

Information for redesign of airspace composition

JCAB

Current facility and shape of sectors

Sapporo ACC
6 sectors



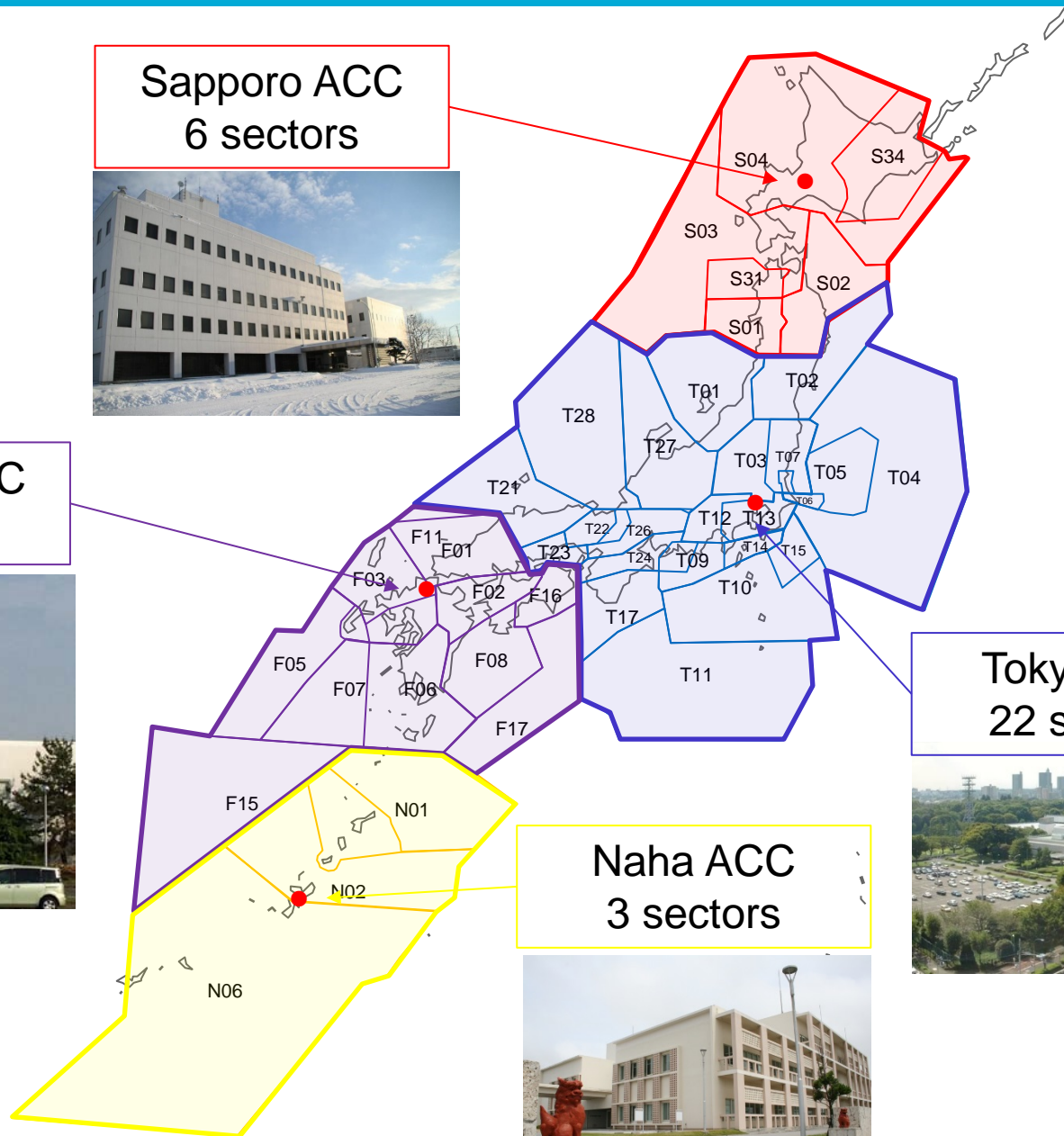
Fukuoka ACC
11 sectors



Tokyo ACC
22 sectors

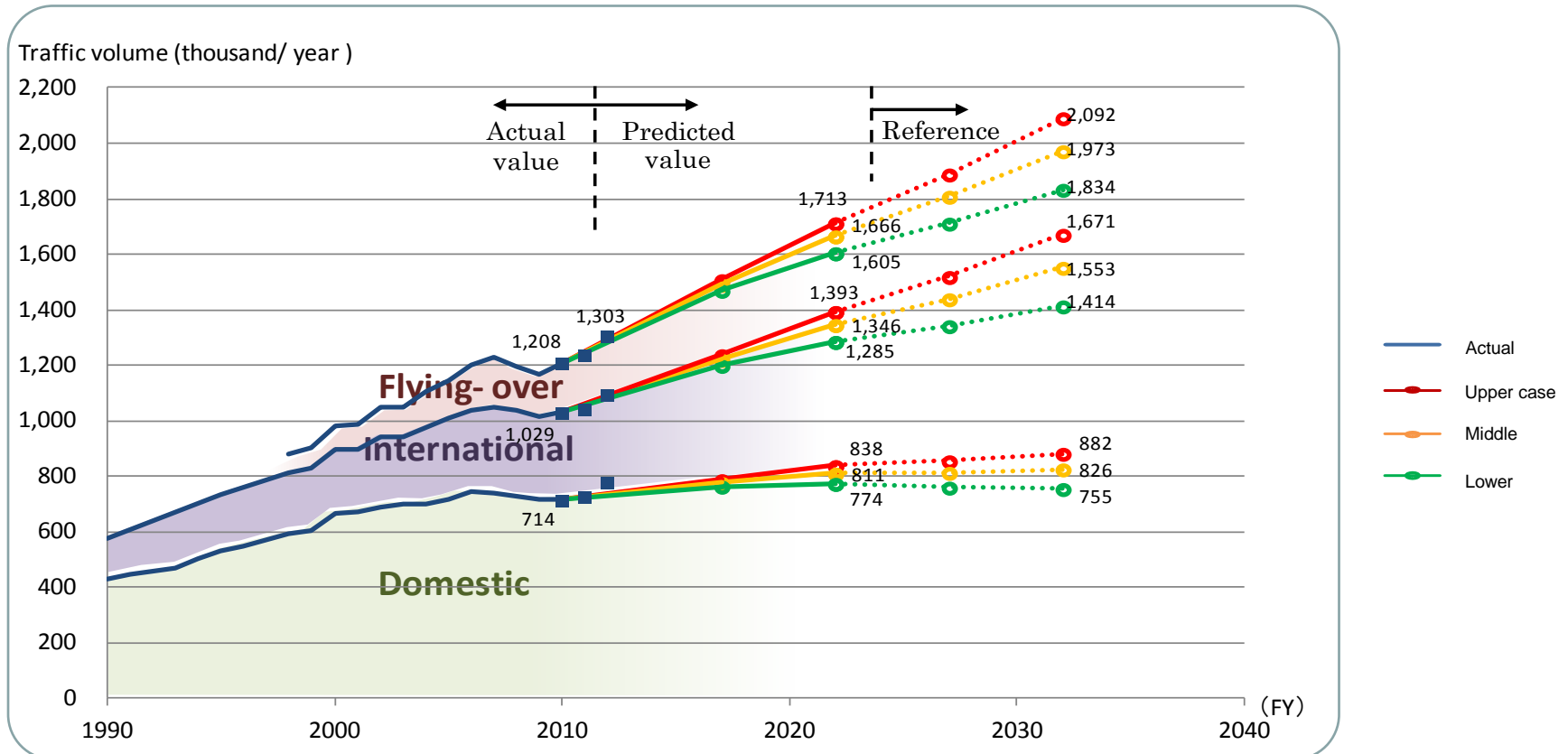


Naha ACC
3 sectors



Demand forecast of air traffic in Japan

- International flight and flying-over are increased. Domestic flight is dependent on the case of GDP.
- Even if GDP is estimated low, the number of aircrafts will exceed the limit of air traffic control capacity around 2025.
- The demand may go up rather than this forecast by further promotion of inbound tourism and the growth of LCC.



* Basic case of GDP is set up based on the economic growth rate which is a target of the Japanese future strategy. (economic growth rate is set up to 1.7% from 2010 to 2017 and 2.0% from 2017 to 2032)

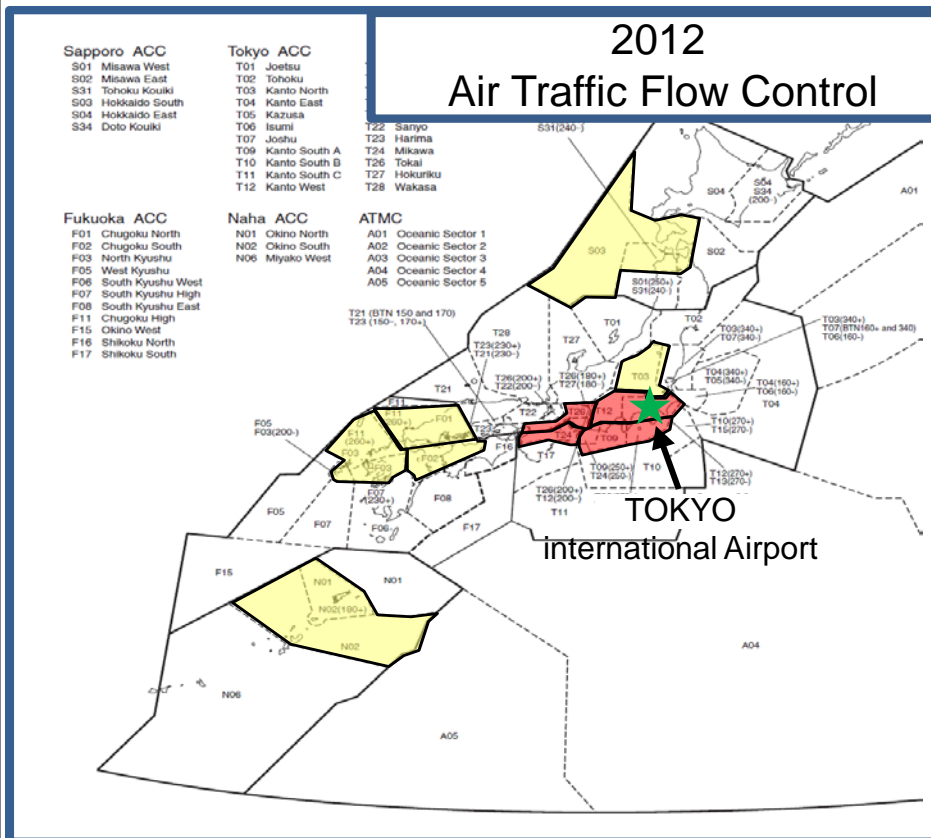
* In upper case, economic growth rate is set up 1% higher than basic case.

• In lower case, economic growth rate is set up 1% lower than basic case.

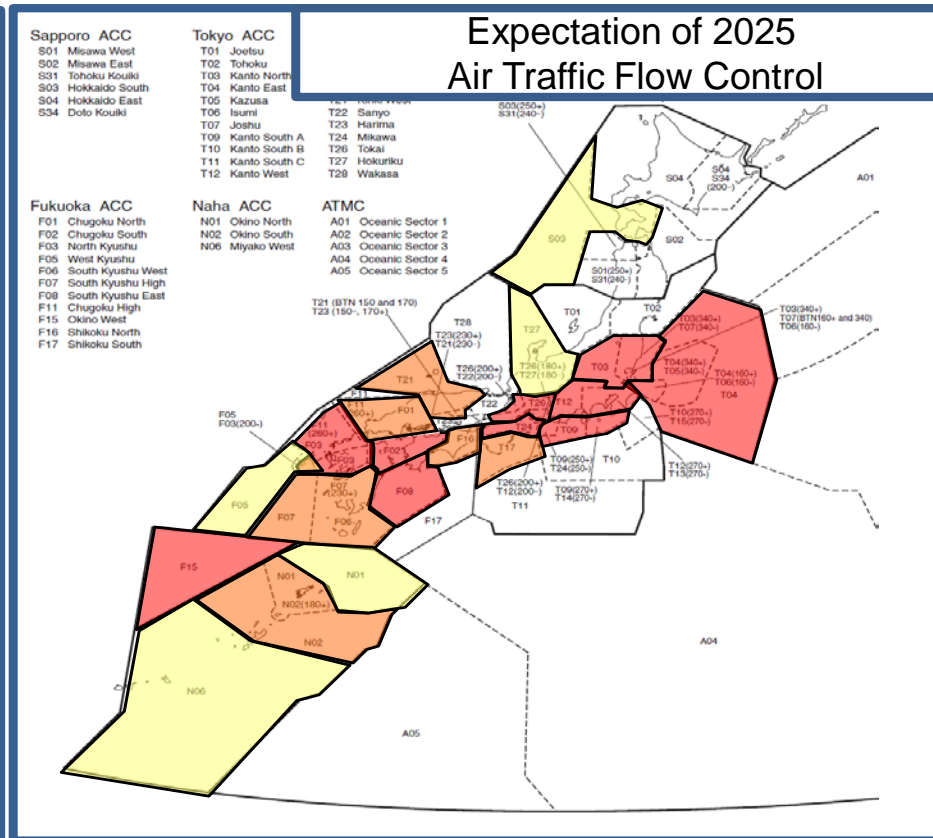
• The number of IFR flights is that to add military, non-scheduled and cargo flights to those above.

Expectation of Air Traffic Flow Control

✓ In 2025, airspace capacity in the current airspace configuration becomes the limit.



- On the Ground due to flow control : 60 traffics
- Average of delay : 8 min



- On the Ground due to flow control : 270 traffics
- Average of delays : 25 min or over
⇒ flight cancellation will occur

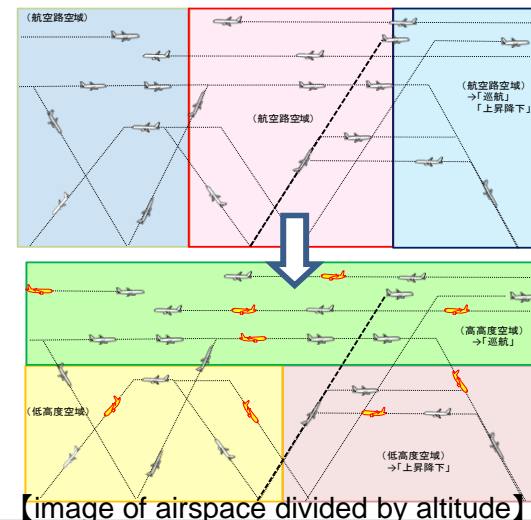
Improvement of ATC capacity (measures to expand)

Current airspace composition
and future airspace divided by altitude

- ✓ Handling ability of Air Traffic Control was raised by reducing number of aircraft per 1 sector by subdivision of a sector conventionally.
- ✓ However, enforcement of subdivision beyond this will increase the time and effort of taking over between sectors. Moreover, the airspace that detour for bad weather or turn order of an aircraft becomes less insufficient, and throughput declines conversely.

We order to respond to an increase in the future traffic demand, conventional and different, to expand the ATC capacity by the airspace divided by altitude.

- By difference of cruising, climbing, and descending, we raise the treatment capacity of aircraft.
- In the high altitude airspace of low workload, the handling number of aircraft makes to increase.

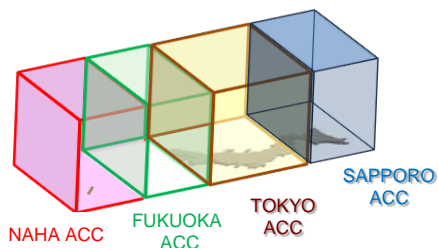


Expand capacity and implementation stage

The introduction of New en-route
RADAR data processing system

★TOKYO OLYMPICS

Traffic volume 1,800,000 / year



2015

2018

2020

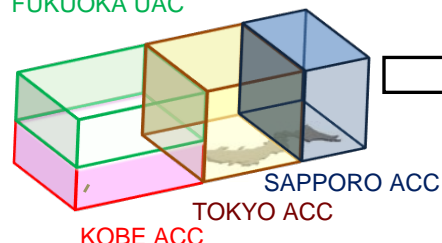
2022.Apr.

2020.Oct.(or Nov.)

2025.Apr.

1,900,000

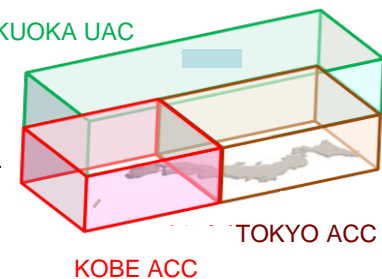
FUKUOKA UAC



【western JAPAN divided by altitude】

2,000,000+α

FUKUOKA UAC



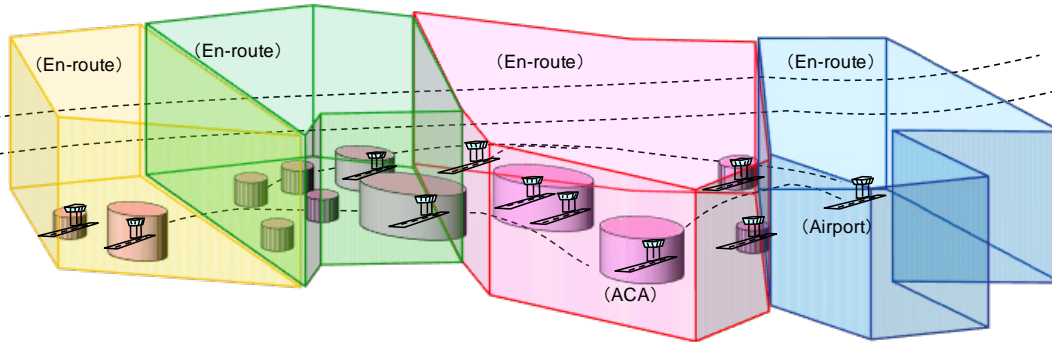
【Restructure of en-route airspace
completed】

Change of Domestic Airspace and Facilities

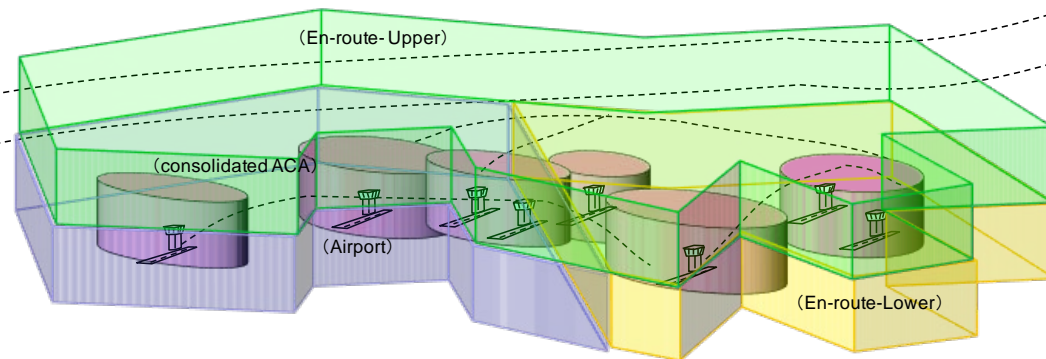
- Redesigning the current domestic airspace (En-route and ACA)
- Decreasing ATC workload totally and improving ATC operational efficiency.

Redesign of Airspace

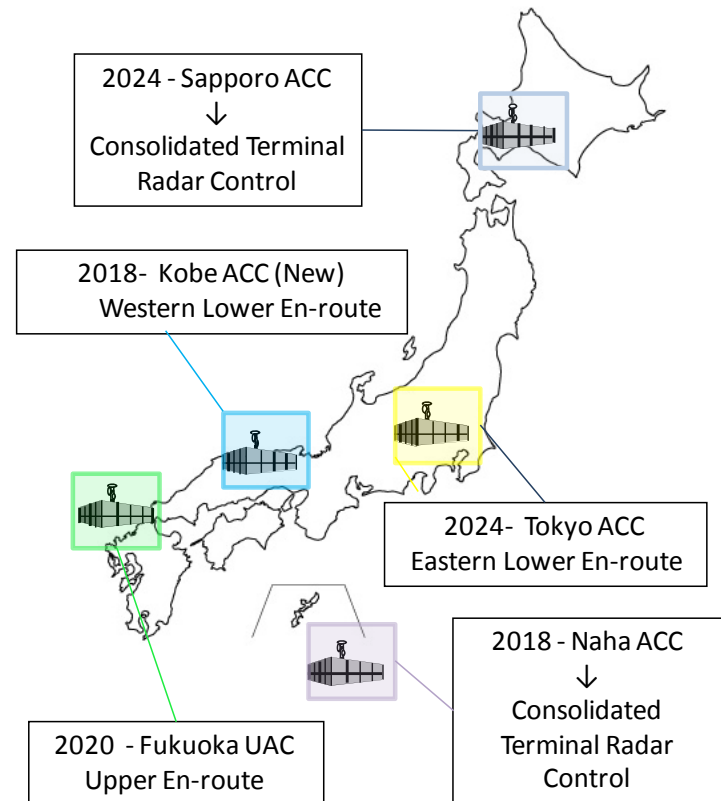
【Before redesign- En-route and ACA】



【After redesign】



Restructure of Facilities



Draft of airspace composition in 2025

- 1 FUKUOKA UAC (Upper Area Sector + Oceanic sector)
 - EAST area***11 sectors (within 4 Oceanic sector)
 - WEST area***11 sectors (within 1 Oceanic sector)
- 2 TOKYO ACC (EAST of JAPAN below FL335)
 - North area***7 sectors
 - East area***8 sectors
- 3 KOBE ACC (WEST of JAPAN below FL335)
 - WEST area***8 sectors
 - SOUTH area***3 sectors

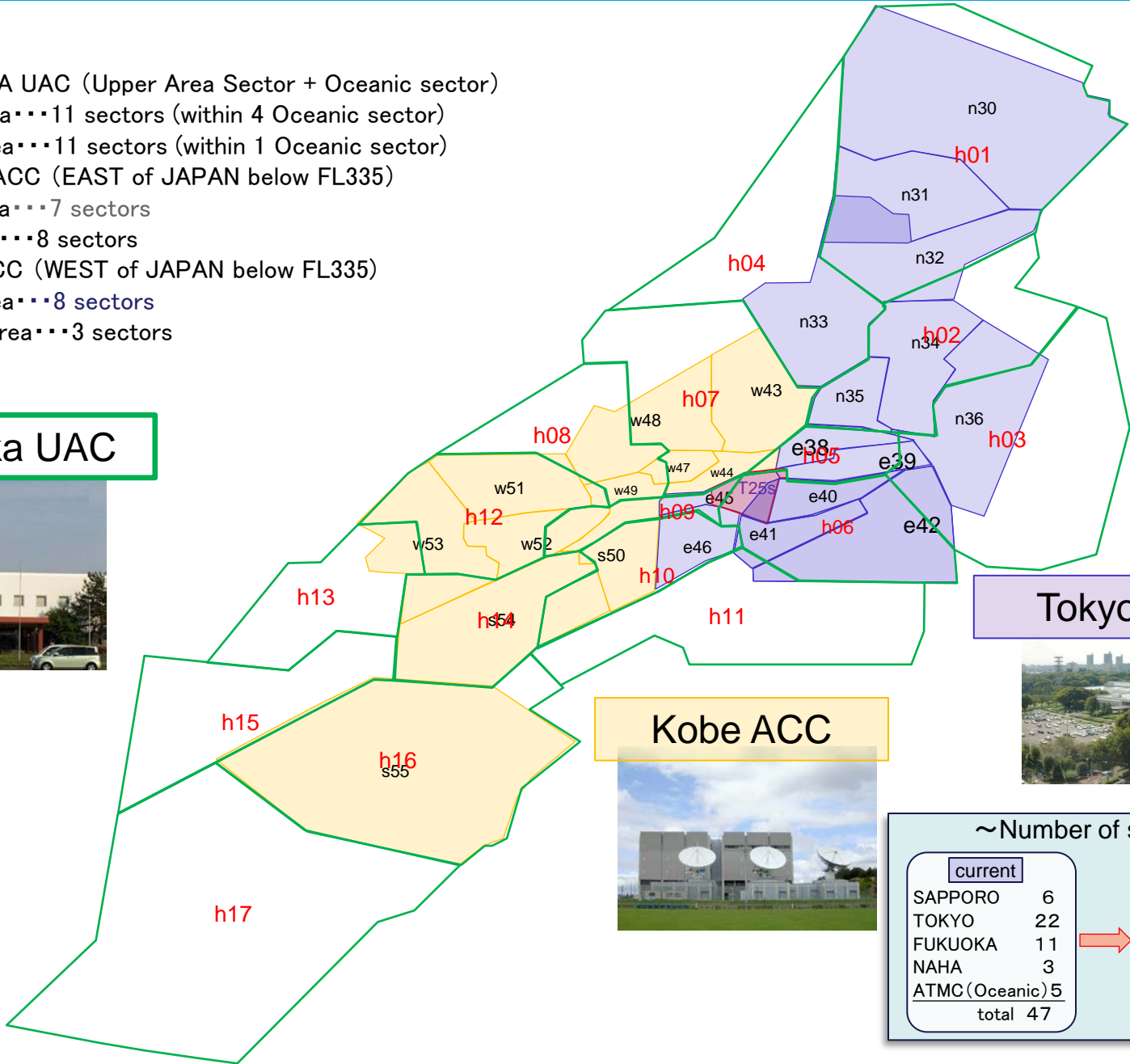
Fukuoka UAC



Tokyo ACC



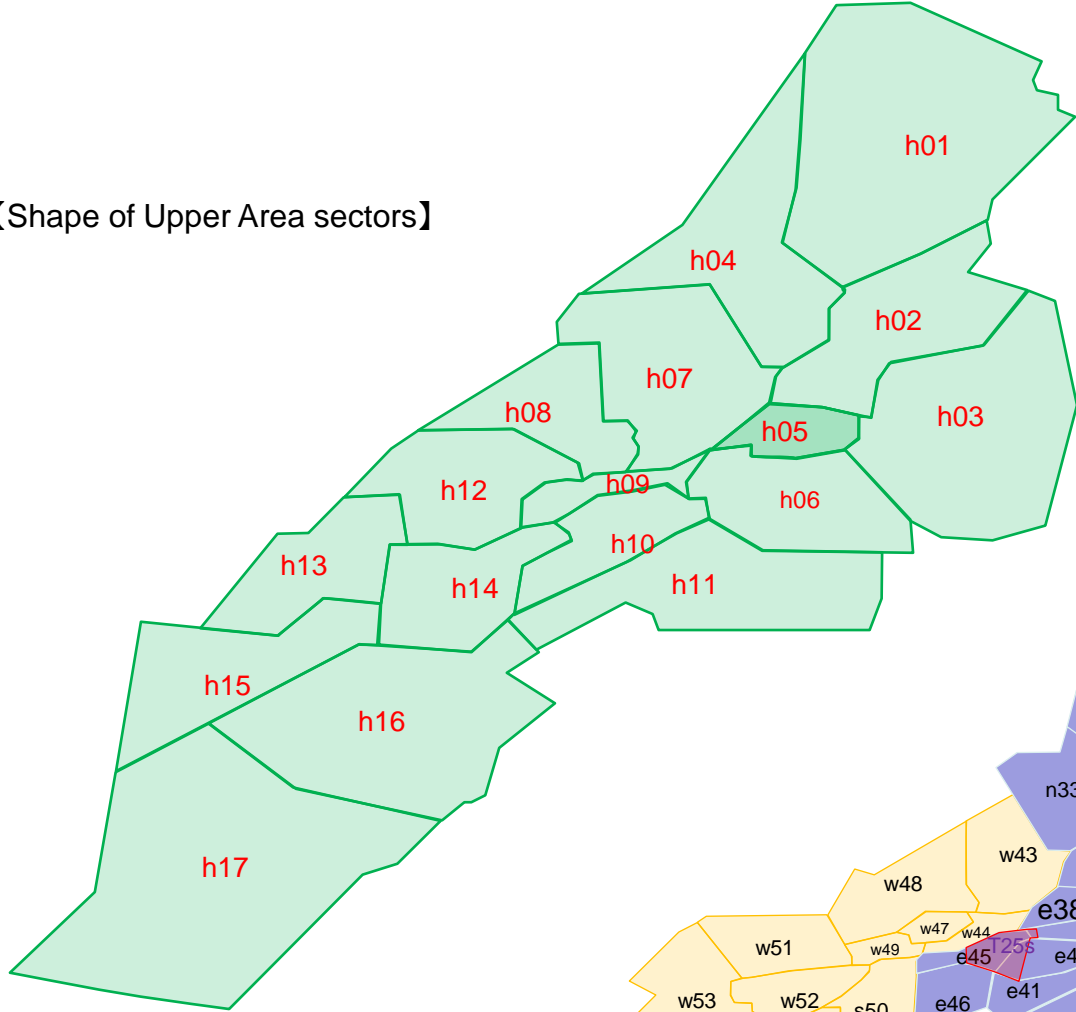
Kobe ACC



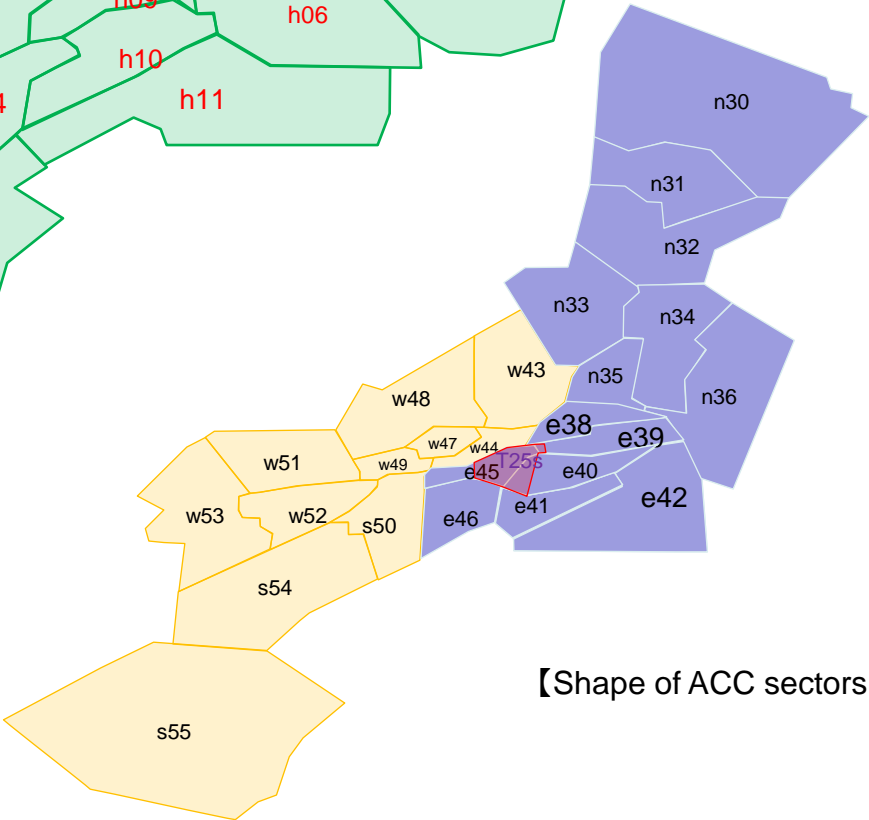
~Number of sectors~			
current		restructured	
SAPPORO	6	FUKUOKA	22
TOKYO	22	(within Oceanic 5)	
FUKUOKA	11	TOKYO	15
NAHA	3	KOBE	11
ATMC (Oceanic)	5		
total 47		total 48	

Draft of airspace composition in 2025

【Shape of Upper Area sectors】



【Shape of ACC sectors below FL335】



- 2018 ①Metropolitan airspace around TOKYO and NARITA international airport will be change. (Preparation for the Tokyo Olympics)
②NAHA ACC will move to KOBE building
(KOBE aeronautical satellite center building)

2018~2019

Introduce new en-route RADAR data processing system to 4ACC.

2020 TOKYO Olympics & Paralympics

2020~2022

Redesign of western en-route airspace.

2023~2025

Redesign of eastern en-route airspace.

2025.April

Redesign of en-route airspace will be completed.