



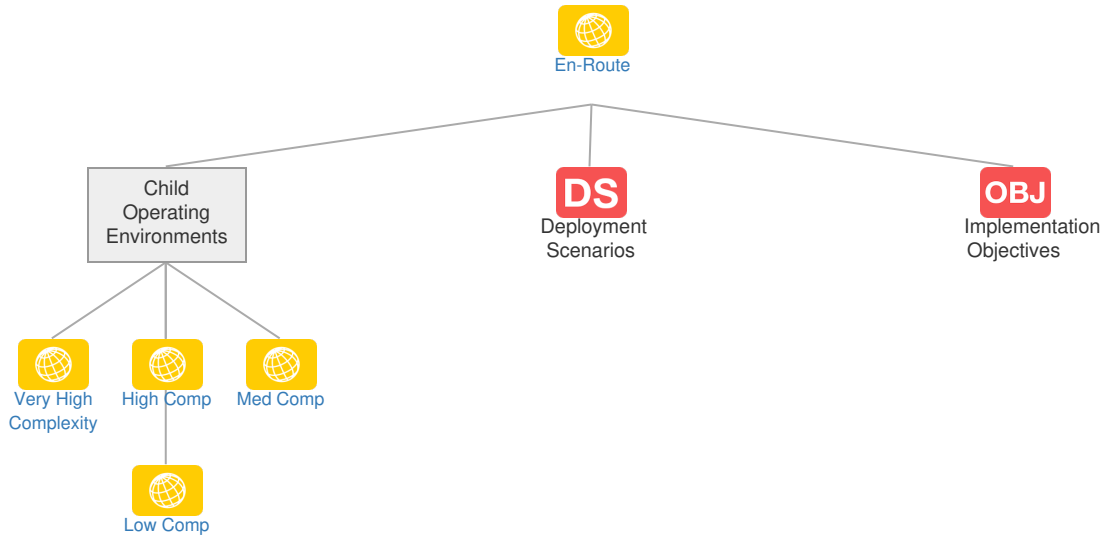
En-Route

An En-route Operating Environment is a volume of airspace outside terminal manoeuvring areas, where the climb, cruise and descent phases of flight take place and within which, or part of which, area control service is provided by an ATC unit.

Note : definitions of OEs and sub-OEs to be reviewed in the next dataset.

Context

Related Elements





Parent Operating Environment: No associated data



Child Operating Environments

Title	Description	Related Elements
Very High Complexity	A Very High Complexity En-Route Operating Environment is an En-Route airspace in which, or a...	
High Complexity	A High Complexity En-Route Operating Environment is an En-Route airspace in which, or a part of...	
Medium Complexity	A Medium Complexity En-Route Operating Environment is an En-Route airspace in which, or a part of...	
Low Complexity	A Low Complexity En-Route Operating Environment is an En-Route airspace in which, or a part of...	



SESAR Solutions: No associated data














































































































































Deployment Scenarios













































Code	Title	Related Elements
-	ACAS evolution for rotorcraft and general aviation	
-	Advanced rotorcraft operations in the TMA	
-	Aeronautical digital map service	
-	Airborne spacing flight deck interval management	
-	Aircraft as an AIM/MET sensor and consumer	
-	Alternative position, navigation and timing (A-PNT)-short term	
-	Arrival management into multiple airports	
-	CNS rationalisation	
-	CNS services evolution	
-	Collaborative control and multi-sector planner in en-route	
-	Collaborative network performance management	
-	Collision avoidance for IFR RPAS	
-	Continuous descent operations (CDO)	
-	Controlled time of arrival (CTA) in medium density / medium complexity environment	
-	Delegation of services amongst ATSUs	
-	Digital integrated network management and ATC planning	
-	Digitally enhanced briefing	
-	Dynamic airspace configuration	
-	Dynamic airspace configuration supporting moving areas	
-	E-AMAN service	
-	Enhanced airborne collision avoidance for commercial air transport normal operations (ACAS Xa)	
-	Enhanced integration of AU trajectory definition and network management processes	
-	Enhanced network traffic prediction and shared complexity representation	
-	Enhanced safety nets	
-	Enhanced short-term conflict alert (STCA) and non transgression zone (NTZ) ground based safety nets making use of DAPs information	

Code	Title	Related Elements
-	Flight-centric ATC and improved distribution of separation responsibility in ATC	
-	HMI interaction modes for ATC centres and airport towers	
-	High-productivity controller team organisation	
-	Hyper-connected ATM	
-	IFR RPAS accommodation in airspace classes A to C	
-	IFR RPAS integration in airspace classes A to C	
-	Improved aviation AIM and MET services through automation and digitalisation	
-	Improved ground trajectory predictions enabling future automation tools	
-	Improved vertical profiles through enhanced vertical clearances	
-	Mission trajectories management with integrated dynamic mobile areas type 1 and type 2	
-	Network optimisation of multiple ATFCM time-based measures	
-	New use and evolution of cooperative and non-cooperative surveillance	
-	Next generation AMAN for a 4D environment	
-	Optimised route network using advanced RNP	
-	Performance based free routing in lower airspace	
-	RBT revision supported by datalink and increased automation	
-	SWIM T1 (technical infrastructure) purple profile for air/ground advisory information sharing	
-	SWIM T1 green profile for ground/ground civil military information sharing	
-	SWIM T1 purple profile for air/ground safety-critical information sharing	
-	Static aeronautical data service	
-	Sub-regional demand capacity balancing service	
-	Surveillance performance monitoring	
-	Trajectory prediction service	
-	U-space U1 — foundation services	
-	U-space U2 — initial services	
-	Virtual centre concept	
-	eFPL supporting SBT transition to RBT	

OBJ Implementation Objectives

Code	Title	Related Elements
AOM13.1	Harmonise Operational Air Traffic (OAT) and General Air Traffic (GAT) Handling	 STK SOL OI EN
AOM14	Implement re-organisation of ECAC airspace to ensure a uniform and simplified application of ICAO Air Traffic Service classes Flight Level 195 and below	 STK OI
AOM18	Implement ATS Route Network (ARN) - Version 6	 STK OI
AOM19	Implement Advanced Airspace Management	 STK OI EN
AOM19.1	ASM Support Tools to Support Advanced FUA (AFUA)	 STK SOL OI PCP ICAO
AOM19.2	ASM Management of Real-Time Airspace Data	 STK SOL OI PCP ICAO

Code	Title	Related Elements
AOM19.3	Full Rolling ASM/ATFCM Process and ASM Information Sharing	     
AOM19.4	Management of Pre-defined Airspace Configurations	  
AOM20	Implement ATS Route Network (ARN) - Version 7	  
AOM21.1	Direct Routing	     
AOM21.2	Free Route Airspace	     
AOP05	Airport Collaborative Decision Making (A-CDM)	     
AOP08	Implement Airport Airside Capacity Planning Method	  
ATC02.2	Implement ground based safety nets - Short Term Conflict Alert (STCA) - level 2 for en-route operations	   
ATC02.5	Implement ground based safety nets - Area Proximity Warning - level 2	  
ATC02.6	Implement ground based safety nets - Minimum Safe Altitude Warning - level 2	  
ATC02.7	Implement ground based safety nets - Approach Path Monitor - level 2	  
ATC02.8	Ground-Based Safety Nets	   
ATC12.1	Automated Support for Conflict Detection, Resolution Support Information and Conformance Monitoring	    
ATC15.1	Information Exchange with En-route in Support of AMAN	   
ATC15.2	Arrival Management Extended to En-route Airspace	     
ATC17	Electronic Dialogue as Automated Assistance to Controller during Coordination and Transfer	   
ATC18	Multi-Sector Planning En-route - 1P2T	   
ATC20	Enhanced STCA with down-linked parameters via Mode S EHS	   
COM10	Migrate from AFTN to AMHS	  
COM11.1	Voice over Internet Protocol (VoIP) in En-Route	  
COM12	New Pan-European Network Service (NewPENS)	   
FCM01	Implement enhanced tactical flow management services	   
FCM03	Collaborative Flight Planning	   
FCM04.1	Short Term ATFCM Measures (STAM) - Phase 1	  
FCM04.2	Short Term ATFCM Measures (STAM) - Phase 2	     
FCM05	Interactive Rolling NOP	     
FCM06	Traffic Complexity Assessment	     
FCM07	Calculated Take-off Time (CTOT) to Target Times for ATFCM Purposes	     
FCM07.1	Implement Target Times for ATFM purposes	    
FCM08	Extended Flight Plan	     

Code	Title	Related Elements
INF08.1	Information Exchanges using the SWIM Yellow TI Profile	     
INF08.2	Information Exchanges using the SWIM Blue TI Profile	     
ITY-ACID	Aircraft Identification	  
ITY-ADQ	Ensure Quality of Aeronautical Data and Aeronautical Information	   
ITY-AGDL	Initial ATC Air-Ground Data Link Services	   
ITY-AGVCS2	8,33 kHz Air-Ground Voice Channel Spacing below FL195	  
ITY-COTR	Implementation of ground-ground automated co-ordination processes	    
ITY-FMTP	Common Flight Message Transfer Protocol (FMTP)	   
ITY-SPI	Surveillance Performance and Interoperability	   
NAV12	ATS IFR Routes for Rotorcraft Operations	    
SAF10	Implement measures to reduce the risk to aircraft operations caused by airspace infringements	