

# European ATM Service Description for the METREPORT Service

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#### Abstract

The METREPORT service covers the dissemination of standard ICAO Annex 3 meteorological local routine (METREPORT) and special (SPECIAL) bulletins over SWIM. This service aims therefore at bringing the benefits of increased interoperability via SWIM to the MET Community of Interest. Service design has been performed in the context of Service Activity SVA003 entailing Airport Meteorological and Surface Contamination services.

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00.01.01	17/12/2015	Final		Updated based on SJU comments.
00.02.00	30/05/2016	Final		Service renamed from ICAOMetLocalReport to METREPORT under CR 031. Service updated to ISRM Foundation 00.07.00 and based on requirements for ISRM 2.0
00.02.01	20/07/2016	Final update		Updated according to 08.03.10- D65_SJU_Assessment_report_08.03.10 _response

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## **Executive summary**

This document is the result of the "Service Design" step of the B.4.3 Working Method on Services for the METREPORT Service. The document provides a comprehensive logical specification for system engineers on how to realize the dissemination of MET data over SWIM.

The service was delivered as part of ISRM 1.4 under the name ICAOMetLocalReport. For ISRM 2.0, the service has been renamed to METREPORT.

The METREPORT service covers the dissemination over SWIM of standard ICAO METREPORT bulletins over SWIM to a wide range of subscribing ATM users. This service aims therefore at bringing the benefits of increased interoperability via SWIM into the MET community of interest. Service design has been performed in the context of the SESAR Service Activity "SVA003" entailing Airport Meteorological and Surface Contamination services.

SVA003 has happened in the frame of the SESAR MET Coordination Group and has seen the participation of a good number of different partners, both Operational and System, from OFA5.1.1 (WP6 and WP12) and WP11.2.

Edition 1.0 for this SDD was first published in ISRM 1.4 (using the old name ICAOMetLocalReport) and was used as reference for SESAR validation exercise EXE-06.03.01-VP-669 (SESAR R5). This edition wraps all quality improvements for delivery with the final SESAR ISRM 2.0.

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# **1** Introduction

## 1.1 Purpose of the document

The purpose of this SDD is to provide a complete logical description of the METREPORT Service, its operational context, its basic architectural features, its dynamical aspects, its operations and the data provided. All these aspects are presented as model views according to the ISRM UML EATMA Profile, which organize knowledge about a service into views inspired by the NAF Framework.

This SDD serves as a complement to a model based description and supports the configuration management process by providing well-defined baselines.

The logical service model presented in this SDD edition is part of the ISRM 2.0 release, and provides a blueprint which service developers must follow in order to create SWIM-Compliant implementations of the METREPORT Service.

The service presented will be a part of the Service Portfolio. The Service Portfolio presents all services that are available or are planned to become available at a high level.

# **1.2 Intended readership**

SESAR Deployment Manager, SCG, the OPS and SYS projects participating in the SVA003 Team, Service Architects, Information Architects, System Engineers and Developers in pursuing architecting, design and development activities.

## **1.3 Inputs from other projects**

N/A

## 1.4 Glossary of terms

N/A

# **1.5 Acronyms and Terminology**

## 1.5.1 Acronyms

Term	Definition		
ADD	Architecture Description Document		
АТМ	Air Traffic Management		
cc	Capability Configuration		
EATMA	European Air Traffic Management Architecture		
E-ATMS	European Air Traffic Management System		
FAA	Federal Aviation Administration		
IER	Information Exchange Requirement		

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Term	Definition	
ISRM	Information Service Reference Model	
ІЖХХМ	ICAO Weather Information Exchange Model	
METREPORT	Meteorological local routine report following ICAO Annex 3 format	
MG	ISRM Modelling Guidelines	
NAF	NATO Architecture Framework	
NSOV	NATO Service Oriented View	
NOV	NATO Operational View	
NSV	NATO System View	
OSED	Operational Service and Environment Definition	
QoS	Quality of Service	
SAR	Service Allocation Report	
SCG	Service Coordination Group	
SDD Service Description Document		
SESAR Single European Sky ATM Research Programme		
SESAR Programme	The programme which defines the Research and Development activities and Projects for the SJU.	
SIR	Service Identification Report	
SJU	SESAR Joint Undertaking (Agency of the European Commission)	
SJU Work Programme The programme which addresses all activities of the SES Undertaking Agency.		
SPECIAL	Meteorological local special report following ICAO Annex 3 format	
SWIM	System Wide Information Management	
UML	Unified Modelling Language	
V&V Validation and Verification		
WSDL	Web Services Definition Language	
XSD	XML Schema Definition	

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## 1.5.2 Terminology

Term	Term Definition	
Capability	Capability is the ability of one or more of the enterprise's resources to deliver a specified type of effect or a specified course of action to the enterprise stakeholders.	EATMA Guidance Material [13]
Capability Configuration	A Capability Configuration is a combination of Roles and Systems configured to provide a Capability derived from operational and/or business need(s) of a stakeholder type.	EATMA Guidance Material [13]
Node A logical entity that performs Activities. Note: nodes are specified independently of any physical realisation.		EATMA Guidance Material [13]
Service	The contractual provision of something (a non-physical object), by one, for the use of one or more others. Services involve interactions between providers and consumers, which may be performed in a digital form (data exchanges) or through voice communication or written processes and procedures.	EATMA Guidance Material [13]
Service function A type of activity describing the functionality of a Service.		EATMA Guidance Material [13]
Service interface	The mechanism by which a service communicates	EATMA Guidance Material [13]

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# 2 Service identification

Name	METREPORT
ID	{85A9C2D1-46F5-487a-B449-E9DB44F3CE91}
Version	2.0
Keywords	METREPORT, SPECIAL, Airport Meteorological Observation, MET ICAO Product
Architect(s)	FINMECCANICA

Lifecycle status	Date	References
Identified	09/11/2015	See reference [3]
Allocated	04/12/2015	See reference [4]
Designed	31/05/2016	This document
Validated	03/03/2016	See reference [16]
IOC	Date for Initial Operational Capability	Reference to technical enabler hosting the service in the ATM master plan
FOC	Date for Full Operational Capability	Reference to technical enabler hosting the service in the ATM master plan

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# **3** Operational and Business context

The local routine (METREPORT) and special (SPECIAL) reports are routine observations made at an aerodrome throughout the day. Local routine reports shall be transmitted to local air traffic services units and shall be made available to the operators and to other users at the aerodrome. The scope and usage of METREPORT/SPECIAL is the aerodrome. See ICAO Annex 3 [14].

The requirements for the provision of a service for dissemination of the METREPORT/SPECIAL bulletins of interest for airport operations and the full business and operational context for this service is given by the P06.05.04 OSED[1][2]. It is also been described in the SVA003 Service Identification Report (SIR) [3] and has been elaborated further in the SVA003 Service Allocation Report (SAR) [4]. These documents in particular have already covered:

- a description of what ATM goals and problems the service addresses;
- business level capabilities the service will realise can be inserted;
- the positioning of the service into the SESAR technical Architecture (ADD and TADs);
- the link to Operational Improvements;
- the list of IERs, operational and non-functional requirements from source documents;
- the relevance to the SESAR MET Coordination Group, and the linkage to the "2013 MET Issue Resolution";
- the prototyping and validation triggers from within the Programme.

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## 3.1 Information Exchange Requirements

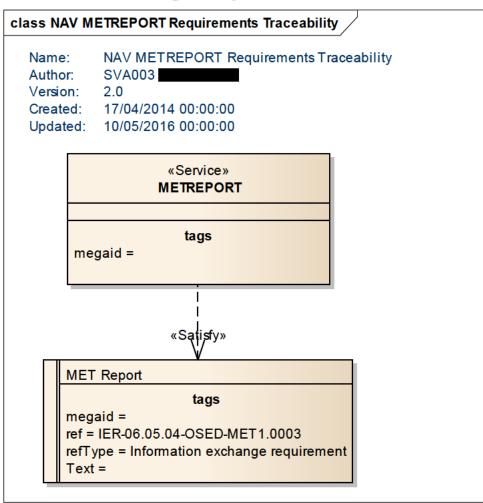


Figure 1: NAV METREPORT Service Requirements Traceability IER Diagram

# 3.2 Other Requirements

## 3.2.1 Non-Functional Requirements

N/A.

## 3.2.2 Relevant Industrial Standards

N/A.

## 3.2.3 Nodes

The EATMA nodes specified in the service are shown in the NOV-2 METREPORT Service To Nodes Mapping diagram below:

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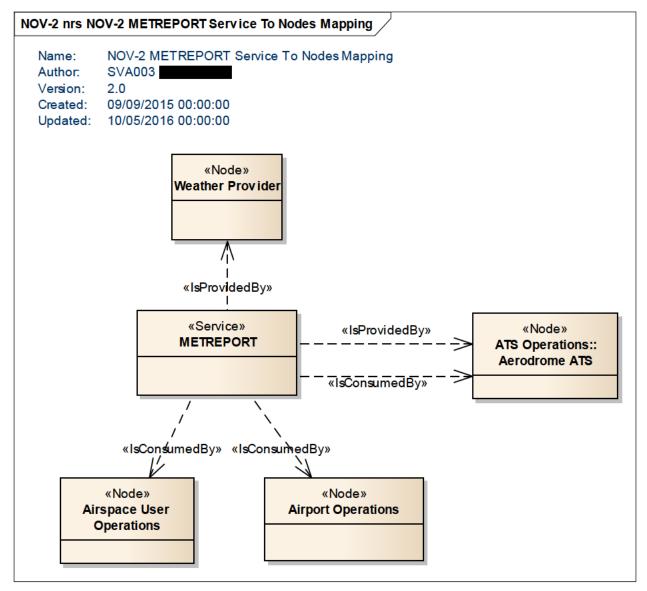


Figure 2: NOV-2 METREPORT Service to Nodes Mapping diagram

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# 4 Service overview

## 4.1 Service Taxonomy

The service taxonomy is described in the ISRM Service Portfolio document [5].

# 4.2 Service Levels (NfRs)

N/A.

# 4.3 Service Functions and Capabilities

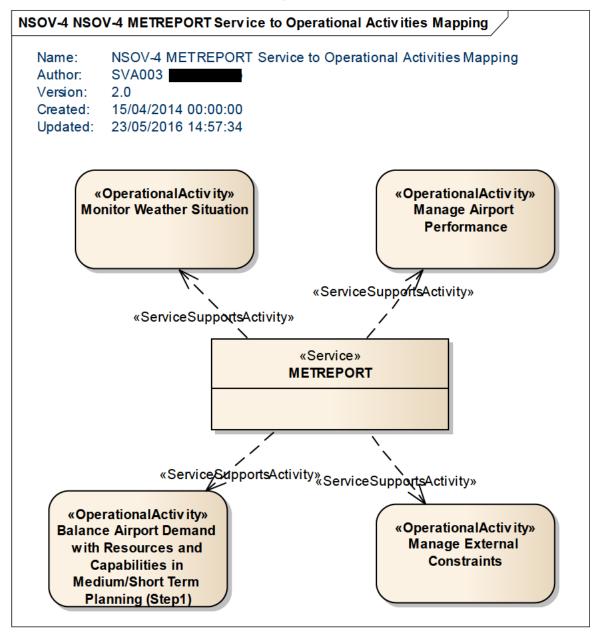


Figure 3: NSOV-4 METREPORT Service to Operational Activities Mapping diagram

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For the service to capabilities mapping, see the NSOV-2 Service Interface Definition diagram in Section 4.4.

## **4.4 Service Interfaces**

The service is based on a single pub/sub interface. The METREPORTPublisher service interface definition allows the consumer to subscribe or unsubscribe to the data, while the METREPORTSubscriber service interface definition allows the service provider to publish the message containing the data. The messages for subscription and unsubscription are only logical abstract wrappers, since the actual management of the publication mechanism is done at the level of the SWIM Technical Infrastructure.

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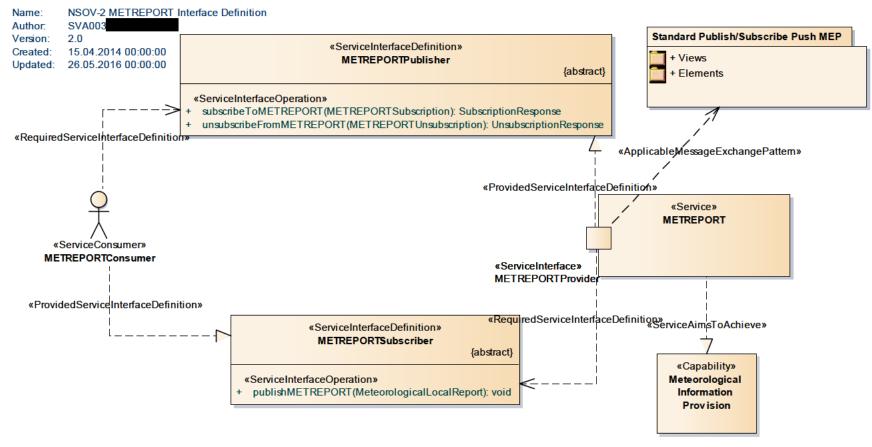


Figure 4: NSOV-2 METREPORT Service Interface Definition diagram



ServiceInterface	ServiceInterfaceDefinition	ServiceInterfaceOperation	Role
METREPORTProvider	METREPORTPublisher	subscribeToMETREPORT	provided
METREPORTProvider	METREPORTPublisher	unsubscribeFromMETREPORT	provided
METREPORTProvider	METREPORTSubscriber	publishMETREPORT	required

Table 1: Service Interfaces

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# **5** Service interface specifications

## 5.1 Service Interface METREPORTProvider

This is the only interface for this service. It implements the Standard Publish/Subscribe Push message exchange pattern, and exposes two service interface definitions, one for the provider and one for the consumer side.

## 5.1.1 Service Interface Definition METREPORTPublisher

This interface definition allows a consumer to subscribe or unsubscribe from the provision of the service message.

#### 5.1.1.1 Operation subscribeToMETREPORT

The service operation allows the service consumer to subscribe to a particular METREPORT/SPECIAL bulletin.

#### 5.1.1.1.1 Operation Functionality

The service operation allows the consumer to select the desired airport for which he desires a METREPORT/SPECIAL bulletin.

#### 5.1.1.1.2 Operation Parameters

The operation has been modelled with a return type representing the generic outcome for a subscription.

Element Name	Author	Notes
METREPORTSubscription	SVA003	Message for the Subscription
SubscriptionResponse	SVA003	Reply to the subscription operation.

Table 2: Payload elements for the subscribeToMETREPORT operation

## 5.1.1.2 Operation unsubscribeFromMETREPORT

The service operation allows the service consumer to unsubscribe from the service.

#### 5.1.1.2.1 Operation Functionality

The service operation allows the consumer to select the desired airport for which he does not want METREPORT bulletins anymore.

#### 5.1.1.2.2 Operation Parameters

The operation has been modelled with a return type representing the generic outcome for an unsubscription.

Element Name	Author	Notes
METREPORTUnsubscription	SVA003	Message for the Unsubscription
UnsubscriptionResponse	SVA003	Reply to the unsubscription operation.

#### Table 3: Payload elements for the unsubscribeFromMETREPORT operation

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## 5.1.2 Service Interface Definition METREPORTSubscriber

This interface definition allows the provider to publish the METREPORT.

### 5.1.2.1 Operation publishMETREPORT

The service operation allows the service consumer to receive a notification for a new METREPORT which he has subscribed to.

#### 5.1.2.1.1 Operation Functionality

The service operation simply allows the consumer to access a pre-subscribed new METREPORT available from the MET provider.

#### 5.1.2.1.2 Operation Parameters

The operation has been modelled without a return type. The operation has a single input parameter MeteorologicalLocalReport which represents the full service payload.

Element Name	Author	Notes
MeteorologicalLocalReport	SVA003	Publication message for the ICAO Annex 3
		local routine (MET REPORT) or special
		(SPECIAL) reports.

#### Table 4: Payload element for the publishMETREPORT operation

The relevant EntityItems with attributes and relationships are rendered in Figure 5 below. Details for the EntityItems and the payload tracing to AIRM are provided in Table 5 below. The tagged values show the linked AIRM class.

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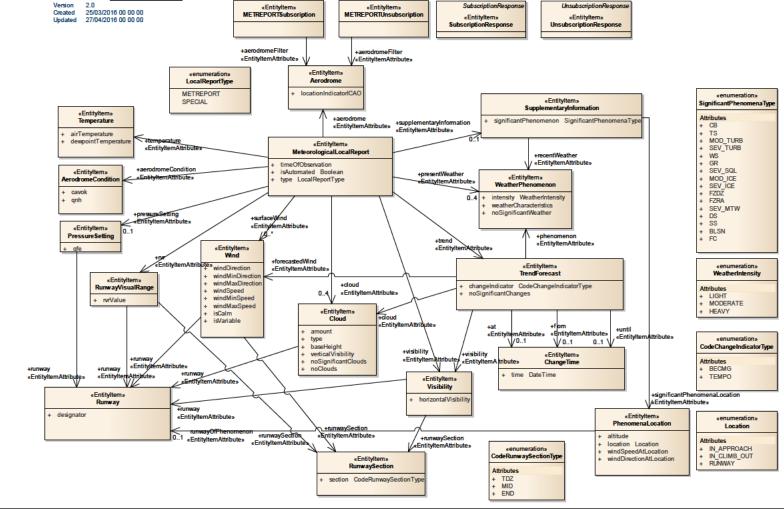
NSOV-2 METREPORT Interface Parameter Definition

NSOV 2 IPD NSOV 2 METREPORT Interface Parameter Definition

SVA003

Name Author





#### Figure 5: NSOV-2 METREPORT Service Interface Parameter Definition diagram

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Elem	ent Na	ame	Au	uthor			Notes		
Pheno	menal	Location	SV	/A003			The location where the significant		
							phenomena takes place, including wind		
							information.		
	1	Element Tagged Value	Name			Value			
CLDMSemanticTrace						CLDM_	out_of_scope		
	Attri	bute Name	Туре				Notes		
	altitu	de					Altitude of the significant phenomenon when it		
							happens in approach or climb-out.		
		<b>Tagged Value Nam</b>	e		Val	ue			
		CLDMSemanticTrac	e		um	х-			
							rm:v410:ConsolidatedLogicalDataModel:Subje		
					ctFi	elds:Mete	eorology:WeatherPhenomenon@position		
		bute Name	Туре				Notes		
	locati		Locatio	on					
		Tagged Value Nam			Val				
		CLDMSemanticTrac			CLI	DM_out			
		bute Name	Туре				Notes		
	wind	SpeedAtLocation					Wind speed at the location where the		
							significant phenomenon occurs.		
		Tagged Value Nam			Val	ue			
		CLDMSemanticTrac	e		um	х-			
							rm:v410:ConsolidatedLogicalDataModel:Subje		
					ctFields:Meteorology:Wind@windSpeed				
		bute Name	Туре		Notes				
	wind	DirectionAtLocation			Wind direction at the location where the				
					significant phenomenon occurs.				
		Tagged Value Nam			Value				
		CLDMSemanticTrac	e		um:x-				
					ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subje				
					ctFields:Meteorology:Wind@windDirection				
	ent Na			uthor	Notes				
Subsc		nResponse		/A003			Reply to the subscription operation.		
		Element Tagged Value	Name		Value				
		CLDMSemanticTrace				CLDM_	out_of_scope		
	ent Na		Au	uthor			Notes		
Unsul		ionResponse		/A003			Reply to the unsubscription operation.		
		Element Tagged Value	Name			Value			
		CLDMSemanticTrace				CLDM_	out_of_scope		
	ent Na	ame	Au	uthor			Notes		
Cloud	l		SV	/A003			Feature describing the cloud conditions for		
							cloud of operational significance.		
		Element Tagged Value	Name			Value			
	(	CLDMSemanticTrace				um:x-			
							ju:airm:v410:ConsolidatedLogicalDataModel:S		
						ubjectFi	elds:Meteorology:Cloud		
		bute Name	Туре				Notes		
	amou	unt					Fraction of the sky covered by the clouds of a		
							certain genus, species, variety, layer or		
							combination of clouds.		
		Tagged Value Nam			Val				
		CLDMSemanticTrac	e		um				
					ses:	sesarju:ai	rm:v410:ConsolidatedLogicalDataModel:Subje		

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				ctFi	elds:Mete	eorology:Cloud@cloudAmount	
Attrib	ute Name	Тур	е			Notes	
type						Categorization of the cloud depending on its main characteristics.	
•	Tagged Value Na	ame		Val	ue		
	CLDMSemanticT	Trace			sesarju:ai	rm:v410:ConsolidatedLogicalDataModel:Subje eorology:Cloud@cloudType	
Attrib	ute Name	Тур	e			Notes	
baseHe			-			Altitude of the lowest level of the description of a phenomenon.	
	Tagged Value Na	ame		Val	ue	•	
	CLDMSemanticT				sesarju:ai	rm:v410:ConsolidatedLogicalDataModel:Subj eorology:Cloud@base	
Attrib	ute Name	Тур	e			Notes	
vertical	lVisibility					Maximum distance at which an observer can see and identify an object on the same vertical as himself, above or below. The vertical visibility should be reported in steps of 30 m (100 ft) up to 600 m (2 000 ft).	
	Tagged Value Na	ame		Val	ue		
	CLDMSemanticT	Trace			sesarju:ai	rm:v410:ConsolidatedLogicalDataModel:Subj eorology:AviationCondition@verticalVisibility	
Attrib	ute Name	Тур	е			Notes	
noorga	ificantClouds					In automated local routine and special reports, if there are no clouds of operational significance and no restriction on vertical visibility and the abbreviation "CAVOK" is no appropriate, the abbreviation "NSC" should be used.	
	Tagged Value Na	ame		Val			
	CLDMSemanticT						
				urn:x- ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj ctFields:Meteorology:Cloud@isNoSignificantCloudDetecte			
Attrib	ute Name	Тур	e			Notes	
noClou						In automated local routine and special reports, when no clouds are detected by the automatic observing system, it should be indicated by using the abbreviation "NCD".	
	Tagged Value Na			Val	ue		
	CLDMSemanticT	Trace			sesarju:ai	rm:v410:ConsolidatedLogicalDataModel:Subj eorology:Cloud@isNoCloudDetected	
ement Nan	ne		Author			Notes	
ınwayVisua			SVA003			Horizontal distance over which a pilot of an aircraft on the centre line of a runway can see the runway surface markings or the lights delineating the runway or identifying its centre line. RVR is normally expressed in metres.	
E	ement Tagged Va	lue Nan	ne		Value		
	DMSemanticTrac				urn:x- ses:sesar	ju:airm:v410:ConsolidatedLogicalDataModel: elds:Meteorology:RunwayVisualRange	

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		De			$\mathbf{N}$	otes		
Attribute Name         Type           rvrValue				Notes           Value of the Runway Visual Range				
				alue				
CLDMSemanti	cTrace			un:x-				
					irn	n:v410:ConsolidatedLogicalDataModel:Subj		
						rology:RunwayVisualRange@rvrValue		
lement Name		Author				Notes		
ocation		SVA003				Indication of the flight phase where the MET		
Cation		SVA005			'			
Flower (Topped)	7 - <b>1 N</b> T -			V. I.		phenomena occurs.		
Element Tagged		ime		Value				
CLDMSemanticTr				CLDM_	_	nt_of_scope		
Attribute Name	Ту	ре			Ν	otes		
IN_APPROACH								
<b>Tagged Value</b>				lue				
CLDMSemanti	cTrace		CL	DM_out_	of	scope		
Attribute Name	Ту	ре			Ν	otes		
IN_CLIMB_OUT								
Tagged Value	Name		Va	lue				
CLDMSemanti				DM out	of	scope		
Attribute Name		ре			_	otes		
RUNWAY								
Tagged Value	Name		Va	lue	-			
CLDMSemanti				DM out	of	scope		
ement Name	ciface	Author	CL	DNI_0ut		Notes		
odeChangeIndicatorType		SVA003						
				77.1		Change indicators in trend forecasts.		
Element Tagged V CLDMSemanticTr		ıme		Value				
						:airm:v410:ConsolidatedLogicalDataModel: ls:Meteorology:Codelists:CodeChangeIndica		
Attribute Name	Ty	ре		ubjectFi	eld N	ls:Meteorology:Codelists:CodeChangeIndica		
Attribute Name BECMG	Ту	pe		ubjectFi	N B c	ds:Meteorology:Codelists:CodeChangeIndica otes ecoming. Indication that a change in meteo onditions is forecast to happen in a certain		
BECMG		pe		ubjectFi orType	N B c	ls:Meteorology:Codelists:CodeChangeIndica otes ecoming. Indication that a change in meteo		
BECMG Tagged Value	Name		Va	ubjectFi	N B c p	ds:Meteorology:Codelists:CodeChangeIndica otes ecoming. Indication that a change in meteo onditions is forecast to happen in a certain eriod.		
BECMG Tagged Value Attribute Name			Va	ubjectFi orType	N B c p e N	ds:Meteorology:Codelists:CodeChangeIndica fotes ecoming. Indication that a change in meteo onditions is forecast to happen in a certain eriod.		
BECMG Tagged Value	Name		Va	ubjectFi orType	N B c p T C	ds:Meteorology:Codelists:CodeChangeIndica otes ecoming. Indication that a change in meteo onditions is forecast to happen in a certain eriod. otes emporary. Indication that temporary		
BECMG Tagged Value Attribute Name	Name		Va	ubjectFi orType	N B cc p f f	ds:Meteorology:Codelists:CodeChangeIndica fotes ecoming. Indication that a change in meteo onditions is forecast to happen in a certain eriod. fotes emporary. Indication that temporary uctuations in meteo conditions are forecast to		
BECMG Tagged Value Attribute Name TEMPO	Name Ty			ubjectFi orType	N B cc pe N T fh	ds:Meteorology:Codelists:CodeChangeIndica otes ecoming. Indication that a change in meteo onditions is forecast to happen in a certain eriod. otes emporary. Indication that temporary		
BECMG Tagged Value Attribute Name TEMPO Tagged Value	Name Ty	pe	Va Va	ubjectFi orType	N B cc pe N T fh	ds:Meteorology:Codelists:CodeChangeIndica ecoming. Indication that a change in meteo onditions is forecast to happen in a certain eriod. fotes emporary. Indication that temporary uctuations in meteo conditions are forecast to appen in a certain period.		
BECMG Tagged Value Attribute Name TEMPO	Name Ty			ubjectFi orType	N B cc pe N T fh	ds:Meteorology:Codelists:CodeChangeIndica ecoming. Indication that a change in meteo onditions is forecast to happen in a certain eriod. <b>Totes</b> emporary. Indication that temporary uctuations in meteo conditions are forecast to appen in a certain period. <b>Notes</b>		
BECMG Tagged Value Attribute Name TEMPO Tagged Value	Name Ty	pe	Va	ubjectFi orType	N B cc pe N T fh	ds:Meteorology:Codelists:CodeChangeIndica ecoming. Indication that a change in meteo onditions is forecast to happen in a certain eriod. fotes emporary. Indication that temporary uctuations in meteo conditions are forecast to appen in a certain period.		
BECMG Tagged Value Attribute Name TEMPO Tagged Value lement Name	Name Ty Name	pe Author SVA003	Va	ubjectFi orType	N B cc pe N T fh	ds:Meteorology:Codelists:CodeChangeIndica otes ecoming. Indication that a change in meteo onditions is forecast to happen in a certain eriod. otes emporary. Indication that temporary uctuations in meteo conditions are forecast to appen in a certain period. Notes Types of significant meteorological phenomena according to MET REPORT		
BECMG Tagged Value Attribute Name TEMPO Tagged Value lement Name gnificantPhenomenaType	Name Ty Name Value Na	pe Author SVA003	Va	ubjectFi orType	N B cc pe N T fh	ds:Meteorology:Codelists:CodeChangeIndica otes ecoming. Indication that a change in meteo onditions is forecast to happen in a certain eriod. otes emporary. Indication that temporary uctuations in meteo conditions are forecast to appen in a certain period. Notes Types of significant meteorological phenomena according to MET REPORT		
BECMG Tagged Value Attribute Name TEMPO Tagged Value lement Name gnificantPhenomenaType Element Tagged Value	Name Ty Name Value Na	pe Author SVA003	Va	lue Value um:x-ses:sesan	eld N B c c p e f h h z	ds:Meteorology:Codelists:CodeChangeIndica otes ecoming. Indication that a change in meteo onditions is forecast to happen in a certain eriod. otes emporary. Indication that temporary uctuations in meteo conditions are forecast to appen in a certain period. Notes Types of significant meteorological phenomena according to MET REPORT		
BECMG Tagged Value Attribute Name TEMPO Tagged Value lement Name gnificantPhenomenaType Element Tagged Value	Name Ty Name Value Na ce	pe Author SVA003	Va	ubjectFi orType lue lue um:x- ses:sesat ubjectFi ype um:x- ses:sesat	ield N B c c p f h ha f h ha r ju ield	ds:Meteorology:Codelists:CodeChangeIndicate ecoming. Indication that a change in meteoron onditions is forecast to happen in a certain eriod. <b>Totes</b> emporary. Indication that temporary uctuations in meteo conditions are forecast to appen in a certain period. <b>Notes</b> Types of significant meteorological phenomena according to MET REPORT template in ICAO Annex 3. ::airm:v401:ConsolidatedLogicalDataModel: ds:Meteorology:Codelists:CodePrecipitation' ::airm:v401:ConsolidatedLogicalDataModel: ds:Meteorology:Codelists:CodeWeatherPhenerece ::Meteorology:CodeVeatherPhenerece ::Meteorology:CodeVeatherPhenerece ::Meteorology:CodeVeatherPhenerece ::Meteorology:CodeVeatherPhenerece ::Meteorology:CodeVeatherPhenerece ::Meteorology:CodeVeatherPhenerece ::Meteorology:CodeVeatherPhenerece ::Meteorology:CodeVeatherPhenerece ::Meteorology:CodeVeatherPhenerece ::Meteorology:CodeVeatherPhenerece ::Meteorology:CodeVeatherPhenerece ::Meteorology:CodeVeatherPhenerece ::		

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					elds:Meteorology:Codelists:CodeWeatherInter	
0				ityType		
			urn:x- ses:sesarju:airm:v410:ConsolidatedLogicalDataModel: ubjectFields:Meteorology:Codelists:CodeSignificantW atherQualifierType			
Attrib	ute Name	Туре			Notes	
CB		-78-			Cumulonimbus cloud.	
	Tagged Value M	Jame	Va	110		
Attrib	ute Name	Туре			Notes	
TS		Type			Thunderstorm.	
15	Tagged Value N	Jamo	Va	110	Thunderstorm.	
Attuib	ute Name	Туре	v a	lue	Notes	
	TURB	Type			Moderate turbulence.	
WOD_		Jamo	Va	<b></b>	Woderate turbulence.	
	Tagged Value N					
CLDMContextTrace			ses:: ctFi @M			
					irm:v410:ConsolidatedLogicalDataModel:Sub	
		-			eorology:Turbulence	
	ute Name	Туре			Notes	
SEV_1					Severe turbulence.	
	Tagged Value M CLDMContextT		Val	lue		
	CLDMSemantic	Trace	@SEVERE urn:x- ses:sesarju:airm:v-		rm:v410:ConsolidatedLogicalDataModel:Sub corology:Codelists:CodeWeatherIntensityType rm:v410:ConsolidatedLogicalDataModel:Sub corology:Turbulence	
Attrib	ute Name	Туре			Notes	
WS					Wind shear	
	Tagged Value N	Name	Va	lue		
Attrib	ute Name	Туре			Notes	
GR					Hail.	
OIC	Tagged Value N	Jamo	Va	luo	11001.	
	CLDMSemantic					
	CLDWSemanie	Hace	ses:sesarju:a		ju:airm:v410:ConsolidatedLogicalDataModel:Sub Meteorology:Codelists:CodePrecipitationType@I	
Attrib	ute Name	Туре			Notes	
SEV_S					Severe squall line.	
	<b>Tagged Value</b>	Name	Val	lue		
CLDMContextTrace CLDMSemanticTrace		ctF	sesarju:a	irm:v410:ConsolidatedLogicalDataModel:Sub eorology:Codelists:CodeWeatherIntensityTyp		
			urn ses: ctFi	urn:x- ses:sesarju:airm:v410:ConsolidatedLogicalDataModel: ctFields:Meteorology:Codelists:CodeWeatherPhenomer ype@SQUALL		
	ute Name	Туре			Notes	
Attrib MOD			Va		Moderate icing.	

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CLDMContex		urn:x-				
		ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subje				
		ctFields:Meteorology:Codelists:CodeWeatherIntensityType				
		@MODERATE				
CLDMSeman	ticTrace	um:x-				
		ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subje				
		ctFields:Meteorology:Icing				
Attribute Name	Туре	Notes				
SEV ICE	-3150	Severe icing.				
Tagged Value	Namo	Value				
CLDMContex		um:x-				
		ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj ctFields:Meteorology:Codelists:CodeWeatherIntensityType @SEVERE				
CLDMSeman	ticTrace	urn:x- ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj ctFields:Meteorology:Icing				
Attribute Name	Туре	Notes				
FZDZ		Freezing drizzle.				
Tagged Valu	e Name	Value				
CLDMContex		um:x-				
		ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:SubjectFields:Meteorology:Codelists:CodeSignificantWeatherQualifierType@FREEZING				
CLDMSeman	ticTrace	urn:x-				
		ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj				
		ctFields:Meteorology:Codelists:CodePrecipitationType@D				
		IZZLE				
Attribute Name	Туре	37.				
A A COLOR OF A COLOR O	I I VDC	Notes				
	Type	Notes Freezing rain.				
FZRA		Freezing rain.				
FZRA Tagged Value	e Name	Value				
FZRA	e Name	Value       urn:x-				
FZRA Tagged Value	e Name	Freezing rain. Value urn:x- ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj				
FZRA Tagged Value	e Name	Freezing rain. Value urn:x- ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj ctFields:Meteorology:Codelists:CodeSignificantWeatherQu				
FZRA Tagged Value CLDMContex	e Name ttTrace	Freezing rain. Value urn:x- ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj ctFields:Meteorology:Codelists:CodeSignificantWeatherQu lifierType@FREEZING				
FZRA Tagged Value	e Name ttTrace	Value           urn:x-           ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj           ctFields:Meteorology:Codelists:CodeSignificantWeatherQu           lifierType@FREEZING           urn:x-           ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj				
FZRA Tagged Value CLDMContex CLDMSeman	e Name ttTrace ticTrace	Value           urn:x-           ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj ctFields:Meteorology:Codelists:CodeSignificantWeatherQu lifierType@FREEZING           urn:x-           ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj ctFields:Meteorology:Codelists:CodePrecipitationType@R				
FZRA Tagged Value CLDMContex	e Name ttTrace	Value           urn:x-           ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj ctFields:Meteorology:Codelists:CodeSignificantWeatherQu lifierType@FREEZING           urn:x-           ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj ctFields:Meteorology:Codelists:CodePrecipitationType@R IN				
FZRA Tagged Value CLDMContex CLDMSeman CLDMSeman SEV_MTW	e Name ttTrace ticTrace Type	Freezing rain.         Value         urn:x-         ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj         ctFields:Meteorology:Codelists:CodeSignificantWeatherQu         lifierType@FREEZING         urn:x-         ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj         ctFields:Meteorology:Codelists:CodePrecipitationType@R         IN         Notes         Severe mountain waves.				
FZRA Tagged Value CLDMContex CLDMSeman CLDMSeman	e Name ttTrace ticTrace Type e Name	Freezing rain.         Value         urn:x-         ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj ctFields:Meteorology:Codelists:CodeSignificantWeatherQu lifierType@FREEZING         urn:x-         ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj ctFields:Meteorology:Codelists:CodePrecipitationType@R IN         Notes				
FZRA Tagged Value CLDMContex CLDMSeman CLDMSeman SEV_MTW Tagged Value CLDMContex	e Name ttTrace ticTrace Type e Name ttTrace	Value         urn:x-         ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj         ctFields:Meteorology:Codelists:CodeSignificantWeatherQu         lifierType@FREEZING         urn:x-         ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj         ctFields:Meteorology:Codelists:CodePrecipitationType@R         IN         Notes         Severe mountain waves.         Value         urn:x-         ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj         ctFields:Meteorology:Codelists:CodePrecipitationType@R         IN         Notes         Severe mountain waves.         Value         urn:x-         ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj         ctFields:Meteorology:Codelists:CodeWeatherIntensityType         @SEVERE				
FZRA Tagged Value CLDMContex CLDMSeman CLDMSeman Kttribute Name SEV_MTW Tagged Value	e Name ttTrace ticTrace Type e Name ttTrace	Value         urn:x-         ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj         ctFields:Meteorology:Codelists:CodeSignificantWeatherQu         lifierType@FREEZING         urn:x-         ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj         ctFields:Meteorology:Codelists:CodePrecipitationType@R         IN         Notes         Severe mountain waves.         Value         urn:x-         ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj         ctFields:Meteorology:Codelists:CodePrecipitationType@R         IN         Notes         Severe mountain waves.         Value         urn:x-         ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj         ctFields:Meteorology:Codelists:CodeWeatherIntensityType         @SEVERE         urn:x-				
FZRA Tagged Value CLDMContex CLDMSeman Attribute Name SEV_MTW Tagged Value CLDMContex CLDMContex	e Name ttTrace ticTrace ticTrace e Name ttTrace	Value         um:x-         ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj ctFields:Meteorology:Codelists:CodeSignificantWeatherQu lifierType@FREEZING         um:x-         ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj ctFields:Meteorology:Codelists:CodePrecipitationType@R         IN         Notes         Severe mountain waves.         Value         um:x-         ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj ctFields:Meteorology:Codelists:CodePrecipitationType@R         IN         Severe mountain waves.         Value         um:x-         ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj ctFields:Meteorology:Codelists:CodeWeatherIntensityType @SEVERE         um:x-         ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj ctFields:Meteorology:Codelists:CodeWeatherIntensityType @MOUNTAIN_WAVE				
FZRA         Tagged Value         CLDMContex         CLDMSeman         Attribute Name         SEV_MTW         Tagged Value         CLDMContex         CLDMSeman         GUDMSeman         CLDMContex         CLDMSeman         Attribute Name         SEV_MTW         CLDMContex         CLDMSeman	e Name ttTrace ticTrace Type e Name ttTrace	Value         um:x-         ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj         ctFields:Meteorology:Codelists:CodeSignificantWeatherQu         lifierType@FREEZING         um:x-         ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj         ctFields:Meteorology:Codelists:CodePrecipitationType@R.         IN         Notes         Severe mountain waves.         Value         um:x-         ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj         ctFields:Meteorology:Codelists:CodeWeatherIntensityType         @SEVERE         um:x-         ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj         ctFields:Meteorology:Codelists:CodeWeatherIntensityType         @SEVERE         um:x-         ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj         ctFields:Meteorology:Codelists:CodeWeatherIntensityType         @SEVERE         um:x-         ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj         ctFields:Meteorology:Codelists:CodeWeatherPhenomenonT         ype@MOUNTAIN_WAVE         Notes				
FZRA         Tagged Value         CLDMContex         CLDMSeman         Attribute Name         SEV_MTW         Tagged Value         CLDMContex         Attribute Name         CLDMContex         CLDMContex         CLDMContex         DS	e Name ttTrace ticTrace e Name ttrace ttTrace ttrace	Value         um:x-         ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj         ctFields:Meteorology:Codelists:CodeSignificantWeatherQu         lifierType@FREEZING         um:x-         ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj         ctFields:Meteorology:Codelists:CodePrecipitationType@R         IN         Notes         Severe mountain waves.         Value         um:x-         ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj         ctFields:Meteorology:Codelists:CodeWeatherIntensityType         @SEVERE         um:x-         ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj         ctFields:Meteorology:Codelists:CodeWeatherIntensityType         @SEVERE         um:x-         ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj         ctFields:Meteorology:Codelists:CodeWeatherIntensityType         @MOUNTAIN_WAVE         Notes         Duststorm.				
FZRA       Tagged Value         CLDMContex       CLDMSeman         Attribute Name       CLDMSeman         SEV_MTW       Tagged Value         CLDMContex       CLDMSeman         MTW       CLDMContex         SEV_MTW       CLDMContex         GLDMSeman       CLDMSeman         DS       Tagged Value	e Name ttTrace ticTrace e Name ticTrace ticTrace ticTrace ticTrace ticTrace	Value         um:x-         ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj ctFields:Meteorology:Codelists:CodeSignificantWeatherQu lifierType@FREEZING         um:x-         ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj ctFields:Meteorology:Codelists:CodePrecipitationType@R IN         Notes         Severe mountain waves.         Value         um:x-         ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj ctFields:Meteorology:Codelists:CodeWeatherIntensityType @SEVERE         um:x-         ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj ctFields:Meteorology:Codelists:CodeWeatherIntensityType @SEVERE         um:x-         ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj ctFields:Meteorology:Codelists:CodeWeatherIntensityType @MOUNTAIN_WAVE         Notes				
FZRA Tagged Value CLDMContex CLDMSeman CLDMSeman SEV_MTW Tagged Value CLDMContex CLDMContex CLDMSeman CLDMSeman Attribute Name DS	e Name ttTrace ticTrace e Name ticTrace ticTrace ticTrace ticTrace ticTrace	Value         um:x-         ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj ctFields:Meteorology:Codelists:CodeSignificantWeatherQu lifierType@FREEZING         um:x-         ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj ctFields:Meteorology:Codelists:CodePrecipitationType@R IN         Notes         Severe mountain waves.         Value         um:x-         ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj ctFields:Meteorology:Codelists:CodeWeatherIntensityType @SEVERE         um:x-         ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj ctFields:Meteorology:Codelists:CodeWeatherIntensityType @SEVERE         um:x-         ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj ctFields:Meteorology:Codelists:CodeWeatherIntensityType @MOUNTAIN_WAVE         Value       Um:x-         ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subj ctFields:Meteorology:Codelists:CodeWeatherPhenomenon'         ype@MOUNTAIN_WAVE       Notes         Duststorm.				

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			ype@			pe@DUST_STORM			
	Attribute Name Type				Notes				
	SS						Sandstorm.		
		Tagged Value Nam	e		Val	ue			
		CLDMSemanticTrac			um:x-				
						sesarju:ai	irm:v410:ConsolidatedLogicalDataModel:Subje		
							eorology:Codelists:CodeWeatherPhenomenonT		
						@SAND			
	Attrib	oute Name	Тур	)e	7.5		Notes		
	BLSN		- 71	<i>n</i>			Blowing snow.		
	DESI	Tagged Value Nam	•		Val	110	blowing show.		
		CLDMContextTrace			um				
		CLDWComextTace	-				irm:v410:ConsolidatedLogicalDataModel:Subje		
							eorology:Codelists:CodeSignificantWeatherQua		
							BLOWING		
		CLDMSemanticTrac					BLOWING		
		CLDMSemanucira	e		um		immentation Compatible to date and a simple to Market Market in		
							irm:v410:ConsolidatedLogicalDataModel:Subje teorology:Codelists:CodePrecipitationType@SN		
							eorology:Codensis:CodePrecipitationType@SN		
			-		OW	/	<b></b>		
		oute Name	Тур	be			Notes		
	FC						Funnel cloud (tornado or water spout).		
		Tagged Value Nam			Val				
		CLDMSemanticTrac	ce		um				
							irm:v410:ConsolidatedLogicalDataModel:Subje		
							eorology:Codelists:CodeWeatherPhenomenonT		
					ype	@FUNN	EL_CLOUD		
	ent Nai			Author			Notes		
Weath	erInter	isity		SVA003			Indicator of weather phenomena intensity		
							according to MET REPORT template in		
							ICAO Annex 3.		
		lement Tagged Value	Name V			Value			
	C	LDMSemanticTrace				um:x-			
					ubjectFie		rju:airm:v410:ConsolidatedLogicalDataModel: ields:Meteorology:WeatherPhenomenon@inten		
				ity					
		oute Name	Тур	Гуре			Notes		
	LIGH	Γ							
		<b>Tagged Value Nam</b>	e		Val	lue			
	Attrib	oute Name	Тур	)e			Notes		
	MODI	ERATE							
		<b>Tagged Value Nam</b>	e		Val	lue			
	Attrib	oute Name	Тур	)e			Notes		
	HEAV	Y							
		<b>Tagged Value Nam</b>	e		Val	lue			
Eleme	ent Nai	me		Author			Notes		
		ondition		SVA003			Weather observations and or forecast for an		
							aerodrome.		
	E	lement Tagged Value	Nai	me		Value			
		LDMSemanticTrace				urn:x-			
							rju:airm:v410:ConsolidatedLogicalDataModel:S		
							ields:Meteorology:AerodromeCondition		
	Attrib	oute Name	Тур	)e		,	Notes		
	cavok		- 71				Ceiling and Visibility OK.		
	Jaron V	Tagged Value Nam	e		Val	116			
		CLDMSemanticTrac			urn				
	CLDWisemanue Trace				ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subje				

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					ctFi	elds:Met	eorology:AerodromeCondition@cavok		
	Attı	ribute Name	Туре				Notes		
	qnh						Q Code corresponding to the derived atmospheric pressure at Mean Sea Level, based on the atmospheric pressure at the reference point converted using the characteristics of the ICAO Standard Atmosphere. It is used as an altimeter setting.		
		Tagged Value Nam	16		Val	116	animeter setting.		
		CLDMSemanticTra			um				
							rm:v410:ConsolidatedLogicalDataModel:Subje eorology:AerodromeCondition@qnh		
Elem				thor			Notes		
Chang	geTin			7A003			Timing information for the changes stated in the TREND forecast.		
		Element Tagged Value	e Name			Value			
		CLDMSemanticTrace					iju:airm:v410:ConsolidatedLogicalDataModel:A TemporalEnabledEntity		
		ribute Name	Type				Notes		
	time		DateTi	me	Val				
		Tagged Value Nam CLDMSemanticTra				Value CLDM_out_of_scope			
Elem	ent N			thor	CLI	Divi_out_	Notes		
Pressu				A003			Altimeter setting.		
110550		Element Tagged Value		11000		Value	ritanieter setting.		
		CLDMSemanticTrace	c ivanic			urn:x-			
					ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:S ubjectFields:Meteorology:AerodromeCondition				
	Att	ribute Name	Туре		Notes				
	qfe					Q Code corresponding to the atmospheric			
	-				pressure at the point of reference (generally of an aerodrome). It is used as an altimeter setting.				
		<b>Tagged Value Nam</b>			Value				
		CLDMSemanticTra	ce		urn:x- ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subje				
					ctFields:Meteorology:AerodromeCondition@qfe				
Elem				thor			Notes		
Suppl	emen	ntaryInformation	sv	7A003	Supplementary information provided in local routine or special reports, accordin the template in ICAO Annex 3.				
		Element Tagged Value	e Name			Value			
		CLDMSemanticTrace				CLDM	out_of_scope		
		ribute Name	Туре				Notes		
	sign	ificantPhenomenon	Signific pe	cantPh	enon	nenaTy	Types of significant meteorological phenomena according to MET REPORT template in ICAO Annex 3.		
		<b>Tagged Value Nam</b>	ie		Val	ue			
		CLDMSemanticTra			CLI	DM_out_	of_scope		
Elem		lame		thor			Notes		
Wind				A003			Air motion relative to the Earth's surface		
		Element Tagged Value	e Name			Value			
		CLDMSemanticTrace				urn:x-			
					ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:S ubjectFields:Meteorology:Wind				

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Attribute Name	Туре		Notes
windDirection			The angle representing the direction of the
			wind source.
Tagged Value		Value	
CLDMSeman	tic I race	um:x-	
			:airm:v410:ConsolidatedLogicalDataModel:S
A 43 357	-	ctFields:M	eteorology:Wind@windDirection
Attribute Name	Туре		Notes
windMinDirection			The minimum angle of the two extreme
			directions between which the surface wind
			varied.
Tagged Value		Value	
CLDMSeman	ticTrace	urn:x-	
			:airm:v410:ConsolidatedLogicalDataModel:S
			eteorology:Wind@extremeCounterClockwise
		dDirection	
Attribute Name	Туре		Notes
windMaxDirection			The maximum angle of the two extreme
			directions between which the surface wind
			varied.
Tagged Value	e Name	Value	
CLDMSeman	ticTrace	um:x-	
			:airm:v410:ConsolidatedLogicalDataModel:S
		ctFields:M	eteorology:Wind@extremeClockwiseWindD
		on	
Attribute Name	Туре		Notes
windSpeed			The speed of the wind.
Tagged Valu	e Name	Value	
CLDMSeman	ticTrace	urn:x-	
		ses:sesarju	:airm:v410:ConsolidatedLogicalDataModel:S
		ctFields:M	eteorology:Wind@windSpeed
Attribute Name	Туре		Notes
windMinSpeed			The minimum speed of variable wind.
Tagged Valu	e Name	Value	
CLDMSeman		urn:x-	
		ses:sesarju	:airm:v410:ConsolidatedLogicalDataModel:S
			eteorology:Wind@minWindSpeed
Attribute Name	Туре		Notes
windMaxSpeed			The maximum speed of variable wind.
Tagged Valu	e Name	Value	· · ·
CLDMSeman		urn:x-	
			:airm:v410:ConsolidatedLogicalDataModel:S
			eteorology:Wind@maxWindSpeed
Attribute Name	Туре		Notes
isCalm	- , pc		When a wind speed of less than 0.5 m/s (1
			is reported, it shall be indicated as "CALM
Tagged Valu	Namo	Value	Is reported, it shan be indicated as CALW.
CLDMSeman			
CLDWSeman	de l'face	um:x-	airmut 10. Consolidated Lacies Date M- 4-1.6
			:airm:v410:ConsolidatedLogicalDataModel:S
A // 11 / 37	T	ctFields:M	eteorology:Wind@isCalm
Attribute Name	Туре		Notes
1 77 1 1 1			Wind whose direction changes frequently.
isVariable	I		
isVariable			
isVariable			
isVariable			According to Annex 3 the wind is reported variable (VRB) in local routine or special reports, in METAR and SPECI, when one

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-						
						the following situations occur:
						- when the total variation is 60 or more and less than 180 and the wind speed is less than 1.5 m/s (3 kt), the wind direction shall be reported as variable with no mean wind direction; or - when the total variation is 180 or more, the wind direction shall be reported as variable with no mean wind direction.
	Tagged Value Nam	e		Val	ue	
	CLDMSemanticTrac				sesarju:a	irm:v410:ConsolidatedLogicalDataModel:Subje eorology:Wind@isVariable
Element Nam		Autl				Notes
TrendForecast			003			A concise statement of the expected significant changes in the meteorological conditions at that aerodrome to be appended to a local routine or local special report, or a METAR or SPECI.
	ment Tagged Value	e Name			Value	
CL	DMSemanticTrace				urn:x-	
						rju:airm:v410:ConsolidatedLogicalDataModel:S
					ubjectFi	elds:Meteorology:WeatherCondition
IM	DefinitionTrace				um:x-	
						rju:airm:v410:InformationModel:SubjectFields:
						icOperations:InformationServicesProducts:Mete
		_			orologic	alInformationProduct:TREND
	te Name	Туре		Notes		
changeI	ndicator		ngeIr	ndicatorTyp Change indicators in trend forecasts.		
		e				
	Tagged Value Nam			Val		
	CLDMSemanticTrac			CLI	DM_out	of_scope
	te Name	Туре				Notes
	ficantChanges			<b>X</b> 7 <b>1</b>		No significant changes are forecast. (NOSIG)
	Tagged Value Nam			Val		
	CLDMSemanticTrac	ce		um		
					-	irm:v410:ConsolidatedLogicalDataModel:Subje
						eorology:WeatherCondition@hasNoSignificant
Flowert No.		A		we	ather	Notes
Element Nam	e	Aut				
Visibility		SVA	003			The greatest horizontal distance at which selected objects can be seen, identified,
						and/or measured with instrumentation.
Ele	ment Tagged Value	Name			Value	and/of measured with instrumentation.
	DMSemanticTrace	ame				
	Divisemantic Trace				um:x-	rju:airm:v410:ConsolidatedLogicalDataModel:S
						elds:Meteorology:HorizontalVisibility
Attribu	te Name	Туре			acjeeuri	Notes
	talVisibility	Type				The greatest visibility value, observed in
						accordance with the definition of "visibility",
						which is reached within at least half the horizon
						circle or within at least half of the surface of
						the aerodrome. These areas could comprise
						contiguous or non-contiguous sectors.
	Tagged Value Nam	e		Val	ue	
	CLDMSemanticTrac			um		

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			ctFi	ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Sub ctFields:Meteorology:HorizontalVisibility@prevailingVis lity			
Elem	ent N	lame	Author			Notes	
WeatherPhenomenon S			SVA003	A003		A meteorological event.	
		<b>Element Tagged Value</b>	e Name		Value		
	CLDMSemanticTrace					rju:airm:v410:ConsolidatedLogicalDataModel:S elds:Meteorology:WeatherPhenomenon	
	Attribute Name Typ					Notes	
	inter	nsity		eatherIntensity		Indicator of weather phenomena intensity according to MET REPORT template in ICAO Annex 3.	
		Tagged Value Nam		Val			
		CLDMSemanticTra	ce	CL	DM_out_		
		ribute Name	Туре			Notes	
	wea	therCharacteristics				Characteristics and type of weather according to Annex 3 table A3-1.	
		Tagged Value Nam	ie	Val			
		CLDMSemanticTra	ce	ses:	n:x- s:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subje Fields:Meteorology:WeatherPhenomenon@phenomenonT e		
	Attı	ribute Name	Туре			Notes	
	noS	ignificantWeather				Indication that no significant weather phenomenon is forecasted.	
		<b>Tagged Value Nam</b>		Val	lue		
		CLDMSemanticTra	ce			irm:v410:ConsolidatedLogicalDataModel:Subje eorology:WeatherCondition@hasNoSignificant	
Elem	ent N	lame	Author	Notes			
METI	REPO	ORTSubscription	SVA003				
		<b>Element Tagged Value</b>	e Name		Value		
		CLDMSemanticTrace			CLDM_	out_of_scope	
Elem	ent N	lame	Author	Author		Notes	
METI	REPO	ORTUnsubscription	SVA003			Message for the Unsubscription	
		<b>Element Tagged Value</b>	e Name		Value		
		CLDMSemanticTrace			CLDM_	out_of_scope	
Elem			Author			Notes	
MeteorologicalLocalReport S			SVA003	SVA003		Publication message for the ICAO Annex 3 local routine (MET REPORT) or special (SPECIAL) reports.	
		<b>Element Tagged Value</b>	e Name		Value		
		CLDMSemanticTrace	_		CLDM_	out_of_scope	
		ribute Name	Туре			Notes	
timeOfObservation			Day and actual time of the observation in UTC.				
Tagged Value Name			Value				
	CLDMSemanticTrace				irm:v410:ConsolidatedLogicalDataModel:Subje eholders:Stakeholder:Unit@startEntityLifetime		
	Attı	ribute Name	Туре			Notes	
	isAu	itomated	Boolean			Automated report identifier.	
		Tagged Value Nam CLDMSemanticTra		Val CL	ue DM_out	of scope	

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Attribut	Туре			Notes			
type	type			ype		Automated report identifier.	
	Tagged Value Nam			Value			
(	CLDMSemanticTrac	æ		CLI	DM_out_	of_scope	
<b>Element Name</b>	e	1	Author			Notes	
LocalReportTy	pe	•	SVA003			Identification of the type of local MET report: METREPORT or SPECIAL.	
Elei	ment Tagged Value	Nam	16		Value	report. METREFORT OF STECTAE.	
	DMSemanticTrace					out of scope	
		Туре	e			Notes	
METRE		-JF-				Local routine report.	
	Tagged Value Name	e Value		ue			
(	CLDMSemanticTrac	ce CLDM_or			DM_out_	_out_of_scope	
1	IMDefinitionTrace	urn:x-					
		1		ses:sesarju:airm:v410:InformationModel:SubjectFields:AirT			
						tions:InformationServicesProducts:Meteorologic	
		alIn			alInformationProduct:METREPORT		
Attribut	te Name	Туре	Гуре			Notes	
SPECIA	L				Special report.		
1	Tagged Value Name			e Value			
(	CLDMSemanticTrac			e CLI		CLDM_out_of_scope	
1	IMDefinitionTrace		urn::		um:x-		
			ses:sesa		s:sesarju:airm:v410:InformationModel:SubjectFields:AirT		
			rafficOperat			Operations:InformationServicesProducts:Meteorologic	
				alIn	IInformationProduct:SPECIAL		

Element Name			Author			Notes	
Temp	eratu	ire		SVA003			Observation or forecast for temperature
							values.
		Element Tagged Valu	e Nai	ne		Value	
		CLDMSemanticTrace				urn:x-	
							ju:airm:v410:ConsolidatedLogicalDataModel:S
						ubjectFi	elds:Meteorology:AerodromeCondition
	Att	ribute Name	Тур	e			Notes
	airT	emperature					The temperature indicated by a thermometer
							exposed to the air in a place sheltered from
							direct solar radiation (degree Celsius, °C).
		Tagged Value Nar	ne	Value			
		CLDMSemanticTra	ice	urn:x-			
							rm:v410:ConsolidatedLogicalDataModel:Subje
					ctFi	elds:Met	eorology:AviationCondition@airTemperature
	Attribute Name Ty		Тур	e			Notes
	dew	pointTemperature					Temperature to which a volume of air must be
							cooled at constant pressure and constant
							moisture in order to reach saturation ; any
						further cooling causes condensation.	
	Tagged Value Name				Value		
	CLDMSemanticTrace			urn:x-			
					ses:	sesarju:ai	rm:v410:ConsolidatedLogicalDataModel:Subje
					ctFi	elds:Met	eorology:AviationCondition@dewpointTempera
					ture	÷	

Element Name	Author	Notes
Runway	SVA003	A defined rectangular area on a land
		aerodrome prepared for the landing and take-

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				off of aircraft.		
E	Element Tagged Value Name		Value	Value		
C	CLDMSemanticTrace		urn:x- ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:S ubjectFields:BaseInfrastructure:AerodromeInfrastructur e:Runway			
Attrib	ute Name	Туре		Notes		
design	designator			The full textual designator of the runway, used to uniquely identify it at an aerodrome/heliport which has more than one. E.g. 09/27, 02R/20L, RWY 1.		
	<b>Tagged Value Nam</b>	e	Value			
	CLDMSemanticTrace			irm:v410:ConsolidatedLogicalDataModel:Subje eInfrastructure:AerodromeInfrastructure:Runwa or		

Element Na	Author	Author		Notes		
Aerodrome	SVA00	SVA003		A defined area on land or water (including any buildings, installations and equipment) intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft.		
]	Element Tagged Value	Name		Value		
Attri	CLDMSemanticTrace       Attribute Name     Type       locationIndicatorICAO		urn:x- ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:S ubjectFields:BaseInfrastructure:AerodromeInfrastructur e:Aerodrome Notes The four letter ICAO location indicator of the aerodrome/heliport, as listed in ICAO DOC 7910.			
	Tagged Value Name			Value		
	s		ses ctF	urn:x- ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Subje ctFields:BaseInfrastructure:AerodromeInfrastructure:Aerodr ome@designator		

Element Name Auth				uthor		Notes
Runw	aySectio	on	SVA003	SVA003		Section of the runway: TDZ, MID, END.
	Attrib	ute Name	Туре	pe		otes
	section Cod			odeRunwaySectionType		ction of the runway: TDZ, MID, END.
Tagged Value Name			е	Value		
CLDMSemanticTrace			ce	CLDM_out	of	scope

#### Table 5: Payload tracing to AIRM

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# 6 Service dynamic behaviour

The interface offers three operations, namely to subscribe/unsubscribe from the publication of the data, and to notify the consumer on the data being available. The service dynamic behaviour can be shown using the NSOV-5c Service-Event diagram created for the purpose. The following diagram shows that the interaction envisaged between provider and consumer is an asynchronous publish/subscribe "push" type MEP.

# 6.1 Service Interface METREPORTProvider

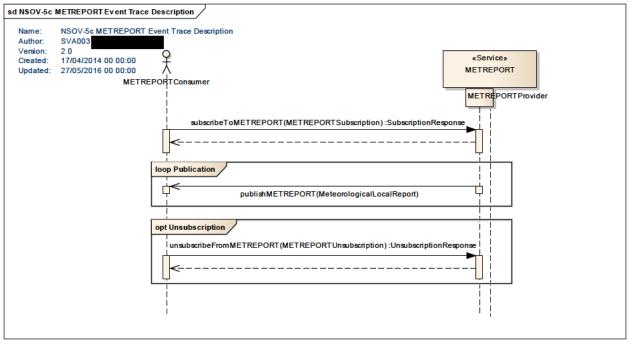


Figure 6: NSOV-5c METREPORT Service Event Trace Description

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# 7 Service provisioning (optional)

Service prototyping has been performed in the context of MET-related validation exercise EXE-06.03.01-VP-669 in SESAR. The technology so far identified for the technical interface is the OASIS standard Web Service Notification and belongs to the SWIM Yellow Profile. The detailed description of the technical service contract and service implementation for this exercise is part of technical deliverables by project 12.7.5.

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# 8 Validation and Verification

# 8.1 Verification

Verification was performed according to the ISRM Rulebook [11] and the ISRM Verification Guidance [12].

## 8.1.1 Verification Results

Verification was performed via manual inspection and assisted by a script developed in 8.3.10. The verification outcome is completely free of errors.

Verification reports are in these files "Designed\_Services\_-\_METREPORTService.xls" and "Designed\_Services\_-\_METREPORTService\_Common.xls" available in [15].

# 8.2 Validation

Validation for this service was performed as part of the SESAR validation exercise EXE-06.03.01-VP-669 in Q1 2016. The outcome is recorded in the Validation report VALR [16].

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# 9 References

Name	Version	Document ID / Location
[1] OFA 05.01.01 Consolidated OSED edition 3 document (Part1)	03.00.00	06.05.04 D16
[2] OFA 05.01.01 Consolidated OSED edition 3 document (Part2)	03.00.00	06.05.04 D16
[3] Service Identification Report - SVA003	00.01.00	08.03.06
[4] B.4.3 Service Allocation - SVA003	00.00.03	B.04.03
[5] ISRM Service Portfolio	00.08.01	08.03.10 D65
[6] Project deliverables template	03.00.00	SJU templates & guidelines package, Project deliverables template
[7] SESAR Operational Service and Environment Definition	03.00.00	SJU templates & guidelines package, OSED template
[8] SESAR Safety and Performance Requirements	03.00.00	SJU templates & guidelines package, SPR template
[9] ISRM Tooling Guidelines	00.07.00	08.03.10 D44
[10] ISRM Modelling Guidelines	00.07.00	08.03.10 D44
[11] ISRM Foundation Rulebook	00.07.00	08.03.10 D44
[12] ISRM Verification Guidelines	00.07.00	08.03.10 D44
[13]European ATM Architecture (EATMA) Guidance Material v4	00.04.02	B.04.01 D66
[14] ICAO Annex 3, Meteorological Service for International Air Navigation	17 <sup>th</sup> Edition, July 2010	<u>www.icao.int</u>
[15] Verification reports for the service	N/A	08.03.10 D65 Verification reports
[16] SESAR P06.03.01 Delivery of VALR EXE669 ENAV proposition	00.01.00	06.03.01 D140
[17] SCG service initiation for SVA003 extension	N/A	08.03.10
[18] Session H service allocation matrix EATMA 6.1 V.0.6	00.00.08	B04.03 SCG Service Allocation Matrix

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