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中国民用航空局
空中交通管理局
Air Traffic Management Bureau. CAAC

Aircraft Address Issue

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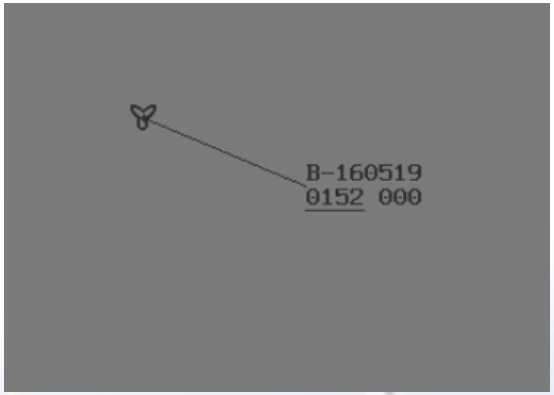
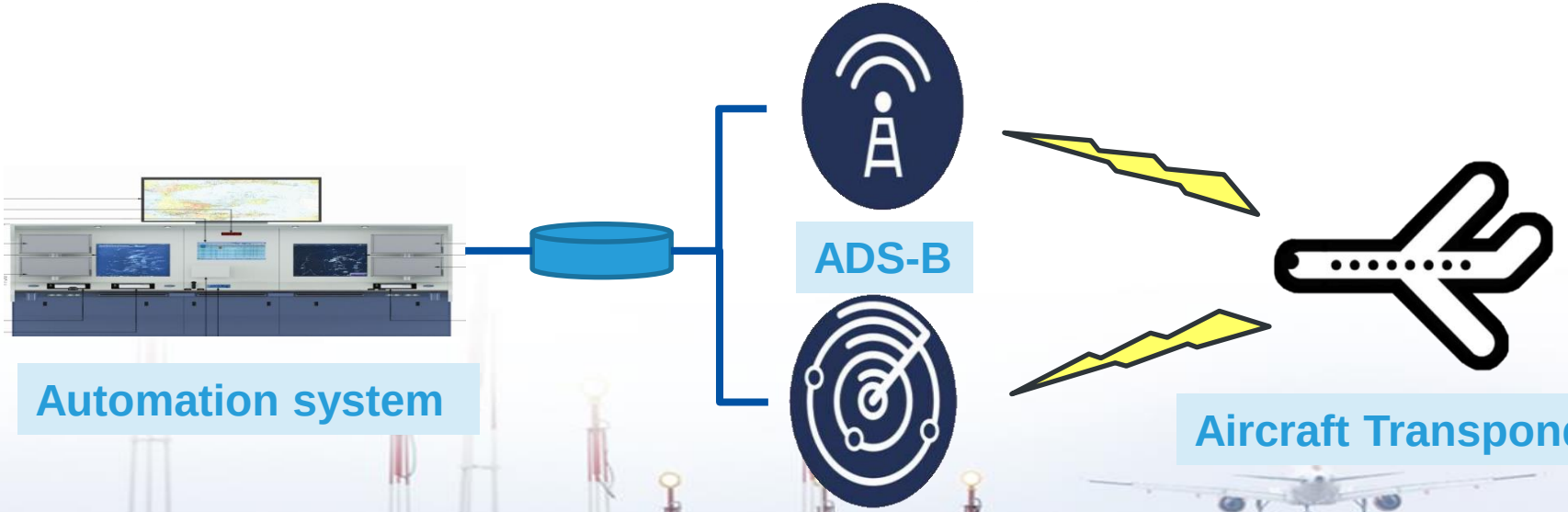
Aircraft Address

- Aircraft address is assigned uniquely to each aircraft.
- Aircraft address is make of 24 bits binary number.

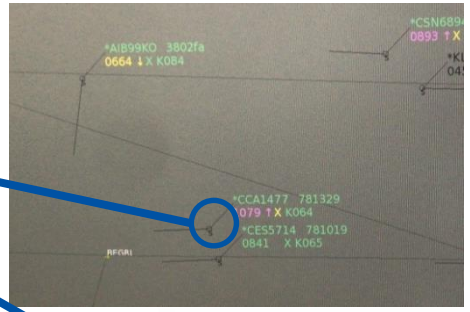


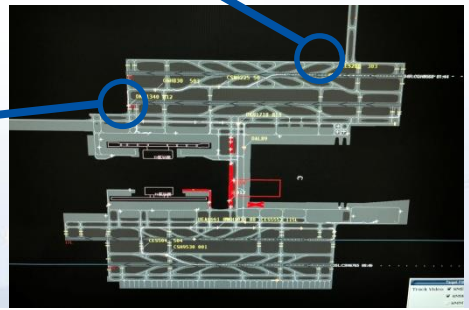
Source of Address data



Aircraft Address in Automation System

- Identify aircraft
- Identify vehicles in airport
- Couple with intent info.





Benefit of aircraft address

Implementation of Mode S radar and ADS-B GS in China

- More than 70 Mode S radars is in operation
- More than 308 ADS-B ground stations would go into operation at the end of 2018

Coverage of Mode S radars

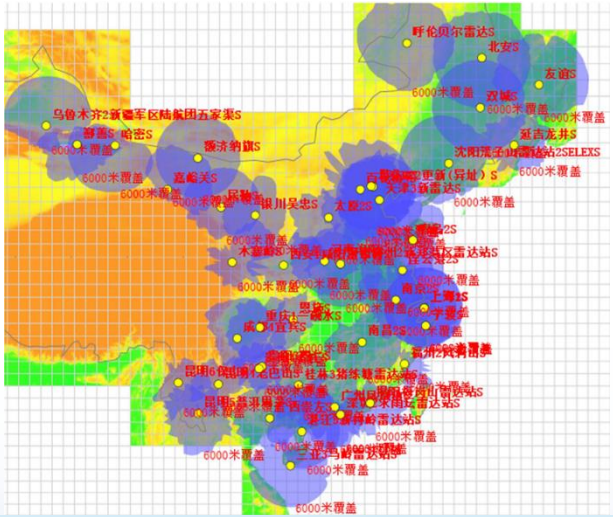


Figure 1 Coverage of Mode S radars in 6,600m (217hft)

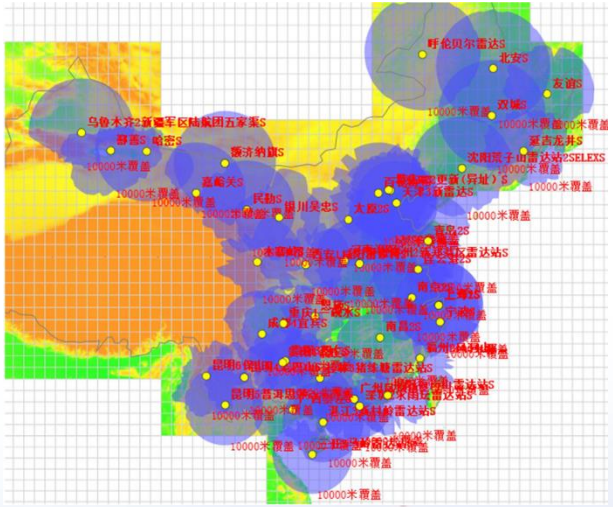


Figure 2 Coverage of Mode S radars in 8,400m (276hft)

Coverage of ADS-B ground stations

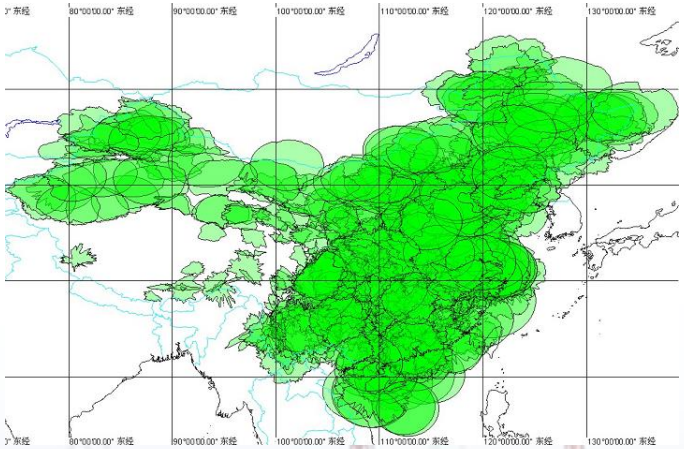


Figure 3 Coverage of ADS-B GSs in 6,600m (217hft)

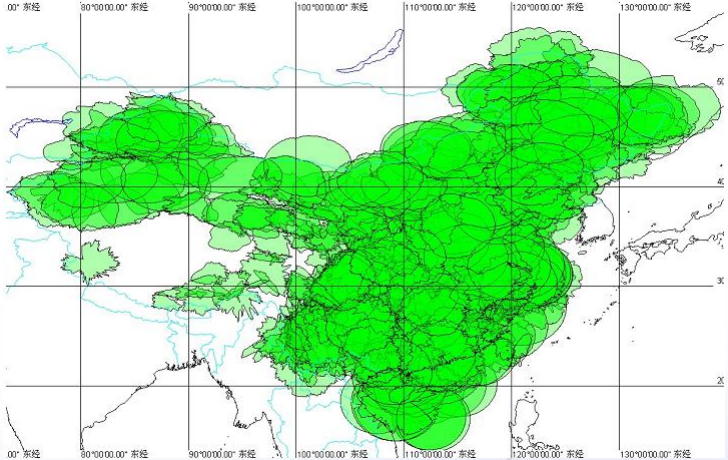


Figure 4 Coverage of ADS-B GSs in 8,400m (276hft)

Implementation Plan of ADS-B

- Comprehensive Implementation ADS-B in 1st Jul. 2019

Aircraft (true speed > 250 knot)

- ADS-B equipment Do-260 mandate in 1st Jul. 2019
- ADS-B equipment Do-260B mandate in 31st Dec. 2022
- The aircrafts decommissioned before 31st Dec. 2022 , which are off the above requirement, could be in restriction.

Aircraft identification failed in automation system

- Duplicated address on aircrafts
- Aircraft changed address illegally
- Flight plan without address code
- Duplicated address in flight plan

Duplicated address on aircrafts

Commercial aircraft

General aircraft

Military aircraft

Aircraft changed address illegally

Configuration

Maintenance

Flight plan without address code

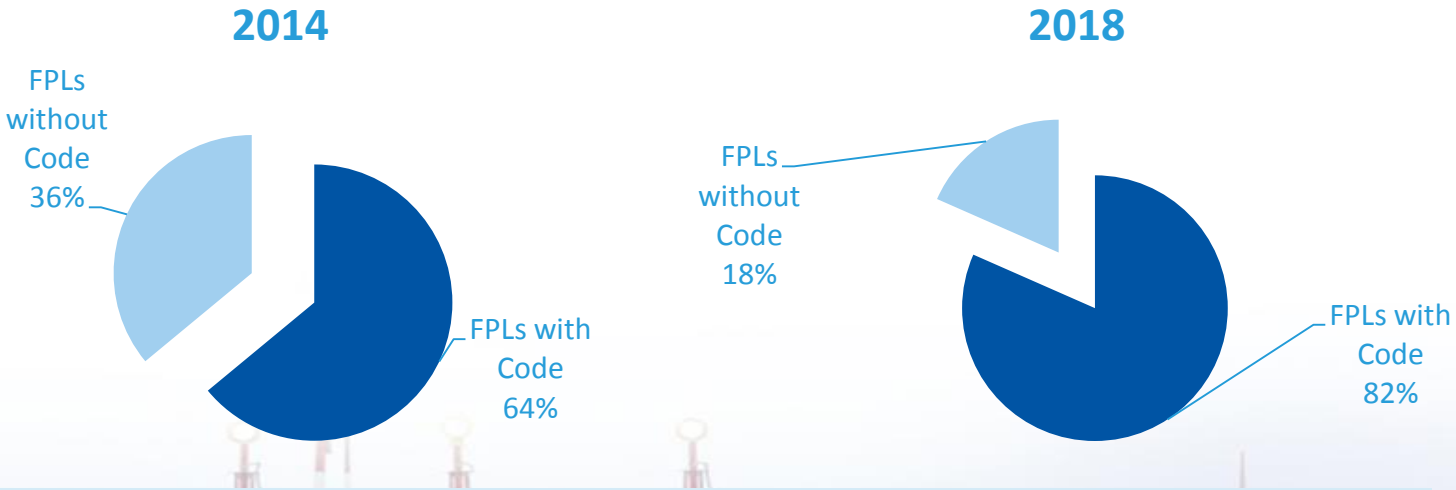
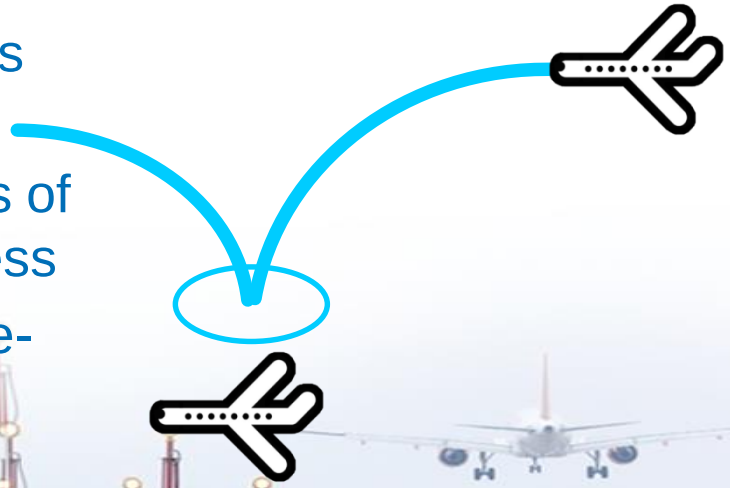


Figure 5 Rate of FPLs with CODE and without CODE in total FPLs

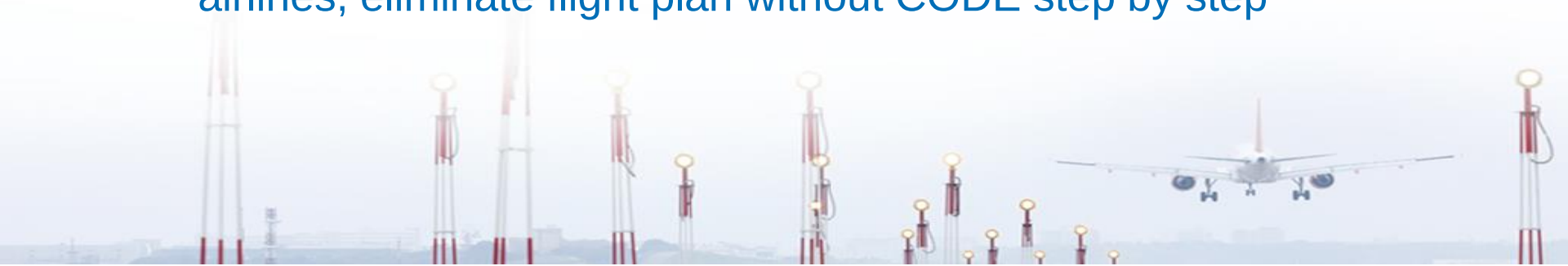
Duplicated address in flight plan

- Connection flight was delayed in its first segment
- Two flight plans for each segments of connection flight have same address
- The statue of two flight plans is pre-active in automation system



Solution (1/2) – administration

- Ensure address is correct before aircraft operation
- Control problem aircraft
- Check CODE in item 18 of flight plan and feedback result to airlines, eliminate flight plan without CODE step by step



Solution (2/2) - automation system

- Setting black list in automation system for problem aircraft
- Providing duplicated address alert
- Check CODE in item 18 at receiving AFTN messages
- Automation system would be account in Aircraft address, Callsign, SSR Code and target position in coupling between target and flight plan.

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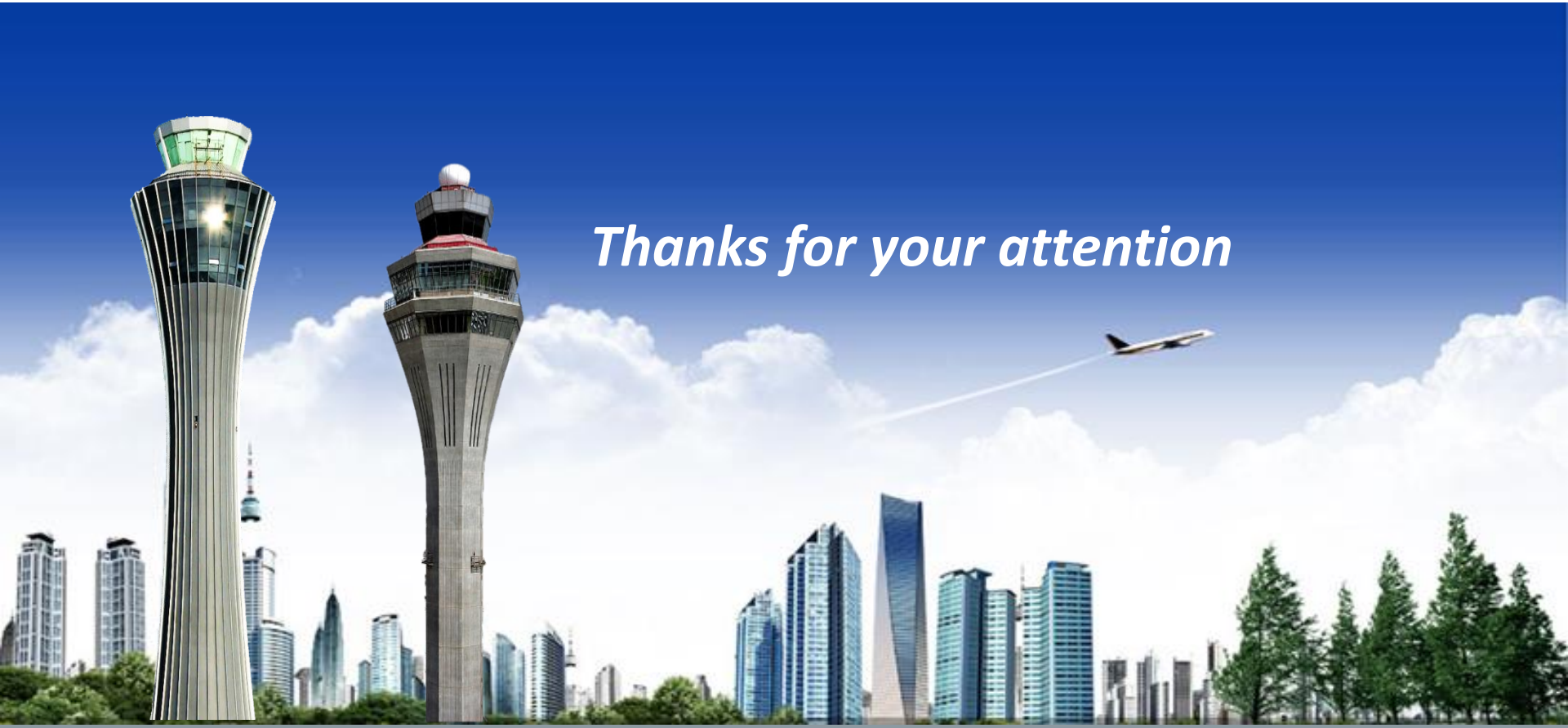
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