

CAREC e-CERT Hub

Pilot Project on Electronic Exchange and Mutual Recognition
of Product Conformity Certificates / Test Reports
in the CAREC Region

Kickoff Workshop

1–2 June 2026 · Incheon, Republic of Korea · TA-10730 REG



ESCAP
Economic and Social Commission
for Asia and the Pacific



Session 2

Overview of Digitalization Model

S2-1. Project Background and Workshop Objectives

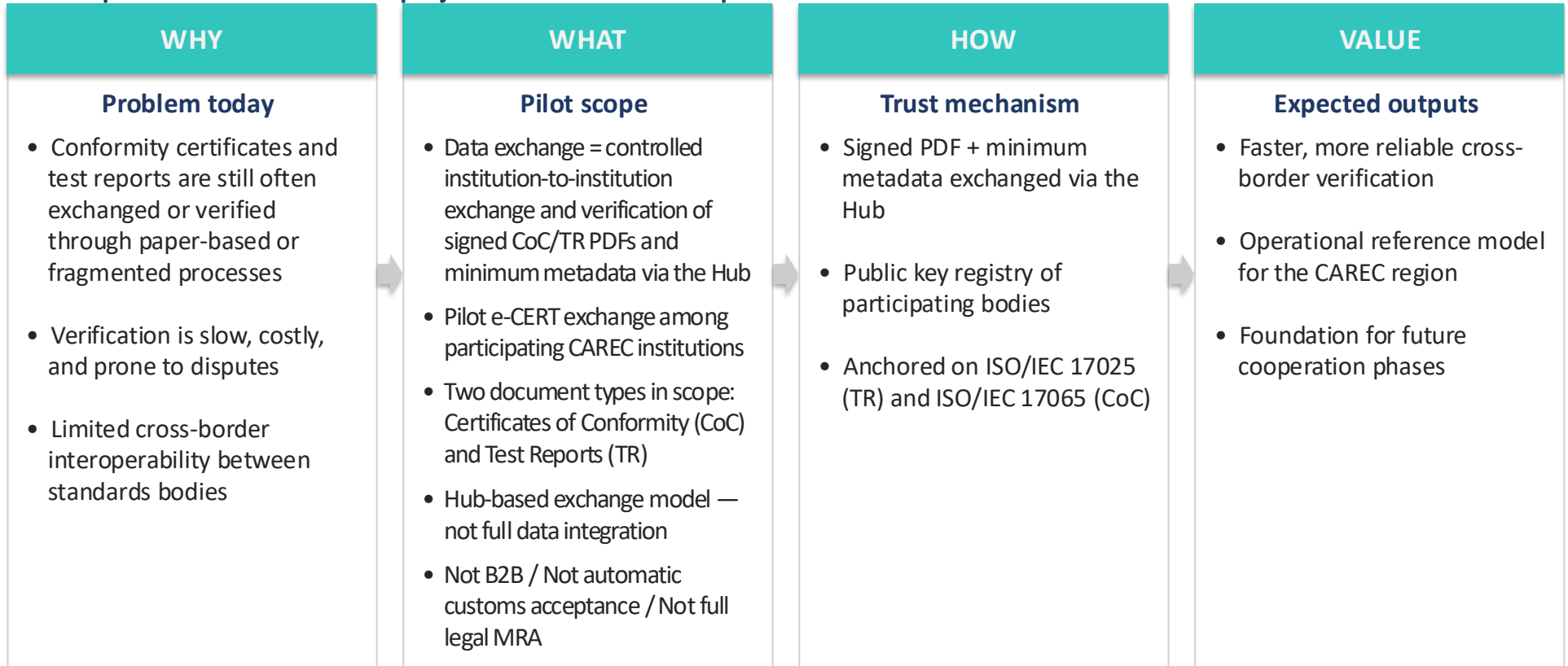
This workshop is not completion of the 24-month pilot — it is the starting point to align scope, timeline, and roles toward formal confirmation at M5.

Project at a Glance		Workshop Position & Objectives	
Assignment:	TA-10730 REG	Position in the 24-month timeline	
Title:	Pilot Project on Electronic Exchange and Mutual Recognition of Product Conformity Certificates / Test Reports in the CAREC Region	Inception phase (M1) — alignment of the starting line	
Duration:	24 months from contract effectiveness	Three Objectives	
Client:	Asian Development Bank (ADB)	<ol style="list-style-type: none"> ① Establish Common Understanding of Work Plan Align scope, timeline, deliverables across all parties ② Identify Country-level Gaps and Priorities Review preliminary readiness diagnostics; surface country-specific constraints ③ Share International Best Practices UNESCAP + KTNET — discuss regional and global reference cases 	
Implementer:	Korea Trade Network (KTNET)		
Participants:	Uzbekistan (UZ) · Azerbaijan (AZ) · Kyrgyz Republic (KG) · Pakistan (PK) · Tajikistan (TJ)		

S2-2. Project Logic at a Glance

This pilot demonstrates a bounded operating model that shifts CoC/TR exchange from paper-based, fragmented verification to a Hub-based trust verification model; it does not constitute a legal MRA or automatic acceptance mechanism.

● **From problem to value — the project narrative in four steps**



Scope: UN/CEFACT covers broader supply-chain access to conformity data; this pilot applies the concept to institution-to-institution CoC/TR exchange via the Hub.
As-is: Paper/PDF CoC/TR is forwarded via email or portal; recipients manually check issuer, scope, signature/QR, or registry link.
To-be: Signed CoC/TR PDF + metadata are exchanged via the Hub; CAB public-key, metadata, and audit logs support verification; acceptance follows importing-country rules.

S2-3. What Are TR and CoC?

TR documents how testing was performed (ISO/IEC 17025); CoC declares product conformity (ISO/IEC 17065). This pilot handles them as distinct yet complementary documents.

● Test Report (TR) and Certificate of Conformity (CoC) — Basic concepts

Test Report		Certificate of Conformity	
Issued by	Testing Laboratories	Issued by	Product Certification Bodies
Standard	ISO/IEC 17025 — testing competence	Standard	ISO/IEC 17065 — certification competence
Content	Methods, conditions, measured results	Content	Product, scope, applicable standards
Output type	Factual record of testing	Output type	Formal attestation of conformity
Decision?	No - TR reports test results only	Decision?	Yes - declares product is in conformity

● Relationship between TR and CoC

- A Test Report often serves as evidence input to a Certificate of Conformity decision.
- However, TRs and CoCs are issued by different bodies and serve different purposes — in this pilot, both are in scope and managed as distinct documents within the Hub.

S2-4. Why CoC/TR Exchange Requires a Trust Framework

The essence of cross-border CoC/TR exchange is not file transfer, but trust verification in which all six elements — CAB authority, accreditation status, document scope, digital signature, public key trust, and audit log — work together.

- **Six verification points each receiving body needs to confirm**

1. CAB authority

Is the issuing body actually authorized to issue this CoC / TR in the source country?

2. Accreditation status

Is the body accredited to ISO/IEC 17025 (TR) or 17065 (CoC) — and is the accreditation current?

3. Document scope coverage

Does the certificate / report cover the product and the technical regulation in question?

4. Digital signature validity

Is the document digitally signed? Is the signature mathematically valid and untampered?

5. Public key trust

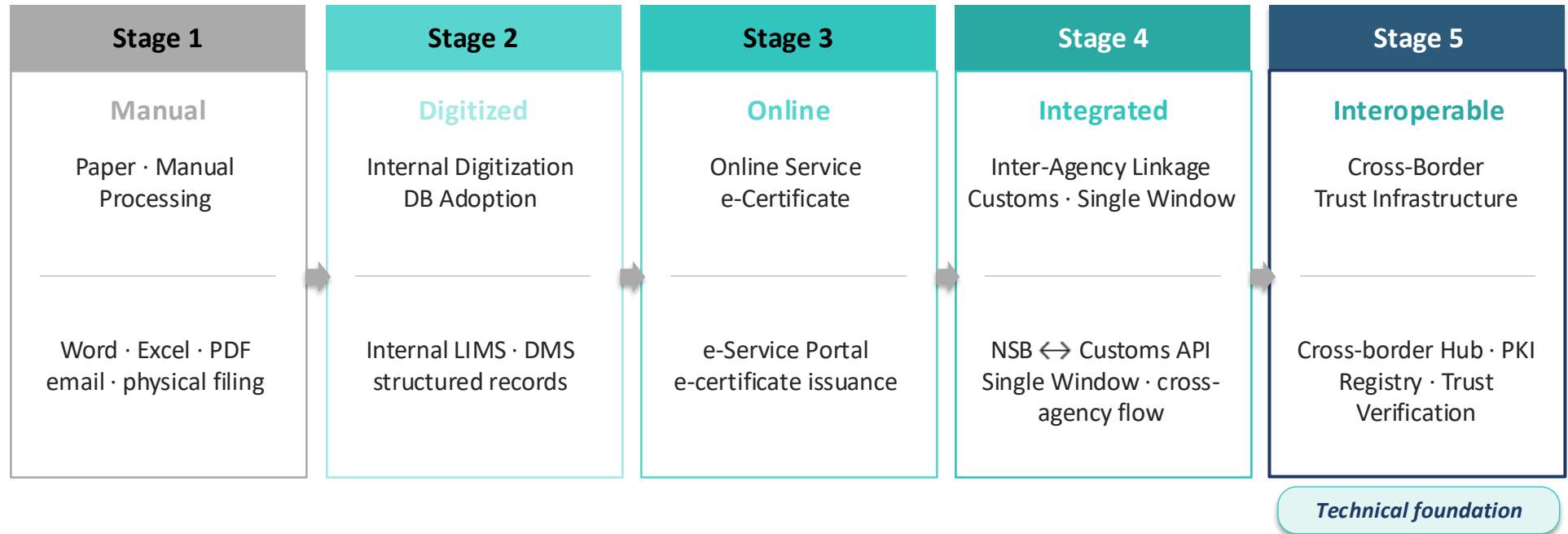
Is the signing key listed in a trusted registry maintained by the participating bodies?

6. Audit log traceability

Can the exchange be traced — who sent, who received, when, and with what reference?

S2-5. 5-Stage Maturity Model and System Architecture

Digital maturity in standards administration evolves step by step, and each stage requires different system functions and levels of connectivity; Stage 5 adds a cross-border trust layer on top of domestic systems.



Note: LIMS = Laboratory Information Management System
 DMS = Document Management System
 API = Application Programming interface

PKI = Public Key Infrastructure

S2-6. Two Pillars of the 5-Stage Model

This 5-stage model is not new - it combines ISO DMAS (institutional lens) with the Conformity Assessment Digitalization Lens (operational lens) as a readiness reference framework.

Pillar 1 - ISO DMAS		Pillar 2 - Conformity Assessment (CA) Digitalization Lens	
Institutional readiness		Operational readiness	
ISO Digital Maturity Assessment for Standards		Conformity Assessment Digitalization Lens	
Origin	Developed by ISO — global standardization body	Origin	Conformity assessment digitalization studies and accreditation community references
Focus	Maturity of national standards bodies (NSBs)	Focus	Digital maturity of CABs — testing, inspection, certification
Key axes	Strategy · People · Processes · Technology · Data	Key axes	Document issuance · verification · cross-border exchange · trust
This pilot	Provides the institutional readiness lens for participating standards authorities	This pilot	Provides the operational lens for CABs that issue CoCs and Test Reports

S2-7. Direct Target — Scope IN / OUT

The direct scope of this pilot covers the Hub, PKI, CAB codes, SOP, Pilot Operational Arrangement, and pilot operation; a legal MRA and automatic market acceptance remain long-term follow-up tasks.

IN SCOPE - Direct Build (24 months)

CAREC e-CERT Hub platform

Controlled institution-to-institution CoC/TR exchange and verification · trust & exchange layer · routing · registry · auditability

Public Key Registry

X.509 keys for participating CABs - pre-registered Trust Anchor

CAB common codes

Country code + AB code + CAB number (composite key for global uniqueness)

Standard Operating Procedures (SOP)

Exchange / verification roles · acceptance criteria · exception handling · audit trail

Pilot Operational Arrangement

Consultation among participating standards authorities

Pilot operation

60+ actual exchanges · KPI measurement · iterative improvement

OUT OF SCOPE - Long-term (5–10+ years)

Full legal MRA long-term

Treaty-level or formal legal recognition · domestic legal procedures

Permanent/long-term repository of original CoC/TR documents

The Hub does not store original CoC/TR documents permanently or long-term; it focuses on temporary relay of metadata and signed PDFs.

Technical conformity review / audit of CoC/TR content

The Hub does not assess the technical conformity of CoCs or TRs; issuance authority and responsibility remain with the CAB.

Single Window full integration

Domestic customs · Single Window integration is each country's own roadmap

Automatic acceptance in a unified market long-term

Automatic market access without inspection — requires harmonized laws and regulations

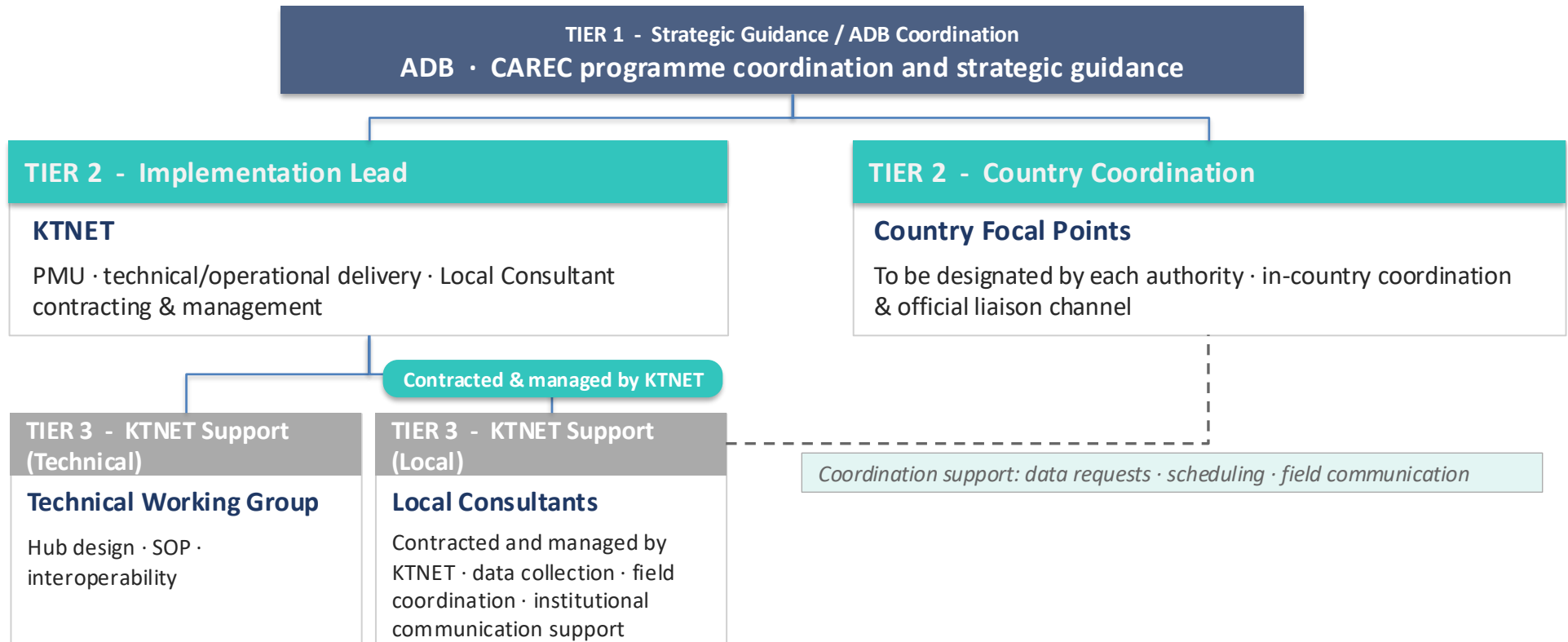
Stage 5 full achievement long-term

All of the above - this pilot lays the technical foundation, not the finish line

S2-8. Proposed Coordination Structure

This Coordination Structure separates ADB's strategic coordination, KTNET's delivery & contract management, Country Focal Points' official liaison role, and the KTNET support layer's technical & local support — a proposed model; detailed roles to be confirmed by participating authorities.

- **Pilot Coordination Structure — proposed three-tier model**



Note: This structure is proposed for discussion at the kickoff. Roles, members, and meeting cadence are subject to confirmation by ADB and participating authorities.

S2 Key Messages

This pilot is not Stage 5 completion — it is the technical foundation for Stage 5. Each stage is cumulative; weakness at any earlier stage undermines the next.

S2. Overview of Digitalization Model

1

5-Stage Maturity Model is the reference framework

Manual → Digitized → Online → Integrated → Interoperable. Each stage requires different institutional and system capabilities.

2

Two lenses: institutional (NSB) + operational (CAB)

Institutional maturity (NSB) + operational maturity (CAB) — both lenses covered.

3

Direct target = Stage 5 technical foundation, not full Stage 5

Hub · PKI · SOP · Pilot Operational Arrangement · 60+ exchange pilot — full legal MRA and automatic market acceptance are long-term follow-up tasks after the pilot

→ Next Session (S3): Preliminary Analysis of Pilot Countries' Readiness

Thank You · 감사합니다 · Rahmat · Спасибо · شكراً

— With participation and cooperation of 5 countries, opening a new chapter in CAREC digital trade together —



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