

Charting the Future of National PKI: Malaysia's Strategic Outlook

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POS Digicert

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Malaysia's Digital Vision: Trust as the Foundation



Aspiration to become a prominent Digital Nation



Digital Trust as critical enabler



Key Government Initiatives:

- MyDigital ID
- e-Invoice & eGov
- Industry Rev. 4.0, Smart Cities, AI



PKI = Trust Infrastructure



PKI underpins every initiative shown here from digital identity to smart infrastructure.

About Pos Digicert

LPBP-1/2020(4)

1ST LICENSED CERTIFICATION AUTHORITY (CA) IN MALAYSIA

→ Incorporated:
12th February 1998

→ With the objective of
facilitating the migration of the
physical world economy to the
internet economy

→ MSC
Status Company

→ Being granted the CA
Operational License in June
1999 (MCMC)

→ A wholly owned
subsidiary of POS Malaysia Berhad

→ Issued approximately 12
million digital certificates
- 6 million active certificates

Key Projects



OUR RECOGNITIONS (LOCAL & INTERNATIONAL)



WEBTRUST FOR
CERTIFICATION
AUTHORITIES (CA)



TMMi CERTIFIED LEVEL 3



INFORMATION SECURITY
MANAGEMENT SYSTEM
ISO/IEC 27001:2013



QUALITY MANAGEMENT
SYSTEM ISO 9001:2015



RECOGNISED DATE TIME
STAMPING PROVIDER



ADOBE APPROVED
TRUST LIST



CLOUD
SIGNATURE
CONSORTIUM



ASIA PKI CONSORTIUM

Malaysia's PKI Ecosystem: Building Trust Across Sectors



- Regulatory body overseeing the communications and multimedia industry.
- Licensing of the Certification Authorities under the Digital Signature Act 1997.
- WebTrust Compliance

Licensed Certification Authorities (Commercial)



The Ministry of Digital (Government CA)





Use Cases

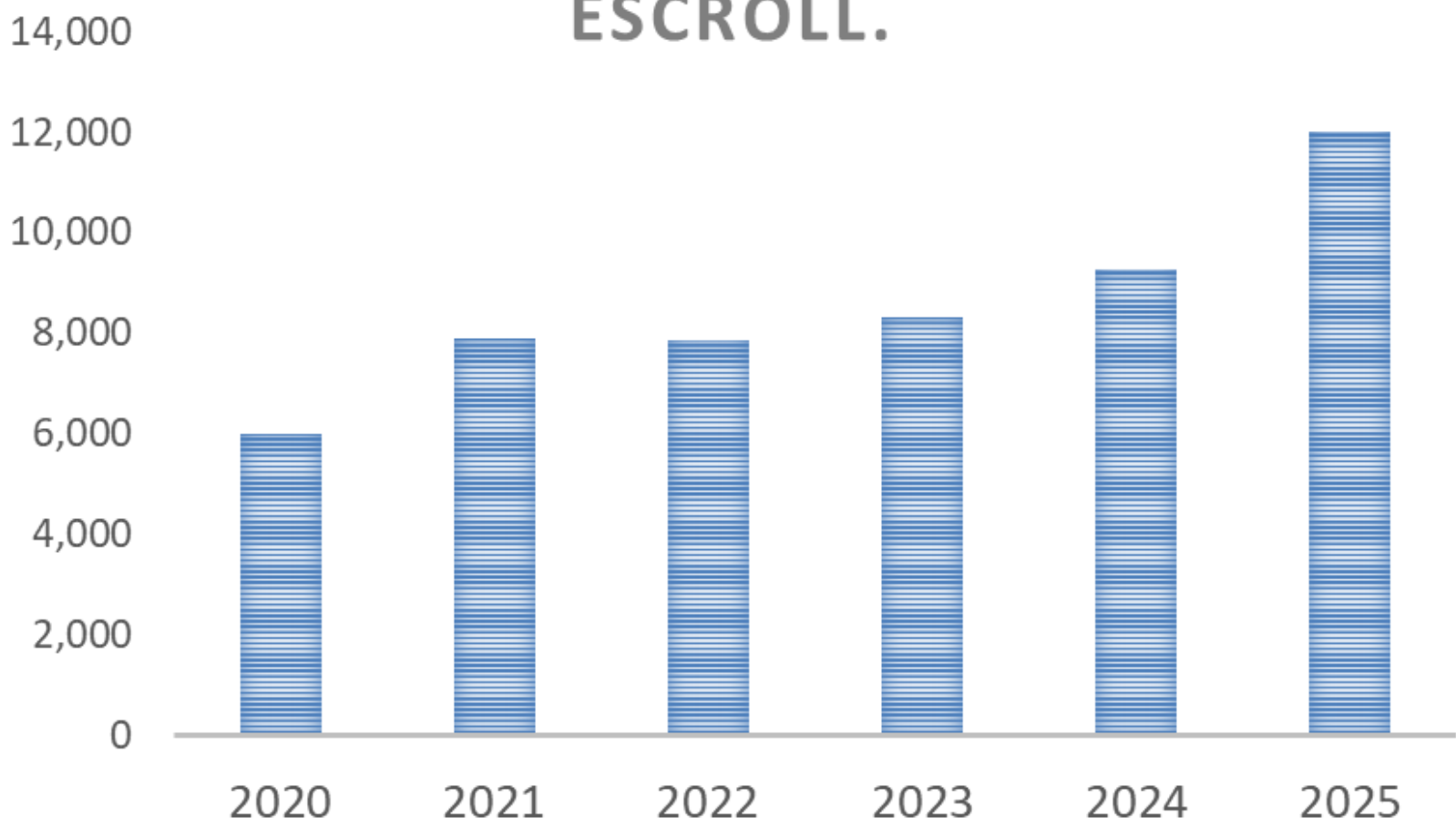
eScroll- Universiti Malaya eScroll

Sample of eScroll UM with digital signature and Secured QR Code



- University Malaya issues digitally signed e-Scrolls to all graduates from the Class of 2012 onwards.
- The e-Scrolls authenticate university officials' signatures and prevent forgery by ensuring the certificate's content cannot be altered.
- This system simplifies the verification of graduates' qualifications for employers and other institutions.
- Graduates from the Class of 2014 and later can download their e-Scrolls from the university's Graduate Registry website.
- This program is part of a larger, nationwide effort by Malaysia's Ministry of Education and universities to combat bogus degrees.

TOTAL OF UNIVERSITY MALAYA'S GRADUATES WITH ESCROLL.

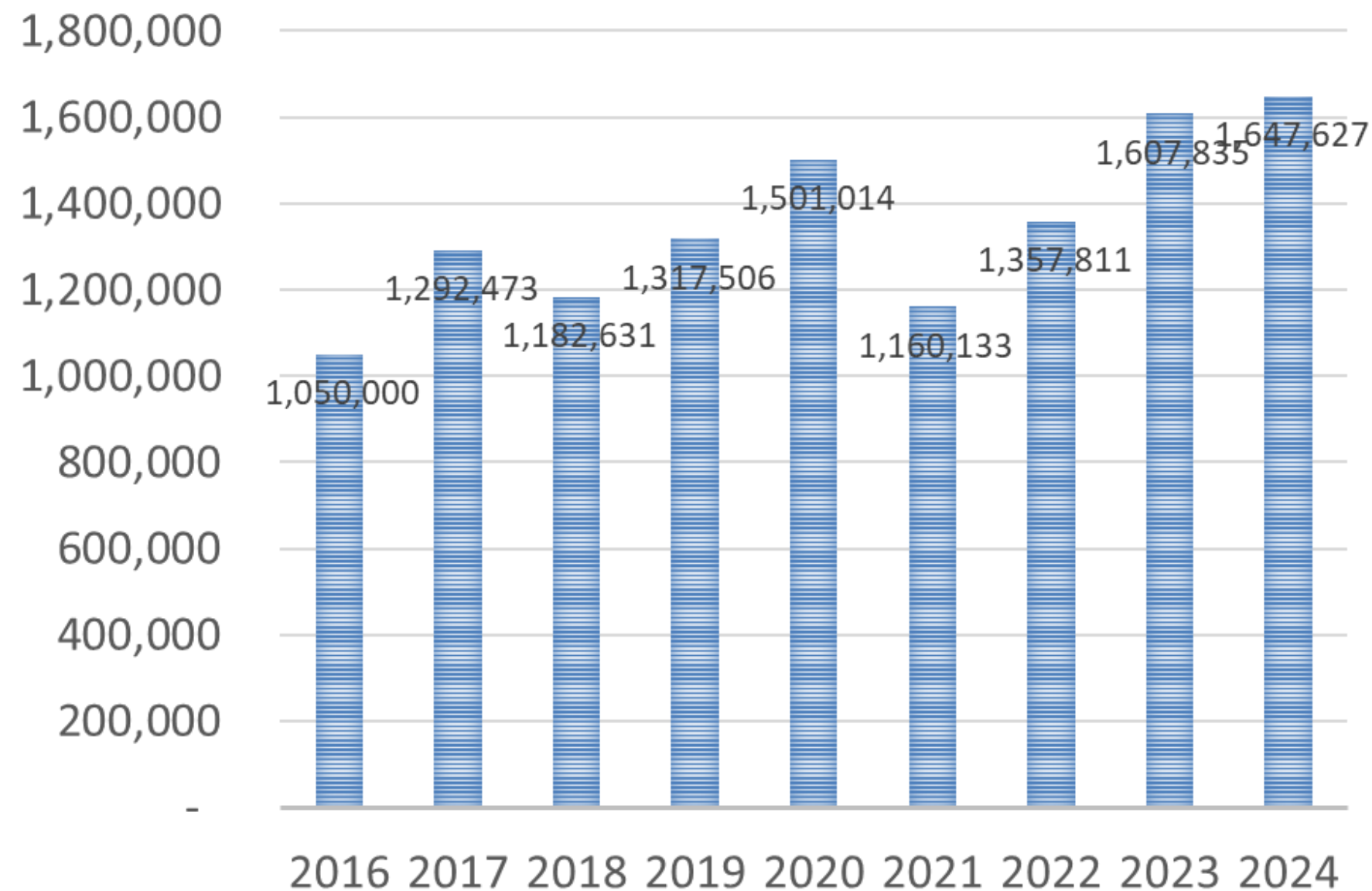


e-FILING

Inland Revenue Board Malaysia (IRBM)

- e-Filing application is a system which allows taxpayer to fill and send the Income Tax Return Form (ITRF) and estimation form online
- A tax submission platform based on WEB form format.
- Use roaming certificate that allows taxpayer to perform the digital signing from anywhere (mobile devices or personal computer) at anytime as long there is internet connection.
- Revenue Model : Project costing and digital certificate subscription based

IRBM'S E-FILING CERTIFICATE ISSUED 2017-2024



Source: <https://www.hasil.gov.my/pautan-pantas/perkhidmatan/statistik>

LHDN MALAYSIA

**RETURN FORM OF AN INDIVIDUAL
[RESIDENT WHO DOES NOT CARRY ON BUSINESS]
UNDER SECTION 77 OF THE INCOME TAX ACT 1967**

This form is prescribed under section 152 of the Income Tax Act 1967
Records and documents used in the calculation of tax must be kept for 7 years for LHDNM reference

**e-BE
YEAR OF
ASSESSMENT
2016**

**Bahasa
Melayu**

INDIVIDUAL PARTICULARS

Name (as per identification document)

Income Tax No.

Identification No.

Current Passport No.

*Citizen

*Sex

*Date of Birth

*Status as at 31-12-2016

Date of Marriage / Divorce / Demise

*Type of Assessment

Telephone No.

* Handphone No.

e-Mail

Name of Bank

Bank Account No.

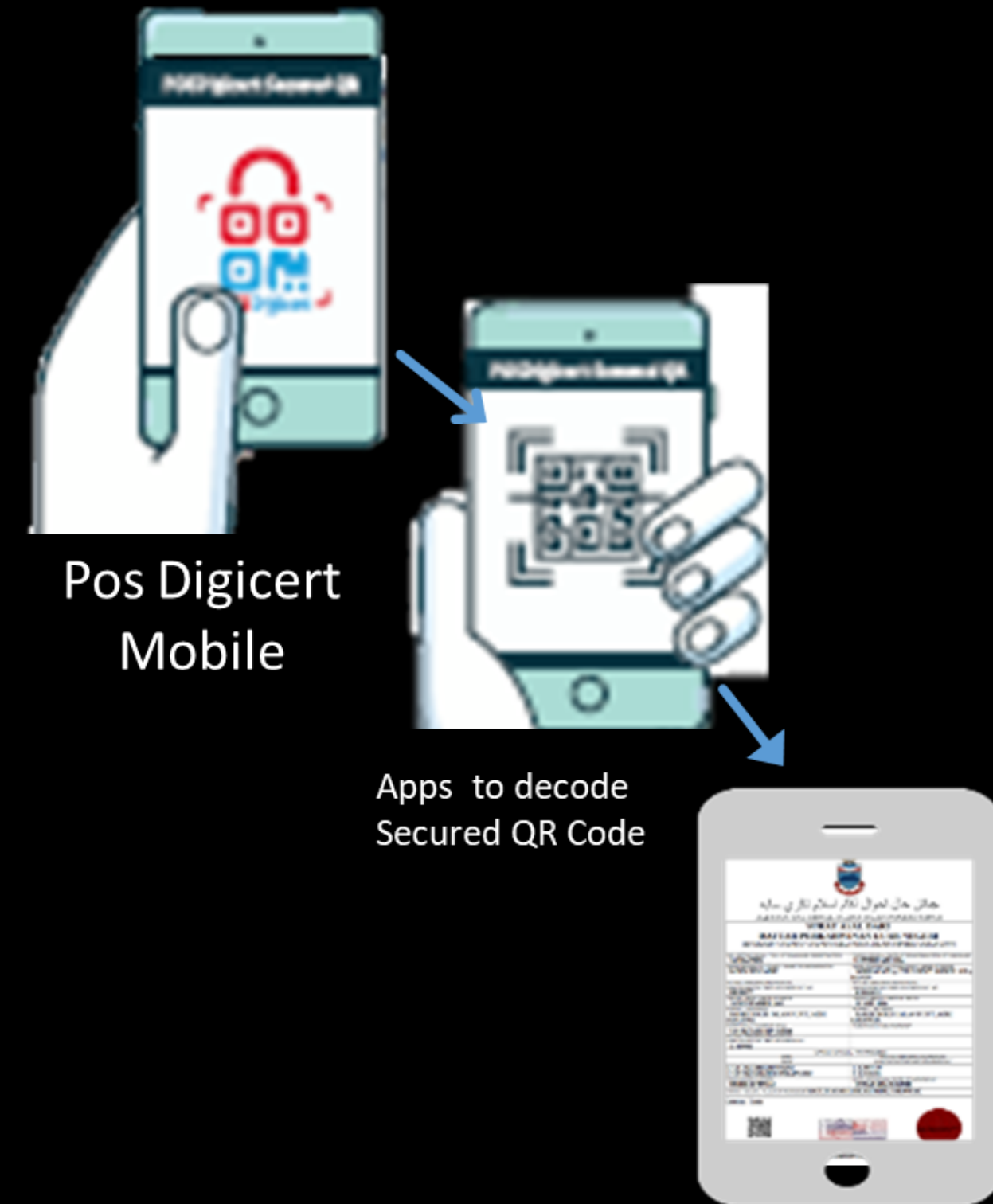
* Disposal of asset under the Real Property Gains Tax Act 1976

Disposal declared to LHDNM

Please ensure that the bank account number entered is accurate and correct for the purpose of direct refund/repayment into your account, if any

e-Filing Online Form

Digital Signing & Digital Security (Digital CTC)



Business Case :

Companies Commission of Malaysia (SSM), Jabatan Hal Ehwal Agama Islam Negeri Sabah (JHEAINS), MyIPO, MDEC and others

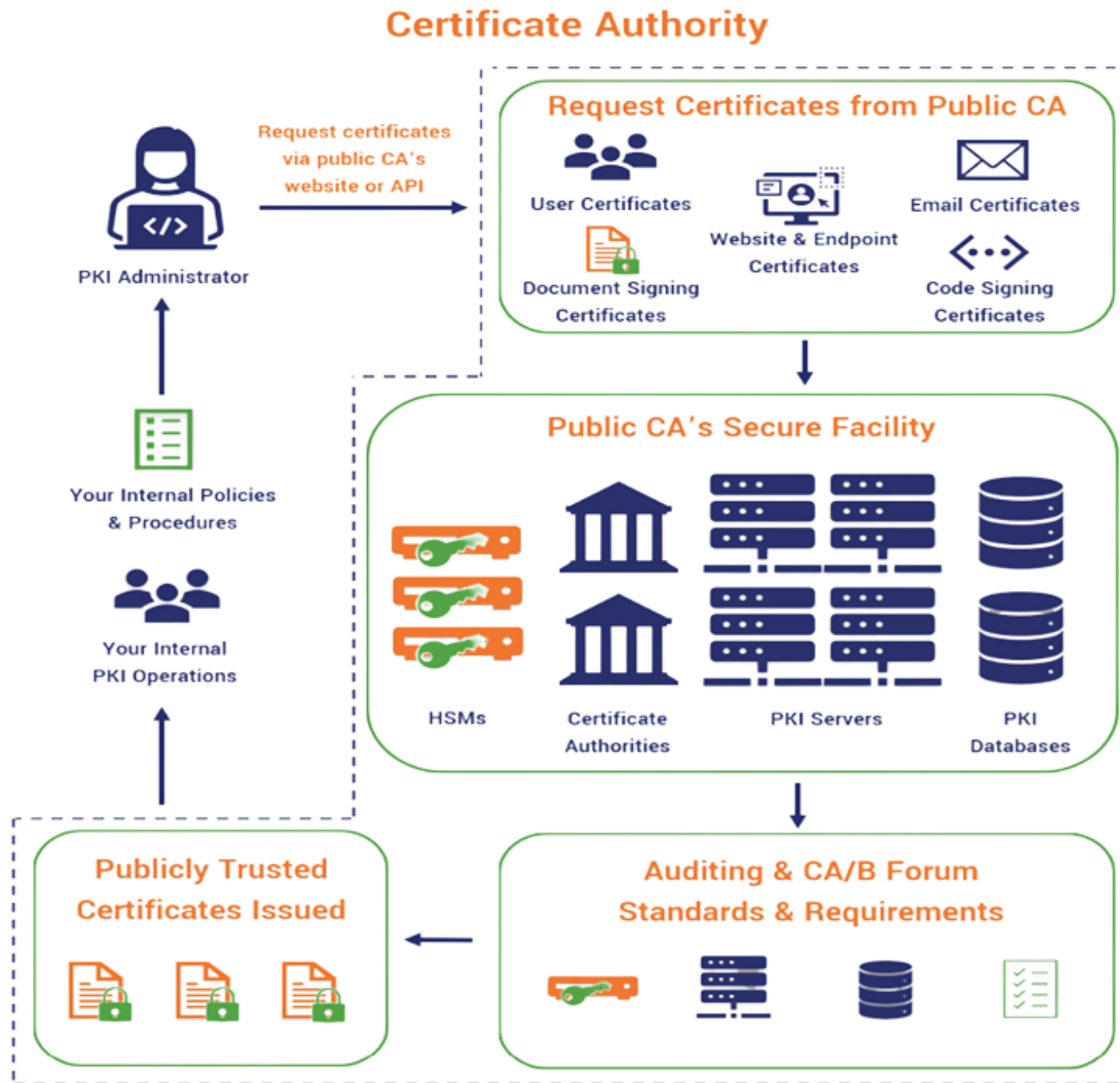
Problem Statement

- A high risk of fraudulent submissions, such as forged certificates, altered contracts, or fabricated financial statements.
- No reliable way to verify that a digital document is an authentic copy of an original or that it has not been altered since its creation.
- Slow manual processes to verify documents
- The legal validity of digital documents submitted without a certified copy stamp can be easily challenged in a court of law.

Solution

- The digital CTC uses a robust Public Key Infrastructure (PKI) to embed verifiable trust directly into the digital file.
- An organization can use its own digital certificate and private key to "stamp" the digital document.
- The process involves creating a unique cryptographic hash (a digital fingerprint) of the document. This hash is then encrypted with the authority's private key to create the digital CTC

PKI Components



Types of Digital Certificates

Simple Certificate

- Client Digital Certificate
- Email Signing Certificate
- Organisational Certificates
- Server Certificate – SSL Certificates
- Code Signing Certificates

Advanced Certificate

- AATL Certificate – Signing on PDF Document
- LTV Certificates

Barriers to National PKI Adoption: What's Holding Us Back?

Technology



People



Policy



Interoperability
Challenges

Token
Dependency

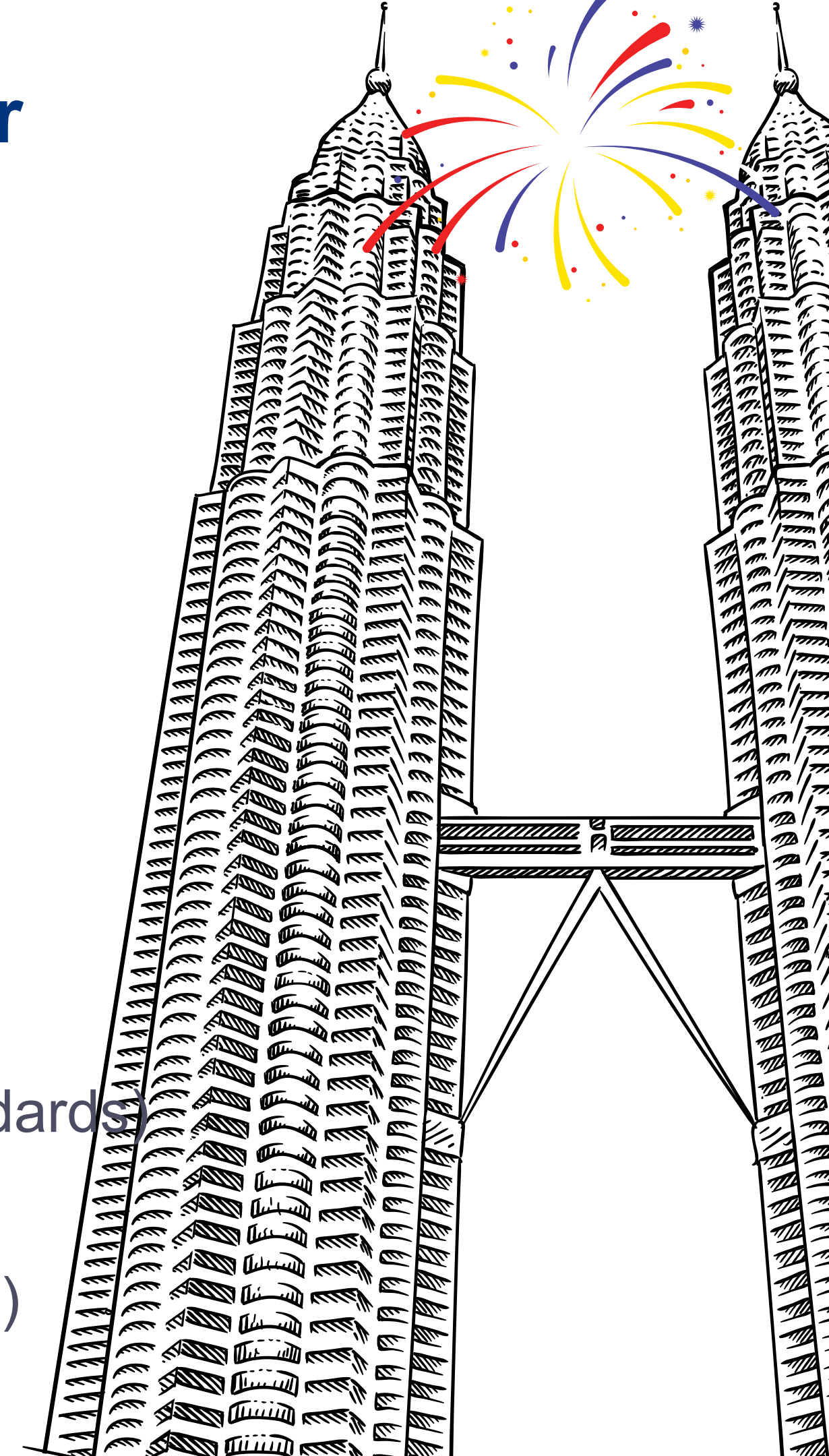
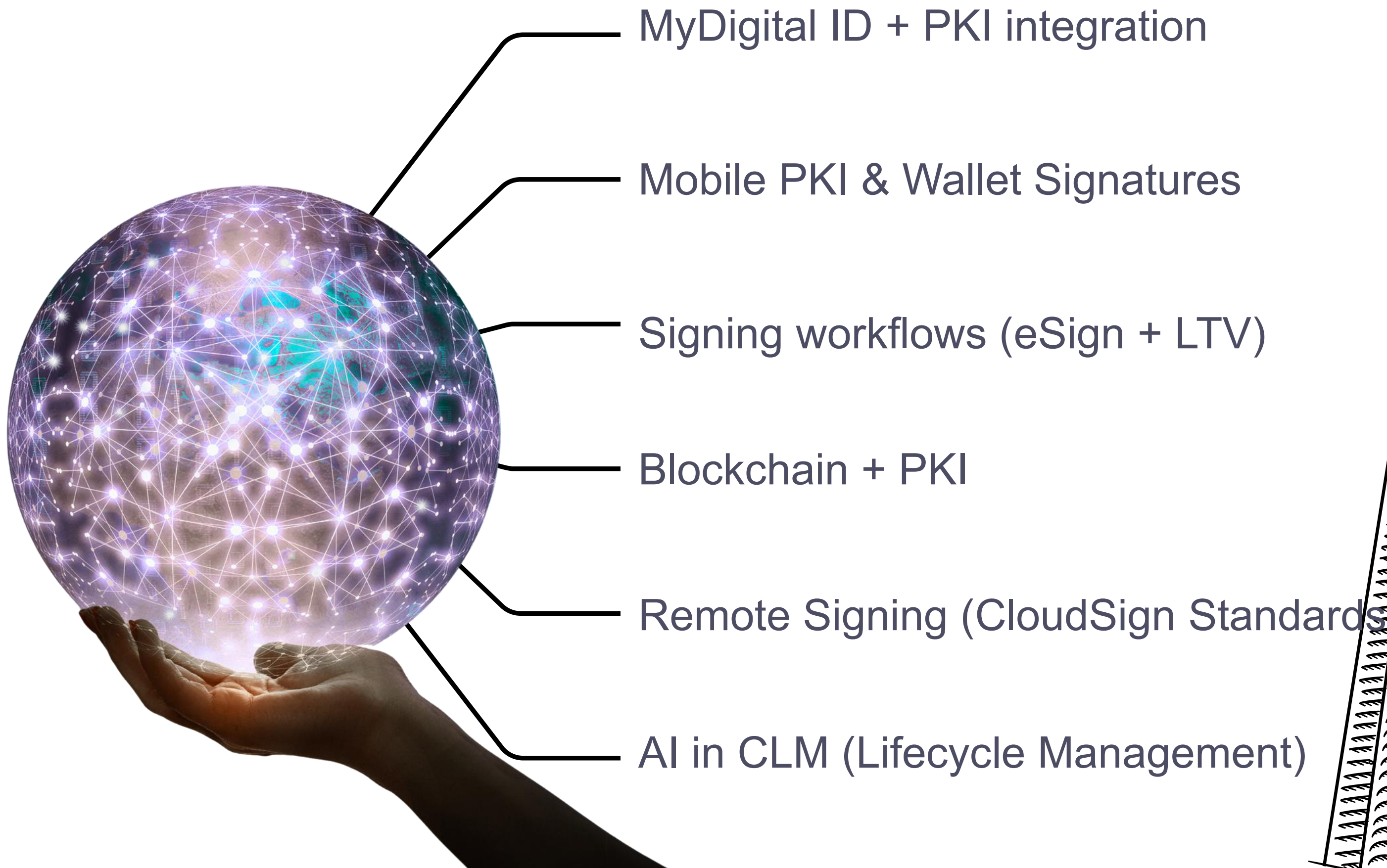
Low Digital
Signing
Awareness

Regulatory
Lag

Fragmented
sector
adoption



Innovating Malaysia's PKI Stack: The Next Frontier





Post-Quantum Cryptography Readiness

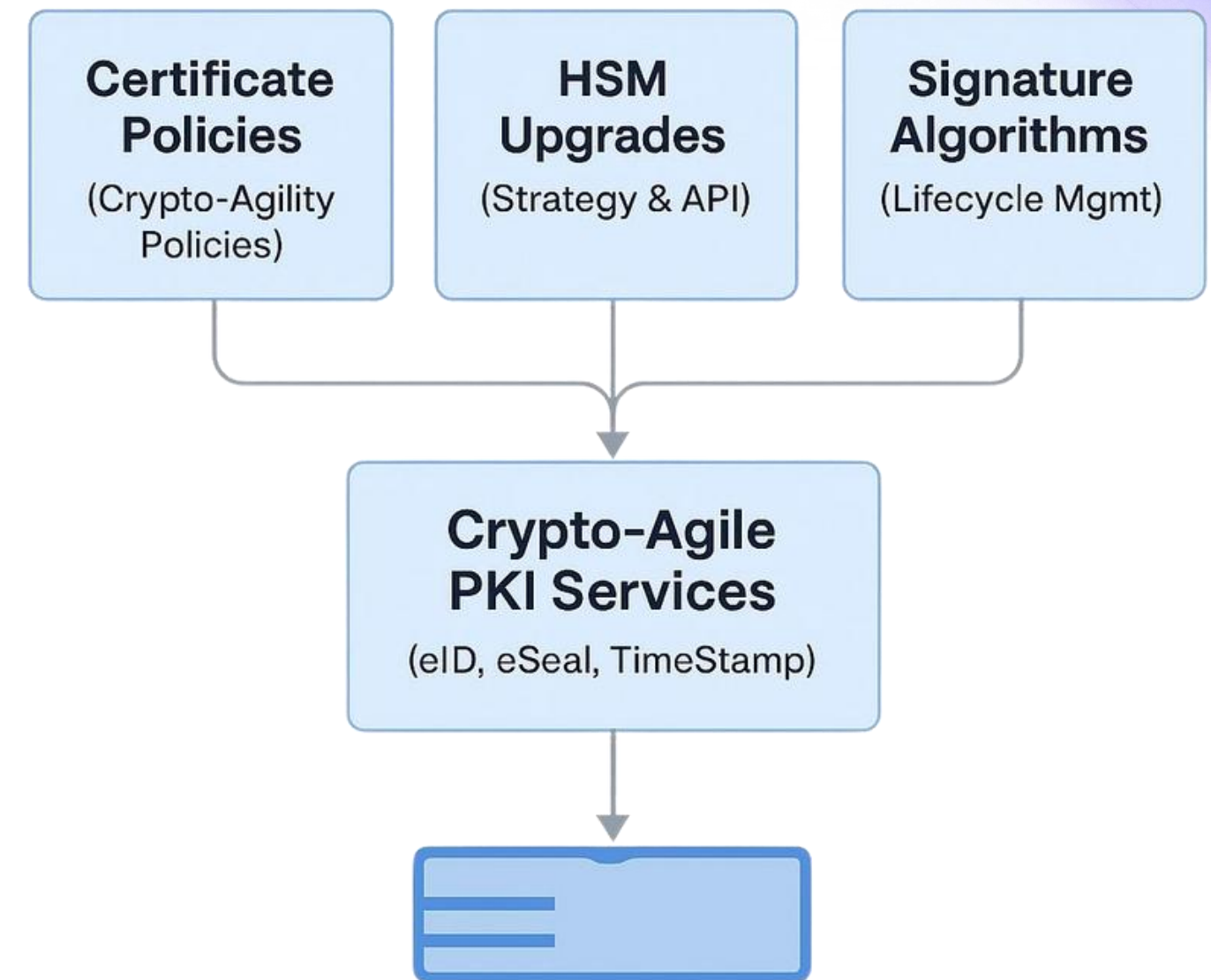
01 Quantum threat real & near

02 In line with NIST, ETSI, CAB
Forum timelines

03 Pos Digicert's Readiness:

- Crypto agility
- PQC Timestamp & Signatures
- Algorithm flexibility in GovTech

Malaysia's Crypto-Agility Architecture



Trust Without Borders: Bilateral & Regional PKI Engagements

- Need for regional trust frameworks

- Pos Digicert Engaged With:



PKI
Consortium



- Bilateral Initiatives:



Uganda



Philippines



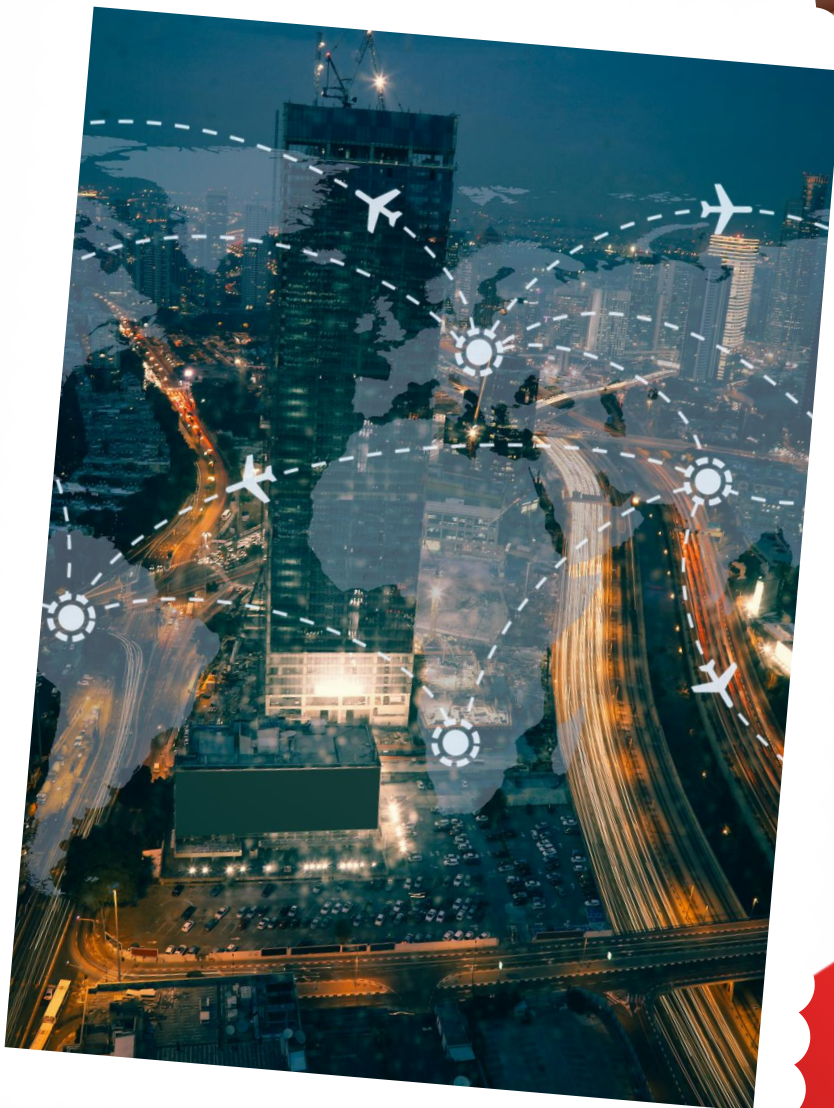
India



Singapore



Indonesia



Premier Trust 2030

2025

Immediate Priorities

National PKI
Modernisation

MyDigital ID
+
PKI Stack

Cross-border
Interoperability

Sectoral Growth
(Gov, BFSI, Healthcare)

CLM &
Certificate Automation

PQC
Deployment

2030

Long-term vision



Regulation, Awareness, Talent

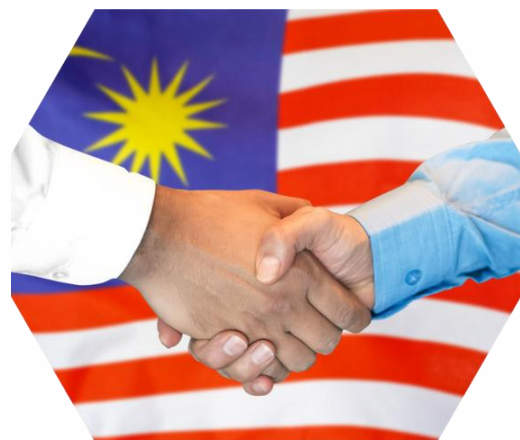
Closing & Collaboration



Digital Trust is the bridge between ambition and action.



Let's build the future together.



Malaysia welcomes: PQC, eSign trust, CA collaboration

Let's co-create a trusted digital future - together with India, ASEAN and the world.



PQC CONFERENCE 2025 KUALA LUMPUR

DATE:

28-30 OCTOBER 2025

VENUE:

**CONNEXION CONFERENCE & EVENT
CENTRE (CEC)**

-  Have clients in ASEAN? Invite them to join this regional platform
-  Share your experience in PKI, PQC and digital trust across Asia
-  Participate in technical panels, working groups & solution showcases
-  Collaborate to shape the future of Digital Trust in Asia through shared leadership
-  Together, we are stronger in the post-quantum future



TERIMA KASIH

THANK YOU

SHUKRIYA



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