



Quinta Reunión del Comité de Revisión de Programas y Proyectos (CRPP/5)
Ciudad de México, México, 16 al 18 de julio de 2019

**Cuestión 5 del
Orden del Día:**

**Revisión de los Programas/Proyectos y Grupos subsidiarios del GREPECAS
5.6 Proyectos del Programa de la Gestión de Información Aeronáutica
(AIM/B0-DATM)**

**PROYECTOS DEL PROGRAMA DE LA GESTIÓN DE INFORMACIÓN AERONÁUTICA
(AIM/B0-DATM)**

(Presentada por la Secretaría)

RESUMEN EJECUTIVO

Esta Nota de estudio presenta el seguimiento a los programas y proyectos bajo el Programa G del GREPECAS. Adicionalmente, presenta el seguimiento a los requisitos introducidos por la Enmienda 40 al Anexo 15 de la OACI, el nuevo documento del PANS-AIM en la Región SAM, y los avances de la Región CAR respecto al Programa G y Proyectos QMS e eTOD, así como la propuesta de cambios en dichos proyectos.

Acción:	La acción sugerida se presenta en la Sección 3.
Objetivos Estratégicos:	<ul style="list-style-type: none">• Capacidad y eficiencia de la navegación aérea• Protección del medio ambiente
Referencias:	<ul style="list-style-type: none">• Anexo 15 – <i>Servicios de Información Aeronáutica</i>• Plan mundial de navegación aérea (Doc 9750)• Doc. 10066 – <i>PANS-AIM</i>• Informe de la Décimo Octava Reunión del GREPECAS• Informe de la Duodécima Reunión de la SAM/AIM• Hoja de Ruta de Transición del AIS al AIM

1. Introducción

1.1 La OACI, atendiendo el avance de la tecnología de gestión de la información y datos y considerando el incremento del tráfico aéreo cada 15 años, ha observado, dentro del Concepto Operacional ATM Global, la necesidad del cambio de enfoque de la información aeronáutica, para lo cual, en el 2009, establece una Hoja de Ruta para la transición del servicio de información aeronáutica (AIS) a la Gestión de la información aeronáutica (AIM).

1.2 El Plan Mundial de Navegación Aérea (GANP, Doc 9750) es el documento de mayor nivel para la estrategia de navegación aérea y, en sus distintas revisiones, recoge las propuestas de esta Hoja de Ruta y lo incorpora como parte del módulo B0-DATM y sus evoluciones en los bloques de las Mejoras por bloques del sistema de aviación (ASBU).

1.3 La Enmienda 40 al Anexo 15 de la OACI ha sido realizada a fin de dar el marco normativo a la Fase 1 y Fase 2 de esta Hoja de Ruta.

1.4 La Enmienda 40 al Anexo 15 y la promulgación del Doc. 10066 PANS-AIM reestructuran los documentos del AIS/AIM a fin de dar un marco normativo y procedimental al intercambio de datos e información aeronáutica en el entorno electrónico y digital.

1.5 Las Reuniones de la SAM/AIM hacen seguimiento a los Proyectos G del GREPECAS para la Región SAM. La Reunión del GRFEPECAS/18 había analizado las actividades del Proyecto G (AIS/AIM) para ambas Regiones CAR y SAM. Adicionalmente, se emitió una decisión de revisar las cartas aeronáuticas y adecuación a las normas de la OACI.

2. Análisis

Región SAM

Implementación del Sistema de gestión de la calidad (QMS)/AIM

2.1 Durante el examen de este asunto, la Doceava Reunión sobre la Transición de AIS a AIM para la Región SAM (SAM/AIM/12) analizó la situación actual de implementación del Sistema de gestión de la calidad en los procesos del AIM en la Región SAM.

2.2 Los Estados que ya habían certificado el QMS/AIM con la versión 2015 de la Norma ISO 9001 (Brasil, Chile, Panamá, Perú) antes de la SAM/AIM/11, Uruguay se ha sumado a la lista, logrando la certificación de su QMS/AIM a finales de 2018.

2.3 La Reunión observó que Bolivia, Colombia, Ecuador, Guyana, Surinam y Venezuela no han culminado hasta el momento la implementación del QMS/AIM.

2.4 Con relación al punto anterior, los Estados informaron lo siguiente:

- Bolivia: La Autoridad está trabajando con el proveedor de servicio (Administración de Aeropuertos y Servicios Auxiliares a la Navegación Aérea – AASANA) para la implementación del QMS/AIM. La AASANA ha presentado un Plan de Acción con seis fases de las cuales, por el momento, solo se han implementado dos. No hay avances importantes a excepción de la capacitación de dos miembros del personal en el QMS.
- Colombia: Sin información.
- Ecuador: Las implantaciones del Sistema de gestión de calidad deben adecuarse a los requerimientos del Estado que trabaja con otros estándares.
- Guyana: No ha reportado avances.
- Suriname: Indicó que está elaborando el Plan Nacional de Navegación Aérea. En ese contexto, planifican implantar el QMS en el AIM en los próximos años
- Venezuela: Tiene dos entregables en referencia a la implementación del QMS a los procesos del AIM.

Implementación de Modelo Estándar de intercambio de Información Aeronáutica

2.5 Con relación al intercambio de información aeronáutica, la Región SAM ha mostrado avance de acuerdo con la última reunión de la SAM/AIM. Adicionalmente, se debe considerar que la Enmienda 40 al Anexo 15 y el nuevo Doc 10066 - PANS-AIM, define los conjuntos de datos digitales que deben ser suministrados por los servicios AIS, los cuales son:

- a) conjuntos de datos AIP;
- b) conjuntos de datos sobre el terreno;
- c) conjuntos de datos sobre obstáculos;
- d) conjuntos de datos cartográficos de aeródromo; y
- e) conjuntos de datos de procedimientos de vuelo por instrumentos.

2.6 En relación con las implementaciones en este proyecto, se menciona lo siguiente:

- a) La Coordinación del Proyecto G2 informó a la Reunión que, con el apoyo de la Secretaría, ha continuado trabajando en la preparación y traducción del documento de EUROCONTROL relacionado con la publicación del AIP en formato electrónico (eAIP). El documento se encuentra como **Apéndice A** a esta Nota de estudio. Esta Guía Resumen está diseñada para ayudar a comprender de manera clara y específica el contenido del documento original.
- b) Brasil, informó sobre su planificación nacional de implementación de la transición del AIS al AIM. Al respecto, informó detalladamente de los procesos llevados adelante para la implementación de los requisitos de la Enmienda 40 al Anexo 15 y el PANS-AIM. Resaltó los procesos de implementación del Catálogo de Datos, así como de la vigilancia de la calidad en la cadena de datos e información.
- c) Panamá implementó el e-AIP. El software fue adquirido en 2013 pero su implementación fue afectada por los cambios en la administración. Panamá informó que el e-AIP funciona actualmente en el Modelo de Intercambio de Información Aeronáutica (AIXM) 4.5 pero el proceso está sujeto a mejoras y actualización continua.
- d) Perú informó que trabaja actualmente en la preparación del e-AIP, la cual estaría listo para el segundo trimestre de 2020.
- e) Argentina, Chile, Colombia y Venezuela registran avances, pero no indican las fechas de su implementación
- f) Ecuador, Guyana, Paraguay, Suriname y Uruguay no han reportado avances en la implementación del e-AIP

2.7 Adicionalmente, es importante informar a la Reunión que la SAM/IG/22 consideró necesaria la creación de un grupo de tarea en la estructura del Grupo de Implementación de la Región SAM (SAM/IG), con miras a garantizar la interoperabilidad de los sistemas implantados, teniendo en cuenta la cantidad de nuevos sistemas requeridos en la automatización de los servicios de gestión de la información aeronáutica (AIM) y el concepto Gestión de la información de todo el sistema (SWIM), de gestión del tránsito aéreo (ATM) y gestión de flujo de tránsito aéreo (ATFM), de comunicación, navegación y vigilancia (CNS) y de meteorología (MET).

Implementación del e-TOD

2.8 Con relación al Proyecto relacionado a la implementación del e-TOD, el seguimiento realizado por la SAM/AIM/12 ha indicado que Argentina, Brasil y Chile han presentado avances para la provisión de datos de obstáculos en formato electrónico para el área 2.

2.9 Con relación a la implementación del e-TOD, el status actual de implementación en los Estados de la Región SAM se lista a continuación:

- Argentina: 4 aeropuertos
- Brasil: 10 aeropuertos
- Chile: Suma dos aeropuertos a los que ya había reportado anteriormente (hasta la SAM/AIM/11)
- Panamá: Presentó el proyecto para el levantamiento de datos de obstáculos para dos aeropuertos
- Paraguay: No ha preparado un Plan para la implementación del e-TOD. Sin embargo, se encuentra preparando un convenio con empresas que están realizando relevamientos de obstáculos en el Paraguay con la finalidad de contar con los datos que estas empresas generen de sus observaciones.
- Perú: Tiene una licitación para el aeropuerto de Cuzco
- Suriname: No ha preparado plan hasta el momento debido a que no cuentan con experto para esta tarea. Realizarán instrucción en julio tras lo cual preparan el plan de implementación del e-TOD.
- Uruguay: Ha presentado el Plan, la cual ha sido aprobado por las autoridades y actualmente está en un proceso de implementación del plan.
- Venezuela: Informó que cuenta con una base de datos de obstáculos, pero la misma debe ser actualizada

Seguimientos a la Decisión GREPECAS/18/11

2.10 La SAM/AIM/12 tomó nota de la Decisión GREPECAS/18/11, a través de la cual, se solicitaba a los Proyectos G de ambas regiones dar seguimiento a los problemas relacionados con las Cartas Aeronáuticas, principalmente las cartas aeronáuticas que no cumplen con las disposiciones de la OACI, y esto está ocasionando preocupación entre los usuarios.

2.11 La Reunión, luego de analizar esta problemática, decidió implementar un plan de acción para identificar, primeramente, si el problema se presenta en sus Estados y, de existir, trazar estrategia para su resolución. La estrategia se describe a continuación:

- Revisar la cartografía aeronáutica disponible en los Estados durante el tercer trimestre de 2019 y primer trimestre de 2020. Comunicar los resultados a la secretaría a más tardar el 31 de marzo de 2020.
- Una vez identificado las cartas que no cumplen con las disposiciones OACI, trazar un plan de acción para enmendarlos durante el 2020.
- Una vez enmendadas las cartas identificadas con problemas, planificar su introducción al AIP en sucesivas enmiendas tratando de minimizar los impactos en los procedimientos de vuelos y rutas afectadas por las cartografías enmendadas. Las enmiendas deberían de realizarse a partir del último trimestre de 2020.

- Los Estados que identifiquen gran volumen de cartas que no cumplen con los requisitos OACI, deberían comunicar a la Secretaría a fin de extender los plazos para la resolución de estos problemas, con la finalidad de minimizar los impactos de las enmiendas.
- La Secretaría enviará una comunicación a los Estados para iniciar el proceso

Fase Digital

2.12 La Reunión podrá observar que la Enmienda 40 y el Doc 10066 - PANS-AIM proveen el marco normativo y procedimental al intercambio de datos e información aeronáutica en el entorno digital.

2.13 La Reunión coincidirá que es imperioso que la implementación del AIM avance, pero para ello debemos diseñar una estrategia efectiva para la planificación continua y el progreso del trabajo de la digitalización. El punto principal de esta estrategia debe ser la sensibilización de las autoridades de aeronáutica civil y de los ANSP sobre las implicancias de los retrasos de implementación del AIM y su impacto en las prioridades globales como la Navegación basada en la performance (PBN), Toma de decisiones en colaboración a nivel aeropuerto (A-CDM), Gestión de la afluencia del tránsito aéreo (AFTM), SWIM entre otros.

2.14 La Reunión, debería de analizar la mejor estrategia para cumplir con la Hoja de Ruta de Transición del AIS al AIM, considerando que las implementaciones deben ser la prioridad, y fomentar la creación de consciencia en relación a generar una base sólida para el AIM mediante la mejora de calidad de los productos y servicios existentes para luego fomentar la migración a los formatos digitales

Región CAR

Implementación de la Transición al AIM

2.15 En el **Apéndice B** se presenta a la Reunión el estado de avance de la Transición del AIS a la AIM

2.16 Es importante citar que en la Región CAR se realizaron tres Reuniones durante 2018, esas Reuniones Regionales (en México – Oficina Regional NACC de la OACI, COCESNA y en Trinidad y Tobago) se efectuaron para el análisis de la Enmienda 40 al Anexo 15, el nuevo PANS-AIM y la presentación del Plan Colaborativo para la Transición al AIM (ver **Apéndice C**).

2.17 En relación con los Proyectos QMS y de eTOD del Programa AIM se considera que debiesen ser cancelados, debido a que tanto Cuba como COCESNA, respectivamente, cumplieron con los desarrollos solicitados, hasta un avance en el caso del QMS muy suficiente y para el caso del eTOD llegó a un límite que ya no sería motivo del trabajo planteado en los términos de referencia del Proyecto como tal.

2.18 Se resalta el hecho de que, lamentablemente, de la membresía en ambos proyectos únicamente participaron dos Personas, una por cada Proyecto, quienes trabajaron arduamente y elaboraron los trabajos y actividades propias de los Proyectos. Esto a pesar de las múltiples invitaciones y llamados a los demás miembros a lo largo de varios años.

2.19 Se plantea un cambio con la creación de un nuevo Proyecto para la Transición a la AIM usando el esquema funcional del AIM/TF del Grupo ANI/WG, con sus respectivos Términos de Referencia (ToR) y Programa de trabajo (**Apéndice D**), que es de hecho el que ha reportado avances en los diversos Pasos (21) de las tres Fases para completar la transición de conformidad a la Hoja de Ruta para la Transición del AIS a la AIM de la OACI.

2.20 Por otra parte, como complemento al Plan Colaborativo para la Transición al AIM (borrador) presentado en el Apéndice C, se está desarrollando un sitio en la página Web de la Oficina Regional NACC de la OACI, que se pretende habilitar en los primeros meses del año próximo. El sitio será denominado como “AIM TRACKING”, que presentará el grado de actualización de cada Estado en la Región y los elementos documentales, así como programas de asistencia regionales basados en el Programa de Asistencia Sistémico (SAP).

3. Acciones sugeridas

3.1 Se invita a los Estados a:

- a) tomar nota de la información proporcionada;
- b) revisar los proyectos G para la región SAM y considerar la factibilidad de su continuidad;
- c) analizar acciones para acelerar los procesos de implementación relacionadas al QMS/AIM, Modelo Estándar de intercambio de información aeronáutica y el e-TOD;
- d) analizar estrategias para la implementación de la Fase 2 de la Hoja de Ruta del AIS al AIM;
- e) analizar las propuestas para la Región CAR de la sustitución de los Proyectos QMS y eTOD con la creación del nuevo Proyecto AIM para la Transición; y,
- f) revisar y comentar el borrador del Plan Colaborativo para la Transición al AIM.

APÉNDICE A rev

Región SAM	DESCRIPCION DEL PROYECTO (DP)	DP N° G2	
<i>Programa</i>	Título del Proyecto	Fecha inicio	Fecha término
<p><i>AIM</i></p> <p>(Coordinador OACI del Programa: Jorge Armoa Cañete)</p>	<p>G2: Implantación de sistemas de intercambio de información aeronáutica (AIXM) (SAM)</p> <p>Coordinadora del Proyecto: Ing. Karina Calderón</p> <p>Expertos contribuyentes al proyecto: SAM/AIM/IG</p>	01/03/12	30/12/20
Objetivo	Elaborar Plan de Acción que deben implementar los Estados para aplicar el modelo de intercambio de información/datos aeronáuticos.		
Alcance	El alcance del proyecto contempla la evaluación e identificación de los niveles de automatización asociados a la integración del modelo de intercambio de información y datos aeronáuticos en la Región por medio de encuestas, la identificación de los proveedores de bases de datos y el seguimiento sobre el avance de los SARPS en esta materia.		
Métricas	Números de Estados con Plan de Acción implantado para sistemas de intercambio de datos.		
Metas	<p>Completar toda la documentación necesaria para los Estados antes del 31/12/16.</p> <p>Lograr la implantación del AIXM en el 40% de los Estados para el 2018</p> <p>Lograr la implantación del AIXM en el 75% de los Estados para el 2019.</p>		

Estrategia	La ejecución de las actividades del Proyecto será coordinada a través de las comunicaciones entre miembros del proyecto, el Coordinador del Proyecto y el Coordinador del Programa principalmente a través de teleconferencias (aplicación <i>GoToMeeting</i>). Se planifican seminarios/reuniones según las actividades del programa de trabajo. El Coordinador del Proyecto coordinará con el Coordinador del Programa la incorporación de expertos adicionales si lo ameritan las tareas y trabajos a realizarse. Se realizarán las coordinaciones CAR y SAM. Los resultados de los trabajos realizados, serán sometidos a consideración y revisión por los expertos de los Estados en forma de documento final de consolidación para su análisis, revisión, aprobación y presentación al CRPP del GREPECAS por el Coordinador del Programa.				
Justificación	Integrar la información aeronáutica que permita la inter-operación de sistemas ATM manteniendo la seguridad operacional, aplicando los modelos de intercambio de información.				
Proyectos relacionados	Se relaciona con el Proyecto G3 “ <i>Implantación del sistema de gestión de calidad en las dependencias AIM en los Estados de la Región SAM</i> ”.				
Entregables del Proyecto	Relación con el Plan Regional basado en performance (PFF)	Responsable	Estado de Implantación*	Fecha entrega	Comentarios
Relevamiento de suministro de la IAIP mediante el uso de una tabla.	D-ATM	Coordinador OACI		16/03/12	Completada en fecha durante la Reunión SAM/AIM.
Distribución a los Estados relevamiento IAIP	D-ATM	Coordinador OACI		16/03/12	Completada en fecha durante la Reunión SAM/AIM.
Recolección y actualización	D-ATM	Coordinador OACI		16/03/12	Completada en fecha durante la Reunión SAM/AIM.
Recolección de experiencias en los Estados de la Región SAM AIP electrónico	D-ATM	Coordinador OACI		16/03/12	Completada en fecha durante la Reunión SAM/AIM.

Desarrollar Plan de Acción AIXM	D-ATM	Coordinador OACI		24/04/15	Completada en fecha.
Recopilación de la documentación AIXM	D-ATM	Coordinador OACI		22/05/15	Completada en fecha.
Traducción de la documentación AIXM	D-ATM	OACI		10/07/15	Completada en fecha.
Revisión de la documentación AIXM	D-ATM	Coordinador OACI		21/08/15	Completada en fecha
Validar la documentación	D-ATM	Coordinador OACI		30/11/16	
Elaboración documento describiendo pasos para las pruebas AIXM	D-ATM	Coordinador OACI		Diciembre de 2018	
Realización de las pruebas AIXM	D-ATM	Coordinador OACI		Diciembre de 2019	
Informe de resultado de las pruebas Trasmisión y recepción de datos	D-ATM	Coordinador OACI		19/05/20	
Seminario AIXM	D-ATM	Coordinador OACI		02/10/15	Completada a la fecha
Recursos necesarios	Designación de expertos en la ejecución de algunos de los entregables. Mayor compromiso de los Estados en apoyar a los Coordinadores y expertos que están trabajando.				

*Gris Tarea no iniciada

Verde Actividad en progreso de acuerdo con el cronograma

Amarillo Actividad iniciada con cierto retardo pero estaría llegando a tiempo en su implantación

Rojo No se ha logrado la implantación de la actividad en el lapso de tiempo estimado se requiere adoptar medidas mitigatorias

APÉNDICE A

Región SAM	DESCRIPCION DEL PROYECTO (DP)	DP N° G3	
<i>Programa</i>	Título del Proyecto	Fecha inicio	Fecha término
<i>AIM</i> (Coordinador OACI del Programa: Jorge Armoa Cañete)	Implantación del sistema de gestión de calidad en las dependencias AIM de los Estados de la Región SAM Coordinador del Proyecto: Oscar Dioses (Perú) Expertos contribuyentes al Proyecto: SAM/AIM IG	03/10/11	01/11/20
Objetivo	Implementar las guías aplicables al sistema de gestión de la calidad en el entorno digital/electrónico del AIM en la Región SAM con base a los Objetivos regionales de performance del Plan de Implementación basada en la Performance para la Región SAM.		
Alcance	El alcance del proyecto contempla la evaluación e identificación de los niveles de implantación asociados a la gestión de la calidad en los servicios AIM de la Región. Elaboración de un Plan de acción y guías para la implantación del QMS en el entorno digital/electrónico del AIM.		
Métricas	Porcentaje de Estados Certificados QMS ISO 9001:2015.		
Metas	50% de Estados con la Norma ISO 9001:2015 implantada en el año 2018 y 75% certificada en el año 2019.		
Estrategia	La ejecución de las actividades del Proyecto será coordinada a través de las comunicaciones entre miembros del proyecto, el Coordinador del Proyecto y el Coordinador del Programa principalmente a través de teleconferencias (aplicación <i>GoToMeeting</i>) así como eventuales reuniones que se puedan realizar en eventos oportunos según las actividades del programa de trabajo. El Coordinador del Proyecto coordinará con el Coordinador del Programa la incorporación de expertos adicionales si lo ameritan las tareas y trabajos a realizarse. Los resultados de los trabajos realizados, serán sometidos a consideración y revisión por los expertos de los Estados en forma de documento final de consolidación para su análisis, revisión, aprobación y presentación al CRPP del GREPECAS por el Coordinador del Programa.		

Justificación	El sistema de gestión de calidad en los servicios AIM debe proporcionar a los usuarios la garantía y confianza necesaria de que la Información/Datos aeronáuticos distribuidos satisfacen los requisitos de calidad en cuanto a su exactitud, resolución e integridad. Es necesaria una estrecha relación con otros proyectos con el fin de recolectar los requisitos operacionales demandados por las aplicaciones mencionadas y sus respectivas fechas tentativas de implantación.				
Proyectos relacionados	Se relaciona con los Proyectos G1 “Implantación del suministro de datos electrónicos sobre el terreno y obstáculos e-TOD” y G2 “Implantación de sistemas de intercambio de información aeronáutica (AIXM)”.				
Entregables del Proyecto	Relación con el Plan Regional basado en performance (PFF)	Responsable	Estado de Implantación*	Fecha entrega	Comentarios
Recopilar y tabular la información de los Estados.	PFF: SAM AIM/01	Coordinador OACI		13/12/17	Valida.
Plan de implantación del sistema QMS actualizados a la Norma ISO 9001:2015	PFF: SAM AIM/01	Estados		29/09/17	Válido.
Actualización de Programas de Instrucción AIM	B0 DATM	Estados		30/11/17	Válido
Recopilar Certificaciones y producir Informe sobre estado de Certificaciones ISO 9001:2015 en la Región SAM.	B0 DATM	Coordinador OACI		15/06/20	Brasil, Chile, Panamá, Paraguay, Peru y Uruguay han certificado con la Norma ISO 9001:2015.

Recursos necesarios	Designación de expertos en la ejecución de algunos de los entregables. Mayor compromiso de los Estados en apoyar a los Coordinadores y expertos que están trabajando.
----------------------------	---

- *Gris* *Tarea no iniciada*
- Verde* *Actividad en progreso de acuerdo con el cronograma*
- Amarillo* *Actividad iniciada con cierto retardo pero estaría llegando a tiempo en su implantación*
- Rojo* *No se ha logrado la implantación de la actividad en el lapso de tiempo estimado se requiere adoptar medidas mitigatorias*

APÉNDICE B

Región SAM	DESCRIPCION DEL PROYECTO (DP)	DP N° G1	
Programa	Título del Proyecto	Fecha inicio	Fecha término
<p align="center"><i>AIM</i></p> <p>(Coordinador OACI del Programa: Jorge Armoa)</p>	<p align="center">Implantación del suministro de datos electrónicos sobre el terreno y obstáculos (e-TOD) (SAM)</p> <p>Coordinador del proyecto: Juan González (Uruguay)</p> <p>Expertos contribuyentes al proyecto: SAM/AIM IG</p>	26/09/11	31/12/19
Objetivo	Apoyar la implementación del suministro de datos e-TOD por los Estados de la Región SAM y brindar guías a los Estados para la adquisición y gestión de un GIS.		
Alcance	El alcance del proyecto contempla la evaluación e identificación de los niveles de implantación asociados al suministro de los datos electrónicos sobre el terreno y los obstáculos. Se contempla la elaboración de un Plan de acción y guías para implantación del e-TOD para apoyar los desarrollos del suministro de datos electrónicos del terreno y los obstáculos para la evolución de modelos digitales del terreno (DTM) para la mejora progresiva de cartas aeronáuticas electrónicas y otros productos similares apoyados con herramientas como los sistemas de información geográfica (GIS).		
Métricas	<ul style="list-style-type: none"> • Número de Estados con Sistemas GIS o automatizados implantados. • Documento-Guía con Plan de Acción aprobado. • Número de Estados que establecen acuerdos SLA. • Número de principales Aeropuertos Internacionales con Área 2 (e-TOD) relevada 		
Estrategia	<p>La ejecución de las actividades del Proyecto será coordinada a través de las comunicaciones entre miembros del proyecto, el Coordinador del Proyecto y el Coordinador del Programa principalmente a través de teleconferencias (aplicación <i>GoToMeeting</i>) así como eventuales reuniones que se puedan realizar en eventos oportunos según las actividades del programa de trabajo. El Coordinador del Proyecto coordinará con el Coordinador del Programa la incorporación de expertos adicionales si lo ameritan las tareas y trabajos a realizarse. Los resultados de los trabajos realizados, serán sometidos a consideración y revisión por los expertos de los Estados en forma de documento final de consolidación para su análisis, revisión, aprobación y presentación al CRPP del GREPECAS por el Coordinador del Programa.</p>		

Metas	<p>Elaborar el Documento-Guía con los objetivos del proyecto ETOD. 2012. Definir las especificaciones técnicas y del proyecto ETOD. 2012. Elaborar el documento con las especificaciones técnicas ETOD. 2012. Guía para la adquisición de un sistema de Información geográfica (GIS) 2012. Manual Guía Implantación GIS.2012. Metodologías y herramientas disponibles para relevar el Área 2. 2013 Principales Aeropuertos Internacionales con Área 2 (e-TOD) relevada. 2019</p>				
Justificación	<p>Cumplimiento de los SARPS Anexo 15 y Anexo 4 para facilitar la aplicación de las operaciones aéreas basadas en la performance y avanzar en la Hoja de Ruta de la Transición del AIS a la AIM. Es necesaria una estrecha relación con otros proyectos con el fin de recolectar los requisitos operacionales demandados por las aplicaciones mencionadas y sus respectivas fechas tentativas de implantación.</p>				
Proyectos relacionados	<p>Se relaciona con el Proyecto G3 “<i>Implantación del sistema de gestión de calidad en las dependencias AIM</i>” en los Estados de la Región SAM.</p>				
Entregables del Proyecto	Relación con el Plan Regional basado en performance (PFF)/ASBU	Responsable	Estado de Implantación*	Fecha entrega	Comentarios
Cuestionario de consulta sobre estado de implantación e-TOD.	PFF: SAM AIM/02	Juan González Uruguay		30/11/2011	Completada en fecha.
Generar Informe de Seguimiento.	PFF: SAM AIM/02	Juan González Uruguay		30/04/2012	Completada en fecha.
Elaborar el Documento-Guía con los objetivos del proyecto e-TOD.	PFF: SAM AIM/02	Juan González Uruguay		30/09/2012	Completada en fecha. Entregado 30/09/2012.
Definir las especificaciones técnicas y del proyecto e-TOD.	PFF: SAM AIM/02	Juan González Uruguay		30/09/2012	Completada en fecha. Entregado 30/09/2012.
Elaborar el documento con las especificaciones técnicas e-TOD.	PFF: SAM AIM/02	Juan González Uruguay		30/09/2012	Completada en fecha. Entregado 30/09/2012.

Guía para la adquisición de un sistema de Información geográfica (GIS).	PFF: SAM AIM/01	Juan González Uruguay		09/03/2012	Completada en fecha.
Manual- Guía Implantación GIS.	PFF: SAM AIM/01	Juan González Uruguay		09/03/2012	Completada en fecha.
Presentar a los Estados las diferentes opciones y herramientas disponibles para el relevamiento del Área 2	ASBU:BO30 DATM	Coordinador OACI		26/07/2013	Completada en fecha
Guía para desarrollar un Modelo Digital de Terreno (MDT) o Modelo Digital de Elevación (MDE)	PFF: SAM AIM/02 ASBU:BO30 DATM	Grupo <i>ad hoc</i> Reunión SAM/AIM/7		30/03/2015	Completada en fecha
Completar 50% de Estados con implantación de MDT y/o MDE antes de la Reunión SAM/AIM/7	PFF: SAM AIM/02 ASBU:BO30 DATM	Estados		12/11/2016	Completado el 49% en fecha.
Disponibilidad de programas para gestionar la información e-TOD.	PFF: SAM AIM/02 ASBU:BO30 DATM	Estados		12/11/2016	Completado el 49% de los Estados en fecha.
Plan de Acción para datos electrónicos sobre terreno en Área 2	PFF: SAM AIM/02 ASBU:BO30 DATM	Estados		12/11/2019	Completado el 49% de los Estados en fecha.
Plan de Acción para datos electrónicos sobre obstáculos en Área 2	PFF: SAM AIM/02 ASBU:BO30 DATM	Estados		12/11/2019	Completado el 42% de los Estados en fecha.
Recursos necesarios	Designación de expertos en la ejecución de algunos de los entregables. Mayor compromiso de los estados en apoyar a los coordinadores y expertos que están trabajando.				

*Gris Tarea no iniciada

Verde Actividad en progreso de acuerdo con el cronograma

Amarillo Actividad iniciada con cierto retardo pero estaría llegando a tiempo en su implantación

Rojo No se ha logrado la implantación de la actividad en el lapso de tiempo estimado se requiere adoptar medidas mitigatorias

[EXAMPLE OF A TABLE WITH 100% AND 0% IMPLEMENTATION UNTIL THE COMPLETION OR CURRENT STATUS. SEE THE EXAMPLE](#)

7	Implemented through a third party	100%
8	Scheduled to be completed and/or fully implemented by this date / period	Provide more information
9	Will not implement this step (Fill all years grey)	Provide reason

[1] Please provide details / reason / in the "Remarks" column for each step!



International Civil Aviation Organization

NAM CAR REGION AIM IMPLEMENTATION ROADMAP STATUS FOR THE TRANSITION FROM AIS TO AIM

Phase/Step	Step No.	Timeline																				Start Date MM / DD / YY	(Planned) End Date MM / DD / YY	Bahamas	Remarks				
		2019				2020				2021				2022				2023											
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4								
Phase I																													
AIRAC adherence	P-03																											6	
Monitoring of Annex differences	P-04																											6	
WGS-84 implementation	P-05																											4	
QMS	P-17																											1	
Phase II																													
Data Quality Monitoring	P-01																											3	
Data Integrity Monitoring	P-02																											3	
AIXM	P-06																											1	
Unique identifiers	P-07																											3	
Aeronautical information conceptual model	P-08																											1	
eAIP	P-11																											1	
Terrain A-1	P-13																											3	
Obstacle A-1	P-14																											3	
Terrain A-4	P-13																											3	
Obstacle A-4	P-14																											3	
Terrain A-2[1]	P-13																											3	
Obstacle A-2[2]	P-14																											3	
Terrain A-3	P-13																											3	
Obstacle A-3	P-14																											3	
Aerodrome Mapping	P-15																											1	
Phase III																													
Aeronautical data exchange	P-09																											1	
Communication networks	P-10																											3	
Aeronautical information briefing	P-12																											3	
Training	P-16																											2	
Agreement with data originators	P-18																											3	
Interoperability with meteorological products	P-19																											1	
Electronic aeronautical charts	P-20																											1	
Digital NOTAM	P-21																											1	

[1] Please specify implementation of Area 2a, 2b, 2c and/or 2d
 [2] Please specify implementation of Area 2a, 2b, 2c and/or 2d

	1	Not Started (leave empty)	0%
	2	Initial Stage	1 - 25 %
	3	Developing Stage	26 - 50 %
	4	Advanced Stage	51 - 75 %
	5	Finalizing Stage	76 - 99 %
	6	Fully Implemented	100%

Legend*[1] - Please use this color guidance chart to fill out cells in this form accordingly. Enter the number corresponding with the status into a cell (in the correct year(s)), for the status of the AIS Unit. Use the same method to fill out an implementation target date/year, if the step has not been completed and/or fully implemented yet! Refer to the example tab, for an example of a filled out form. All cells must be filled out

State/AIS Unit to fill ▼	
State	BAHAMAS
Title	MANAGER AIS
Member of the ICAO NACC AIM TF?	YES
Name	COLYN BROWN

[EXAMPLE OF A TABLE WITH 100% AND 0% IMPLEMENTATION UNTIL THE COMPLETION OR CURRENT STATUS. SEE THE EXAMPLE](#)

7	Implemented through a third party	100%
8	Scheduled to be completed and/or fully implemented by this date / period	Provide more information
9	Will not implement this step (Fill all years grey)	Provide reason

[1] Please provide details / reason / in the "Remarks" column for each step!

[method to fill out an implementation target date/year, if the step has not been completed and/or fully implemented yet! Refer to the example tab, for an example of a filled out form. All cells must be filled out until the completion or current status. See the EXAMPLE](#)

5	Finalizing Stage	76 – 99 %
6	Fully Implemented	100%
7	Implemented through a third party	100%
8	Scheduled to be completed and/or fully implemented by this date / period	Provide more information
9	Will not implement this step (Fill all years grey)	Provide reason

[1] Please provide details / reason / in the "Remarks" column for each step!

[1] Please specify implementation of Area 2a, 2b, 2c and/or 2d
 [2] Please specify implementation of Area 2a, 2b, 2c and/or 2d

Legend*[1] - Please use this color guidance chart to fill out cells in this form accordingly. Enter the number corresponding with the status into a cell (in the correct year(s)), for the status of the AIS Unit. Use the same method to fill out an implementation target date/year, if the step has not been completed and/or fully implemented yet! Refer to the example tab, for an example of a filled out form. All cells must be filled out until the completion or current status. See the [EXAMPLE](#)

1	Not Started (leave empty)	0%
2	Initial Stage	1 - 25 %
3	Developing Stage	26 - 50 %
4	Advanced Stage	51 – 75 %
5	Finalizing Stage	76 – 99 %
6	Fully Implemented	100%
7	Implemented through a third party	100%
8	Scheduled to be completed and/or fully implemented by this date / period	Provide more information
9	Will not implement this step (Fill all years grey)	Provide reason

[1] Please provide details / reason / in the "Remarks" column for each step!

State/AIS Unit to fill ▼	
State	Canada
Title	Manager, Standards and Procedures, AIM and IFP Division
Member of the ICAO NACC AIM TF?	Yes
Name	Caroline Doucet



International Civil Aviation Organization

NAM CAR REGION AIM IMPLEMENTATION ROADMAP STATUS FOR THE TRANSITION FROM AIS TO AIM

Phase/Step	Step No.	Timeline																				Start Date MM / DD / YY	(Planned) End Date MM / DD / YY	Costa Rica	Remarks
		2019				2020				2021				2022				2023							
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
Phase I																									
AIRAC adherence	P-03																				1-Jan-17	31-Dec-19	6		
Monitoring of Annex differences	P-04																						6		
WGS-84 implementation	P-05																						6		
QMS	P-17																						6		
Phase II																									
Data Quality Monitoring	P-01																						6		
Data Integrity Monitoring	P-02																						6		
AIXM	P-06																						3		
Unique identifiers	P-07																						3		
Aeronautical information conceptual model	P-08																						3		
eAIP	P-11																						3		
Terrain A-1	P-13																						4		
Obstacle A-1	P-14																						2		
Terrain A-4	P-13	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9			9		
Obstacle A-4	P-14	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9			9		
Terrain A-2[1]	P-13																						4		
Obstacle A-2[2]	P-14																						2		
Terrain A-3	P-13																						3		
Obstacle A-3	P-14																						1		
Aerodrome Mapping	P-15																						1		
Phase III																									
Aeronautical data exchange	P-09																								
Communication networks	P-10																								
Aeronautical information briefing	P-12																								
Training	P-16																								
Agreement with data originators	P-18																								
Interoperability with meteorological products	P-19																								
Electronic aeronautical charts	P-20																								
Digital NOTAM	P-21																								

[1] Please specify implementation of Area 2a, 2b, 2c and/or 2d
 [2] Please specify implementation of Area 2a, 2b, 2c and/or 2d

1	Not Started (leave empty)	0%
2	Initial Stage	1 - 25 %
3	Developing Stage	26 - 50 %
4	Advanced Stage	51 - 75 %

Legend*[1] - Please use this color guidance chart to fill out cells in this form accordingly. Enter the number corresponding with the status into a cell (in the correct year(s)), for the status of the AIS Unit. Use the same

State/AIS Unit to fill ▼	
State	COSTA RICA
Title	ENCARGADO AIM
Member of the ICAO NACC AIM TF?	YES
Name	GERARDO AGÜERO AGÜERO

[method to fill out an implementation target date/year, if the step has not been completed and/or fully implemented yet! Refer to the example tab, for an example of a filled out form. All cells must be filled out until the completion or current status. See the EXAMPLE](#)

5	Finalizing Stage	76 – 99 %
6	Fully Implemented	100%
7	Implemented through a third party	100%
8	Scheduled to be completed and/or fully implemented by this date / period	Provide more information
9	Will not implement this step (Fill all years grey)	Provide reason

[\[1\] Please provide details / reason / in the "Remarks" column for each step!](#)

[example of a filled out form. All CENS must be filled out until the completion or current status. See the \[EXAMPLE\]\(#\)](#)

7	Implemented through a third party	100%
8	Scheduled to be completed and/or fully implemented by this date / period	Provide more information
9	Will not implement this step (Fill all years grey)	Provide reason

[1] Please provide details / reason / in the "Remarks" column for each step.



International Civil Aviation Organization

NAM CAR REGION AIM IMPLEMENTATION ROADMAP STATUS FOR THE TRANSITION FROM AIS TO AIM

Phase/Step	Step No.	Timeline																Start Date MM / DD / YY	(Planned) End Date MM / DD / YY	Dutch Caribbean: Curacao, Aruba, Saint Maarten & BES	Remarks				
		2019				2020				2021				2022								2023			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4					Q1	Q2	Q3	Q4
Phase I																									
AIRAC adherence	P-03																					1-Feb-14	31-Dec-14	6	
Monitoring of Annex differences	P-04																					1-Feb-14	31-Dec-14	6	Continued process
WGS-84 implementation	P-05																					1-Feb-14	31-Dec-14	6	
QMS	P-17	3	3	4	4	4	4	5	5	5	5	8	8									1-Feb-14	31-Dec-21	4	
Phase II																									
Data Quality Monitoring	P-01	4	4	4	5	5	5	5	5	5	5	8	8									1-Jul-14	31-Dec-21	5	
Data Integrity Monitoring	P-02	4	4	4	5	5	5	5	5	5	5	8	8									1-Jul-14	31-Dec-21	5	
AIXM	P-06																					1-Oct-11	31-Dec-12	6	System in place
Unique identifiers	P-07																					1-Feb-14	31-Jul-15	6	Website active
Aeronautical information conceptual model	P-08																					1-Oct-11	31-Dec-12	6	Included in AIXM system 5.1
eAIP	P-11																					1-Feb-14	1-Jan-15	6	Implemented since 1 JUL 2015
Terrain A-1	P-13	5	5	5	5	6																1-Aug-18	31-Mar-20	5	
Obstacle A-1	P-14	5	5	5	5	6																1-Aug-18	31-Mar-20	5	
Terrain A-4	P-13	5	5	5	5	6																1-Aug-18	31-Mar-20	5	
Obstacle A-4	P-14	5	5	5	5	6																1-Aug-18	31-Mar-20	5	
Terrain A-2[1]	P-13	5	5	5	5	6																1-Aug-18	31-Mar-20	5	
Obstacle A-2[2]	P-14	5	5	5	5	6																1-Aug-18	31-Mar-20	5	
Terrain A-3	P-13	5	5	5	5	6																1-Aug-18	31-Mar-20	5	
Obstacle A-3	P-14	5	5	5	5	6																1-Aug-18	31-Mar-20	5	
Aerodrome Mapping	P-15	1	1	1	2	2	3	4	4	5	5	8										1-Dec-19	30-Sep-21	2	
Phase III																									
Aeronautical data exchange	P-09	1	1	1	1	1	1	1	1	1	2	2	3	4	5	8						1-Apr-21	30-Sep-22	1	
Communication networks	P-10																					1-Feb-14	31-Mar-20	6	
Aeronautical information briefing	P-12	4	4	4	5	8																1-Jul-14	31-Mar-20	4	Various softwares already in place
Training	P-16		6	6			4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	1-Mar-14		4	On going process, incl. refresher training and skilled trainings
Agreement with data originators	P-18	4	4	4	5	8																1-Aug-15	31-Mar-20	4	On going process via SLA's. In addition PLX will be introduced
Interoperability with meteorological products	P-19	1	1	1	1	1	1	2	2	2	2	3	3	3	3	3	3	4	4	4	4	1-Jun-20	30-Jun-24	1	
Electronic aeronautical charts	P-20	1	1	1	2	2	3	4	5	8												1-Dec-19	31-Mar-21	3	
Digital NOTAM	P-21	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	3	3	4	4	1-Apr-22	30-Jun-24	1	

[1] Please specify implementation of Area 2a, 2b, 2c and/or 2d
 [2] Please specify implementation of Area 2a, 2b, 2c and/or 2d

1	Not Started (leave empty)	0%
2	Initial Stage	1 - 25 %
3	Developing Stage	26 - 50 %
4	Advanced Stage	51 - 75 %
5	Finalizing Stage	76 - 99 %
6	Fully Implemented	100%

Legend*[1] - Please use this color guidance chart to fill out cells in this form accordingly. Enter the number corresponding with the status into a cell (in the correct year(s)), for the status of the AIS Unit. Use the same method to fill out an implementation target date/year, if the step has not been completed and/or fully implemented yet! Refer to the example tab, for an example of a filled out form. All cells must be filled out

State/AIS Unit to fill ▼	
State	Curacao (Dutch Caribbean States)
Title	Chief AIS/ARO
Member of the ICAO NACC AIM TF?	Yes
Name	N. Leonora-Belefanti

[EXAMPLE OF A TIERED PLAN WITH ALL STEPS FULLY IMPLEMENTED UNTIL THE COMPLETION OR CURRENT STATUS. SEE THE EXAMPLE](#)

7	Implemented through a third party	100%
8	Scheduled to be completed and/or fully implemented by this date / period	Provide more information
9	Will not implement this step (Fill all years grey)	Provide reason

[1] Please provide details / reason / in the "Remarks" column for each step!

[method to fill out an implementation target date/year, if the step has not been completed and/or fully implemented yet! Refer to the example tab, for an example of a filled out form. All cells must be filled out until the completion or current status. See the \[EXAMPLE\]\(#\)](#)

5	Finalizing Stage	76 – 99 %
6	Fully Implemented	100%
7	Implemented through a third party	100%
8	Scheduled to be completed and/or fully implemented by this date / period	Provide more information
9	Will not implement this step (Fill all years grey)	Provide reason

[1] Please provide details / reason / in the "Remarks" column for each step!



International Civil Aviation Organization

NAM CAR REGION AIM IMPLEMENTATION ROADMAP STATUS FOR THE TRANSITION FROM AIS TO AIM

Phase/Step	Step No.	Timeline																Start	(Planned) End	Jamaica	Remarks				
		2019				2020				2021				2022				2023				Date	Date		
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			Q3	Q4	MM / DD / YY	MM / DD / YY
Phase I																									
AIRAC adherence	P-03																				9-Jan-20	9-Jan-23	6		
Monitoring of Annex differences	P-04																						6		
WGS-84 implementation	P-05																						6		
QMS	P-17																				9-Jan-20	9-Jan-23	1		
Phase II																									
Data Quality Monitoring	P-01																				1-Jun-20	03/31/21	1		
Data Integrity Monitoring	P-02																				1-Jun-20	03/31/21	1		
AIXM	P-06																				08/14/18	11/30/19	1		
Unique identifiers	P-07																				08/14/18	11/30/19	1		
Aeronautical information conceptual model	P-08																				08/14/18	11/30/19	1		
eAIP	P-11																				08/20/18	08/31/21	1		
Terrain A-1	P-13																				08/14/18	06/30/19	5		
Obstacle A-1	P-14																				08/14/18	06/30/19	5		
Terrain A-4	P-13																						9		
Obstacle A-4	P-14																						9		
Terrain A-2[1]	P-13																				08/14/18	06/30/19	5		
Obstacle A-2[2]	P-14																				08/14/18	06/30/19	5		
Terrain A-3	P-13																				08/14/18	06/30/19	5		
Obstacle A-3	P-14																				08/14/18	06/30/19	5		
Aerodrome Mapping	P-15																				08/14/18	06/30/19	5		
Phase III																									
Aeronautical data exchange	P-09																				08/20/18	11/30/19	5		
Communication networks	P-10																				08/20/18	11/30/19	5		
Aeronautical information briefing	P-12																				09/30/98		2		
Training	P-16																				10/22/07	03/31/24	3		
Agreement with data originators	P-18																				9-Jan-20	9-Jan-23	1		
Interoperability with meteorological products	P-19																				9-Jan-20	9-Jan-23	1		
Electronic aeronautical charts	P-20																				08/20/18	08/31/21	1		
Digital NOTAM	P-21																					03/31/24	1		

[1] Please specify implementation of Area 2a, 2b, 2c and/or 2d

[2] Please specify implementation of Area 2a, 2b, 2c and/or 2d

State/AIS Unit to fill ▼

<p>Legend*[1] - Please use this color guidance chart to fill out cells in this form accordingly. Enter the number corresponding with the status into a cell (in the correct year(s)), for the status of the AIS Unit. Use the same method to fill out an implementation target date/year, if the step has not been completed and/or fully implemented yet! Refer to the example tab, for an example of a filled out form. All cells must be filled out until the completion or current status. See the EXAMPLE</p>	1	Not Started (leave empty)	0%
	2	Initial Stage	1 - 25 %
	3	Developing Stage	26 - 50 %
	4	Advanced Stage	51 – 75 %
	5	Finalizing Stage	76 – 99 %
	6	Fully Implemented	100%
	7	Implemented through a third party	100%
	8	Scheduled to be completed and/or fully implemented by this date / period	Provide more information
	9	Will not implement this step (Fill all years grey)	Provide reason

[1] Please provide details / reason / in the “Remarks” column for each step!

State	Jamaica
Title	KINGSTON FIR
Member of the ICAO NACC AIM TF?	Yes
Name	Sharon Edwards



International Civil Aviation Organization

NAM CAR REGION AIM IMPLEMENTATION ROADMAP STATUS FOR THE TRANSITION FROM AIS TO AIM

Phase/Step	Step No.	Timeline																Start Date MM / DD / YY	(Planned) End Date MM / DD / YY	Mexico	Remarks							
		2019				2020				2021				2022								2023						
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4					Q1	Q2	Q3	Q4			
Phase I																												
AIRAC adherence	P-03	6																				1-Jan-12	1-Mar-19	6	Continued process			
Monitoring of Annex differences	P-04	6																				1-Jan-12	1-Mar-19	6	Continued process			
WGS-84 implementation	P-05	6																				1-Jan-97	1-Mar-19	6	Continued process			
QMS	P-17	6																				1-Jan-11	1-Mar-19	6	En proceso de actualización a la norma ISO 9001:2015			
Phase II																												
Data Quality Monitoring	P-01	2	3	3	4	4	5	5	6													1-Jan-19	31-Dec-20	3				
Data Integrity Monitoring	P-02	2	3	3	4	4	5	5	6													1-Jan-19	31-Dec-20	3				
AIXM	P-06	6																				1-Jan-12	1-Jun-19	6	Continued process			
Unique identifiers	P-07	6																				1-Jan-12	1-Jun-19	6	Continued process			
Aeronautical information conceptual model	P-08	6																				1-Jan-12	1-Jun-19	6				
eAIP	P-11	4	4	4	4	5	5	5	6													1-Jan-13	1-Jan-20	4				
Terrain A-1	P-13	1	1	2	2	3	3	3	3	4	4	4	4	4	5	5	6					1-Jan-20	31-Dec-21	1				
Obstacle A-1	P-14	1	1	2	2	3	3	3	3	4	4	4	4	4	5	5	6					1-Jan-20	31-Dec-21	1				
Terrain A-4	P-13	1	1	2	2	3	3	3	3	4	4	4	4	4	5	5	6					1-Jan-20	31-Dec-21	1				
Obstacle A-4	P-14	1	1	2	2	3	3	3	3	4	4	4	4	4	5	5	6					1-Jan-20	31-Dec-21	1				
Terrain A-2[1]	P-13	1	1	2	2	3	3	3	3	4	4	4	4	4	5	5	6					1-Jan-20	31-Dec-21	1				
Obstacle A-2[2]	P-14	1	1	2	2	3	3	3	3	4	4	4	4	4	5	5	6					1-Jan-20	31-Dec-21	1				
Terrain A-3	P-13	1	1	2	2	3	3	3	3	4	4	4	4	4	5	5	6					1-Jan-20	31-Dec-21	1				
Obstacle A-3	P-14	1	1	2	2	3	3	3	3	4	4	4	4	4	5	5	6					1-Jan-20	31-Dec-21	1				
Aerodrome Mapping	P-15	3	3	3	3	4	4	5	5	5	5	5	6									1-Jan-12	31-Dec-21	3				
Phase III																												
Aeronautical data exchange	P-09	3	3	3	3	4	4	4	4	5	5	5	6									1-Jan-12	31-Dec-21	3				
Communication networks	P-10	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	4	4	4	5	5	5	6	1-Jan-20	31-Dec-23	1	
Aeronautical information briefing	P-12	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	4	4	4	5	5	5	6	1-Jan-20	31-Dec-23	1	
Training	P-16	3	3	3	3	4	4	5	5	6														1-Jan-12	1-Jan-21	3	Continued process	
Agreement with data originators	P-18	1	1	1	1	2	2	3	3	4	4	5	6											1-Jan-19	31-Dec-21	1		
Interoperability with meteorological products	P-19	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	4	4	4	5	5	5	6	1-Jan-20	31-Dec-23	1	
Electronic aeronautical charts	P-20	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	4	4	4	5	5	5	6	1-Jan-20	31-Dec-23	1	
Digital NOTAM	P-21	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	4	4	4	5	5	5	6	1-Jan-20	31-Dec-23	1	

[1] Please specify implementation of Area 2a, 2b, 2c and/or 2d

[2] Please specify implementation of Area 2a, 2b, 2c and/or 2d

1	Not Started (leave empty)	0%
2	Initial Stage	1 - 25%
3	Developing Stage	26 - 50%
4	Advanced Stage	51 - 75%

Legend*[1] - Please use this color guidance chart to fill out cells in this form accordingly. Enter the number corresponding with the status into a cell (in the correct year(s)) for the status of the AIS Unit. Use the same

State/AIS Unit to fill ▼	
State	Mexico
Title	
Member of the ICAO NACC AIM TF?	Yes
Name	

[method to fill out an implementation target date/year, if the step has not been completed and/or fully implemented yet! Refer to the example tab, for an example of a filled out form. All cells must be filled out until the completion or current status. See the \[EXAMPLE\]\(#\)](#)

5	Finalizing Stage	76 – 99 %
6	Fully Implemented	100%
7	Implemented through a third party	100%
8	Scheduled to be completed and/or fully implemented by this date / period	Provide more information
9	Will not implement this step (Fill all years grey)	Provide reason

[1] Please provide details / reason / in the "Remarks" column for each step!



International Civil Aviation Organization

NAM CAR REGION AIM IMPLEMENTATION ROADMAP STATUS FOR THE TRANSITION FROM AIS TO AIM

Phase/Step	Step No.	Timeline																Start Date MM / DD / YY	(Planned) End Date MM / DD / YY	Trinidad and Tobago	Remarks				
		2019				2020				2021				2022								2023			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4					Q1	Q2	Q3	Q4
Phase I																									
AIRAC adherence	P-03	6																						6	AIRAC system used for Publications.
Monitoring of Annex differences	P-04	1				2				3		4		5	6							1-Jan-19	31-Mar-22	1	Monitoring of Annex Differences has not commenced due lack of staff resources. Efforts are currently underway to recruit staff to start this project. Guidance is requested from ICAO on how to proceed regarding EFOD
WGS-84 implementation	P-05	6																						6	WGS-84 coordinates are used in AIP and Charts for Trinidad and Tobago.
QMS	P-17	6																						6	AIM Department's QMS is currently certified to the ISO 9001:2015 Standard
Phase II																									
Data Quality Monitoring	P-01	6																						6	Data Quality monitored against ICAO SARPS through manual and system evaluation processes.
Data Integrity Monitoring	P-02	4				5		6															30-Sep-20	4	PLX Software already acquired. Software upgrade and re-training required. Monitoring is done throughout the data process manually.
AIXM	P-06	6																						6	Systems meet the AIXM 5.1 Standards.
Unique identifiers	P-07	6																						6	Fully implemented through the use of ICARD and processes involved to ensure no conflict of identifiers occur in the aeronautical database
Aeronautical information conceptual model	P-08	6																						6	Systems meet the AICM Standards.
eAIP	P-11	4				5	6																31-Mar-20	4	HTML AIP work has started. PDF Files electronically available on TTCAA Website
Terrain A-1	P-13																							6	DTM for both islands are available
Obstacle A-1	P-14				4					5			6									1-Jul-19	1-Dec-21	4	Data collection initiated, database will be populated through collaboration with various stakeholders and supplemented by terrestrial surveys and LIDAR when required
Terrain A-4	P-13							6														1-Nov-19	1-Sep-20	3	TTPP & TTCP CAT I but can be included with AD survey
Obstacle A-4	P-14							6														1-Nov-19	1-Sep-20	3	TTPP & TTCP CAT I but can be included with AD survey
Terrain A-2[1]	P-13																							6	Area 2 DTM available for both islands
Obstacle A-2[2]	P-14				4			5		6												1-Jul-19	1-Dec-20	4	Database population commenced, requires update
Terrain A-3	P-13							6														1-Jul-19	1-Mar-20	3	LIDAR and AD survey available for both islands
Obstacle A-3	P-14							6														1-Jul-19	1-Mar-20	3	Information to be obtained from the TT Airports Authority
Aerodrome Mapping	P-15							6														1-Jul-19	1-Dec-20	3	Information to be obtained from the TT Airports Authority
Phase III																									
Aeronautical data exchange	P-09	6																						6	System meets the AIXM Specifications
Communication networks	P-10	6																						6	AIP Publications available on TTCAA Website
Aeronautical information briefing	P-12																								
Training	P-16	2																						2	Dependent on Doc 9991 availability and guidance from ICAO.
Agreement with data originators	P-18	5				6																	31-Mar-20	5	MOAs to be finalised for the sharing of geospatial information. Stakeholder group established and TTCAA responded to be involved in the initiative. This group will be a source of data. Existing LOAs are with data originators being reviewed and amended and additional agreements to be developed.
Interoperability with meteorological products	P-19																								
Electronic aeronautical charts	P-20												6									1-Jan-20	1-Dec-21	3	GIS software to be acquired for the completion of basemaps. GIS information in the form of shapefiles is being collected
Digital NOTAM	P-21																								

[1] Please specify implementation of Area 2a, 2b, 2c and/or 2d
 [2] Please specify implementation of Area 2a, 2b, 2c and/or 2d

1	Not Started (leave empty)	0%
2	Initial Stage	1 - 25%
3	Developing Stage	26 - 50%

Legend*[1] - Please use this color guidance chart to fill out cells in this form accordingly. Enter the number.

State/AIS Unit to fill ▼	
State	Trinidad & Tobago
Title	Unit Chief AIM Quality Assurance
Member of the ICAO NACC AIM TF?	Yes

[corresponding with the status into a cell \(in the correct year\(s\)\), for the status of the AIS Unit. Use the same method to fill out an implementation target date/year, if the step has not been completed and/or fully implemented yet! Refer to the example tab, for an example of a filled out form. All cells must be filled out until the completion or current status. See the \[EXAMPLE\]\(#\)](#)

4	Advanced Stage	51 – 75 %
5	Finalizing Stage	76 – 99 %
6	Fully Implemented	100%
7	Implemented through a third party	100%
8	Scheduled to be completed and/or fully implemented by this date / period	Provide more information
9	Will not implement this step (Fill all years grey)	Provide reason

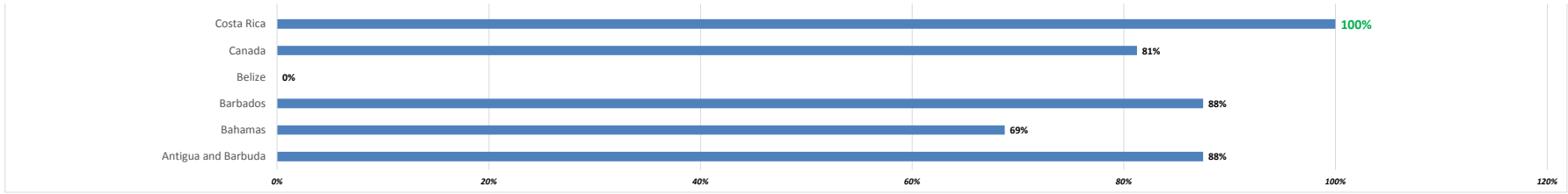
Name	N. Nohar
------	----------

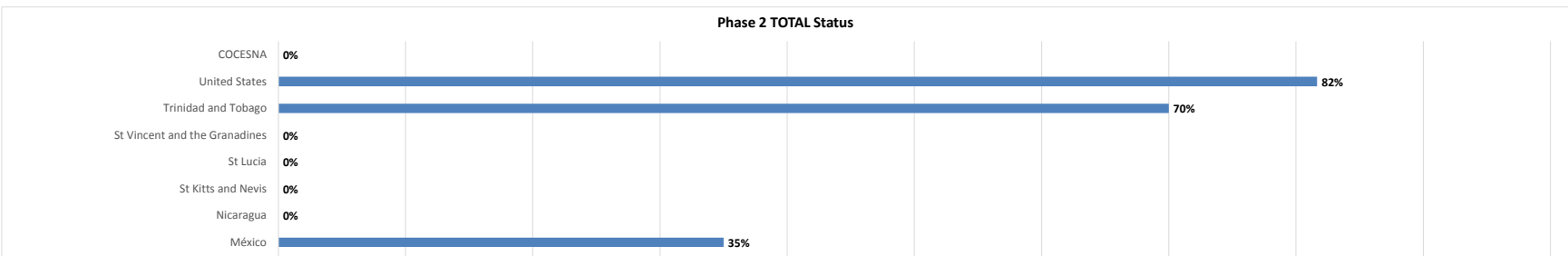
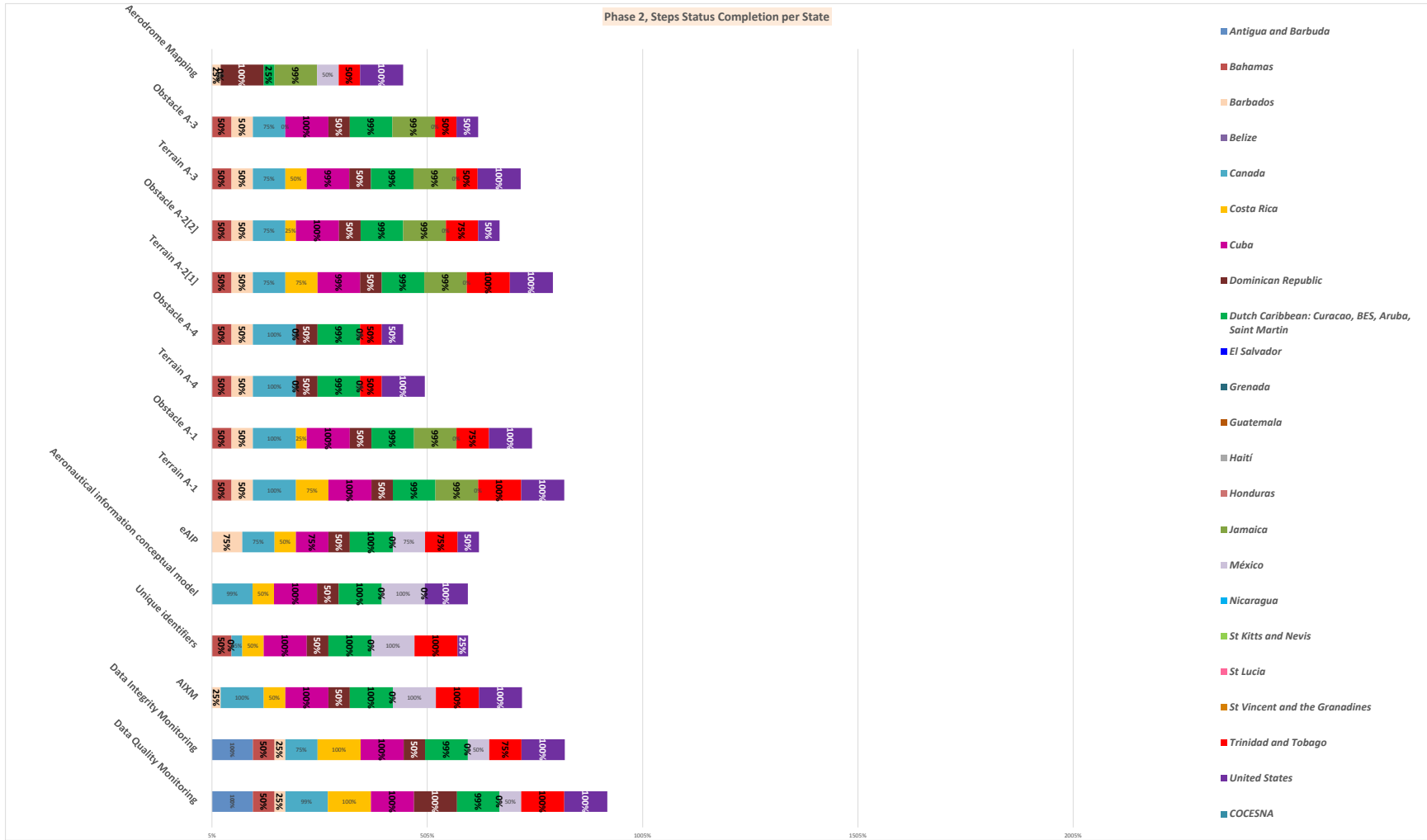
[1] Please provide details / reason / in the "Remarks" column for each step!

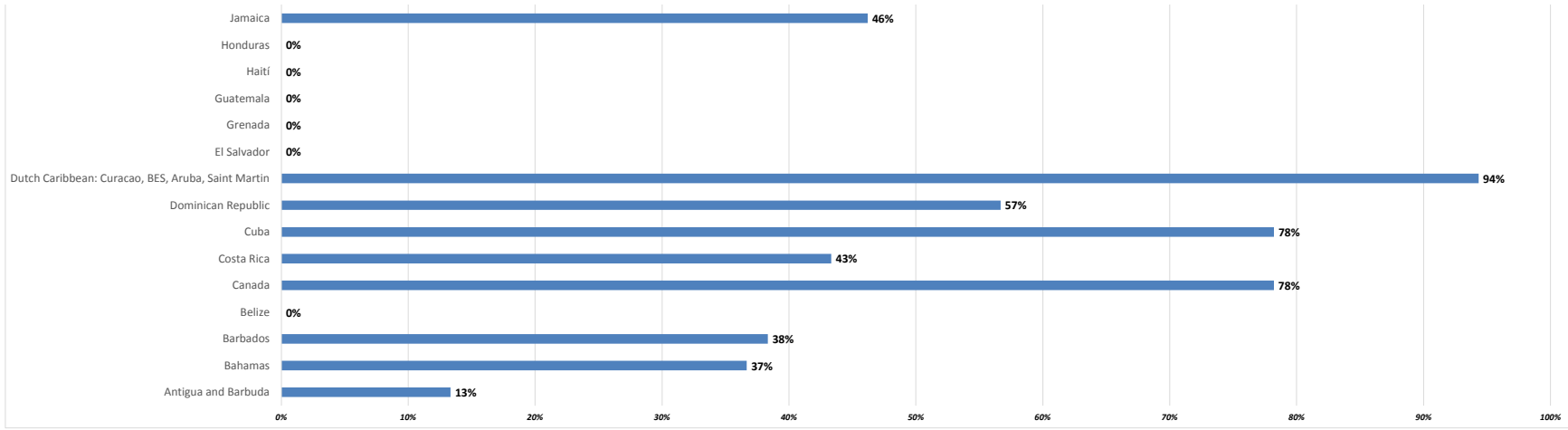
[example of a filled out form. All CENS must be filled out until the completion or current status. See the \[EXAMPLE\]\(#\)](#)

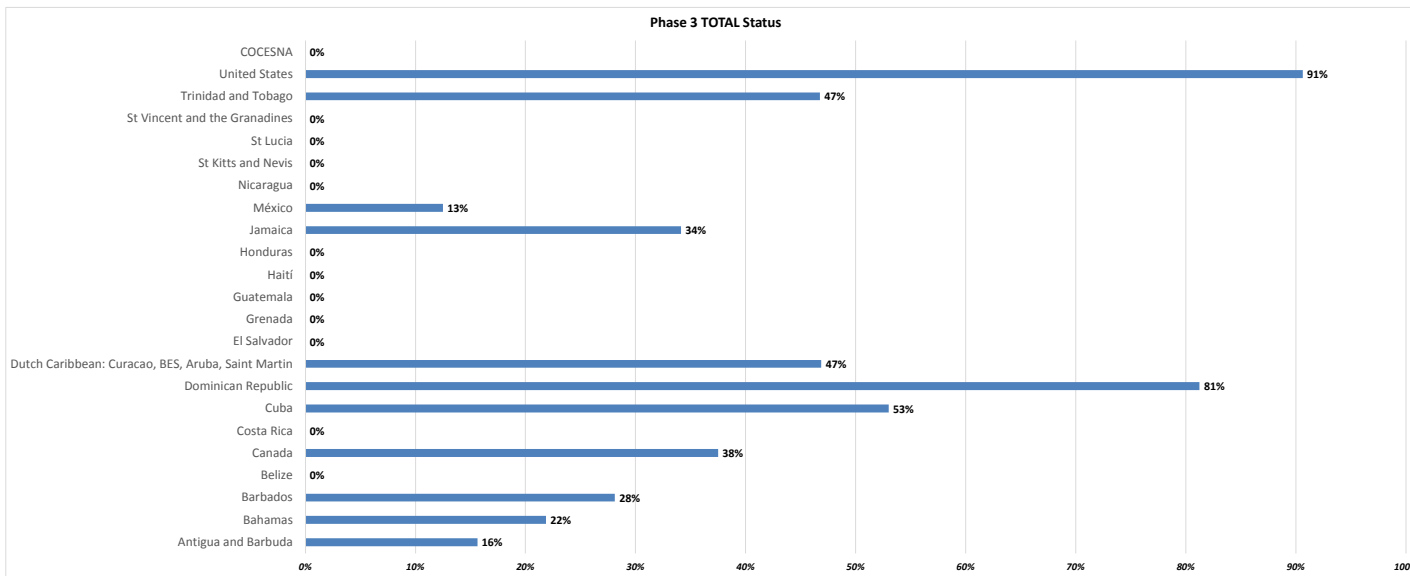
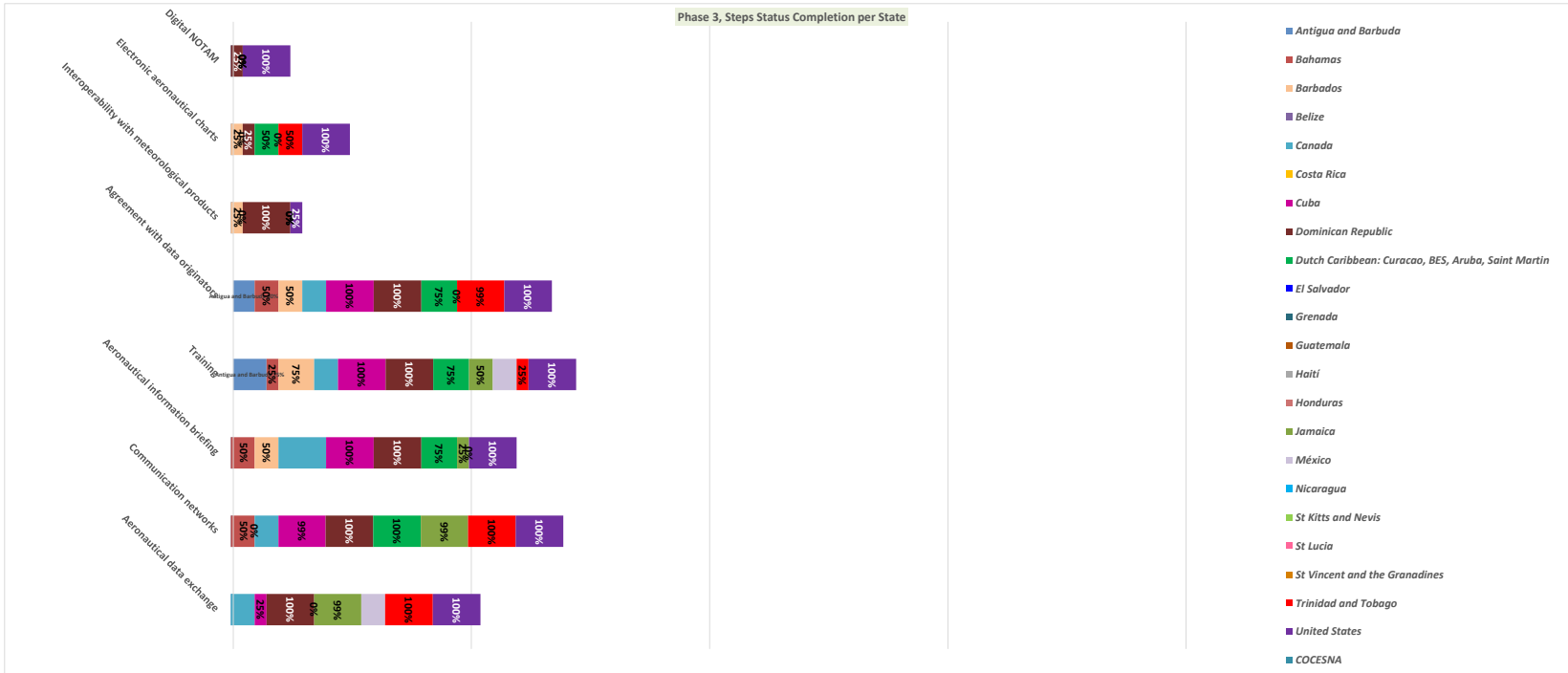
7	Implemented through a third party	100%
8	Scheduled to be completed and/or fully implemented by this date / period	Provide more information
9	Will not implement this step (Fill all years grey)	Provide reason

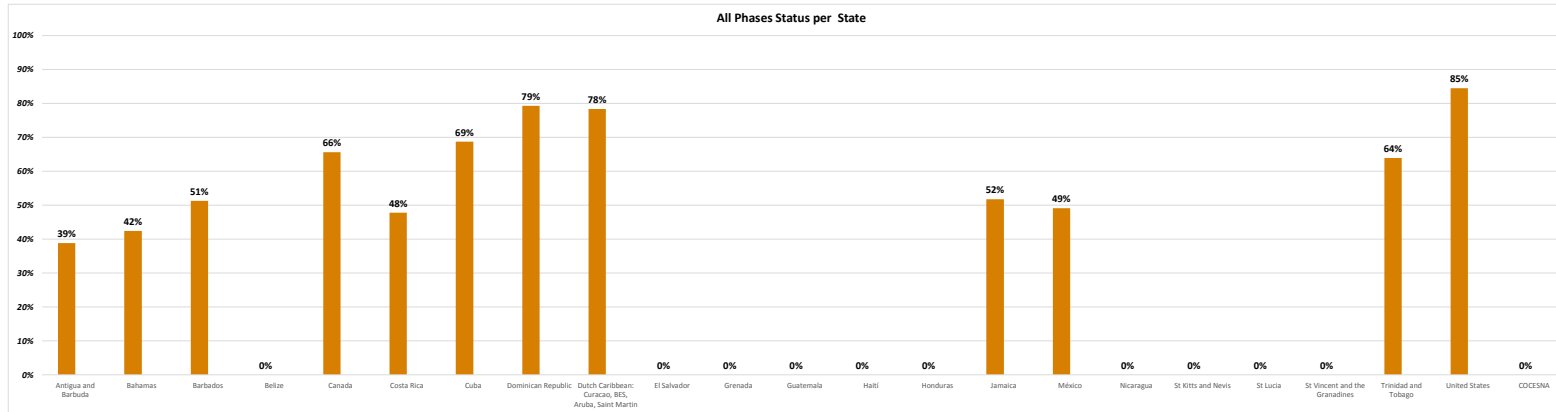
[1] Please provide details / reason / in the "Remarks" column for each step.











Conclusion: 11
 out of the 23 (47.8%) member States have not provided information on (or did not start yet with the) transition of AIS to AIM.
 Of the 53.2% which have provided information, it can be concluded that:
 33.3% are in a development stage.
 41.7% are in Advanced stage.
 And 25% are in Final stage of completing the whole transition.
 From the detailed information provided, most are stuck at phase two and three of this transition.
 Although informed that QMS is in place for the majority of the States, as ICAO has not required a proof of certification, this cannot be proven.

All Phases	Antigua and Barbuda	Bahamas	Barbados	Belize	Canada	Costa Rica	Cuba	Dominican Republic	Dutch Caribbean: Curacao, BES, Aruba, Saint Martin	El Salvador	Grenada	Guatemala	Haiti	Honduras	Jamaica	Mexico	Nicaragua	St Kitts and Nevis	St Lucia	St Vincent and the Grenadines	Trinidad and Tobago	United States	COCESNA
TOTAL Status Complete Transition per State	39%	42%	51%	0%	66%	48%	69%	79%	78%	0%	0%	0%	0%	0%	52%	49%	0%	0%	0%	0%	64%	85%	0%
	DEVL	DEVL	ADV	NO START/NO INFO PROVIDED	ADV	DEVL	ADV	FINAL	FINAL	NO START/NO INFO PROVIDED	NO START/NO INFO PROVIDED	NO START/NO INFO PROVIDED	NO START/NO INFO PROVIDED	NO START/NO INFO PROVIDED	ADV	DEVL	NO START/NO INFO PROVIDED	NO START/NO INFO PROVIDED	NO START/NO INFO PROVIDED	NO START/NO INFO PROVIDED	ADV	FINAL	NO START/NO INFO PROVIDED

1	Not Started (leave empty)	0%
2	Initial Stage	1 - 25 %
3	Developing Stage	26 - 50 %
4	Advanced Stage	51 - 75 %
5	Finalizing Stage	76 - 99 %
6	Fully Implemented	100%
7	Implemented through a third party	100%
8	Scheduled to be completed and/or fully implemented by this date / period	Provide more information
9	Will not implement this step (Fill all years grey)	Provide reason



International Civil Aviation Organization

NAM CAR REGION AIM IMPLEMENTATION ROADMAP STATUS FOR THE TRANSITION FROM AIS TO AIM

Phase/Step	Step No.	Timeline																Start	(Planned) End	State Name	Remarks						
		2019				2020				2021				2022				2023				Date	Date				
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			Q3	Q4	MM / DD / YY	MM / DD / YY		
Phase I																											
AIRAC adherence	P-03																										
Monitoring of Annex differences	P-04																										
WGS-84 implementation	P-05																										
QMS	P-17																										
Phase II																											
Data Quality Monitoring	P-01																										
Data Integrity Monitoring	P-02																										
AIXM	P-06																										
Unique identifiers	P-07																										
Aeronautical information conceptual model	P-08																										
eAIP	P-11																										
Terrain A-1	P-13																										
Obstacle A-1	P-14																										
Terrain A-4	P-13																										
Obstacle A-4	P-14																										
Terrain A-2[1]	P-13																										
Obstacle A-2[2]	P-14																										
Terrain A-3	P-13																										
Obstacle A-3	P-14																										
Aerodrome Mapping	P-15																										
Phase III																											
Aeronautical data exchange	P-09																										
Communication networks	P-10																										
Aeronautical information briefing	P-12																										
Training	P-16																										
Agreement with data originators	P-18																										
Interoperability with meteorological products	P-19																										
Electronic aeronautical charts	P-20																										
Digital NOTAM	P-21																										

[1] Please specify implementation of Area 2a, 2b, 2c and/or 2d

[2] Please specify implementation of Area 2a, 2b, 2c and/or 2d

1	Not Started (leave empty)	0%
----------	---------------------------	----

State/AIS Unit to fill ▼	
State	

[Legend*\[1\]](#) - Please use this color guidance chart to fill out cells in this form accordingly. Enter the number corresponding with the status into a cell (in the correct year(s)), for the status of the AIS Unit. Use the same method to fill out an implementation target date/year, if the step has not been completed and/or fully implemented yet! Refer to the example tab, for an example of a filled out form. All cells must be filled out until the completion or current status. See the EXAMPLE

2	Initial Stage	1 - 25 %
3	Developing Stage	26 - 50 %
4	Advanced Stage	51 - 75 %
5	Finalizing Stage	76 - 99 %
6	Fully Implemented	100%
7	Implemented through a third party	100%
8	Scheduled to be completed and/or fully implemented by this date / period	Provide more information
9	Will not implement this step (Fill all years grey)	Provide reason

Title	
Member of the ICAO NACC AIM TF?	
Name	

[1] Please provide details / reason / in the "Remarks" column for each step!

APÉNDICE C

INTERNATIONAL CIVIL AVIATION ORGANIZATION

DRAFT

NACC REGIONAL PLAN FOR COLLABORATIVE AERONAUTICAL INFORMATION MANAGEMENT (AIM)

DRAFT Version 1.0, May 2019

This Plan was based on the development made by (Ms.) Ying Zhou, Associate Officer (ATM/AIM) ICAO CAR - AIS-AIM

CONTENTS

1. SCOPE OF THE PLAN.....	1
2. OBJECTIVES	1
3. EXECUTIVE SUMMARY	2
4. BACKGROUND INFORMATION	2
_4.1 Principles.....	2
_4.2 Aviation System Block Upgrades (ASBU)	2
_4.3 AIS-AIM Roadmap Phases and Steps	3
_4.4 The Interim AIM Transition Guidance.....	4
_4.5 Emphasis of the four priority AIM transition steps	5
_4.6 Report of AIM Implementation Task Force (AIMTF).....	6
5. CURRENT SITUATION	7
_5.1 Implementation analysis for States' transition from AIS to AIM.	7
_5.2 Implementation situation of regional ICARD.	7
_5.3 A Framework for AIM Quality Management System (QMS).	8
_5.4 Knowledge and skills need to be trained and improved for AIS and AIM staff.	8
6. PERFORMANCE IMPROVEMENT PLAN.....	9
_6.1 Performance Improvement Plan Phase I	9
_6.2 Performance Improvement Plan Phase II	10
7. RESEARCH AND FUTURE DEVELOPMENT.....	12
_7.1 Co-operation on AIM Improvement.	12
_7.2 Consideration of future AIM development.	12
8. MILESTONES, TIMELINES, PRIORITIES AND ACTIONS	13
APPENDICES	14

1. SCOPE OF THE PLAN

Plan Structure

1.1 Air Traffic Management (ATM) involves the best integration of real-time, historical and prospective ATM data and information, and the management, sharing and distribution of that data to shareholders. Information Management is based on the strategic and tactical provision of quality assured and timely operational data in support of ATM operations.

1.2 The Seamless ATM Plan references different levels. The upper level is from global perspective, which is guided mainly by references to the Global Air Navigation Plan (GANP, Doc 9750), the Global ATM Operational Concept (Doc 9854) and the Global Aviation Safety Plan (GASP). Beneath it is regional planning, primarily provided by the NACC Plan for Collaborative Aeronautical Information Management (hereinafter referred to as the 'Plan') and other guidance materials, to define goals and means of meeting State planning objectives. Aeronautical Information Management (AIM) needs to be framed with an awareness of the ATM system as a whole and its purpose of Information Management within ATM system.

1.3 The Plan addresses the full range of ATM stakeholders, and was developed as part of a suite of NACC air navigation plans, thus, it should not be considered in isolation.

1.4 The word 'States' in the Plan includes Special Administrative Regions and Territories.

Plan Review

1.5 The Seamless ATM performance framework focuses on technological and human performance within Aviation System Block Upgrade (ASBU) elements. ASBU Block 0 modules contain technologies, systems and procedures which are expected to be available from 2013. However, the Plan also has references to ASBU modules in Block 1, 2 and 3, which are expected to be available from 2019, 2025 and 2031 respectively.

1.6 ASBU focuses on the initial introduction of digital processing and management of information. On the process of transition from AIS to AIM, aeronautical information exchange model (AIXM), migration to electronic Aeronautical Information Publication (eAIP), better quality (QMS) and availability of data should be under consideration and in usage. Therefore, the Plan needs to be updated and take into account ASBU modules in Block 0, 1, 2 and 3.

1.7 The Plan requires regular updating to keep current with aviation system changes. It is intended that CAR/SAM Air Navigation Planning and Implementation Regional Group (GREPECAS) and its contributory bodies conduct a complete review every three years (or a shorter period determined by GREPECAS) of the Plan to align with the recent review cycle of the GANP. The Plan and its subsequent revisions should be endorsed by GREPECAS.

2. OBJECTIVES

Plan Objective

2.1 The objective of the Plan is to facilitate NACC Seamless ATM operations, by developing and deploying AIM solutions capable of ensuring safety and efficiency of air transport throughout the NACC Region.

2.2 Noting that more complex and costly challenges of implementing the digitally based AIM environment expected under Amendment 40 to Annex 15, the Plan provides a framework for a transition to a collaborative AIM environment, in order to meet future global and regional performance requirements, including PANS AIM.

Guidance for the Transition from AIS to AIM

2.3 The Plan it is neither isolated, nor conflicts with other plans or strategies, it is well-referenced in conjunction with other previous ones.

3. EXECUTIVE SUMMARY

Driving Force for Collaborative AIM

3.1 AIM is envisaged as one of the most valuable and important enabling services in ATM operational concept. To satisfy new requirements of ATM, which is based on a collaborative decision-making environment, AIS has to transit to a broader concept of AIM, which provides aeronautical data and information in digital and electronic formats and is displayed graphically and geodetically, complies with international standards and formats exchanges, is accessible system-wide by all stakeholders and more real-time, given its data-centric nature as opposed to the product-centric nature of the previous concept of AIS.

3.2 Due to economic and efficiency drivers, GREPECAS has foreseen an increasing need for States and systems to work together, which may develop into joint or shared operations, such as sub-regional Aeronautical Information Publications (AIPs for ECAR States, Netherland Territories and COCESNA for Central American States), AIM training and aeronautical databases. Moreover, it is recognised that collaboration between States inevitably improves the harmonisation and interoperability of systems – it is a key basis of Seamless ATM.

3.3 Collaboration is especially important for small, less resourced States and Territories as the technical challenges increase and the maintenance of technical competency and systems becomes more difficult. In this way, Collaborative AIM is expected to benefit all States and Territories, from the most vulnerable to the better resourced, as the latter will have assurance that increasingly interconnected smaller States will also be able to fulfil their international obligations.

3.4 AIM is one of the foundation elements that supports other aspects of the current and future aviation systems dependent of data in electronic and digital formats, and as such requires a high priority. GREPECAS agreed that the transition from AIS to AIM should receive the highest priority, yet many States are lagging in their implementation of this key element.

4. BACKGROUND INFORMATION

Principles

4.1 There are considered to be three major areas of AIM Principles:

- a) People (human performance, ensure complete understanding of AIM concepts including training of relevant staff, common procedures based on a Regional Operational Concept, etc.)
- b) Facilities (physical equipment, Data-sharing), Technology
- c) Aeronautical Information and Data sets

Aviation System Block Upgrades (ASBU)

4.2 At the Global level, ICAO started the ASBU initiative as a programme framework that developed a set of aviation system solutions or upgrades intended to exploit current aircraft equipage, establish a transition plan and enable global interoperability. ASBU comprises a suite of modules organised into flexible and scalable building blocks, where each module represents a specific, well bounded improvement. The

building blocks could be introduced and implemented in a State or a Region depending on the need and level of readiness, while recognizing that all the modules are not required in all airspaces. ASBU describes a way to apply the concepts defined in the Doc 9854, with the goal of implementing regional performance improvements, and is used in the new edition of the GANP to guide implementation. Since the Air Navigation Conferences (AN-Conf. /12 and 13) it was agreed that ASBU and the associated technology roadmaps are integral parts of the GANP new 6th. Ed and a valuable implementation tool kit.

4.3 ASBU is heavily dependent on AIM, as AIM is a critical prerequisite for the implementation of many current or future ATM or Air Navigation concepts that relies on the accuracy, integrity and timeliness of data.

4.4 In the AIM field domain, the main ASBU blocks which are relevant with Seamless ATM are as follows:

- B0-DAIM Service Improvement through Digital Aeronautical Information Management (AIM). A key strategy activity during Block 0 from 2013 until 2019 may include the initial introduction of digital processing and management of information/data, through AIS/AIM implementation, use of aeronautical information exchange model (AIXM), migration to electronic aeronautical information/data publication (AIP) and better quality (QMS) and availability of data.
- B1-DAIM Service Improvement through Integration of all Digital AIM Information (2019-2025): ATM information reference model (AIRM) integrates all ATM information/data and other Information/data Users (using UML, GML/XML), and implements information/data management with exchange data models: common formats are AIXM, FIXM, WIXM and internet protocols.
- B1-SWIM Performance Improvement through the application of SWIM applications and infrastructure (2019-2025): standard data models, internet-based protocols to maximize interoperability. Most of the air ground data exchanges will remain based on point-to-point communication.
- B2-SWIM Enabling Airborne Participation in Collaborative ATM through SWIM (2025-2031): aircraft as a fully connected information node in SWIM and collaborative ATM processes – exchange of data.

5. AIS-AIM Roadmap Phases and Steps

5.1 According to AIS-AIM Roadmap, there are three phases and 21 steps. Failure to take action on any of these steps would increase the duration of the transition and negatively affect the enabling role of AIM. The three phases, according to the AIS-AIM Transition Roadmap, are as follows.

- Phase 1 – **Consolidation**. Quality Management System (QMS), is a prerequisite for commencement of the transition from AIS to AIM. In this phase, States were expected to enhance the quality of their existing AIS products, attach great importance to AIRAC adherence and WGS84 implementation and publish their Differences related to ICAO Annexes (AIP and/or electronically).
- Phase 2 – **Going Digital**, In this phase, States were expected to create national or regional database to produce existing products and services with better quality and availability, such as the delivery of eAIP, eTOD, etc.
- Phase 3 – **Information Management**. This is the final phase in the evolution to AIM, is also known as SWIM. Keywords of this phase are integration, collaboration and self-

network.

5.2 **Phase 1** - Consolidation and **Phase 2** – Going digital, are important preparatory phases of the final transition to AIM. Consolidation is the main theme of Phase 1, whereas Phase 2 is the step to going digital, when information is increasingly being managed and exchanged digitally. Phase 2 can be characterized as being the most critical in the transition, and should be kept as short as possible.

The 21 steps and deadline for implementation are shown below.

ROADMAP PHASE	ROADMAP STEPS	DEADLINE
PHASE 1	P-03 — AIRAC adherence monitoring	Initial date November 2010 ----- Adjusted December 2020
	P-04 — Monitoring of States’ differences to Annex 4 & 15	
	P-05 — WGS-84 implementation	
	P-17 — Quality	
PHASE 2	P-01 — Data quality monitoring	Initial date November 2013 ----- Adjusted December 2022
	P-02 — Data integrity monitoring	
	P-06 — Integrated aeronautical information database	
	P-07 — Unique identifiers	
	P-08 — Aeronautical information conceptual model (AICM)*	
	P-11 — Electronic AIP	
	P-13 — Terrain	
	P-14 — Obstacles	
	P-15 — Aerodrome mapping	
PHASE 3	P-09 — Aeronautical data exchange	Initial date November 2016 ----- Adjusted December 2025
	P-10 — Communication networks	
	P-12 — Aeronautical information briefing	
	P-16 — Training	
	P-18 — Agreements with data originators	
	P-19 — Interoperability with meteorological products	
	P-20 — Electronic aeronautical charts	
	P-21 — Digital NOTAM	

Figure 1: The 21 steps of the roadmap in the three phases

6. The Interim AIM Transition Guidance

6.1 The latest Meeting of the AIM Task Force (AIM TF, Miami, United States, August 2018), recognized that the lack of AIM transition guidance plan material was a matter of significant concern to State Administrations. There had been delays in the production of global ICAO guidance documents, those of

most immediate significance being the PANS AIM (Doc 10066), AIS Manual updated Doc 8126 (four Volumes), the new Doc 9839 Quality Manual (unedited) and Doc 9991 AIS Training Manual (unedited). That Meeting agreed to continue to work on Regional AIM transition guidance material for key AIM transition steps from the ICAO Roadmap for Transition from AIS to AIM.

6.2 The AIM TF will contribute to update the Status for Aeronautical Information Services (AIS) in the NACC Region by adding a new information on a website, Interim AIM Transition Guidance from EUROCONTROL, which emphasizes four priority steps from AIM transition roadmap, they are:

- P-17 – Quality
- P-16 – Training
- P-18 – Agreements with data originators
- P-11 – Electronic AIP

7. Emphasis of the four priority AIM transition steps

7.1 The transition **Step P-17** – Quality is one of the four steps in AIM Transition Phase 1 – Consolidation. Along with the other Phase 1 transition steps, P-17 – Quality is a prerequisite for commencement of the transition from AIS to AIM. In this phase, States were expected to enhance the quality of their existing AIS/AIM products.

7.2 The transition **Step P-16** – Training is one of the eight steps in AIM Transition Phase 3 - Information Management. The training of personnel will be adapted to the new requirements on skill and competencies introduced by the transition to AIM; the successful Quality Management System (QMS) also deeply relies on the motivation of personnel. Training Needs Analysis (TNA) and TNA developing process are important. For transition from AIS to AIM, both tailored training based on each Contracting States and systematic and collaborative training among Contracting States in NACC region are all necessary.

7.3 The transition **Step P-18** – Agreements with Data Originators is one of the eight steps in AIM Transition Phase 3 – Information Management. While the NACC Region's current focus is on implementation of Phases 1 and 2, it is recognized that formal agreements between stakeholders in the aeronautical information chain are a critical component of robust end-to-end quality management. Step P-18 is one of four complementary Roadmap steps related to the quality management of aeronautical data: P-17 – Quality, P-01 – Data Quality Monitoring, P-02 – Data Integrity Monitoring, and P-18 – Agreements with Data Originators. Data of high quality can only be maintained if the source material is of good quality. States will be required to better control relationships along the whole data chain from the producer to the distributor. This may take the form of template service level agreements with data originators, neighboring States, information service providers or others.

7.4 The transition **Step P-11** – eAIP is one of the nine steps in AIM Transition Phase 2 - Going Digital. The electronic version of the AIP is defined in two forms: a printable document and one that can be viewed by web browsers.

7.5 The eAIP is due to be completed by November 2013. Many States in NACC Region have achieved Aeronautical Information Conceptual Model (AICM), shared their AIP hyperlink addresses, the webpages can be browsed successfully. But some countries still have problems of incorrect or inactive hyperlinks, login requirement, link functional, but no AIP (AIP SUPP and AIC provided), site accessible, but "TEST, NOT FOR OPERATIONAL USE", etc.

8. Report of AIM Task Force (AIM TF)

AIM Transition Information Sharing Website

8.1 In discussing Regional AIM transition progress, is important to consider the need to design an AIM implementation tracking website. While the AIM Transition Table provides information on progress within the Phases, it does not provide information on the current status and challenges being faced by States, but the proposal for an AIM tracking website will share experience among States.

8.2 That, AIM TF agrees to facilitate a project by [Administration/s] to develop a website for the sharing of information related to the implementation of Aeronautical Information Management steps defined in the ICAO Roadmap for Transition from AIS to AIM.

Facilitation includes:

- a) Providing a coordination point for the contact details of the **AIM TRACKING** website administrator. Assisting in the development of a list of items for inclusion in the AIM TRACKING website
- b) Promoting the AIM TRACKING website as a valuable resource for NACC States Administrations undertaking or planning to undertake AIM transition and implementation projects
- c) Encouraging discussion of issues raised in the AIM TRACKING website and lessons learned at AIM TF meetings
- d) Providing a summary of information shared through the AIM TRACKING website, and providing hyperlink (s) to the AIM TRACKING website, in AIM TF meeting reports

Cooperation on AIM Training

8.3 Information was provided by a State highlighting the need for cooperation among Contracting States in NACC region regarding AIM implementation, in particular training for static and dynamic data management in AIXM environment, eAIP and quality management system.

8.4 Some States informed that they were developing a Standard AIS Training Package, and was open to opportunities for collaboration and technical assistance in AIM transition, and they had provided assistance to other States in AIS training, and AIM automation system and quality management system implementation, in cooperative activities through the other organizations including industry partners, and the International Federation of Aeronautical Information Management Associations (IFAIMA).

8.5 Regional cooperation in AIM training was important to ensure harmonized implementation throughout the region.

Establishment of a separate AIS unit or department

8.6 AIM TF reported that based on observations from visits to different States' AIS services and AIM meetings, it appeared that in some States the AIS was not established as a separate unit but as part of Air Traffic Services or Communication, Navigation and Surveillance organizations. In many cases ATC staff worked as AIS officers, working for both AIS and ATS. The view of the meeting AIM TF was that it was more appropriate that AIS should be established as a separate unit or department within its organization, with its personnel and management focused wholly on AIS/AIM as mentioned on Annex 15 and Doc 8126.

Delayed delivery of guidance documents

8.7 The following guidance material supporting the ICAO Roadmap for Transition from AIS to AIM was being developed by the ICAO AIS-AIM Study Group (AIS-AIM/SG):

- PANS AIM – Doc 10066 (new)
- Doc 8126 – AIS Manual (updated on four volumes);
- Doc 9839 – Quality Manual (unedited);
- Doc 9991 – AIM Training Development Manual (unedited);
- Doc 9881 – eTOD/AMDB Manual (require final validation and editing);
- Doc 9674 – WGS-84 Manual (require update - accuracy & heighting);
- Doc 8697 – Charting Manual (require update);
- Doc 9855 – Guidelines on the use of the Public Internet for Aeronautical Applications (require update);
- Doc 8400 – ICAO Abbreviations and Codes (PANS-ABC – update) and
- AIM Concept (unedited);

8.8 Delivery of the above documents had been further delayed beyond the latest advised timeframe (Q2/3 2014). The latest information from ICAO Headquarters was that most of these documents were undergoing final drafting and/or editing, but publication dates had not yet been finalized.

8.9 Other documents under development were the updated Annex 15 – Aeronautical Information Services, and the new Procedures for Air Navigation Services – Aeronautical Information Management (PANS-AIM).

9. CURRENT SITUATION

Implementation analysis for States' transition from AIS to AIM

9.1 The performance objectives of the NACC Seamless ATM Plan included the expectation that Phases 1 and 2 of the Roadmap for Transition from AIS – AIM would be completed by November 2015. As on 01 January 2016, regional implementation of Phase 1- Consolidation of the Roadmap is summarized as follows: 15 Administrations (36%) had completed implementation, 16 Administrations (38%) had partly implemented, 11 Administrations (26%) had not implemented any Phase 1 step, overall regional implementation of Phase 1 60%. Regional implementation of Phase 1 and 2 were summarized as follows:

- Under development

9.2 **Figure 2** below indicates that many States are lagging in their implementation for transition from AIS to AIM. (Date last amended in May 2019)

Under development

Figure 2: Regional AIM Implementation Status - Phase 1 and 2 Implementation in Progress

10. Implementation situation of regional ICARD.

10.1 Traffic growth in the NACC Region has resulted in traffic demand exceeding airspace capacity in many cases. The most effective initial response to this situation was to increase capacity, which often

involved ATS route re-design and implementation of new routes, requiring the efficient and Annex 11-compliant allocation of waypoint names.

10.2 The ICAO Codes and Routes Database (ICARD) system has been successfully transferred to ICAO Headquarters from EUROCONTROL where it had been developed and managed. The system, which is now available for global use, allows States to dynamically manage the allocation of five-letter name-codes (5LNCs) as well as analyze like-sounding and duplicate 5LNCs. CAR Regional Offices of ICAO coordinates States' requirements for ATS Route Designators in CAR region.

10.3 Many Contracting States in CAR region recognized the purpose of ICARD and the user registration process, updated their regional participations in ICARD, corrected common errors, known proximity checks and the process flow for requesting 5LNC, ATS route designator allocation, and ICARD_5LNC_Manager actions. With the utilization of ICARD system, 5LNCs are allocated collaboratively; avoid the occurrence of letter duplication and like-sounding problems to a large extent:

- But till now, some states cannot avoid sound-like pronunciation and/or visual confusion of 5LNC.
- ICARD Registrations of NACC

11. A Framework for AIM Quality Management System (QMS).

11.1 Annex 15 provides that States must establish a quality system and put in place quality management procedures at all stages (receiving and/or originating, collating or assembling, editing, formatting, publishing, storing and distributing) of the aeronautical information/data process. The quality system must be documented and demonstrable for each function stage, ensuring that the organizational structure, procedures, processes and resources are in place in order to detect and remedy any information/data anomalies during the phases of production, maintenance and operational use. Explicit in such a quality management regime is the ability to trace all information/data from any point, back through the proceeding processes, to its origin.

11.2 The transition step P-17 – Quality is one of the four steps in AIM Transition Phase 1 – Consolidation. Along with the other transition steps, P-17 – Quality is a prerequisite for commencement of the transition from AIS to AIM. In this phase, States were expected to enhance the quality of their existing AIS products.

11.3 However, there had been delays in the production of new global ICAO Doc 9839 *Quality Manual*. AIM TF noted that any independently developed Quality Manual could risk encouraging States to implement AIM in ways that may be divergent from anticipated global guidance.

11.4 The Plan provides a Sample Quality Manual in the NACC Region. Framework of AIM Quality Management of CAR Region (Sample) is shown in this document.

12. Knowledge and skills need to be trained and improved for AIS staff.

12.1 There are many new kinds of knowledge concerned with AIM transition process, inter alia, AICM/AIXM, data quality/originators, DNOTAM, eAIP, eTOD, Aeronautical Mapping Database (AMDM), Weather eXchange Model (WXXM) Aeronautical Information (AI) briefing, eCharts. Besides, skills and competencies also need to be improved for AIS staff members.

12.2 States have finished many tasks during the transition process from. However, AIS staff training is to some extent lagging.

13. PERFORMANCE IMPROVEMENT PLAN

13.1 ICAO's No Country Left Behind (NCLB) Initiatives determined that ICAO itself should provide more direct assistance to developing countries by playing a more active coordination role between States and by helping to generate the political will needed for States to pool resources, participate in regional efforts, earmark voluntary funds and build capacity. The NCLB campaign was endorsed to help coordinate and publicize any Organization-wide activities consistent with these priorities.

13.2 Sharing of information on ATM system resources and constraints across regions on a real time basis is a long term requirement. In the process of AIS-AIM transition, communication, collaboration, and co-operation are very important. AIS shall work in partnership, even with its users, other AIM actors, regulators, etc.

Performance Improvement Plan

Note: prior to implementation, the applicability of Performance Improvement Plan should be verified by analysis of safety, current and forecast traffic demand, efficiency, predictability, cost effectiveness and environment to meet expectations of stakeholders.

- Performance Improvement Plan Phase I – expected implementation by November 2020; and
- Performance Improvement Plan Phase II – expected implementation by November 2025.

Performance Improvement Plan Phase I

13.3 All States should make relevant regulations and specifications. The Plan is on the basis of JAP, each State should make regulations and specifications, which have close interfaces with global guidance material, especially on the following issues:

- data or raw material originators
- quality management system
- digital NOTAM filing and submitting

To improve human performance

13.4 The following should be established to support human performance in the delivery of Collaborative AIM.

- Human performance training, including assessment and management of risk, the effective safety reporting culture, etc.
- Technical training, including AICM/AIXM, Data quality/originators, digital NOTAM, eAIP, eTOD, AMDM, WXXM AI briefing, eCharts, etc.
- Qualification requirements, including personnel licences, knowledge and capability, English proficiency requirement for staffs concerning ICARD, to avoid sound-like pronunciation and/or visual confusion of 5LNC.

To establish a separate unit focused wholly on AIS/AIM.

13.5 Considering the following-up work of the transition to AIM, it should be appropriate to establish separate unit or department within AIS organization, with its personnel and management focused wholly on AIS/AIM.

13.6 To develop AIM Transition Information Sharing Website, to help States get access to ICAO Portal Website.

13.7 In order to provide information on progress within the 3 phases of AIS to AIM, encourage discussion of issues concerned with the transition and lessons learned at AIMTF meetings, as well as the current status and challenges being faced by States, a regional AIM implementation tracking website is needed and is under development. Its scope would be limited to sharing of information on AIM transition activities and experiences. Registered users, being the nominated point-of-contact from each State or Administration, would have write-access permissions for sharing information, posting questions and providing answers or suggestions. The information shared in the website would be publicly available. After the fully construction of AIM transition information sharing website for States in CAR region, States should be able to utilise the website.

13.8 Furthermore, in the process of transition from AIS to AIM, many documents are released by ICAO, CAR/SAM Air Navigation Planning and Implementation Regional Group (GREPECAS), AIM Task Force (AIM TF), International Federation of AIM Associations (IFAIMA), etc. In order to have a convenient access to acquire all related documents concerned with AIS-AIM transition, designated point-of-contact of States should be registered and qualified to access ICAO Portal Website.

To achieve Quality Management System (QMS) in CAR region

13.9 According to Annex 15, the information management resources and processes established by an aeronautical information service shall be adequate to ensure the timely collection, processing, storing, integration, exchange and delivery of quality-assured aeronautical data and aeronautical information within the ATM system.

13.10 Quality management systems shall be implemented and maintained encompassing all functions of an aeronautical information service. The established quality management system shall provide users with the necessary assurance and confidence that distributed aeronautical data and aeronautical information satisfy the aeronautical data quality requirements for accuracy, resolution and integrity and that the data traceability requirements are met through the provision of appropriate metadata. The system shall also provide assurance of the applicability period of intended use of aeronautical data as well as that the agreed distribution dates will be met.

13.11 A Structure of Agreement on data provision will be important to provide guidance on Data Quality and Data Integrity Monitoring.

13.12 Moving to a data-centric system, as distinct from product-centric, requires assurance of quality and integrity of data before and when it gets to the end-users. A key part of the information management system might be to manage non-certified aeronautical information/data that can potentially affect the safety of air navigation. For each Contracting State, management review is more difficult than annual internal audit; it is also hard to locate training organizations qualified to train AIM staff in quality management.

13.13 Regional collaborative quality assurance is needed, main task should be to review and update the quality management guidance and sample quality manual provided in the Guidance Manual for AIS in the NACC Region, data protection, automation, human factors considerations, etc.

14 Performance Improvement Plan Phase II

14.1 Utilize Aeronautical Information Exchange Model version 5.1 or later, through implementation of Phase 1 and 2 of the AIS-AIM Roadmap in adherence with ICAO and regional AIM planning and guidance material (ASBU Priority 1), support ATM operations by digitally-based AIM.

14.2 Meteorological information clearly has and will continue to have great operational impact and importance for the safety and efficiency of the air transportation system. The derived meteorological

products and services directly support the operational aspects of all phases of flight. To implement appropriate meteorological information reporting systems, providing observations, forecasts, warnings and alerts, and also providing information to meteorological authorities or offices where required.

To implement collaborative training in CAR region regarding AIM implementation

14.3 For most States, AIS is still paper based, desktop publishing, with limited digital data and quality assurance. On the process of AIS to AIM, the provision of aeronautical information should be data centric, quality assured, with single data source. State policies, regulatory oversight mechanisms, service level agreements, roles and responsibilities, data management tools, knowledge and skills, etc., need to be modified. Evolution from paper-based systems to computerised data-based systems will occur over an extended period, with present and future styles of operation proceeding in parallel. Changing the presentation and source of information will bring its own challenges, and will necessitate new skill development for all groups of users, from pilots to air traffic controllers to staff involved in producing the information.

14.4 The role of the human is especially important in delivering high quality and consistent services supporting collaborative AIM. Therefore, systematic and regional cooperation in AIM training will be highlighted among Contracting States in CAR region to ensure harmonized AIM implementation. States in CAR region should establish a working panel to analyse training demands for going to AIM collaboratively, design and develop training plans, courses and curriculum, implement training, evaluate staff competency, training courses, plans and programs, etc. Deliver collaborative training for part of AIS staffs, improve the skills and competence, this part of AIS staffs may in turn train other AIS staffs and contribute to AIM implementation.

14.5 Collaborative training should be delivered, in particular, on static and dynamic data management in AIXM environment, eAIP, digital NOTAM and quality management system. Other knowledge, skills and competencies are suggest be delivered by each Contracting State.

Further implementation of eTOD

14.6 The eTOD is safe for air navigation, efficient for PBN and ATM operations, useful for airport planning, and supports automation.

14.7 It was essential for States to establish a system to provide data that was compliant with the ICAO SARPs for all areas, although it would take some time. Obstacles for Area 1 shall meet the accuracy requirement provided by ICAO SARPs. For the time being, the data for Area 2 and Area 4 would be provided by prioritizing airports, firstly for the airports that were regularly used for international civil aviation and then for other airports. Furthermore, in order to achieve global eTOD exchange, States should create national or regional database to produce existing products and services with better quality and availability.

14.8 Main challenges for eTOD are costs, no or few training or supporting material, no clear allocation of responsibilities. For the matter of costs, States in CAR region should apply incremental approach, split/share the costs between stakeholders per area of responsibility and adopt competitive procurement process and negotiation. For the problem of no or few training or supporting material, regional workshops are expected to be delivered, experts (including from other regions) make presentations on eTOD, participants exchange experience and data providers present their offers. For no clear allocation of responsibilities, States in CAR region may provoke discussion; specific Task Force between regulators should address this point. Besides, qualification standards for data providers are necessary, national regulation may engage into its implementation.

15. RESEARCH AND FUTURE DEVELOPMENT

Co-operation on AIM Improvement

15.1 To develop the tools and systems required to meet foreseeable long-term requirements, there is a need for States to undertake and co-operate on AIM Improvement. This includes major efforts to define concepts, to extend knowledge and invent new solutions to future AIM challenges, so these new concepts are selected and applied in an appropriate timely manner. Such efforts could be forged through collaborative partnerships between States, ANSPs, International Organizations, institutes of higher learning and specialized technical agencies. This concept is consistent with Seamless ATM Principle (Inter-regional cooperation ('clustering') for the research, development and implementation of ATM projects).

Consideration of future AIM development

15.2 The following are possible areas that should be considered for future AIM development, in order to continue pursuance of Seamless ATM beyond ASBU Block 0 implementations and global interoperability.

- While the migration of text-based AIP information, eTOD and other static data into digital databases was relatively straightforward, the migration of conventional instrument approach and landing charts to a digital form presented a significant challenge. There was no current capability available for the automatic generation of conventional charts from digital data.
- Due to technical limitations, SIGMETs and NOTAMs are transmitted in a format that is not considered, by some, to be user-friendly (CAPTIAL LETTERS, MISSING STRUCTURE, etc). When the transmitted information includes long list of coordinates defining the affected area, it becomes a nightmare for aircrews to gain situational awareness on the position of the hazard.
- SIGMETs, NOTAMs and ASHTAMs are traditionally transmitted via alpha-numeric communication means which do not allow user-friendly presentation. It is recognized that these systems will have to be maintained for years to allow information flow to the low-end users, including aircraft in flight that do not have reception capability for graphical information, although advanced airspace users (e.g. large airlines) require the information in data formats that can be used in automated systems.
- Human factors are of key importance for Seamless ATM implementation. AIS Certification/Rating, AIS training documentation & facilitations, all need to be established and standardize.
- In order to provide quality assured data, safe and quick AIS service, effectively reduce AIS cost, we need to have Collaborative AIM Services in CAR region. Each Contracting State might be facing the same problems: cross-border AIS service lack consistency and compatibility, data quality is not consistent in CAR region, different data model and data exchange methods lead to the lack of system interoperability, too much manpower and material resources increase AIS service costs, etc.
- The establishment of an CAR AIS Database (CAD) is under consideration. This aeronautical information database will base on SARPS, AICM/AIXM, it may process static and dynamic data automatically, with system interoperation and in a centralized manner. The establishment of CAD may greatly enhance data availability, provide real-time, quality assured AIS service, and improve the effectiveness of AIS operations.

16. MILESTONES, PRIORITIES AND ACTIONS

Milestones

16.1 Section 7 (Performance Improvement Plan) provides milestones and timelines for a number of elements in Performance Improvement Plan Phase I, being effective in November 2020.

16.2 States should commence planning for AIM specifications detailed in the Performance Improvement Plan at the earliest opportunity before 2020 to facilitate a smooth transition by the onset of Phase I.

16.3 Subject to future agreement by concerned parties, Section 8 (Research and Future Development Possibilities) provides possible AIM improvements beyond 2020 until 2025.

Priorities

16.4 It is a matter for each State to determine priorities in accordance with its own economic, environmental, safety and administrative drivers.

Actions

16.5 This Plan necessitates a number of implementation actions. It is expected that each NACC State and Special Administrative Region and Territory develop AIM material as part of their Seamless ATM Implementation Planning based on applicable parts of the Implementation Guidance Material, and implementation progress be reported to APANPIRG.

16.6 APANPIRG and its contributory bodies, such as the ATM Sub-group and the CNS Sub-group are responsible for the oversight of air navigation issues within the NACC, so these bodies needed to be made aware of State implementation progress of Seamless ATM initiatives. APANPIRG and its contributory bodies need to manage the implementation of Seamless ATM through the ASBU framework and this Plan.

APPENDICES

Appendix 1: AIS-AIM Transition Table

Reference on WP 12 Appendix C (ANI WG 05)

Under preparation

Electronic AIP generated from a digital database of aeronautical information

= No reports since AIM TF -- xxx

= progress reported

= amended progress reported

Appendix 2: e-AIP

Under preparation

Appendix 3: Proposal structure of AIM Quality Management Manual of NACC Region

The proposal structure of AIM Quality Management Manual may include the following contents:

- 1. Introduction.** It is an authorization statement.
- 2. Change summary.** Version, date, details of changes, etc. should be included in this part.
- 3. Purpose of the AIM Quality Manual**
- 4. Scope.** This part should include vision and priorities of AIM.
- 5. Corporate overview.** This part should include corporate culture, organization structure, etc.
- 6. AIM Quality Management System (QMS).** This part should cover operating framework, regulatory and statutory, quality standards and framework, notification requirements and documentation (control of documents and control of records).
- 7. Management responsibilities.** This part should cover management commitment, customer focus, quality policy, planning, responsibilities, authority and communication, management review, etc.
- 8. Resource management.** The following contents should be covered in this part, provision of resources, human resources, infrastructure, work environment, etc.
- 9. Product realisation.** This part should include planning of product and service delivery, AIM process, customer communication, designed development, control of design, purchasing, customer property.
- 10. Measurement.** Customer satisfaction, internal audit/review, corrective action, preventive action and control of nonconforming product should be included in this part.
- 11. Improvement.** This part should include business improvement and performance, leadership model implementation strategy, management review, new staff induction and training, risk management, system enhancements, embracing new technology, etc.
- 12. Abbreviation and definition.** Terms and definitions used throughout this document.
- 13. Appendices.** Documents, for example, the contrast for ISO Clause and How the ISO standard has been met, should be covered in Appendixes.

Appendix 4: Structure of Agreement on data provision

AGREEMENT ON DATA PROVISION

between

[the name of the entity receiving the aeronautical data and/or aeronautical information];
(hereinafter "The Data Receiver")

and

[the name of the entity providing the aeronautical data and/or aeronautical information]
(hereinafter "The Data Provider")

1. Introduction

1.1 Scope

1.2 Parties to the Agreement

1.3 Legal and Regulatory Basis

1.4 A number of documents specify the legal and regulatory requirements for the origination, production, storage, handling, processing, transfer and distribution of aeronautical data and/or aeronautical information, they shall include but not exclusive the following Annexes:

- a. Annex 4 – Aeronautical Charts
- b. Annex 5 – Units of Measurement to be Used in Air and Ground Operations
- c. Annex 11 – Air Traffic Services
- d. Annex 15 – Aeronautical Information Services
- e. Annex 14 – Aerodromes

2. Services and Service Levels Required by Data Receiver

3. Requirements for Data Provider

3.1 Data Changes Management

Data Provider should follow the recommendations laid down in Chapter 6 of ICAO Annex 15 concerning the advance notice of major changes to the Data.

3.2 Data Compliance Requirement

3.3 Data Errors and/or Inconsistencies

4. Coordination, Training, Data Compliance Checking

When require, the above should be implemented between Data Provider and Data Receiver.

5 Entry into Force and Termination

5.1 This Agreement is valid from [enter validity from date] to [enter term date]

5.2 This Agreement entries into force on the date of the later signature of the Parties and shall remain in force for an indefinite period unless explicitly terminated by a signed agreement between the Parties.

For the Data Receiver

Name

Title

Date

Signature

For the Data Receiver

Name

Title

Date

Signature

Appendix – 5 Abbreviations and Acronyms

ABBREVIATIONS AND ACRONYMS

To facilitate readability, abbreviations have been largely omitted throughout the document. Most abbreviations were defined when introduced. The following provides an alphabetic listing of all abbreviations.

AAITF	AIS-AIM Implementation Task Force
AATIP	ASEAN Air Transport Integration Project
A-CDM	Airport Collaborative Decision Making
ADS-B	Automatic Dependent Surveillance - Broadcast
AI	Aeronautical Information
AIC	Aeronautical Information Circular
AICM	Aeronautical Information Conceptual Model
AIM	Aeronautical Information Management
AIP	Aeronautical Information Publication
AIXM	Aeronautical Information eXchange Model
AIP	Aeronautical Information Publication
AIS	Aeronautical Information Service
AIM	Aeronautical Information Management
AFTN	Aeronautical Fixed Telecommunication Network
AIXM	Aeronautical Information eXchange Model
AIRAC	Aeronautical Information Regulation and Circular
AMDB	Aeronautical Mapping Database
ANSP	Air Navigation Service Provider
AOC	Airline Operations Centre
APANPIRG	Asia Pacific Air Navigation Planning and Implementation Regional Group
ASBU	Aviation system Block Upgrades
ASEAN	Association of Southeast Asian Nations
ATFM	Air Traffic Flow Management
ATIS	Automatic Terminal Information Service

ATC	Air Traffic Control
ATM	Air Traffic Management
ATMRPP	Air Traffic Management Requirements and Performance Panel
ATSA-SURF	Enhanced Traffic Situational Awareness on the Airport Surface
CANSO	Civil Air Navigation Services Organization
CARATS	Collaborative Action for Renovation of Air Transport Systems
CCO	Continuous Climb Operations
CDM	Collaborative Decision Making
CDO	Continuous Descent Operations
CNS	Communication, Navigation, Surveillance
CRC	Cyclic redundancy check
DBMS	Database Management System
DSS	Decision Support System
eAIP	Electronic Aeronautical Information Publication
EFF	Electronic Flight Folder
EFOD	Electronic Filing of Differences
EUROCAE	European Council of Aerospace Engineering
ERAM	En-Route Automation Modernization
eTOD	Electronic Terrain and Obstacle Data
FMS	Flight Management System
GANP	Global Air Navigation Plan
GASP	Global Aviation Safety Plan
IATA	International Air Transportation Association
ICAO	International Civil Aviation Organization
IFATCA	International Federation of Air Traffic Control Association
IFAIMA	International Federation of AIM Associations

IFR	Instrument Flight Rules
IM	Information Management
IP	Internet Protocol
ISO	International Standards Organization
JAP	Joint Acceptance Plan
KPI	Key Performance Indicator
MET	Meteorological Services
METAR	Aerodrome Routine Meteorological Report
NAS	National Airspace System
NCLB	No Country Left Behind
NOTAM	Notice To Airmen
PAIMS	Preferred Aeronautical Information Management Specifications
PIB	Pre-flight Information Bulletin
QA	Quality Assurance
QMS	Quality Management System
SARP	Standards And Recommended Practices
SESAR	Single European Sky Air Traffic Management Research
SIGMET	Significant meteorological weather phenomena
SWIM	System Wide Information Management
TIS-B	Traffic Information Services – Broadcast
TBO	Trajectory Based Operations
WXXM	Weather eXchange Model
XML	eXtensible Markup Language

APÉNDICE D

TERMINOS DE REFERENCIA (ToR) DEL GRUPO DE TAREA PARA LA IMPLEMENTACIÓN DE LA GESTIÓN DE INFORMACIÓN AERONÁUTICA (AIM/TF)

1. Antecedentes

Durante la quinta reunión del ANI/WG, se acordó actualizar los Términos de referencia del Grupo de Trabajo para la Implementación AIM formado con el fin de apoyar y hacer más eficientes las actividades de implementación AIM de acuerdo con la Hoja de ruta para la transición del AIS al AIM de la OACI. Este Grupo de Tarea habrá de mejorar los procesos y la coordinación entre los Estados, Territorios y organizaciones internacionales de la Región CAR, así como, ofrecer a los grupos de planificación regionales y a los Estados, orientación práctica y asesoramiento para el desarrollo de las estrategias de implantación de la gestión de información aeronáutica. Por otra parte, proponer las tareas y actividades que han de realizarse y el calendario de implantación correspondiente, así como actualizar y notificar su avance al ANI/WG con base en el plan de acción para estas tareas.

2. Responsabilidades

El Grupo de Tarea es responsable de:

- a) Gestión del Programa de Trabajo AIM
- b) Apoyar a los Estados para que finalicen la transición a la AIM
- c) Apoyar a los Estados con la implementación de las Fases 1, 2 y 3 de la Hoja de Ruta de OACI, en preparación para el establecimiento de Gestión de la información de todo el sistema (SWIM), en consideración de AIM basada en performance
- d) Solicitar periódicamente a los Estados información datos que permitan elaborar estadísticas para monitorear su estado de implementación AIM en la Región CAR

3. Métodos de trabajo

El Grupo de Tarea:

- a) Presentará su programa de trabajo conteniendo actividades en términos de: objetivos, responsabilidades, resultados, entregables y tiempos
- b) Evitará la duplicación del trabajo dentro del ANI/WG y mantendrá estrecha coordinación entre las entidades ANS existentes para optimizar el uso de recursos y experiencia disponibles
- c) Designará si así lo considera Grupos Ad hoc para trabajar en temas y actividades específicas y organizar las tareas y actividades AIM claramente definidas
- d) Coordinará las tareas para maximizar eficiencia y reducir costos a través de medios electrónicos incluyendo e-mails, teléfono y teleconferencias, y convocará reuniones cuando sea necesario
- e) Notificará y coordinará el avance de las tareas asignadas al ANI/WG

**AIM TASKFORCE (AIM/TF) WORK PROGRAMME /
PROGRAMA DE TRABAJO DEL GRUPO DE TAREA AIM(AIM/TF)
2020-2022**

No	Activity Actividad	Objective Objetivo	Responsible Responsable	Deliverable Entregable	Date Fecha	Status Estado
1	<p>Coordinate activities such as Workshops and Seminars to train human resources in the interpretation and application of new Annex 15 SARPS from AMDt 40 and New PANS AIM and technological advances that provide the framework for an interoperable Global System.</p> <p>Coordinar actividades como Talleres y Seminarios para instruir al Recurso Humano en la interpretación y aplicación de nuevos SARPS del Anexo 15 AMDt 40 y del nuevo PANS AIM y avances tecnológicos que proporcionen el marco para un sistema mundial interoperable</p>	<p>Assist States, Territories and International Organizations with the process of transition to AIM, in order to implement ICAO standards to establish a harmonized operating environment performance-based</p> <p>Asistir a los Estados, Territorios y Organizaciones Internacionales con el proceso de transición a AIM, con el fin de implementar las Normas de la OACI para establecer un entorno operativo armonizado basado en el performance</p>	ICAO AIM/TF / OACI AIM/TF	Perform a Seminar or Workshop / Realizar Seminario o Taller	2020	In Progress/ En Progreso
2	<p>Encourage the adoption of cooperation agreements between NOTAM offices (NOF), and the update of contingency plans (for weather events and/or volcanic) in harmonization with ATM contingency plans</p> <p>Incentivar la adopción de convenios de cooperación entre oficinas NOTAM (NOF) y la actualización de planes de contingencia (por eventos climatológicos y/o vulcanológicos) en armonización con los planes de contingencia ATM</p>	<p>Develop AIM to support the Air traffic management operational concept; including NOTAM contingency plans</p> <p>Desarrollar AIM para apoyar el Concepto Operacional de Gestión del Tránsito Aéreo; incluyendo los planes de contingencia NOTAM</p>	ICAO AIM/TF / OACI AIM/TF	Generate support through reference RO NACC. ICAO/ Generar apoyo mediante referencia de OR NACC OACI	2020	In Progress/ En Progreso
3	<p>Consult the experience of States in the acquisition of integrated solutions to provide guidance and assistance to the States to implement a performance-based approach</p> <p>Consultar la experiencia de los Estados en la adquisición de soluciones integradas para brindar orientación y ayuda a los Estados para implementar un enfoque basado en performance</p>	<p>Ensure that AIM solutions should be harmonized and integrated at a regional and international level, in preparation for the SWIM implementation</p> <p>Asegurar que las soluciones AIM se armonicen e integren a nivel regional e internacional, en preparación para la implementación del SWIM</p>	ICAO AIM/TF / OACI AIM/TF	<p>Make consult through reference OR NACC ICAO</p> <p>Realizar consulta mediante referencia de OR NACC OACI</p>	2022	Valid / Valida

No	Activity Actividad	Objective Objetivo	Responsible Responsable	Deliverable Entregable	Date Fecha	Status Estado
4	<p>Coordinate activities such as Technical Assistance, Workshops and Seminars to train human resources in the eTOD topic</p> <p>Coordinar actividades como Asistencia Técnica, Talleres y Seminarios para instruir al Recurso Humano en el tema de eTOD</p>	<p>Share experiences and resources in the implementation of the eTOD through the establishment of an eTOD Regional Working Group</p> <p>Compartir experiencias y recursos con la implementación del eTOD a través del establecimiento de un Grupo de Trabajo Regional eTOD</p> <p>Implement technical ICAO Doc 9881 requirements, as required</p> <p>Implementar requerimientos técnicos del Doc 9881 de la OACI, según sea necesario</p>	ICAO AIM/TF / OACI AIM/TF	<p>Perform Assistance Seminars or Workshops /</p> <p>Realizar Asistencia Seminars o Talleres</p>	2022	Valid / Valida
5	<p>Develop a format for progress reports and propose it to the States/Territories/International Organizations</p> <p>Elaborar formato de avance de informes y proponerlo a los Estados/Territorios y Organizaciones Internacionales</p>	<p>Develop an agreement of high-level management of a nationwide eTOD programme</p> <p>Desarrollar un acuerdo de alto nivel para gestión de un programa nacional eTOD</p>	ICAO AIM/TF / OACI AIM/TF	Agreement format / Formato de acuerdo	2020	Valid/ Valida
6	<p>Develop a format for States/Territories/International Organizations to have basic AIM training as a standard for all AIM employees</p> <p>Elaborar formato y Guías para los Estados/Territorios y Organizaciones Internacionales para obtener la instrucción básica oficial para todo el personal de AIM</p>	<p>Assist States, Territories and International Organizations in their AIM Training implementation</p> <p>Asistir a los Estados, Territorios y Organizaciones Internacionales en la implementación de –la Instrucción de AIM</p>	ICAO AIM/TF / OACI AIM/TF	<p>Progress report format and Guidance Material /</p> <p>Formato de informe de avances y Material Guía</p>	2020	In Progress / En Progreso