Cryptocurrency

- – The foundation of blockchain technologies

- – Cryptocurrency blockchains

- – Peer-to-peer decentralised cryptocurrency transactions

- – Proof-of-work (PoW) protocol

BLOCKCHAIN 1.0

More Functionality

- – Lager-scale of applications of non-cryptocurrency-related Distribute Ledger Technology (DLT)

- – Improved performance with more scalability and interoperability

- – Proof-of-stake (PoS) protocol

BLOCKCHAIN 3.0

Smart Contracts

- – More financial functionality than simply being a cryptocurrency transactions processor

- – Decentralized applications (DApps) based on programmable language

- – Autonomously executing algorithms

- – Proof-of-work (PoW) protocol

BLOCKCHAIN 2.0

Source: UNCDAT

Distributed Ledger Technology

Under what conditions is DLT most useful?

Source: World Bank

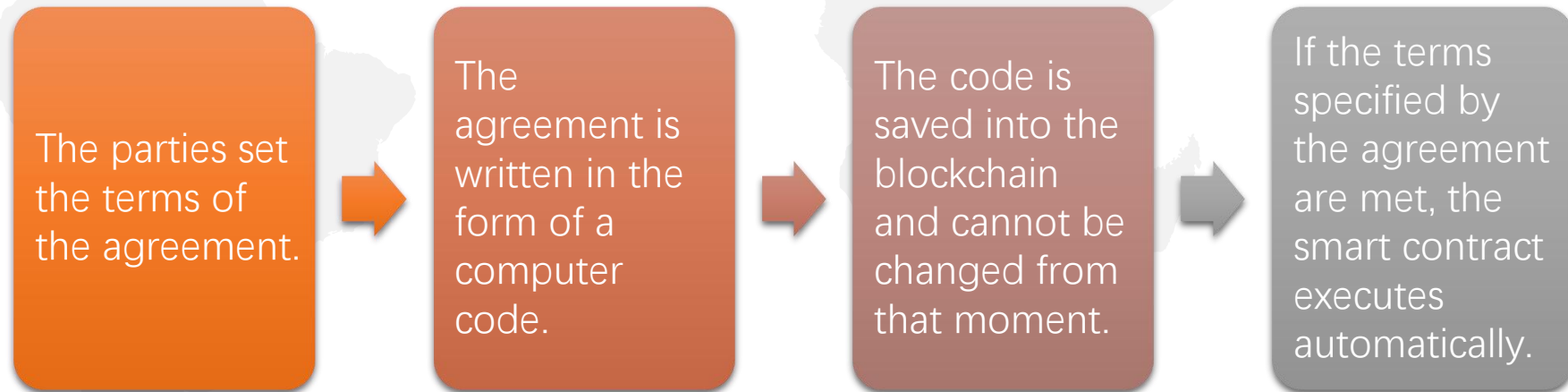The managed information is sensitive or related to valuable assets.

The related activity involves the coordination of multiple entities and /or a complex chain of intermediaries.

Real-time visibility of occurring events is required or important to the related activity.

Maintaining an immutable record of all data relevant to the activities.

How Does Smart Contract Work?

The parties set the terms of the agreement. → The agreement is written in the form of a computer code. → The code is saved into the blockchain and cannot be changed from that moment. → If the terms specified by the agreement are met, the smart contract executes automatically.

WHAT ARE THE MAIN CONSTRAINTS ON IMPLEMENTATION OF BLOCKCHAIN BASED SOLUTIONS?

- Technology still developing
- Legacy systems (making the transition)
- Privacy and confidentially concerns
- Human factors
- Regulatory uncertainty
- Environmental concerns

Examples of Blockchain based Solutions

Taxation

- China STA VAT pilot on use of Blockchain and CBDC
- Thailand Blockchain based tourist tax
- Fiji Blockchain based VAT
- EU has created a Blockchain and VAT group
- Pilot study on Blockchain based withholding taxes on cross-border disputes (UK, Finland, Norway Tax Administrations, EY, WU Vienna, financial institutions)
- Many MNE's (e. g. Siemens/Henkel) have in place Blockchain based solutions for tax and trade compliance

Costums and Trade Facilitation

- UN centre for trade facilitation electronic blockchain based on certificate of origins (C.O.)
- UNCTAD automated system for customs data
- WCO initiated pilots of Blockchain based trade facilitation
- Tradelens: A joint IBM/MAERSK project on tracking shipping
- The UK: Utility trade platform
- Singapore: Using cargo cloud system for verification of certification of origin (C.O.)

DLT and Smart Contracts rapidly moving from pilots to mainstream

THE BLOCKCHAIN TRANSFORMATION DIVIDEND

– Real-time auditing

– Reductions of tax fraud and resulting increase in revenue

– Trade facilitation and global supply chains improved

– Taxpayer compliance and Tax Administration costs fail

– Reduce opportunities for illicit financial flows

– Strengthening the accountability of government

BRI LEADERSHIP FOR BLOCKCHAIN TRANSFORMATION

- Paradigm shifts involve DISRUPTION and create UNCERTAINTY

- New paradigms are nearly always received with SCEPTICISM

- Those with vested interests fight the change

- The shift demands a break with traditional ways of operating tax systems

- The BRI can be a leader in this transformation (e.g. establish a BRI Blockchain Observatory)