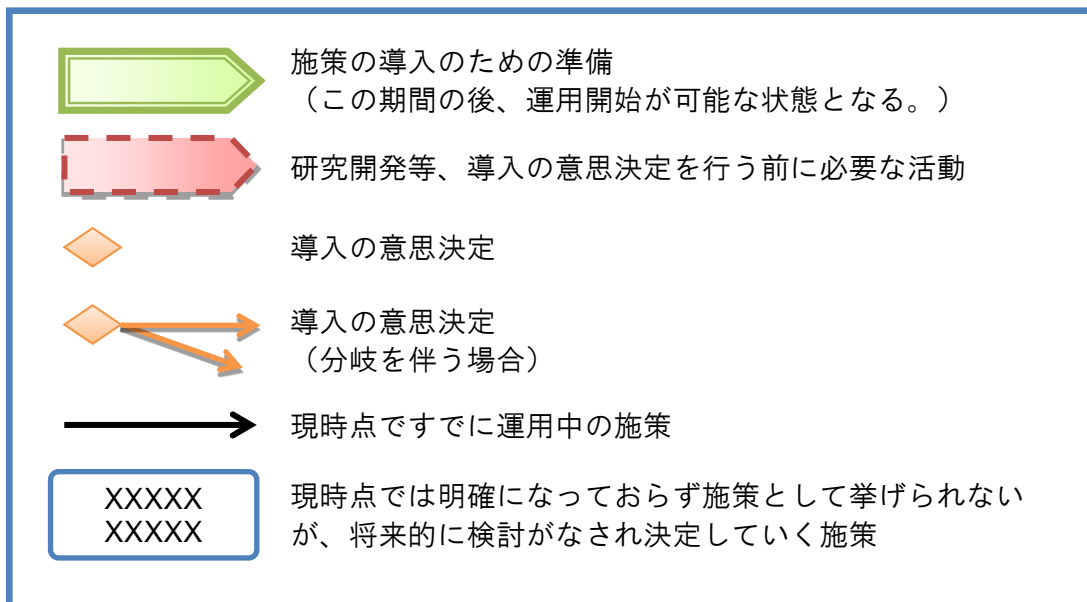


CARATS Roadmap (As of March 2018)

凡例



Category	Sub-Category	Measure ID	Measure name	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026 +										
運航中	High density operations	OI-23-1	Improved efficiency of aerodrome operations (AMAN/DMAN/SMAN)		DMAN/SMAN (STEP1) (T-ATM)				AMAN (STEP1)					AMAN (STEP2)						Integration										
		OI-23-2	Air port CDM (A-CDM)		Information sharing (T-ATM)				Deployment for						Deployment for						Enhancement									
		OI-24	Improved airport facilities to enhance throughput of aerodrome																											
		OI-25	Improved throughput for close parallel runways																											
		OI-26	Reduced wake turbulence separation minima						Phase 1, 2												Phase 3	Reflected wind data to								
		OI-27	Reduced separation minima for high density airspace (3NM for enroute)																											
		OI-28	Reduced separation minima for oceanic airspace							ADS-C CDP																				
		OI-29-1	Improved capacity of ATC using datalink for routine communications / ATC departure clearance (airport) - DCL, D-TAXI	DCL (ARINC623)							Deployment of DCL (ARINC)											DCL(ATN-B2,etc.)	D-TAXI(ATN-B2,etc.)							
		OI-29-2	Improved capacity of ATC using datalink for routine communications / ATC clearance (enroute) - continental CPDLC								Continental CPDLC (FANS-1/A+(POA/M2))												Enhancement (ATN-B2, etc.)							
		OI-29-3	Improved capacity of ATC using datalink for routine communications / Flight information services - D-ATIS, D-OTIS, D-RVR, D-HZWX	D-ATIS (ARINC623運用中)																			D-OTIS	D-RVR/HZWX						
		OI-30-1	Air Separation Assistance System (ASAS) / ATSA-ITP operations						R&Ds and evaluations on		ATSA-ITP																			
		OI-30-2	Air Separation Assistance System (ASAS) / ATSA-AIRB operations (1090ES)						R&Ds and evaluations on ATSA-AIRB		ATSA-AIRB																			
		OI-30-4	Air Separation Assistance System (ASAS) / ATSA-VSA operations						R&Ds and evaluations on ATSA-VSA		ATSA-VSA																			
		OI-30-5	Air Separation Assistance System (ASAS) / ASPA-IM operations																					Monitoring the status of ATSA (ITP/AIRB/VSA/SURF) implementation in other countries	R&Ds and evaluations on ASPA-IM	ASPA-IM				
		OI-30-6	ATS operation by utilizing aircraft derived data								Utilization as ATS support information														R&Ds on utilization of wind information for ATS	Utilization of wind information for ATS	R&Ds on CAP	CAP Capabilities	R&Ds on improvement of tracking accuracy	Improvement of tracking accuracy
		Improved information services	OI-31	Enhanced information in the cockpit					Monitoring the Int'l standardization status / R&Ds		Weather information														Traffic information	Aeronautical	Terrain / obstacle information			
			OI-31-2	Improved information services on the ground																								Implementation of FOD (foreign object debris) finder		
			OI-32	Improved information services for aircraft operators																								Monitoring the International standardization status / R&Ds	Provided effective information to operators	
運航後	Sharing and utilizing safety related information	OI-33	Sharing and utilizing safety related information					Implement SSP (State Safety)																	accumulation/analysis/evaluation of acquired safety	Study on real time risk management	Real time risk management			

Category	Measure ID	Measure name	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026 +		
Information management	EN-1	Enhancement of automation systems	Evaluation capability of dynamic use of training airspace (OI-2)				Implementation of the new														
			Calculation capability of optimal climb/descent profiles (OI-13)				Enhancement of the														
			Fixed metering fix (OI-19)																		
			Variable metering fix (OI-19)																		
			Fast time simulation capability to evaluate airspace and traffic flow (OI-1,3,6)																		
			Traffic flow prediction and operation support capabilities needed for the flexible use of airspace operations																		
			Traffic management with high time accuracy (OI-16,18)																		
			Scheduling tools to support aerodrome surface operations (OI-23)																		
			Conflict detection capabilities (OI-20)																		
			ATC decision support capabilities using aircraft																		
Calculation, sharing and coordination capability of 4D trajectory (OI-15,17)																					
Pre-flight optimization of 4D trajectory (OI-17)																					
Real time provision capability of revised trajectories (OI-22)																					
Information management	EN-2	Information management infrastructure	FODB																		
			GIS database																		
			International standardized format for internal data exchange						FF-ICE												
Information management	EN-3	Information sharing infrastructure	Digital NOTAM											4D weather database							
			International IP network connection						SWIM (Implementing G/G SWIM)												
			SWIM (Utilize SWIM Concept)						SWIM (Implementing A/G)												
			MGD				MGD2		MGD (Mini Global Demonstration)												
			Establish SWIM governance																		
Weather information	EN-4-1	Enhanced weather observation data / Integration of observation data for airport and airspace						Integrated display for observation data for airport					Integration of observation data for airport and airspace (Use of 4D weather database)								
	EN-4-2	Enhanced weather observation data / Enhanced observation data for airport and airspace					Weather radar echo processing system for low altitude observation					Enhanced radar / lidar									
				Study on enhanced weather information by using multiple																	
	EN-4-3	Enhanced weather observation data / Use of airborne observed weather data											Utilization of weather data observed by aircraft					Utilization of EDR			
				Utilization of weather data observed by new sensors																	
	EN-4-4	Enhanced weather observation data / New types of sensor data and enhancement of existing sensors						New Observation data					R&Ds and evaluations on enhancing snow and precipitation observation								
	EN-4-5	Enhanced weather observation data / Enhanced observation of volcanic ash	R&Ds and evaluations on improvements of volcanic ash observation techniques										R&Ds and evaluations on distribution of enhanced observation data								
	EN-5-1	Enhanced weather observation data / Use of enhanced observation data												Utilization of weather observation data acquired by							
				Utilization of EDR																	
				Utilization of weather data observed by new sensors																	
EN-5-2	Enhanced weather observation data / More precise weather forecast models	Improved update rates and resolutions of weather forecast data using enhanced weather forecast models																			
Weather information	EN-5-3	Enhanced weather observation data / Provision of new weather forecast data	Enhanced weather																		
			Frequent forecast data provision																		
			Enhanced weather forecast data elements																		
EN-5-4	Enhanced weather observation data / Quantification of weather forecast error											Quantification of weather forecast error									

