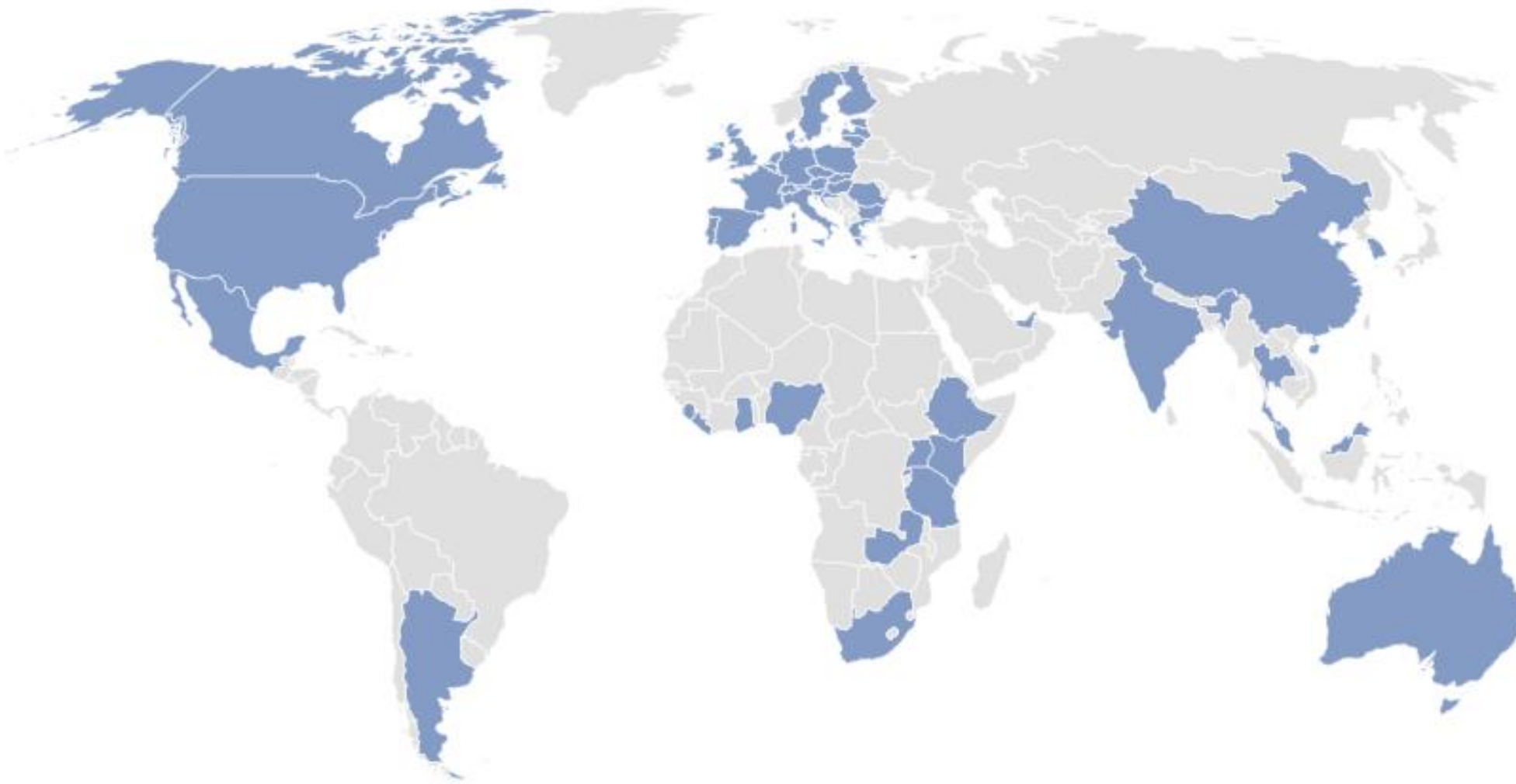
Enterprise Adoption of Blockchain/DLT



Source: Forbes

WWW.BLOCKDATA.TECH | INFO@BLOCKDATA.TECH

Government Adoption of Blockchain/DLT



Source: Which Governments Are Using Blockchain Right Now?

<https://consensys.net/blog/enterprise-blockchain/which-governments-are-using-blockchain-right-now/>

Blockchain & DLT: Standards Development Organizations

International Standards Development Organizations (SDOs)



IEEE



W3C®

Regional/National Organizations

NIST



CENELEC



CAICT
中国信息通信研究院
China Academy of Information and Communications Technology

Enterprise Alliances, Associations & Consortia



InterWork
Alliance



ENTERPRISE
ETHEREUM
ALLIANCE



Open Source Community



ethereum
foundation



NEO
smart economy

nem



Blockchain & DLT: Standardization Landscape

International/Regional/National (Generic Level)

International, regional and national standards organizations are working on general topics (Terminology, Taxonomy, Smart contracts, Interoperability, Governance, etc.)

Alliances/Associations/Consortia (Industry Specific)

Enterprises are working on standards & specs through alliances, associations and consortia for industry-specific applications (e.g., Finance, Supply chain, IoT, etc.).

Open Source Community (Technology Specific)

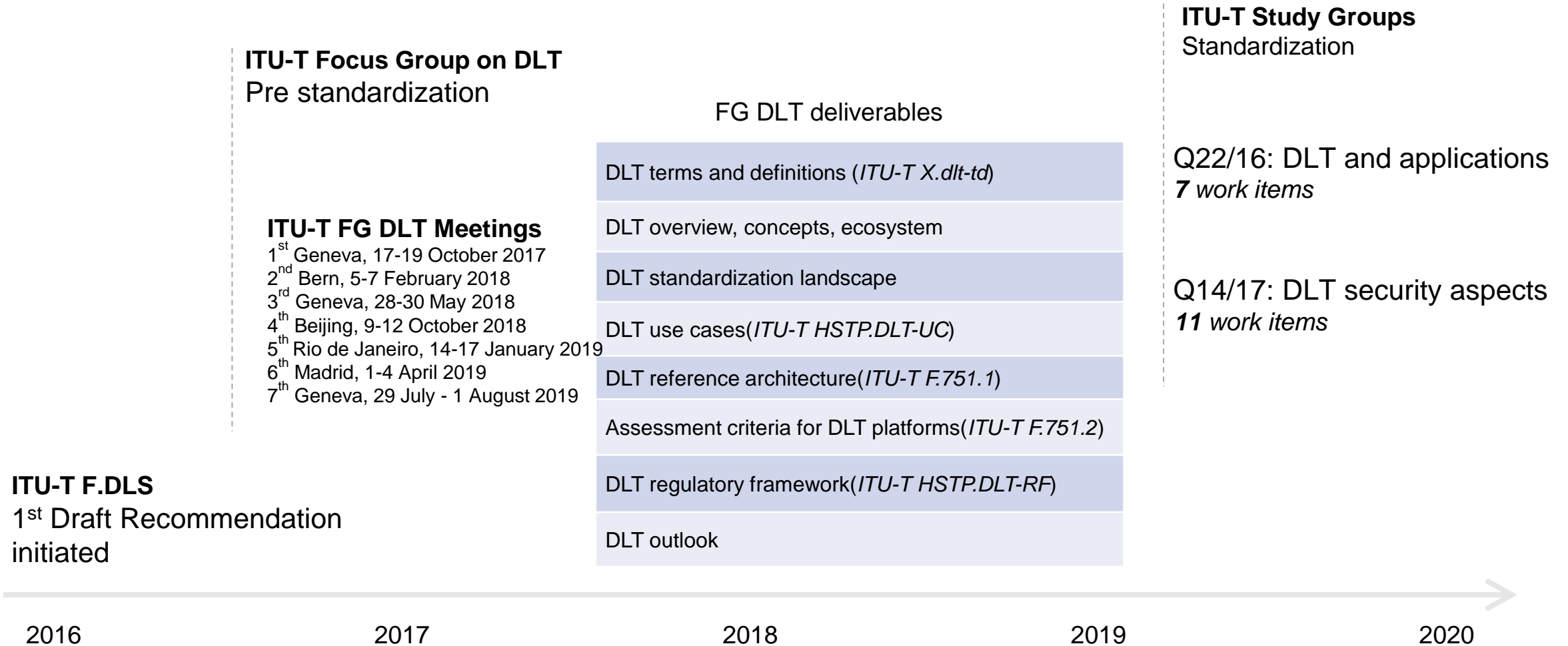
Open Source community is working on technical specifications at the code level (e.g., BIP & EIP process).

All parties have common goals toward blockchain/DLT standardization to address interoperability, governance, adoption etc.

Challenges:

- 1) The development of overlapping and/or competing standards work by these organizations.
- 2) The evolution, conflict, and blurring of boundaries between open source, open standards, and IPR.

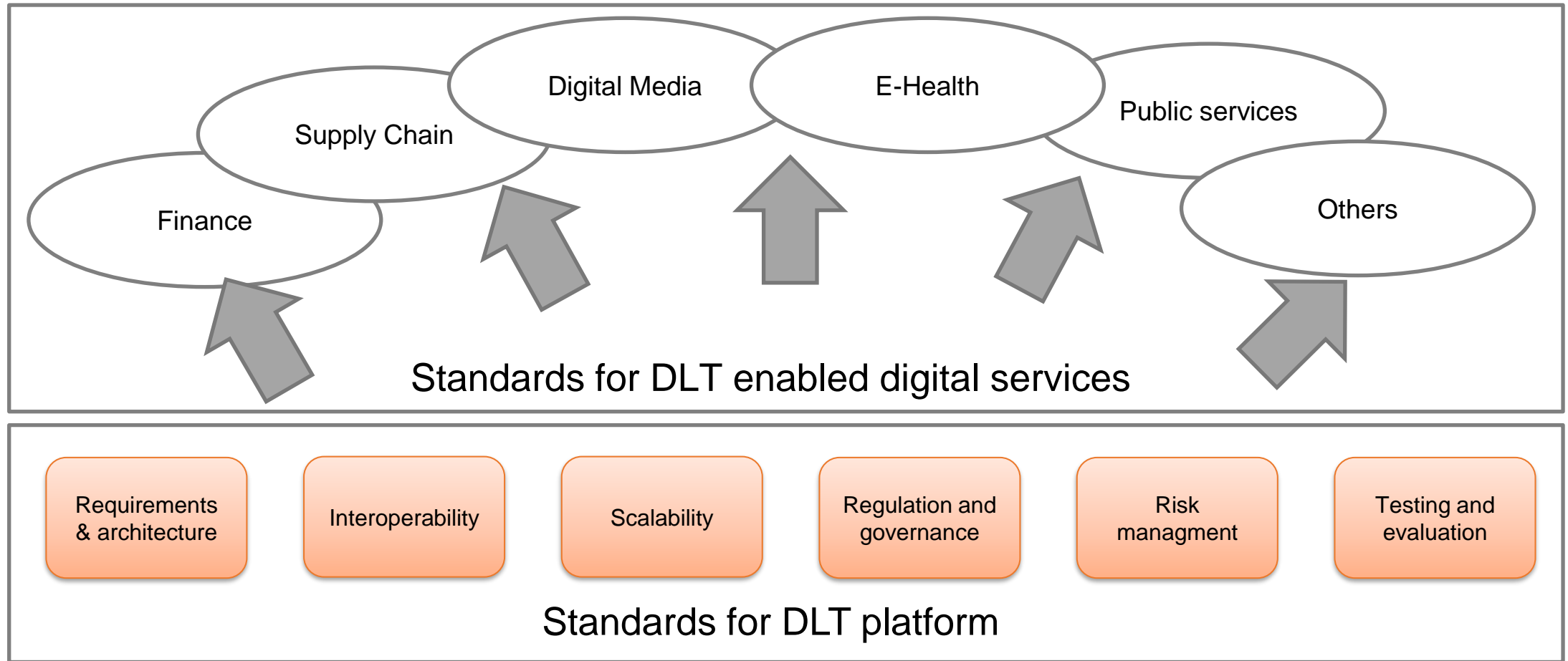
ITU-T DLT Standardization timeline



ITU-T DLT Recommendations

Work item	Subject / Title
<u>F.751.0</u>	Requirements for distributed ledger systems
<u>F.751.1</u>	Reference framework for distributed ledger technologies
<u>F.751.2</u>	Assessment criteria for distributed ledger technologies
<u>H.DLT-DE</u>	Digital evidence services based on distributed ledger technologies
<u>H.DLT-INV</u>	General framework of DLT-based invoices
<u>H.DLT-TFR</u>	Technical framework for DLT regulation
<u>H.DLT-VERI</u>	Formal verification framework for smart contract
<u>F.DLT-FIN</u>	DLT based financial applications guide line

ITU-T Q22/16 Strategy-two layered approach





可信区块链推进计划

TRUSTED BLOCKCHAIN INITIATIVES

Member Assembly of TBI

Building trust with Blockchain

Strategic steering committee

Council of TBI

Secretariat

Media Cooperation Group

International Cooperation Group

Technical Standards Group

Standards and Evaluation

Open-source & Benchmarks

Cryptography

Security

Blockchain as a Service(BaaS)

Industry Application Group

Insurance

Tractability

Telecommunication

Supply Chain Finance

Industrial and Manufacture

Digital Evidence

Supply Chain

Digital Identity

Financial

Digital Invoice

Agriculture

Government

Public resources trading

Policy and Law Group

IPR

Policy and regulation

Deliverables:

- Technical specifications
- Testing tools
- Whitepapers
- Application guideline
- Policy and regulation advices
- Events
- Training and education
- Trusted Blockchain Summit
- Meetups
- etc.

410 members for different countries
Including technical providers, users,
academia...

European Blockchain Activities

**The need for Standards to Enable
DLT/Blockchain Adoption,
30/07/2020**

**Rapolas LAKAVIČIUS, Policy Officer
Digital Innovation and Blockchain – DG CONNECT, F3
European Commission**



ESTABLISHING GLOBAL LEADERSHIP IN BLOCKCHAIN AND DISTRIBUTED LEDGER TECHNOLOGIES



JOINED-UP POLITICAL VISION (EU-MS)

JOINT DECLARATION ON THE ESTABLISHMENT OF THE **EUROPEAN BLOCKCHAIN PARTNERSHIP** [EBP] AND THE DEVELOPMENT OF THE **EUROPEAN BLOCKCHAIN SERVICES INFRASTRUCTURE** [EBSI] FOR CROSS-BORDER DIGITAL SERVICES OF PUBLIC INTEREST



PUBLIC-PRIVATE PARTNERSHIP

SUPPORTING THE CREATION OF **THE INTERNATIONAL ASSOCIATION OF TRUSTED BLOCKCHAIN APPLICATIONS** [INATBA]; A MULTISTAKEHOLDER ORGANISATION TO PROMOTE TRUST AND INTEROPERABILITY AT GLOBAL LEVEL



CONNECTING GLOBAL and EUROPEAN EXPERTISE

THE **EU BLOCKCHAIN OBSERVATORY AND FORUM** BRINGS TOGETHER THE LEADING GLOBAL EXPERTS TO IDENTIFY OBSTACLES, INCENTIVES AND PRACTICAL SOLUTIONS TO PROMOTE BLOCKCHAIN UPTAKE.



INVESTING IN EU RESEARCH, INNOVATION AND START-UPS

THROUGH THE CONNECTING EUROPE FACILITY AND H2020 PROGRAMMES, THE EU IS CO-INVESTING IN THE MOST ADVANCED DIGITAL INFRASTRUCTURE AND **THE** MOST INNOVATIVE EU START-UPS
NEW EU INVESTMENT SCHEME FOR AI AND BLOCKCHAIN + SUPPORT PROGRAMME



PROMOTING AN ENABLING DSM LEGAL FRAMEWORK, INTEROPERABLE STANDARDS and SKILLS DEVELOPMENT

Joining Forces For Blockchain Standardisation (17 June 2020)

- *Speakers representing European and International SDOs: ISO TC307, IEEE, ITU-T, OASIS, ETSI PDL, CEN CENELEC JTC19, as well as INATBA, EBSI, UN, OECD, National Governments, Universities, Corporates and Startups.*
- *Working sessions: Identity, Interoperability, Governance and Smart Contracts.*
- *More than 400 participants.*

Website: <https://ec.europa.eu/digital-single-market/en/news/joining-forces-blockchain-standardisation>

Pool results

Blockchain standardisation areas which would benefit from cohesion efforts:



Actions of the Rolling Plan 2020

1. Analyse **standardisation needs**.
2. Update **the white paper** by CEN/CENELEC JTC19.
- 3-4. Identify **use cases and implementations**.
5. Standardisation for an **open and interoperable system**.
6. Encourage **cohesion and collaboration**.
7. Standards to allow **the flow of Smart Contracts** between different networks.



Future Actions

- *Continue liaison with SDO's, INATBA, EBSI, establish the link with European policies.*
- *Explore possibilities to (co)organise Vertical Thematic discussions in line with ongoing policy dialogues. Involve SDOs, partnerships, use cases, Horizon 2020 projects (i.e. FINTECH), policy makers and other actors.*
- *Consider new iteration of the Joining Forces for Blockchain Standardisation workshop/webinar.*

Q&A time

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