



| ICAO

2026 ICAO **TRIP** SYMPOSIUM

22 - 24 SEPTEMBER | MONTRÉAL, CANADA



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Superintendent Loh Wang Boon

Senior Assistant Director, Future Operations &
Transformation (Passenger)

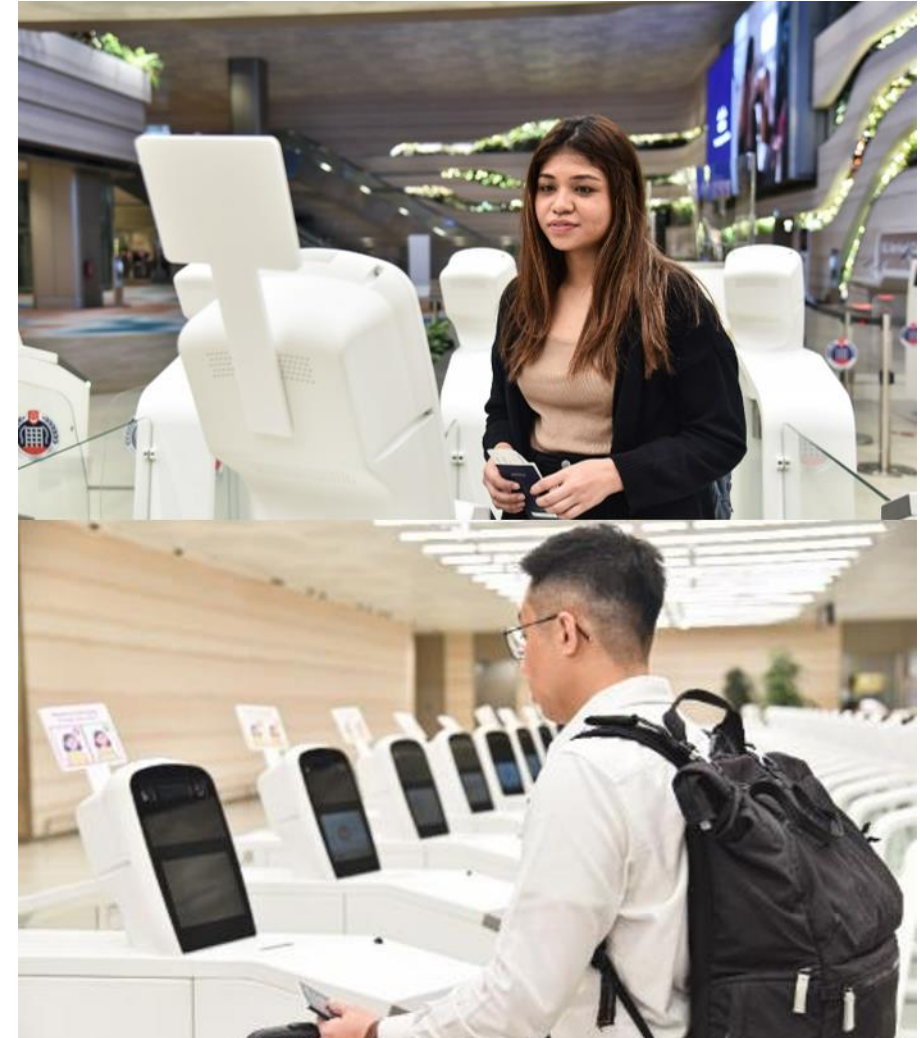
Immigrations & Checkpoints Authority, Singapore

Seamless Travel in Practice

Singapore's Experience with Seamless Travel — New Clearance Concept (NCC)

Scope

- Overview of Immigration & Checkpoints Authority (ICA), Singapore
- Singapore's New Clearance Concept (NCC): Transforming Passenger Clearance Experience
- Key Benefits and Insights of New Clearance Concept (NCC)



ICA's Vision, Mission and Values

Vision

Secure Borders, Safe Singapore

*We Also Facilitate Travel & Trade;
Keeping Singapore Connected to the World*

Mission

We secure our borders and uphold our laws on immigration and national registration

Border Security

Facilitate and ensure lawful movement of people, goods and conveyances through our checkpoints

Identification

Administer and uphold our laws on immigration and national registration fairly and effectively

Values

Integrity, Commitment, Accountability

Overview of ICA



One Agency, Many Services

- Border Control
- Passport Authority
- Naturalisation, Visa, National Registration
- Immigration Enforcement

Serving Everyone in Singapore & Beyond

- Cradle to grave, local residents and travellers



Legislations Administered

- Immigration Act
- National Registration Act
- Passports Act
- Constitution (Part X on Citizenship)
- Registration of Births & Deaths Act

Overview of ICA

~6,300 Workforce
~70% on shift & geographically dispersed

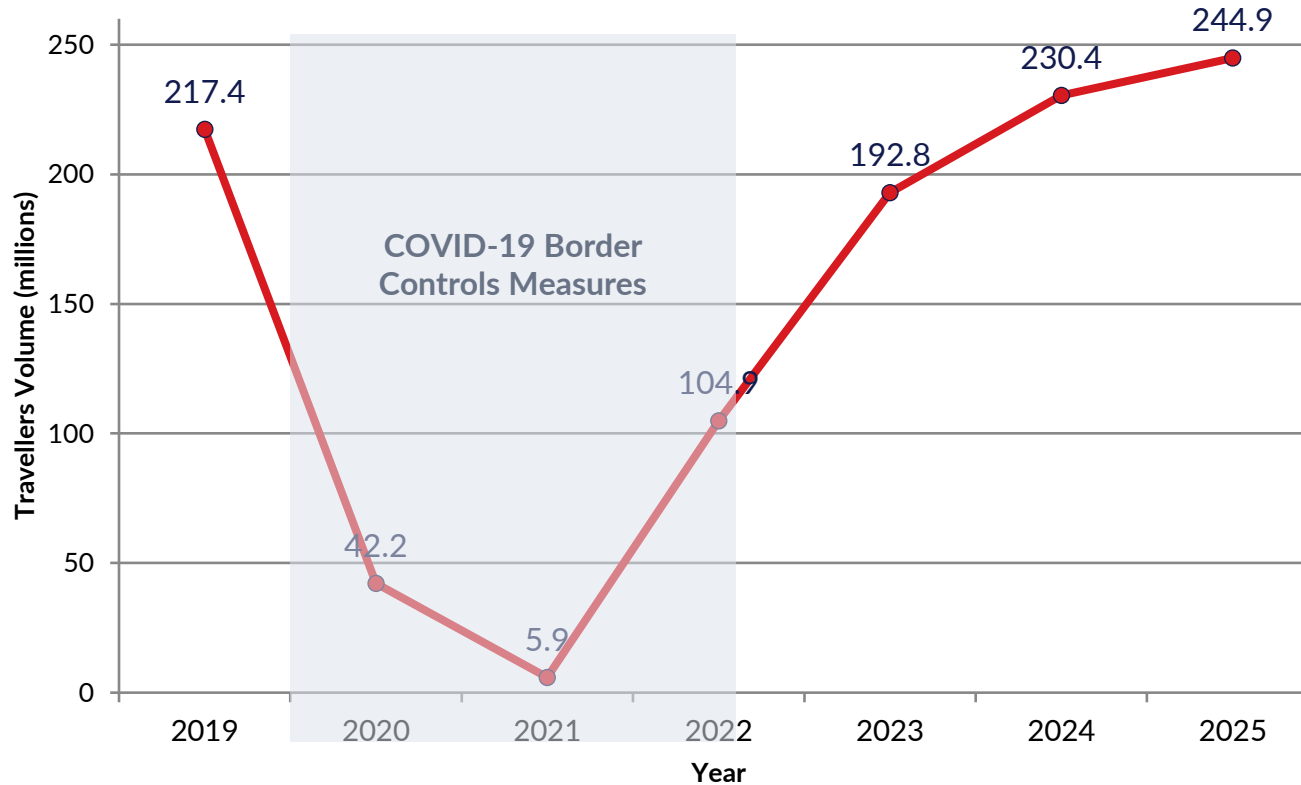
ICA Work Units:

25 Air, Land and Sea Checkpoints
Services Centre
Enforcement & Intel Divisions
Training Command
11 Staff Divisions

SINGAPORE



Our Challenges: Rising Operational Demands



244.9M

travellers cleared in 2025

+12.6%

vs 2019

- Singapore's traveller volume has surpassed pre-COVID-19 figures and continue to rise
- ICAO projects global passenger traffic to reach **8.4 billion by 2040**, an 86% increase over 2019

Our Challenges: Evolving Security Threats, Finite Manpower Resources



Evolving Security Threats

- Dynamic Security Landscape & Threats
- Non-traditional challenges (e.g. pandemic)



Manpower Constraints

- Shrinking workforce
- Limited capacity for exigencies – having to do more with less



Higher Expectations

- Greater public expectations
- Social media amplifying distrust, with misinformation eroding public trust

How Immigration Clearance Used To Be

For ICA Officers

- 1 officer to 1 counter
- Fatigue due to excessive overtime
- Time pressure to assess each traveller's risk and intent

For the Public

- Long queues and waiting times

For Security

- Risk of not detecting travellers with ill intent, and not authenticating a person's identity accurately



Singapore's New Clearance Concept (NCC) – A Simple Vision : Allow Every Traveller to Use Automated Lanes, Without Compromising Security

Traditional Border Clearance concept -
inconveniences the low-risk majority to catch
the high-risk minority



Pre-NCC: About 0.1% of travellers were refused entry
i.e., **99.9% are bona fide travellers**



Leverage data and biometrics:
Shift risk assessment from on-arrival to pre-arrival, streamline on-arrival process

For Every Immigration Clearance Transaction, Two Key Steps

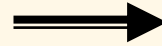
Pre-NCC

NCC

Step 1

To ascertain if traveller is of high risk

On-the-spot assessment and interview by officers at manual counters to detect high-risk travellers

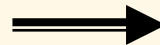


Forward Risk Assessment
Leverage advance information to detect high-risk travellers before arrival

Step 2

To establish if traveller is who he claims to be

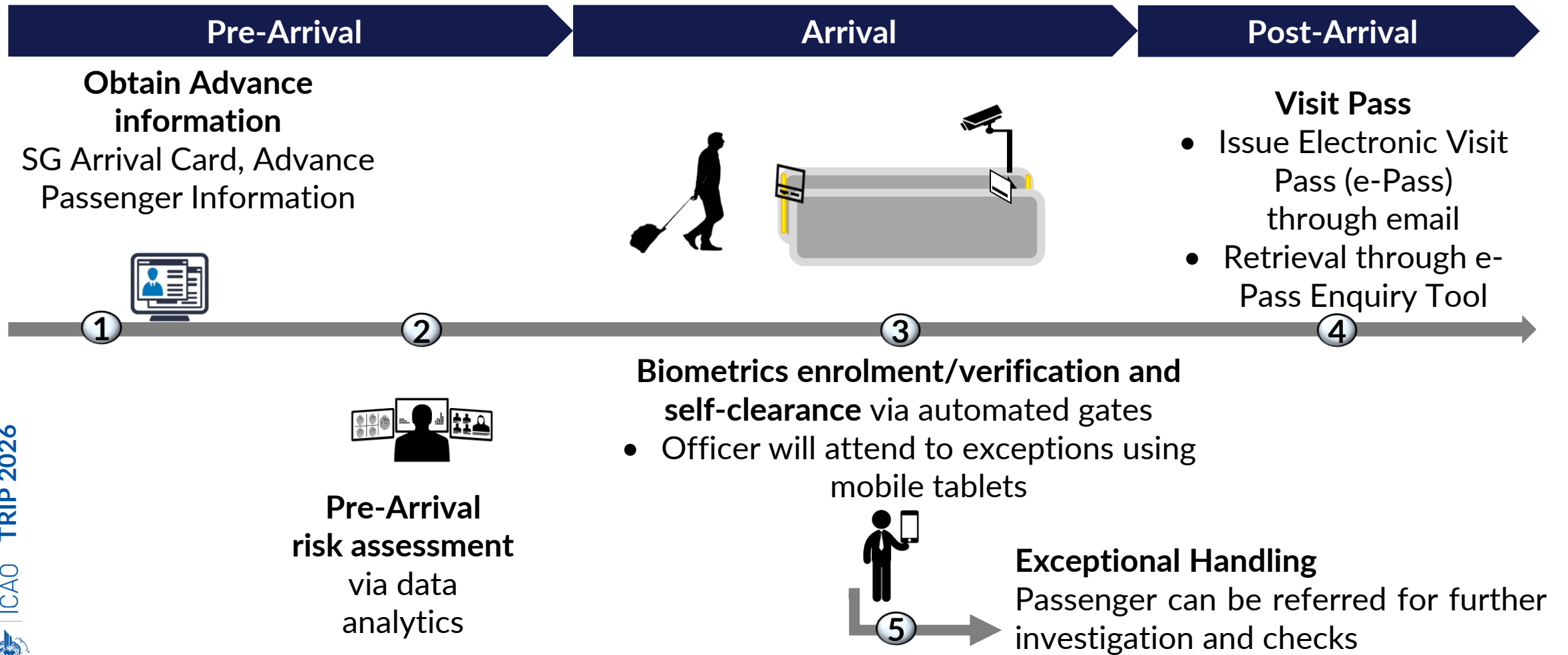
Face-to-face checks conducted by officers at manual counters



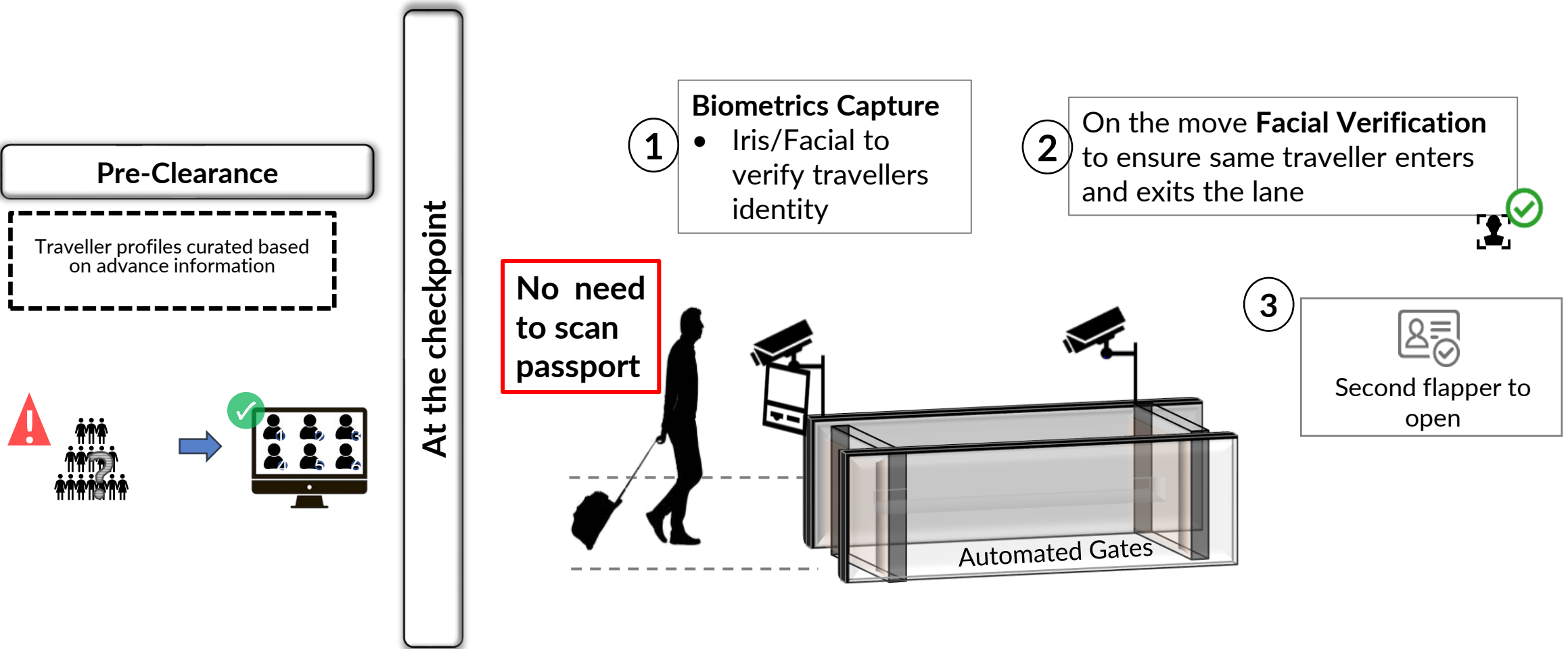
Matching of biometrics at automated lanes



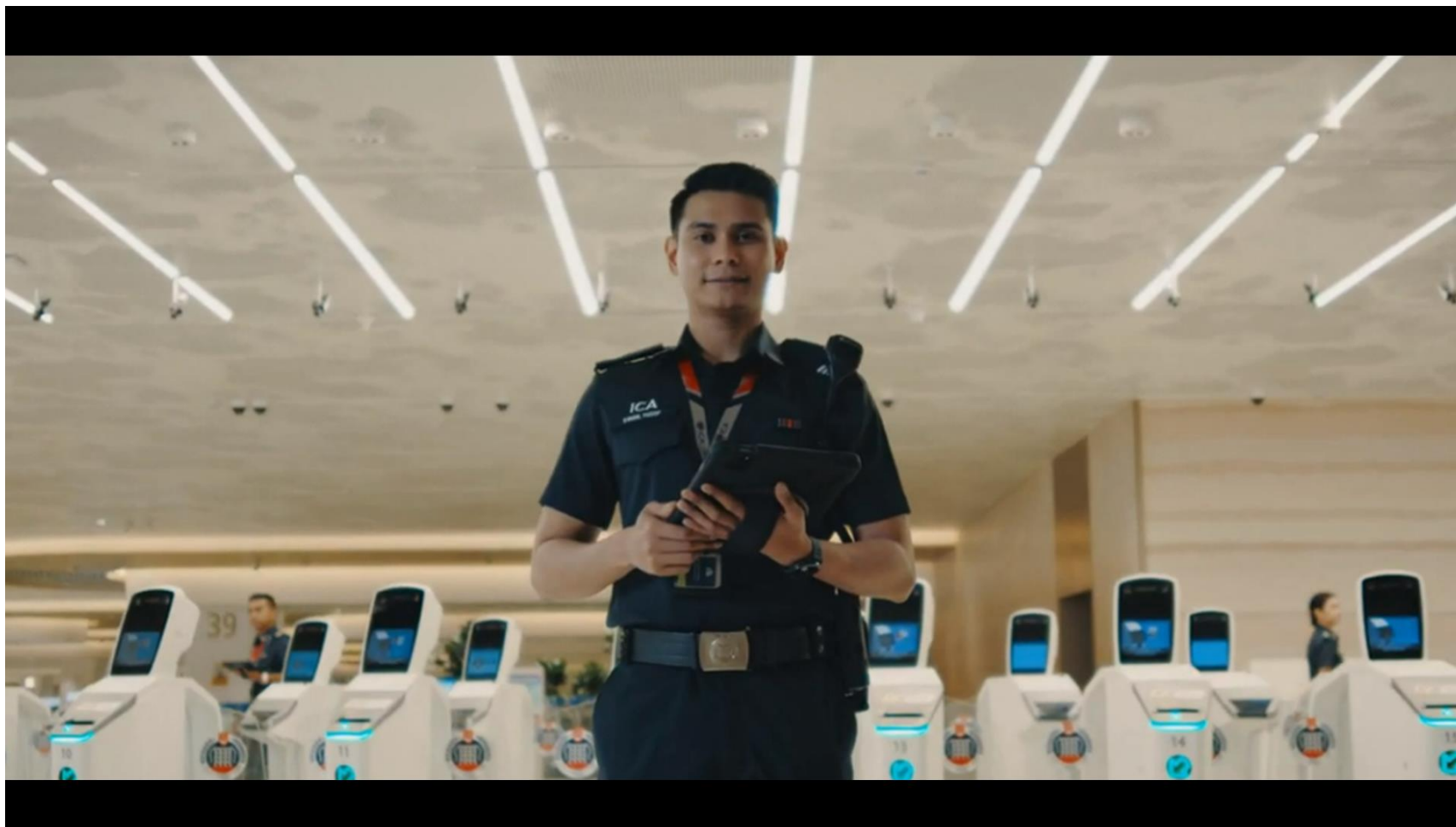
Singapore's NCC: Clearance of Foreign Travellers



Singapore's NCC: Clearance of Residents & Departing Foreign Travellers



NCC Video



Key Benefits

Efficient Manpower Use

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Officer to Counter

Manpower Savings

- Reduce manning requirements
- Reduce manpower ask for new infrastructure projects
- Reduction in overtime

Speedy, Seamless & Secure

95%

automated clearance

10s

passport-less clearance

Faster Clearance

- Automated clearance for all travellers
- Improved passenger experience with faster, passport-less clearance

Better Security Outcomes

- Travellers detected with irregularities and refused entry have almost doubled with NCC

Recognition of our Transformation



Singapore Changi
Airport: **World's Best**
Airport Immigration
Service Award 2024



Singapore Changi
Airport: **World's Best**
Airport Immigration
Service Award 2026

Way Forward

- Singapore's transformation journey in border clearance does not end here and is still evolving.
- We continue to explore new technologies and concept of operations to enhance border operations. Upcoming changes include automated clearance for vehicles and cargo.
- Knowledge sharing and collaboration among Contracting States remains vital – sharing experience and proven practices helps to address common challenges and enable successful delivery of enhanced passenger clearance.