draft Global Standardization Roadmap

Version 0.50

22nd of February 2013

Contents

Executive summary

This document aims at presenting the Aviation community with a Global Standardisation Roadmap facilitating the planning of standards development and enabling the monitoring of their development.

The standards required for each of the Block 0 and 1 modules of the Global Air Navigation Plan are listed per module.

Some "Overarching standards" are listed which are of general interest to many modules and not specific to an individual module or to a group of modules.

0-APTA/B0-65, 1-APTA/B1-65

Airport Operations – Airport Accessibility

Block 0	Block 1	Block 2	Block 3
Optimization of Approach Procedures including vertical guidance	Optimised Airport Accessibility		

ICAO Annex 6 -- TBD	FAA AC20-138 -- Upd. 2014		
ICAO Annex 10 -- Publ. <2013	ICAO Annex 6 -- Upd. TBD		
ICAO Doc. 8168 -- Publ. <2013	ICAO Annex 10 -- Upd. 2014		
	ICAO Annex 11 -- Upd. 2014		
	ICAO Doc. 4444 -- Upd. 2014		
	ICAO Doc. 9613 -- Upd. 2014		
	ICAO Doc. 8168 -- Upd. TBD		
	-- TBD		

Module #	Standard title	Date of availability	Organisation	Action	Status
B0-65	Annex 6 Operation of Aircraft	TBD	ICAO	0	N/A
B0-65	Annex 10 - Aeronautical Telecommunications, Volume I - Radio Navigation Aids	<2013	ICAO	Publ.	N/A
B0-65	Doc. 8168, PANS OPS - Aircraft Operations	<2013	ICAO	Publ.	N/A
B1-65	AC20-138, TSO-C129/145/146	2014	FAA	Upd.	
B1-65	Annex 6 Operation of Aircraft	TBD	ICAO	Upd.	
B1-65	Annex 10 Aeronautical Telecommunications	2014	ICAO	Upd.	
B1-65	Annex 11 Air Traffic Services	2014	ICAO	Upd.	
B1-65	Doc. 4444 PANS ATM	2014	ICAO	Upd.	
B1-65	Doc. 9613 Performance Based Navigation Manual	2014	ICAO	Upd.	
B1-65	Doc 8168, PANS OPS - Aircraft Operations	TBD	ICAO	Upd.	0
B1-65	Glonass and other system accomodation into the avionics (potential work item depending on the outcome of ICAO action in follow up to ANC-12 discussion)	TBD	EUROCAE/RTCA	0	0

0-WAKE/B0-70, 1-WAKE/B1-70

Airport Operations – Wake Turbulence Separation

Block 0	Block 1	Block 2	Block 3
Increased Runway Throughput through Optimized Wake Turbulence Separation	Increased Runway Throughput through Dynamic Wake Turbulence Separation	Advanced Wake Turbulence Separation (Time-based)	

ICAO Annex 11 -- Upd. TBD	ICAO Doc. 4444 -- Upd. 2018		
ICAO Doc. 4444 -- Upd. 2013	ICAO Doc. 9426 -- Upd. 2018		
ICAO Doc. 9426 -- Upd. 2013			
FAA FAA Order 7110.308 -- Upd. 2013			
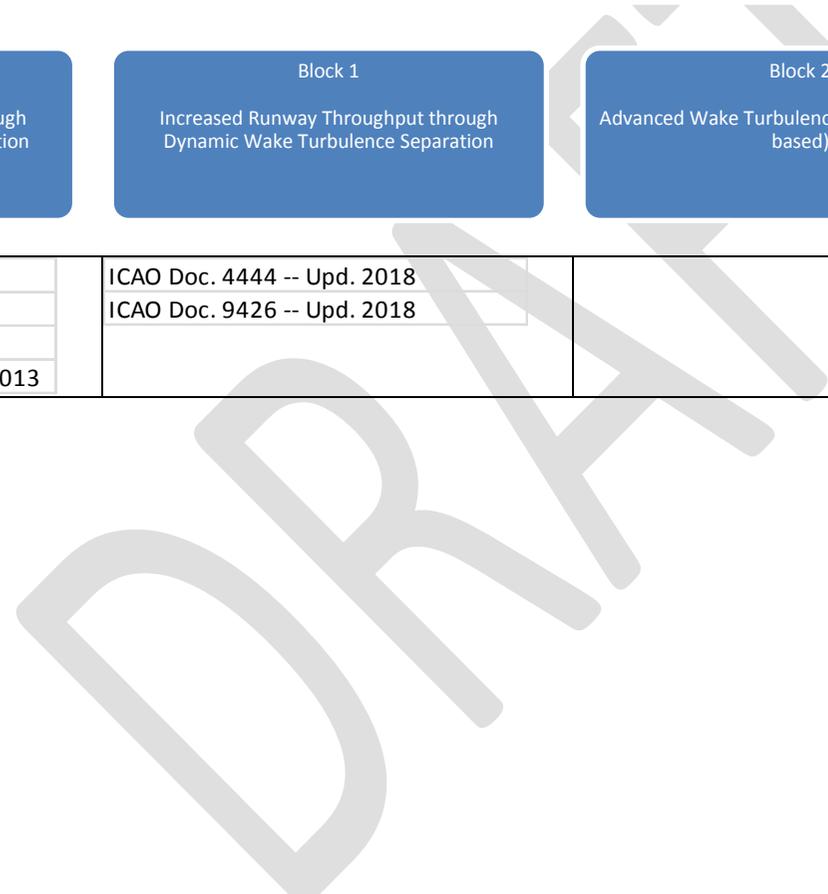
Module #	Standard title	Date of availability	Organisation	Action	Status
B0-70	Annex 11 - Air Traffic Services	TBD	ICAO	Upd.	
B0-70	Doc. 4444 PANS ATM	2013	ICAO	Upd.	
B0-70	Doc. 9426, Air Traffic Services Planning Manual	2013	ICAO	Upd.	
B0-70	FAA Order 7110.308	2013	FAA	Upd.	
B1-70	Doc. 4444 PANS ATM	2018	ICAO	Upd.	
B1-70	Doc. 9426 Air Traffic Services Planning Manual	2018	ICAO	Upd.	

0-ADMN/B0-15, 1-ADMN/B1-15

Airport Operations – AMAN/DMAN

| Block 0	Block 1	Block 2	Block 3
Improve Traffic flow through Runway Sequencing (AMAN/DMAN)	Improved Airport operations through Departure, Surface and Arrival Management	Linked AMAN/DMAN	Integration AMAN/DMAN/SMAN

	ICAO Doc. 4444 -- Upd. 2018		
	ICAO Manual -- TBD		
	ICAO Doc. 9830 -- TBD		
	ICAO Doc. 9426 -- Upd. 2018		
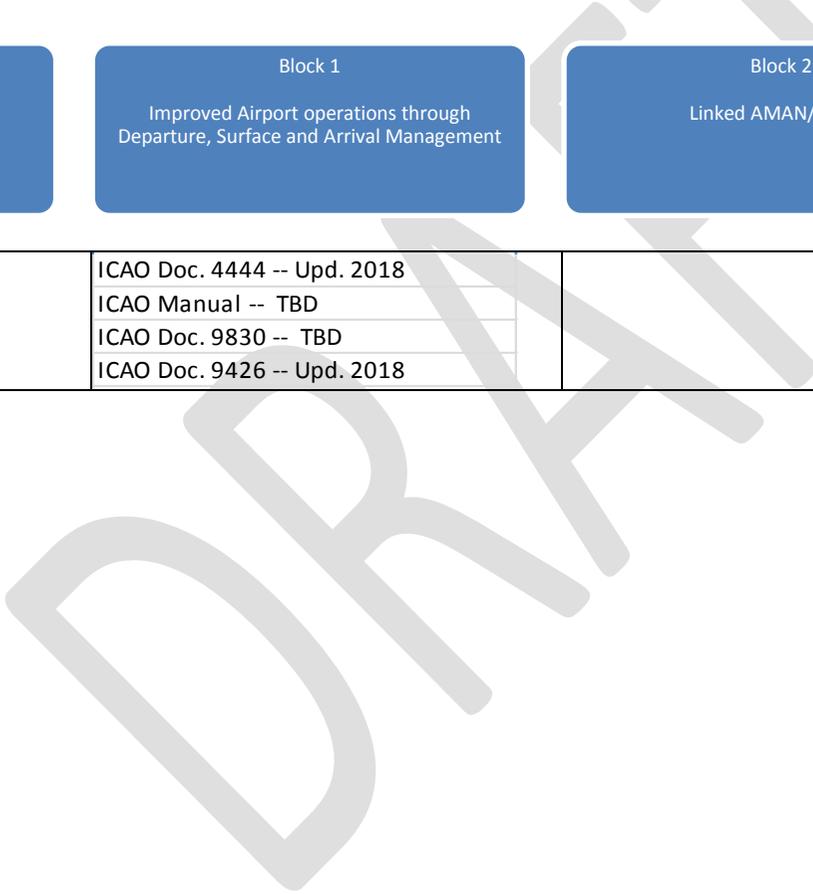
Module #	Standard title	Date of availability	Organisation	Action	Status
B1-15	Doc. 4444 PANS ATM	2018	ICAO	Upd.	
B1-15	Guidance Manual on Airport Traffic Synchronisation	TBD	ICAO	0	0
B1-15	Doc. 9830, Advanced Surface Movement Guidance and Control Systems (A-SMGCS) Manual	TBD	ICAO	0	0
B1-15	Doc. 9426 Air Traffic Services Planning Manual	2018	ICAO	Upd.	

0-SOPS/B0-75, 1-SOPS/B1-75

Airport Operations – Surface Operations

Block 0	Block 1	Block 2	Block 3
Safety and Efficiency of Surface Operations (A-SMGCS Level 1-2)	Enhanced Safety and Efficiency of Surface Operations – SURF, SURF-IA and Enhanced Vision Systems (EVS)	Optimized Surface Routing and Safety Benefits (A-SMGCS Level 3-4 and SVS)	

FAA FAA Order 7110.308 -- Upd. 2013	ICAO Doc. 9924 -- Publ. <2013		
ICAO Doc. 4444 -- Upd. 2018	ICAO Doc. 4444 -- Publ. <2013		
ICAO Doc. 9426 -- Upd. 2018	EUROCAE ED 163 -- Publ. <2013		
FAA AC120-28D -- Publ. <2013	ICAO Annex 10 -- Upd. 2015		
FAA AC120-57A -- Publ. <2013	ICAO Annex 11 -- Upd. 2015		
FAA AC120-86 -- Publ. <2013	RTCA DO-323 -- Upd. 2015		
A/D Map -- Publ. <2013	ICAO Doc. 4444 -- Upd. 2015		
ADS-B Avionics -- Publ. <2013	ICAO Doc. 9168 -- Upd. 2015		
EC CS A-SMGCS -- Publ. <2013	ICAO Doc. 9994 -- Upd. 2015		
ICAO Doc. 7030 -- Publ. <2013	ICAO Annex 14 -- Upd. TBD		
ICAO Doc. 7030 -- Publ. <2013			
ICAO Doc. 9830 -- Publ. <2013			
ICAO Doc. 9871 -- Publ. <2013			

Module #	Standard title	Date of availability	Organisation	Action	Status
B0-75	AC120-28D Criteria for approval of Category III Weather Minima for Take-off, Landing, and Rollout	<2013	FAA	Publ.	N/A
B0-75	AC120-57A Surface Movement Guidance and Control System	<2013	FAA	Publ.	N/A
B0-75	AC120-86 Aircraft Surveillance Systems and Applications	<2013	FAA	Publ.	N/A
B0-75	Aerodrome map standards developed by RTCA SC-217/Eurocae WG-44	<2013	EUROCAE/RTCA	Publ.	N/A
B0-75	Avionics standards developed by RTCA SC-186/Eurocae WG-51 for ADS-B	<2013	EUROCAE/RTCA	Publ.	N/A
B0-75	Community Specification on A-SMGCS Levels 1 and 2	<2013	EC	Publ.	N/A
B0-75	Doc. 7030, Regional Supplementary Procedures (EUR SUPPS)	<2013	ICAO	Publ.	N/A
B0-75	Doc. 7030/5, (EUR/NAT) Regional Supplementary Procedures, Section 6.5.6 and 6.5.7	<2013	ICAO	Publ.	N/A
B0-75	Doc. 9830, Advanced Surface Movement Guidance and Control Systems (A-SMGCS) Manual	<2013	ICAO	Publ.	N/A
B0-75	Doc. 9871, Technical Provisions for Mode S Services and Extended Squitter	<2013	ICAO	Publ.	N/A
B0-75	Doc. 9924, Aeronautical Surveillance Manual	<2013	ICAO	Publ.	N/A
B0-75	Doc.4444, PANS ATM	<2013	ICAO	Publ.	N/A
B0-75	ED 163 Safety, Performance and Interoperability Requirements document for ADS-B Airport Surface surveillance application (ADS-B APT)	<2013	EUROCAE	Publ.	N/A
B1-75	Annex 10 Aeronautical Telecommunications	2015	ICAO	Upd.	
B1-75	Annex 11 Air Traffic Services	2015	ICAO	Upd.	
B1-75	DO-323 (SURF IA SPR/INTEROP)	2015	RTCA	Upd.	
B1-75	Doc. 4444 PANS ATM (SURF IA)	2015	ICAO	Upd.	
B1-75	Doc. 9168 PANS OPS (SURF IA)	2015	ICAO	Upd.	
B1-75	Doc 9994 Manual on Airborne Surveillance Applications	2015	ICAO	Upd.	Not Started
B1-75	Annex 14	TBD	ICAO	Upd.	0
B1-75	ED-165 / DO-322	TBD	EUROCAE/RTCA	0	0
B1-75	ED-194/DO-317A, MOPS for Aircraft Surveillance Applications (ASA) System	TBD	EUROCAE/RTCA	0	0
B1-75	ED-179/DO-315B	TBD	EUROCAE/RTCA	0	0

0-CDM/B0-80, 1-CDM/B1-80

Airport Operations – Airport Collaborative Decision Making

Block 0	Block 1	Block 2	Block 3
Improved Airport Operations through Airport-CDM	Optimized Airport Operations through A-CDM Total Airport Management		

ED-165 / DO-322 -- TBD	ED-179/DO-315 -- TBD		
ED-194/DO-317A -- TBD	ICAO CDM Manual -- 2013		
	ICAO Doc. 4444 -- 2013		
	ICAO Doc 9971 -- TBD		

Module #	Standard title	Date of availability	Organisation	Action	Status
B0-80	CDM Manual	2013	ICAO		
B0-80	Doc.4444, PANS ATM	2013	ICAO		
B1-80	Doc 9971	TBD	ICAO	0	0
B1-80	AIXM	TBD	ICAO	Upd.	0
B1-80	WXXM	TBD	ICAO	0	0
B1-80	FIXM 3.0	2014	ICAO	New	0

1-RTWR/B1-81

Airport Operations – Remote Aerodrome Control Towers

Block 0	Block 1	Block 2	Block 3
	Remotely Operated Aerodrome Control		

	ICAO Doc 9426 -- TBD ICAO Doc. 4444 -- TBD		
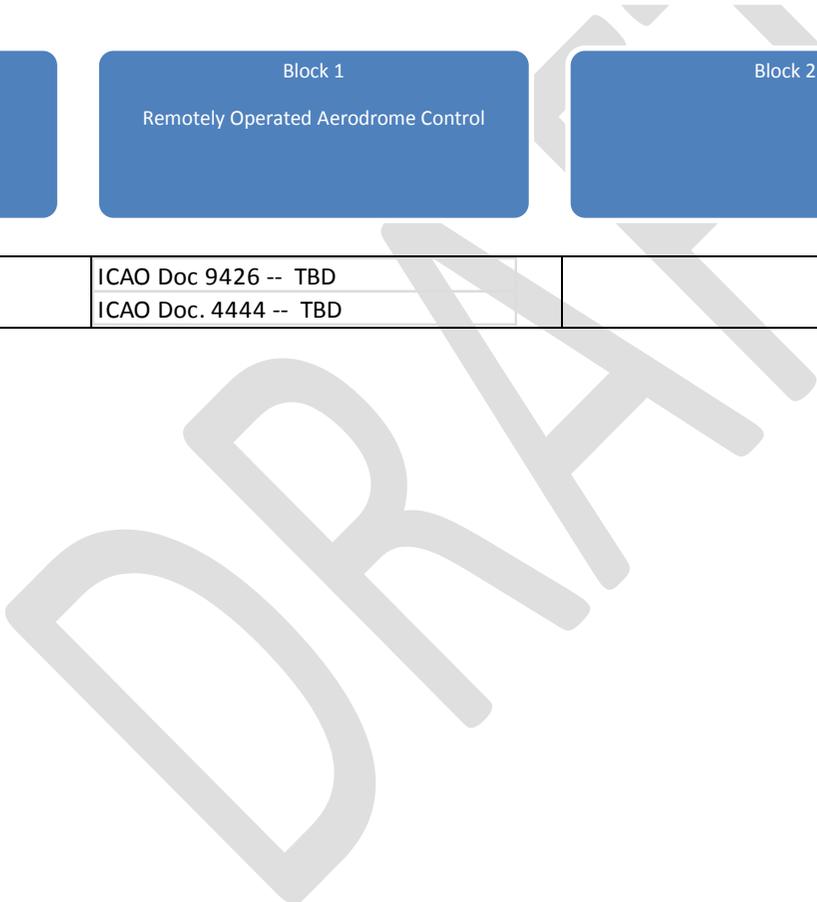
Module #	Standard title	Date of availability	Organisation	Action	Status
B1-81	Doc 9426	TBD	ICAO	0	0
B1-81	Doc 4444 PANS ATM	TBD	ICAO	0	0

0-FICE/B0-25, 1-FICE/B1-25

Globally Interoperable Systems & Data – FF-ICE

Block 0	Block 1	Block 2	Block 3
Increased Interoperability Efficiency & Capacity through Ground-Ground Integration	Increased Interoparability, Efficiency & Capacity through FF-ICE/1 application before Departure	Improved Coordination through Multicenter Ground-Ground Integration: FF-ICE/1 & Flight Object, SWIM	Improved Operational Performance through the introduction of Full FF-ICE

ICAO Doc. 4444 -- Publ. <2013	EUROCAE ED-133 -- Upd. 2016		
ICAO Doc. 9880 -- Publ. <2013	ICAO FIXM 3.0 -- New 2014		
	ICAO FF-ICE SARPs -- Upd. 2015		

Module #	Standard title	Date of availability	Organisation	Action	Status
B0-25	Doc. 4444, PANS ATM, Appendix 6 - ATS Interfacility Data Communications (AIDC) Messages	<2013	ICAO	Publ.	N/A
B0-25	Doc. 9880, Manual on Detailed Technical Specifications for the Aeronautical Telecommunication Network (ATN) using ISO/OSI Standards and Protocols, Part II — Ground-Ground Applications — Air Traffic Services Message Handling Services (ATSMHS).	<2013	ICAO	Publ.	N/A
B1-25	ED-133 Flight Object Interoperability Specification	2016	EUROCAE	Upd.	Not Started
B1-25	FIXM 3.0	2014	ICAO	New	0
B1-25	FF-ICE SARPs	2015	ICAO	Upd.	

0-DAIM/B0-30, 1-DAIM/B1-30

Globally Interoperable Systems & Data – Digital Aeronautical Information Management

Block 0	Block 1	Block 2	Block 3
Service Improvement through Digital Aeronautical Information Management	Service Improvement through Integration of all Digital ATM Information		

ICAO Doc. 9697 -- TBD	ICAO PANS AIM -- New 2016		
ICAO Annex 4 -- TBD	ICAO Doc. 8126 -- TBD		
ICAO Annex 15 -- Publ. <2013			
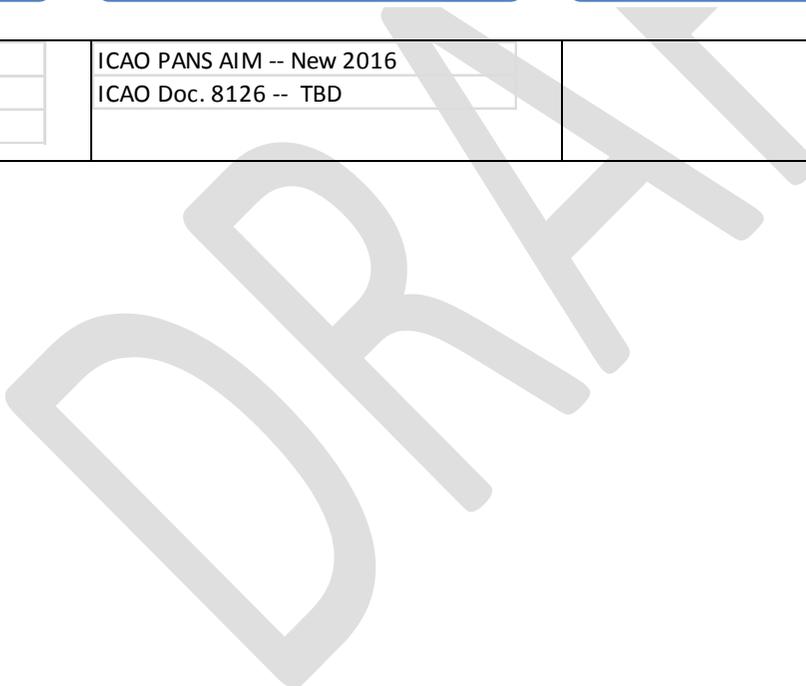
Module #	Standard title	Date of availability	Organisation	Action	Status
B0-30	Doc. 9697	TBD	ICAO	0	0
B0-30	Annex 4 - Aeronautical charts	TBD	ICAO	0	0
B0-30	Annex 15 - Aeronautical Information Services	<2013	ICAO	Publ.	N/A
B1-30	PANS AIM	2016	ICAO	New	N/A
B1-30	Doc. 8126 Aeronautical Information Services Manual	TBD	ICAO	0	0

1-SWIM/B1-31

Globally Interoperable Systems & Data – System-Wide Information Management

Block 0	Block 1	Block 2	Block 3
	Performance Improvement through the application of System-Wide Information Management (SWIM)	Enabling Airborne Participation in collaborative ATM through SWIM	

	EUROCAE ED-133 -- Upd. 2018		
	ICAO -- New 2014		
	WMO WXXM -- New 2018		
	ICAO AIXM -- Upd. TBD		

Module #	Standard title	Date of availability	Organisation	Action	Status
B1-31	ED-133 Flight Object Interoperability Specification	2018	EUROCAE	Upd.	Not Started
B1-31	FIXM 3.0	2014	ICAO	New	
B1-31	WXXM	2018	WMO	New	
B1-31	AIXM	TBD	ICAO	Upd.	0

0-AMET/B0-105, 1-AMET/B1-105

Globally Interoperable Systems & Data – Improved Meteorological Information

Block 0	Block 1	Block 2	Block 3
Meteorological information supporting enhanced operational efficiency and safety	Enhanced Operational Decisions through Integrated Meteorological Information (Planning and Near-term Service)		Enhanced Operational Decisions through Integrated Meteorological Information (Near-term and Immediate Service)

ICAO Annex 3 -- Publ. <2013	ICAO SARPs -- Upd. 2018		
	WMO WXXM -- New 2018		
	ICAO Doc. 9776 -- Upd. 2018		
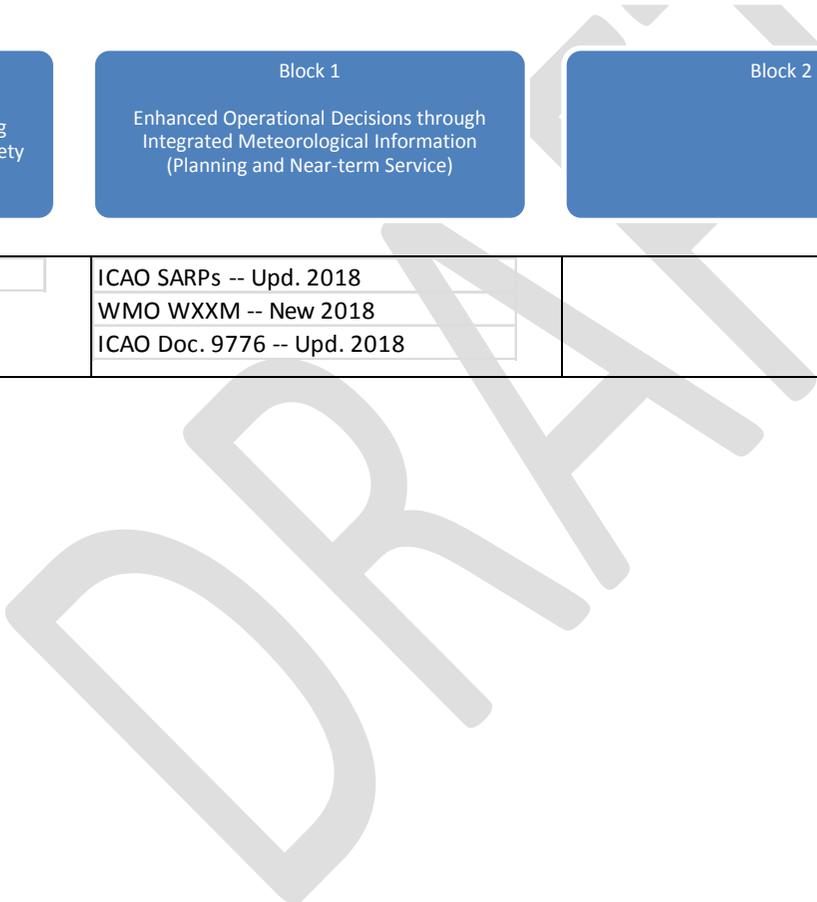
Module #	Standard title	Date of availability	Organisation	Action	Status
B0-105	Annex 3 Meteorological Service for International Air Navigation	<2013	ICAO	Publ.	
B1-105	ICAO SARPs	2018	ICAO	Upd.	N/A
B1-105	WXXM	2018	WMO	New	
B1-105	Doc. 9776 - Manual on VDL Mode 2 Technical Specifications	2018	ICAO	Upd.	

0-FRRT/B0-10, 1-FRRT/B1-10

Optimum Capacity and Flexible Flights – Free Routing

Block 0 Improved Operations through Enhanced En-Route Trajectories	Block 1 Improved Operations through Optimized ATS Routing	Block 2 Traffic Complexity Management	Block 3
ICAO Doc. 8168 -- Publ. <2013	ICAO Doc. 9426 -- Publ. <2013 RTCA DO-283A -- Upd. 2013 RTCA TSO-C115 -- Upd. 2013 FAA ACxx-xxx -- New TBD EASA AMCyy-yy -- TBD ICAO Doc. 4444 -- New <2013 ICAO Doc. 9689 -- Publ. <2013 ICAO Doc. 9613 -- Upd. <2013 ICAO Doc. 9554 -- Publ. <2013		

Module #	Standard title	Date of availability	Organisation	Action	Status
B0-10	Doc. 4444 PANS ATM - Chapter 5	<2013	ICAO	Publ.	N/A
B1-10	Doc. 9426 Air Traffic Services Planning Manual	<2013	ICAO	Publ.	N/A
B1-10	DO-283A, MOPS for Required Navigation Performance for Area Navigation	2013	RTCA	Upd.	Started
B1-10	TSO-C115	2013	RTCA	Upd.	Not Started
B1-10	ACxx-xxx	TBD	FAA	New	Not Started
B1-10	AMCyy-yy	TBD	EASA	0	0
B1-10	Doc. 4444 PANS ATM, PBN Separation Standards	<2013	ICAO	New	Not Started
B1-10	Doc. 9689 Manual on Airspace Planning Methodology for the Determination of Separation Minima	<2013	ICAO	Publ.	N/A
B1-10	Doc. 9613 Performance-based (PBN) Navigation Manual	<2013	ICAO	Upd.	Not Started
B1-10	Doc. 9554 Manual Concerning Safety Measures relating to Military Activities Potentially Hazardous to Civil Aircraft Operations	<2013	ICAO	Publ.	N/A

0-NOPM/B0-35, 1-NOPM/B1-35

Optimum Capacity and Flexible Flights – Network Operations

Block 0	Block 1	Block 2	Block 3
Improved Flow Performance through Planning based on a Network-Wide view	Enhanced Flow Performance through Network Operational Planning	Increased user involvement in the dynamic utilization of the network	
ICAO Annex 10 -- Publ. <2013	ICAO Doc. 9871 -- Publ. <2013		

Module #	Standard title	Date of availability	Organisation	Action	Status
B0-35	ATFM Manual	<2013	ICAO	New	
B1-35	Doc. 4444 PANS ATM	<2013	ICAO	Upd.	

0-ISUR/B0-84

Optimum Capacity and Flexible Flights – Initial Surveillance

Block 0	Block 1	Block 2	Block 3
Improved Flow Performance through Planning based on a Network-Wide view			

ICAO Doc. 4444 -- Publ. <2013			
DO260/ED102 -- Publ. <2013			
DO260A/ED102A -- Publ. <2013			
ICAO Doc. 8168 -- Upd. 2014			
ICAO Annex 6 -- Upd. TBD			

| Module #	Standard title	Date of availability	Organisation	Action	Status
B0-84	ICAO Annex 10 — Aeronautical Telecommunications, Volume IV - Aeronautical Radio Frequency Spectrum Utilization	<2013	ICAO	Publ.	N/A
B0-84	Doc. 9871 Technical Provisions for Mode S Services and Extended Squitter	<2013	ICAO	Publ.	N/A
B0-84	Doc. 4444 PANS ATM	<2013	ICAO	Publ.	N/A
B0-84	DO260/ED102 MOPS for 1090 MHz Automatic Dependent Surveillance – Broadcast (ADS-B)	<2013	EUROCAE/RTCA	Publ.	N/A
B0-84	DO260A/ED102A MOPS for 1090 MHz Extended Squitter Automatic Dependent Surveillance – Broadcast (ADS-B) and Traffic Information Services – Broadcast (TIS-B)	<2013	EUROCAE/RTCA	Publ.	N/A

0-ASEP/B0-85, 1-ASEP/B1-85

Optimum Capacity and Flexible Flights – Airborne Separation

Block 0	Block 1	Block 2	Block 3
Air Traffic Situational Awareness (ATSA)	Increased Capacity and Efficiency through Interval Management	Airborne Separation (ASEP)	Airborne Self-Separation (SSEP)

ICAO Annex 10 -- Upd. 2014	ICAO Doc. 4444 -- TBD 2015		
	ICAO Doc. 9168 -- TBD 2015		
	ED-160/DO-314 -- Publ. <2013		
	ED-164/DO-319 -- Publ. <2013		

Module #	Standard title	Date of availability	Organisation	Action	Status
B0-85	Doc. 8168, PANS OPS - Aircraft Operations	2014	ICAO	Upd.	0
B1-85	Annex 6 Operation of Aircraft	TBD	ICAO	Upd.	
B1-85	Annex 10 Aeronautical Telecommunications to include Flight Deck Interval Management	2014	ICAO	Upd.	
B1-85	Doc. 4444 PANS ATM	2015	ICAO	TBD	0
B1-85	Doc. 9168 PANS OPS	2015	ICAO	TBD	0
B0-85	ED-160/DO-314, Safety, Performance and Interoperability Requirements Document for Enhanced Visual Separation on Approach (ATSA-VSA)	<2013	EUROCAE/RTCA	Publ.	N/A
B0-85	ED-164/DO-319, Safety, Performance and Interoperability Requirements Document for Enhanced Traffic Situational Awareness During Flight Operations (ATSA-AIRB)	<2013	EUROCAE/RTCA	Publ.	N/A
B0-85	ED-194/DO-317A, MOPS for Aircraft Surveillance Applications (ASA) System	<2013	EUROCAE/RTCA	Publ.	N/A
B1-85	Doc 9994 Manual on Airborne Surveillance Applications	2015	ICAO	Upd.	Not Started
B1-85	DO-317Brev/ED194rev ASA MOPS will be updated to include Flight Deck Interval Management equipment standards (anticipate C for FIM)	2013	EUROCAE/RTCA	Upd.	Not Started
B1-85	ED195/DO-328, Safety, Performance and Interoperability Requirements Document for Airborne Spacing – Flight Deck Interval Management (ASPA-FIM)	2013	EUROCAE/RTCA	TBD	N/A
B1-85	DO-xxx/ED-yyy Enhanced CPDLC Message set per SC214/WG78	2014	EUROCAE/RTCA	New	

0-OPFL/B0-86

Optimum Capacity and Flexible Flights – Optimum Flight Levels

Block 0	Block 1	Block 2	Block 3
Improved Access to Optimum Flight Levels through Climb/Descent Procedures using ADS-B			

ICAO ITP circular -- New 2014			
ICAO Doc. 9994 -- New 2014			
ED-159/DO-312 -- 2012			
EUROCONTROL -- 2012 ?			
ICAO Annex 10 -- Publ. <2013			
ICAO Annex 6 -- Publ. <2013			
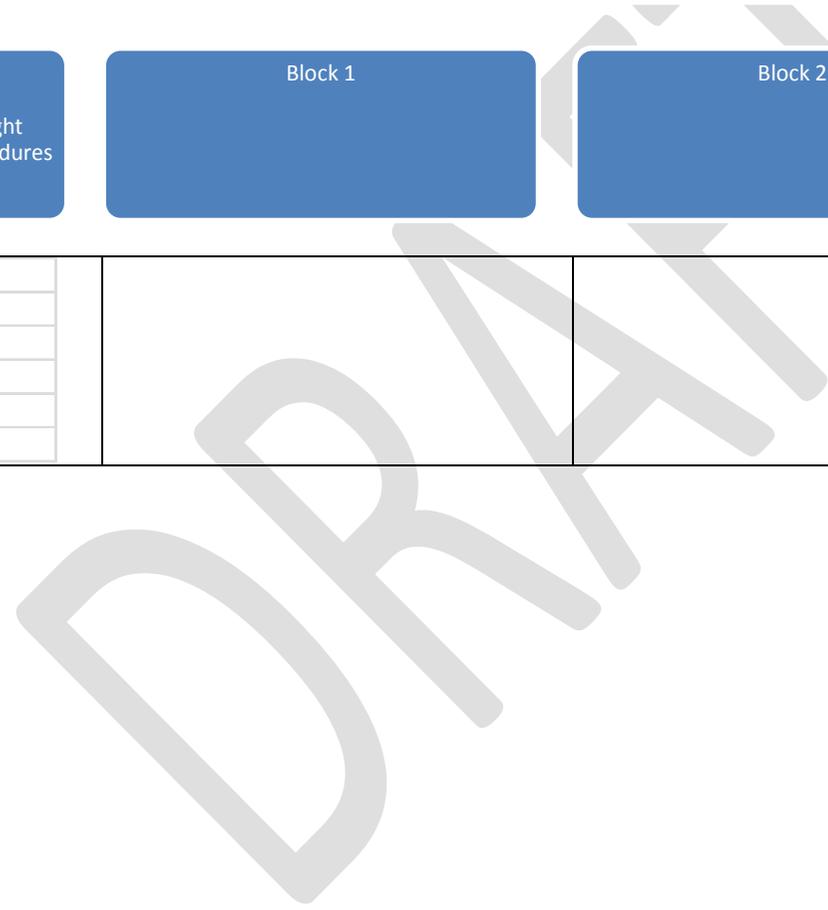
Module #	Standard title	Date of availability	Organisation	Action	Status
B0-86	Doc. 9880 Manual on Detailed Technical Specifications for the Aeronautical Telecommunication Network (ATN) using ISO/OSI Standards and Protocols, Part II — Ground-Ground Applications — Air Traffic Services Message Handling Services (ATSMHS).	2010	ICAO	Publ.	
B0-86	Doc. 4444 PANS ATM ITP	2014	ICAO	Upd.	0
B0-86	ITP circular	2014	ICAO	New	0
B0-86	Doc 9994 Manual on Airborne Surveillance Applications	2014	ICAO	New	0
B0-86	ED-159/DO-312 -Safety, Performance and Interoperability Requirements Document for the In-trail Procedure in Oceanic Airspace (ATSA-ITP) Applicationǁ.	2012	EUROCAE/RTCA		0
B0-86	EUROCONTROL ATSAW Deployment Plan(draft)	2012 ?	EUROCONTROL		

0-ACAS/B0-101

Optimum Capacity and Flexible Flights – Airborne Collision Avoidance System

Block 0 ACAS improvements	Block 1	Block 2 New Collision Avoidance System	Block 3
ICAO Doc. 4444 -- Publ. <2013			
ICAO Doc. 8168 -- Publ. <2013			
ICAO Doc. 8168 -- Upd. 2014			
ICAO Doc. 9863 -- Upd. 2014			
RTCA DO-325 -- Publ. <2013			
ED-143/DO-185B -- Publ. <2013			
ED-143/DO-185B TCAS II -- Publ. <2013			
ICAO Doc. 4444 -- Publ. <2013			
EUROCONTROL Spec. -- Publ. <2013			

Module #	Standard title	Date of availability	Organisation	Action	Status
B0-101	Annex 10 - Aeronautical Telecommunications, Volume IV - Surveillance Radar and Collision Avoidance Systems (Including Amendment 85- July 2010)	<2013	ICAO	Publ.	N/A
B0-101	Annex 6 Operation of Aircraft, Part I - International Commercial Air Transport — Aeroplanes	<2013	ICAO	Publ.	N/A
B0-101	Doc. 4444 PANS ATM	<2013	ICAO	Publ.	N/A
B0-101	Doc. 8168, PANS OPS, Volume I - Flight.	<2013	ICAO	Publ.	N/A
B0-101	Doc. 8168, PANS OPS, Volume I - Flight.	2014	ICAO	Upd.	Started
B0-101	Doc. 9863 ACAS Manual	2014	ICAO	Upd.	Started
B0-101	DO-325, Minimum Operational Performance Standards (MOPS) for Automatic Flight Guidance and Control Systems and Equipment. Appendix C estimated 2013	<2013	RTCA	Publ.	N/A
B0-101	ED-143/DO-185B, Minimum Operational Performance Standards for Traffic Alert and Collision Avoidance System	<2013	EUROCAE/RTCA	Publ.	N/A
B0-101	ED-143/DO-185B, Minimum Operational Performance Standards for Traffic Alert and Collision Avoidance System II (TCAS II)	<2013	EUROCAE/RTCA	Publ.	N/A

0-SNET/B0-102, 1-SNET/B1-102

Optimum Capacity and Flexible Flights – Ground-Based Safety Nets

Block 0	Block 1	Block 2	Block 3
Increased effectiveness of ground-based safety nets	Ground-based Safety Nets on Approach	New Collision Avoidance System	

ICAO Manual -- New 2015?	ICAO Doc. 4444 -- Publ. <2013		
ICAO Doc. 4444 -- Upd. 2015	ICAO Doc. 9426 -- Publ. <2013		
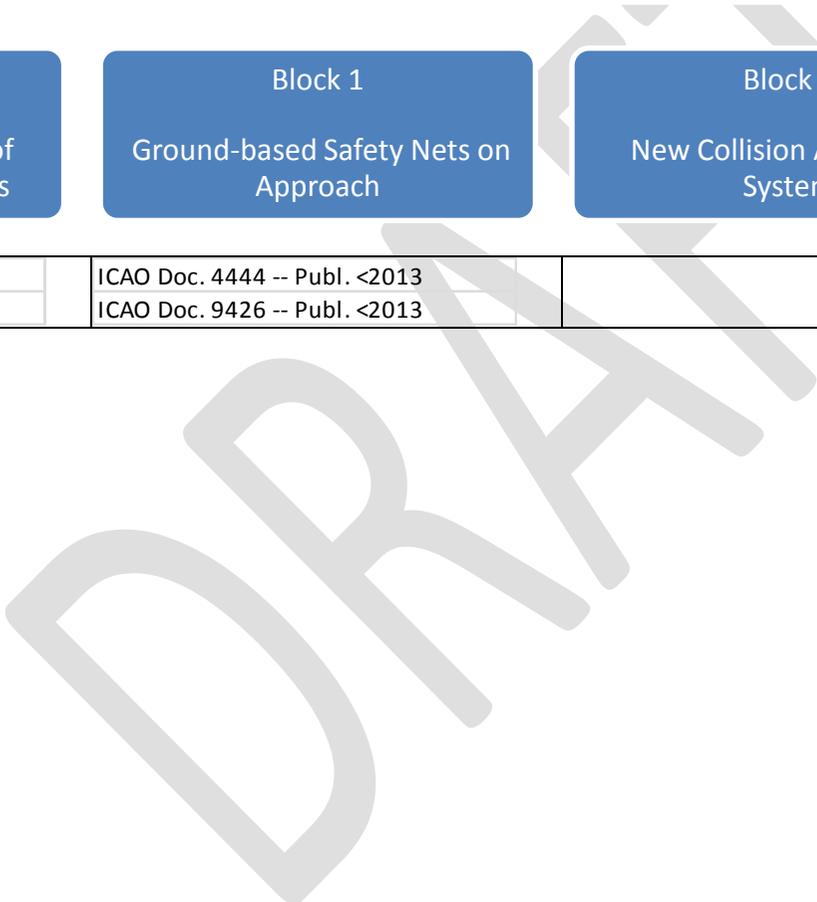
Module #	Standard title	Date of availability	Organisation	Action	Status
B0-102	Doc 4444 PANS ATM, paragraphs 15.7.2 and 15.7.4	<2013	ICAO	Publ.	N/A
B0-102	EUROCONTROL Specifications for STCA , APW, MSAW and APM	<2013	EUROCONTROL	Publ.	N/A
B1-102	Manual - ground based safety nets ??	2015?	ICAO	New	Not Started
B1-102	Doc 4444 PANS ATM, paragraphs 15.7.2 and 15.7.4 (to be reviewed and complemented)	2015	ICAO	Upd.	

0-CDO/B0-05, 1-CDO/B1-05

Efficient Flight Path – Continuous Descent Operations

Block 0	Block 1	Block 2	Block 3
Improved Flexibility and Efficiency in Descent Profiles (CDO)	Improved Flexibility and Efficiency in Descent Profiles (CDO) using VNAV	Improved Flexibility and Efficiency in Descent Profiles (CDOs) using VNAV, required speed and time at arrival	Full 4D Trajectory-based Operations

Block 0	Block 1	Block 2	Block 3
ICAO Doc. 4444 -- Upd. <2013	ARINC ARINC 424 -- Upd. TBD		
ICAO Doc. 8168 -- Publ. <2013	RTCA -- TBD TBD		
ICAO Doc. 9931 -- Publ. <2013	RTCA -- TBD TBD		
	ICAO -- TBD TBD		
	TBD -- TBD TBD		
	FAA AC20-138C / AC20-129 -- TBD 2018		
	EASA AMC20-27 -- TBD 2018		
	RTCA DO-229D -- TBD 2018		
	RTCA DO236B -- TBD 2018		
	RTCA DO-283A -- TBD 2018		
	ICAO Doc. 9931 -- TBD <2013		
	ED-75Brev/DO-236Brev -- Upd. TBD		

Module #	Standard title	Date of availability	Organisation	Action	Status
B0-05	Doc. 4444 PANS ATM	<2013	ICAO	Upd.	Not Started
B0-05	Doc. 8168 PANS OPS	<2013	ICAO	Publ.	N/A
B0-05	Doc. 9931 Continuous Descent Operations (CDO) Manual	<2013	ICAO	Publ.	N/A
B1-05	ARINC 424 Standard	TBD	ARINC	Upd.	Not Started
B1-05	Standards for 4D capable ATM Systems	TBD	RTCA	TBD	Not Started
B1-05	Standards for 4D Capable aircraft avionics	TBD	RTCA	TBD	Not Started
B1-05	Standards for Pilot and ATCO Training for 4D Operations	TBD	ICAO	TBD	Not Started
B1-05	FMS Functionality / Database constraints	TBD	TBD	TBD	Not Started
B1-05	AC20-138C / AC20-129 credit?	2018	FAA	TBD	N/A
B1-05	AMC20-27	2018	EASA	TBD	N/A
B1-05	DO-229D, MOPS for Global Positioning System/Wide Area Augmentation System Airborne Equipment	2018	RTCA	TBD	N/A
B1-05	DO-236B, MASPS Required Navigation Performance for Area Navigation	2018	RTCA	TBD	N/A
B1-05	DO-283A, MOPS for Required Navigation Performance for Area Navigation	2018	RTCA	TBD	N/A
B1-05	Doc. 9931 Continuous Descent Operations (CDO) Manual	<2013	ICAO	TBD	N/A
B1-05	ED-75Brev/DO-236Brev, MASPS Required Navigation Performance for Area Navigation	TBD	EUROCAE/RTCA	Upd.	Started

0-TBO/B0-40, 1-TBO/B1-40

Efficient Flight Path – Trajectory-Based Operations

Block 0	Block 1	Block 2	Block 3
Improved Safety and Efficiency through the initial application of Data Link En-Route	Improved Traffic synchronization and Initial Trajectory-Based Operation		

Block 0	Block 1	Block 2	Block 3
EC EC 29/2009 -- Publ. <2013	ICAO Doc. 9694 -- Upd. 2013		
ED-100A/DO-258A -- Publ. <2013	ICAO GOLD ed. 3 -- Upd. 2013		
ED-110B/DO-280B -- Publ. <2013	ICAO Doc. 4444 -- Upd. TBD		
ED-120/DO-290 -- Publ. <2013	ICAO Doc. 9896 -- Publ. 2014		
ED-122/DO-306 -- Publ. <2013	ICAO Doc. 9776 -- Upd. 2014		
ED-154A/DO-305A -- Publ. <2013	ICAO Doc. 9925 -- Upd. 2014		
ICAO GOLD ed. 2 -- Upd. TBD	ED-75/DO-236 -- TBD		
ICAO Doc. 4444 -- Upd. TBD	ED-99C/DO-272C -- TBD		
ICAO Doc. 9880 -- Publ. <2013	FAA ACxx-xxx -- New TBD		
ICAO Doc. 9896 -- Publ. <2013	EASA AMCxx-xx -- TBD		
ICAO Doc. 9776 -- Publ. <2013	-- TBD		
ICAO Doc. 9925 -- Publ. <2013			

Module #	Standard title	Date of availability	Organisation	Action	Status
B0-40	EC 29/2009 of 16 January 2009 laying down requirements on data link services for the single European sky.	<2013	EC	Publ.	N/A
B0-40	ED-100A/DO-258A, Interoperability Requirements for ATS Applications using ARINC 622 Data Communications.	<2013	EUROCAE/RTCA	Publ.	N/A
B0-40	ED-110B/DO-280B, Interoperability Requirements Standard for Aeronautical Telecommunication Network Baseline 1 (Interop ATN B1).	<2013	EUROCAE/RTCA	Publ.	N/A
B0-40	ED-120/DO-290, Safety and Performance Requirements Standard For Initial Air Traffic Data Link Services In Continental Airspace (SPR IC).	<2013	EUROCAE/RTCA	Publ.	N/A
B0-40	ED-122/DO-306, Safety and Performance Standard for Air Traffic Data Link Services in Oceanic and Remote Airspace (Oceanic SPR Standard).	<2013	EUROCAE/RTCA	Publ.	N/A
B0-40	ED-154A/DO-305A, Future Air Navigation System 1/A - Aeronautical Telecommunication Network Interoperability Standard (FANS 1/A – ATN B1 Interop Standard).	<2013	EUROCAE/RTCA	Publ.	N/A
B0-40	GOLD edition 2	TBD	ICAO	Upd.	
B0-40	Doc. 4444 PANS ATM - Update of PANS-ATM to mandate insertion of 24-bit aircraft address in FPL, when using data link and CPDLC Data Link Application	TBD	ICAO	Upd.	
B0-40	Doc. 9880, Manual on Detailed Technical Specifications for the Aeronautical Telecommunication Network (ATN) using ISO/OSI Standards and Protocols, Part II — Ground-Ground Applications — Air Traffic Services Message Handling Services (ATSMHS).	<2013	ICAO	Publ.	N/A
B0-40	Doc. 9896, Manual on Detailed Technical Specifications for the Aeronautical Telecommunication Network (ATN) using the Internet Protocol Suite (IPS) Edition 2	<2013	ICAO	Publ.	N/A
B0-40	Doc. 9776 - Manual on VDL Mode 2 Technical Specifications	<2013	ICAO	Publ.	
B0-40	Doc. 9925 - Manual on the Aeronaitical Mobile Satellite (Route) Service Edition 1	<2013	ICAO	Publ.	

Module #	Standard title	Date of availability	Organisation	Action	Status
B1-40	DO-305/ED154 Future Air Navigation System 1/A Aeronautical telecommunication network interoperability standard (FANS 1/A ATN B1 Interop Standard)	2013	EUROCAE/RTCA	Upd.	
B1-40	DO-318, Safety, Performance and Interoperability Requirements Document for Enhanced Air Traffic Services in Radar-Controlled Areas Using ADS-B Surveillance (ADS-B-RAD)	2013	RTCA	TBD	N/A
B1-40	Doc. 9694 Manual of Air Traffic Services Data Link Applications	2013	ICAO	Upd.	
B1-40	DOxxx/EDyyy SC214/WG78 SPR, including Enhanced CPDLC Message Set and ADS-C enhancements	2013	EUROCAE/RTCA	Upd.	Started
B1-40	GOLD Edition 3	2013	ICAO	Upd.	
B1-40	Doc. 4444 PANS ATM	TBD	ICAO	Upd.	
B1-40	Doc. 9896, Manual on Detailed Technical Specifications for the Aeronautical Telecommunication Network (ATN) using the Internet Protocol Suite (IPS) Edition 3	2014	ICAO	Publ.	N/A
B1-40	Doc. 9776 - Manual on VDL Mode 2 Technical Specifications Edition 2	2014	ICAO	Upd.	
B1-40	Doc. 9925 - Manual on the Aeronautical Mobile Satellite (Route) Service Edition 2	2014	ICAO	Upd.	
B1-40	ED-75rev/DO-236rev with requirements for RTA (just for initial TBO - RTA)	TBD	EUROCAE/RTCA	0	0
B1-40	ED-99C/DO-272C (version C sufficient) (just for D-TAXI)	TBD	EUROCAE/RTCA	0	0
B1-40	ACxx-xxx	TBD	FAA	New	Not Started
B1-40	AMCxx-xx	TBD	EASA	0	0
B1-40	Procedural Weather info - greater granularity of weather uplink? Today done by each airline on their own, no std available	TBD	0	0	0

0-CCO/B0-20

Efficient Flight Path – Continuous Climb Operations

Block 0	Block 1	Block 2	Block 3
Improved Flexibility and Efficiency Departure Profiles - Continuous Climb Operations (CCO)			

ICAO Doc. 4444 -- Upd. <2013			
ICAO Doc. 9613 -- Publ. <2013			
ICAO ATFM Manual -- New 2013			
ICAO Doc. 4444 -- Upd. 2018			

Module #	Standard title	Date of availability	Organisation	Action	Status
B0-20	Doc 8168, PANS OPS - Aircraft Operations	<2013	ICAO	Publ.	N/A
B0-20	Doc. 9993, Continuous Climb Operations (CCO) Manual (awaiting publication)	2013	ICAO	New	Completed
B0-20	Doc. 4444 PANS ATM	<2013	ICAO	Upd.	Not Started
B0-20	Doc. 9613, Performance-based Navigation (PBN) Manual (updated)	<2013	ICAO	Publ.	N/A

1-RPAS/B1-90

Efficient Flight Path – Remotely Piloted Aircraft Systems

Block 0	Block 1 Initial Integration of Remotely Piloted Aircraft (RPA) into Non-Segregated Airspace	Block 2 Remotely Piloted Aircraft (RPA) Integration in Traffic	Block 3 Remotely Piloted Aircraft (RPA) Transparent Management
	ICAO Annex 1 -- Upd. 2016		
	ICAO Annex 10 -- Upd. 2016		
	ICAO Annex 13 -- Upd. 2010		
	ICAO Annex 2 -- Upd. 2012		
	ICAO Annex 6 -- Upd. 2016		
	ICAO Annex 7 -- Upd. 2012		
	ICAO Annex 8 -- Upd. 2016		
	RTCA DO-XXX -- New 2018		
	RTCA DO-YYY -- New 2018		
	RTCA DO-ZZZ -- New 2018		
	ICAO RPAS GM -- New 2018		
	EUROAE ED-XXX -- New 2014		
	EUROAE ED-XXY -- New 2014		
	EUROAE ED-XXZ -- New 2014		
	EUROAE ED-XYY -- New 2014		
	EUROAE ED-XYZ -- New 2014		
	EUROAE ED-XZZ -- New 2014		

Module #	Standard title	Date of availability	Organisation	Action	Status
B1-90	Annex 1 Personnel Licensing	2016	ICAO	Upd.	
B1-90	Annex 10 Aeronautical Telecommunications, Volume II - Communication Procedures including those with PANS status	2016	ICAO	Upd.	
B1-90	Annex 13 Aircraft Accident and Incident Investigation	2010	ICAO	Upd.	
B1-90	Annex 2 Rules of the Air	2012	ICAO	Upd.	
B1-90	Annex 6 Operation of Aircraft	2016	ICAO	Upd.	
B1-90	Annex 7 Aircraft Nationality and Registration Marks	2012	ICAO	Upd.	
B1-90	Annex 8 Airworthiness of Aircraft	2016	ICAO	Upd.	
B1-90	DO-XXX, Command, Control and Communication System for Unmanned Aircraft	2018	RTCA	New	
B1-90	DO-YYY, Sense and Avoid Systems for Unmanned Aircraft Systems	2018	RTCA	New	
B1-90	DO-ZZZ, Unmanned Aircraft Systems	2018	RTCA	New	
B1-90	RPAS Guidance Manual	2018	ICAO	New	
B1-90	ED-XXX Safety, Performance and Interoperability Requirements for UAS Scenario 1	2014	EUROAE	New	0
B1-90	ED-XXY Traffic encounter MASPS	2014	EUROAE	New	0
B1-90	ED-XXZ Weather Avoidance MASPS	2014	EUROAE	New	0
B1-90	ED-XYY Command, Control and Communications MASPS	2014	EUROAE	New	0
B1-90	ED-XYZ Safety, Performance and Interoperability Requirements for VLOS Operations	2014	EUROAE	New	0
B1-90	ED-XZZ Command, Control and Communications MASPS for VLOS Operations	2014	EUROAE	New	0

Overarching Standards

Date of standard availability	Standard title	Organisation
2018	DO-187, MOPS for Airborne Area Navigation Equipment Using Multi-Sensor Inputs	RTCA
2018	DO-208, Change 1, MOPS for Airborne Supplemental Navigation Equipment Using Global Positioning System	RTCA
1997	DO-240, MOPS for Aeronautical Telecommunication Network (ATN) Avionics	RTCA
2018	DO-242A, Change 1, MASPS for Automatic Dependent Surveillance Broadcast (ADS-B)	RTCA
2000	DO-250, Guiding Principles for Air Traffic Services Provided via Data Communications Utilizing the ATN, Builds I	RTCA
2000	DO-256, Minimum Human Factors Standards for Air Traffic Services Provided Via Data Communications Utilizing	RTCA
2007	DO-280B, Interoperability Requirements Standard For ATN Baseline 1 (INTEROP ATN B1)	RTCA
2003	DO-287, Plans and Principles for the Implementation of Aeronautical Data Link System (ADLS) Edition 1.	RTCA
2003	DO-288, Next Generation Air/Ground Communication System (NEXCOM) Implementation Considerations: Factors	RTCA
2013	DO-303, Safety, Performance and Interoperability Requirements Document for the ADS-B Non-Radar-Airspace	RTCA
2018	DO-304, Guidance Material and Considerations for Unmanned Aircraft Systems	RTCA
2012	DO-305A, Future Air Navigation System 1/A – Aeronautical Telecommunication Network Interoperability Standard	RTCA
2018	DO-317A/ED-194 ASA MOPS will be updated to include Flight Deck Interval Management equipment standards	EUROCAE/RTCA
2004	ED-106A - DLASD for "Oceanic Clearance" (OCL) Datalink service	EUROCAE
2007	ED-110B - Interoperability Requirements Standard for ATN Baseline 1 (Interop ATN B1)	EUROCAE
2002	ED-111 - Functional Specifications for CNS/ATM Recording	EUROCAE
2004	ED-120 - Safety and Performance Requirements Standard For Initial Air Traffic DLS In Continental Airspace	EUROCAE
2007	ED-120 CHANGE 1 - Safety and Performance Requirements Standard For Initial Air Traffic DLS In Continental	EUROCAE
2000	ED-78A - Guidelines for approval of the provision and use of ATS supported by data communications	EUROCAE