

出席「Future Ready Airports」發表專題演說簡報內容



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Airport

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**Leveraging Smart Facilities
To Ensure Seamless Terminal Operations:
A Case Study of
Taoyuan International Airport T3, Taiwan**

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- **Smart airport's facilities architecture**
- **Smart security construction for good passenger experience**
- **Build up new Baggage Handling System to solve existing bottleneck**
- **Integrate all facilities for Airport Collaborative Decision Making**

“Smart” Terminal Planning

What is Smart Terminal Planning?

- Provides functional solutions that are flexible as the future is uncertain
- Finds the most suitable technical solution and enables its integration
- Proofs that the solutions work

Goal

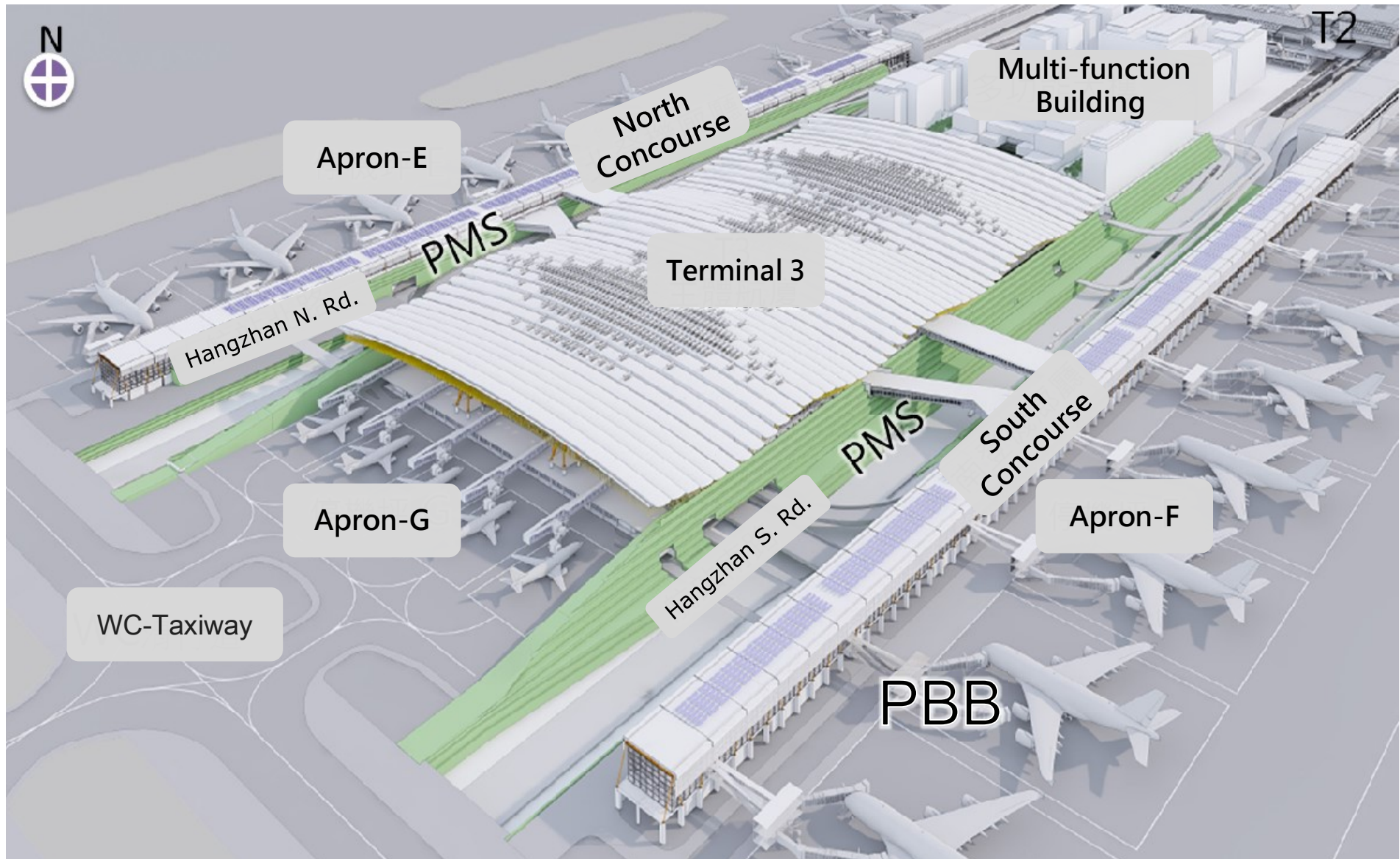




Third runway project



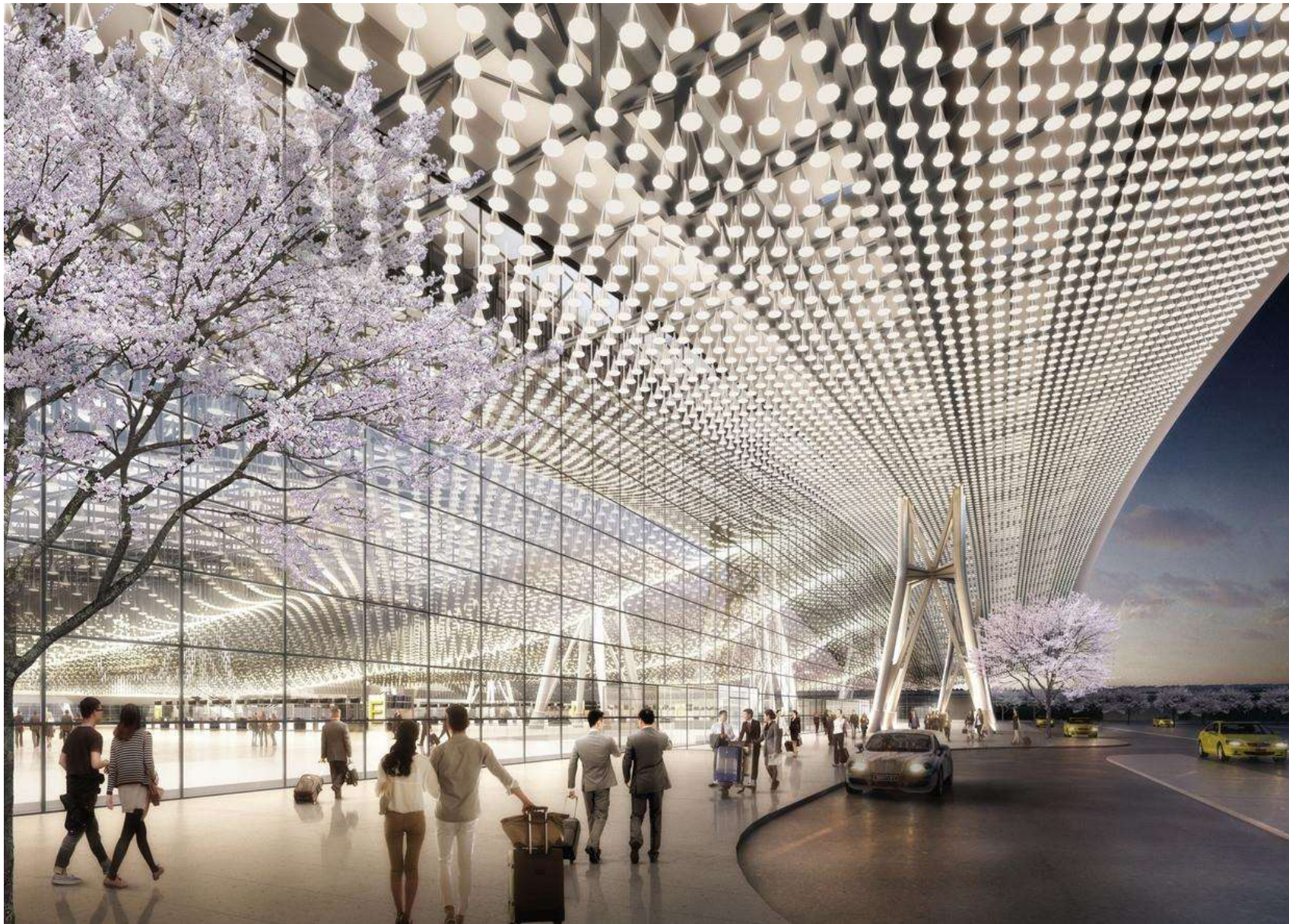
Terminal 3 facilities



Introduction to Terminal 3 - TPE



Introduction to Terminal 3 - TPE



Smart Security Process





- **Parallel divest:** a completely different approach to preparing passengers for the screening process
- **Automatic diversion:** an efficient method of separating suspicious baggage from the main conveyor
- **Automated tray return:** eliminates the need to transport trays manually



Source : Web



iLane.evo
Advanced checkpoint conveyor system with a high degree of automation

Passenger Experience Summary - Departure



ICT

T3 (Tender 6)

Smart Security



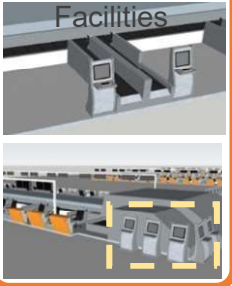
Passenger Experience

Way Finding Boarding Alert Shopping Information

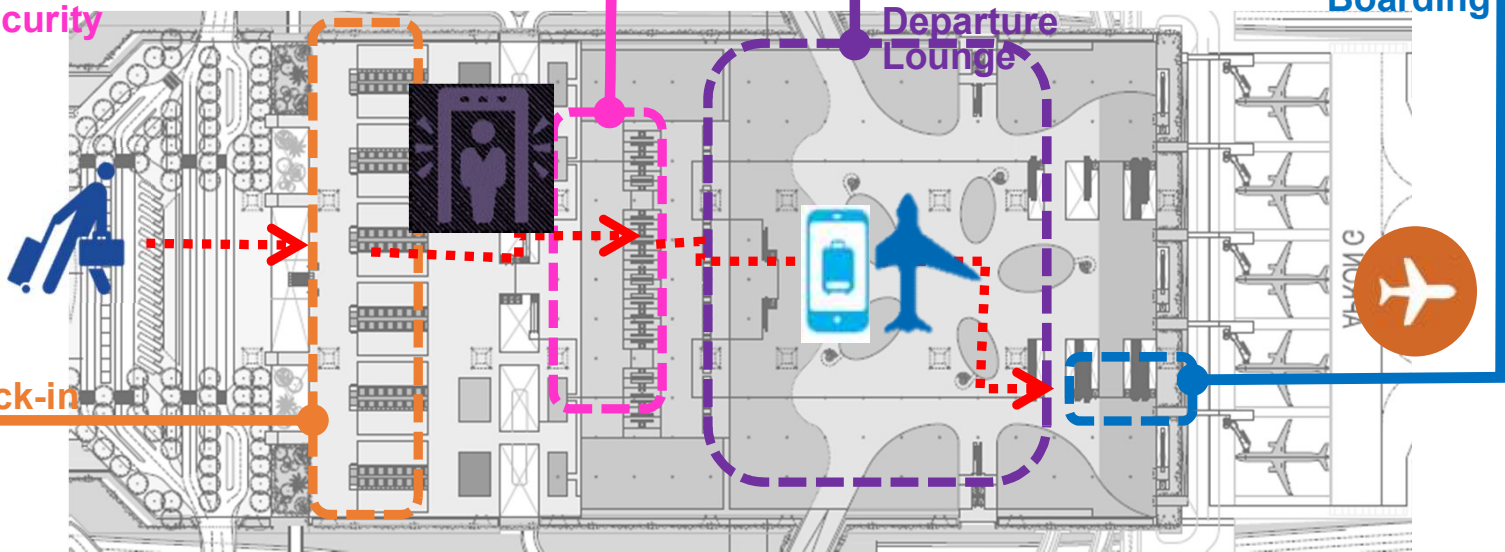
Automated Boarding Gates

TIAC & BHS (Tender10)

Self Check-in & Bag Drop Facilities



Check-in



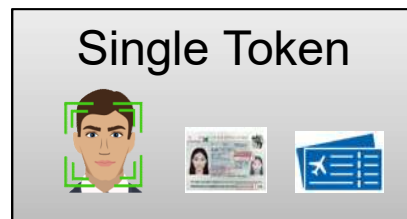
Departure hall

The purpose of promoting self-service departure clearance

1. Impressive passenger's experience :

- ✓ Shorten passengers departure clearance time, reduce travelling document checkpoints, reduce service manpower, and improve passenger satisfaction.

The concept of ICAO single token

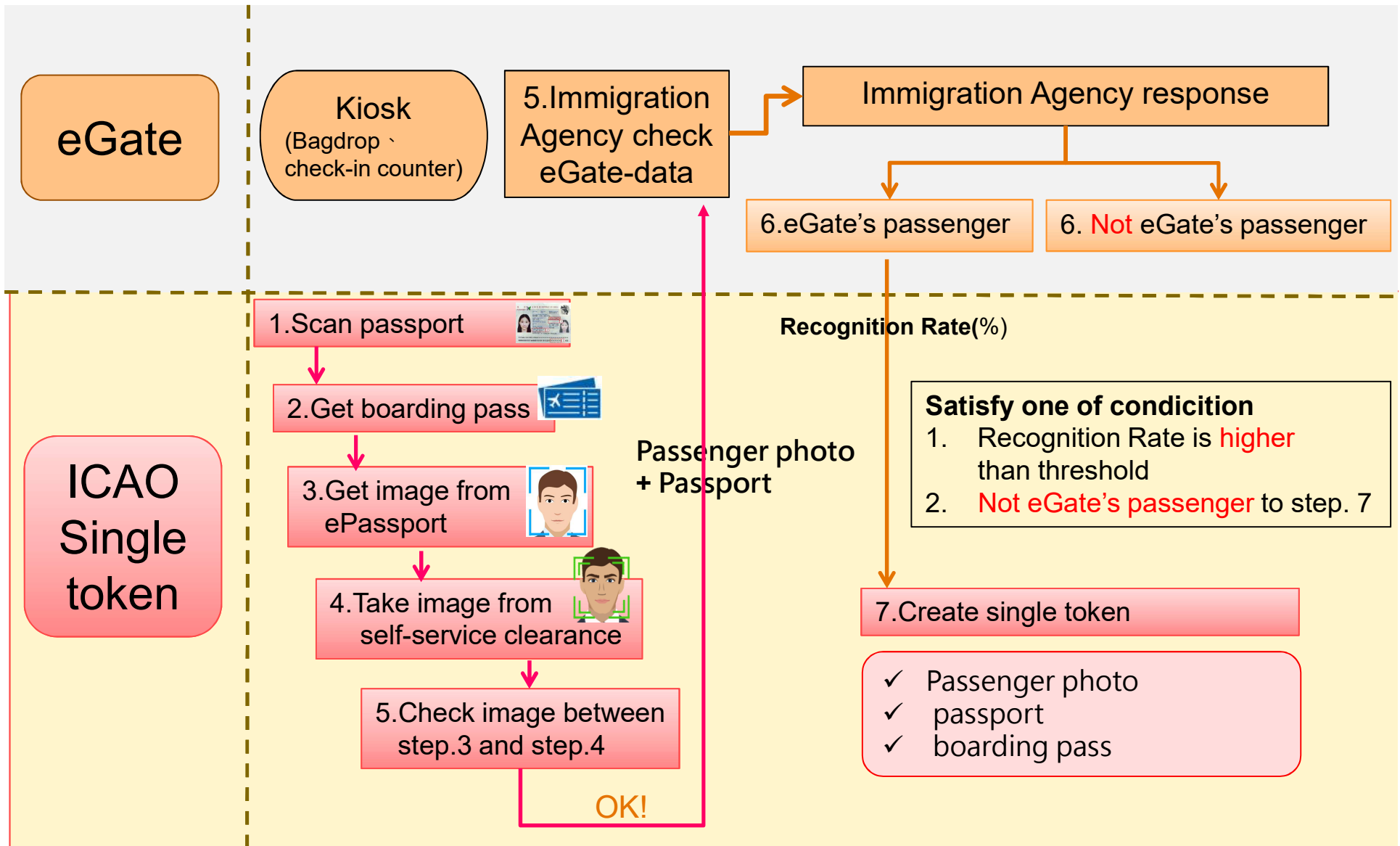


2. Collaboration with CIQS :

- ✓ Preventing illegal departures and confirming the identity of boarding passengers

Recommend that airlines and immigration offices adopt the same verification method, and identity verification include check-in and transfer passengers

ICAO Single Token



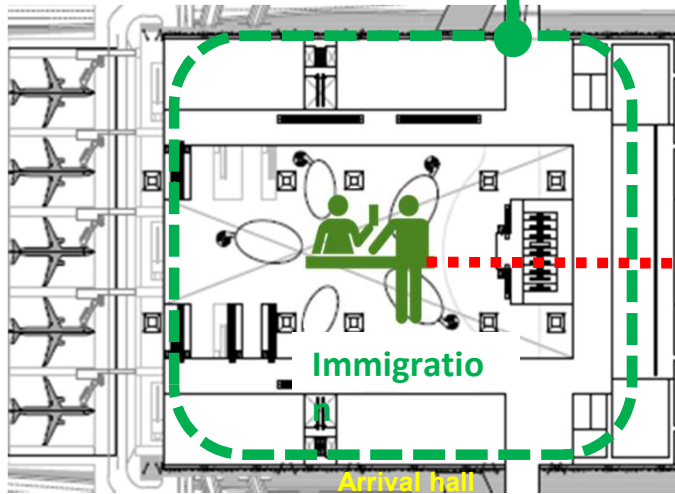
Facial recognition Boarding Gate



Passenger Experience Summary -Arrival

Immigration

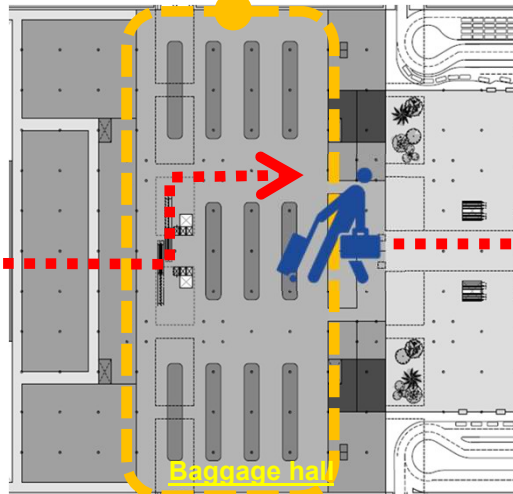
Automated Passport Control



ICT

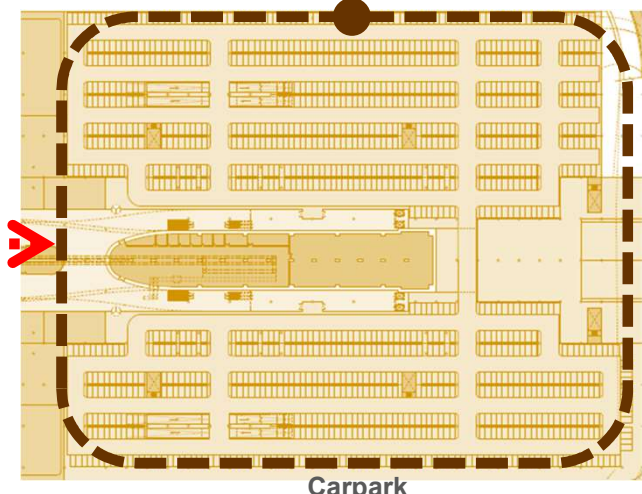
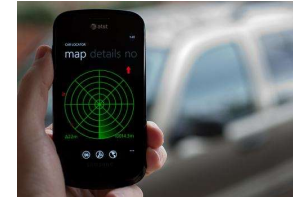
Delayed Baggage Report System

Baggage Status Notification

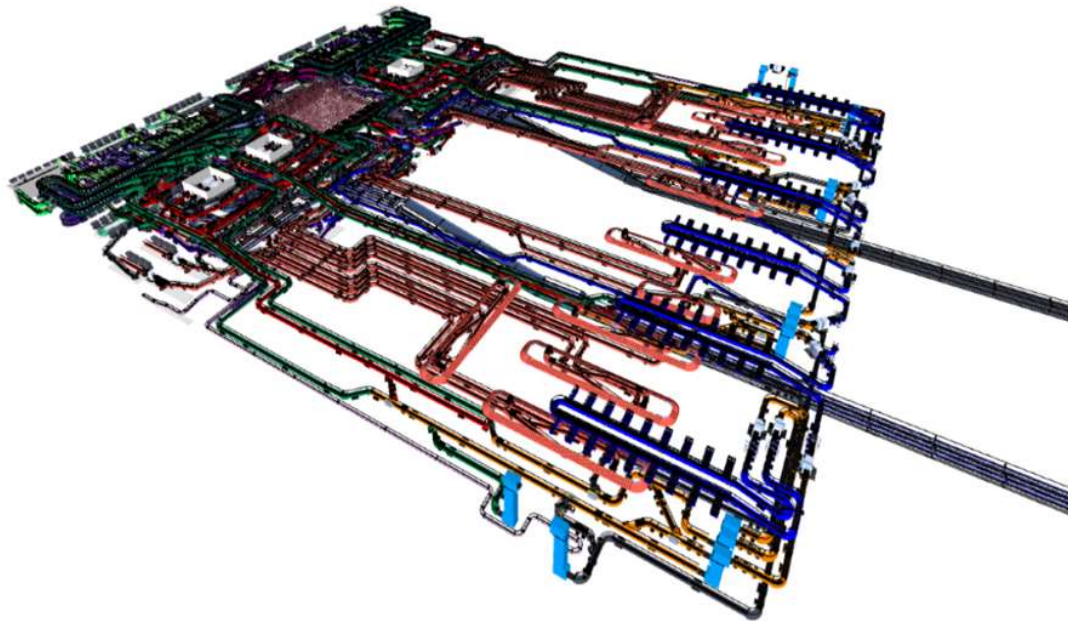


ICT

Smart Search Parking Location



Baggage Handling System



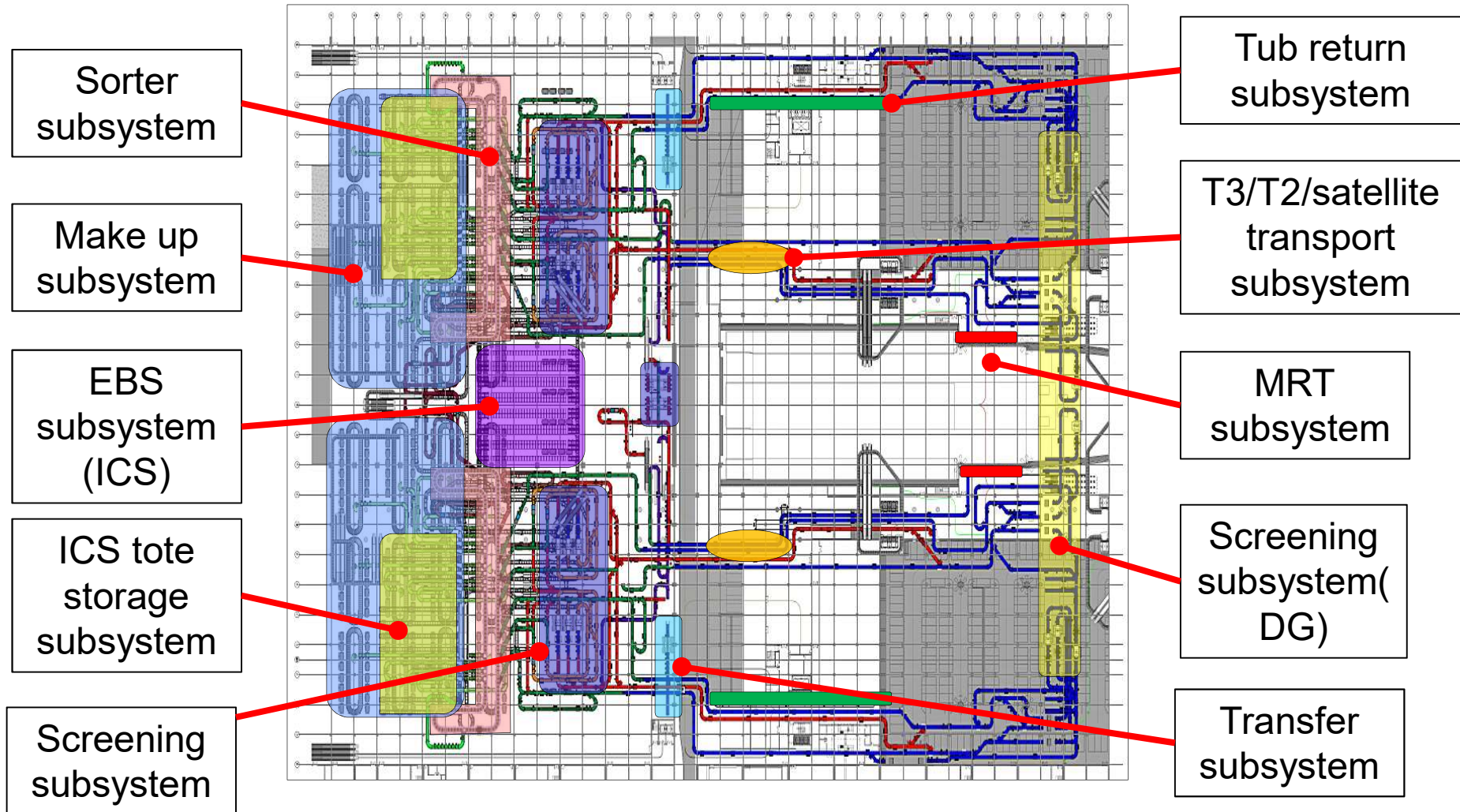
➤ Departure System

- Capacity : 10,098 bph
- Designed to handle golf bag up to **1.2m** length
- 12 check-in rows, 204 counters
- 12 Standard 2 machines & 4 CT machines for dangerous goods and explosive screening
- 4 tilt tray sorters (994m)
- 24 make-up carousels
- Automated Individual Carrier System (ICS) Early Bag Store capacity of 3000 bags
- Integrated link with MRT from City Check-in
- Integrated backbone via ICS between Terminal 1,2,3 and future Satellite

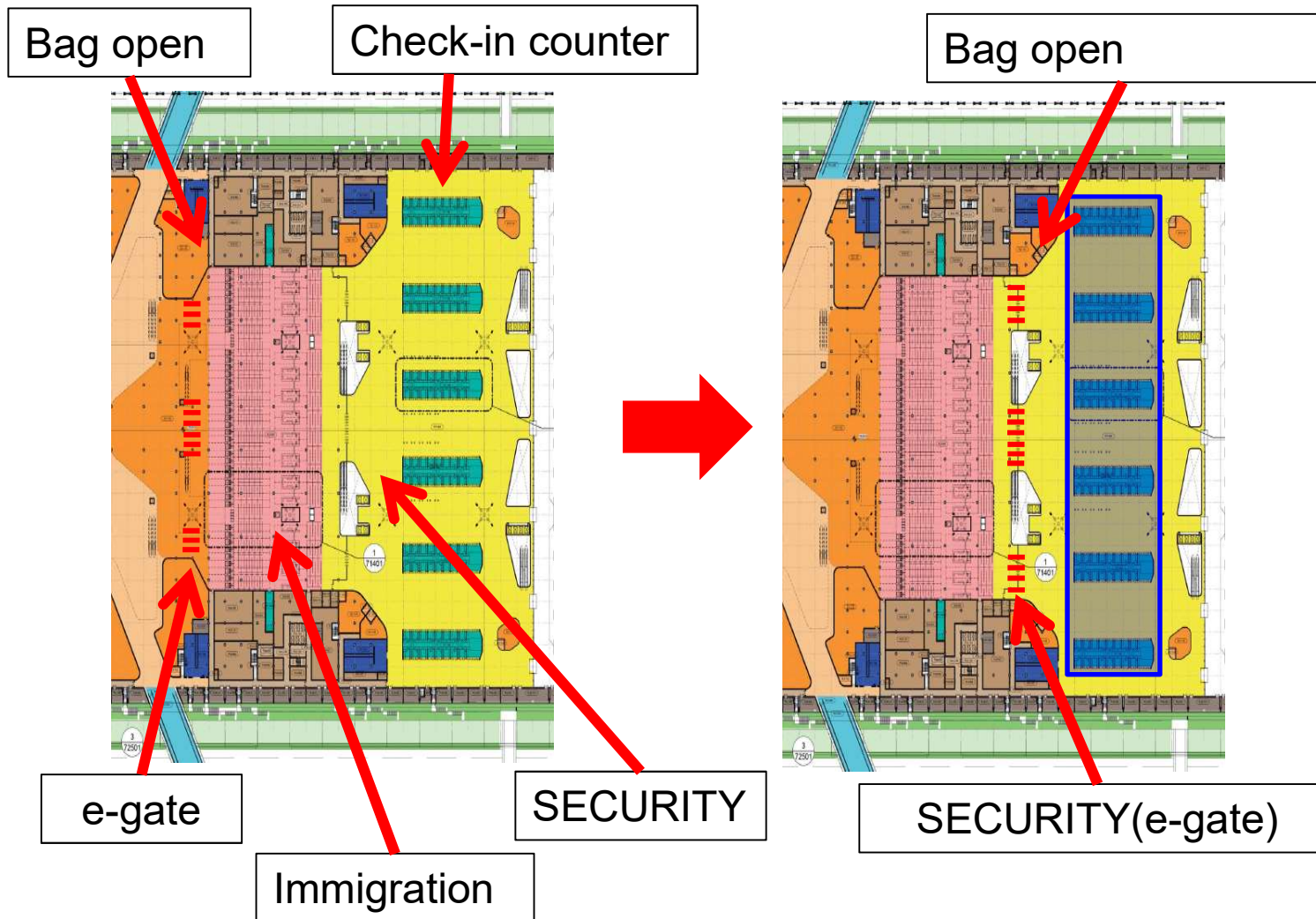
➤ Arrival System

- 22 Arrival line with customs screening
- 12 Arrival carousels

Departure System

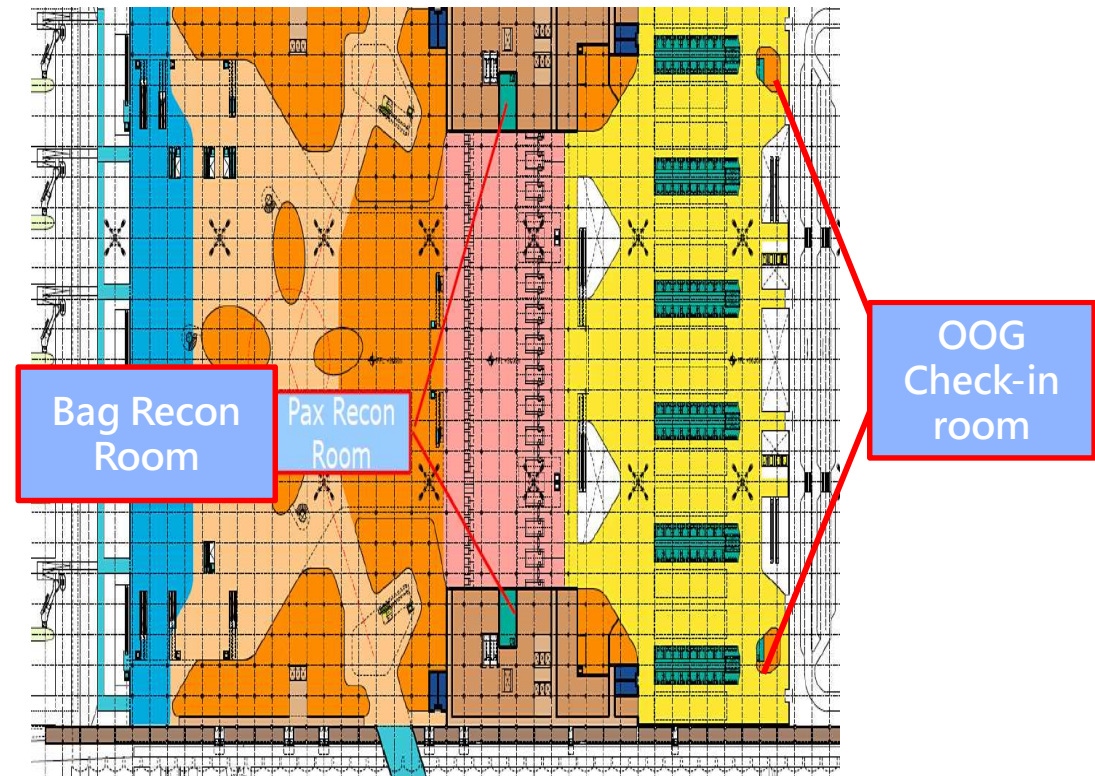


Baggage Screening



Bag Reconciliation process & OOG(Out of Gauge) check-in

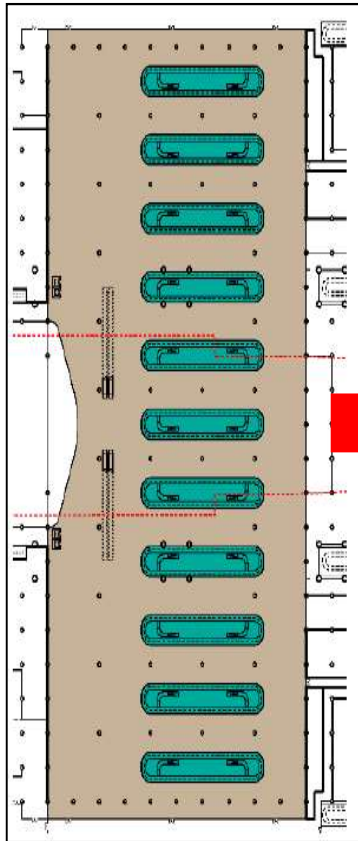
Build smart security via ICT



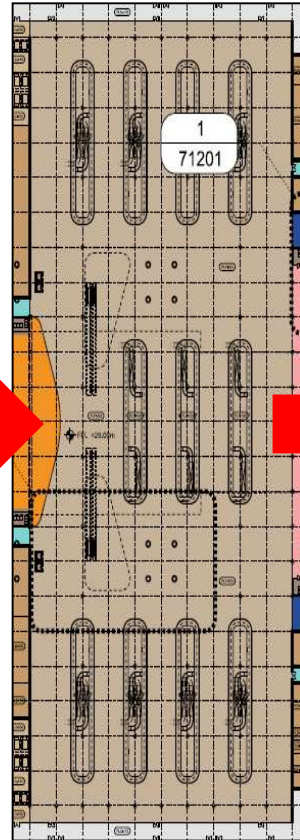
3rd Floor - Departure Hall

Arrival System

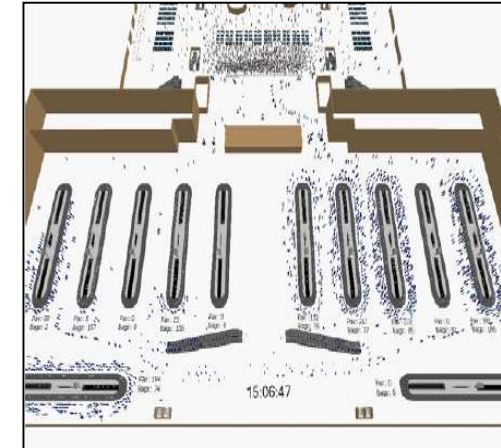
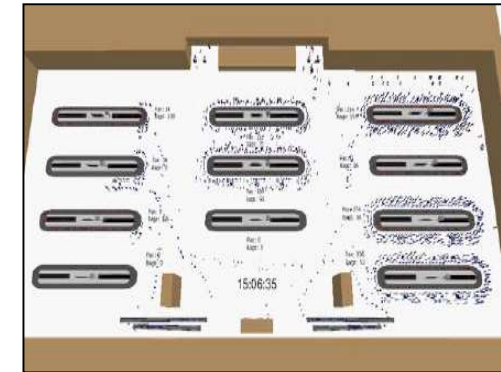
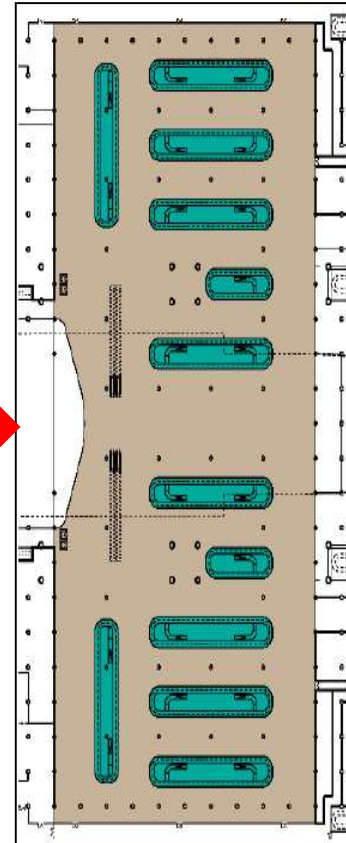
Planning



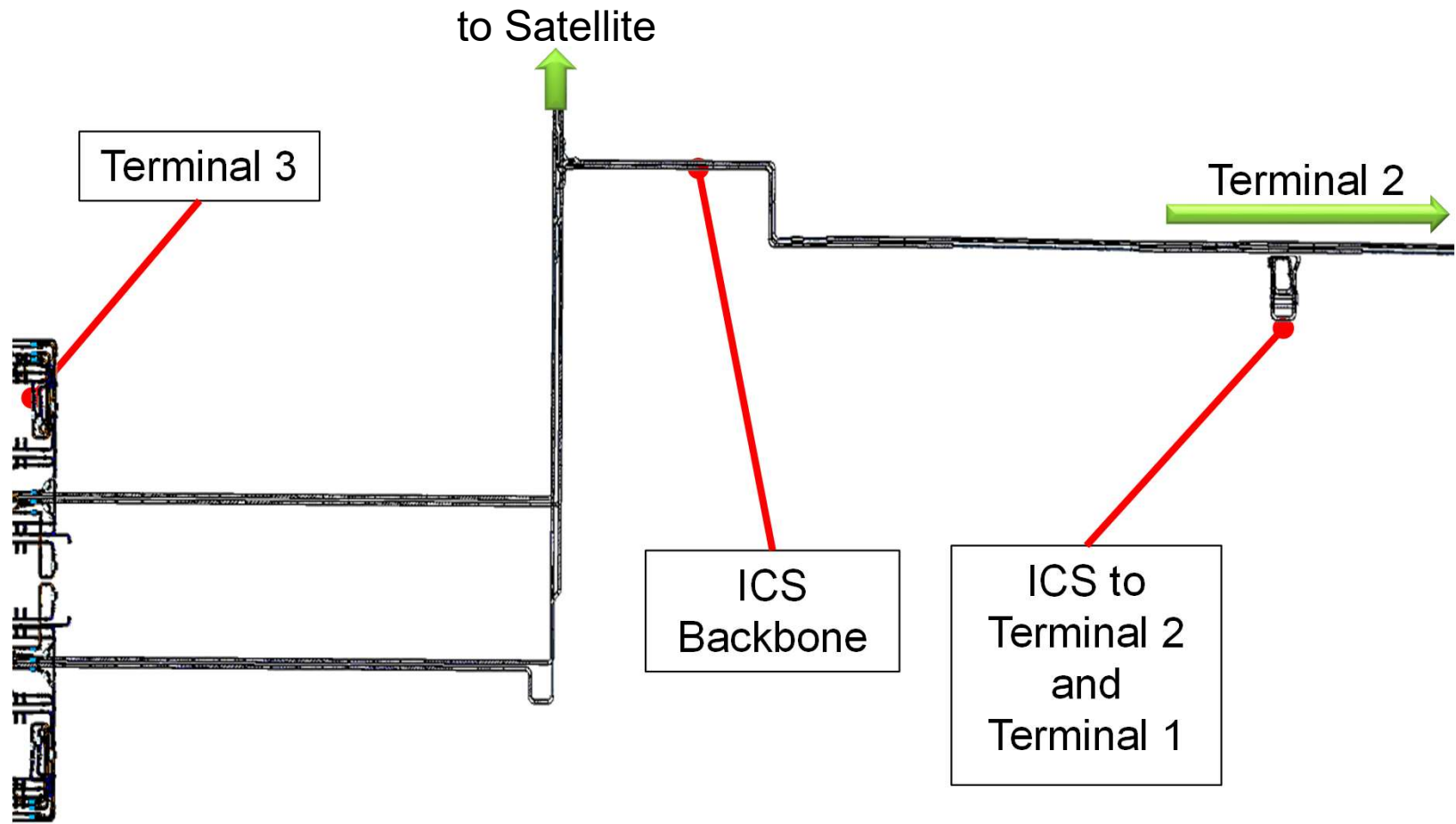
DC Proposal



GC Compromise design

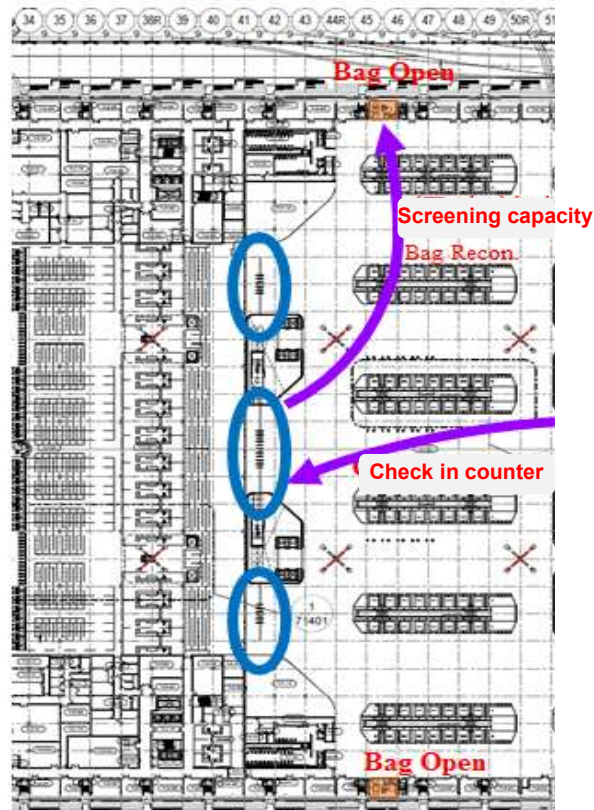


Baggage Handling System



ICS Backbone

HBS (Hold Baggage Screening)



Central Remote Screening

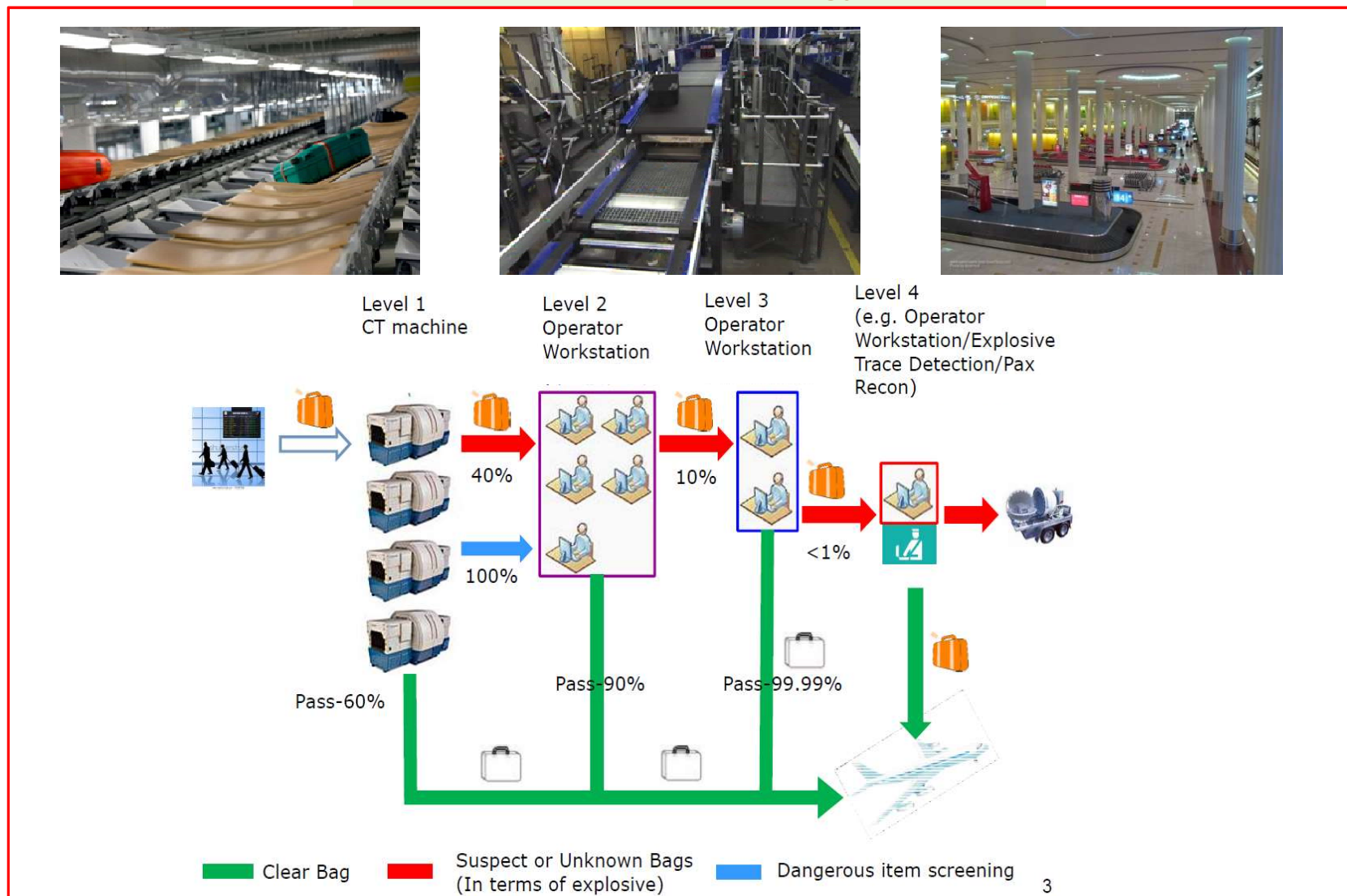
Screening capacity not affected by Recon

DG bags discharge to 3F automatically

Dg bags recon. at both sides in check in hall

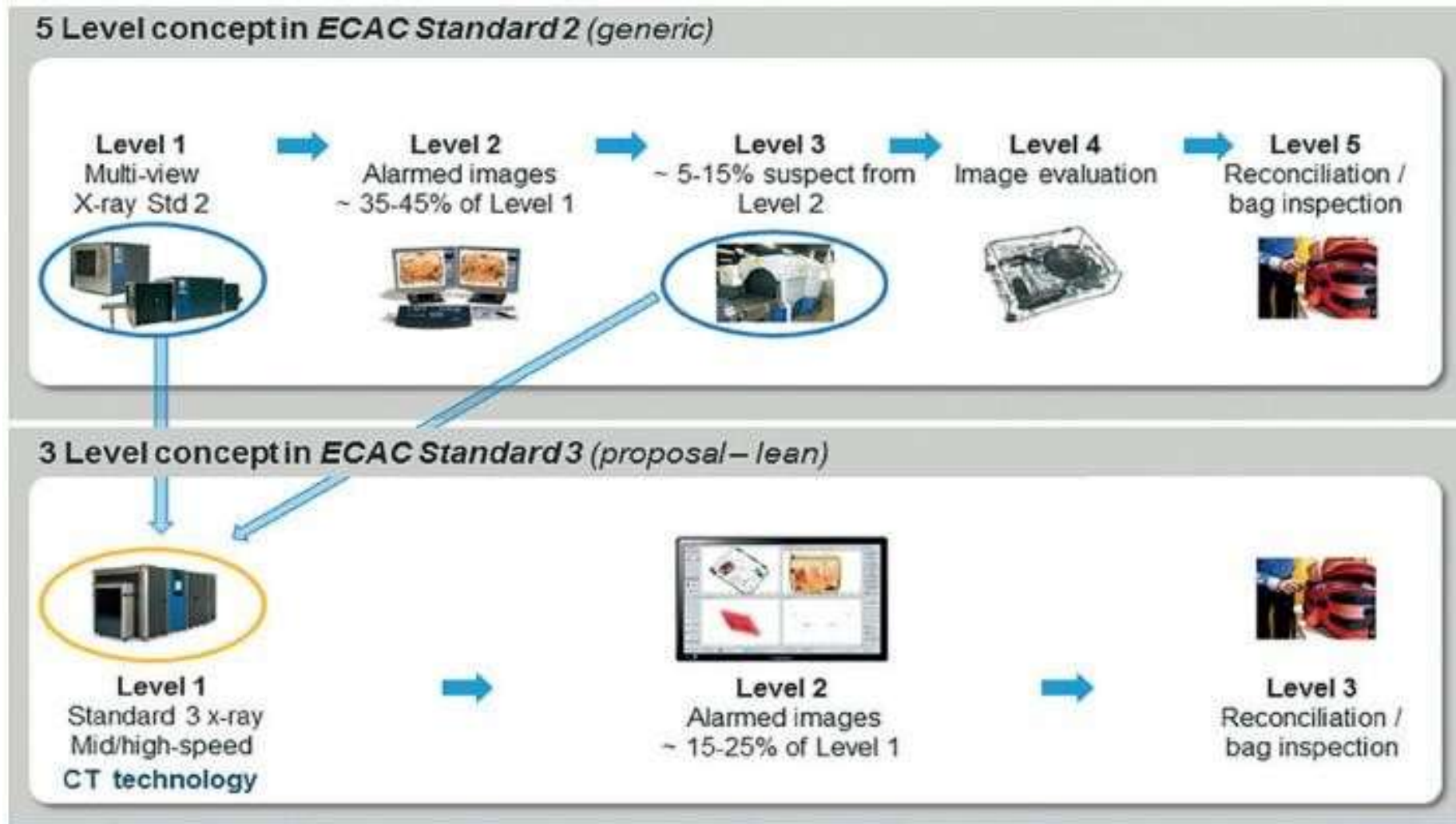
Baggage Handling System

BHS sortation Technology Trend

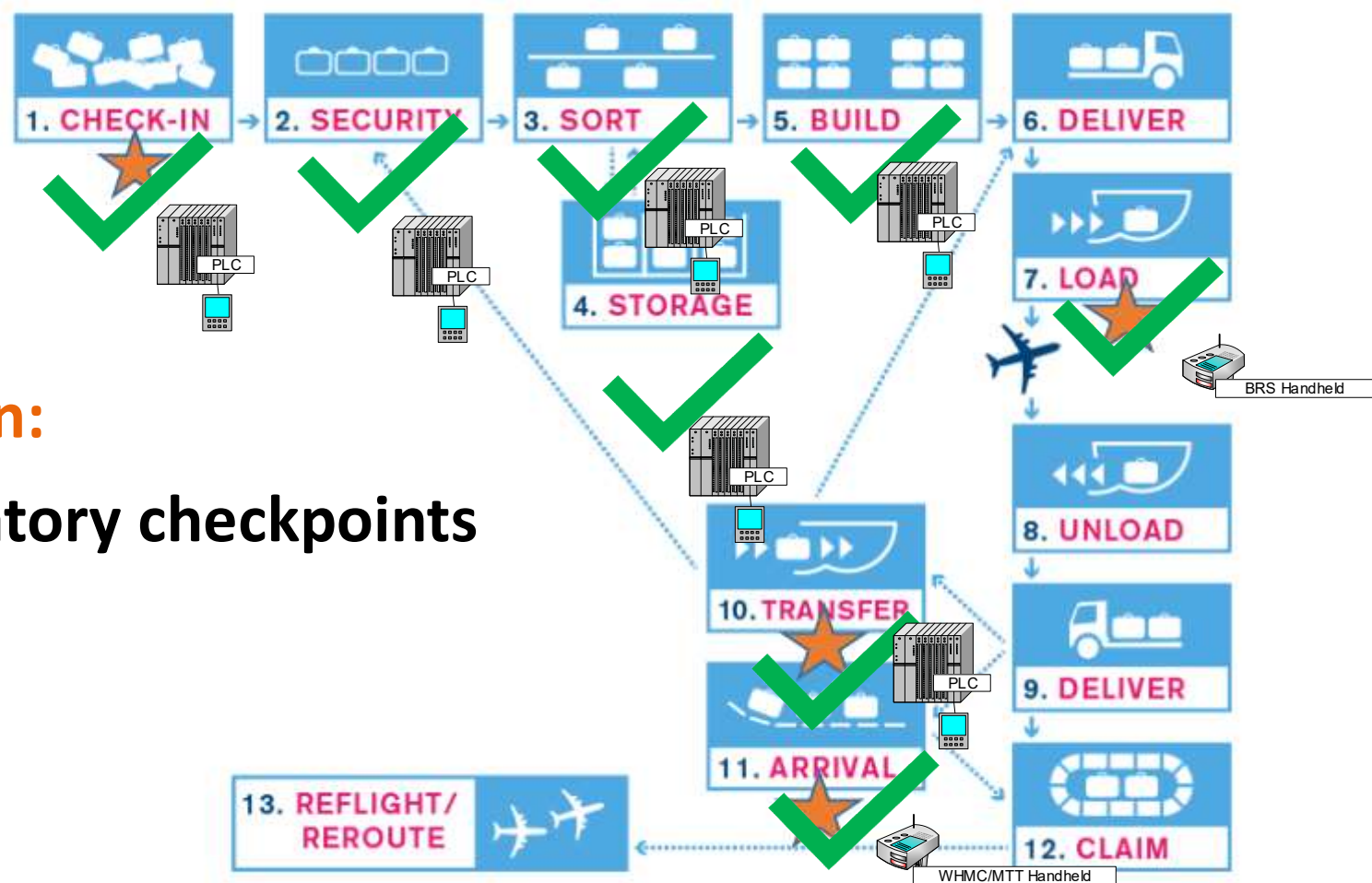


Screening for dangerous and explosive item

Assessment on 3-Level HBS System



Implementation of IATA753 for TPE T3



Conclusion:

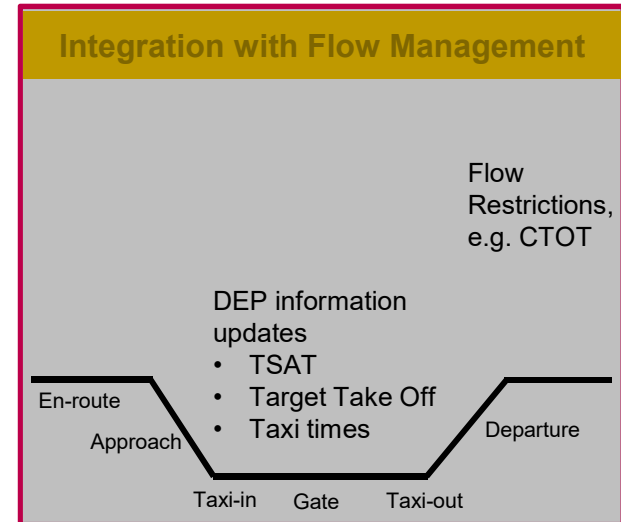
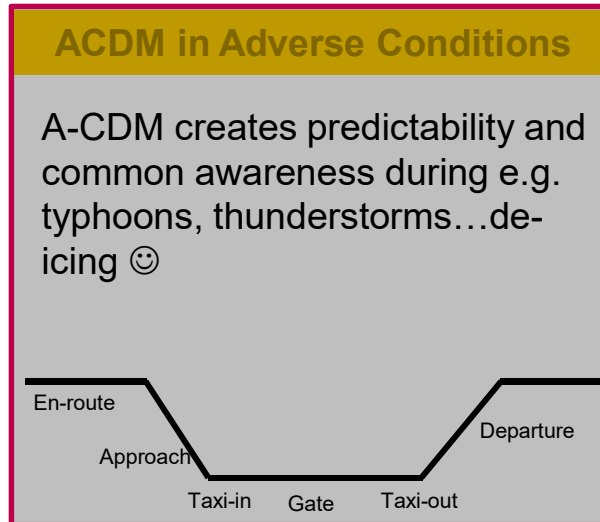
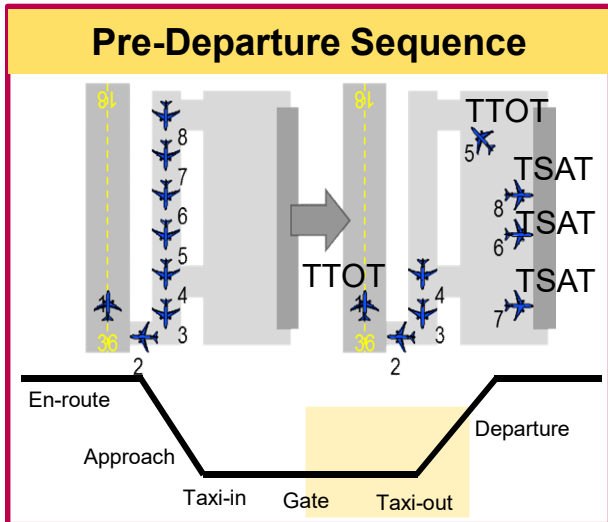
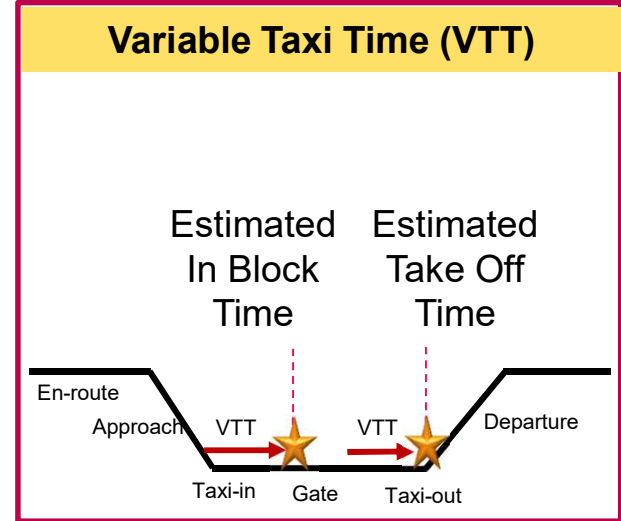
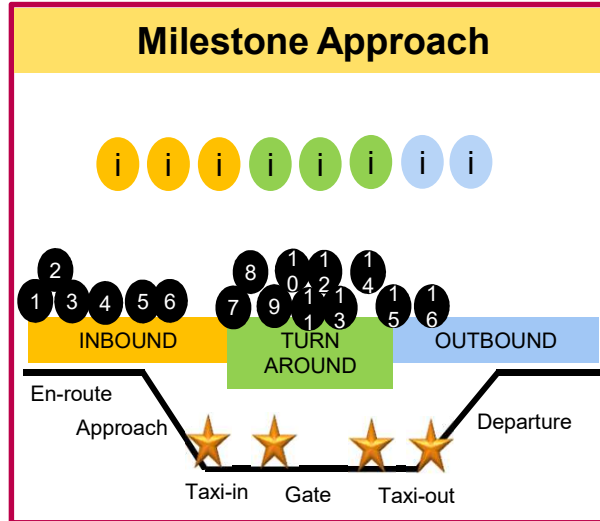
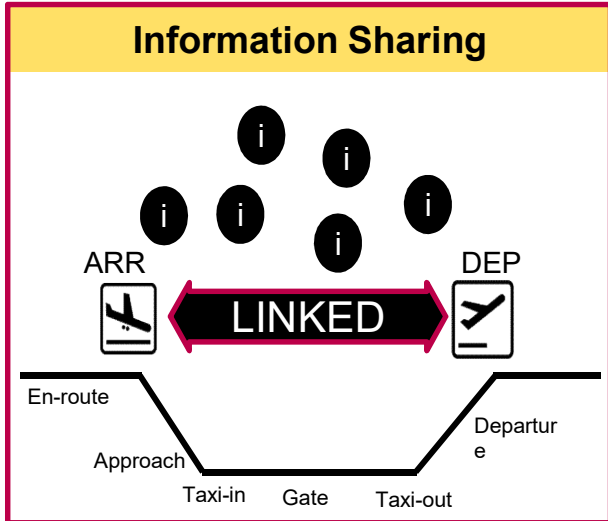
All mandatory checkpoints covered!



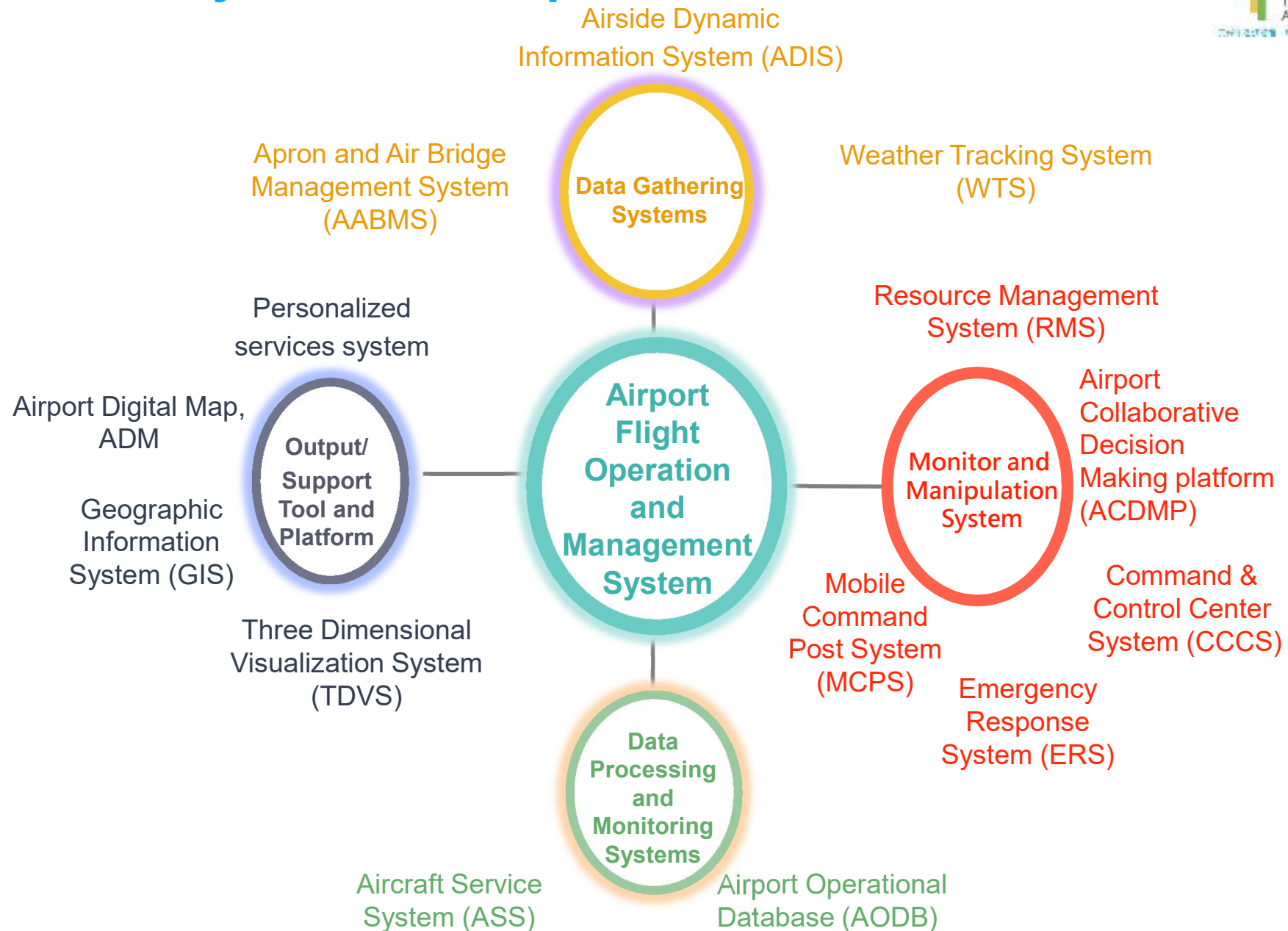
= Mandatory tracking point

Working Scope of T3 ACDM

The Six Function Phases



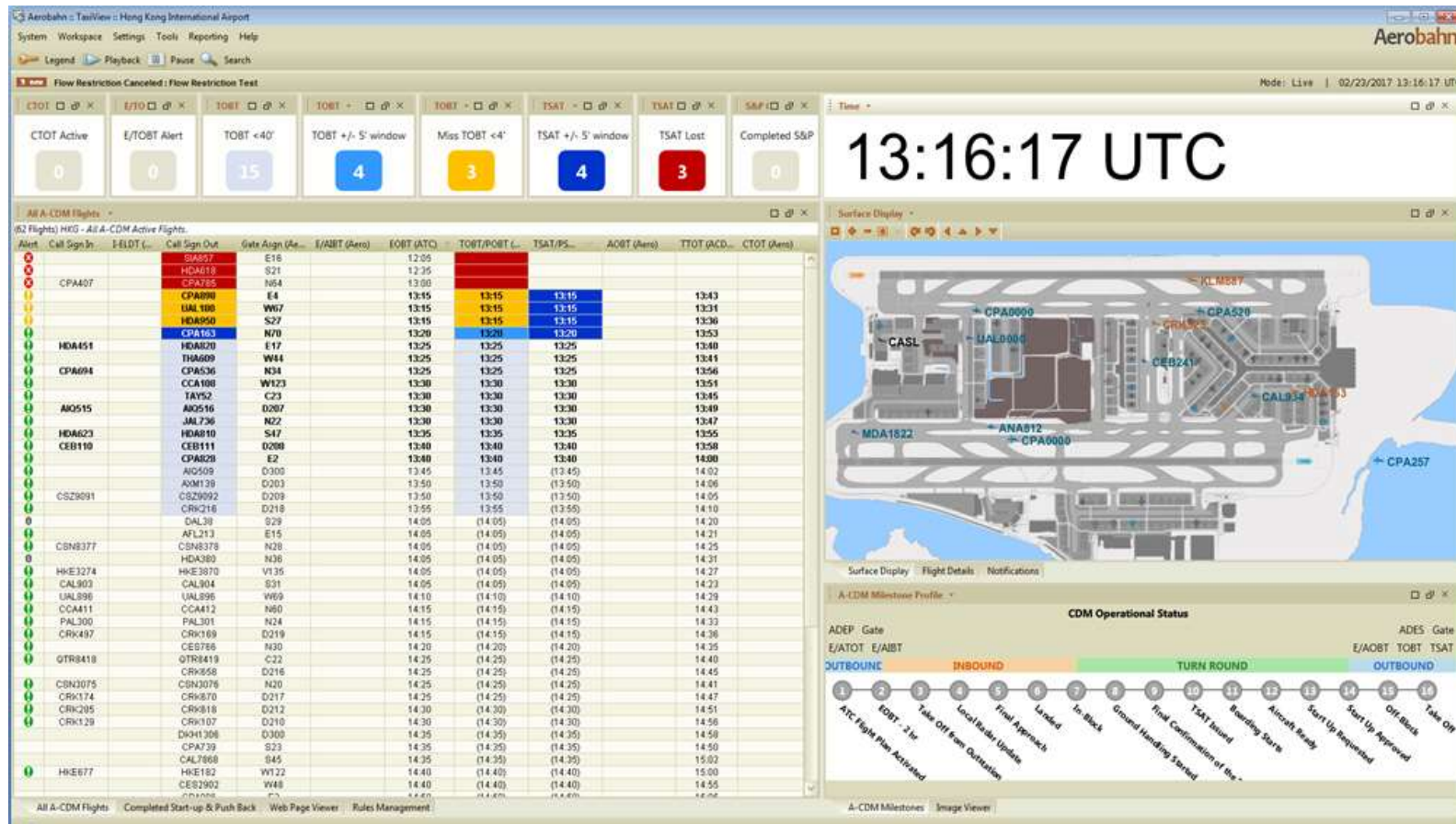
ACDM System composition



Working Scope of T3 ACDM

- **Information Sharing**

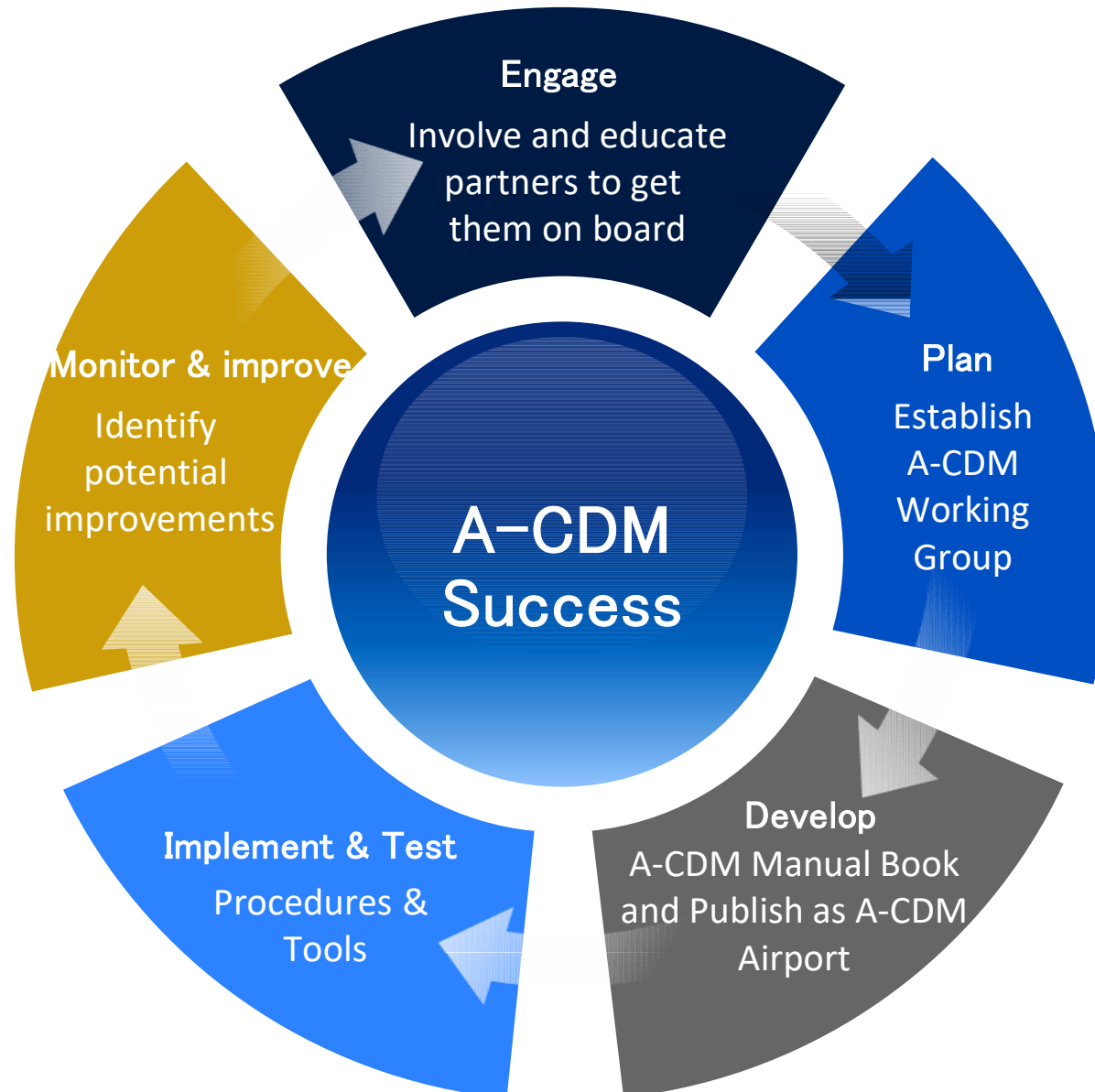
Saab A-CDM Aerobahn is provided the information sharing for each stakeholder by using unified portal.



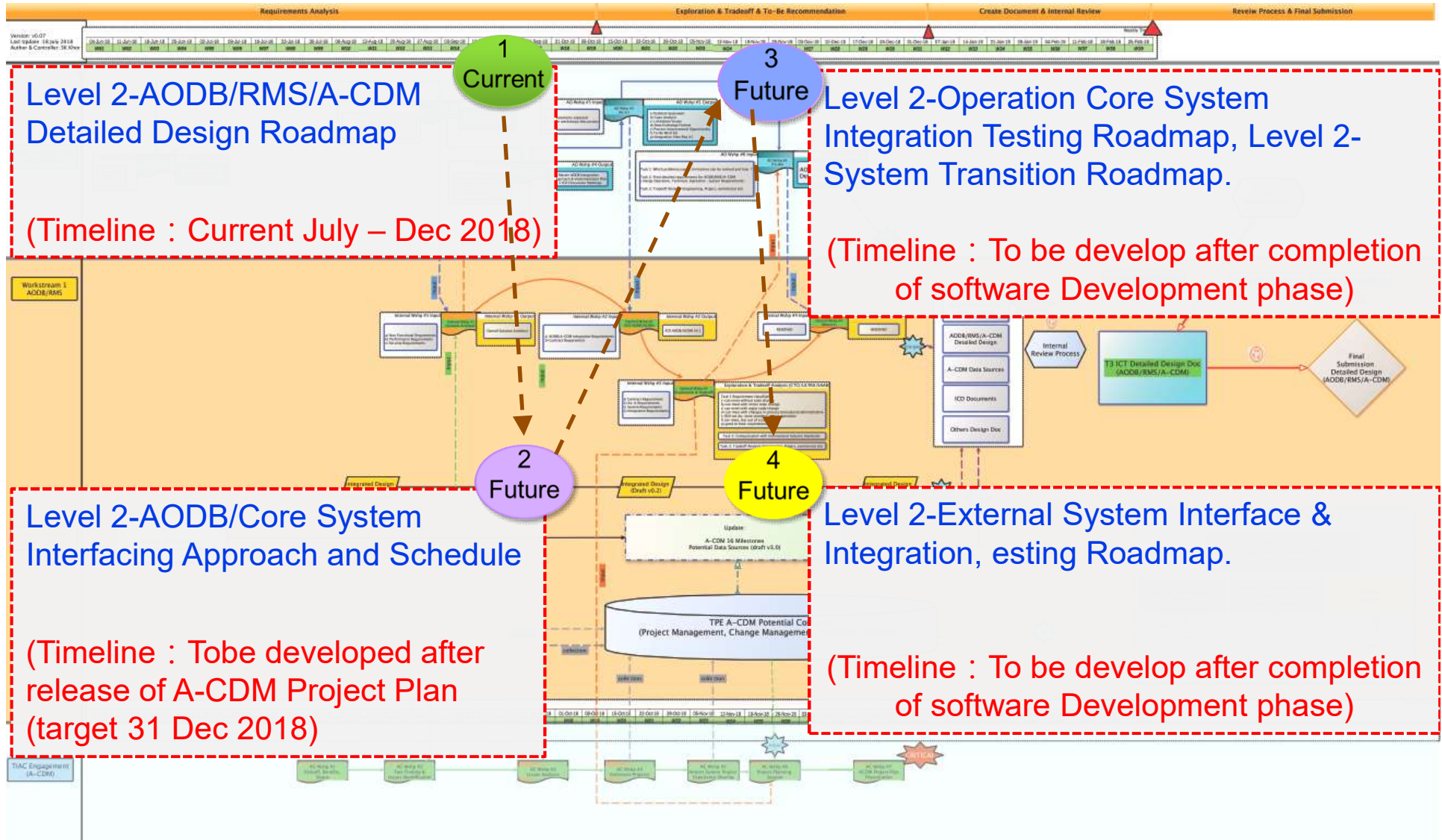
The screenshot displays the Aerobahn T3 A-CDM interface. At the top, it shows the system name 'Aerobahn' and the airport 'Hong Kong International Airport'. A navigation bar includes 'System', 'Workspace', 'Settings', 'Tools', and 'Reporting Help'. Below this, there are several status indicators for different flight phases: CTOT Active (0), E/TOBT Alert (0), TOBT <40' (15), TOBT +/- 5' window (4), Miss TOBT <4' (3), TSAT +/- 5' window (4), TSAT Lost (3), and Completed S&P (0). The main display area is divided into two sections. On the left, a table lists active flights with columns for Alert, Call Sign In, F-ELDT, Call Sign Out, Gate Assign, E/AIBT (Aero), FOBT (ATC), TOBT/POBT, TSAT/PS, AOBT (Aero), TTOT (ACD...), and CTOT (Aero). On the right, a 'Surface Display' shows a map of the airport terminal with various gates and flight paths. Below the map, there is a 'CDM Operational Status' section with a timeline from 1 to 16, showing stages such as 'ATC Flight Plan Accepted', 'Take Off from Outbound', 'Local Weather Update', 'Final Approach', 'Landed', 'In Block', 'Ground Handling Started', 'Final Confirmation of the', 'TSAT Inbound', 'Boarding Starts', 'Aircraft Ready', 'Start Up Requested', 'Start Up Approved', 'Off Block', and 'Take Off'. The current time displayed is 13:16:17 UTC.

Recommendation for A-CDM development Procedure of T3

- Analysis of Gap to Target for T1/T2 A-CDM



T3 ICT AODB/RMS/ACDM Design Roadmap



Q&A





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