

附錄 會議簡報

一、我方會議簡報（簡報者：曾勝美）

二、ATMC 簡介（作業室解說：渡邊美崇、青野貴成、前地沙織）

三、Overview of AMHS and Flow in Case of Communication

Failure（簡報者：寺村光平）

四、JCAB SWIM Use Cases（簡報者：岩澤康志）

一、 我方會議簡報 (簡報者：曾勝美)

交通部民用航空局飛航服務總署
AIR NAVIGATION AND WEATHER SERVICES, CAA, MOTC

Collaborative Working Session CAA-JCAB

未來航空通信發展研討會議
December 5, 2023

交通部民用航空局飛航服務總署
AIR NAVIGATION AND WEATHER SERVICES, CAA, MOTC

2012 Rita Su

2017 Deputy Chief Kuo, Clark Su, Taichi Lin

Our Previous Familiarity Visits to ATMC

and then...
RJI/RCTP transferred from AFTN to AMHS over CRV in the midst of Covid...

Topic: COM Centre (2023)
RWS, CAA, MOTC

交通部民用航空局飛航服務總署
AIR NAVIGATION AND WEATHER SERVICES, CAA, MOTC

曾勝美
TSSNG, Shanghai

- 2012 National Examination in Civil Aviation
- 2013-JUL 2015 ATC, Taipei ACC
- AUG 2015-present [ATCC] Operator, Taipei COM
 - 2017 Visited IWA w/ Director of ANWS
 - 2018, 2021 Admin., Safety Office
 - 2022 Supervisor / Senior COM Officer
 - Part-time Instructor at CAA Training Institute

Mission: Learning & Sharing
Goals: ADZ decision-makers, CDM, teach newcomers

Topic: COM Centre (2023)
RWS, CAA, MOTC

交通部民用航空局飛航服務總署
AIR NAVIGATION AND WEATHER SERVICES, CAA, MOTC

Outline

About ANWS

- Organizational Structure
- C, N, S / ATM / WX / Flight Info

What We Do at TATC

- AFS
- AMS
- Flight Data Operation
- ATS Fee Charge

From AMHS to SWIM

- COM Message Handling vs. XML Information Exchange (Manpower vs. Automation)
- JCAB's Experience? 2025 Q1 and beyond

Topic: COM Centre (2023)
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AIR NAVIGATION AND WEATHER SERVICES, CAA, MOTC

About ANWS

North ATS Park near RCTP

經向課 Meteorology

Aero. Electro ATC IT 通訊科系 ATCC, EIS

通訊科 / ACC主任 / Centre 主任
Approach Radar Control

台北
Central Tower, WX Station, FIS

Topic: COM Centre (2023)
RWS, CAA, MOTC

交通部民用航空局飛航服務總署
AIR NAVIGATION AND WEATHER SERVICES, CAA, MOTC

Taipei COM Centre (TATC)

What We Do

- AFS
AMHS over CRV CCT
- AMS
Taipei Radio (RCTPYFX) on CWP HF
- Flight Data Operation
ATMS (RCAAZQZ), w/AIDC (FICE-B0/1) pLine
- Navigation Aids Facilities Charge
OVFLTs, ATS, Telecom, Facilities Fee

RCTPYFX

Topic: COM Centre (2023)
RWS, CAA, MOTC

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AIR NAVIGATION AND WEATHER SERVICES, CAA, MOTC

Digital MET → NDR

Slide 14

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AIR NAVIGATION AND WEATHER SERVICES, CAA, MOTC

FPL2012 to FIXM

DEF → ROP → FPL

Slide 15

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AIR NAVIGATION AND WEATHER SERVICES, CAA, MOTC

Exchanging ATFM / MET / NOTAM yet FIXM?

Slide 16

May we pick your brains?

- AMHS/SWIM Gateway SPEC (EUR/NAT AST2)
- PANS-ATM → PANS-IM 2025?
- CTOT for AAs/TBO
- MIT's CARATS 2024-2025 Q1?
- APAC Seamless ANS Plan 2024-2030
- Advance Info-sharing for Airlines, AD, or stakeholders

Slide 17

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AIR NAVIGATION AND WEATHER SERVICES, CAA, MOTC

Gaining Knowledge & Insights on this Matter

User-based Access w/o SWAMWAY & Infrastructure Binding?

Slide 18

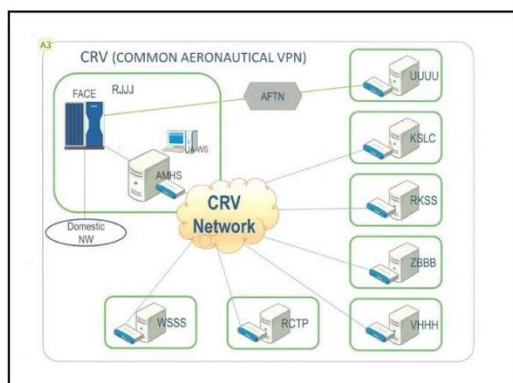
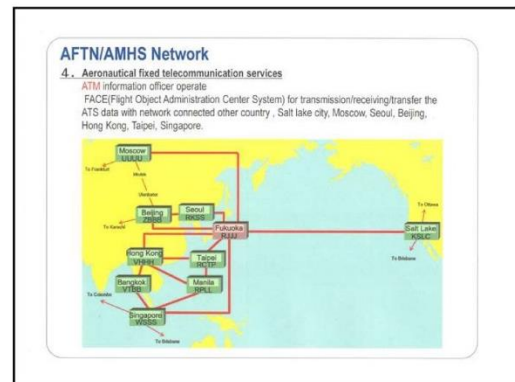
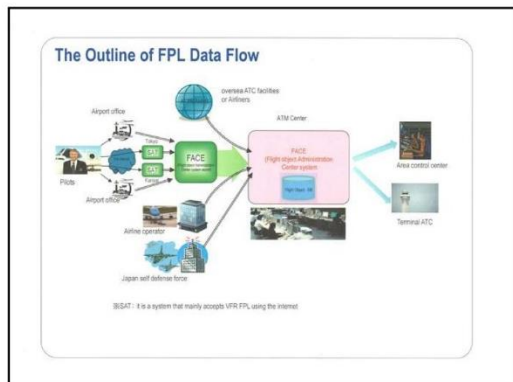
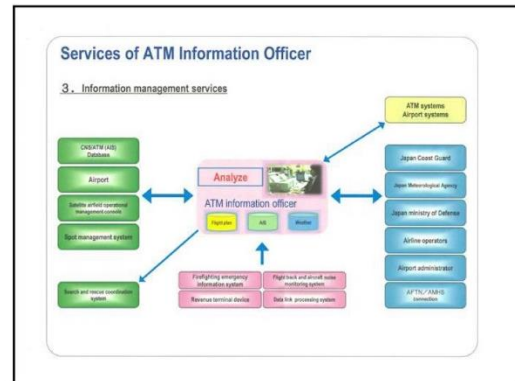
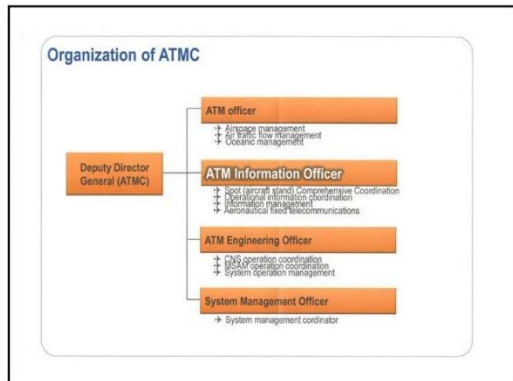
Thank you for Listening!

飛航安全，世界一流
飛航服務，顧客滿意
A Safe Sky, A World of Excellence
A Happy Sky, A World of Satisfaction

曾勝美 (Vikk)

Slide 19

二、 ATMC 簡介 (作業室解説: 渡邊美崇、青野貴成、前地沙織)



三、 Overview of AMHS and Flow in Case of Communication Failure

Failure

(簡報者：寺村光平)

Overview of amhs and flow in case of communication failure.

未來航空通信發展研討會議
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1

Air Traffic Management Center(ATM information services)

ATM information officer provides four services handling several information that is essential for aircraft safety and efficient operations.

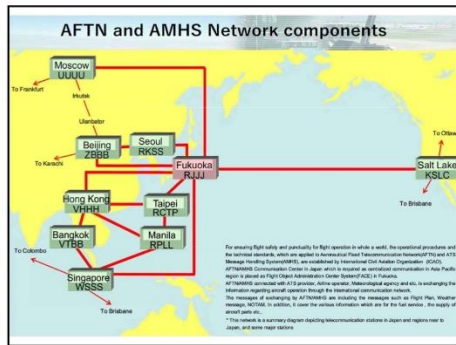
[Spot information management and planning services]
The officer collects the spotwork assignment plans of all domestic airports, then verifies that scheduled flights use the airport spots appropriately and efficiently. On the day of the flight, the officer gathers information, such as the air traffic flow observations for the flight plans of the scheduled flights that will actually operate the day. The officer provides these information to all the airports concerned on the day of the flight, supporting efficient and orderly spot assignment.

[Services for Coordinating operations information]
The officer will individually collect information on airport conditions, including weather conditions. In the event that the foregoing conditions occur, the officer will promptly convey information on these conditions and support timely air traffic by providing information about recovery procedures to the air traffic controller, the airline, and others. And, it supports a rapid response to diversion and the selection of an appropriate alternate airport.

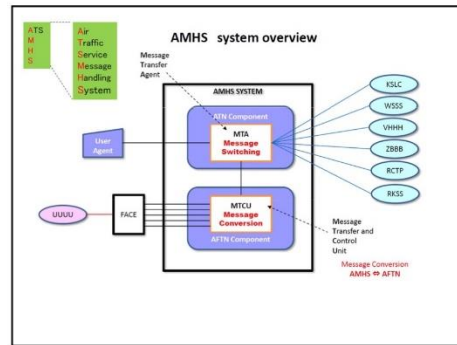
[Information management services]
The officer verifies the management of flight plan, aeronautical information, and meteorological databases. They compile the various data obtained from domestic and foreign related organizations, the airlines, and airport operators. The officer displays data and provides it to air traffic controllers and other related organizations on the information required for different services. Officers also make reference to or coordinate with the institutions that provided the data to ensure the quality of data.

[Aeronautical fixed telecommunications services]
The telecommunications circuit for domestic and international provides the coordination and support necessary for the exchange of flight plans, aeronautical and meteorological information, and to relay information to land and ocean vessels. When there are emergencies in the circuit, the officers coordinate the establishment and release of alternate communications circuits with adjoining communications facilities at Singapore, Salt Lake City, and other locations.

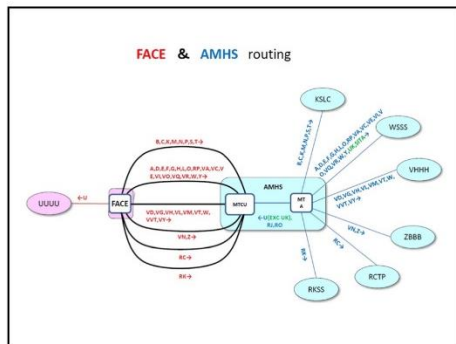
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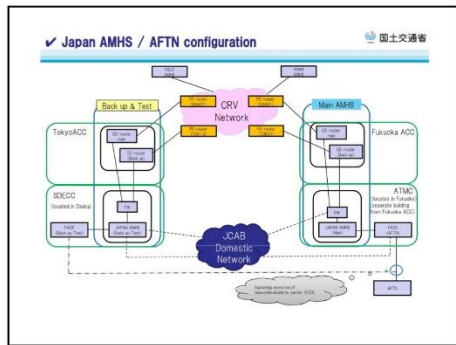
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国土交通省

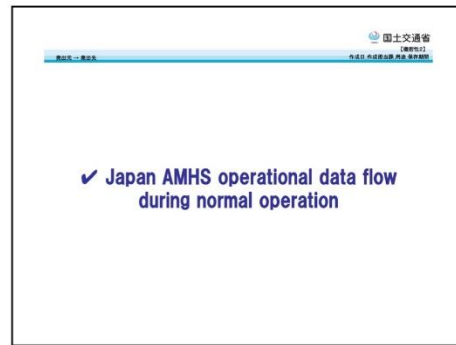
✓ Japan AMHS/AFTN configuration

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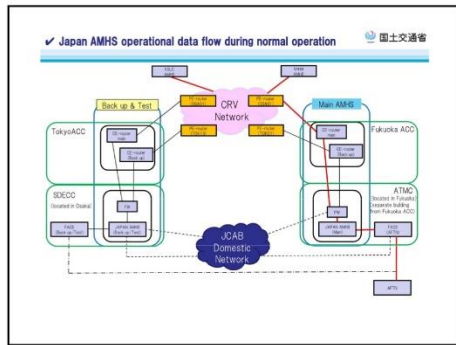
Overview of AMHS and Flow in Case of Communication Failure (簡報者：寺村光平)



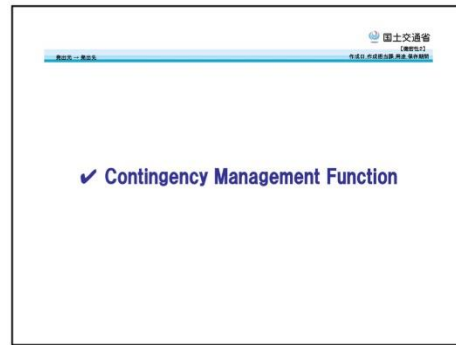
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Contingency Management Function

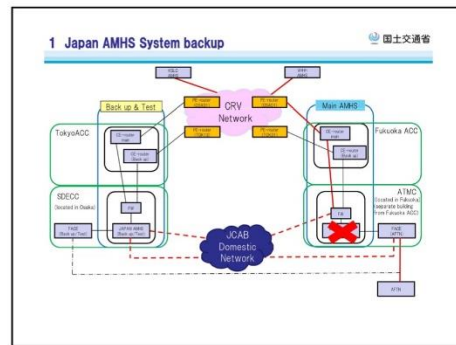
1 System Backup Function

- In case of trouble with AMHS system at ATMC, Operators continue to operate remotely using SDECC's alternate system.

2 Facility Backup Function

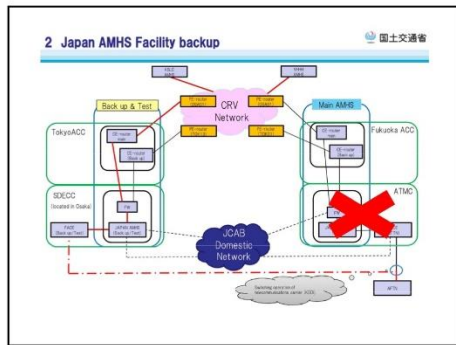
- If the ATMC (Air Traffic Management Center) loses its function due to a large-scale disaster such as an earthquake and takes a long time to recover, a local operator will be transferred to SDECC and use the facilities in SDECC to operate.

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Overview of AMHS and Flow in Case of Communication Failure (簡報者：寺村光平)

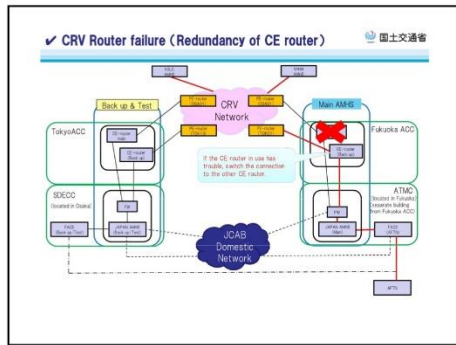


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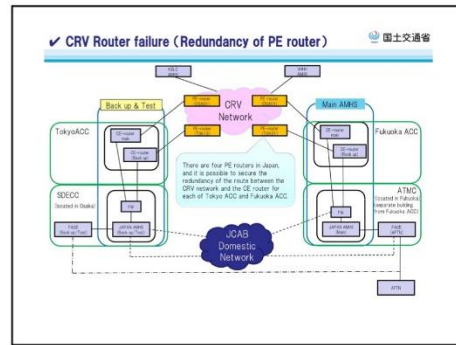
✓ CRV Router failure
 Redundancy of CE router
 Redundancy of PE router

CE Router : Customer Edge Router
 PE Router : Provider Edge Router

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The process of replacing the line was successfully completed.

I'm relieved for now...

There is no time to be relieved, we have to deal with the backlogged ATSMessages!

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- I will now talk a little about some of the difficulties (mainly language) we have had in the field in operating the AMHS.

↓

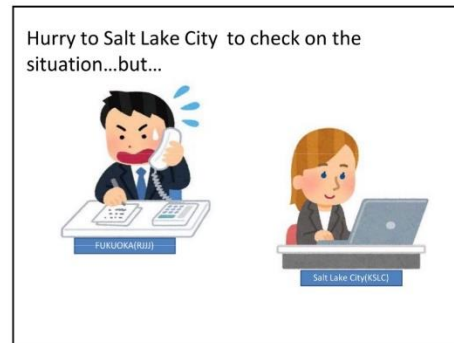
- Japanese people are not good at English conversation...

18

Overview of AMHS and Flow in Case of
Communication Failure (簡報者 : 寺村光平)



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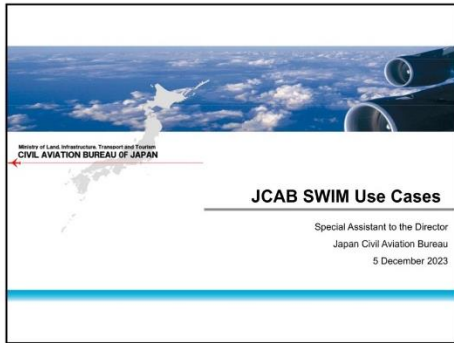


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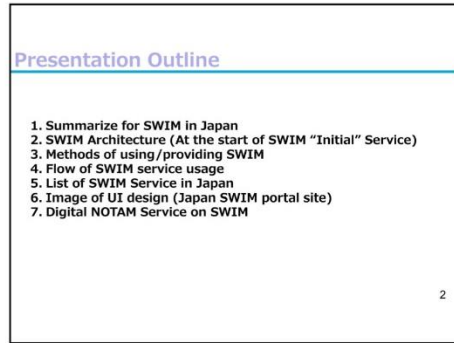


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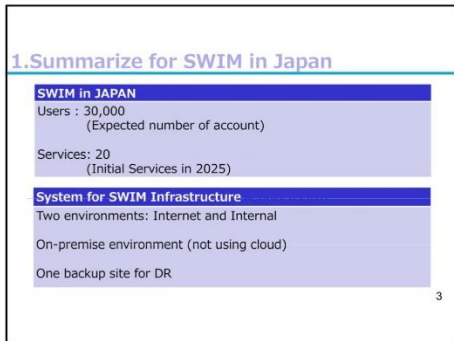
四、 JCAB SWIM Use Case (簡報者：岩澤康志)



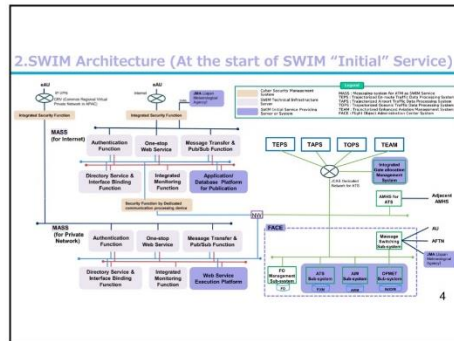
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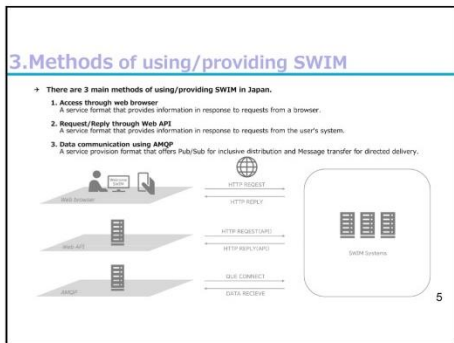
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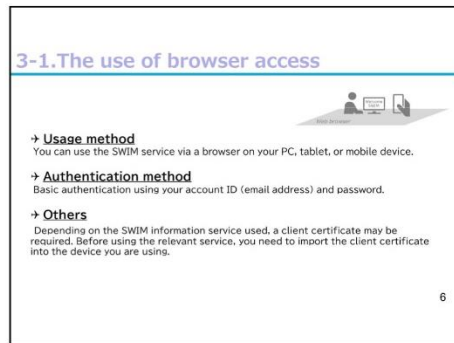
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3-2.The use of Web API



→ **Usage method**
Refer to the API specification provided by each service, and implement your own application to use the service.
The API specification is published on the page of each service on the SWIM portal site.

→ **Authentication method**
Basic authentication using your account ID (email address) and password.


→ **Usage example**

1. Perform login using the login authentication API procedure.
2. Use the API procedure of the relevant service to use the service.

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3-3.The use of Pub/Sub or Message transfer (AMQP)



→ **Usage method**
Implement the AMQP application on the user side to use the service.

→ **Authentication method / Connection method**
The setting parameters* necessary for AMQP connection can be confirmed on the user's page of the SWIM portal. * Queue name, Queue connection ID (Password), Broker URL.

→ **Message data structure**
The data structure is published on the page of each service on the SWIM portal.

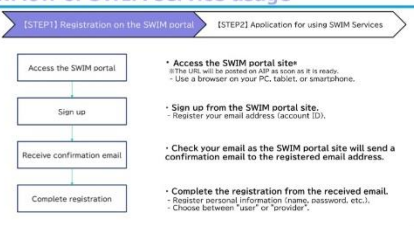
→ **Settings for receiving messages from the Pub/Sub service**
In the distribution service, users select and register (filter settings) the messages they want to receive on the SWIM portal site.

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4.Flow of SWIM service usage

[STEP1] Registration on the SWIM portal → [STEP2] Application for using SWIM Services



Access the SWIM portal

Sign up

Receive confirmation email

Complete registration

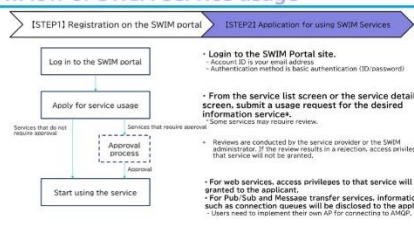
- **Access the SWIM portal site**
 - If the URL will be posted on AP as soon as it is ready.
 - Use a browser on your PC, tablet, or smartphone.
- **Sign up from the SWIM portal site.**
 - Register your email address, (account ID).
- **Check your email as the SWIM portal site will send a confirmation email to the registered email address.**
- **Complete the registration from the received email.**
 - Register personal information (name, password, etc.).
 - Choose between "user" or "provider".

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4.Flow of SWIM service usage

[STEP1] Registration on the SWIM portal → [STEP2] Application for using SWIM Services



Log in to the SWIM portal

Apply for service usage

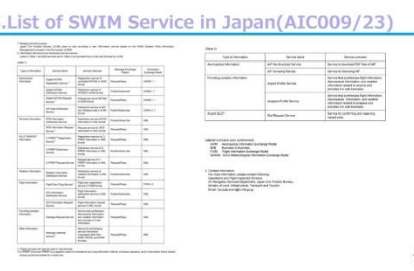
Start using the service

- **Log in to the SWIM Portal site.**
 - Account ID is your email address.
 - Authentication method is basic authentication (ID/password).
- **From the service list screen or the service details screen, submit a usage request for the desired information services.**
 - Some services may require review.
- **Reviews are conducted by the service provider or the SWIM administrator. If the review results in an exception, access privileges for that service will not be granted.**
- **For web services, access privileges to that service will be granted to the applicant.**
 - For Pub-Sub and Message transfer services, information such as connection queues will be disclosed to the applicant.
 - Users need to implement their own AP for connecting to AMQP.

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5.List of SWIM Service in Japan(AIC009/23)



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6.Image of UI design (Japan SWIM portal site)



SWIM portal top page for PC

Login page for PC

Airport profile service page for PC

Airspace profile service page for PC

Service list for mobile (iPad)

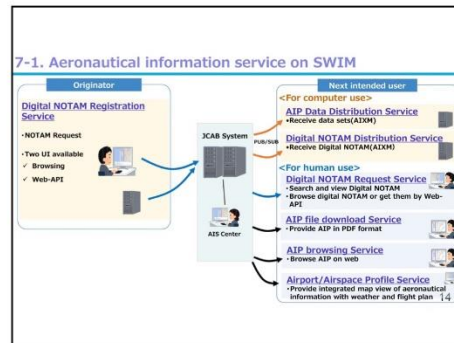
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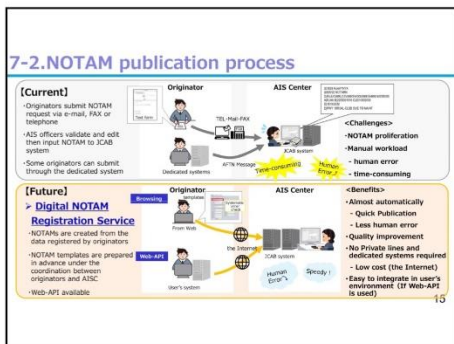
7. Digital NOTAM Service on SWIM

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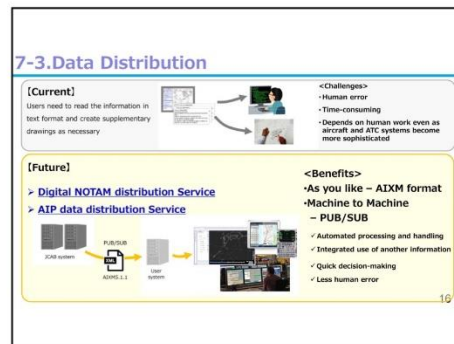
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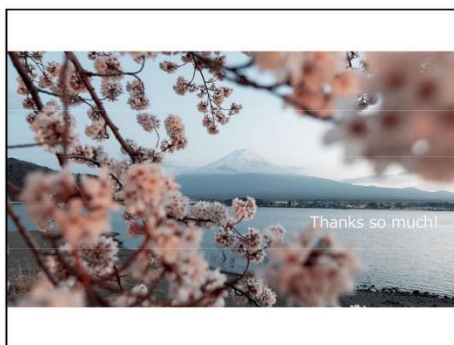
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