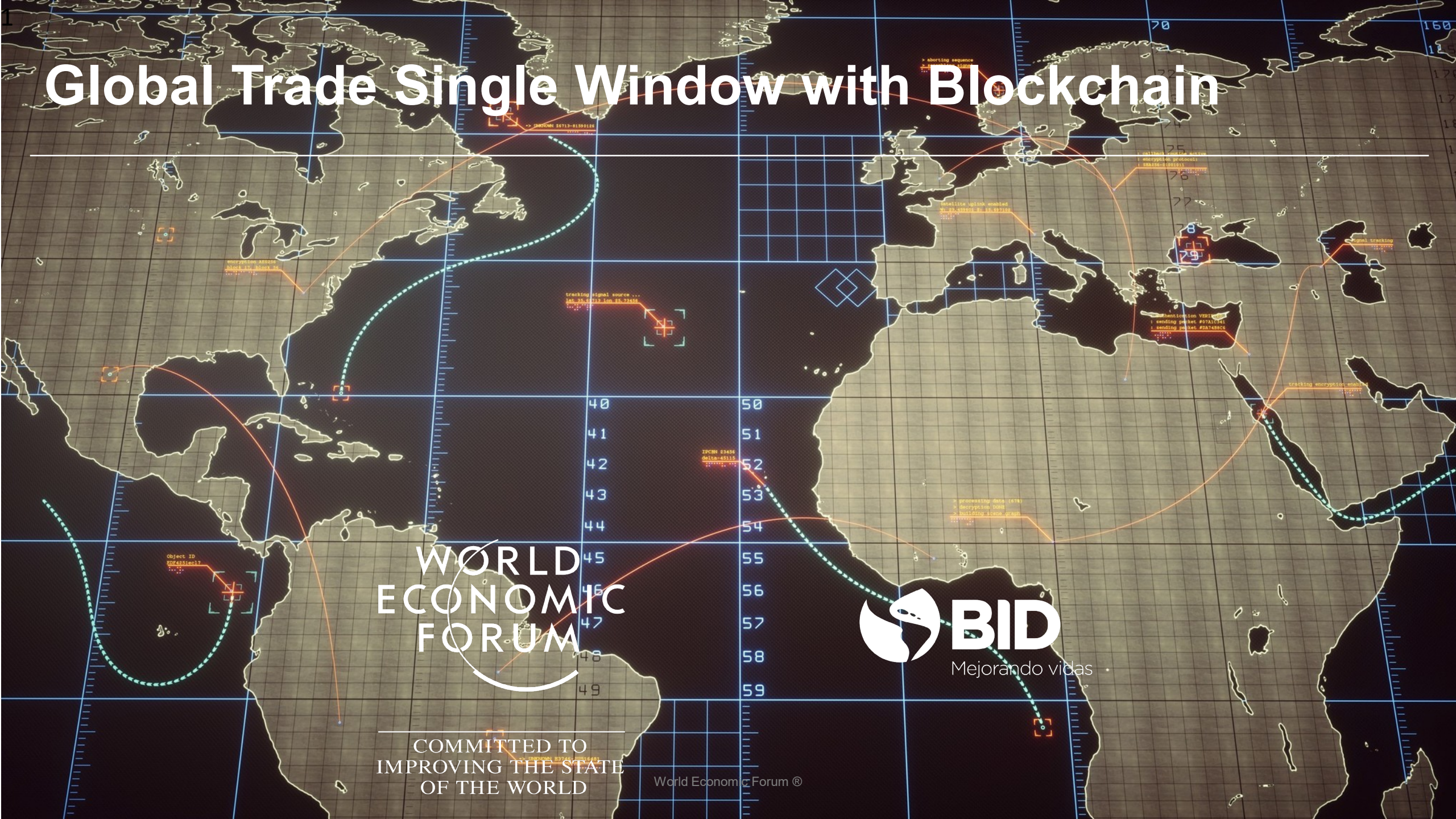
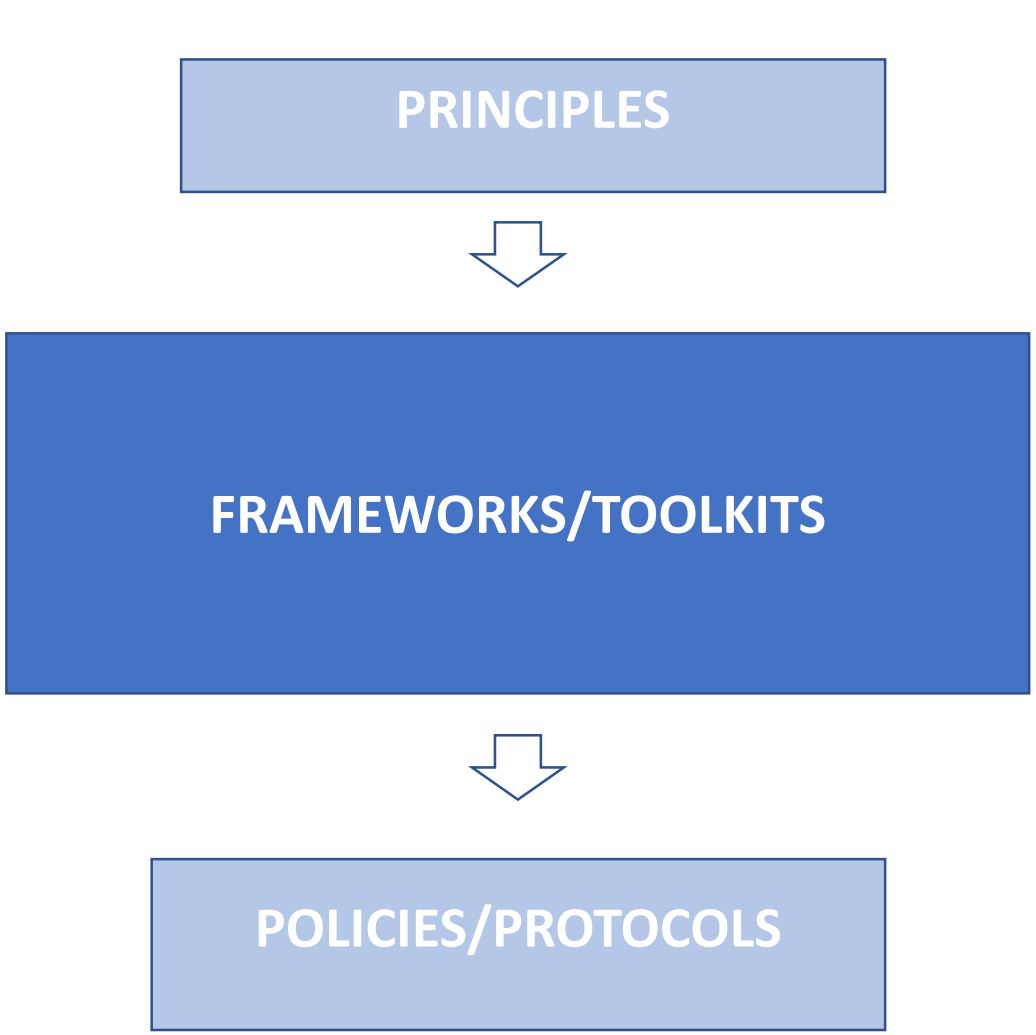
Global Trade Single Window with Blockchain



Digital Trade

What is the Centre Methodology?

Our Sweet Spot



This is where we start – either developing our own or building off of others.

This is our sweet spot: actionable and scalable.

This is what our projects should be focused on creating.

This is our desired outcome. If we are successful, our frameworks and toolkits will lead to policies being implemented in many different contexts.

What is Digital Trade?

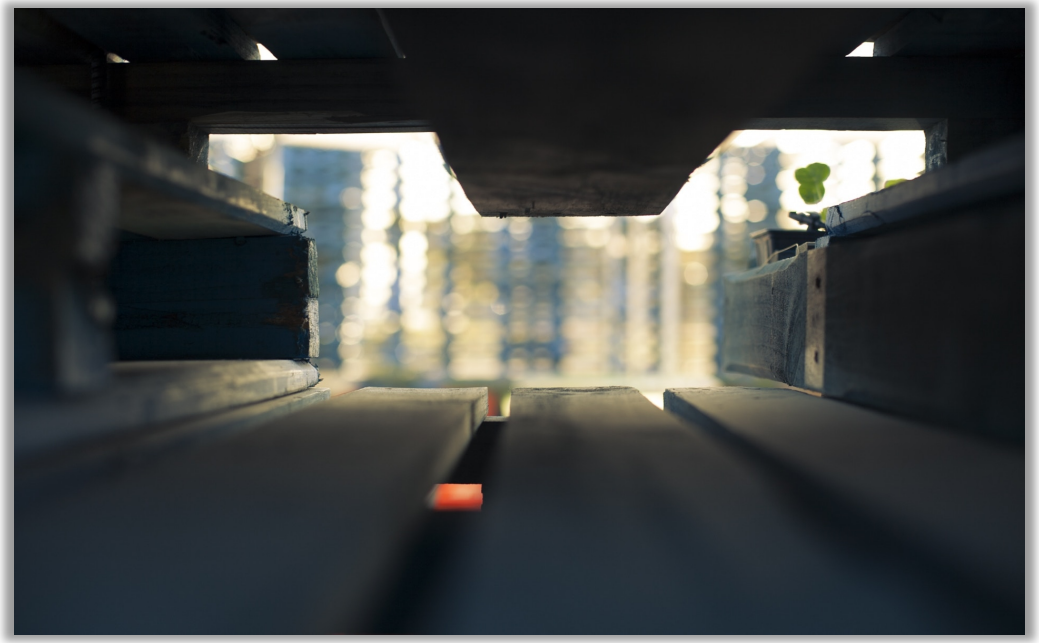
- Trading of digital goods and services
  - E-Commerce
  - Cross-Border Data Flows

- Technology for trade
  - TradeTech

Digital Trade in the Fourth Industrial Revolution

Projects

- **Global Trade Single Window with Blockchain**
  - Under ‘TradeTech’
- Reshape the Narrative of Cross-Border Data Flows
  - Under ‘Cross-Border Data Flows’
- 3D Printing and Trade
  - Under ‘TradeTech’
- Cross-Border Digital Payments
  - Under ‘Enabling E-Commerce’



Global Trade Single Window with Blockchain Team

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Why are you here?

- Expert Community

Global Trade Single Window with Blockchain

The opportunity

In close cooperation with the Inter-American Development Bank (IDB), this project will create a policy toolkit that allows governments across the world to identify and effectively apply blockchain for Trade Single Windows, with a specific pilot project in Argentina on how decentralized technologies can facilitate trade in Argentina.

Impact

This project aims to facilitate the sharing of information among government agencies and between national trade single windows on a bilateral, regional, and global level, and to analyze the public policy conditions under which they would be willing to decentralize information systems using blockchain technology.

Global Trade Single Window with Blockchain

Draft Project Plan

Build a project

Sep18: Define project, build team.
Oct18: Identify a fellow, and potential consultants

Nov18: Define TSW scope; map out the ecosystem and the stakeholders activities and functions (who is doing what)

Nov-Jan19: Build a community for the project

Develop a toolkit

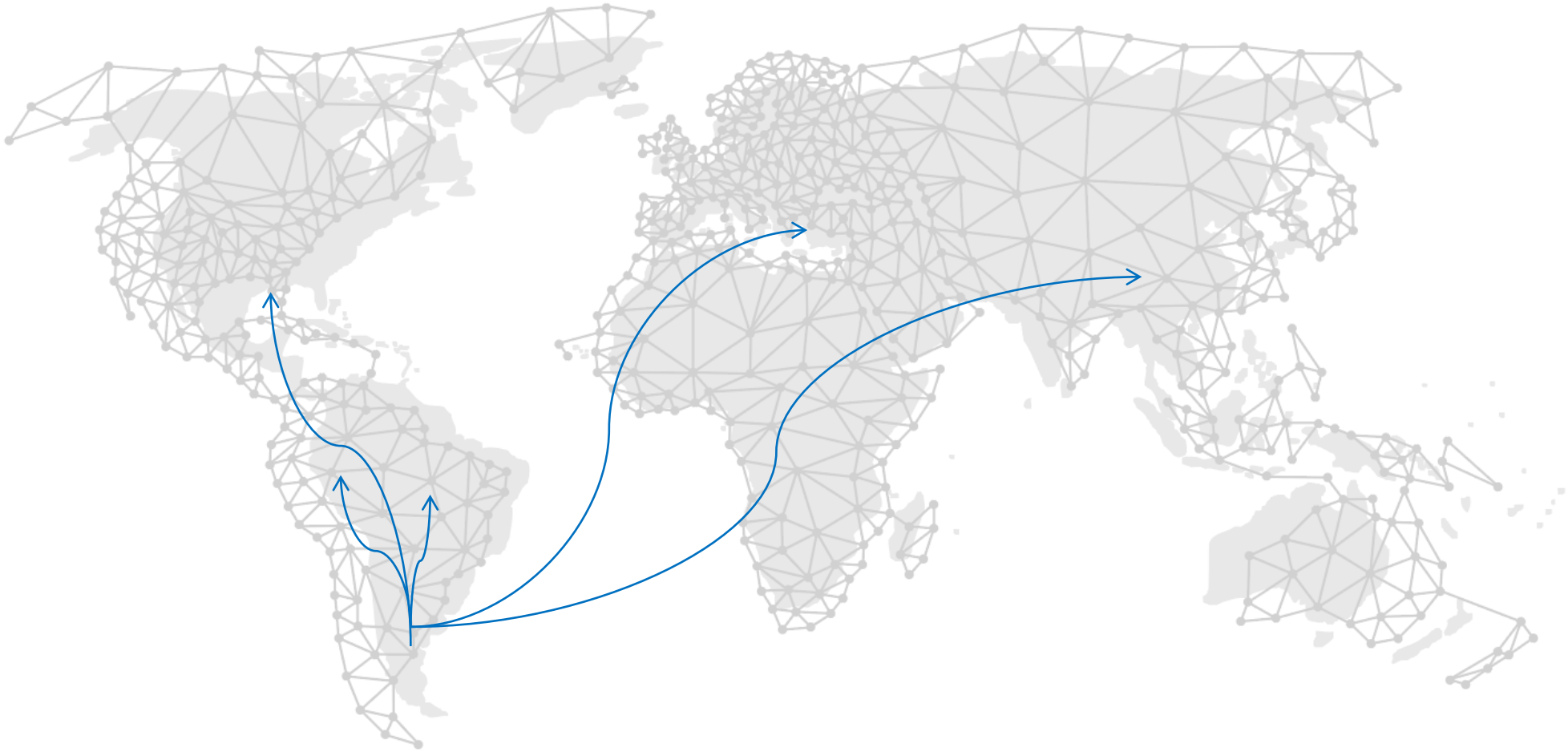
Jan-Mar19: Toolkit outline	• Draft outline for the toolkit, interview and seek feedback from the expert community on the outline
Spring19: Workshop	• Workshop preparations, and share toolkit draft with expert community for comments • Additional primary and secondary research from expert community
Mar19-June19:	• Finalize the toolkit • Scope and develop pilot in Argentina
June-Sep19:	• Official Release the Toolkit with IDB at AMNC 19

Implement a pilot

Jul19-onwards	• Develop pilot in Argentina • Maintain and iterate the toolkit regionally and globally

From Argentina to LAC and other regions

Scalability



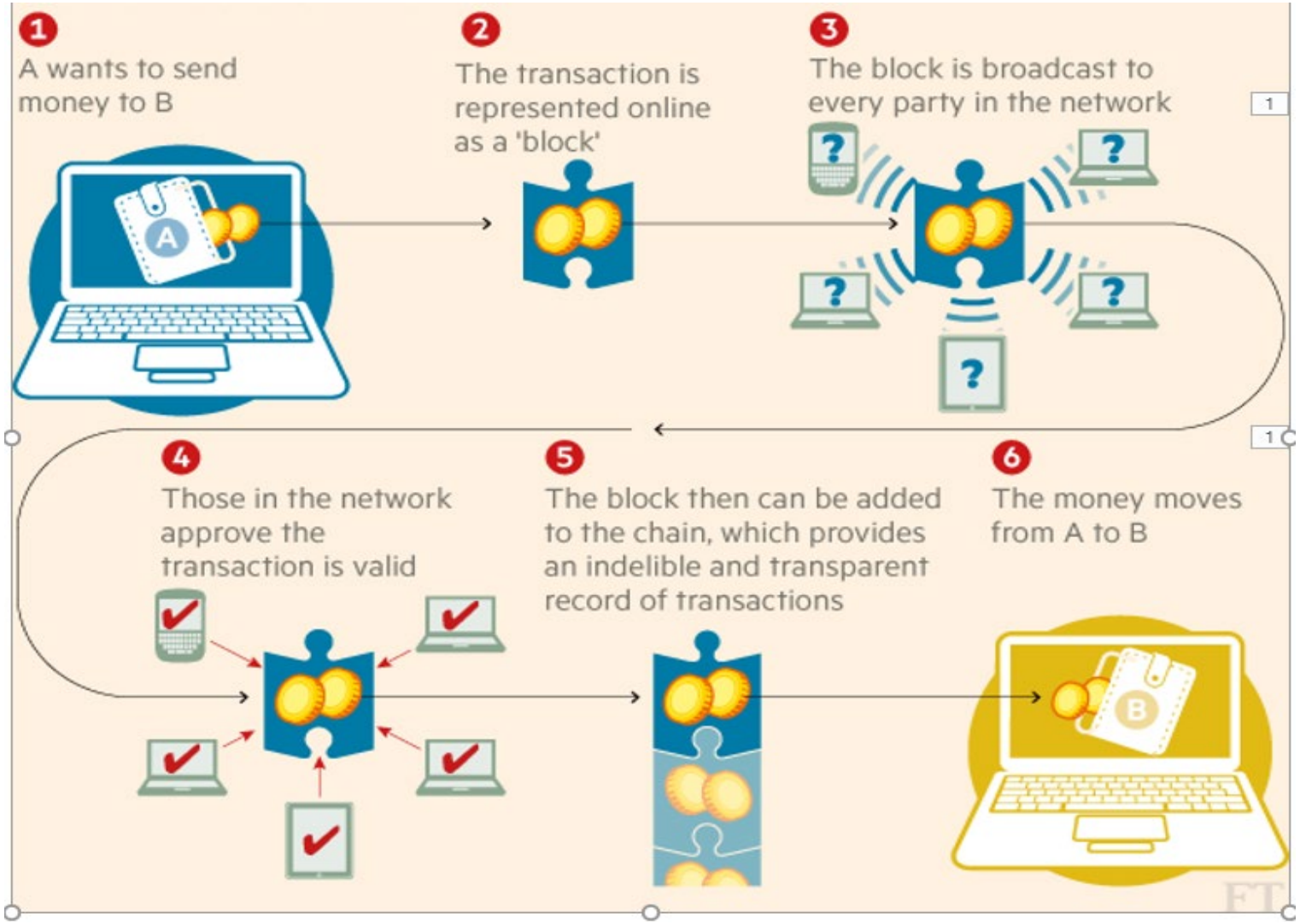
Global Trade Single Window with Blockchain Toolkit

- **Section 1: Overview**
  - Digitization of Trade
  - New Decentralization Technologies
  - What is a Trade Single Window (TSW)?

- **Section 2: Identify where blockchain can be deployed in TSW environment**
  - Coordination and dissemination - Blockchain applied to national TSW
  - Integration - Decentralized supply chain solutions and trade single windows
  - Interoperability - Facilitate global government to government trust

- **Section 3: Guidelines and questions for deployment of blockchain in TSW**
  - Selection criteria – Decentralized vs Centralized

How Blockchain works



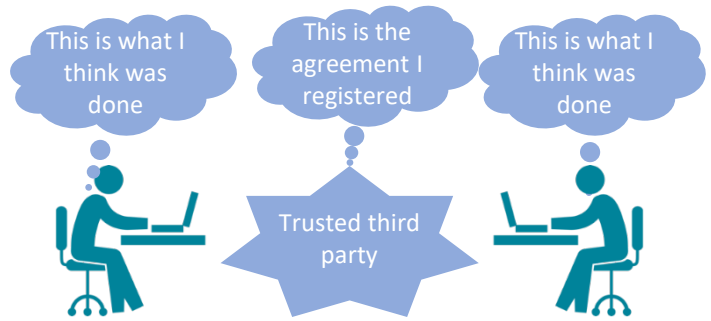
Different ways to handle trust

Today: Individual ledger - Each party holds their own ledger

- You trust known parties and transactions are stored in individually controlled ledger
- In case of dispute there is no independent middleman that can document the transactions, it depends on the records in each parties ledger

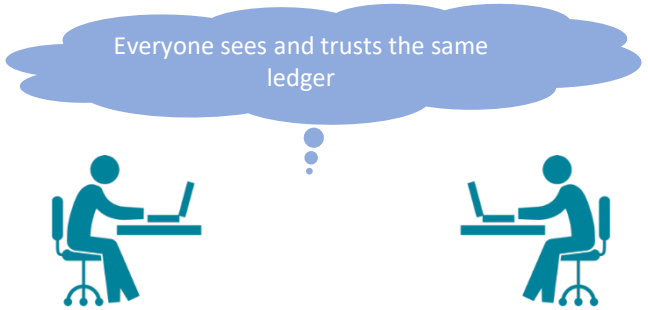
Today: Centralised Ledger - A middleman trusted by both parties bridge trust between parties unknown to each other

- Each transaction is stored in each parties individual controlled ledger as well as with the middleman
- The middleman controls the interaction history
- The middleman controls the value chain

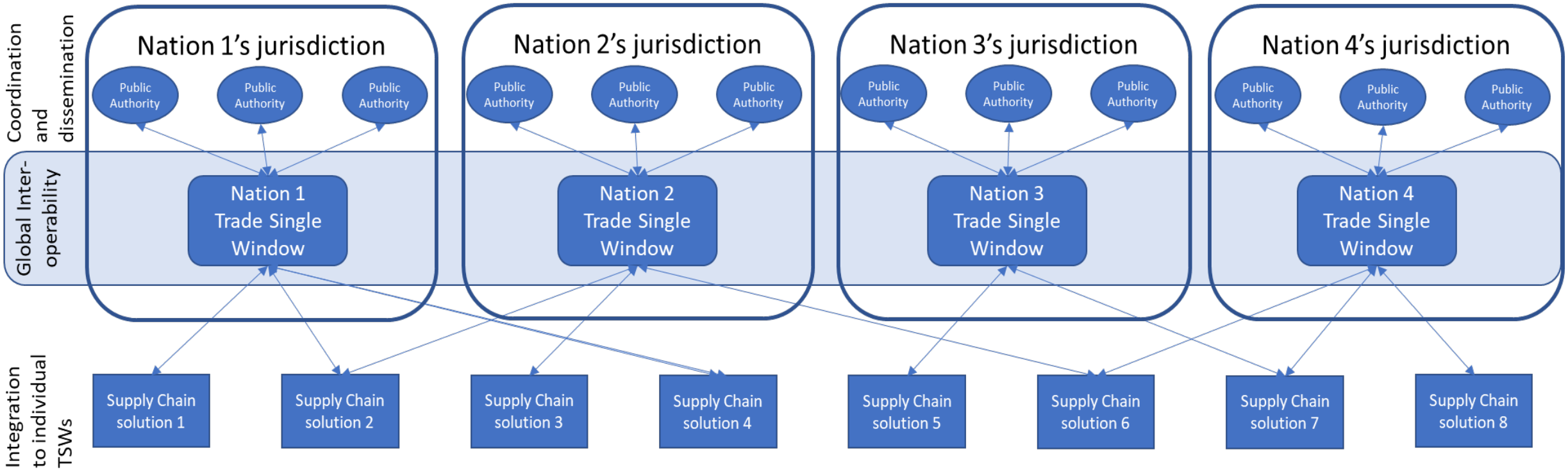


Blockchain: Distributed ledger - Independent blockchain nodes verifies legitimacy of transaction and stores the transaction in a shared immutable ledger

- What I see is what you see - Remove duplication, inconsistency and the need for reconciliation of records
- No central entity controls the value chain

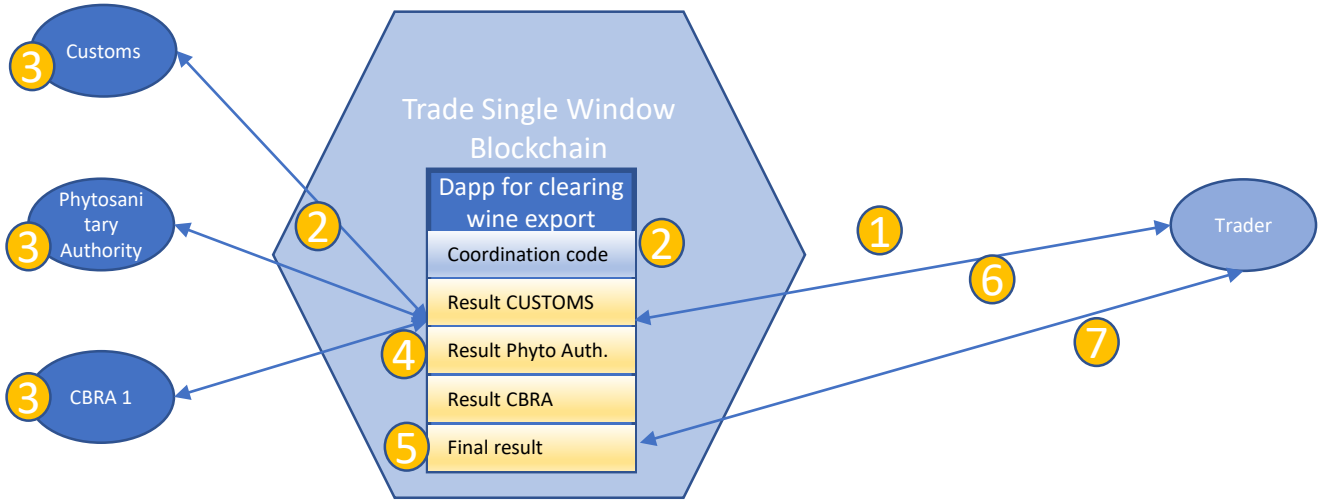


Section 2 - Global Trade Single Window with Blockchain Toolkit



Section 2: Coordination - Blockchain applied to national Trade Single Window

- **Lodge standardized information and documents**
- **A one-time submission**
- **Co-ordinate the controls of the various authorities**
- **Single point of notification**
- **Privacy and security**
- **Participating in end-to-end decentralized and automated business processes**
- **Receive payment of duties and other charges**
- **Centralized risk management**



Decentralized application (Dapp) coordinating clearance of wine export

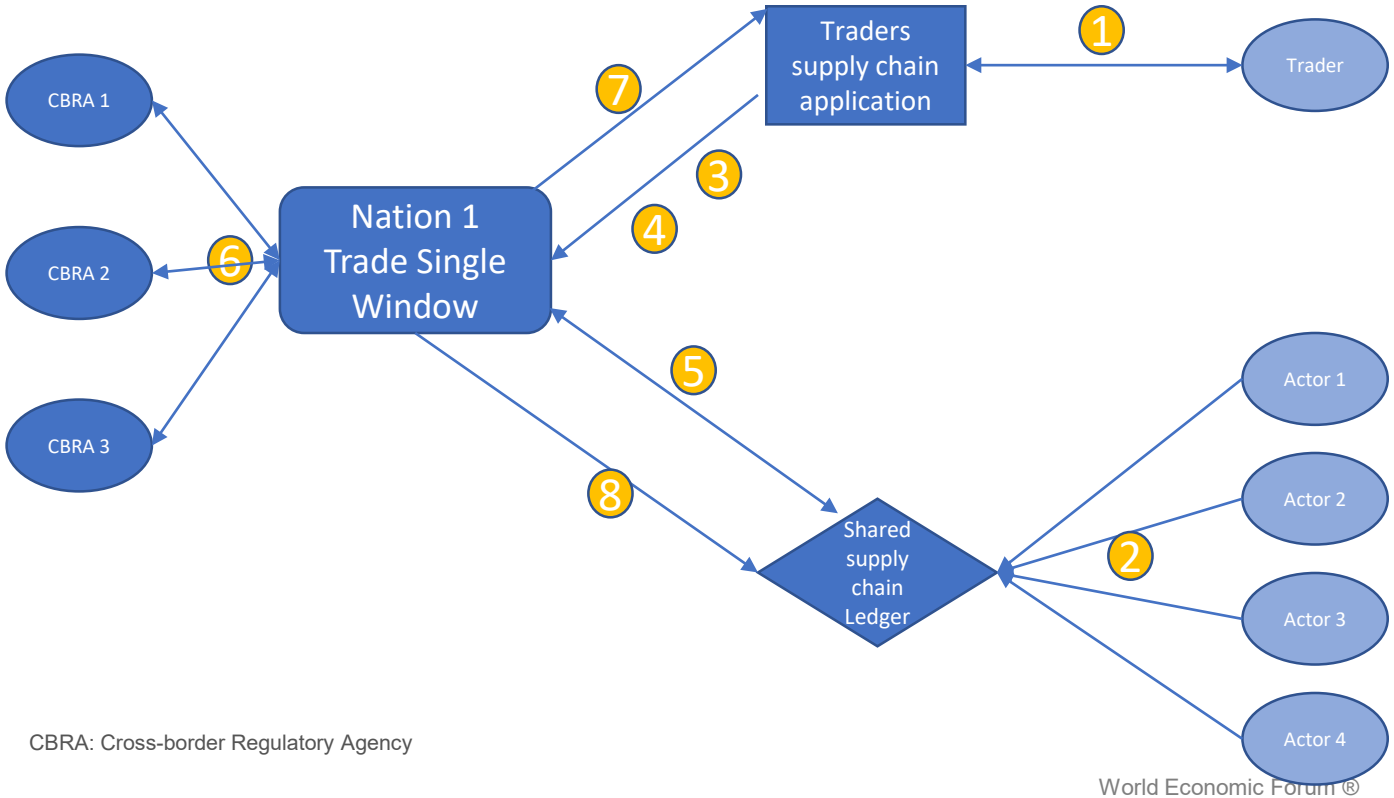
1. The trader calls the Wine export Dapp and an instance is initiated
2. The Dapp executes requesting each CBRA to clear the export
3. Exporting customs clears cargo in internal system
4. Exporting customs returns the result to the Wine export Dapp
5. When finished the wine export Dapp calculates the final result
6. The wine export Dapp informs the Trader that a result is available
7. The trader reads the result

CBRA: Cross-border Regulatory Agency

Section 2: Integration - Decentralized supply chain solutions and TSW

- **One version of the truth throughout the supply chain**
- **Reduce reconciliation**
- **Collective trust**

- **Enhanced flow**
- **Decentralized business process**
- **Shared system authority**
- **No central administrator**



CBRA: Cross-border Regulatory Agency

Sample flow of TSW utilizing supply chain ledger

1. Trader is using conventional application
2. Misc. actors (trucker, terminal, warehouse) are registering transactions and events on shared ledger
3. Trader request through his application import/export/transit approval and send location of relevant information
4. The request contains authorization for TSW to access the information
5. TSW present authorization and reads transactions from shared ledger
6. Public authorities handles request in internal solutions (risk management, trade license issuance etc.)
7. TSW informs trader of result
8. TSW register relevant information on the shared ledger e.g. certificates and permits

Section 2: Interoperability - Facilitate global government to government trust

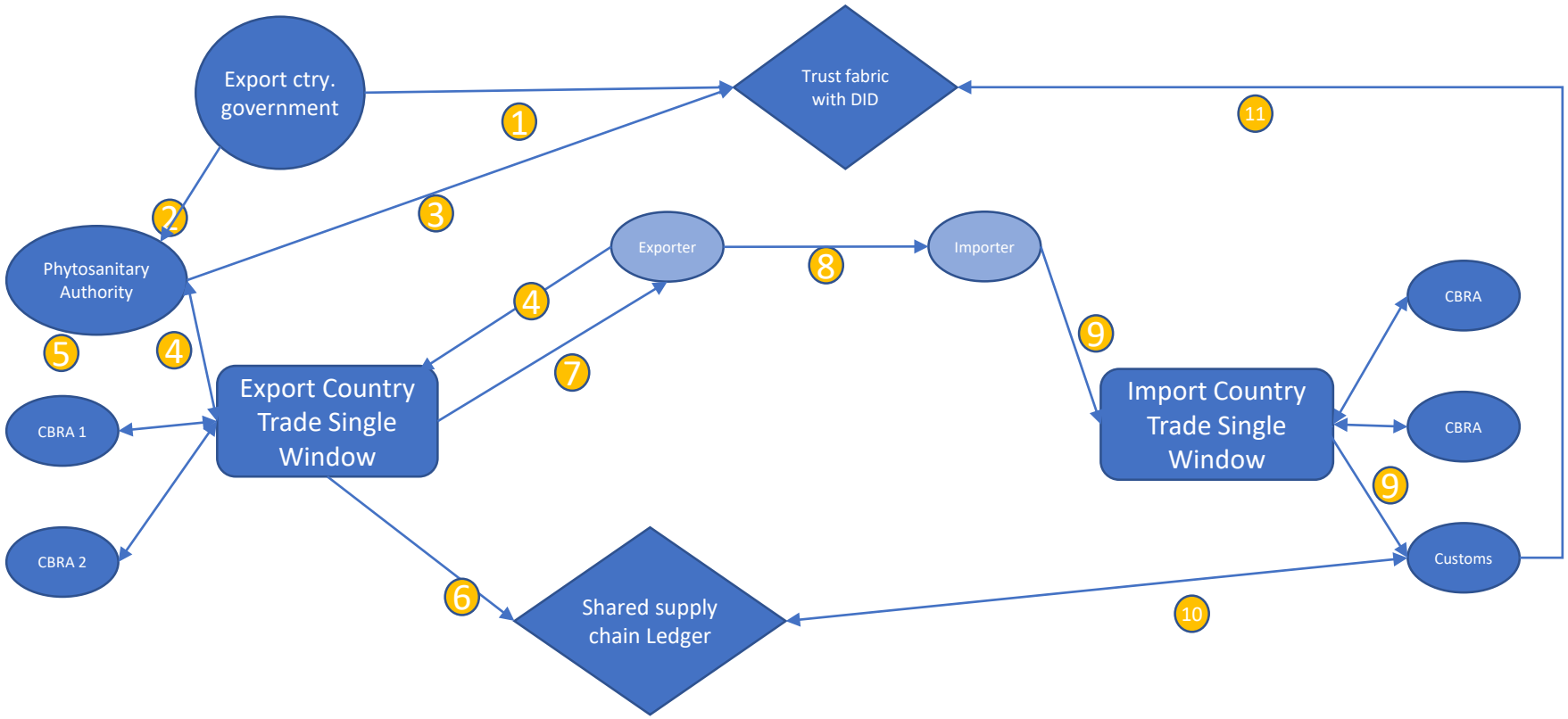
Interoperability benefits (UNECE)

- Promote bilateral, regional or international economic growth
- Assess, in advance, any security, safety, fiscal or other risks.
- Obtaining information at the source, would improve the data quality.

Connect once share with everyone

- Trust assurance
- Control of technology components
- Customization
- Seamless collaboration
- Registration of business entities
- Control of shared data
- Control of shared process
- Coverage of cost
- Political neutral

Section 2: Interoperability - Facilitate global government to government trust



Issuing PSC for wine export

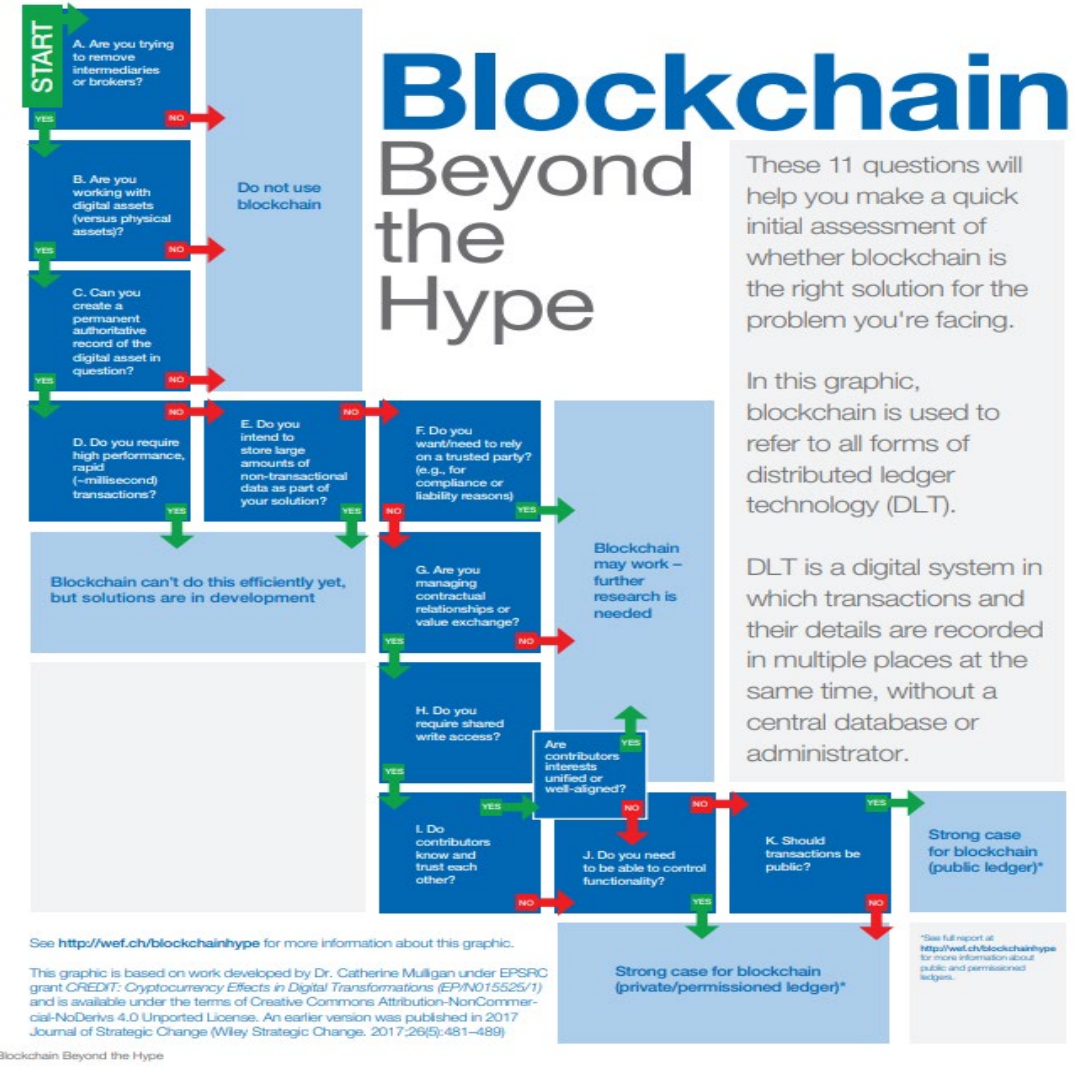
1. Export Ctry. government register decentralized identity (DID) for Phytosanitary Authority (PSCA)*
2. Government issue credential that allow PSCA to issue Phytosanitary Certificate (PSC)*
3. PSCA stores the PSC-credential at the Trust Fabric*
4. Exporter request issuing of a PSC
5. PSCA issues a PSC and sign it with it's digital signature
6. PSCA stores the PSC on a shared ledger, allowing the exporter to control access to it.
7. Exporter receives location of PSC and authorization
8. Exporter gives importer authorization to present the PSC for Import Country's customs
9. The importer gives the Import Ctry. TSW a pointer to the shared ledger and authorization to access the PSC
10. The Import Ctry. Customs retrieves the PSC
11. The Import Ctry. Customs verifies the digital signature comes from a public authority in Export Ctry. that is allowed to issue PSC

*CBRA: Cross-border Regulatory Agency

* Step 1-3 are only done once, step 4-11 are repeated for every PSC issuance

Section 3: Guidelines and questions for deployment of BC in SW

- Digitization vs decentralization
- Data security
- Governance of decentralized solution
- Interoperability and standardization
- Regulation
- Coordination
- Decentralized Digital Identify
- Transparency
- Autonomous software agents
- Synergies with other techs: AI, IoT



Global Trade Single Window with Blockchain

Questions?

Introduction to TopLink

- TopLink, the World Economic Forum's digital platform, will be the primary communications tool for working groups, project updates, questions/comments

Access the community page here. If you have any issues login in, please contact Jesse.Lin@weforum.org

You can also download the TopLink mobile app => **wef.ch/m**

Global Trade Single Window with Blockchain
Next Steps & Upcoming Events

Next Steps

- We will be sending out a post-webinar shortly to help us identify focus areas
- Login to the TopLink Community (https://toplink.weforum.org/initiatives/explore/a0s0X00000H8jEAQAZ/overview)
- Feedback on the Toolkit and forming working groups for sections/subjects

Upcoming Events

- **7 March 2019**: Digital Trade Portfolio Webinar (Video conference)
- **Spring 2019**: Trade Single Window Project Webinar (Video conference)
- **Spring 2019**: Trade Single Window Project Workshop (Buenos Aires, Argentina)
- **6 June 2019**: Digital Trade Portfolio Webinar (Video conference)