Cross-Border Trust in Trade: Addressing the challenges and solutions for establishing and maintaining trust across different countries and jurisdictions.

Asia PKI Forum symposium:
Securing the Digital Future - Advancements in PKI and Trust Frameworks

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ICC **Digital Standards Initiative**

ICC is the institutional representative of over

45 million
businesses

in over **170** economies

We are the voice of the **real economy**, championing the needs of businesses, large and small, in global decision- making and leveraging private sector know-how to deliver solutions that turn interconnected challenges into opportunity for all.

Digital Standards Initiative

Mission

The ICC Digital Standards Initiative (DSI) aims to accelerate the development of a globally harmonised, digitised trade environment, as a key enabler of dynamic, sustainable, inclusive growth.

We engage the public sector to progress regulatory and institutional reform, and mobilise the private sector on adoption, implementation and capacity building.

ICC |((

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ADB EDB: SINGAPORE Enterprise Singapore WORLD TRADE ORGANIZATION World Customs Organization Organisation mondiale des douanes

Our Vision: Roadmap to Digital Trade

1. STANDARDS

Enable the development of a global baseline of standards for digital trade documents and data to facilitate interoperability across networks and platforms.

2. TRUST

Develop frameworks for technology principles and practices to enable scalable digital trust across the entire trade ecosystem.

3. LEGAL

Advocate and enable the adoption of legal reforms and enabling policy frameworks worldwide.

4. CAPACITY

Engage and educate across the public and private sector to build capacity for digital trade; and collaborate to seed digitalisation at key leverage points.

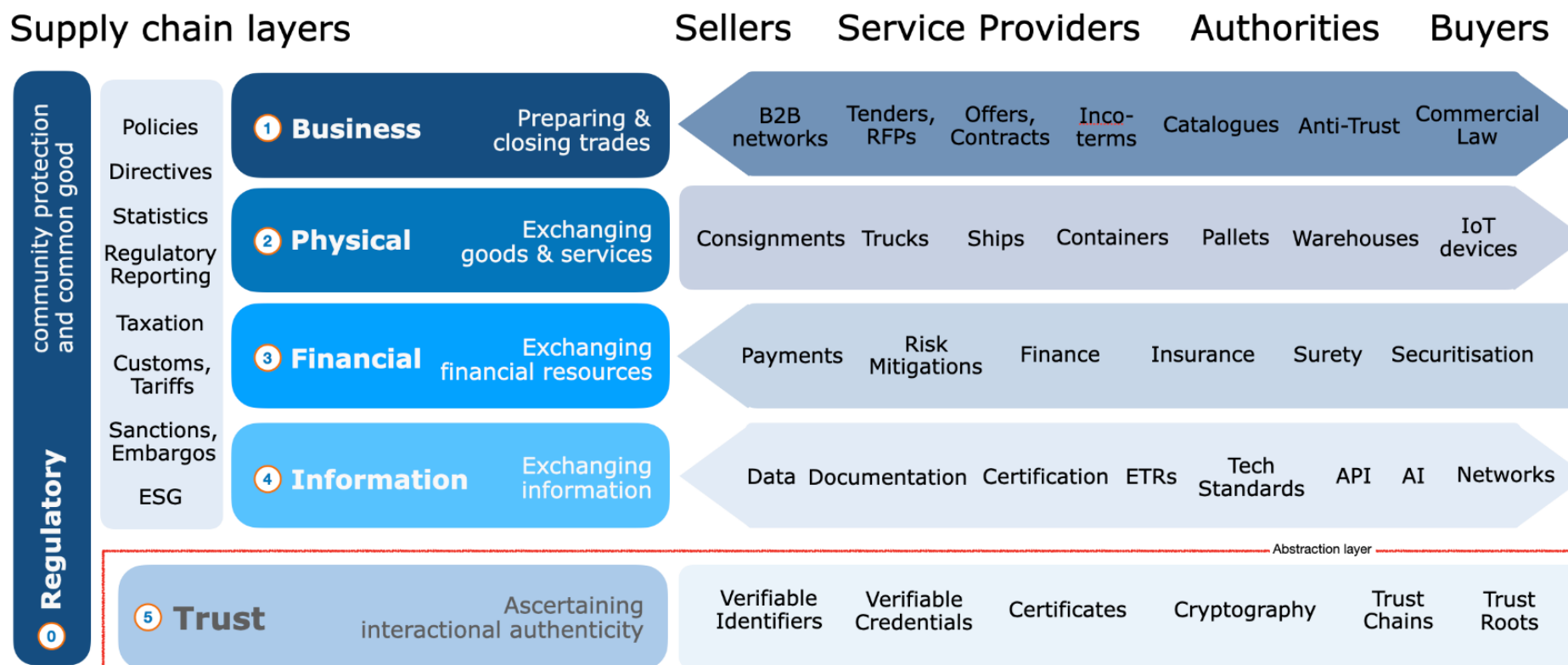# DSI Network: The Industry Advisory Board (IAB)

Through the IAB we mobilise the private sector to align on standards, data and interoperability across the entire supply chain and trade ecosystem

Representatives from the end-to end supply chain - commodities, shipping, logistics, consumer brands, technology, finance and insurance– makes this a uniquely powerful advocate for a **harmonized, integrated approach** to digital trade standards.

DSI IAB Participating Organisations (as of Jun 2024)

Trade and Finance – Business and Technology Layers

Supply chain layers		Sellers	Service Providers		Authorities	Buyers

community protection and common good / Regulatory

Policies, Directives, Statistics, Regulatory Reporting, Taxation, Customs/Tariffs, Sanctions/Embargos, ESG

① Business — Preparing & closing trades: B2B networks, Tenders/RFPs, Offers/Contracts, Inco-terms, Catalogues, Anti-Trust, Commercial Law

② Physical — Exchanging goods & services: Consignments, Trucks, Ships, Containers, Pallets, Warehouses, IoT devices

③ Financial — Exchanging financial resources: Payments, Risk Mitigations, Finance, Insurance, Surety, Securitisation

④ Information — Exchanging information: Data, Documentation, Certification, ETRs, Tech Standards, API, AI, Networks

— Abstraction layer —

⑤ Trust — Ascertaining interactional authenticity: Verifiable Identifiers, Verifiable Credentials, Certificates, Cryptography, Trust Chains, Trust Roots

Trade Records creation and sharing landscape

333 Million Businesses

Estimated 333 million businesses globally creating and sharing documents like purchase orders and invoices.

MSMEs account for more than 90% of all businesses worldwide.

Combination of physical and digital document production.

+163 Million Digitally enabled Businesses

Over 163 million businesses have access to foundational technology: compute, connectivity.

MSME represents the majority of businesses, with less control on standard implementation options.

53 200 Trade Enablers globally

Factors, Banks, Shipping, Logistics providers, customs authorities, port authorities, regulatory bodies, insurance providers, certification bodies.

141 Record Creation Software Vendors

Software vendors with productivity, ERP, CRM, VMS, LMS, etc products used to create trade records.
On premise, cloud and edge device implementations (laptops, desktops, mobile)

41 Rule based institutions

Regulators, Standards bodies and intergovernmental agencies defining the rules for both physical and digital trade.

Estimated 1 Billion learners (not businesses): Online learning accounts across 26 Vendors. 13 vendors are members of 2 associations.

Estimated 50 Trillion: 16 Trade Agreements provide frameworks to support the digitisation of trade.

Technologies and the Trust Supply Chain

The Trusted Technology Environment (TTE) Working Group outlines technology principles that would facilitate the "Trust supply chain" to complement existing physical, financial and information supply chains.

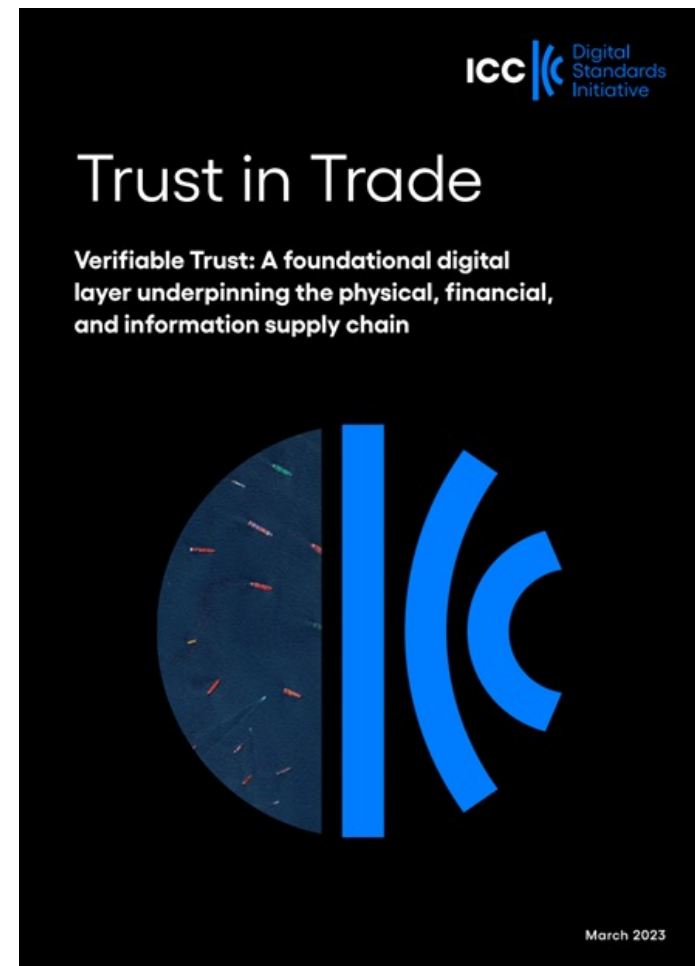A vision for the trade ecosystem based on **verifiable, transitive trust**

Zero trust architecture
backed by cryptographically produced verifiability

**Digital ID**
for all parties along the supply chain

Interoperability for all data
implying alignment with global standards in all instances.

ICC | Digital Standards Initiative

Trust in Trade

Verifiable Trust: A foundational digital layer underpinning the physical, financial, and information supply chain

March 2023

Organizational Identity is a foundational element

- The ability of a person or thing to prove their authority to represent an organization outside (and even inside) the boundaries of that organization.

- Organizational Identity ultimately is about being able to verify the identity of an organization and the people that represent the organization

- This can be done with Organizational Credentials: securely, with certainty and end-verifiability
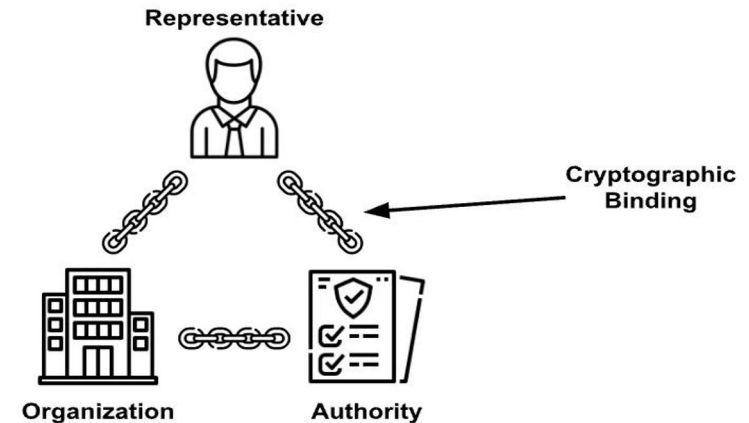
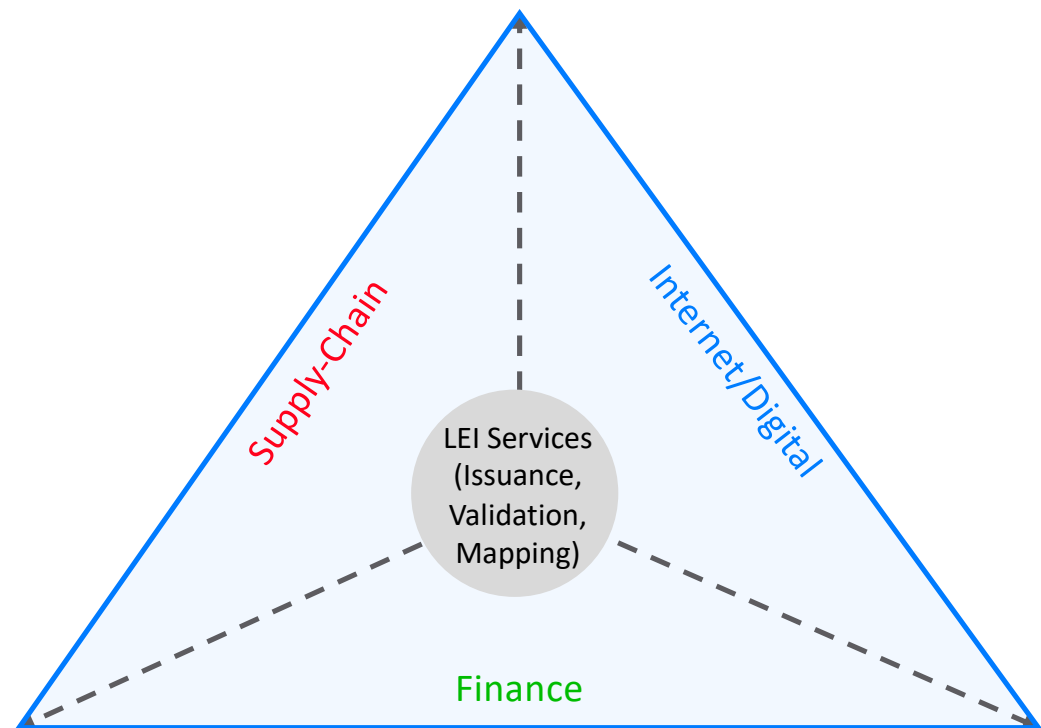| Name	Alice Foo
Organization	ACME LLC
Employee ID	123ABC
Role	General Partner
Signing Authority	Full

Organizational Identity – Use Cases

- The CEO, CFO and the auditors make attestations on financial statements (annual report)

- In Pharmacy, a digital leaflet must be authentic and tight to the producer of the medicine.

- In Healthcare, the exchange of medical records require the highest level of authenticity and security.

- In aviation, the bill of lading is shared by many organizations. Each entry must be authentic and assigned to a representative.

- In supply-chain, physical containers and goods within must be tight to sender, receiver and all intermediaries. Customs requires locations of firms and their facilities.

- And many more. The sky is the limit …

INDIVIDUALS

IDENTITY DOMAINS

ORGANISATIONS

THINGS

LEI services – only global solution for a true business ID management

- The **Global LEI System** is the only regulatory mandated ID management system for **legal entities** globally.

- It has the potential to support all **three sectors** via its standards for unique, global, universal, open, reliable and trusted services for **issuance, validation and mapping**.

Supply-Chain

Internet/Digital

LEI Services (Issuance, Validation, Mapping)

Finance

Organizational Identity based on the Legal Entity Identoifier (LEI)

Organization

Person

Role

Real World

vLEIs

Legal Entity Identifier (LEI Standard)

Person Identification (String)

Role (String)

Digital Representation

Cryptographically binds the person in their role to their organization
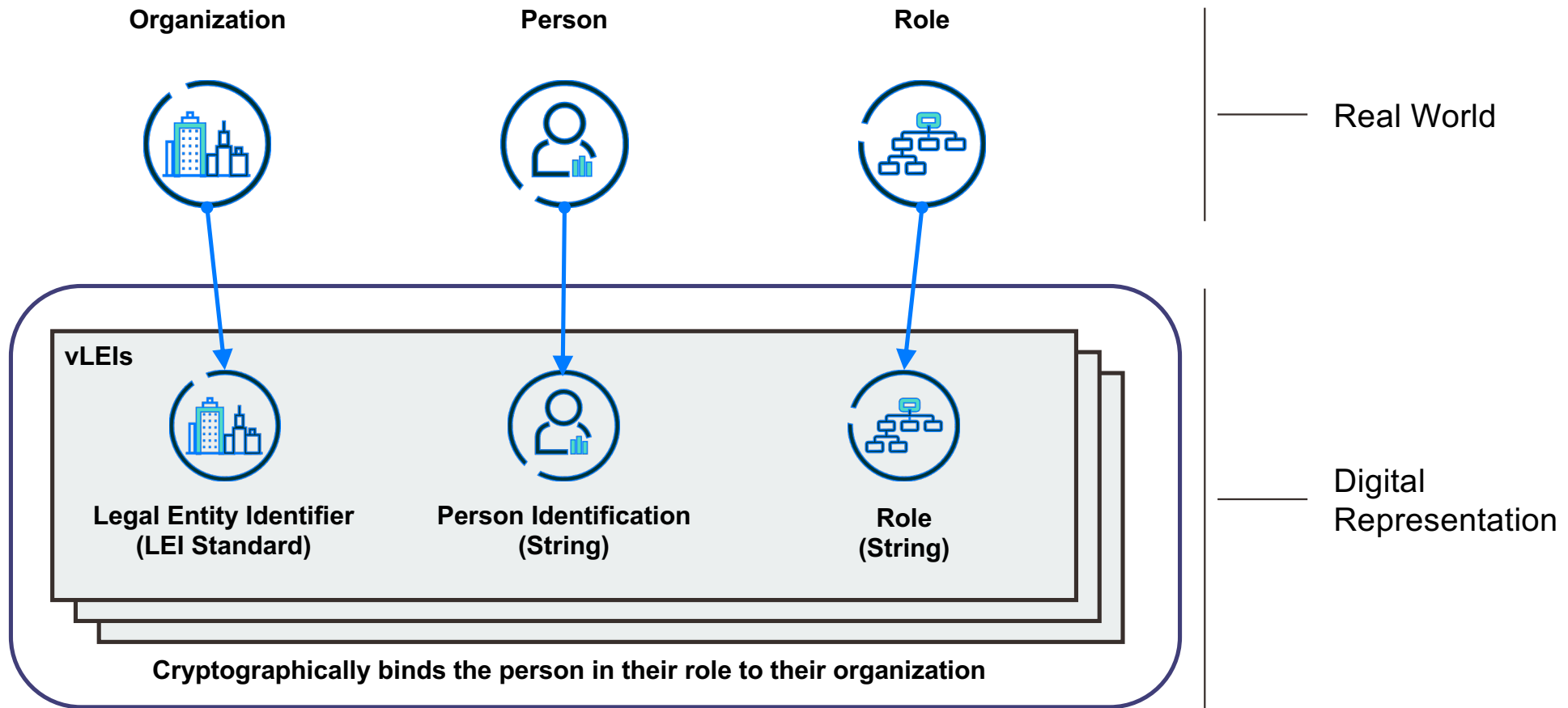
Trust and Authenticity based on cryptographically sealed data containers
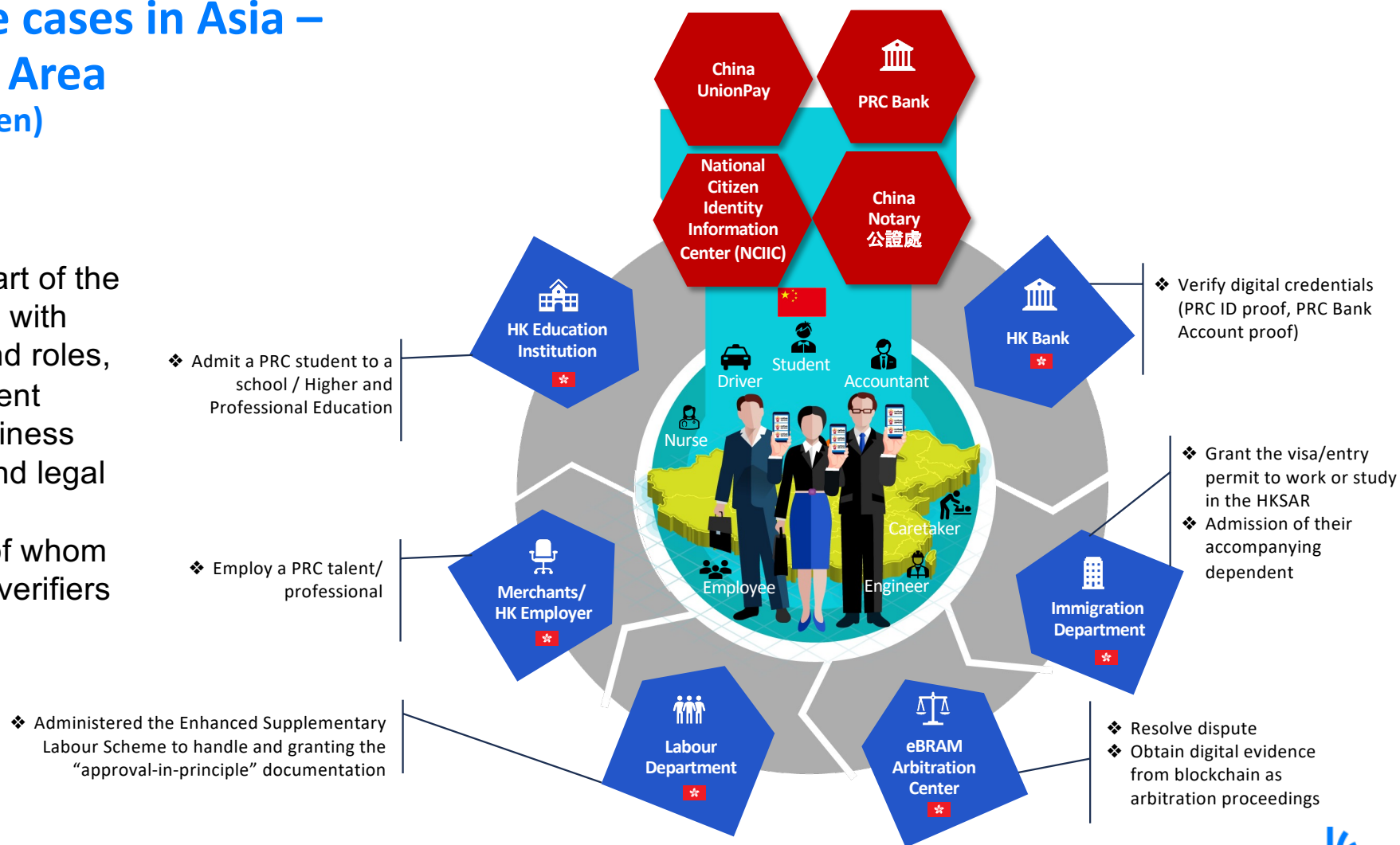
Trust related standards include

- **ITU-T X.509 | ISO/IEC 9594-8**
  (classic PKI business)

- **Blockchain and DLT**
  (various standards and systems)

- **Verifiable Credentials**
  (W3C and upcoming ISO)

Example use cases in Asia – Greater Bay Area
(Courtesy: Certizen)

Every citizen is part of the ecosystem, along with various parties and roles, such as government departments, business entities, banks, and legal and arbitration practitioners, all of whom will contribute as verifiers and/or issuers of credentials.

- China UnionPay
- PRC Bank
- National Citizen Identity Information Center (NCIIC)
- China Notary 公證處

- HK Education Institution
  - ❖ Admit a PRC student to a school / Higher and Professional Education

- HK Bank
  - ❖ Verify digital credentials (PRC ID proof, PRC Bank Account proof)

- Merchants/ HK Employer
  - ❖ Employ a PRC talent/ professional

- Immigration Department
  - ❖ Grant the visa/entry permit to work or study in the HKSAR
  - ❖ Admission of their accompanying dependent

- Labour Department
  - ❖ Administered the Enhanced Supplementary Labour Scheme to handle and granting the "approval-in-principle" documentation

- eBRAM Arbitration Center
  - ❖ Resolve dispute
  - ❖ Obtain digital evidence from blockchain as arbitration proceedings

Driver, Student, Accountant, Nurse, Caretaker, Employee, Engineer

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