

Electronic Safety Tools - SMIS & SOMS -



Presented by J. H. Park
Flight Standards Division
Korea Office of Civil Aviation

Contents

- I . Importance of safety information**
- II. International efforts to collect and utilize safety information**
- III. Development of Operating system
- Electronic Safety Tools**
- IV. What's the SMIS & SOMS**

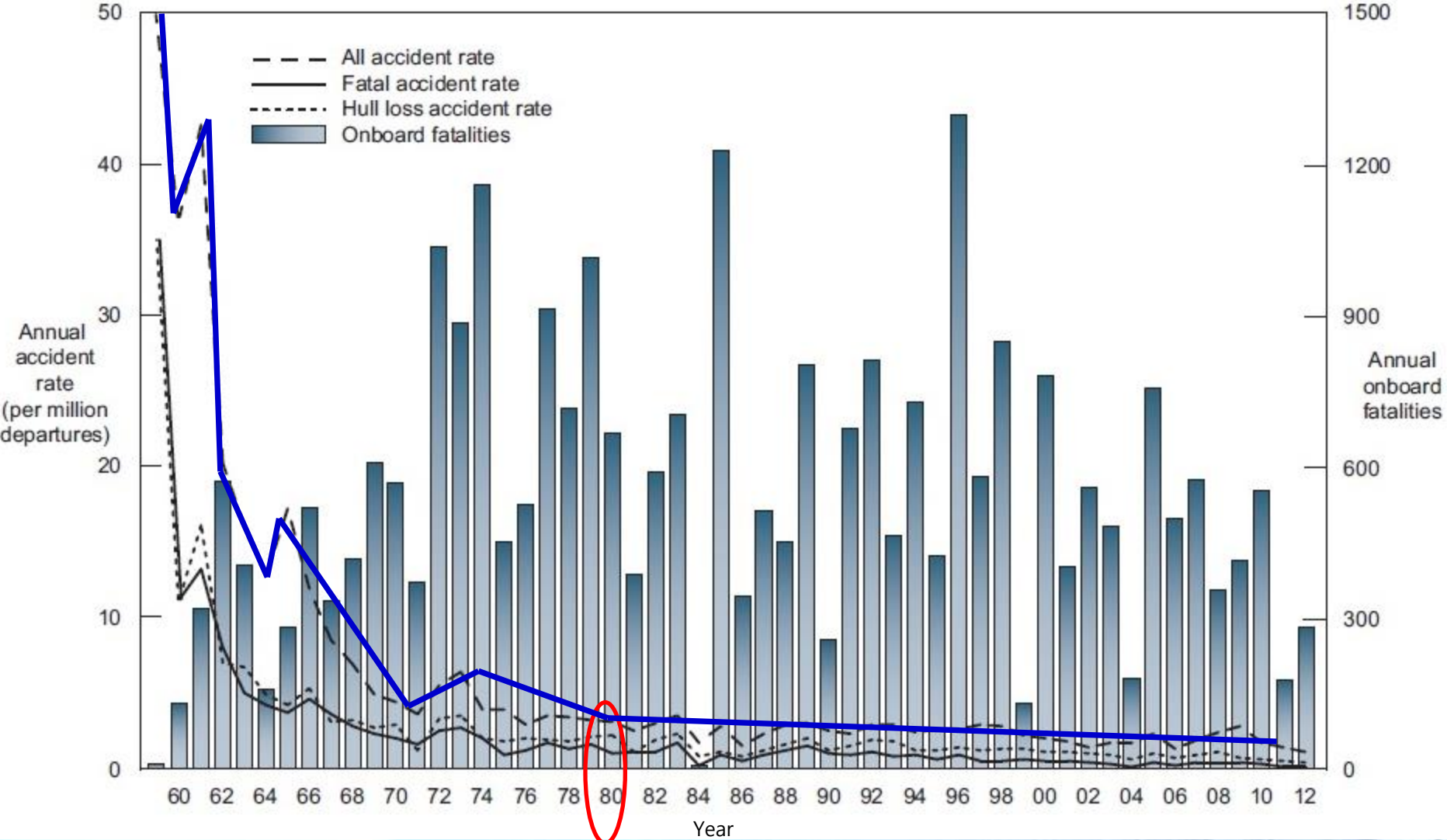
I . Importance of Safety Information

- ❖ A series of events and potential hazards occur before accidents and incidents
- ❖ Potential risks and hazards can be found in the various information of aviation safety activities
- ❖ Safety Information helps us to ;
 - Identify risk factors to reduce possible accidents
 - Improve aviation safety system

Ministry of Land, Transport and Maritime Affairs

Accident Rates and Onboard Fatalities by Year

Worldwide Commercial Jet Fleet – 1959 Through 2012



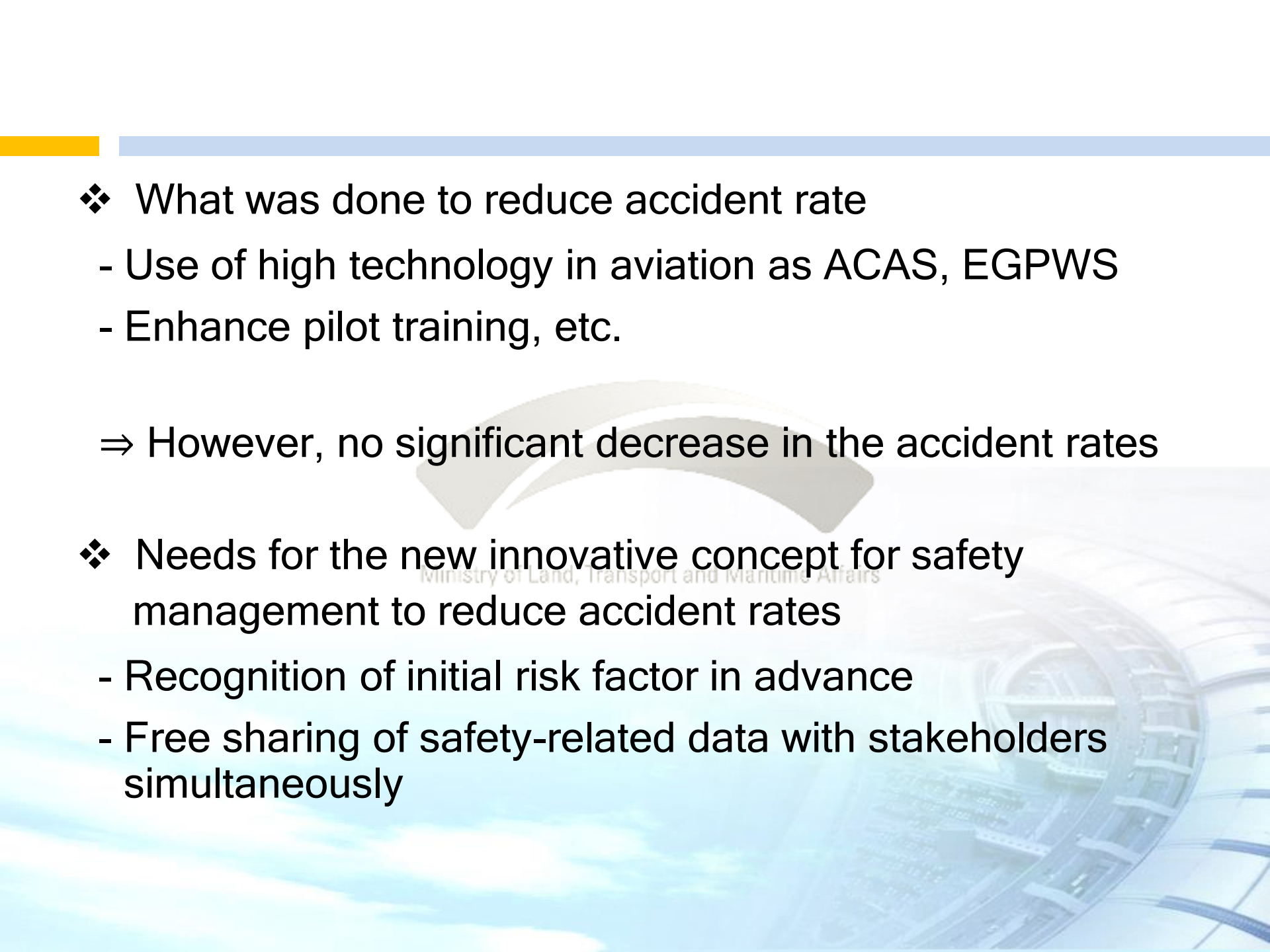


❖ What was done to reduce accident rate

- Use of high technology in aviation as ACAS, EGPWS
- Enhance pilot training, etc.

⇒ However, no significant decrease in the accident rates

❖ Needs for the new innovative concept for safety management to reduce accident rates

- Recognition of initial risk factor in advance
 - Free sharing of safety-related data with stakeholders simultaneously
- 

II. International efforts

Resolutions from the Assembly of ICAO on the needs for establishing safety data collection, processing and exchange systems for improving aviation safety

❖ A35-17

*The Council and Secretary General to participate in efforts by States to **improve existing safety database systems and the exchange of safety-related information, and to participate in activities aimed at the development of a comprehensive data analysis and information dissemination network**, -----;*

Ministry of Land, Transport and Maritime Affairs

❖ A36-9

*The Council to cooperate with Contracting States and appropriate international organizations regarding the development and implementation of guidance to support the establishment of effective safety reporting systems, and **the achievement of a balanced environment where valuable information derived from all relevant safety data collection and processing system in readily accessible**, -----;*

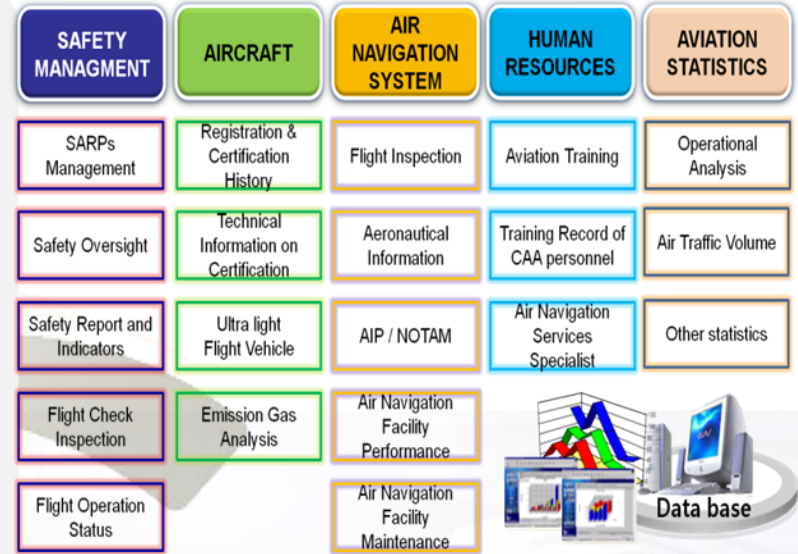
❖ A37-3

*Recognizing that technological advances have made possible **new safety data collection, processing and exchange systems, resulting in multiple sources of safety information that are essential in order to improve aviation safety**; -----;*

Electronic Safety Tools

- ▶ For efficient and consistent implementation of safety oversight system, KOCA is utilizing diverse electronic tools processing substantial safety data from all safety-related areas.
- ▶ Electronic tools are one of key enablers for improving safety oversight performance and systematic collection and analysis of comprehensive safety data and sharing of them.

NARMI's Structure and Sub-system National Aviation Resources Management Information Sys.



Accountability & Responsibility

Efficiency
(Paperless, time saving, Record keeping)

Transparency & Info. sharing

Timeliness & Traceability

Clear Performance Management



Benefits to use IT Safety Tools

Paper-based

79.79%

Compliance

Electronic-based

98.59%

Performance

Development of IT safety tools for International distribution

- ❖ Developed IT safety tools to be distributed internationally particularly useful for aviation safety of NARMI. Republic of Korea has developed the tools;
 - To contribute to the international community
 - To achieve enhanced safety in the countries using the system

- ❖ The status of development
 - ICAO SARPs management and implementation, Safety oversight management DB system
 - * Development : Feb. 2009, costs : us 200 000\$
 - Annual maintenance costs : us 60 000\$
(Continuous up-grading to improve benefits for users)

Sharing of Electronic Safety Tools

SMIS version 3.5

SOMS version 1.5

The screenshot shows the SMIS (Safety Management Information System) version 3.5 interface. It features a navigation menu with options like SARP, State letter, USOAP, Regulation, System, and Report. A 'Welcome to the SMIS!' message is displayed, along with a 'KEYWORD SEARCH' section. Below this, there are statistics for SARP status and a table for SARP Status.

Annex	Total	Open	Unfinished SARPs
Annex1	533	15	0
Annex2	217	0	0
Annex3	250	1	0

Total (317)	Not Different	Subtotal	More exacting	Difference in character	Less protective	Not implemented	undefined	NA	Compliance Rate
9,050	9,100	137	16	37	51	33	8	615	98.4%

S	NS	NA	Etc	Total	Implementation Rate
787	90	98	1	976	89.7%

SARPs Management & Implementation System

The screenshot shows the SOMS (Safety Oversight Management System) version 1.5 interface. It features a navigation menu with options like Set Up, Inspection, SMS, Report, Library, and Webmaster. A 'My Status' section is visible, along with a 'My Inspection' table and a 'Keyword Search' section.

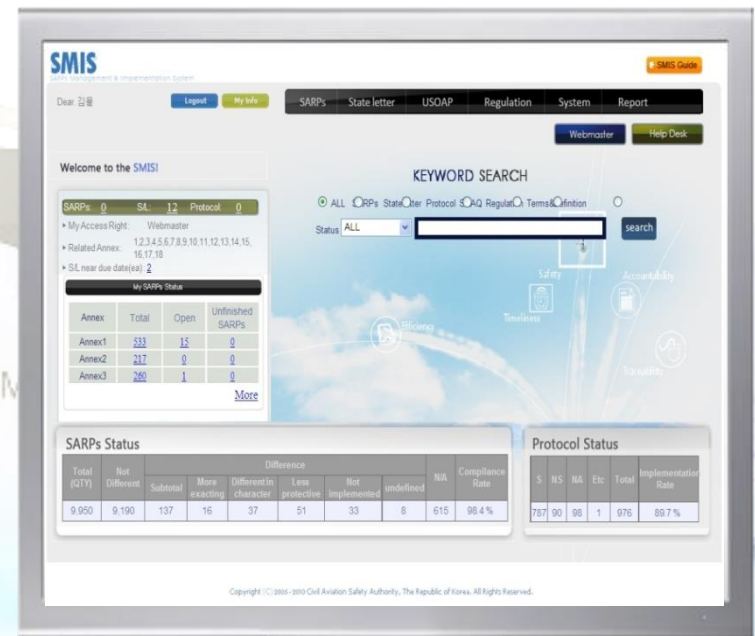
Inspection Type	Period	Target	Checklist	Finding	Corrective Action
Regular	2012/02/01 - 2012/02/29	Civil Aviation Safety Authority	2		Open
Regular	2012/03/01 - 2012/03/30	Civil Aviation Safety Authority	1	Pass(Case Closed)	Closed
Regular	2012/03/01 - 2012/03/30	11	1	Pass(Case Closed)	Closed
Regular	2012/03/01 - 2012/03/30	11	1	Pass(Case Closed)	Closed
Regular	2012/03/01 - 2012/03/30	11	2	Pass(Case Closed)	Closed
Regular	2012/02/14 - 2012/02/17	Seoul Regional Aviation Administration ATS Dept.	4		Open
Regular	2012/02/14 - 2012/02/16	Organization Name	2	[Operator] Corrective Order	Closed
Regular	2011/12/14 - 2011/12/15	Seoul Regional Aviation Administration ATS Dept.	2		Open
Regular	2011/12/05 - 2011/12/02	Organization Name	1	[Operator] Corrective Order	Open
Regular	2011/12/15 - 2011/12/19	Organization Name	1	Pass(Case Closed)	Closed

Safety Oversight Management System

IV. What is SMIS?

A web-based program designed for CAAs:

- ✓ To manage **overall framework of compliance** with ICAO SARPs regardless of the size of the CAAs;
- ✓ Process more than **200 State letters** addressed by ICAO annually; and
- ✓ To manage all data required for the **implementation of ICAO USOAP**:
 - a) Compliance Checklists (**CC**);
 - b) State Aviation Activity Questionnaires (**SAAQ**); and
 - c) Protocol Questionnaires (**PQ**)



System Composition

SMIS
SARPs Management & Implementation System

SMIS Guide

Login

SARP State letter USOP Regulation System Report

SignUp Forgot ID/Password

Webmaster Help Desk

SA

My

S/

Accountability

search

Search

late

SARPs Status

Total (QTY)	Not Different

→ New Regulation

→ Regulation List

What is SOMS?

A web-based program devised for CAAs:

- ✓ To manage overall safety oversight process and procedure in all civil aviation sectors
- ✓ Converted from NARMI and developed based on ICAO requirements:

a) ICAO Safety Oversight Manual (Doc. 9734)

b) Manual of Procedures for Operations Inspections, Certification and Continued Surveillance (Doc. 8335)

d) Safety Management Manual (Doc. 9859)



Operating Concept



System Composition

The screenshot displays the SOMS web application interface. At the top, the navigation bar includes the SOMS logo, user ID 'admin', and a 'logout' link. The main menu consists of 'Set Up', 'Inspection', 'SMS', 'Report', 'Library', and 'Webmaster'. A sidebar on the left contains 'My Status' and 'My Inspection' sections. The 'My Inspection' section features a table with columns for 'Inspection Type' and 'Period'. The main content area is titled 'Total Oversight Management System' and 'Tool for Safety Oversight Activities on a Systematic and Continuous Basis'. It includes a search bar with a 'Search' button and a 'SOMS Guide' section. A 'Help Desk' section provides contact information for technical assistance.

Navigation Menu: Set Up, Inspection, SMS, Report, Library, Webmaster

My Inspection Table:

Inspection Type	Period	Action
Regular	2012/03/01 ~ 2012/03/30	Open
Regular	2012/03/05 ~ 2012/03/09	Closed
Regular	2012/03/05 ~ 2012/03/09	Open
Regular	2012/03/05 ~ 2012/03/09	Closed
Regular	2012/02/14 ~ 2012/02/17	Open
Regular	2012/02/15 ~ 2012/02/16	Open
Regular	2011/12/14 ~ 2011/12/31	Open
Regular	2011/12/05 ~ 2011/12/22	Open
Regular	2011/12/15 ~ 2011/12/19	Closed
Regular	2011/12/15 ~ 2011/12/19	Open

Target Setting: Target Sector, Target Group, Individual Target

Checklist Setting: Checklist Group, Individual Checklist, Risk Factor

Type Setting: Inspection Type, Corrective Action Type

Inspection Planning: New or Revision

Inspection: Inspection Schedule, Inspection Result, Corrective Action

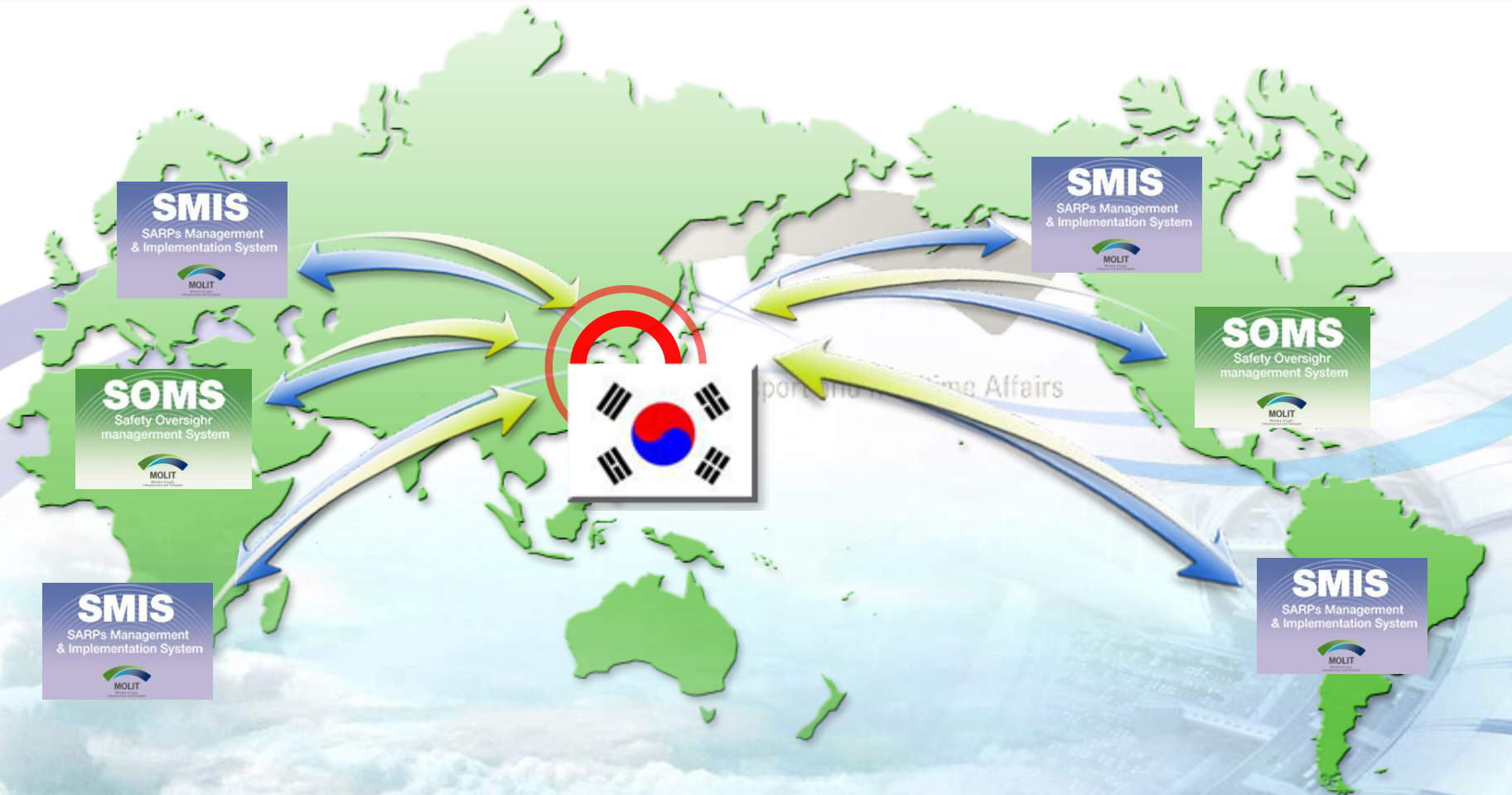
Search Options: Code View Option (ICAO+IATA, ICAO_Only, IATA_Only, No_Code_View), Search Option (Name dropdown), Search Contents

SOMS Guide: TOMS (Total Oversight Management System) is being developed along with the most simple process of aviation safety inspection as a complementary and auxiliary means to ensuring...

Help Desk: If any user encounters any problems such as malfunctions, bugs, or defects; please don't hesitate to contact the internet help desk for technical assistance.

International Distribution

SMIS/SOMS delivered to over 40 States



Technical Assistance

HELP DESK

Copyright (c) Ministry of Land, Infrastructure and Transport. All Rights reserved.

INFO. SHARING

Expected to introduce the new version of SMIS/SOMS

The new version of SMIS/SOMS is scheduled to be released soon.

Through the new version, SMART-SMIS linked system is realized and by enhancing the users' convenience, it is now able to achieve the purpose of SMIS/SOMS by just a few clicks.

Procedure for Application to Use





**APPLICATION FOR USE OF
SARPs MANAGEMENT AND IMPLEMENTATION SYSTEM (SMIS)
AND
SAFETY OVERSIGHT MANAGEMENT SYSTEM (SOMS)**

Recognizing that the use of SMIS and SOMS will be of great assistance to User States with increased efficiency and effectiveness to assist in complying with ICAO Standards and Recommended Practices (SARPs) and conducting safety oversight activities, and monitoring their continuity, particularly in preparation for Continuous Monitoring Approach (CMA), afterwards scheme of ICAO Universal Safety Oversight Audit Program–Continuous Monitoring Approach (USOAP-CMA),

Noting that User States shall have technical personnel to secure the system operation and monitor the performance and shall meet operational specifications (H/W and S/W) required for operation of the system,

I hereby apply for the use of current version of SMIS and/or SOMS to take the best advantage of the system for timely management of compliance with the ICAO SARPs and safety oversight activities.

For _____
(Name of Organization/State)

Signature/Date: _____

Name: _____

Title: _____

Email: _____

Tel: _____

Fax: _____

Application for SMIS & SOMS SMIS only SOMS only
(Please specify your application with marking "V")

Familiarization Training

2012



14 Participants from 12 States

2013



15 Participants from 15 States

Familiarization Training in 2014

2014



Incheon Airport Aviation Academy
near Incheon Int'l Airport

- ✓ Second week of July
- ✓ Open for 20 Seats
- ✓ 15 Seats closed
- ✓ 5 Seats remain

Line Affairs

If you want attend this class,
please send us e-mail.
(rladbf22@korea.kr)

Invitation to Flight Safety Seminar by KOCA

Host

Korea of Office of Civil Aviation

Date

Sep. 1 - 3, 2014

Venue

Grand Continental Hotel, Seoul

Level of participants

Operation, Airworthiness, ATM

Topic

**Flight Safety Management and
Accident/Incident Prevention**

Program

**(1st day) Opening Ceremony & Session 1, 2
(2nd day) Session 3 : Go around forum
(3rd day) Session 4 & Closing / Culture tour**



**THANK YOU
FOR YOUR ATTENTION !**