

Slido Question Follow-Up

Unanswered Questions

Day 1

- Session Four: Panel Discussion How can operations be enhanced with data from the user perspective?
 - Speakers: Michael Krenz, Collins Aerospace; Christopher Gottlieb, Jet Blue; Reinhard Thanhauser, Lufthansa Systems; Moderator: Dr. Nadine Alameh, OGC
 - **Q & A**:
 - The data collected by airlines and private surveillance is typically proprietary.
 How can that be effectively shared across the domain to improve overall ops?
 - Reinhard: If airlines/data houses are collecting their own data, it is usually related to very specific individual OPS cases. Since this is a very costly process, this data is most likely shared only with customers or within the same airline group. However, before collecting data, the first step will always be to ask the responsible ANSP for publication of the missing data items, which would be a benefit for all data users.
 - Is there an exchange model for aircraft performance information/data and if not, should there be one?
 - Reinhard: Currently, there is only a legacy FORTRAN-based interface for aircraft performance applications. A modernized data exchange format with enhanced features is desirable and in discussion.
 - What kind of data that you don't have now, would help improve your operations if you had it?
 - Reinhard: Authoritative terrain data are not currently available but are needed for aircraft performance studies (engine failure, oxygen).
 - For nav data and the amount of digital data that is being produced, are current AIRAC cycles still adequate?
 - Reinhard: AIRAC cycles are still needed in order to keep data across boundaries in sync, and to give data houses/airlines enough time to process and distribute the data. However, in the future, if all systems are digital and integrated, AIRAC cycles may become obsolete.
 - More data is all fine, but do we understand how 'sensitive' our decision making is for all the data that we feed these processes from essentially 1950?
 - Reinhard: To make efficient use of more data, old systems and processes may have to be updated.
 - You talked a little about the barriers of entry. Are there additional/new exchange models you have in mind that would lower barriers?

- Reinhard: I assume that with increasing integration of systems and digital data sets, data users will quickly identify gaps in the existing exchange models. I propose reporting these findings to the community (e.g., the appropriate CCBs) for further discussion.
- Session Five: Fireside Chat Dynamic Data Exchange in Upcoming UAS Operations
 - o Speakers: Phil Maloney, FAA; Stephane Dubet, DSNA; Moderator: Jim Ritchie, FAA
 - **Q & A**:
 - What are the challenges to get reliable data from the source? I.e., airports does FAA provides interfaces for other sources/stakeholders to provide data?
 - Phil: At present, I think one of the greatest challenges to "getting reliable data" is data harmonization/homogenization (referred to from a data processing prospective as 'data integration'). Data often comes in a native state that is not uniform, non-homogenous, or ill-suited to its intended application or correlation/combination with other data sets. Data standardization would be a step towards addressing this issue but given the unconventional nature of newer aviation technologies (e.g., Unmanned Aircraft Systems [UAS]), we need to start thinking about new approaches (i.e., adaptive data integration techniques beyond data standards) that afford us the opportunity to work with large data sets and keep pace with technology.
 - Stephane: I would say the ideal situation is to identify an authoritative source, defined as "a state authority organization, or an organization formally recognized by state authority, that originates or publishes data which meets specified data quality requirements,") per data type. If not possible, then the source data should be scrutinized and subject to verification and validation (commensurate with the intended use of the data). In all cases, a formal agreement with the source is recommended, so that both parties are clear on the data quality characteristics that are expected, and what should be done in case of non-compliance with requirements.
 - You mentioned governance and how people and organizations work and deliver data in stovepipes. What are some strategies you've seen that break down stovepipes?
 - Phil: There are, indeed, a fair amount of data stove pipes throughout the community, and I think the first step in breaking down that silo is to ensure that the community is, first, aware of all of the available data sets/stores, and then second, provide accessibility to those data sets/stores (in addition to addressing the data harmonization and validation challenges that come with each set/store).
 - Stephane: Initiatives such as "Open Data" in Europe, which mandates state sources to make all their data freely available to the public, is a good practice. Other ongoing projects of "data lakes," specific to aviation, are also excellent initiatives to break the silo approach.

- Where does on-prem cloud fit into the evolution process? Is the value there to offset the cost of ownership?
 - Stephane: This is an infrastructure rather than data-related question. I don't think there is a unique answer, it really depends on the organization (e.g., structure, size, existing systems, and networks,) and the characteristics of data to be exchanged (e.g., type, volume). Indeed, an assessment (e.g., CBA) of on-prem cloud is definitely a good practice to be used by all those organizations that provide and/or exchange data.

Day 2

- Session Seven: Briefing International Transition from TAC to iWXXM
 - Speakers: Rebecca Kotten, FAA
 - **Q & A**:
 - Why is making iWXXM desirable a priority? Should the step to 'information services' not be the priority that could bring ops/business benefits?
 - Rebecca: I would argue that both are priorities making IWXXM desirable and moving to information services. Within the ICAO METP WG-MIE, we've restructured our working groups to focus on the implementation of MET-SWIM services, as they were previously focused on the requirements and documentation of IWXXM, which are now in a good place, as IWXXM has been a Standard in ICAO Annex 3 for almost three years. We still need to prove its value, but also need to focus on bringing information services online and ensuring that IWXXM information can be exchanged via these services.

Day 3

- Session Three: Briefing Advanced Automation in ATC at Eurocontrol Maastricht Upper ACC
 - Speakers: Paul Hendrickx, EUROCONTROL
 - Q & A:
 - Do you plan for ARGOS to identify contrail areas or simply avoid?
 - Paul: Simply avoid, not detect: It is the intention (implementation not yet done) to feed ARGOS with contrail areas/volumes and take crossing of these volumes as penalty points when calculating the optimal trajectory solution. These volumes (in METEO language, called Ice Super Saturated Regions [ISSR],) have to be identified and predicted by METEO systems and models external to ARGOS.
 - Are your controllers manually avoiding contrail areas?
 - Paul: Within Maastricht UAC, initial trials have been done where the ATCOs were trying to avoid areas suspected to generate contrails (ISSRs). This was, however, only a trial. Operational implementation of such a contrail avoidance concept is yet to be decided.