

Identified ASBU elements applicable to AFI region in CNS Field

ASBU Modules	ASBU Elements	Purpose of Elements	Maturity level	Applicable (Yes or No)	Rational of Applicability	Element Enablers	Stakeholders
COMI	B0/1 - Aircraft Communication Addressing Reporting System (ACARS)	<ul style="list-style-type: none"> To enable the data exchanges through Controller/Pilot Data Link Communication (CPDLC); To enable the data exchanges through Automatic Dependant Surveillance-Contract (ADS-C) Communication To enable Airlines Operations Communication 	<ul style="list-style-type: none"> Ready for implementation 	<ul style="list-style-type: none"> Yes 	<ul style="list-style-type: none"> Introduction of a datalink to support domestic data communications operations. Exchanges aviation data (AOC, CPDLC and ADS) 	<ul style="list-style-type: none"> Communication infrastructure (VHF & HF Data Links) 	<ul style="list-style-type: none"> ANSPs Airlines
	B0/2- Aeronautical Telecommunication Network/Open System Interconnection (ATN/OSI)	<ul style="list-style-type: none"> To support Operational Data Exchange (Flight Plans, NOTAMs and OPMET) 	<ul style="list-style-type: none"> Ready for implementation 	<ul style="list-style-type: none"> No 	<ul style="list-style-type: none"> ATN/OSI is not selected for implementation in the AFI Region in consideration of Cost constraints 	<ul style="list-style-type: none"> NA 	<ul style="list-style-type: none"> NA

ASBU Modules	ASBU Elements	Purpose of Elements	Maturity level	Applicable (Yes or No)	Rational of Applicability	Element Enablers	Stakeholders
	B0/3- VHF Data Link (VDL) Mode O/A	<ul style="list-style-type: none"> To support Air /Ground Data Link Communication 	<ul style="list-style-type: none"> Ready for implementation 	<ul style="list-style-type: none"> Yes 	<ul style="list-style-type: none"> Introduction of a datalink to support domestic data communications operations. a supplement to voice communications Exchanges aviation data (AOC, CPDLC and ADS) 	<ul style="list-style-type: none"> Narrow-band transceiver operating in the VHF aviation protected spectrum band Based double side band AM multi-shift eyeing modulation to transfer 2400 bps. 	<ul style="list-style-type: none"> CAA ANSPs Airlines CSPs
	B0/4- VHF Data Link (VDL) Mode 2 Basic	<ul style="list-style-type: none"> To support Air /Ground Data Link Communication with higher performance than VDLM0/A 	<ul style="list-style-type: none"> Ready for implementation Standardized (Annex 10 Vol. 3 Chap 6) 	<ul style="list-style-type: none"> Yes 	<ul style="list-style-type: none"> Provides an Increase in data capacity over VDL Mode O/A Exchanges aviation data (AOC, CPDLC and ADS) More efficient use of spectrum 	<ul style="list-style-type: none"> VHF narrow-band transceiver operating in the protected spectrum band, under a set of air-ground protocols that increase the data rate to 31.5 kbits 	<ul style="list-style-type: none"> CAA ANSPs Airlines CSPs
	B0/5- Satellite Communication (SATCOM) Class C Data	<ul style="list-style-type: none"> To provide surveillance and communications in Continental Remote and Oceanic 	<ul style="list-style-type: none"> Ready for implementation Standardized (Annex 	<ul style="list-style-type: none"> Yes 	<ul style="list-style-type: none"> Supports improvement of surveillance and communication in airspace where 	<ul style="list-style-type: none"> Satellite and ground infrastructures 	<ul style="list-style-type: none"> CAA ANSPs Airlines CSPs

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		<p>airspace, where VHF usage is not possible or practical.</p> <ul style="list-style-type: none"> • Satellite-based, narrow-band communication provided by multiple service providers that can be used for safety and routing communications 	10 Vol. 3 Chap 6)		procedural separation is being applied		
	B0/6-High Frequency Data Link (HFDL)	<ul style="list-style-type: none"> • To exchange data messages between aircraft end-systems and corresponding ground based HFDL ground stations 	<ul style="list-style-type: none"> • Ready for implementation Standardized (Annex 10 Vol. 3 Chap 11) 	○ Yes	<ul style="list-style-type: none"> • To communicate in areas where SATCOM and VHF are not available 	<ul style="list-style-type: none"> • HFDL network and avionics 	<ul style="list-style-type: none"> • CAA • ANSPs • Airlines • CSPs
	B0/7-ATS Message Handling System (AMHS)	<ul style="list-style-type: none"> • To support improved communication over AFTN • To provide flight information coordination between ANSPs 	<ul style="list-style-type: none"> • Ready for implementation Standardized (ICAO Annex X Vol.2 & Vol.3 and 	○ Yes	<ul style="list-style-type: none"> • To carry traffic for AIDC/Flight Plan/MET until SWIM is ready in • Block 2 and accommodate SWIM 	<ul style="list-style-type: none"> • ATN infrastructure 	<ul style="list-style-type: none"> • CAA • ANSPs • CSPs



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		<ul style="list-style-type: none"> at adjacent FIRs, and with relevant military units, support separation assurance, potentially providing, when used in conjunction with other enablers (e.g. navigation capabilities), reduced separation. Flight Plan/Clearance AIDC: Flight transfer 3. MET data 	Doc. 9880)		compliance data message (IWXXM) until ANSPs readiness for SWIM		
	B1/1-Ground-Ground Aeronautical Telecommunication Network/Internet Protocol suite (ATN/IPS)	<ul style="list-style-type: none"> To support of Air Traffic Service Communication (ATSC) as well as Aeronautical Industry Service Communication (AINSC), such as Aeronautical 	<ul style="list-style-type: none"> Standardization ICAO Annex X Vol.2 & Vol.3 and Doc. 9896 	o Yes	<ul style="list-style-type: none"> To enable the efficient integration of technologies with improved integrity to support air to ground aeronautical safety services 	<ul style="list-style-type: none"> Modern robust, efficient and cost-effective data communications network infrastructure IPS nodes and networks operating in a multinational environment 	<ul style="list-style-type: none"> CAA ANSPs CSPs



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		Administrative Communications <ul style="list-style-type: none"> • (AAC) and Aeronautical Operational Communications 			and regularity of flight communications		
	B1/2-VHF Data Link (VDL) Mode 2 Multi-Frequency	<ul style="list-style-type: none"> • To supports transmission of data link message sets to supplement current voice operations, thus reducing voice channel congestion, while increasing productivity and capacity. • Support increased subnetwork capacity and reduces interference over the standard VDL Mode 2 system. 	<ul style="list-style-type: none"> • Ready for implementation Standardized (Annex 10 Vol. 3 Chap 6) 	<ul style="list-style-type: none"> • Yes 	<ul style="list-style-type: none"> • Provides an Increase in data capacity over VDL Mode O/A • Exchanges aviation data (AOC, CPDLC and ADS) • More efficient use of spectrum 	<ul style="list-style-type: none"> • VHF narrow-band transceiver operating in the protected spectrum band, under a set of air-ground protocols that increase the data rate to 31.5 kbits 	<ul style="list-style-type: none"> • CAA • ANSPs • Airlines • CSPs
	B1/3- SATCOM Class B Voice and Data	<ul style="list-style-type: none"> • To supports introduction of SATVOICE and 	<ul style="list-style-type: none"> • Ready for implementation 	<ul style="list-style-type: none"> ○ Yes 	<ul style="list-style-type: none"> • Use of SATCOM voice for all types of 	<ul style="list-style-type: none"> • Inmarsat 4 satellite constellation, global coverage for 	<ul style="list-style-type: none"> • CAA • ANSPs • Airlines

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		<p>SATDATA as a complement to HF voice communications.</p> <ul style="list-style-type: none"> To provide for oceanic and domestic broadband IPS based safety critical data link operations. To support safety critical, safety and regularity of flight operations. 	<ul style="list-style-type: none"> (Annex 10 Vol. 3 Chap 6) 		<p>ATS communications (routine and emergency/urgency communications).</p> <ul style="list-style-type: none"> Provide high-speed IP based broadband networks. Improved security Lower cost than the traditional circuit switched services (Classic Aero). 	<p>SATCOM Class B (SB-S):</p> <ul style="list-style-type: none"> Avionics, satellite modem Aircraft antenna capable of receiving Swift Broadband and Related equipment (diplexer, LNA, HPA & cabling) 	<ul style="list-style-type: none"> CSPs
	B1/4- Aeronautical Mobile Airport Communication System (AeroMACS)	<ul style="list-style-type: none"> To reduce Separation & Efficiency To improve situational awareness To reduced Cost 	<ul style="list-style-type: none"> Ready for implementation 	<ul style="list-style-type: none"> Yes 	<ul style="list-style-type: none"> To support Safety communications To ensure network connectivity on the airport surface for the safety critical and regularity of flight. 	<ul style="list-style-type: none"> IPS Based wireless communications infrastructure and system Multilateration sensors, weather sensors, surface radar and fixed navigation aids. 	<ul style="list-style-type: none"> CAA ANSPs Airlines CSPs

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	B2/1-Air-Ground ATN/IPS	<ul style="list-style-type: none"> To provide more efficient data communications. To improve information integrity. 	<ul style="list-style-type: none"> Validation 	<ul style="list-style-type: none"> No 	<ul style="list-style-type: none"> Not mature 	<ul style="list-style-type: none"> NA 	<ul style="list-style-type: none">
	B2/2-Aeronautical Mobile Aircraft Communication System (AeroMACS) aircraft mobile connection	<ul style="list-style-type: none"> To reduce Separation & Efficiency To improve situational awareness To reduced Cost 	<ul style="list-style-type: none"> Validation 	<ul style="list-style-type: none"> No 	<ul style="list-style-type: none"> Not Mature 	<ul style="list-style-type: none"> NA. 	<ul style="list-style-type: none"> NA
	B2/3-Link meeting requirements for non-safety critical communication	<ul style="list-style-type: none"> To reduce operational cost; improve performance; To take advantage of new technologies sooner; To enable the global exchange of non-safety information. 	<ul style="list-style-type: none"> Validation 	<ul style="list-style-type: none"> No 	<ul style="list-style-type: none"> Not Mature 	<ul style="list-style-type: none"> NA 	<ul style="list-style-type: none"> NA
COMS	B0/1-CPDLC (FANS 1/A & ATN B1) for domestic and	<ul style="list-style-type: none"> To supports : reduction of voice channel congestion and increase of 	<ul style="list-style-type: none"> Ready for implementation (Standardized in 	<ul style="list-style-type: none"> Yes 	<ul style="list-style-type: none"> Complement to voice communications , controller- 	<ul style="list-style-type: none"> Aircraft ATN B1 CPDLC data link infrastructure ATSU CPDLC systems 	<ul style="list-style-type: none"> CAA ANSPs Airlines CSPs

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	procedural airspace	<p>capacity in domestic airspace,</p> <ul style="list-style-type: none"> improvement of communication and surveillance in airspace where procedural separation is being applied. 	Annex X Vol.1, Annex X Vol.2 Chap. 8.2)		pilot data link communications (CPDLC) provide the controller and the pilot with the ability to communicate through exchange of data link messages.		
	B0/2-ADS-C (FANS 1/A) for procedural airspace	<ul style="list-style-type: none"> To support improvement of surveillance in airspace where procedural separation is being applied 	<ul style="list-style-type: none"> Ready for implementation (Standardized in Annex X Vol.1, Annex X Vol.2 Chap. 8.2) 	<ul style="list-style-type: none"> Yes 	<ul style="list-style-type: none"> ADS-C capability to provide ATSU with aircraft position and projected profile for the flight at time intervals, events or ondemand dictated by the ground need 	<ul style="list-style-type: none"> FANS aircraft Flight Management System ATSU ADS-C systems 	<ul style="list-style-type: none"> CAA ANSPs Airlines CSPs
	B1/1-PBCS approved CPDLC (FANS 1/A +) for domestic and procedural airspace	<ul style="list-style-type: none"> To support: reduction of voice channel congestion and increase of capacity in 	<ul style="list-style-type: none"> Ready for implementation (Standardized in Annex X 	<ul style="list-style-type: none"> Yes 	<ul style="list-style-type: none"> RCP240 in procedural airspace, for CPDLC (FANS 1/A+) to provides ATCs 	<ul style="list-style-type: none"> FANS 1/A+ CPDLC systems compliant with RCP240 (procedural) and RCP130 (domestic). 	<ul style="list-style-type: none"> CAA ANSPs Airlines CSPs



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		<p>domestic airspace,</p> <ul style="list-style-type: none"> introduction of performance-based reduced separation minima in procedural airspace 	<p>Vol.1, Annex X Vol.2 Chap. 8.2)</p>		<p>with intervention capability, allowing when used in conjunction with other enablers (e.g. ADS-C and navigation capabilities), reduced separation minima and thus capacity increase</p> <ul style="list-style-type: none"> RCP 130 in domestic airspace, compliant CPDLC (FANS 1/A+) provides a complementary means of communications for en-route routine communications and the extension of 		

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					CPDLC for ground operations (e.g. departure clearance)		
	B1/2 PBCS-approved ADS-C (FANS 1/A +) for procedural airspace	<ul style="list-style-type: none"> To support introduction of performance-based reduced separation minima in procedural airspace 	<ul style="list-style-type: none"> Ready for implementation (Standardized in Annex X Vol.1, Annex X Vol.2 Chap. 8.2) 	<ul style="list-style-type: none"> Yes 	<ul style="list-style-type: none"> FANS 1/A+ ADS-C systems (along with associated air-ground network and physical layers) are demonstrated 	<ul style="list-style-type: none"> FANS aircraft Flight Management System ATSU ADS-C systems Compliance with RSP180 	<ul style="list-style-type: none"> CAA ANSPs Airlines CSPs
	COMS-B1/3-SATVOICE (incl. routine communication) for procedural airspace	<ul style="list-style-type: none"> To increase quality of voice communications in procedural airspace without VHF coverage 	<ul style="list-style-type: none"> Ready for implementation (Annex 10 Vol. 3 Chap 6) 	<ul style="list-style-type: none"> Yes 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Dedicated networks and aircraft system 	<ul style="list-style-type: none">
	B2/1-PBCS approved CPDLC (B2) for domestic and procedural airspace	<ul style="list-style-type: none"> To support introduction of performance-based reduced separation minima in procedural airspace 	<ul style="list-style-type: none"> Validation 	<ul style="list-style-type: none"> No 	<ul style="list-style-type: none"> Not Mature 	<ul style="list-style-type: none"> NA 	<ul style="list-style-type: none"> NA



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	B2/2-PBCS approved ADS-C (B2) for domestic and procedural airspace	<ul style="list-style-type: none"> To provide of Air Traffic Services (ATS), with the extension of data link communications use in support of various ATM enhancements among which: Trajectory-based operations, in particular with ADS-C Extended Project Profile (i.e. predicted route ahead of the aircraft, up to 128 waypoints with their predicted level, speed and time 	<ul style="list-style-type: none"> Validation 	<ul style="list-style-type: none"> No 	<ul style="list-style-type: none"> Not Mature 	<ul style="list-style-type: none"> NA 	<ul style="list-style-type: none"> NA
	B2/3-PBCS approved SATVOICE (incl.routine communications) for procedural airspace	<ul style="list-style-type: none"> To support introduction of reduced separation minima in procedural airspace. 	<ul style="list-style-type: none"> Validation 	<ul style="list-style-type: none"> No 	<ul style="list-style-type: none"> Not Mature 	<ul style="list-style-type: none"> NA 	<ul style="list-style-type: none"> NA

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NAVS	B0/1-Ground Based Augmentation System (GBAS)	<ul style="list-style-type: none"> To support Precision Approach and landing operations at a specific airport (one system may support all runway ends). As an option, may support arrival and departure phases of flight 	<ul style="list-style-type: none"> Ready for implementation (Annex X Vol.1 Attachment D Chap7) 	<ul style="list-style-type: none"> Yes 	<ul style="list-style-type: none"> To introduce improved accuracy, integrity and availability through a local airport based differential satellite navigation and monitoring system 	<ul style="list-style-type: none"> Airport local network of reference receivers corrections computing and integrity monitoring systems VHF Data Broadcast link to users (operating in the 108 to 118 MHz band) 	<ul style="list-style-type: none"> CAA ANSPs Airlines CSPs
	B0/2-Satellite Based Augmentation System (SBAS)	<ul style="list-style-type: none"> To support PBN in all phases of flight with an increased accuracy, integrity and availability compared to ABAS. Increases accuracy and integrity for the vertical guidance 	<ul style="list-style-type: none"> Ready for implementation (Annex X Vol.1 Attachment D Chap 6) 	<ul style="list-style-type: none"> Yes 	<ul style="list-style-type: none"> To introduce improvements in the availability, accuracy and integrity of satellite navigation through a wide area differential satellite navigation position and integrity monitoring system 	<ul style="list-style-type: none"> Network of ground reference systems in a region and connected via a data-network Satellite signals Reference monitoring systems Geostationary satellite broadcast to aircraft link correction 	<ul style="list-style-type: none"> CAA ANSPs Airlines CSPs

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	B0/3-Aircraft Based Augmentation system (ABAS)	<ul style="list-style-type: none"> To support all PBN navigation specifications with the exception of RNP APCH down to LPV/LP minima. 	<ul style="list-style-type: none"> Ready for implementation (Annex X Vol.1 Attachment D Chap 5) 	<ul style="list-style-type: none"> Yes 	<ul style="list-style-type: none"> To support non-precision (LNAV) and vertically guided (LNAV/VNAV) approaches with Baro VNAV and other terminal and enroute navigations 	<ul style="list-style-type: none"> ABAS Avionics. 	<ul style="list-style-type: none"> CAA Airlines
	B0/4-Navigation Minimal Operating Networks (Nav. MON)	<ul style="list-style-type: none"> To adjust conventional navaids networks through the increased deployment of satellite based navigation systems and procedures to ensure the necessary levels of resilience for navigation. To provide a minimum level of capabilities to accommodate State aircraft 	<ul style="list-style-type: none"> Ready for implementation 	<ul style="list-style-type: none"> Yes 	<ul style="list-style-type: none"> To rationalize the ground based conventional infrastructure through the definition of minimal networks of ground navaids. 	<ul style="list-style-type: none"> Conventional navaids networks Satellite based navigation systems Aircraft equipage. Frequency spectrum 	<ul style="list-style-type: none">



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		<p>operations where there is a mismatch in terms of aircraft equipage.</p> <ul style="list-style-type: none"> To make a more efficient use of the frequency spectrum 					
	B1/1-Extended GBAS	<ul style="list-style-type: none"> To improve accuracy, integrity and availability through a local airport receivers stations 	<ul style="list-style-type: none"> Validation 	<ul style="list-style-type: none"> No 	<ul style="list-style-type: none"> Not Mature 	<ul style="list-style-type: none"> NA 	<ul style="list-style-type: none"> NA
	B2/1-Dual frequency Multi Constellation (DFMC) GBAS	<ul style="list-style-type: none"> To ensure a robust and less vulnerable to atmospheric propagation perturbations, supports Cat I,II, III GBAS landing operations in all regions of the world. 	<ul style="list-style-type: none"> Validation 	<ul style="list-style-type: none"> No 	<ul style="list-style-type: none"> Not Mature 	<ul style="list-style-type: none"> NA 	<ul style="list-style-type: none"> NA

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	B2/2-Dual frequency Multi Constellation (DFMC) SBAS	<ul style="list-style-type: none"> To increase availability and expand coverage. To reduce cost through the reduction of the need for ground stations 	<ul style="list-style-type: none"> Validation 	<ul style="list-style-type: none"> No 	<ul style="list-style-type: none"> Not Mature 	<ul style="list-style-type: none"> NA 	<ul style="list-style-type: none"> NA
	B2/3-Dual frequency Multi Constellation (DFMC) ABAS	<ul style="list-style-type: none"> To provide more robust navigation services using dual frequency and multi constellation additional signals 	<ul style="list-style-type: none"> Validation 	<ul style="list-style-type: none"> No 	<ul style="list-style-type: none"> Not Mature 	<ul style="list-style-type: none"> NA 	<ul style="list-style-type: none"> NA
ASUR	B0/1-Automatic Dependent Surveillance - Broadcast (ADS-B)	<ul style="list-style-type: none"> To support the provision of Air Traffic Services and operational applications at reduced cost and increased surveillance coverage. 	<ul style="list-style-type: none"> Ready for implementation (Annex X Vol.3 Chap 6.9.8) 	<ul style="list-style-type: none"> Yes 	<ul style="list-style-type: none"> To provides precise position/velocity information in all airspace (accuracy not range-dependent as with radar) To provide aircraft call sign and 	<ul style="list-style-type: none"> ADS-B Transmitter on board aircraft ADS-B Receiver and processing system in ATU 	<ul style="list-style-type: none"> CAA Airlines ANSPs

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					<p>precise position/velocity information to nearby aircraft with ADS-B-In receivers.</p>		
	<p>B0/2-Multi-lateralisation cooperative surveillance systems (MLAT)</p>	<ul style="list-style-type: none"> To provide an alternative to radar surveillance by using available aircraft transponders 	<ul style="list-style-type: none"> Ready for implementation (ICAO Annex X Vol.4 and Doc 9924 Aeronautical Surveillance Manual, Appendix 2) 	<ul style="list-style-type: none"> Yes 	<ul style="list-style-type: none"> To provide a new independent cooperative surveillance 	<ul style="list-style-type: none"> Ground Mlat Transmitters/Receivers stations Processing system. 	<ul style="list-style-type: none"> CAA Airlines ANSPs



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	B0/3-Cooperative Surveillance Radar Downlink of aircraft Parameters (SSR-DAPS)	<ul style="list-style-type: none"> To obtain additional information from an aircraft transponder in support of the provision of Air Traffic Services 	<ul style="list-style-type: none"> Ready for implementation (ICAO Annex X Vol.4 and Doc 9924 Aeronautical Surveillance Manual) 	<ul style="list-style-type: none"> Yes 	<ul style="list-style-type: none"> To increase ATCOs awareness and reduce the volume of air-ground voice communications, To improve the performance of tracking systems or safety net systems such as STCA and MSAW 	<ul style="list-style-type: none"> To obtain additional information from an aircraft transponder in support of the provision of Air Traffic Services. 	<ul style="list-style-type: none"> CAA Airlines ANSPs
	B1/1-Reception of aircraft ADS-B signals from space (SB ADS-B)	<ul style="list-style-type: none"> To provide surveillance coverage in locations where ground 	<ul style="list-style-type: none"> Standardization 	<ul style="list-style-type: none"> No 	<ul style="list-style-type: none"> Not Mature 	<ul style="list-style-type: none"> NA 	<ul style="list-style-type: none"> NA

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		<p>stations siting is not possible or not</p> <ul style="list-style-type: none"> • currently provided 					
	B2/1-Evolution of ADS-B and Mode S	<ul style="list-style-type: none"> • To provide new types of data in support of Air Traffic/MET Services and vehicle-to-vehicle • applications 	<ul style="list-style-type: none"> • Validation 	<ul style="list-style-type: none"> • No 	<ul style="list-style-type: none"> • Not Mature 	<ul style="list-style-type: none"> • NA 	<ul style="list-style-type: none"> • NA
	B2/2-New community-based surveillance system for airborne aircraft (low and higher airspace)	<ul style="list-style-type: none"> • To support the provision of separation services by operators for aircraft operating at very low altitudes 	<ul style="list-style-type: none"> • Concept 	<ul style="list-style-type: none"> • No 	<ul style="list-style-type: none"> • Not Mature 	<ul style="list-style-type: none"> • NA 	<ul style="list-style-type: none"> • NA
ACAS	B1/1-ACAS Improvement	<ul style="list-style-type: none"> • To provide airborne collision avoidance as a last resort 	<ul style="list-style-type: none"> • Ready for implementation 	<ul style="list-style-type: none"> • Yes 	<ul style="list-style-type: none"> • To ensure airborne collision avoidance 	<ul style="list-style-type: none"> • Avionics TCAS 	<ul style="list-style-type: none"> • CAAs • Airlines



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		safety net for pilots	<ul style="list-style-type: none"> (ICAO Annex X Vol.4 and Doc 9924 Aeronautical Surveillance Manual) 				
	B2/1-New collision avoidance system	<ul style="list-style-type: none"> To provide airborne collision avoidance as a last resort safety net for pilots (improving functionality) provided in BBB and Block 0). 	<ul style="list-style-type: none"> Standardization 	<ul style="list-style-type: none"> No 	<ul style="list-style-type: none"> Not Mature 	<ul style="list-style-type: none"> NA 	<ul style="list-style-type: none"> NA

ASBU Modules	ASBU Elements	Purpose of Elements	Maturity level	Applicable (Yes or No)	Rational of Applicability	Element Enablers	Stakeholders
	B2/2-New Collision avoidance capability as part of an overall detect and avoid system for RPAS	<ul style="list-style-type: none"> To provide the airborne collision avoidance function as a last resort safety net for RPAS' pilots. 	<ul style="list-style-type: none"> Validation 	<ul style="list-style-type: none"> No 	<ul style="list-style-type: none"> Not Mature 	<ul style="list-style-type: none"> NA 	<ul style="list-style-type: none"> NA
FICE	B0/1-Automated basic facility data exchange (AIDC)	<ul style="list-style-type: none"> To improve the efficiency of coordination and transfer of control between ATSU's 	<ul style="list-style-type: none"> Ready for implementation (ICAO Annex X Vol 2 and Vol3 & Doc.9694) 	<ul style="list-style-type: none"> Yes 	<ul style="list-style-type: none"> To implement the first automation step in the evolution of the coordination and transfer of control between neighbouring ATSU's units to guarantee that all related and necessary flight information 	<ul style="list-style-type: none"> Compatible AIDC facilities and systems 	<ul style="list-style-type: none"> CAAs ANSPs



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					<ul style="list-style-type: none"> will be available to the other unit as per agreement. 		
	B2/1-Planning Service	<ul style="list-style-type: none"> To allow aircraft operator to obtain constraint feedback while informing the relevant service providers of their intentions 	<ul style="list-style-type: none"> Validation 	<ul style="list-style-type: none"> No 	<ul style="list-style-type: none"> Not Mature 	<ul style="list-style-type: none"> NA 	<ul style="list-style-type: none"> NA
	B2/2-Filing Service	<ul style="list-style-type: none"> To enhance ATS flight plan processing including constraints evaluation and enhanced flight information sharing. 	<ul style="list-style-type: none"> Validation 	<ul style="list-style-type: none"> No 	<ul style="list-style-type: none"> Not Mature 	<ul style="list-style-type: none"> NA 	<ul style="list-style-type: none"> NA



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	B2/3-Trial Service	<ul style="list-style-type: none"> To provide the aircraft operator with the ability to obtain feedback on a possible change without impacting the flight plan currently being used by the service provider. 	<ul style="list-style-type: none"> Validation 	<ul style="list-style-type: none"> No 	<ul style="list-style-type: none"> Not Mature 	<ul style="list-style-type: none"> NA 	<ul style="list-style-type: none"> NA
	B2/4-Flight Data Request Service	<ul style="list-style-type: none"> To make available a query and reply service allowing an operator or authorized stakeholders to query the service providers for information on one of its flights - 	<ul style="list-style-type: none"> Validation 	<ul style="list-style-type: none"> No 	<ul style="list-style-type: none"> Not Mature 	<ul style="list-style-type: none"> NA 	<ul style="list-style-type: none"> NA



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		<p>allows an operator to verify the status of a</p> <ul style="list-style-type: none"> flight previously submitted. 					
	B2/5-Notification Service	<ul style="list-style-type: none"> To allow a service provider or operator to notify other parties of the departure or arrival of a flight 	<ul style="list-style-type: none"> Validation 	<ul style="list-style-type: none"> No 	<ul style="list-style-type: none"> Not Mature 	<ul style="list-style-type: none"> NA 	<ul style="list-style-type: none"> NA
	B2/6-Publication Service	<ul style="list-style-type: none"> To ensure consistent flight information and data is available to all stakeholders. This information can be used to improve ATM decision- 	<ul style="list-style-type: none"> Validation 	<ul style="list-style-type: none"> No 	<ul style="list-style-type: none"> Not Mature 	<ul style="list-style-type: none"> NA 	<ul style="list-style-type: none"> NA



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		making processes.					
	B2/7-Flight Information Management service for higher airspace operations	<ul style="list-style-type: none"> To ensure a joint multi-national capability to support operations at higher airspace to provide for strategic separation based on shared intent. 	<ul style="list-style-type: none"> Validation 	<ul style="list-style-type: none"> No 	<ul style="list-style-type: none"> Not Mature 	<ul style="list-style-type: none"> NA 	<ul style="list-style-type: none"> NA
	B2/8-Flight information management service for low-altitude operations	<ul style="list-style-type: none"> To ensure that operators at the lowest altitudes, outside of manned flight terminal operations, have unique shared 	<ul style="list-style-type: none"> Validation 	<ul style="list-style-type: none"> No 	<ul style="list-style-type: none"> Not Mature 	<ul style="list-style-type: none"> NA 	<ul style="list-style-type: none"> NA



ASBU Modules	ASBU Elements	Purpose of Elements	Maturity level	Applicable (Yes or No)	Rational of Applicability	Element Enablers	Stakeholders
		<ul style="list-style-type: none">operating environment to support beyond visual line of sight operations					
	B2/9-Flight information management support for inflight re-planning	<ul style="list-style-type: none">To enable aircraft operators and service providers (ATFM functions) to coordinate the reoptimization of flights based upon changing circumstances.	<ul style="list-style-type: none">Validation	<ul style="list-style-type: none">No	<ul style="list-style-type: none">Not Mature	<ul style="list-style-type: none">NA	<ul style="list-style-type: none">NA