ICAO MID

Webinar on the provision of Terrain and Obstacle (TOD) and AIP Datasets

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Sorin Onitiu, ICAO MID FPP Manager

AIP Digital Dataset Provisions

Introducing the Topic

➢ **Placing AIM into the new Context;**

➢ **AIM Challenges vs. DDS;**

➢ **AIP Digital Datasets Implementation challenges (deep-dive);**

➢ **AIP Digital Datasets Consideration: What, How, When**

Placing AIM into the new Context

**ICAO Annex 15, 16th Edition:** *"...aeronautical data and aeronautical information may be provided as:..."*
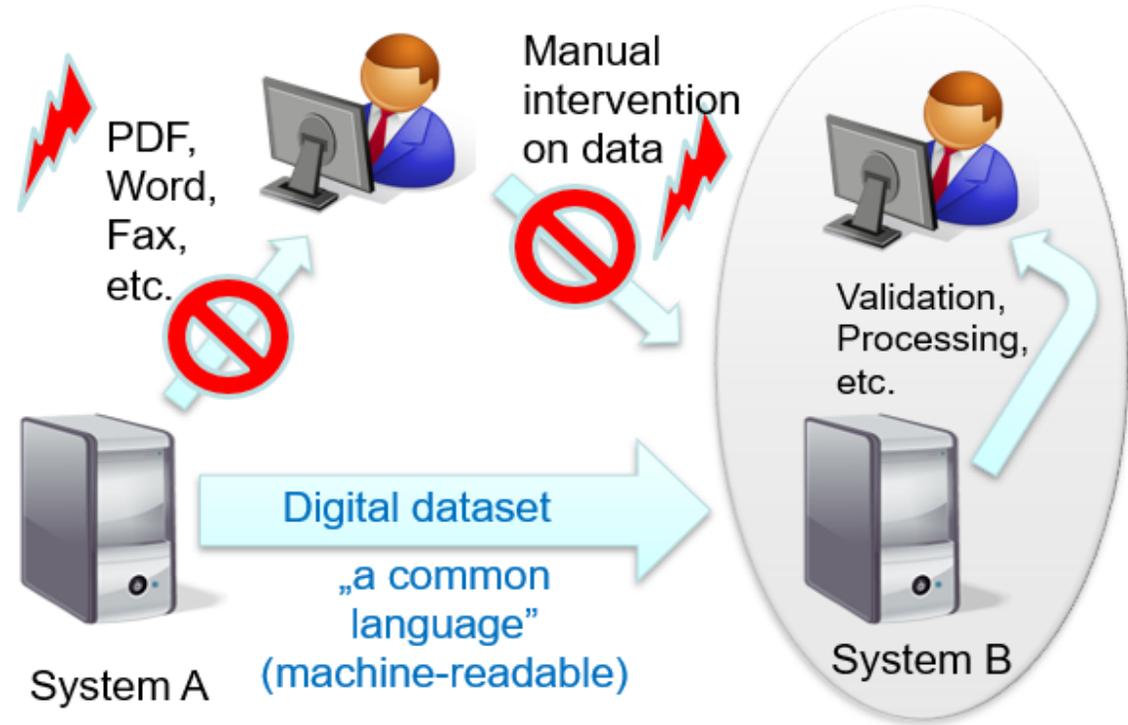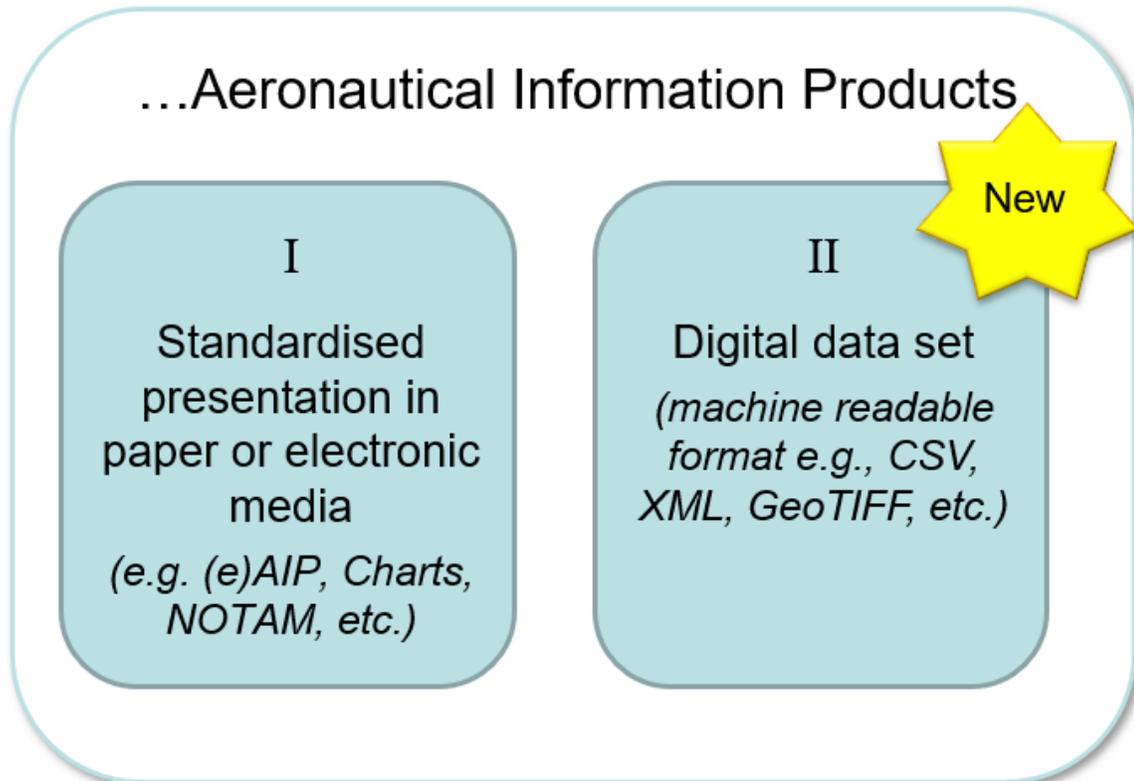
Placing AIM into the new Context

Scope of Aeronautical Data Catalogue & Digital Data Sets
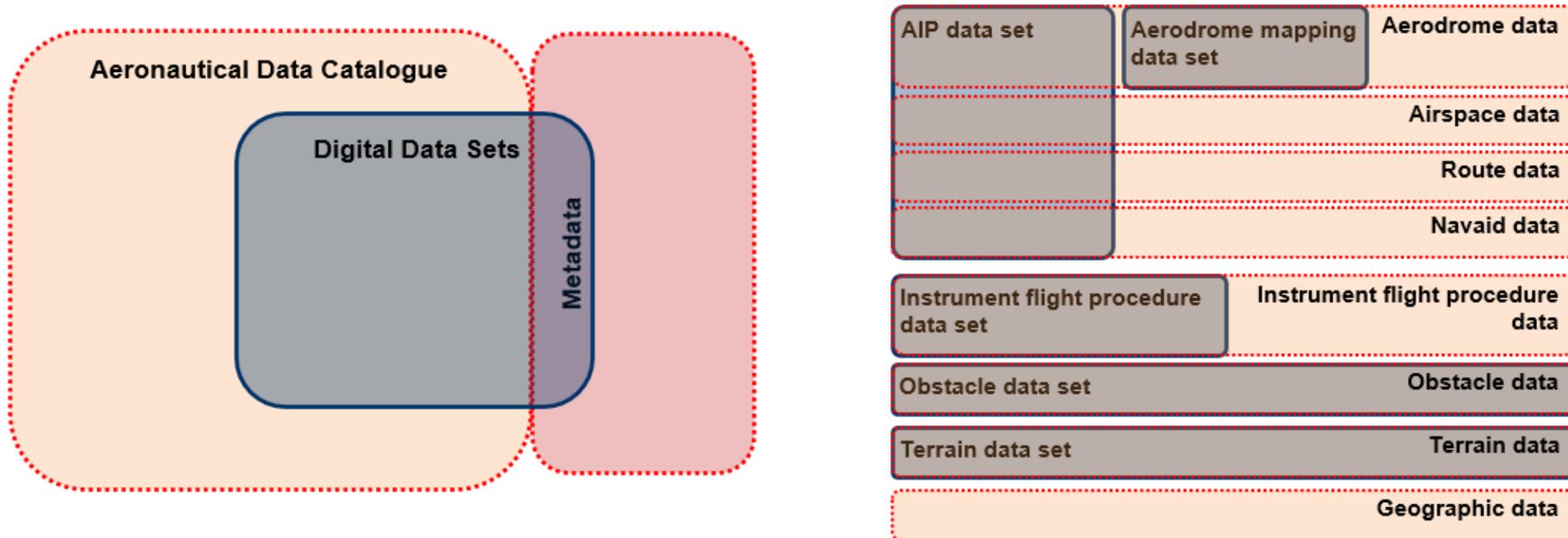
AIM Challenges vs. DDS

➢ **It is recognized that Digital Dataset implementation should enforce the system-to-system interoperability.**

➢ **The Aeronautical Information Model to be used should:**

  ✓ Use Unified Modelling Language (UML)

  ✓ Include data value constraints, data verification rules and provisions for metadata

  ✓ Include a Temporality model.

➢ **AIXM 5.x system would enable the provisions of all data sets (exception of digital Terrain data);**

  ✓ However, based on data exchange experience, AIXM 5.x alone cannot ensure the system interoperability!

➢ **Non-coordinated AIXM 5.x systems are harming the interoperability and implicitly DDS harmonization:**

  ✓ No common set of BRs

  ✓ Non-shared encoding rules between providers,

  ✓ Different level of automation between providers (from manual to fully automated process)

AIP Dataset Implementation Challenges (deep dive)

➤ **Cross-border data:** FIR BDRY significant points, FIR geographical borders, common route segments (data) consistency.

Possible Solution

- Coordination (SLA) required to decide who is the <u>authoritative source</u> for what data;
- Geographical position e.g., FIR border alignment (AIP description) transposed into digital data;

➤ **User impacts:**
- Data provision in different formats (AIXM, ARINC 424, csv),
- Handling of cross-border data received from various sources e.g. authoritative source, referential   integrity, etc.;
- "Mixed mode" processes e.g. significant points (ENR 4.4) digital dataset and ENR 3.x from (e)AIP, digital data sets vs. charts, etc.

Possible Solution

- Regional initiative in harmonizing data exchange formats (AIXM 5.1);
- Single source (authoritive) for digital data applied also by neighbouring State;

➤ **Data Set Format:**
- Data file as export vs. product (e.g. SWIM service);
- Temporality mechanism catering AIP AMDT + AIP SUPP

Possible Solution

- Quick win vs. strategic approach;
- TEMPDELTA concept extended to SUPP;

AIP Dataset Considerations: What, How, When

Decisions Matrix (sample)

Domain	National Datasets Plan			
	Priority	**Responsible**	**Time**	**Remarks**
What	AIP	AIS HQs	2020	*"Should"* provisions
	Obstacle Area 1	AIS HQs	Q1/2021	"Shall" provisions
	Terrain Area 1	AIS HQs	Q1/2021	"Shall" provisions
	Obstacle Area 2, 3 & 4	Airports/ANSP	Q2/2022	Area 2a/Area 4: "Shall" Area 2b,c & d/Area 3: *"Should"*
	Terrain Area 2, 3 & 4	Airports/ANSP	Q2/2022	Area 2a/Area 4: "Shall" Area 2b,c & d/Area 3: *"Should"*
	IFPD	ANSP	TBD	*"Should"* provisions
	AMDB	TBD	TBD	*If applicable, based on Regulator decision*

AIP Dataset Considerations: What, How, When

Decisions Matrix (sample)

Domain	National Datasets Plan		
	Elements	**Tech Specs/ Implementation Plan**	**Description**
How	Implementation Scenarios	Implementation Plan	• With AIM supplier support; • "In-house" solution, internal resources;
	Content	Tech Specs	• Resolve PANS-AIM inconsistencies; • Mapping PANS-AIM to AIMDB AIXM 5.1; • Tech Specs for mapping, metadata and BRs; • Content adapted to specific of State AIP; • Consistency assured between AIP dataset vs. #AIP-DS#;
	Completeness	Tech Specs	• Full dataset vs. sub-set/grouping; • SUPPs are encoded;
	Delivery Mechanism	Tech Specs	• SWIM Interface (request/reply, pub/sub, etc.) • SWIM Service (Overview, Registry, etc.) • Transition AIM 1.0 to AIM 2.0 (SWIM dissemination mechanism)

AIP Dataset Considerations: What, How, When

Decisions Matrix (sample)

Domain	National Datasets Plan		
	Strategy Plan	**Timeframe**	**Description**
When	Global ICAO	2019 – 2024 2025 - onwards	• **B1-DAIM**: Digital Datasets; • **B2-DAIM**: SWIM environment;
	ICAO EUR/NAT region	2025 – 2030 2030 - onwards	• **Block 2**: Provision of ICAO digital datasets; • **Block 3**: SWIM dataset distribution;
	ICAO MID region (Doc. 008)	2019 – 2024 2024 – 2028 2028 - onwards	• **Near-term**: ETOD Area 1 + 4, AMDB (if applicable); • **Mid-term**: AIP + IFPD • **Long-term**: Distribution SWIM Information Services
Transition Plan	State Transition Time AIC Publication GEN 3.1.6 notification	2020 - 2021 TBD	• AIP Dataset, etc. • Transition period for provision in parallel w/ AIP datasets; • AIP content removal in close coordination with the users; • "Co-existence time" decided upon survey/questionnaire; • Duration of the "grace period"; • State alignment to ICAO SARPs; • Brief description in GEN section – ref. PANS-AIM, Appendix 2)

the future STARTS NOW!

THANK YOU