



ICAO DAKAR UNITING AVIATION

AFI Region AIM-e AIP Implementation Workshop (Dakar, Senegal, 3-5 October 2016)

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RO/AIM

Agenda Items 2a,b,c,d,e and f





INTRODUCTION/Objectives

- Present the latest version of the eAIP Specification
- Evaluate the status of the implementations
- Identify areas that require improvement
- Identify Agency priorities for 2005-2006
- Share experience



Participants

- State AIS
 - Already issuing an eAIP
 - In advanced implementation
 - Who intend to issue an eAIP in the near future
- Industry
 - Technical experts : Avitech; Thales; IDS; Eurocontrol
 - After 1500hrs each day Free time for Informal discussions/meetings between States or States/Industry

Inside the Conference Room



In the building





Questionnaire : Refer to IP- : File the Form and submit to ICAO

- Q1: What is your name and which country and/or & organisation do you represent?
- Q2: What is your interest with regard to the eAIP Implementation/Specification?
- Q3 (for States & AIP Offices only): Do you intend to issue an eAIP complying with the EUROCONTROL eAIP Specification in the near future?
- Q4 (for States & AIP Offices only): By when do you intend to modify your AIP structure in order to comply with AMDT 33 to ICAO Annex 15 (new section ENR 4.3 for GNSS information)
- Q5: Are there any eAIP related specific areas which you think that the ICAO/Eurocontrol can assist you technically?



2. Questionnaire

- Questionnaire
 - We will take notes, but please leave a copy of your answers, if possible
- List of participants
 - Please check name, e-mail address, organisation
 - Will be made available in at the end of program



eAIP Specification
version 1.1.0
The process

- Final version 1.1.0
 - Upload in OneSky Teams
 - Since 15 June 2007
 - Content
 - eAIP Specification & Manuals
 - eAIP Samples
 - eAIP Core Toolbox
 - eAIP Extended Toolbox

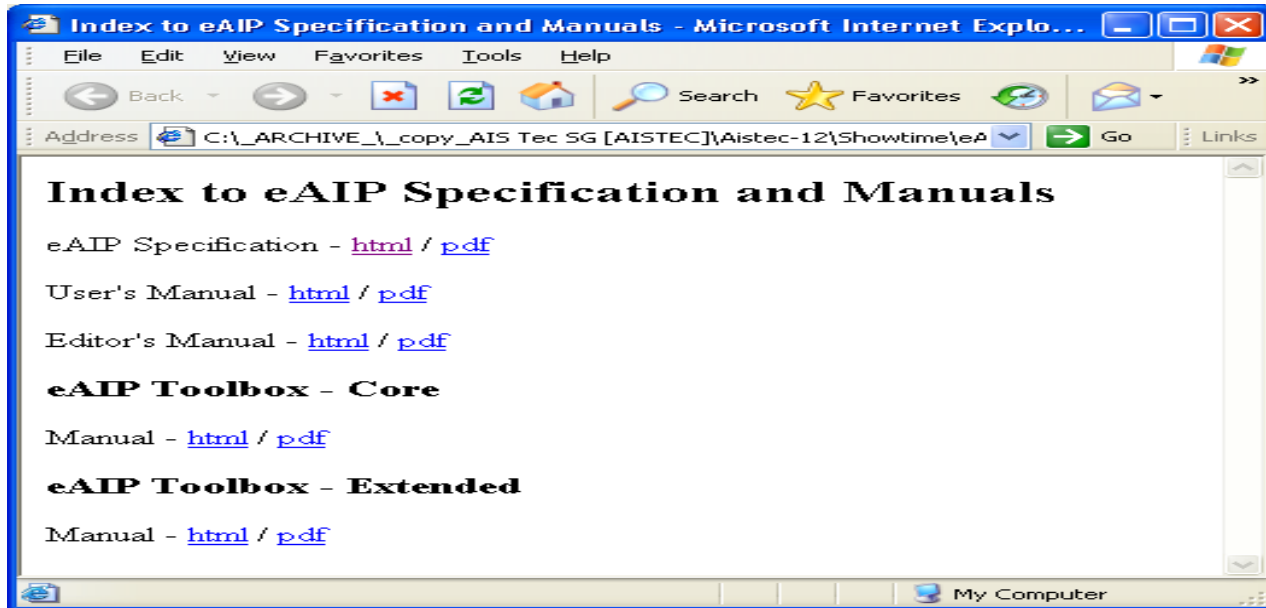


Main changes

- Document Type Definition (DTD)
 - New ENR 4.3 chapter - GNSS
 - Amendment Groups
 - (removed) See-supplement
 - Flexible Use of Airspace (FUA) - Minimum IFR cruising levels
 - Route track
 - SID/STAR reference from ENR 4.4



Separation between formal Specification and 'toolboxes



Formal HTML layout requirements

Chapter 7. Screen and Paper Presentation - Microsoft Internet Explorer

Address: C:_Business\Workspace_eAIP_1.1.0 [2007-06-11] extracted\eAIP-pack\doc\eAIP Specification\html\UserRequirements.html

Chapter 7. Screen and Paper Presentation

1. Introduction

Presenting the information on a computer screen and presenting the same information on paper have different constraints. HTML is a Web technology, developed specifically to display information on computer screens. The on-screen (HTML) presentation part of the eAIP Specification is based on the conclusions of a [User Requirements and Usability Guidelines](#) Study. The study included a validation workshop with a group of real users.

The eAIP may be presented on different media, such as paper and on-screen. The concept of fixed length pages do not apply to the computer screen. For electronic presentation it is much more natural to group the information in chapters per subject. Also, when expressed in pixels, a good computer screen has half the size of an A4 paper. For the text to remain legible, the length of text in a table cell has to be reduced by at least one third when compared to A4 paper.

2. User Requirements

The requirements identified through this study have been classified as 'inherited' requirements or 'functional' requirements.

- Inherited requirements are those derived from the ICAO SARPs specified in Annex 15, such as:
 - o the eAIP structure and layout shall adhere to the requirements for presentation as set out by ICAO;
 - o the update cycle of the eAIP shall adhere to the AIRAC cycle requirements;
 - o all amendments (alterations, additions and deletions) made to the eAIP in the last AIRAC cycle shall be indicated.
- functional requirements are those deriving from the transition from paper-based to electronic media, such as

Chapter 7. Screen and Paper Presentation - Microsoft Internet Explorer

Address: C:_Business\Workspace_eAIP_1.1.0 [2007-06-11]

for all instances of a given word in the body of the document, links into the appropriate sections of the body of the document.

However, such requirements do not affect the use of stylesheets. It is expected that such requirements will be managed by a content management system.

3. HTML Specification

This section includes the HTML specifications for the eAIP.

3.1. General

Headings shall be in black text unless otherwise specified.

Unlinked text shall be black.

A link shall have blue text when the cursor is not over the link.

A link shall be displayed in red text when the cursor is over the link.

Chapter 7. Screen and Paper Presentation - Microsoft Internet Explorer

Address: C:_Business\Workspace_eAIP_1.1.0 [2007-06-11] extracted\eAIP-pack\doc\eAIP Specification\html\UserRequirements.html

Figure 7.5. eAIP Cover Page and Table of Contents

eAIP Package for EUROCONTROL Specimen published on 01 JAN 2001 - Microsoft Internet Explorer

Address: http://www.eurocontrol.int/esp/eAIP1.1.0/2004-09-30/html/index-en-GB.html

eAIP
Specimen (NOT FOR OPERATIONAL USE)
Consult Notam for Latest Information
EUROCONTROL

Effective date: 30 SEP 2004
Publication date: 19 AUG 2004

Information on this eAIP

Description

This eAIP contains:

- Non-AIRAC AMDT

eAIP
Specimen (NOT FOR OPERATIONAL USE)
See cover page for details.

EN EN FR

Effective 30 SEP 2004

Part 4 General (GEN)

- GEN 0
- GEN 1 National Regulations and Requirements
- GEN 2 Tables and Codes
- GEN 3 Services
- GEN 4 Changes for Aerodromes/Heliports and Air Navigation
- Part 2 En route (ENR)
 - ENR 0
 - ENR 1 General Rules and Procedures
 - ENR 2 Air Traffic Services Airspace
 - ENR 3 ATIS Routes
 - ENR 4 Radio Navigation Aids/Systems
 - ENR 5 Navigation Warnings
 - ENR 6 En Route Charts
- Part 3 Aerodromes (AD)
 - Ad 0
 - Ad 1 Aerodromes/Heliports — Introduction
 - Ad 2 Aerodromes
 - Ad 3 Heliports



Main changes

- Improved HTML view
 - group together related changes
 - provide a high level description of the group
 - multiple changes in the same section
 - “NIL on purpose”
 - data publication requirements for CDR routes

UR 4					
EXAMPLE OF MIXED CATEGORIES ONE & TWO - Night Route & Weekend Route					
<i>(RNP 5)</i>					
<input type="checkbox"/> VOR HIJ	089° 269° 92 NM	FL460 FL195 Class A	FL210 ↓	CDR 1 E V NGT FM 22 00 (21 00) TIL 06 00 (05 00)	TEMPO CLSD on UAC Instructions ALTN ROUTE: UA 7
<input type="checkbox"/> KLMNO	089° 269° 28 NM			& E V Week-end FM FRI 17 00 (16 00) TIL MON 07 00 (06 00)	
<input type="checkbox"/> VOR OPQ			FL200 ↑	CDR 2 Rest of the Week	Geneva UAC FREQ: ..MHZ

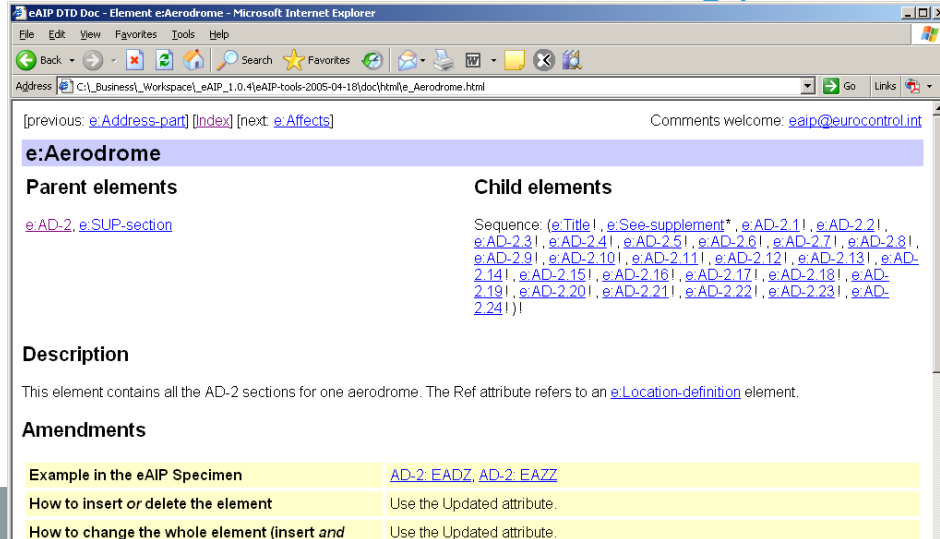


Packages

- ***eAIP-specification-yyyy-mm-dd.zip***
 - the formal eAIP Specification
 - the eAIP User's Manual
 - the eAIP Editor's Manual'
- ***eAIP-samples-yyyy-yy-dd.zip***
 - seven fictitious eAIP issues, which demonstrate how eAIP, eAMDT, eSUP and eAIC files are presented in HTML and PDF formats
- ***eAIP-core-yyyy-mm-dd.zip***
 - proof of concept code
 - generation of the HTML format from eAIP XML source files
 - including documentation
- ***eAIP-extended-yyyy-mm-dd.zip***
 - additional proof of concept code
 - generation of the PDF format from eAIP XML source files
 - including documentation

eAIP Objective

- Consequence
 - Standardisation of eAIP editing process, due to the XML DTD



The screenshot shows a Microsoft Internet Explorer browser window displaying the eAIP DTD documentation for the `e:Aerodrome` element. The address bar shows the local file path: `C:_Business\workspace_eAIP_1.0.4\eAIP-tools-2005-04-18\doc\html\e_Aerodrome.html`. The page content includes:

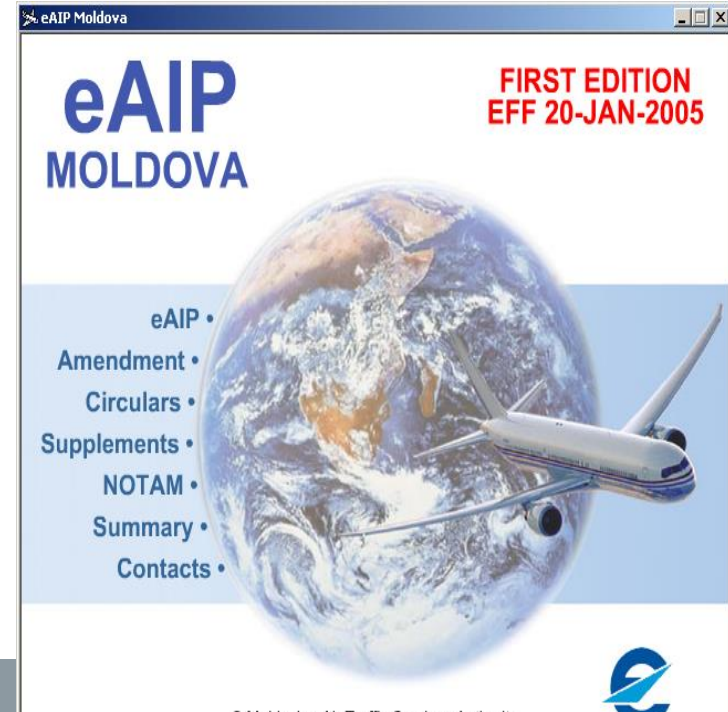
- Navigation links: [previous: [e:Address-part](#)] [[Index](#)] [next: [e:Affects](#)]
- Comments welcome: eaip@eurocontrol.int
- Section: **e:Aerodrome**
- Parent elements: [e:AD-2](#), [e:SUP-section](#)
- Child elements: Sequence: ([e:Title](#) | [e:See-supplement*](#) | [e:AD-2.1](#) | [e:AD-2.2](#) | [e:AD-2.3](#) | [e:AD-2.4](#) | [e:AD-2.5](#) | [e:AD-2.6](#) | [e:AD-2.7](#) | [e:AD-2.8](#) | [e:AD-2.9](#) | [e:AD-2.10](#) | [e:AD-2.11](#) | [e:AD-2.12](#) | [e:AD-2.13](#) | [e:AD-2.14](#) | [e:AD-2.15](#) | [e:AD-2.16](#) | [e:AD-2.17](#) | [e:AD-2.18](#) | [e:AD-2.19](#) | [e:AD-2.20](#) | [e:AD-2.21](#) | [e:AD-2.22](#) | [e:AD-2.23](#) | [e:AD-2.24](#) |)
- Description: This element contains all the AD-2 sections for one aerodrome. The Ref attribute refers to an [e:Location-definition](#) element.
- Amendments table:

Example in the eAIP Specimen	
How to insert or delete the element	Use the Updated attribute.
How to change the whole element (insert and	Use the Updated attribute.



Samples of Current implementations

- Belgium & Luxembourg
- Slovenia
- Moldova
- Netherlands
- Armenia
- Slovak Republic





Other States

- - questionnaire
 - ***Is your Organisation already publishing an eAIP according to the EUROCONTROL Specification?***
 - Yes:
 - *Q7:Are you satisfied with the results of the eAIP implementation?*
 - *Q8:Do you see any way for improving the eAIP Specification?*
 - No:
 - *Q9:Do you plan to issue an eAIP in future? If yes, by when? If not, could you provide the main reasons for which you do not intend to provide an eAIP?*
 - *Q10:What major obstacles have you encountered (or do you foresee) in implementing an eAIP in your State?*



Obstacles to Implementation in Euro control States ?

- Where States have not already implemented an eAIP, most foresee no major obstacles in doing so.
- The non-linking of their eAIP process to the EAD SDO is a concern for some.
- Software constraints / system performance are regarded as obstacles by some States.
- The effort required is seen as being quite significant by some States.
- The need, and lack of support for, dual-language AIPs is also seen as an issue by some States.



Guidelines for e AIP Implementation Plans

- Draft text - *"States that wish to publish their AIP in electronic format, shall make it available:*
 1. *as a minimum, in PDF format, strictly identical to the printed/paper AIP document*
 2. *recommended, in XML and HTML format, complying with the eAIP Specification published by EUROCONTROL (EATM Reference)*
Both the PDF and the HTML version shall be produced from the same source data".
- To be discussed at the AICM/AIXM Workshop



Conclusion

- Congratulations to the States that have implemented eAIP
- Note that other States will implement soon
 - Some technical difficulties are – multilingual PDF
 - Solutions will be presented at Agenda Item 9



Maintenance plan

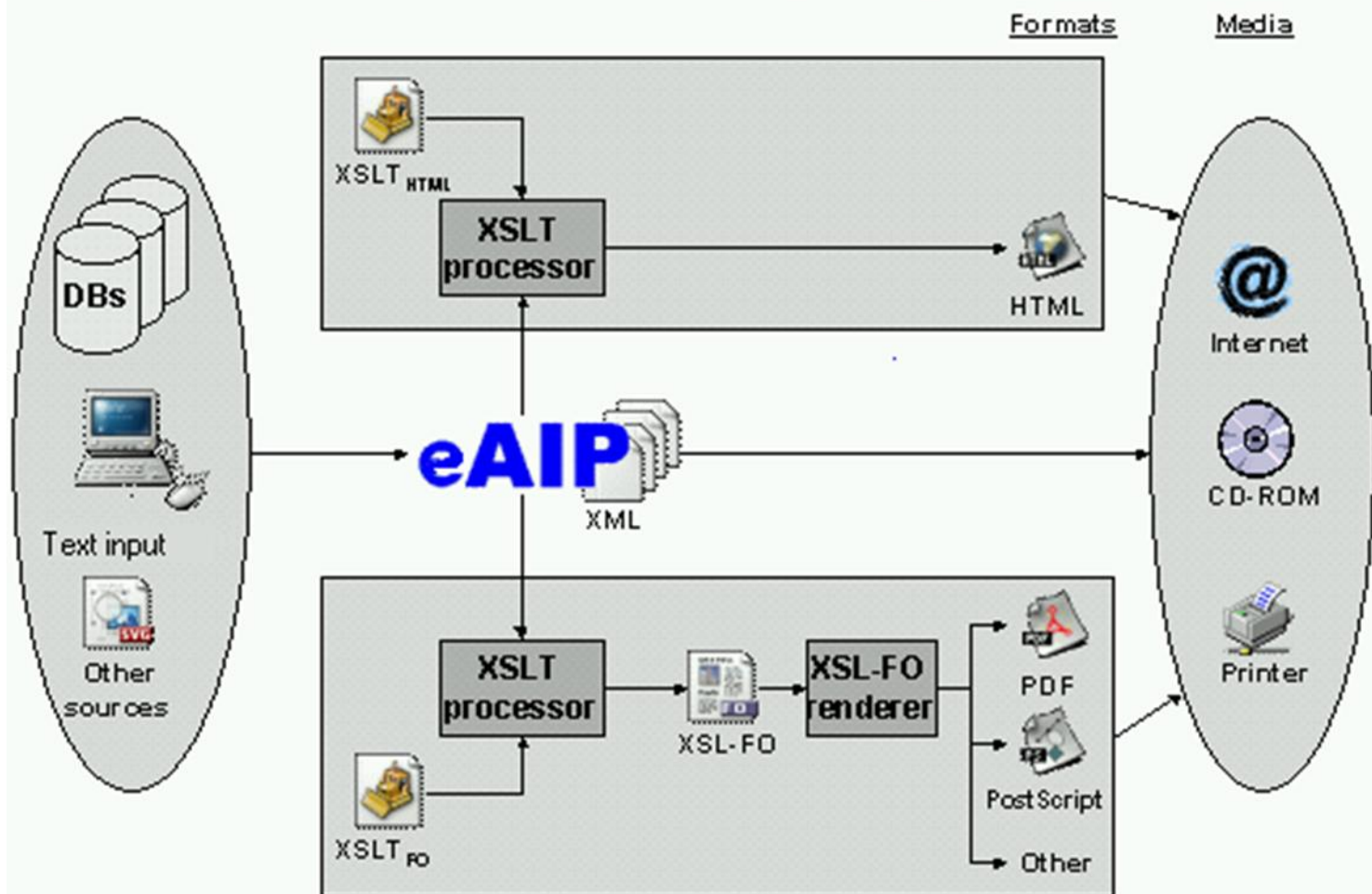
- What
 - eAIP Specification
 - Including DTD & additional rules
 - eAIP Editor's Manual
 - eAIP Developer's Manual
 - eAIP User's Manual
 - eAIP Samples
 - Proof of concept tools – “makeaip.bat”
 - XML to HTML conversion stylesheets
 - XML to PDF conversion stylesheets
- Who
 - Agency - AIM Domain



Maintenance plan

- Reasons for change
 - ICAO – modifications to Annex 15, AIS Manual, etc.
 - Bugs/improvements identified
 - States issuing an eAIP
 - Users of the eAIP
- Future releases
 - Maximum one per year, by the end of the year
- Next release – current change requests
 - Document Type Definition (DTD) 1.1.0
 - Not backwards compatible due to change in Annex 15
 - ENR 4.3 – now for GNSS information
 - Existing sections are moved forward
 - List of known issues

eAIP Process



4. Maintenance plan

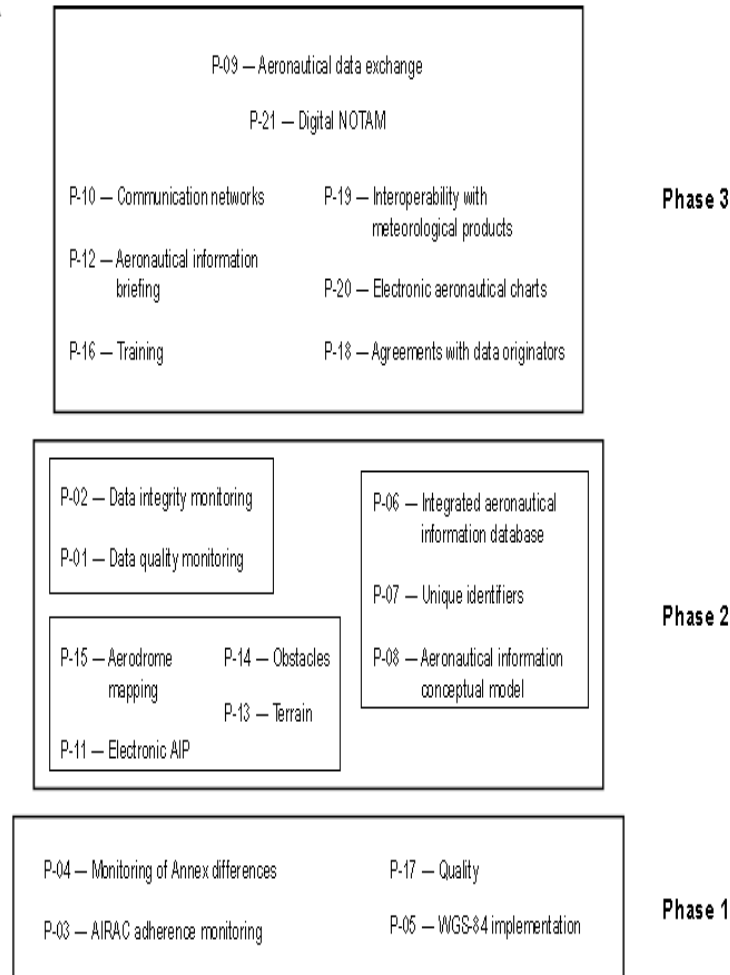
▪
▪

<i>Format</i>	XML	HTML	PDF
<i>Specification</i>	DTD & Rules	Missing will be developed by Eurocontrol, based on current eAIP HTML Samples	ICAO Annex 15
<i>Tools</i>	Editor provided by industry	XSLT conversion Eurocontrol -> proof of concept Industry -> Implementation, maintenance and support	XSL-FO conversion Eurocontrol -> proof of concept Industry -> Implementation, maintenance and support

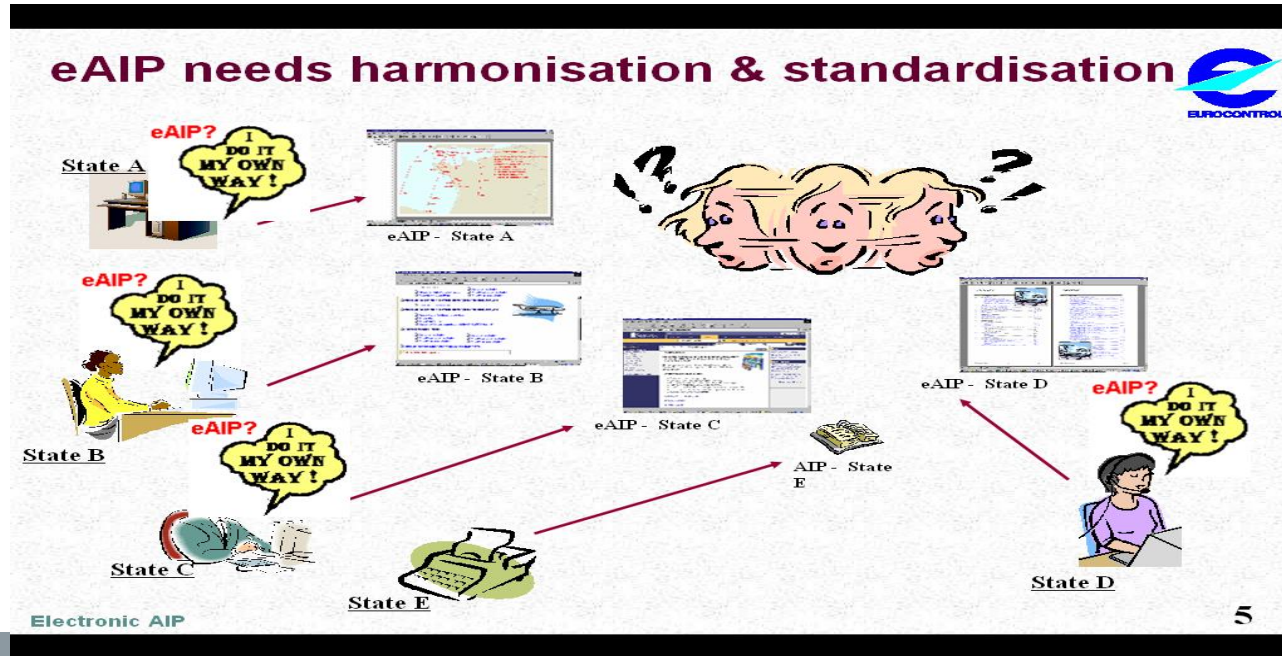
AIM Roadmap – 3 Phases and 21 Steps

- **Phase 1 :**
 - Consolidation, mainly quality requirements; AIRAC adherence; WGS-84; and the provision of terrain and obstacle data.
- **Phase 2 :**
 - Going digital, introduction of database-driven processes (eAIP, AIXM); enhance the quality and availability of existing products.
- **Phase 3 :**
 - **Information Management**, new products and services; provision of the new data that will be required by the future ATM components.

Time ↑

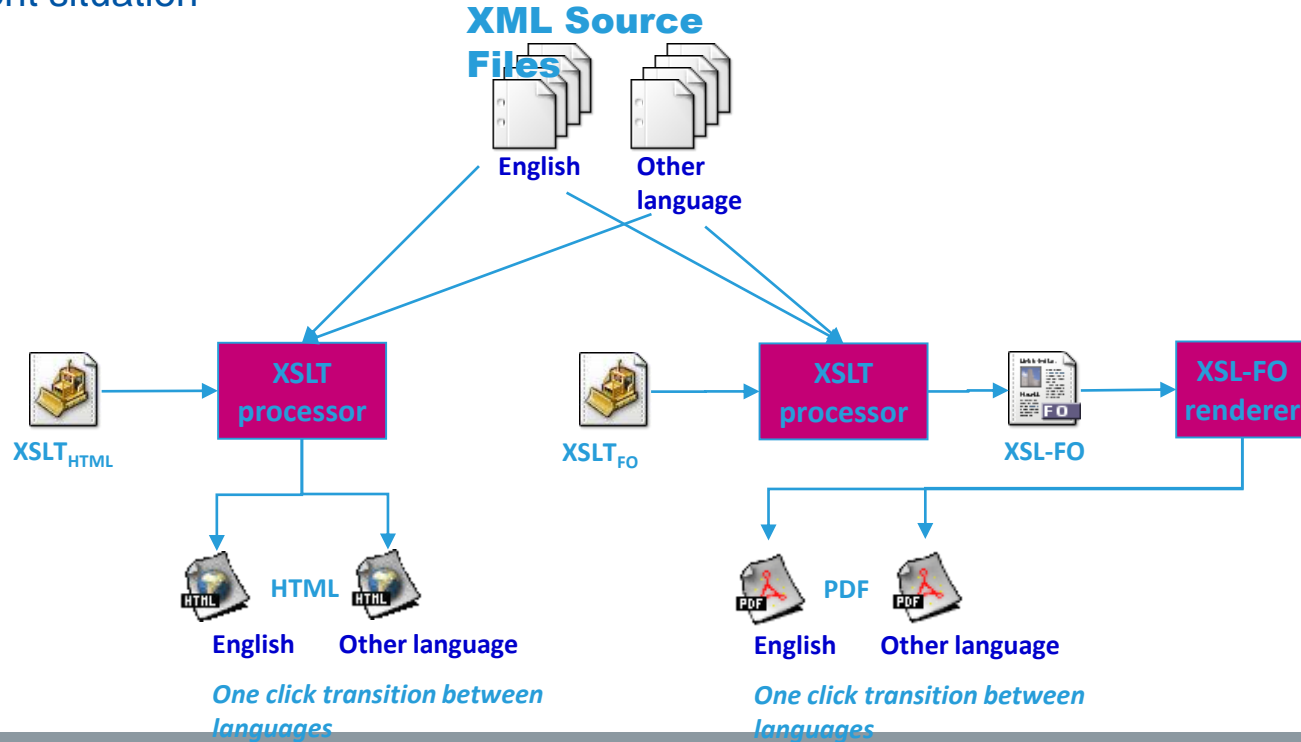


HTML layout harmonisation



Multilingual AIP

- Current situation





Conclusions

- Present the latest version of the eAIP Specification
- Evaluate the status of the implementations
- Identify areas that require improvement
- Identify State/ Agency priorities for e-AIP Implementation (PDF/HTML)
- Share experience

- Use of eAIP in briefing offices
 - NOTAM annotation
 - Requirements and prototype development by Agency
- Multilingual AIP
 - Requirements and prototype development by Agency



Lessons learned

- **Need for National Roadmap/Action Plan**
- The difference in the implementation Status of States with a National Transition Roadmap and those without, is notable.
- A national roadmap/Action Plan enables a state/organisation to plan and source for the required resources to facilitate achievements of the targets specified in each phase.
- Considering some steps build up other steps, when developing the roadmap/action plan, prioritizing what is to be done and when is required.



Lessons learned

- **Inclusion of Transition Steps to Corporate Strategic Plan/Action Plan.**
- This will achieve ownership of the transition on targets by Top management hence better facilitation.
- It will facilitate budgeting to support implementation of the corporate Action Plan.



Transition Challenges

- ❑ Budgetary Constrains
 - Expensive Software and training to support AIM Concept.
- ❑ Lack of Local experts
 - Outsourcing experts adds to expenses of implementation.
- ❑ Inadequate Awareness.
 - Lack of adequate Awareness on Top Management, Operational Staff and raw data providers/originators.



Way Forward

- AICM/AIXM
- eAIP
- QMS
- WGS-84
- eTOD
- Digital NOTAM

The status of implementation of the above performance goals is coordinated through the Air Navigation Report Forms (ANRF).



Conclusion

- Due to the global nature of Air Navigation, the full benefits of the transition to AIM will only be realized by effectively bringing on-board all players around the globe.
- Considering AIM is an enabler to other key concepts such as PBN and SWIM, focus on Africa with the aim of fast-tracking the transition to AIM is required.



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THANK YOU