



SP06 – Developing SWIM Use Cases

Leveraging APAC SWIM Common SWIM Information Services

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Tragedy...



Doc 10203

Manual on the System-Wide Information Management (SWIM) Implementation

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Notice to Users

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International Civil Aviation Organization

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Wait, how do I make this?

The guidance *does not include* instructions on
how to create use cases!

Objective

- Explain how to develop simple and practical SWIM use cases



Why Use Cases

- Bridge operational needs and SWIM solutions



Definition

- A description of who uses what information and for what purpose



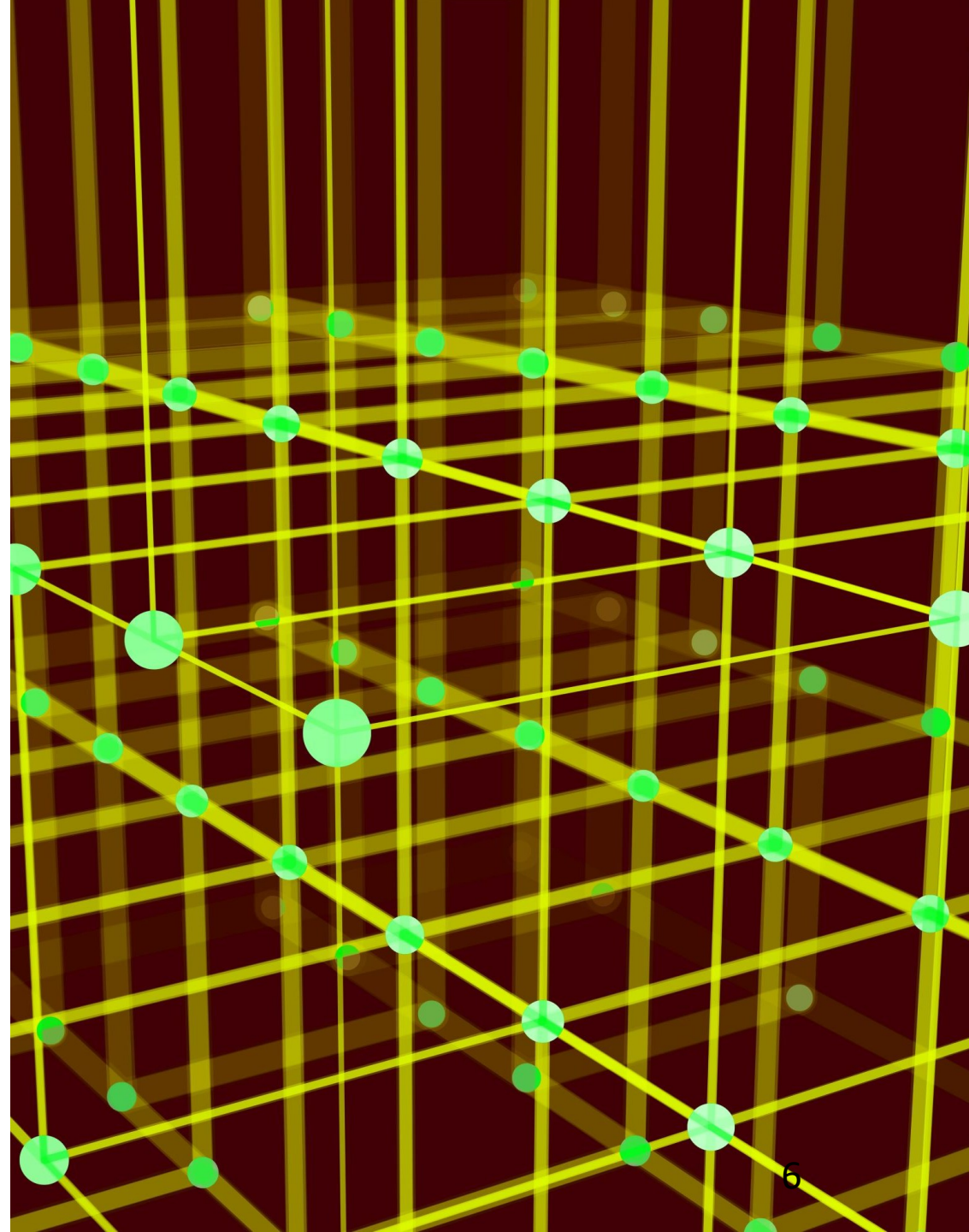
Core Elements

- Who
- Why
- What



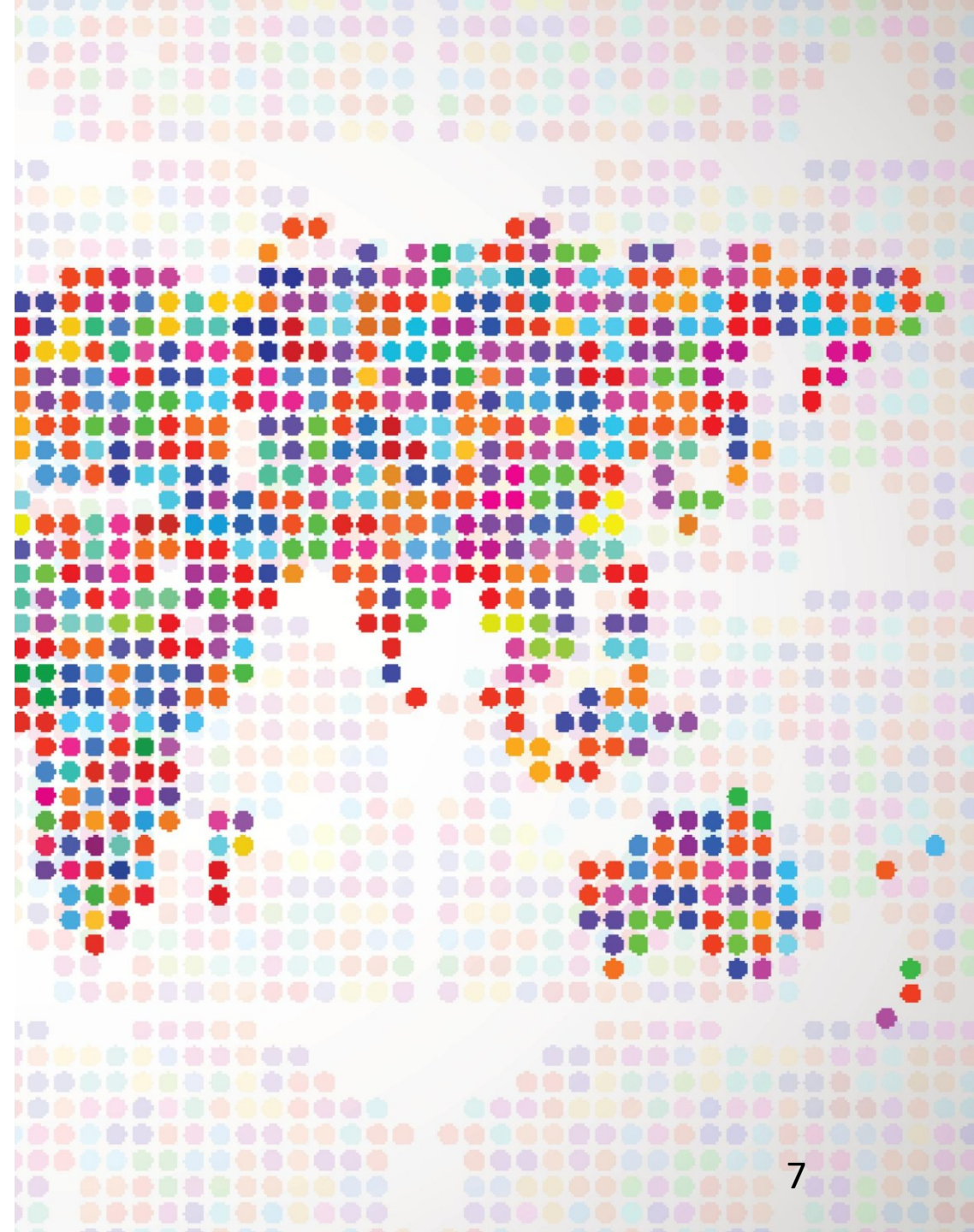
Structure

- Scenario
- Stakeholders
- Problem statement
- Improvement
- Data



APAC SWIM Common Information Services

- Aeronautical Information Services
- Flight Information Services
- Meteorological Information Services
- Surveillance Information Services



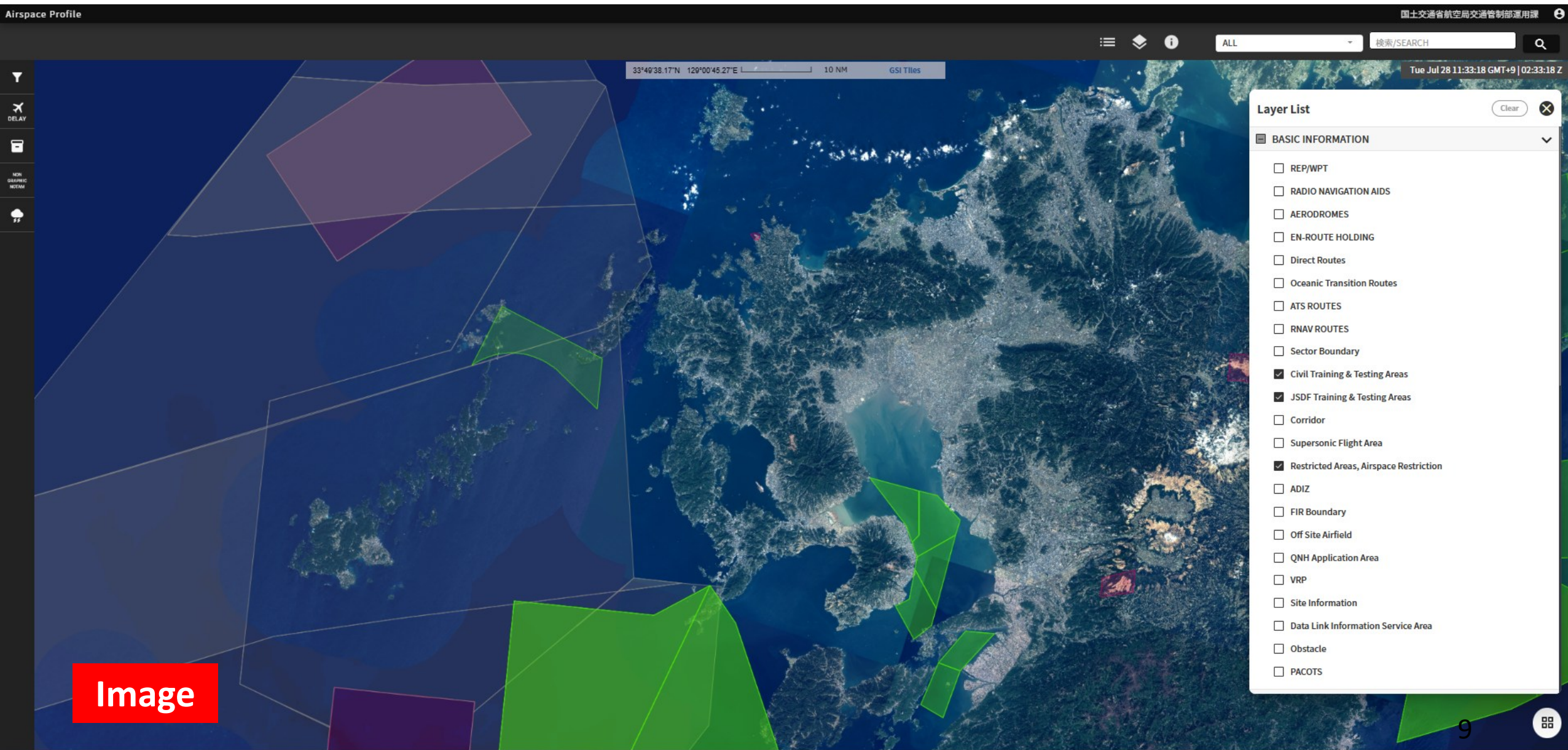


Example

Flight information sharing to support lower airspace safety and efficient use

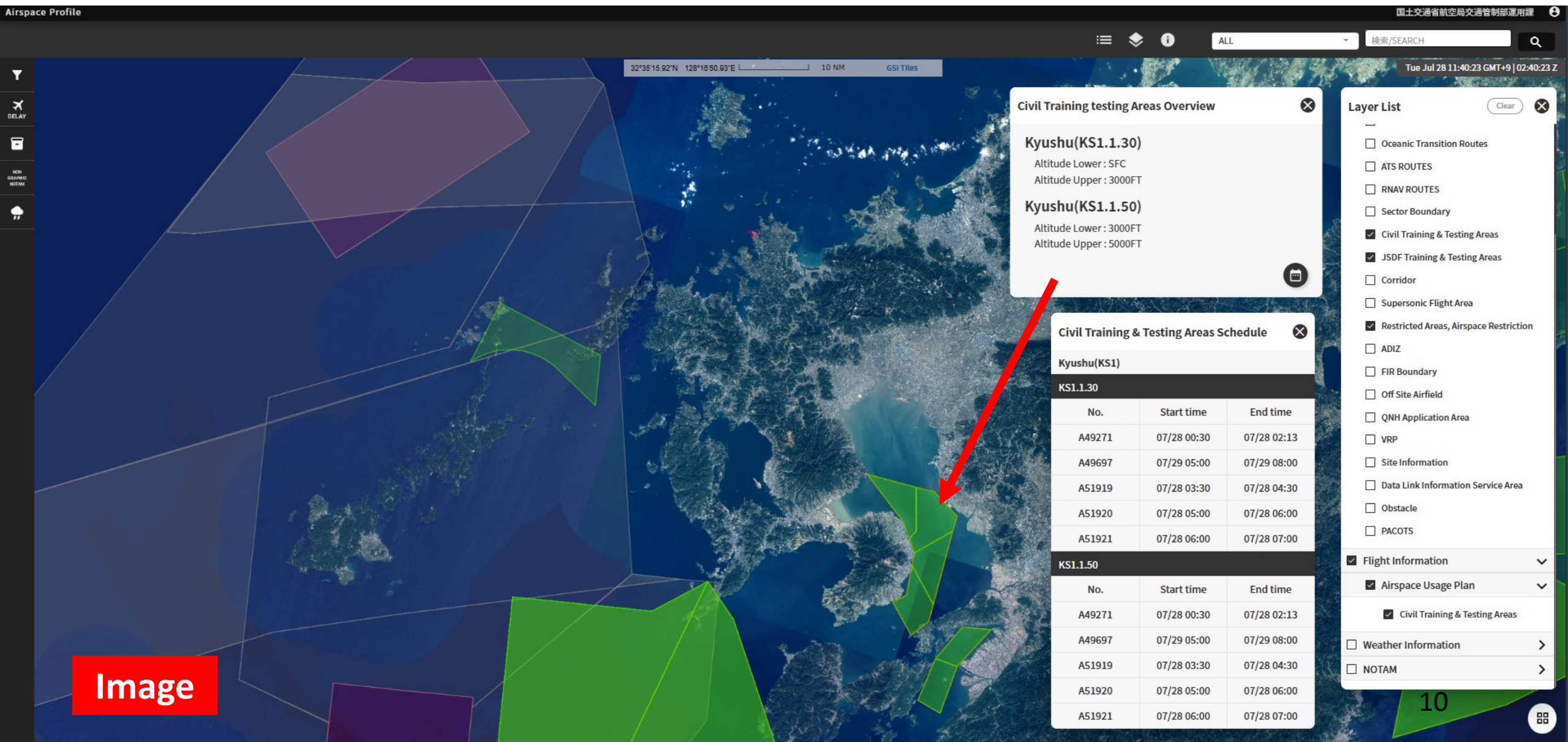
APAC Common SWIM Aeronautical Information Services – Airspace management service

Availability or activation/deactivation or temporarily change of airspace, restricted area, danger area, search and rescue regions



APAC Common SWIM Aeronautical Information Services – Airspace management service

Availability or activation/deactivation or temporarily change of airspace, restricted area, danger area, search and rescue regions



APAC Common SWIM Aeronautical Information Services – Digital NOTAM distribution service

Provides aeronautical information in accordance with the Digital NOTAM Specification, such as runway closure.

Airspace Profile

DELAY

NON GRAPHIC NOTAM

FF

33°03'47.88"N 127°48'52.42"E 10 NM GSI Tiles

Tue Jul 28 11:54:48 GMT+9 | 02:54:48 Z

ALL 検索/SEARCH

Layer List

☐ Weather Information

☒ NOTAM

☒ NAVIGATION WARNING

☐ RWY

☐ AIRPORT FACILITIES AND SERVICES

☐ RADIO NAVIGATION AIDS

☐ ATS ROUTE, RNAV ROUTE, REP, WPT, ATS AIRSPACE

☐ AIR TRAFFIC PROCEDURES

☐ AIRSPACE RESTRICTIONS

☐ Over flying

☐ Air display

☐ Aerobatics

☐ Captive balloon or kite

☐ Demolition of explosives

☐ Exercises

☐ Glider flying

☐ Blasting/Fireworks

☐ Banner/target towing

☐ Ascent of free balloon

☐ Missile, gun or rocket firing

☐ Parachute jumping exercises, paragliding or hang gliding

☐ Radioactive materials or toxic chemicals

☒ Unmanned aircraft

☐ Formation flight

NOTAM Details

K1729/26

291011 RJAAANYX
(K1729/26 NOTAMN
Q)RJJJ/QWULW/IV/BO/AW/000/004/3243N12920E025
A)RJFU B)2607010000 C)2607311037
D)01-03 06-10 13-17 21-24 27-31 0000/1037
E)BEYOND VISUAL LINE OF SIGHT UNMANNED
ACFT (FIXED WING) :
(1)AREA: 362M EITHER SIDE OF A LINE
324123N1285221E - 324204N1285235E
- 324230N1285247E - 324649N1285511E -
324742N1285707E -
324827N1290407E - 324930N1290456E -
324938N1290520E - 324929N1293921E
- 324919N1293948E - 324358N1294707E -
324351N1294733E -
324353N1294813E
(2)AREA: RADIUS 270M CENTER THE FLW POINTS
324218N1285239E 324510N1285418E 324608N1285452E
324702N1285517E
324744N1285704E 324753N1285833E
324800N1290000E 324809N1290125E 324816N1290252E
324824N1290420E
324936N1290506E 324938N1290635E
324937N1290807E 324937N1290935E 324936N1291106E
324936N1291237E
324936N1291406E 324935N1291536E
324935N1291707E 324934N1291836E 324934N1292006E
324934N1292135E
324934N1292306E 324933N1292436E
324933N1292609E 324932N1292736E 324932N1292906E
324932N1293039E

FL500
FL400
FL300
FL200
FL100

Image

-3:00 -2:00 -1:00 0 +1:00 +2:00 +3:00 +6:00 +12:00 +18:00

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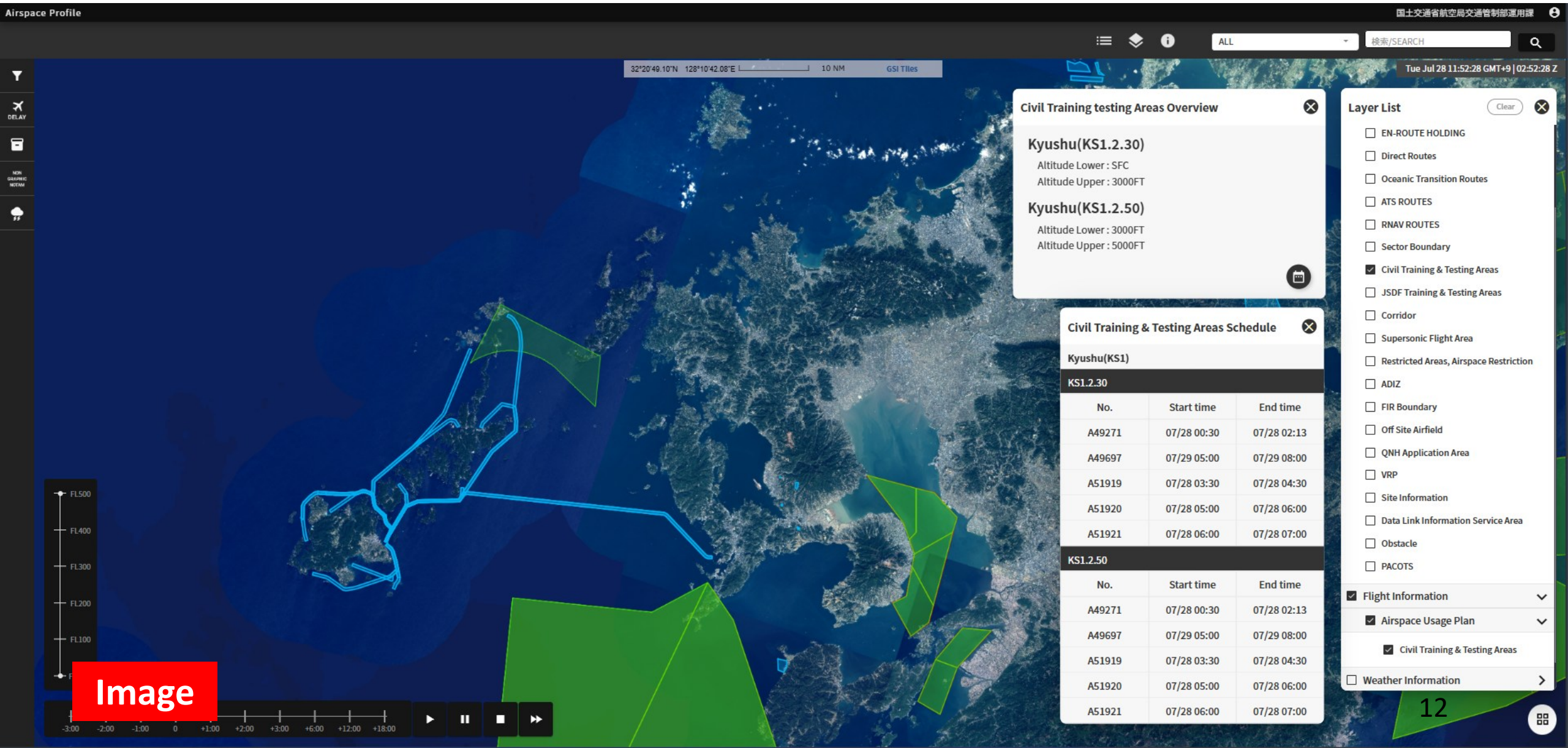
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11

Overlay Display

You can select the information that you're interested in and view it all at once.



Regional Application

Cross-border information sharing in APAC



Before SWIM

- Fragmented information
- Limited sharing
- Inefficient decisions

AIP Japan

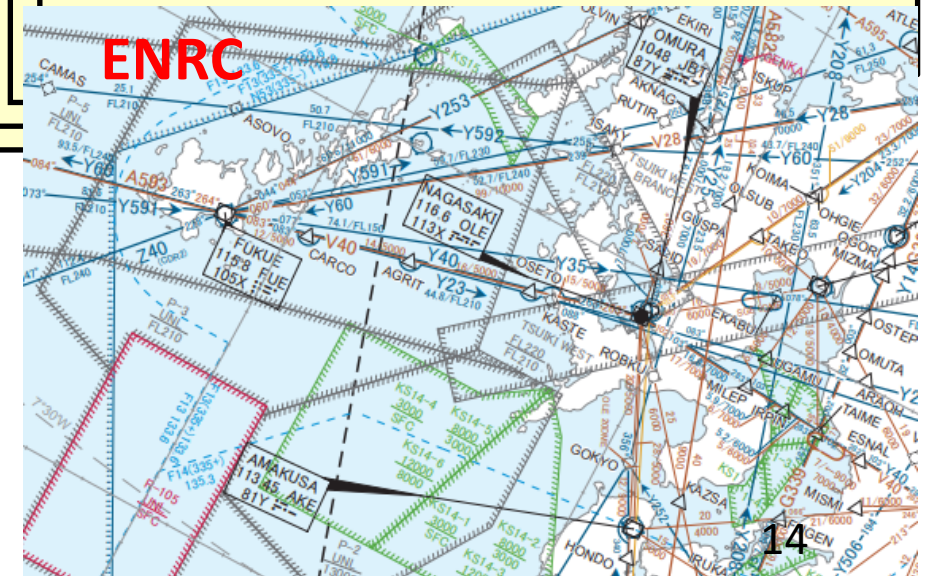
Name		Area	Altitude
Kyushu Area (KS)	1-1-30	The airspace bounded by the straight lines connecting the following points. (1) 325747N/1301325E (2) 325636N/1302202E (3) 325016N/1302241E (4) 324903N/1302140E (5) 325122N/1302025E thence to point (1)	3000 SFC
	1-1-50	The airspace bounded by the straight lines connecting the following points. (1) 325747N/1301325E (2) 325636N/1302202E (3) 325016N/1302241E (4) 324903N/1302140E (5) 325122N/1302025E thence to point (1)	5000 3000
	1-2-30	The airspace bounded by the straight lines connecting the following points. (1) 325636N/1302202E (2) 325609N/1302514E (3) 325255N/1302927E (4) 325043N/1302859E (5) 324706N/1302244E (6) 324903N/1302140E (7) 325016N/1302241E thence to point (1)	3000 SFC
	1-2-50	The airspace bounded by the straight lines connecting the following points. (1) 325636N/1302202E (2) 325609N/1302514E (3) 325255N/1302927E (4) 325043N/1302859E (5) 324706N/1302244E (6) 324903N/1302140E (7) 325016N/1302241E thence to point (1)	5000 3000
	1-3-30	The airspace bounded by the straight lines connecting the following points. (1) 325043N/1302859E (2) 323955N/1302644E (3) 324518N/1302230E (4) 324706N/1302244E thence to point (1)	3000 SFC
	1-3-50	The airspace bounded by the straight lines connecting the following points. (1) 325043N/1302859E (2) 323955N/1302644E (3) 324518N/1302230E (4) 324706N/1302244E thence to point (1)	5000 3000
	1-4-30	The airspace bounded by the straight lines connecting the following points. (1) 324518N/1302230E (2) 323955N/1302644E (3) 323725N/1302613E (4) 323514N/1302320E (5) 323946N/1301944E (6) 324053N/1302159E thence to point (1)	3000 SFC

AIP

N2895/26
290950 RJAANYX
(N2895/26 NOTAMN
Q)RJJJ/QWULW/IV/BO/AW/000/004/3243N12920E025
A)RJFE B)2607010000 C)2607311037
D)01-03 06-10 13-17 21-24 27-31 0000/1037
E)BEYOND VISUAL LINE OF SIGHT UNMANNED ACFT(FIXED WING):

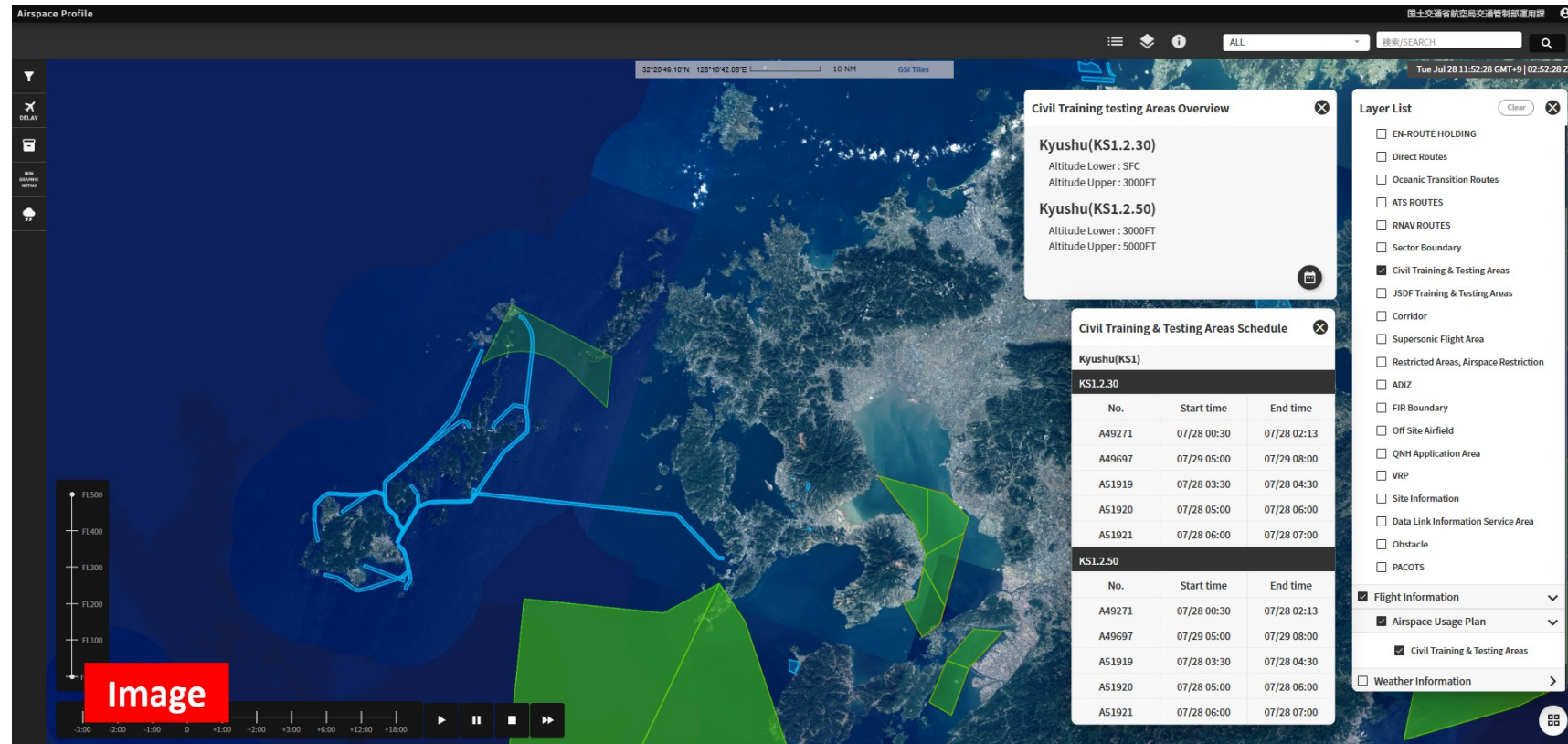
4 NOTAMs!!!

(1)AREA: 362M EITHER SIDE OF A LINE 324123N1285221E - 324204N1285235E
- 324230N1285247E - 324649N1285511E - 324742N1285707E -
324827N1290407E - 324930N1290456E - 324938N1290520E - 324929N1293921E -
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324934N1292006E 324934N1292135E 324934N1292306E 324933N1292436E
324933N1292609E 324932N1292736E 324932N1292906E 324932N1293039E
324932N1293207E 324932N1293209E 324931N1293335E 324931N1293508E
324930N1293619E 324930N1293809E 324928N1293937E 324842N1294042E
324753N1294149E 324703N1294256E 324616N1294401E 324526N1294507E
324438N1294614E 324349N1294720E
(GOTO-SHI,MINAMIMATSUURA-GUN,NAGASAKI-SHI IN NAGASAKI)
WT: 21KG
NUMBER: 10
FLT TIME: 0000/SS



After SWIM

- Integrated information
- Real-time sharing
- Improved decision-making



SWIM Use Case Exercise

<Fill in the template below to create a simple SWIM use case. Keep it simple. >

- Use Case (Title) :
- Who (Stakeholders) :
- Problem (Current issue) :
- Needed Information :
- Improvement with SWIM :
- Expected Benefit (Optional) :

SWIM Use Case Exercise (example)

<Fill in the template below to create a simple SWIM use case. Keep it simple. >

- Use Case (Title) : VFR Flight Operations monitoring service
- Who (Stakeholders) : VFR Operator、 SAR Organization
- Problem (Current issue) : Current SAR operations are typically initiated by the detection of ELT signals or when an aircraft fails to arrive by its estimated arrival time. However, both triggers generally arise only after an accident has already occurred, which can delay the initial response and reduce the chances of saving lives.
- Needed Information : ADS-B Data
- Improvement with SWIM : The service detects VFR aircraft that have experienced sudden changes in altitude based on altitude data contained in ADS-B signal and issues alerts to SAR agencies.
- Expected Benefit (Optional) : Accelerating the Initial Response to SAR Operations and Improving the Human Life Rescue Rate

After creation of Use Cases ...



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Please follow the steps in the guidance.

Conclusion

- Start from operational problems
- Keep use cases simple

