

Airspace Management Operations Manual

Procedures for Flexible Use of Airspace

Approved by

Finnish Transport and Communications Agency (Traficom) and Air Force Command

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ABBREVIATIONS

AA	Approved Agency
AFC	Air Force Command
AIC	Aeronautical Information Circular
AIP	Aeronautical Information Publication
AIRAC	Aeronautical Information Regulation and Control
AIS	Aeronautical Information Services
AMC	Airspace Management Cell
ASM	Airspace Management
ATS	Air Traffic Services
AUP	Airspace Use Plan
CADF	ECAC Centralized Airspace Data Function
CBA	Cross-Border Area
CDM	Cooperative Decision Making
CDR	Conditional Route
CTA	Control Area
CTR	Control Zone
D area	Danger Area

FIR	Flight Information Region
FIZ	Flight Information Zone
FMP	Flow Management Position
FRA	Free Route Airspace
FUA	Flexible Use of Airspace
HLB	High Level Policy Body
ICAO	International Civil Aviation Organization
LMT	Local Mean Time
NOTAM	Notice to Airmen
NMOC	Network Manager Operations Centre
P area	Prohibited Area
PBN	Performance Based Navigation
PERM	Permanent ATS route
R area	Restricted Area
RMZ	Radio Mandatory Zone
RNAV	Area Navigation
RNP	Required Navigation Performance
TMA	Terminal Control Area

TMZ	Transponder Mandatory Zone
TRA	Temporary Reserved Area
TSA	Temporary Segregated Area
UIR	Upper Flight Information Region
UTA	Upper Control Area
UTC	Coordinated Universal Time
UUP	Updated Airspace Use Plan
QRA	Quick Reaction Alert

DEFINITIONS

AIP Supplement	An AIP Supplement is a publication used to advise airspace users of temporary changes to information published in the AIP. These changes may be of long duration (3 months and longer), or they may be used to convey information of short duration that contains extensive text and/or graphics.
Airspace management level 1: strategic level	<p>Level 1 of ASM applies to national-level interactions between the Ministry of Transport and Communications and Ministry of Defence, HLB, and actions conducted in accordance with the framework agreement on ASM.</p> <p>Strategic ASM (level 1): Long- and medium-term planning of ASM processes. Strategic ASM may be initiated approximately one year before the commencement of planned activity, and it ends with transition to pre-tactical ASM. Strategic ASM involves the planning of airspace use and procedures, negotiations and agreements, and consultations with interested parties.</p>
Airspace management level 2: pre-tactical level	<p>Level 2 of ASM involves civil-military coordination and the use of procedures laid down in the ASM Operations Manual.</p> <p>Pre-tactical ASM (level 2): ASM processes that enable transition from planning to the execution phase. Pre-tactical ASM is usually initiated approximately two days before the commencement of planned activity and continued to the execution phase that marks the transition to tactical ASM. Pre-tactical ASM functions are aimed at attaining sufficient readiness for the commencement of activity by communicating AUPs, AIS publications and flight plans, by allocating airspace reservations planned at level 1, and by other applicable means.</p>
Airspace management level 3: tactical level	Level 3 of ASM involves operational execution and updating of AUP produced at levels 1 and 2 by airspace users and AMC.
Approved agency	An operator that holds specific approval of the Finnish Transport and Communications Agency Traficom or Finnish Military Aviation Authority and has the right to submit advance notifications of the planned use of airspace structures.
Cooperative decision making	Concept in which all operators interact efficiently and transparently to improve the efficiency of decision-making through accurate and real-time information sharing.

Control zone (CTR) and terminal control area (TMA)	Control zone is a volume of controlled airspace that extends from the surface to a specified upper limit. CTRs and TMAs are established to enable the functioning of aerodrome ATS units and to protect air traffic operating to and from aerodromes. The ATS provider promulgates appropriate procedures for flight within CTRs and TMAs.
Cross-border area (CBA)	An area that two or more states are authorised to establish to accommodate military aviation requirements, based on an agreement between the states involved. CBA extends across lateral boundaries of one or more FIRs and is available for military training activities conducted by states that are signatory parties to the agreement. CBAs are published as TRAs, observing the procedures for the flexible use of airspace.
Danger area (D-area)	Airspace of defined dimensions within which activities dangerous to aircraft, such as unmanned aircraft operations, sailplane operations or other frequent recreational aviation operations may exist at specified times. Danger areas over international waters involve periodical firings by military forces, blasting, or any other type of activity that may jeopardise the safety of aircraft.
ERNIP	European Route Network Improvement Plan
Flight information zone (FIZ)	A zone established at and around an aerodrome where the number of movements does not justify the provision of air traffic control services for controlled airspace.
Flow management position (FMP)	Position established in Area Control Centre Helsinki to liaise between air traffic control, aircraft operators, and NMOC in matters related to air traffic flow management.
Free route airspace (FRA)	Airspace of defined dimensions within which users may freely plan their route between entry and exit points without reference to the ATS route network.
High level policy body (HLB)	The National Committee for Airspace Management operating under the Ministry of Transport and Communications, whose task is to agree on how the needs of civil and military aviation will be taken into account in airspace management, air traffic management, the provision of air navigation services and flexible use of airspace. The Government appoints the Committee for a term of three years at a time. It consists of representatives of civil and military aviation operators.

	Further provisions on the duties and composition of the National Committee for Airspace Management may be given by government decree.
International waters	Waters beyond the sovereignty of any coastal state, as contrasted with territorial sea, over which the state has sovereignty.
Prohibited area (P-area)	Airspace of defined dimensions, above land areas or territorial waters of a state, within which aviation is prohibited. Prohibited areas can be established by government decree to provide protection of specific assets.
QRA flight	Quick Reaction Alert (QRA) flights are transport, reconnaissance, surveillance, identification or interception missions urgently required for the purpose of monitoring and safeguarding territorial integrity, flights or aerial operations related to heightened preparedness, or flights required for providing executive assistance to authorities. Search and rescue flights conducted with Air Force fleet are also regarded as QRA flights. All QRA flights are priority air traffic.
Radio Mandatory Zone (RMZ)	Airspace of defined dimensions wherein the carriage and operation of radio equipment is mandatory.
Restricted area (R-area)	Airspace of defined dimensions above land areas or territorial waters of a state, within which aviation is restricted in accordance with certain specified conditions. Restricted areas can be established by government decree to provide protection of specific assets. Procedures for flexible use of airspace are applied to restricted areas to the extent practicable.
Temporary reserved area (TRA)	Volume of airspace with pre-defined lateral limits, where operations require the reservation of airspace for use by specified operators for a specified time period. In controlled airspace, ATC may clear a flight into an active TRA.
Temporary segregated area (TSA)	Volume of airspace for exclusive use by military aviation, with pre-defined lateral limits. Operations within a TSA require the reservation of airspace for use by specified operators for a specified time period. ATC may not clear a flight into a TSA except if that flight is part of the operations of the user group to which the TSA has been allocated or complies with the terms and conditions imposed by that user group.
Transponder Mandatory Zone (TMZ)	Airspace of defined dimensions wherein the carriage and operation of pressure-altitude reporting transponders is mandatory.

1 INTRODUCTION

The use of airspace and related decision-making are functions inherent to national sovereignty. In Finland, airspace management policy is governed by the National Committee for Airspace Management established by the government. 1) This ASM Operations Manual provides guidance on airspace management and contains the procedures for the flexible use of airspace as referred to in section 107 of the Finnish Aviation Act. Through the practices described in this Manual, the Finnish Transport and Communications Agency (hereinafter Traficom) and the Air Force Command (AFC) aim to ensure the safe, efficient and flexible use of airspace and to guarantee transparency in related functions by accommodating all users' requirements. Responsibility for ASM arrangements and airspace allocation within the Helsinki flight information region (FIR) lies with Traficom. Use of airspace required for the preservation of the nation's territorial integrity is arranged through a process that takes into account established and agreed priorities. Day-to-day planning and coordination of airspace use is under the responsibility of a joint civil-military airspace management cell (AMC) in accordance with the provisions of this manual. Within the European Union (EU), provisions on the Single European Sky are contained in four regulations of the European Parliament and of the Council and in implementing regulations based on them.

Commission Regulation (EC) No 2150/2005 on the flexible use of airspace (FUA Regulation) lays down common rules for the management of air traffic within airspace that is under the control of member states' civil and military air traffic services (ATS) units to ensure efficient civil-military coordination. The FUA Regulation states that coordination between civil and military authorities must be organised at the strategic, tactical, and pre-tactical levels (also called levels 1, 2, and 3 of ASM, respectively) using established agreements and procedures. The objective is to enhance safety, augment airspace capacity, and increase the efficiency and flexibility of airspace use.

Commission Regulation (EU) No. 677/2011 and Commission Implementing Regulation (EU) 2019/123 lay down detailed rules for the implementation of air traffic management (ATM) network functions, which the member states are required to comply with. The detailed rules concern e.g. airspace design and organisation, as well as the optimisation of the European route network. These objectives are implemented through the European Route Network Improvement Plan (ERNIP), which is a scheme developed by the Network Manager in coordination with the operational stakeholders based on a cooperative decision making (CDM) process. It includes the result of operational activities with respect to route network design on short and medium terms in accordance with the guiding principles of the Network Strategy Plan. The common rules allow an optimum use of airspace in the single European sky and ensure that airspace users can operate preferred trajectories, while allowing maximum access to airspaces and air navigation services.

Military operations and military training are not under EU jurisdiction, and regulations governing the Single European Sky do not impose limitations on the rights of the member states to exercise sovereignty over their national airspace. Neither do they affect matters related to the national security and national military requirements of the member states. Although EU legislation covers arrangements for civil aviation only, EU regulations also affect the use of airspace by the Defence Forces because airspace is not limitless. The member states must take into account the requirements of both civil and military airspace users during any decision-making process. To this end, the regulations presuppose that the needs of civil and military aviation be coordinated at national level.

Airspace requirements of the Finnish Defence Forces stem from established rights and duties as defined in the Act on the Defence Forces, Act on Territorial Surveillance, Aviation Act, Government Decree on Military Aviation, and Emergency Powers Act. The purpose of the ASM procedures described in this Operations Manual is to ensure that the Defence Forces can conduct exercises aimed at maintaining the capabilities needed for the accomplishment of their assigned duties while observing the flexible use of airspace (FUA) concept. The procedures of airspace management are applicable to the national use of airspace within the Helsinki FIR and over adjacent international waters. Provisions do not exist for the restriction of airspace use over international waters by civil or military aircraft of other states. Member states may agree separately on rules governing flights over international waters.

2 GENERAL

2.1 Description and purpose of the ASM Operations Manual

Airspace management is exercised through the application of FUA procedures developed by Eurocontrol, rules and regulations issued by competent aviation authorities, and the procedures and priorities laid down in this manual.

This manual defines:

- general principles for airspace management
- areas of airspace for the exclusive use of different user groups
- prioritisation of areas of airspace
- structure and classification of ATS routes
- principles governing the establishment and use of permanent and temporary areas of airspace and related communication
- monitoring mechanisms for the use of airspace

This manual defines the working procedures of the AMC at the pre-tactical and tactical levels of ASM, and also at the strategic level to the extent necessary. The manual is approved, issued, and updated by the competent civil aviation and military authorities.

In order to increase the efficiency of airspace use, the European Commission (EC) has issued Regulation 390/2013 (*Performance Regulation*) laying down a performance scheme for air navigation services and network functions, and Regulation 255/2010 (*Flow Regulation*) laying down common rules for air traffic flow management. These regulations specify additional requirements for improving the efficiency of airspace use, and key performance indicators that the member states should monitor and measure. These indicators are described in section 9, *Airspace use monitoring and performance*.

3 AIRSPACE ORGANISATION

3.1 Introduction

The Helsinki FIR is divided into permanent blocks of airspace established to serve the needs of various airspace users, and ATS routes that are subject to a separate classification. Airspace is divided into controlled airspace (ICAO airspace classes C and D) and uncontrolled airspace (ICAO airspace class G). Airspace limits and boundaries are published in the Finnish Aeronautical Information Publication (AIP Finland). Traficom decides on the establishment of and changes to the airspace blocks under Finland's responsibility. Modifications to permanent airspace structures are usually implemented upon the ATS provider's proposal, but changes may also be suggested by other interest groups in accordance with section 6.1. Temporary reserved airspaces (TRA) can be established in accordance with sections 3.10.2 and 7.1.2.

Modifications to permanent airspace structures require an extensive consultation process to ensure that the needs of different groups of airspace users are taken into account. In practice, this means that modifications to permanent airspace structures are implemented on an annual basis as a result of systematic planning, to achieve optimum management of the entire airspace. ANS Finland publishes on its website a schedule of forthcoming amendments by an Aeronautical Information Circular (AIC) in accordance with the AIRAC system, including the planned AIP effective dates, publication dates, and dates for submitting raw data to the relevant Aeronautical Information Services (AIS) unit for dissemination.

3.2 FIR

The Helsinki FIR is defined in the aeronautical information publication (AIP Finland). The Helsinki FIR is further divided into sectors. The sectors and ATS units providing service therein are defined in the AIP. FUA principles are applied throughout the Helsinki FIR, including airspace over international waters as described in section 3.2.1.

3.2.1 Airspace over international waters

Aviation in airspace over international waters must comply with the Chicago Convention and its Annexes. The United Nations Convention on the Law of the Sea (1982) allows unrestricted flights by state aircraft within airspace over international waters.

3.2.2 ATS-delegated areas in the EFIN FIR

The establishment of ATS delegated areas requires agreements between states, aviation authorities, ATS providers and, if necessary, AMCs. Within the Finland FIR, responsibility for provision of ATS in controlled airspace is delegated to Swedish and Norwegian service providers over four areas: KVARKEN (FL95+), MANTO (FL65+), HALTI (FL95+) and ENKR TMA (Kirkenes). ATS delegated areas are published in the Aeronautical Information Publication (AIP) Finland, ENR 2.1.

3.3 CTA

Control Areas (CTA) are published in AIP Finland.

3.4 TMA and CTR

Control Zones (CTR) and Terminal Control Areas (TMA) are published in AIP Finland.

3.5 FIZ

Flight Information Zones (FIZ) are published in AIP Finland.

3.6 TSA and TRA / Local TRA

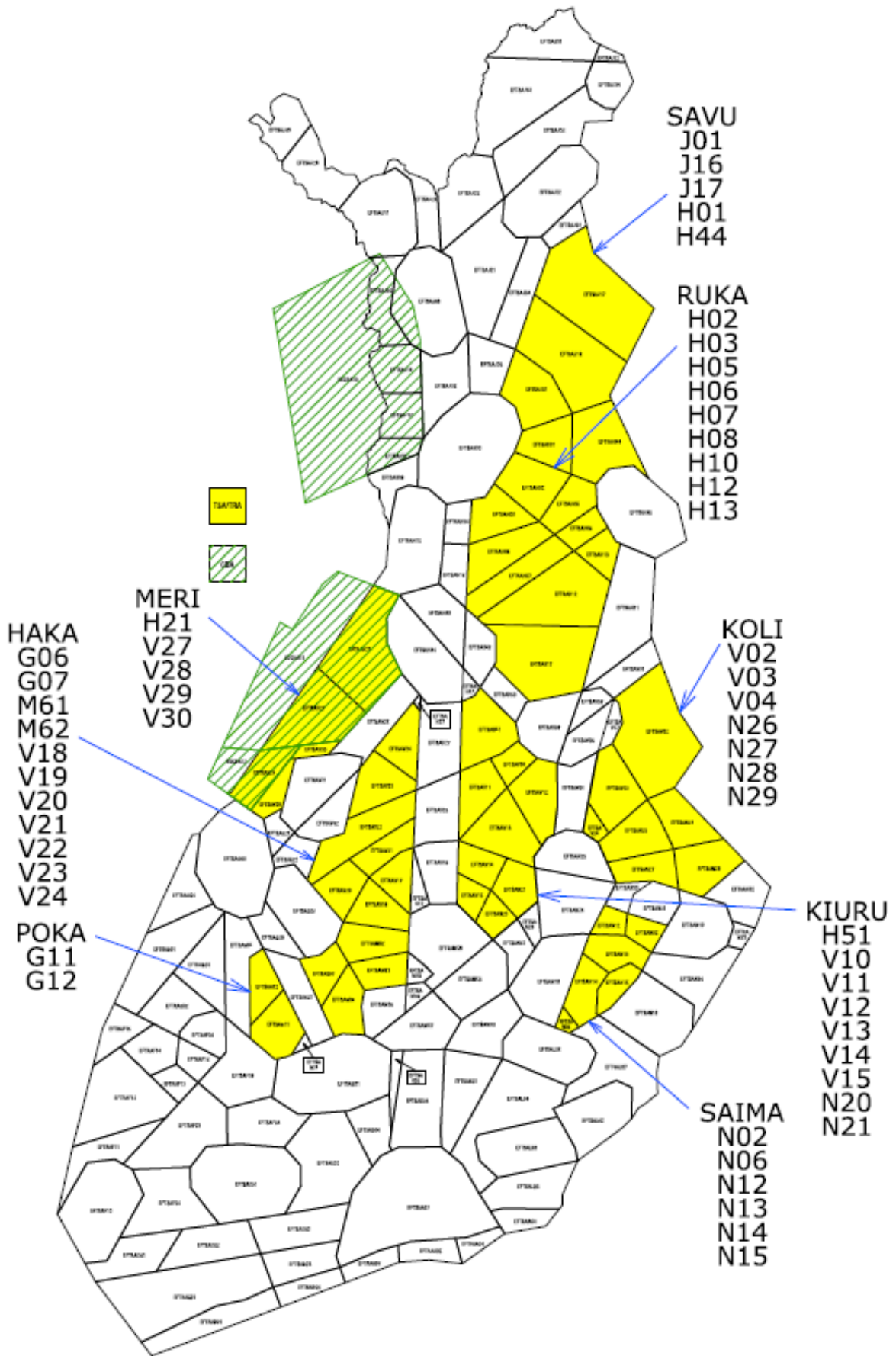
Temporary Segregated Areas (TSA) are established by Government decree and published in Finland's AIP.

Temporary Reserved Areas (TRA) are published in AIP Finland. TRAs adjacent to airports (Local TRA) are established for the purpose of flight operations, and ATS is provided in accordance with the airspace class.

In the tactical level military authorities may reserve TRA- and Local TRA areas from the ATS unit. If necessary, ATS unit is responsible to restrict operations in the TRA if the area is affected by other controlled air traffic. TRAs and Local TRAs reserved by the military authorities can be handled like TSAs. Other controlled air traffic may fly within a TRA reserved by the military authorities in accordance with the principles and procedures stipulated by the military aviation authorities.

TSAs and TRAs reserved for military use are divided into two categories according to their anticipated usage. In addition, there are Cross-Border Areas (CBA):

- Category 1 (yellow):
TSAs defined as Defence Forces priority areas and TRAs over international waters. Procedures applicable to CDR 1 category ATS routes are laid down in section 3.13.2.
- Category 2 (white):
TSAs for occasional Defence Forces exercises and TRAs over international waters. Reservation and activation of these areas is managed according to section 7.1.2. Activities in category 2 areas may close off ATS routes in classes PERM / CDR1 and CDR2.
- CBAs (green, CBA Lapland and CBA Bothnia):
Airspace use priorities are described in Appendix 2.



3.7 Cross Border Area (CBA)

CBAs are established for the use of military aviation by two or more states, and enable the use of airspace across national borders. They are established by intergovernmental treaty and further specified through joint operation agreements.

CBAs affect the availability of ATS routes. Priorities are described in more detail in Appendix 2 to this document. CBAs are published in AIP Finland.

3.8 Prohibited area - P-area

Permanent prohibited areas can be established by government decree in accordance with section 11 of the Aviation Act. Flying in a prohibited area is not allowed, except as provided for in section 1 of the Government Decree. Traficom may, for specific reasons, grant permission for flying in the prohibited areas of EFP35 Meilahti, EFP40 Munkkiniemi, EFP45 Luonnonmaa or EFP50 Kruunuhaka after consultation with the Office of the President of the Republic of Finland or the Prime Minister's Office, depending on for which entity's protection the area has been established, and in the prohibited areas of EFP20 Loviisa, EFP25 Olkiluoto, EFP30 Kilpilahti or EFP55 Hanhikivenniemi after consultation with the Ministry of the Interior. However, flights specifically related to the maintenance, operation and use of the facilities located in the prohibited areas of EFP20 Loviisa, EFP25 Olkiluoto, EFP30 Kilpilahti and EFP55 Hanhikivenniemi are allowed.

Permanent prohibited areas (P-areas) are also published in AIP Finland.

3.9 Restricted area - R area

Permanent restricted areas can be established by government decree in accordance with section 11 of the Aviation Act. Flying in permanent restricted areas is only allowed by permission of the Defence Forces or under special conditions laid down by the Defence Forces or the Border Guard.

Temporary restricted areas can be established by Traficom's decision in accordance with section 3.11 below. Any conditions for obtaining permission to fly in the restricted area will be determined in connection with the decision.

When activities hazardous to air traffic have been suspended, ATC may clear a controlled flight in controlled airspace through an activated R area.

Permanent R areas are also published in AIP Finland.

3.10 Danger area - D area

Activities dangerous to aircraft flight safety may be undertaken in D areas, including firings by the Defence Forces in airspace over international waters, extensive sailplane flying, unmanned aircraft operations beyond visual line of sight, distress flares launched above minimum flight altitudes etc.

Aircraft may fly into activated D areas at the discretion of the pilot-in-command, but the pilot must be aware of the risks associated with such operations. Before flying into a danger area,

the pilot-in-command shall find out about the nature of operations conducted there. If the pilot-in-command decides to fly into an activated D area, the flight should be coordinated with the entity operating in the D area to ensure flight safety.

Unmanned aircraft do not have to give way to other air traffic in a reserved danger area.

In controlled airspace, aircraft subject to separation will be separated from active danger areas. At the request of the pilot-in-command, separation from danger areas can be waived.

When activities hazardous to air traffic have been suspended, ATC may clear a controlled flight in controlled airspace through an activated D area.

Firings by the Defence Forces in D areas over international waters and unmanned aircraft activities by the Defence Forces in D areas are announced as described in section 7.2.2.

Approved Agencies (AA) in D areas established for general and recreational aviation may issue advance notifications as described in section 7.2.3. These areas may also be activated on the day of operations. As a general rule, a small amount of VFR operations do not require a D area to be activated in uncontrolled airspace (i.e. no busy aviation activities, cloud flying etc.).

For activities hazardous to aviation, a D area must be activated in accordance with section 8. The activation of the area is considered sufficient for notifying the area control centre of the commencement of activities as required.

If unmanned aircraft operations are conducted in a permanent D area, the NOTAM publication activating the D area shall include the verified contact details of the D area operator to ensure flight safety.

3.10.1 Permanent danger areas

Permanent danger areas are established by Traficom's aviation regulation OPS M1-28 in accordance with section 11 of the Aviation Act.

Permanent D areas are also published in AIP Finland.

3.10.2 Temporary danger areas

Traficom may decide to establish temporary D areas for instance to enable unmanned aircraft operations or for the needs of general and recreational aviation as described in section 7.1.2.

In accordance with section 11 of the Aviation Act, temporary D areas can also be established by the AMC for a maximum period of two weeks under the following principles:

D areas for unmanned aviation for a maximum period of two weeks are established by the AMC under the following conditions:

- The upper limit for the D area to be established does not exceed 150 metres from the surface of the ground or water
- The D area to be established is not located in a Control Zone (CTR) or a Radio Mandatory Zone (RMZ)

- The D area to be established is not located closer than at a distance of five kilometres from any uncontrolled aerodrome as published in AIP AD 2.1 – 1 and AD 2.1 – 2
- The D area to be established is not located closer than at a distance of five kilometres from any heliport as published in AIP AD 3.1 – 1 and AD 3.1 – 2
- The D area to be established is not located in an area where aviation is permanently restricted or in some other area that is essential for national defence as prescribed in section 14 of the Territorial Surveillance Act. This restriction does not apply to an applicant who already has an aerial photography permit for the area in question.
- The D area is established based on the WGS84 coordinate of the centre for the required area and on the radius of the circle. If the Defence Forces have not granted the applicant a permit for aerial photography in the area, the maximum radius of the area to be established is 1.78 km / 0.96 NM.
- When the D area is established, the AMC may specify conditions and restrictions in accordance with section 14 of the Territorial Surveillance Act. For example, the operator may be required to give a real-time notice of activity to the territorial surveillance authorities, or a flight plan may be required for conducting flight operations in the area.
- The size and activity of the D area to be established shall be based on actual usage, and it must be possible to reach the operator at all times when the D area is active.
- The D area to be established need not be verified in the ANS systems.

Proposal for the establishment of a D area must be submitted to the AMC no later than by 12 noon (LMT) two working days before the activities are commenced. The D area will be activated by issuing a NOTAM, and displayed on the NAV WARNINGS map.

For example, if the activities in a D area are to be commenced at 8 am (LMT) on Monday morning, the application shall be submitted to the AMC no later than by 12 noon (LMT) on Thursday.

More detailed instructions for making D-area proposals will be given on ANS Finland's website <https://www.ansfinland.fi/en>.

If the AMC is not able to reconcile the proposed temporary D area with other airspace and air traffic as provided for in section 159 of the Aviation Act, the matter will be referred to Traficom. In this case, the AMC forwards the proposal to Traficom and presents an alternative proposal for a decision to establish the danger area, if necessary.

The AMC has the right to suspend activities hazardous to aviation within an activated danger area for flight safety reasons or if the smooth flow of air traffic would be disrupted. To ensure this, secure communication procedures shall be established between the D area operator and the AMC.

If unmanned aircraft operations are conducted in the D area and the Rules of the Air cannot be complied with as referred to in section 9 of the Aviation Act, the NOTAM publication for the temporary D area shall include the verified contact details of the D area operator to ensure flight safety.

3.11 Temporary airspace restrictions

In accordance with section 11 of the Aviation Act, Traficom may restrict or prohibit aviation in a specific area for compelling reasons of flight safety, national defence, police operations, rescue

operations, safety investigation or public order and border security, for a period of no more than two weeks as described in section 7.1.2. In case of disruptions of normal operations and under exceptional circumstances, temporary airspace restrictions will be implemented without delay. Exceptions from the procedures in section 7.1.2 are then allowed.

The Airspace Management Cell (AMC) must, in a manner it considers appropriate, restrict or prohibit aviation in a specific area for the following reasons:

- 1) by request of the rescue, police or military authorities, the Border Guard, Customs, a sea or air rescue centre, the Radiation and Nuclear Safety Authority or an aviation authority, for a period of no more than 3 days, if it is essential for aviation safety, national defence, police operations, rescue operations, safety investigation or public order and safety; or
- 2) at its own initiative, for a period of no more than 1 day, if there is an exceptional and particularly compelling reason to do so, related to aviation safety or national defence.

When the nature of the request presented is due to exercise of national authorities, it shall be examined in accordance with Section 159 of the Aviation Act.

The principles of FUA and the rules that apply to permanent areas shall be equally complied with as regards temporary areas.

Temporary airspace restrictions are promulgated essentially as AIP Supplements. In urgent cases, a NOTAM may be issued.

3.12 ATS routes

Finland's ATS route structure is based on RNAV 5 routes established in accordance with ICAO's performance based navigation (PBN) concept. The ATS routes are divided into categories as described in the subsequent paragraphs.

3.12.1 Permanent ATS routes (PERM)

A permanent ATS route means an ATS route permanently available for flight planning. A permanent ATS route may be closed off with an Airspace Use Plan or Updated Airspace Use Plan (AUP/UUP) issued by the AMC. Advance notification of activities that may result in the closure of a permanent ATS route will be promulgated by an AIP supplement. Closing off a permanent ATS route requires a decision by Traficom in accordance with section 7.1.2. Permanent ATS routes in the Helsinki FIR are published as RNAV routes in AIP Finland.

3.12.2 Category 1 Conditional Air Traffic Service Routes

Category 1 conditional (CDR 1) ATS routes are permanently available for flight planning during the times the relevant category is in effect.

CDR1 ATS routes, as referred to in Appendix 1 and 2, may be closed off with an Airspace Use Plan or Updated Airspace Use Plan (AUP/UUP) issued by the AMC.

Advance notification of activities that may affect other CDR1 ATS routes than those described in Appendix 1 and 2 will be promulgated by an AIP supplement. Closing off a CDR1 ATS route requires a decision by Traficom in accordance with section 7.1.2. In this case, the route will be closed off with an AUP/UUP issued by the AMC.

CDR1 ATS routes in the Helsinki FIR are published in AIP Finland.

3.12.3 Free Route Airspace (FRA)

Free route airspace (FRA) procedures are available in Finland. Within FRA airspace, users may plan their flights directly between published entry and exit points, with the possibility of routing via intermediate waypoints where necessary. The routings must take account of airspace use restrictions and airspace availability. During FRA operations, the Eurocontrol IFPS system will not accept flight plans with routings that would take the aircraft into a TSA or TRA declared in an AUP or UUP, including adequate protective zones. FRA procedures are published in AIP Finland.

3.12.4 Route availability (RAD)

The Route Availability Document (RAD) is part of the European Route Network Improvement Plan (ERNIP). RAD is a common reference document that contains the policies, procedures and description for route and traffic orientation. It also includes route network and free route airspace utilisation rules and availability. ANS Finland submits any proposed amendments of RAD to Traficom for approval 3 months prior to the intended date of entry into force. RAD can be found e.g. on the Network Manager's website.

4 COORDINATING CIVIL AND MILITARY AVIATION

The Ministry of Transport and Communications and the Ministry of Defence agree on how the needs of civil and military aviation will be taken into account in airspace and air traffic management, provision of air navigation services and flexible use of airspace. Procedures for the flexible use of airspace are included in this ASM Operations Manual.

A High level Air Space Policy Body (HLB) has been established under the Ministry of Transport and Communications. The Government appoints representatives from civil and military aviation to HLB for a term of three years at a time. The members of the HLB are the Ministry of Transport and Communications, the Ministry of Defence, the Finnish Military Aviation Authority, the Defence Command, the Air Force Command, ANS Finland, Finnish Meteorological Institute and Traficom. HLB may consult specialists and representatives from air navigation service providers, air carriers, military aviation operators and other entities in the field of aviation.

The role of the HLB is to promote the flexible use of airspace and as an advisory body, address matters related to civil and military coordination and give recommendations as necessary. In addition, the role of HLB is to participate in preparations of issues related to airspace management within European Union, in international aviation organisations and at national level as well as to address the issues related to Single European Sky and to the North European Functional Airspace Block, NEFAB. The task of the HLB is to identify the needs of various airspace users at the strategic level of airspace management, to mediate any possible disputes and providing statements in airspace-related matters.

5 AMC ORGANISATION

5.1 General

An airspace management cell (AMC) is co-located with ANS Finland. It is responsible for the implementation of ASM and FUA procedures.

5.2 Operators

Executive authority in an operative AMC is principally held by the AMC manager appointed by ANS Finland, or his/her deputy. Territorial surveillance authorities define the airspace requirements for territorial surveillance tasks. In conflicts concerning airspace use needs within the Defence Forces, the final decision will be made by the military representative at the AMC.

ANS Finland and the Defence Forces shall allocate the AMC adequate personnel to enable it to carry out its assigned tasks.

6 ASM FUNCTIONS AT THE STRATEGIC LEVEL

In accordance with the European Route Network Improvement Plan (ERNIP), the strategic level of ASM functions concerns the High Level Policy Body, its duties and airspace use policies.

To ensure safe and efficient airspace use, the member states are required to publish transparent processes for airspace design arrangements at national level. The national plans must be in line with and support the objectives of ERNIP.

6.1 Airspace organisation and planning of airspace use

Airspace organisation means an airspace design function that supports and contributes to the ERNIP objectives, taking into account the needs of airspace users, the development of safety levels and the optimisation of airspace capacity. This will be achieved by developing and introducing new advanced functions and techniques, which can be either structural or operational.

Extensive modifications to the airspace structure always require changes to charts. For this reason, it has been decided that extensive modifications will only be carried out once a year at maximum, so that significant costs are not imposed on airspace users for the revision of aeronautical charts.

The process for extensive airspace changes is described in Figure 1. As a case example, the figure depicts the processing of three different types of airspace, since the powers of decision assigned in the Aviation Act are different for these areas.

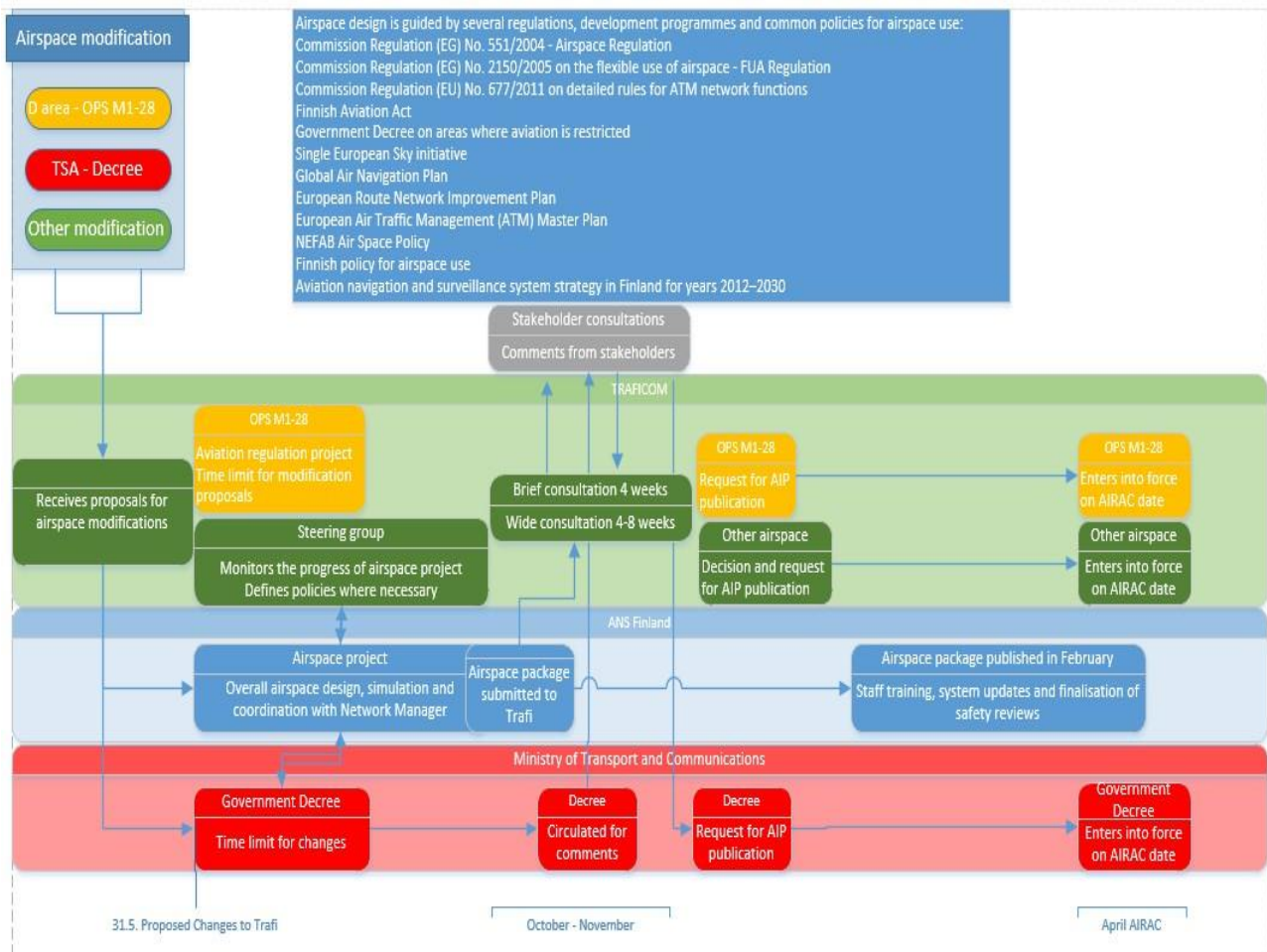


Figure 1

Any proposals for airspace modifications must be sent to Traficom by the end of May. All proposals received are collected together for the annual modification process, seeking to coordinate the needs of various user groups and, where necessary, consulting the drafters of the proposals directly about the required changes.

A steering group may be established to support the project group. The steering group is tasked with drafting the general policy and deciding on specific sets of issues.

There is a time limit for submitting proposals for airspace modifications. After the limit, new changes are no longer accepted, but they are deferred to the next year's airspace package.

If the proposed changes are particularly extensive or include new functions, Traficom will arrange information meetings for stakeholders during the project.

7 ASM FUNCTIONS AT THE PRE-TACTICAL LEVEL

The pre-tactical level of airspace management implements the airspace use policy as defined at the strategic level, and the processes described in the ASM Operations Manual.

7.1 Airspace use planning

7.1.1 Annual airspace use planning

Approved agencies (AA) shall submit an AUP for the next calendar year to Traficom and AMC no later than 30 October. Upon receipt and preview of the AUP, the AMC convenes, no later than 14 November, a coordination meeting with airspace users and civil and military authorities to establish the scope of events and coordination requirements for the next calendar year. Airspace users are required to update the AUP as necessary. However, this requirement will not exempt them from submitting separate bids for airspace use.

7.1.2 Temporary airspace reservations

Temporary airspace reservations usually require new chart material to be published, or they may significantly affect other air traffic or airspace use priorities. Therefore they must be published in an AIP Supplement. Bids for airspace reservations must be submitted to Traficom no later than 8 weeks before the commencement of the planned activity, as shown in Figure 2 below. Any times mentioned are minimum times.

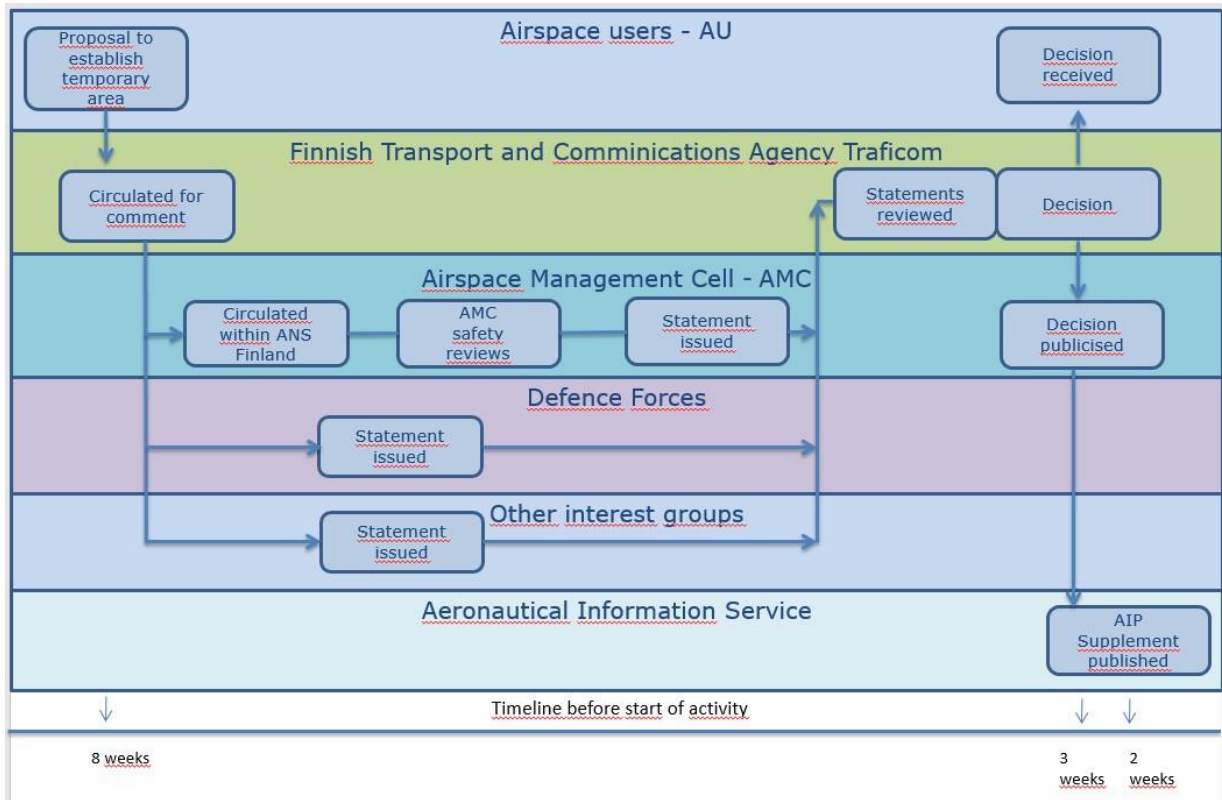


Figure 2

Units of the Defence Forces may coordinate the submission of a bid with the AMC in advance. These talks will be based on an advance bid for airspace reservation provided to the AMC, and the coordinated bid must be submitted to Traficom no later than 7 weeks before the planned activities are commenced, as shown in Figure 3 below. Any times mentioned are minimum times.

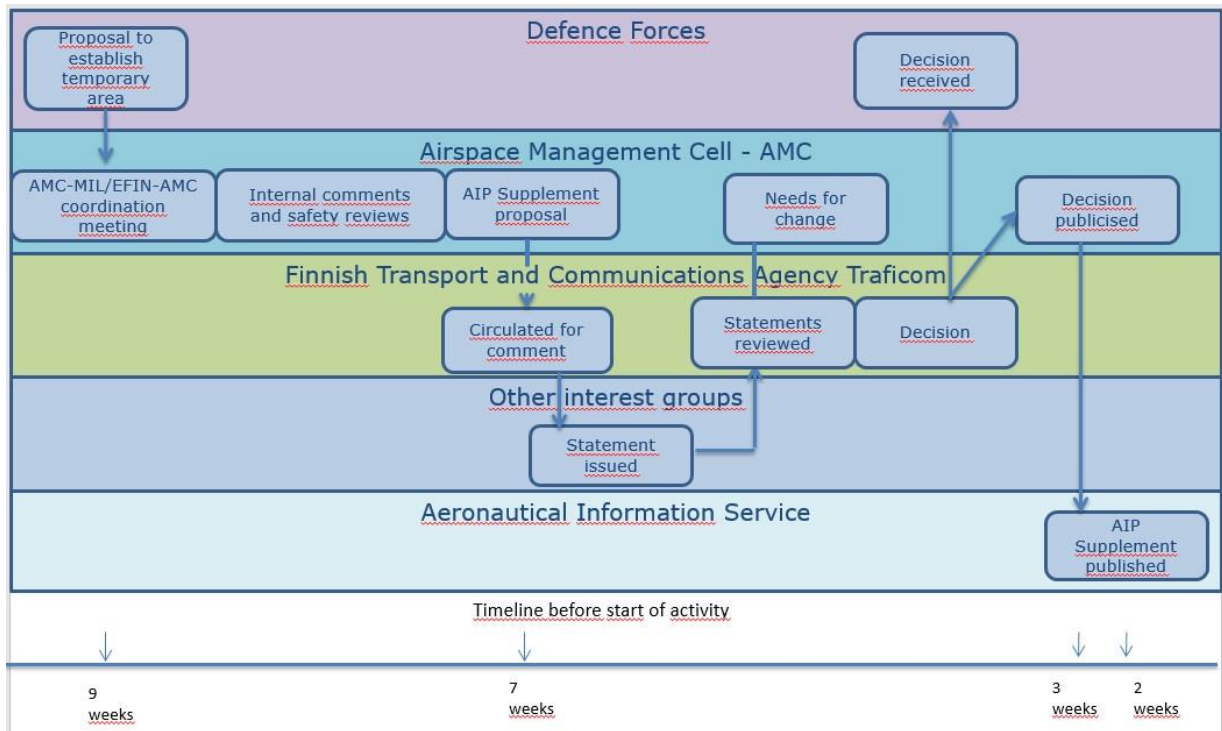


Figure 3

7.2 Pre-tactical airspace use planning

7.2.1 General

At the pre-tactical phase, the AMC plans the use of airspace structures on the basis of advance notifications submitted by airspace users in accordance with established priority arrangements.

An airspace reservation plan prepared on the basis of an advance notification shall be activated separately as explained in section 8.

7.2.2 Notification of Defence Force activities

The AMC shall normally be notified about any planned activity in permanent R areas, permanent D areas over international waters, or temporary D areas or temporary R areas established in accordance with the procedure described in section 7.1.2 no later than 14 days before the commencement of the activity, unless otherwise agreed in a separate coordination agreement with the operator or unless another procedure approved by Traficom is in effect. The AMC verifies the details of the notification and prepares a NOTAM proposal that the AIS unit uses to produce a NOTAM for the activation of the area for dissemination.

The following constitute exceptions to the above:

- 1) Firings conducted during readiness inspections and short-duration Navy firings within temporary R or D areas. Written or oral notifications of these firings will be issued so that they are available to the AMC no less than 4 hours before the commencement of firing. When it is necessary to check the readiness state of a military unit or weapon system without prior notification, all actions related to the inspection must be based on a written order issued within the unit and thorough preparation by the inspecting organisation. The firings of this nature don't have priority to the airspace usage over the air traffic.
- 2) Urgent executive assistance provided by the Defence Forces and related activities, e.g. the clearing of an explosive in a permanent R or D area. The AMC must be issued a written or oral notification that the area is activated.

The AMC will verify the details in the notification and draw up a NOTAM proposal, based on which the Aeronautical Information Services Unit will issue a NOTAM concerning activation of the area.

7.2.3 TSAs, TRAs, R areas and D areas – Approved Agencies (AA)

Approved Agencies nominated for specified areas are authorised to submit to the AMC advance notifications on TSAs, TRAs, R areas and D areas. Civilian operators wishing to obtain an AA status must submit an application to Traficom, while applications by military operators are to be addressed to the Air Force.

The AMC-MIL handles any overlapping advance notifications from the Defence Forces and coordinates them between the units if necessary. The operative AMC processes and coordinates all advance notifications, attempting to accommodate all airspace users' needs. Notifications shall be submitted to the AMC by 12:00 LMT on the last working day preceding the activity, unless the AMC and the operator have agreed otherwise.

7.2.4 TSAs, TRAs, R areas and D areas – other operators

Operators who do not have an AA status are not authorised to submit advance notifications for TSAs, TRAs, R areas or D areas. Traficom may decide to authorise an operator to submit advance notifications for specific areas.

7.2.5 CADF co-operation and AUP/UUP messages

The AMC is the point of contact for the CADF (ECAC Centralized Airspace Data Function) unit located within the NMOC.

The AMC is responsible for preparing AUP messages based on advance notifications from airspace users on the use of TSAs, TRAs, R areas and D areas. An AUP shall be prepared and disseminated by 17:00 LMT.

The AMC will also prepare and issue a UUP message when necessary.

7.3 Publications

7.3.1 Airspace restrictions promulgated with AIP Supplements

The AMC will prepare a draft AIP Supplement concerning the airspace to be affected and associated procedures as described in section 7.1.2.

7.3.2 ATS route availability

Available ATS routes are promulgated in an AUP/UUP issued on a daily basis. The opening of an ATS route is not required if the planned opening time would be less than 2 hours, but ATC may then clear an aircraft to fly through the restricted airspace if the area is not active.

7.3.3 TSA, TRA and CBA activity

Active status of TSAs, TRAs or CBAs is declared with an AUP/UUP message and using an AIS chart product.

8 ASM FUNCTIONS AT THE TACTICAL LEVEL

The tactical level of airspace management implements the Airspace Use Plan (AUP) and Updated Airspace Use Plan (UUP) drafted at the pre-tactical level by activating and deactivating approved airspace reservations. Airspace reservations at the tactical level are of a temporary nature and applied only over limited periods of time. Reservations are based on actual airspace use, and

restrictive airspace is deactivated immediately when the activity that caused the restriction is terminated. At the tactical level of ASM it is also possible to approve reservations that have not been coordinated in advance in accordance with the principles of ASM at the pre-tactical level. In this case, however, reservations may be subject to restrictions concerning the upper, lower, and lateral limits of the area or its activation and deactivation times. Any changes to an advance notification shall be submitted immediately to AMC for coordination.

8.1 Dynamic airspace management

Operative AMC functions aim at the dynamic management of airspace. Dynamic ASM refers to the capacity of the AMC to implement the principles of efficient use of airspace as laid down in government statutes and authority regulations in line with the cooperative decision making (CDM) process, while treating all airspace users equally. The AMC strives to ensure equal opportunities for airspace use by constantly monitoring traffic forecasts and UUP updates. This allows the AMC to also allocate such areas and airspace structures for which an advance notification has not been submitted, provided this would achieve a greater overall benefit with a view to the reserving party's activities and the expediency of traffic flows.

8.2 Processing of airspace reservations and D areas

The operative AMC maintains an updated ASM plan at the tactical level. Airspace users shall notify the AMC of all known changes to the planned activities. Any activated airspace reservations and D areas (later referred to as 'the reservation') shall be released for subsequent use by the AMC immediately upon the termination of the activity for which the reservation was requested.

8.2.1 Activation of reserved airspace

A request for activation shall be submitted to the AMC no later than 15 minutes prior to the commencement of the activity for which the reservation was requested. The ATS provider must aim to ensure that the airspace can be released for use by the reserving operator no later than the planned activation time.

Activation of an airspace reservation requires that the AMC has all data pertinent to the reservation, including contact information of the person in charge of the reservation.

Airspace reservations are activated by the AMC, which verifies the information provided by the reserving operator and coordinates the activation with affected ATS units. The AMC notifies the reserving operator of the activation.

If an ATS unit is unable to accept the reservation in its requested form due to traffic (or if a bid was not submitted in accordance with the principles of advance notification applicable to the pre-tactical level of ASM), the AMC must coordinate any restrictions to the airspace reservation with the reserving operator. The objective is to lift any restrictions as the traffic situation allows.

8.2.2 Changing a reservation

The AMC strives to approve airspace reservations in their planned form while honoring the priority principles for airspace use and jointly agreed cooperation procedures.

Where the reserved airspace has no priority over other affected airspace structures or users, obtained through the provisions described in section 7.2, the AMC may impose restrictions to an approved reservation either on its own initiative or by request of the service provider when deemed necessary due to traffic. Changes to active airspace reservations will become effective immediately upon the completion of coordination measures. The AMC is required to coordinate any changes with all operators affected by the reservation.

If there is a need to ensure the safety of traffic inside the reserved airspace, which is not involved in the ongoing activity, the appropriate ATS unit may, in some cases, contact the reserving operator directly and impose restrictions on the ongoing activity. The ATS must notify the AMC of such restrictions immediately for the coordination of changes.

8.2.3 Cancellation of airspace reservation

The airspace user must contact the AMC to cancel an active reservation upon the termination of the activity for which the reservation was requested. The reservation is considered cancelled upon the receipt of the user's notification. The AMC will inform affected operators of the resulting change in airspace status.

8.3 Changes to planned activities

Changes in activities subject to coordination at the pre-tactical level of ASM that do not impose additional restrictions to non-exercise traffic are acceptable. However, should a change result in such restrictions, the AMC will consider their approval on a case-by-case basis.

8.4 Adjacent and overlapping airspace reservations

Overlapping and/or adjacent reservations for Finnish Defence Force activities are coordinated and, if necessary, merged by the military representative at the AMC.

Separation rules between areas are not observed for adjacent military airspace reservations. Separation rules between aircraft are not observed for military aircraft using adjacent airspace reservations. Users of the areas are notified of adjacent airspace reservations for military use.

If one of the parties involved in adjacent or overlapping airspace reservations is a civilian operator, reservation areas will be allocated according to the following principles:

R area in civilian use – TSA in MIL use	Overlapping areas can be allocated
R area in civilian use – TRA in MIL use	Overlapping areas can be allocated
R area in civilian use – TRA in civilian use	Overlapping areas will not be allocated
TEMPO R area in civilian use – R area in MIL use	At Traficom's discretion
R area – D area	Overlapping areas can be allocated
D area in civilian use – TSA in MIL use	Overlapping areas can be allocated
D area in civilian use – TRA in civilian use	Overlapping areas can be allocated depending on airspace class and flight rules
D area in civilian use – TRA in MIL use	Overlapping areas can be allocated depending on airspace class and flight rules
D area in civilian use – D area in MIL use	Overlapping areas can be allocated
D area in civilian use – D area in civilian use	Overlapping areas can be allocated
D area over international waters – TRA in MIL use	Overlapping areas can be allocated
D area over international waters – TRA in civilian use	Overlapping areas will not be allocated

The following procedures are observed for separation between areas and air traffic:

R area in civilian use – TSA in MIL use	No separation, military unit must be notified of R area reservation
TEMPO R/D area in civilian use – R/D area in MIL use	No separation, military unit must be notified of TEMPO reservation in case of MIL flight operations
R area in civilian use – D area in civilian use	No separation
R/D area in civilian/MIL use – TRA	Aircraft in the TRA reservation are separated from R/D area according to airspace class and flight rules
D area in civilian use – TSA in MIL use	No separation, military unit must be notified of D area reservation
D area over international waters – TRA in MIL use	No separation, military unit must be notified of D area reservation
D area over international waters – TRA in civilian use	Aircraft in the TRA reservation are separated from D area according to airspace class and flight rules
Separation from R and D areas may be waived at the pilot-in-command's request.	

8.5 Airspace reservations without advance notification

Airspace users may submit bids to the AMC for reservable areas published in the AIP and suitable for the type of activities also without using the advance notification procedure described in section 7. The AMC coordinates the bid and assesses its effects on traffic flows and other airspace structures, and then decides on the use of the area.

9 AIRSPACE USE MONITORING AND PERFORMANCE

9.1 General

Rules for monitoring the flexible use of airspace are laid down in Commission Regulation (EC) No 2150/2005 and Commission Regulations (EU) No 390/2013 and 255/2010. This requires the establishment of mechanisms for the monitoring of bids concerning airspace structures, and for recording and filing information on their actual use to facilitate research and planning and to improve performance capabilities.

9.2 Statistics and reporting

The AMC/FMP is required to carry out necessary measurements using the performance indicators explained in Appendix 4.

Statistics on airspace use are produced on a daily level and compiled into regular reports. The statistics are provided to aviation authorities for each calendar year.

The regulations also require that annual reports on the use of national airspace be submitted to the European Commission pursuant to Article 8 and Annex of the FUA Regulation and Article 7(2) of Regulation 551/2004. In Finland, responsibility for this rests with the Ministry of Transport and Communications.

10 UPDATES TO THIS MANUAL

This Airspace Management Operations Manual is updated as necessary on a joint decision of Traficom and the Finnish Air Force.

Proposals for amendments shall be submitted to Traficom or the Finnish Air Force for assessment. Any needs for change will be reviewed at least once per calendar year.

APPENDIX 1: PRINCIPLES GOVERNING THE USE OF AIRSPACE BY THE FINNISH DEFENCE FORCES

APPENDIX 2: ORDER OF PRIORITY FOR AIRSPACE USE

APPENDIX 3: CONTACT INFORMATION OF OPERATORS CONTRIBUTING TO ASM PROCESSES

APPENDIX 4: MONITORING OF AIRSPACE USE