SESAR		Initial								LOC/APT	
AOP14.2		**Multiple Remote Tower Module**									
REG	**ASP**	**MIL**	**APO**	**USE**	**INT**	**IND**	**NM**	**MET**	**AIS**	**USP**

Subject matter and scope

The Remote Tower concept is changing the provision of Air Traffic Services (ATS) in a way that it is more service tailored, dynamically positioned and available when and where needed, enabled by digital solutions replacing the physical presence of controllers and control towers at aerodromes.

This Objective aims for increased cost efficiency by allowing ATCO to maintain situational awareness and provide air traffic services for 2 or 3 airports simultaneously. Implementation is expected address airports with the following traffic characteristics regarding simultaneous movements (including mix of IFR and VFR, as well as aerodrome vehicles):
• 2 airports with 6 simultaneous movements in total, up to 20 movements (ground and air) per hour in peak, 15.000 to 45.000 annual movements
• 3 airports with 4 simultaneous movements in total, up to 15 movements (ground and air) per hour, up to 15.000 annual movements

NOTE 1: This is an "Initial" objective to provide advance notice to stakeholders. Some aspects of the objective require further validation.

NOTE 2: The baseline for multiple remote tower operations is the single remote tower operations (AOP14.1). Transfer from conventional tower service local at the aerodrome to multiple Remote Tower is foreseen to take the step via Single Remotely controlled Air Traffic Service before a combination of more than one aerodrome in multiple mode is in place

NOTE FOR MILITARY AUTHORITIES: It is the responsibility of each military authority to review this Objective IN ITS ENTIRETY and address each of the SLoAs that the military authority considers RELEVANT for itself. This has to be done on top and above of the review of "MIL" SLoAs which identify actions EXCLUSIVE to military authorities.

Applicability Area(s) & Timescale(s)

Applicability Area (Not defined yet)	

Timescales:	From:	By:	Applicable to:
IOC used for Analytics functioning only - not for implementation planning	01/07/2022		
FOC used for Analytics functioning only - not for implementation planning		31/12/2030	

References

European ATM Master Plan

OI step -	[SDM-0207]-Remotely Provided Air Traffic Service for Multiple Aerodromes (up to 3 aerodromes)							
	Enablers -	AERODROME-ATC-79	AERODROME-ATC-81	AERODROME-ATC-82	CTE-C14			

Legend:	WXYZ-001	Covered by SLoA(s) in this objective	WXYZ-002 zzz	Covered by SLoA(s) in another objective Objective covering the enabler	WXYZ-003	Not covered in the Implementation Plan

Applicable legislation

None

Essential Operational Changes

Virtualisation of Service Provision

SESAR Solution

PJ.05-02 - Multiple Remote Tower Module

ICAO GANP - ASBUs

RATS-B1/1	Remotely Operated Aerodrome Air Traffic Services

AOP14.2	Multiple Remote Tower Module

Deployment Programme

- none -	

European Plan for Aviation Safety

RMT.0624	Remote aerodrome ATS

Operating Environments

Airport

Stakeholder Lines of Action (SLoAs)

SLoA ref.	Title	From	By
AOP14.2-REG01	Amend the regulatory framework		
AOP14.2-ASP01	Implement a Multiple Remote Tower Module		
AOP14.2-ASP02	Implement procedures supporting the operational use of MRTM		
AOP14.2-ASP03	Safety assessment		
AOP14.2-ASP04	Training		
AOP14.2-ASP05	Operational Use		

Description of finalised and deleted SLoAs is available on the eATM Portal @ https://www.eatmportal.eu/working/depl/essip_objectives

Expected Performance Benefits

Safety: -

Capacity: -

Operational Efficiency: -

Cost Efficiency: Reduced costs by a reduction of ATCOs of up to 25% compared to Single Remote Tower

Environment: -

Security: -

Detailed SLoA Descriptions

AOP14.2-REG01	Amend the regulatory framework	From:	By:
		-	-

Action by:	**Regulatory Authorities**
Description & purpose:	Amend and/or further evolve the existing regulatory framework if/as deemed necessary
Supporting material(s):	SJU - SESAR Solution PJ.05-02: Data pack for Multiple Remote Tower Module
	Url : https://cordis.europa.eu/project/id/730195/results
	EASA - Guidance Material on remote aerodrome air traffic services — Issue 2 and 'AMC & GM to Part ATCO' — Issue 1, Amendment 2 (Executive Director Decision 2019/004/R)
	Url : https://www.easa.europa.eu/document-library/agency-decisions/ed-decision-2019004r
ATM Master Plan relationship:	[REG-0509]-Regulatory Provisions for the harmonised deployment of Remote Towers Operations (for a single aerodrome)
	[REG-0525]-Regulatory provisions for the harmonised deployment of Remote Towers Operations (for two aerodromes)
Finalisation criteria:	1 - The regulatory authorities have evidence of the status of compliance with regulatory provisions for aerodromes where remote tower concept is implemented

AOP14.2-ASP01	Implement a Multiple Remote Tower Module	From:	By:
		-	-

Action by:	**ANS Providers**
Description & purpose:	MRTM can be a new Module in the RTC building even though existing modules can be transferred to a MRTM with the new features added. Such module should include a planning tool to present traffic and tasks further ahead for the aerodromes (up to three) the ATCO has control of as well as Advanced VCS (Voice Com System) for a Multiple Remote Tower Module (MRTM).
	Note :It is considered that a Single Remote Tower is the baseline and it is therefore already in place.

AOP14.2	Multiple Remote Tower Module

Supporting material(s):	SJU - SESAR Solution PJ.05-02: Data pack for Multiple Remote Tower Module
	Url : https://cordis.europa.eu/project/id/730195/results
	EASA - Guidance Material on remote aerodrome air traffic services — Issue 2 and 'AMC & GM to Part ATCO' — Issue 1, Amendment 2 (Executive Director Decision 2019/004/R)
	Url : https://www.easa.europa.eu/document-library/agency-decisions/ed-decision-2019004r
ATM Master Plan relationship:	[AERODROME-ATC-79]-Provide a Multiple Remote Tower Module (MRTM) that enables one ATCO to control multiple remote towers simultaneously
	[AERODROME-ATC-81]-ATCO planning tool for a Multiple Remote Tower Module (MRTM)
	[AERODROME-ATC-82]-Technical supervision from a Multiple Tower Remote Module (MRTM)
	[CTE-C14]-Advanced VCS (Voice Com System) for a Multiple Remote Tower Module (MRTM)
Finalisation criteria:	1 - A Single Remote Tower has been upgrade with a Multiple Remote Tower Module.

AOP14.2-ASP02	**Implement procedures supporting the operational use of MRTM**	From:	By:
		-	-

Action by:	**ANS Providers**
Description & purpose:	Local procedures might change with the introduction of the remote provision of ATS for multiple aerodromes as implementation will require the harmonisation of procedures and systems allowing dynamic allocation of airports to MRTMs.
	New local procedures might have to be introduced to cover how the switch is made from one MRTM to another during multiple control and has to be included into the new procedures for operating all of the features in the MRTM.
	Note :It is considered that a Single Remote Tower is the baseline and it is therefore already in place.
Supporting material(s):	SJU - SESAR Solution PJ.05-02: Data pack for Multiple Remote Tower Module
	Url : https://cordis.europa.eu/project/id/730195/results
	EASA - Guidance Material on remote aerodrome air traffic services — Issue 2 and 'AMC & GM to Part ATCO' — Issue 1, Amendment 2 (Executive Director Decision 2019/004/R)
	Url : https://www.easa.europa.eu/document-library/agency-decisions/ed-decision-2019004r
ATM Master Plan relationship:	[AERODROME-ATC-79]-Provide a Multiple Remote Tower Module (MRTM) that enables one ATCO to control multiple remote towers simultaneously
	[AERODROME-ATC-81]-ATCO planning tool for a Multiple Remote Tower Module (MRTM)
	[AERODROME-ATC-82]-Technical supervision from a Multiple Tower Remote Module (MRTM)
	[CTE-C14]-Advanced VCS (Voice Com System) for a Multiple Remote Tower Module (MRTM)
Finalisation criteria:	1 - Procedures developed, tested and approved.

AOP14.2-ASP03	**Safety assessment**	From:	By:
		-	-

Action by:	**ANS Providers**
Description & purpose:	A safety assessment of the changes shall be developed and delivered to the competent authority in order to ensure that the level of safety is at least maintained when a Multiple Remote Tower Module is operated.
Supporting material(s):	SJU - SESAR Solution PJ.05-02: Data pack for Multiple Remote Tower Module
	Url : https://cordis.europa.eu/project/id/730195/results
	EASA - Guidance Material on remote aerodrome air traffic services — Issue 2 and 'AMC & GM to Part ATCO' — Issue 1, Amendment 2 (Executive Director Decision 2019/004/R)
	Url : https://www.easa.europa.eu/document-library/agency-decisions/ed-decision-2019004r
Finalisation criteria:	1 - Safety assessment has been developed and delivered to the competent authority.

AOP14.2-ASP04	**Training**	From:	By:
		-	-

Action by:	**ANS Providers**
Description & purpose:	All relevant staff shall be duly trained. ATCOs shall be provided with a specific training incorporating knowledge about local airport procedures and conditions - such as local geography, local weather conditions, traffic type & mix, etc – as part of the endorsement training for the aerodromes to which remote services are to be provided.
Supporting material(s):	SJU - SESAR Solution PJ.05-02: Data pack for Multiple Remote Tower Module
	Url : https://cordis.europa.eu/project/id/730195/results
	EASA - Guidance Material on remote aerodrome air traffic services — Issue 2 and 'AMC & GM to Part ATCO' — Issue 1, Amendment 2 (Executive Director Decision 2019/004/R)
	Url : https://www.easa.europa.eu/document-library/agency-decisions/ed-decision-2019004r
Finalisation criteria:	1 - Training has been completed.

AOP14.2-ASP05	**Operational Use**	From:	By:
		-	-

Action by:	**ANS Providers**

AOP14.2	**Multiple Remote Tower Module**

Description & purpose:	Once the procedures are in place, systems have been upgraded, safety assessment delivered and approved, training has been completed, a Multiple Remote Tower Module is ready for operational use.
Supporting material(s):	SJU - SESAR Solution PJ.05-02: Data pack for Multiple Remote Tower Module
	Url : https://cordis.europa.eu/project/id/730195/results
	EASA - Guidance Material on remote aerodrome air traffic services — Issue 2 and 'AMC & GM to Part ATCO' — Issue 1, Amendment 2 (Executive Director Decision 2019/004/R)
	Url : https://www.easa.europa.eu/document-library/agency-decisions/ed-decision-2019004r
Finalisation criteria:	1 - A Multiple Remote Tower Module is put into service.