

Appendix 3E3 - Identified ASBU elements applicable to AFI region in MET Field

ASBU Modules	ASBU Elements	Purpose of elements	Maturity level	Applicable (Yes or No)	Rational of applicability	Enablers	Stakeholders
AMET-B0 Global, regional, and local meteorological information to support flexible airspace management, improved situational awareness, collaborative decision-making and dynamically optimized flight trajectory planning.	AMET-B0/1 Meteorological observations products	Provides Meteorological observations in support of flexible airspace management, improved situational awareness, collaborative decision-making and dynamically optimized flight trajectory planning	Ready for implementation	Yes	<ul style="list-style-type: none"> A3 Chap. 4: §4.1.5 requires that at aerodromes with runways intended for Category II and III instrument approach and landing operations, automated equipment for measuring or assessing, as appropriate, and for monitoring and remote indicating of surface wind, visibility, runway visual range, height of cloud base, air and dew-point temperatures and atmospheric pressure shall be installed to support approach and landing and take-off operations. Annex 3 Appx. 6: §6.2.5 requires that the wind shear alerts shall be disseminated from automated, ground-based, wind shear 	<ul style="list-style-type: none"> National framework amendment for the provision of meteorological observations products 	<ul style="list-style-type: none"> CAA
						<ul style="list-style-type: none"> Procedures for the provision of meteorological observations products 	<ul style="list-style-type: none"> ANSP MET Service Provider
						<ul style="list-style-type: none"> Transmission of meteorological observations data from aircraft 	<ul style="list-style-type: none"> Aircraft Manufacturer
						<ul style="list-style-type: none"> Automated systems and infrastructure to support the provision of meteorological observations products 	<ul style="list-style-type: none"> Airport Operator ANPS MET Service Provider

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					remote-sensing or detection equipment in accordance with local arrangements to those concerned.	<ul style="list-style-type: none"> • Training requirements for the provision of meteorological observations products 	<ul style="list-style-type: none"> • CAA • ANSP • MET Service Provider • Airport Operator
	AMET-B0/2 Meteorological forecast and warning products	Provides Meteorological forecasts, advisories and warnings in support of flexible airspace management, improved situational awareness, collaborative decision-making and dynamically optimized flight trajectory planning.	Ready for implementation	Yes	<ul style="list-style-type: none"> • Annex Chap. 3: §3.2 & Appendix 2: §1.2 require for the provision of the new gridded WAFS information (e.g. Wind, Temperature, Icing, Turbulence, CB clouds). 	<ul style="list-style-type: none"> • National framework amendment for the provision of meteorological forecast products and warnings 	<ul style="list-style-type: none"> • CAA
<ul style="list-style-type: none"> • Procedures for the provision of Meteorological forecast products and warnings 						<ul style="list-style-type: none"> • ANSP • MET Service Provider 	
<ul style="list-style-type: none"> • Training requirements for the provision of meteorological forecast products and warnings 						<ul style="list-style-type: none"> • CAA • ANSP • MET Service Provider • Airport Operator 	

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						<ul style="list-style-type: none"> • Systems and infrastructure to support the provision of meteorological forecast and warning products 	<ul style="list-style-type: none"> • MET Service Provider
	AMET-B0/3 Climatological and historical meteorological products	Climatological products in support of the design and planning of infrastructure, flight routes and airspace management. Historical meteorological observations, forecasts, advisories and warnings in support of incident and accident investigations	Ready for implementation	Yes	<ul style="list-style-type: none"> • Annex 3 Chap 8: §8.1.1 requiring for the provision of Aerodrome climatological information and historical meteorological products in support of the design and planning of infrastructure, flight routes and airspace management. 	<ul style="list-style-type: none"> • National framework amendment for the provision of climatological meteorological information products 	<ul style="list-style-type: none"> • CAA
<ul style="list-style-type: none"> • Procedures for the provision of climatological meteorological information products 						<ul style="list-style-type: none"> • ANSP • MET Service Provider 	
<ul style="list-style-type: none"> • Training requirements for the provision of climatological meteorological information products 						<ul style="list-style-type: none"> • CAA • ANSP • MET Service Provider • Airport Operator 	

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						<ul style="list-style-type: none"> Systems and infrastructure to support the provision of climatological meteorological products 	<ul style="list-style-type: none"> MET Service Provider
	AMET-B0/4 Dissemination of meteorological products	Dissemination of meteorological products in support of flexible airspace management, improved situational awareness, collaborative decision-making and dynamically optimized flight trajectory planning	Ready for implementation	Yes	<ul style="list-style-type: none"> The requirements for the dissemination of OPMET messages in both TAC and digital formats as of November 2020 prescribed by Annex 3 provisions (A3 App. 3: §2.1.3; App. 6: §1.1.6 & §1.2) 	<ul style="list-style-type: none"> National framework amendment for meteorological information exchange 	<ul style="list-style-type: none"> CAA
<ul style="list-style-type: none"> Procedures for meteorological information exchange 						<ul style="list-style-type: none"> ANSP MET Service Provider 	
<ul style="list-style-type: none"> Communications infrastructure for meteorological information exchange 						<ul style="list-style-type: none"> ANSP MET Service Provider 	
<ul style="list-style-type: none"> Training for meteorological information exchange 						<ul style="list-style-type: none"> ANSP MET Service Provider 	

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						<ul style="list-style-type: none"> ICAO Meteorological Information Exchange Model (IWXXM) V1-V2 	<ul style="list-style-type: none"> ANSP MET Service Provider
AMET-B1 Meteorological information supporting automated decision process or aids, involving meteorological information, meteorological information translation, ATM impact conversion and ATM decision support	AMET-B1/1 Meteorological observations information	Provides Meteorological observations information in support of automated decision processes or aids and performance based requirements, involving meteorological information, meteorological information translation, ATM impact conversion and ATM decision support.	Standardization	Yes	<ul style="list-style-type: none"> IWXXM format became a Standard for dissemination on 5 November 2020 with the applicability of Amendment 79 to Annex 3 for the following TAC products: SIGMET, AIRMET, METAR, SPECI, TREND, TAF, VAA, TCA and SWXA. Significant weather (SIGWX) forecasts, is recommended for dissemination in IWXXM as of 4 November 2021 	<ul style="list-style-type: none"> National framework amendment for the provision of meteorological observations information 	<ul style="list-style-type: none"> CAA
						<ul style="list-style-type: none"> Procedures for the provision of meteorological observations information 	<ul style="list-style-type: none"> ANSP MET Service Provider
						<ul style="list-style-type: none"> Transmission of meteorological observations information from aircraft 	<ul style="list-style-type: none"> Aircraft Manufacturer

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					<ul style="list-style-type: none"> Furthermore, the Conclusion 23/29 of APRG/23 Established a Regional Space Weather Project to assist States with the implementation of Space Weather requirements as per the provisions of Annex 3 to Chicago Convention. 	<ul style="list-style-type: none"> Automated systems and infrastructure to support the provision of meteorological observations information 	<ul style="list-style-type: none"> Airport Operator ANSP MET Service Provider
						<ul style="list-style-type: none"> Training requirements for meteorological observations information 	<ul style="list-style-type: none"> CAA ANSP MET Service Provider Airport Operator
	AMET-B1/2 Meteorological forecast and warning information	Meteorological forecast and warning information for automated support for decision processes or aids and performance based requirements, involving	Standardization	Yes	<ul style="list-style-type: none"> The above is applied 	<ul style="list-style-type: none"> National framework amendment for the provision of meteorological forecast and warnings information 	<ul style="list-style-type: none"> CAA

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		meteorological information, meteorological information translation, ATM impact conversion and ATM decision processes				<ul style="list-style-type: none"> • Procedures for the provision of meteorological forecast and warnings information 	<ul style="list-style-type: none"> • ANSP • MET Service Provider
						<ul style="list-style-type: none"> • Training requirements for Meteorological forecast and warning information 	<ul style="list-style-type: none"> • CAA • ANSP • MET Service Provider • Airport Operator
						<ul style="list-style-type: none"> • Systems and infrastructure to support the provision of meteorological forecast and warning information 	<ul style="list-style-type: none"> • MET Service Provider •
	AMET-B1/3 Climatological and historical meteorological information	Climatological information in support of the design and planning of infrastructure, flight routes and airspace management. Historical	Standardization	Yes	<ul style="list-style-type: none"> • Enhanced climatological data/Information with their associated characteristics such as metadata; required to support the design and planning of 	<ul style="list-style-type: none"> • National framework amendment for the provision of climatological meteorological information 	<ul style="list-style-type: none"> • CAA

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		meteorological observations, forecasts, advisories and warnings in support of incident and accident investigations.			infrastructure, flight routes and airspace management.	<ul style="list-style-type: none"> • Procedures for the provision of climatological meteorological information 	<ul style="list-style-type: none"> • ANSP • MET Service Provider
						<ul style="list-style-type: none"> • Training requirements for climatological meteorological information 	<ul style="list-style-type: none"> • CAA • ANSP • MET Service Provider • Airport Operator
						<ul style="list-style-type: none"> • Systems and infrastructure to support the provision of climatological meteorological information 	<ul style="list-style-type: none"> • MET Service Provider
	AMET-B1/4 Dissemination of meteorological information	Dissemination of meteorological information in support of automated decision process or aids, involving	Standardization	Yes	<ul style="list-style-type: none"> • As of 5 November 2020, States were required by Annex 3 to the Convention to implement IWXXM format for the 	<ul style="list-style-type: none"> • National framework amendment for the dissemination of meteorological information 	<ul style="list-style-type: none"> • CAA

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		<p>meteorological information, meteorological information translation, ATM impact conversion and ATM decision support.</p>			<p>international exchange of MET information.</p> <ul style="list-style-type: none"> • States, ROCs and RODBs in a position to do so will begin to disseminate gridded and imagery products throughout Block 1. • RODBs to implement TAC Request/Reply and IWXXM Request/Reply Procedures. 	<ul style="list-style-type: none"> • Procedures for the dissemination of meteorological information • Communication infrastructure for meteorological information exchange • Training for the dissemination of meteorological information • ICAO Meteorological Information Exchange Model (IWXXM) V3 	<ul style="list-style-type: none"> • ANSP • MET Service Provider • ANSP • MET Service Provider • CAA • ANSP • MET Service Provider • Airport Operator • ANSP • MET Service Provider