

Post-Quantum

Cryptography Conference

Navigating National Cyber Resilience in the Quantum Era



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KEYFACTOR

CRYPTO4A

SSL.com

ENTRUST

HID

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PQC CONFERENCE 2025

NAVIGATING NATIONAL CYBER RESILIENCE IN THE QUANTUM ERA



IR. DR. MEGAT ZUHAIRY BIN MEGAT TAJUDIN
CHIEF EXECUTIVE
NATIONAL CYBER SECURITY AGENCY (NACSA)

The Quantum Threat Landscape

"quantum era carries profound
implications for national security, privacy
and trust"

"Harvest Now, Decrypt Later" Strategy

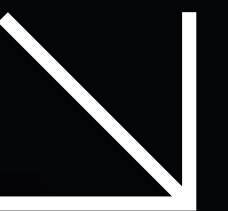
- **Current Reality** - Adversaries stealing encrypted data today
- **Future Risk** - Decrypt when quantum computers become available
- Threat is not tomorrow, but **TODAY**, to the data of the past

"The horizon of quantum computing is no longer speculative"

- How to protect critical systems, infrastructure, and citizen data
- Cryptographic foundations may soon be obsolete

It is a national imperative. We do it so **securely, confidently,** and **resiliently.**

The Quantum Horizon

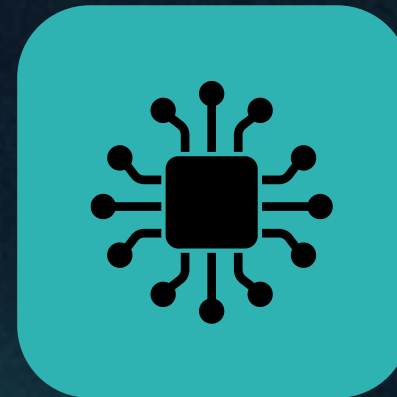


Malaysia's Vision

Post quantum resilience is a national imperative to ensure secure, confident and resilient digitalization. Our vision is built upon three guiding pillars:



Pillar 1
**Strategic
Alignment**



Pillar 2
**Technological
Leadership**



Pillar 3
Human Readiness

Pillar 1

Strategic Alignment: Policy to Practice

Our policies must speak the same language as
our technology

National Cryptography Policy (MyKriptografi)
as a bridge between **policy, compliance** and
implementation

Fully aligned with Cyber Security
Act 2024 and Malaysia Cyber
Security Strategy (MCSS)

Ensuring foundations are trusted,
validated, and quantum-safe

Establishment of the **Malaysia Cryptology
Technology and Management Centre (PTPKM)** -
strategic entity to ensure identity, authentication,
and trust infrastructures evolve seamlessly toward
quantum-resilient standards



Pillar 2

Strategic Alignment: Policy to Practice

Malaysia's Post-Quantum
Cryptography (PQC)
Migration Plan 2025-2030

Proof of Concept (POC) PQC
Program Sandbox Initiative

Through this
sandbox:

we are not merely
observing the future;
we are co-creating it

to shape quantum
transition responsibly,
inclusively, and with
regional impact



Pillar 3

Human Readiness

"technology alone
does not build
resilience, **people**
do"

Education, Collaboration and Inclusion

Building knowledge ecosystems through collaborations with international partners - UN agencies, ASEAN counterparts, and leading academic institutions

Empower local talent to participate in global cryptographic innovation

At NACSA, we are investing in capability-building programs that link national needs with global expertise

Establishment of **Cyber Security and Cryptology Development Centre (CSCDC)**



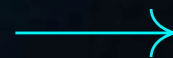
Innovation

National hub for the development of cybersecurity and cryptology technologies



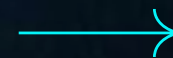
Implimentation

Key national policies and strategies -
Cybersecurity Act 2024 [Act 854], the MCSS, and the MyKriptografi



Strategic Investment

Signifies Malaysia's determination to emerge as a regional leader in modern cybersecurity and cryptology



Regional Leadership

No nation secures cyberspace alone. The threats we face are transnational, and so must be our resilience



Begins with ASEAN

Stand together as a quantum-safe bloc by sharing best practices, developing interoperable standards, and aligning national transitions



Malaysia believes

Advocating for collective readiness, ensuring that when quantum technology matures through our work with the ASEAN Cybersecurity Cooperation Strategy and regional dialogues



Global Standards, Trust and Cooperation

Malaysia and ASEAN
remain interoperable,
trusted, and future-ready
in the global quantum-
safe ecosystem

01

Engage actively in
international
forums, aligning our
efforts with global
standards and
trusted partnerships

02

Following NIST, ISO,
ETSI post-quantum
standardization

Ensuring global
interoperability

03

Trust is the new
currency, and
interoperability is
its exchange rate.



Moral Dimension Trust, Humanity & Purpose

Ask ourselves:

Are we building quantum-safe values?

Are we ensuring that our pursuit of security remains anchored in fairness, inclusion, and respect for human dignity?

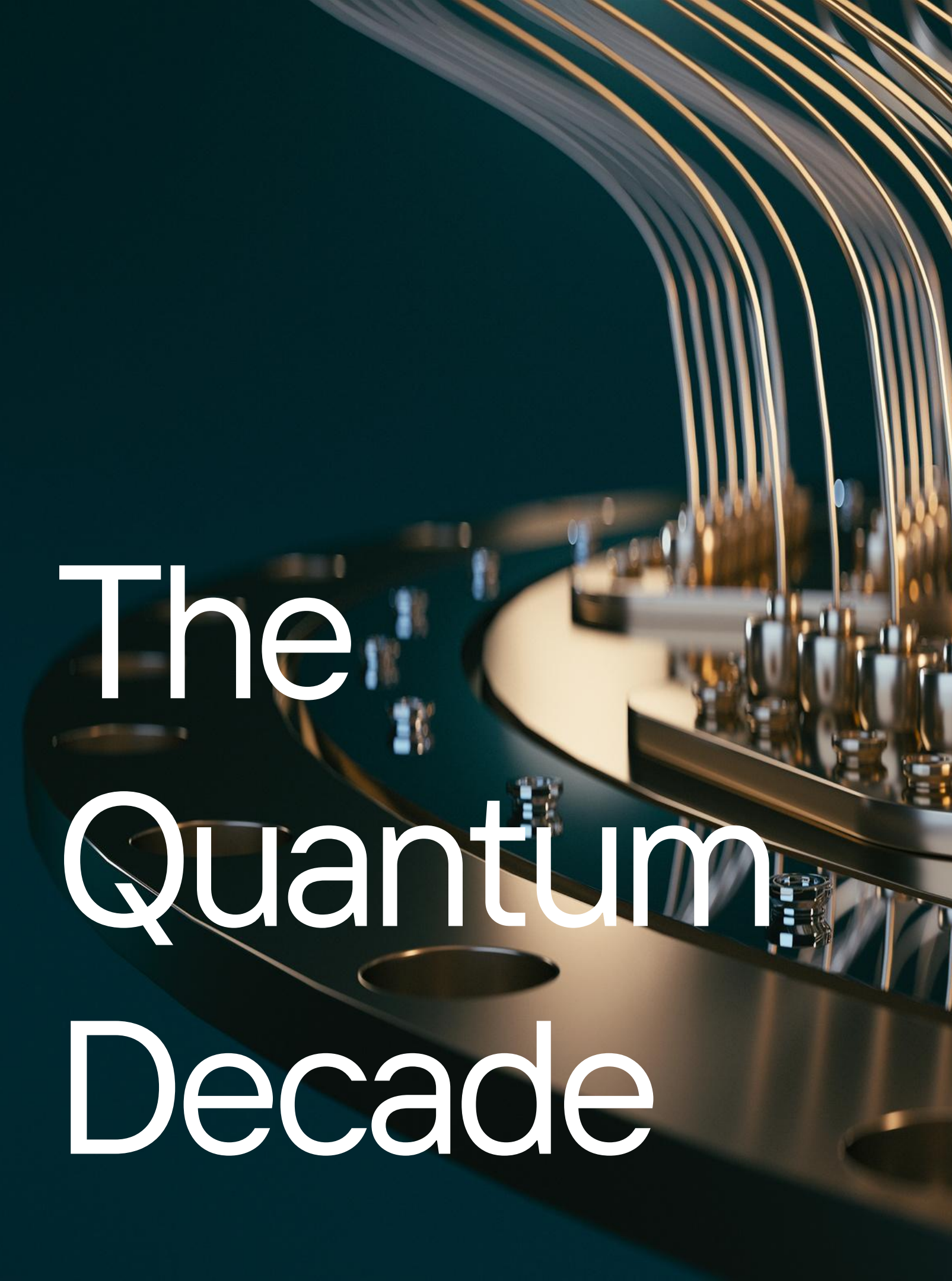
Cybersecurity is not just about codes and keys

Quantum era will not only redefine computation, but also:

how nations relate

how economies compete

how societies trust one another



The Quantum Decade

We are entering the Quantum Decade, a ten-year window

Malaysia's roadmap:

- Advance MyKriptografi as national foundation
- Implement CSCDC to ensure seamless evolution of cyber security ecosystem.
- Operationalize the Malaysia's National PQC Migration Plan
- Build partnerships that turn research into resilience through the POC PQC Program Sandbox Initiative



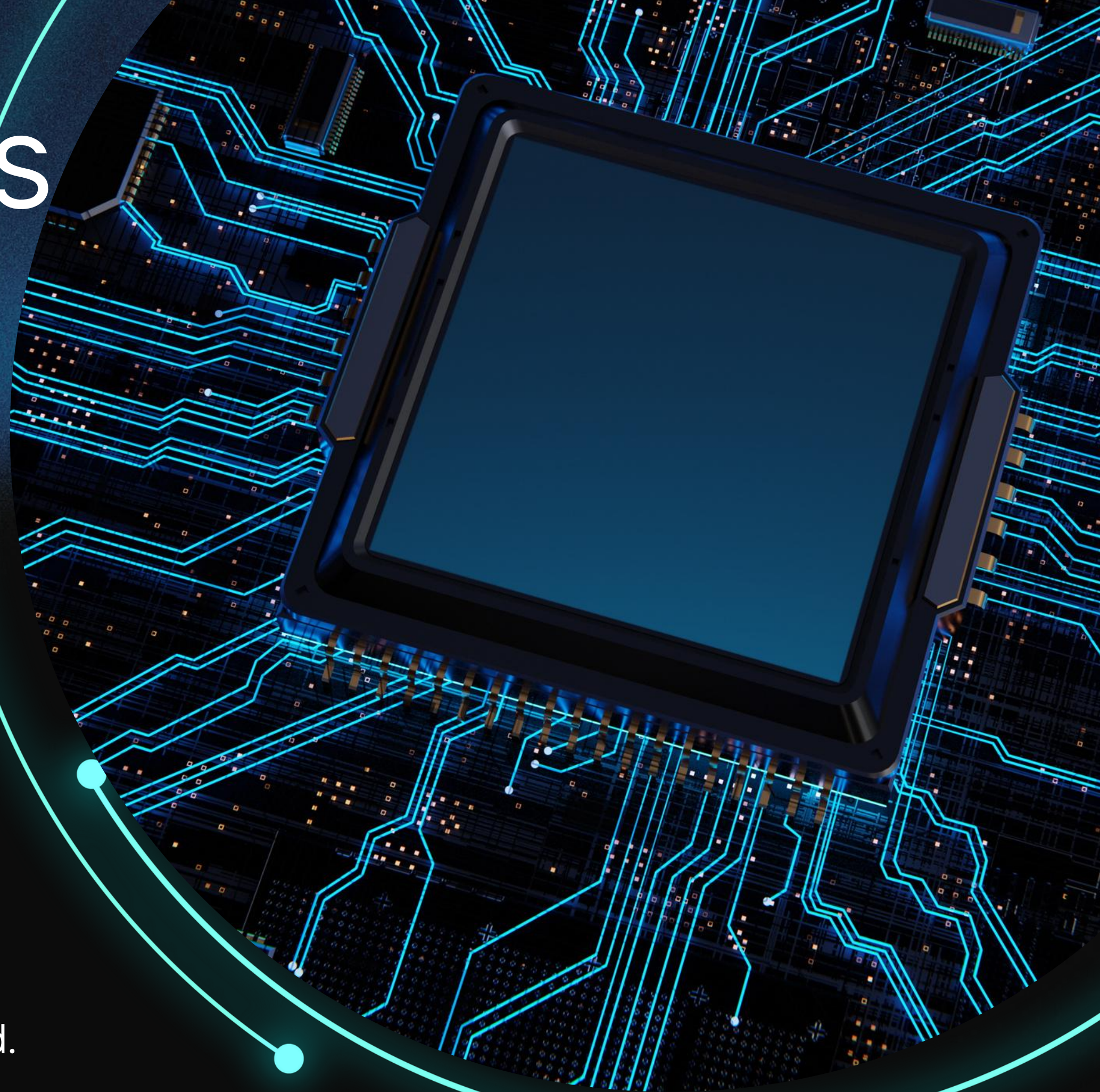
Call to Readiness

"In the 20th century, nations
raced to the moon.
In the 21st, we race to
secure the digital universe"

Let us lead together.

Let us make this the decade where foresight
triumphs over fear, and collaboration over
competition.

Let us stand ready not only to adapt, but to lead.





PUBLIC SURVEY ON CYBER SECURITY IN MALAYSIA

HAVE QUESTIONS?

Contact us via email at: dasar@nacs.gov.my

CLOSING DATE

10 November 2025



National Effort MCSS 2025-2030

Share your insights and ideas

Every perspective count, and together,
we can build a safer and more resilient
Malaysia





NACSA

AGENCI KESELAMATAN SIBER NEGARA
NATIONAL CYBER SECURITY AGENCY

connect with us:



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Terima Kasih | Thank You