



# Large scale exercises coordination, notification and information sharing

ICAO Trans-Regional Civil Military Cooperation Workshop

Abu Dhabi, UAE, 9 -12 December 2019



## BALTOPS 17

- **BIG** scale NATO exercise in the Baltic Sea and adjacent States
- Planned from 4 to 17 June 2017
- Involved stakeholders: NATO, EUROCONTROL Network Manager NM, States (civil and military authorities), national ANSPs, national AMCs, national military agencies, IATA, aircraft operators
- NM objective is to provide solutions that create minimum impact on civil traffic while responding to the military requirements for airspace reservation
- NM coordination goals
  - Minimise the delays to the traffic and workload of the ATCOs **by applying the FUA principles for ASM**, based on a close coordination at all levels between civil and military stakeholders
  - Ensure sufficient **SSR code availability** for the exercise while avoiding code conflicts for the civil side
  - Use the **lessons learned** to improve the current practices and procedures for further application in the coordination of large scale military exercises



**Network Manager**  
nominated by  
the European Commission



# BALTOPS17

# NATO Exercise preparation

Thanks to NM for re-use of the ppt from the  
JOINT ASMSG/RND SG SESSION  
EUROCONTROL HQ

# Framework for Civil-Military Coordination of NATO Air Exercises



## NATO Guidance Procedures AC/92-D(2016)0008:

- addresses ATM-related aspects in the Coordination of NATO Exercises
- matches lessons identified from NATO's Exercise Trident Juncture 2015
- was developed in close coordination with EUROCONTROL with major contributions from NM and DCMAC
- The document laid down the guiding principles for NATO air exercises planning, execution and post-exercise review.
- It contains requirements for the exercises airspace definition, inter-agencies coordination and publication, likewise requirements for aircraft equipage. Provision of the Command and Control elements, key civil and military personnel concerned, location and timetable are also specified.
- The Planning Timetable Checklist is a major element supporting the planning through execution activities by all participants.

# Milestones

Name	Description	Time	Remarks
Exercise scoping	Airspace requirements and initial schedule SSR codes requirements	01 Dec 16	NATO
Initial Network Impact Assessment (NIA)	Provide general picture of impact on civil traffic Coordination of SSR codes	24 Jan 17	NM followed by validation with ANSPs and NATO
Updates on airspace and flight schedule	Finalise airspace structure and flight schedule with latest change issued by NATO	Feb – Mar 17	NATO, NM develops proposals for traffic management
Main Planning Conference (MCP)		1-3 Mar 17	NATO, NM attends
AIS Publications	AIP Supplement	29 Mar 17	States in coordination with NATO
Latest accepted updates	NOTAMs – when needed SSR code modifications – if required	14 May 17	States (date is for airspace changes)
Overview of readiness for exercise		29 May 17	NM / NATO joint conference
Exercise execution		4 – 17 Jun 17	
Post ops activities	Data collection, analysis, conclusions for reports	Jun – Aug 17	NM and NATO will prepare conclusions and lessons learnt

# Milestones (part 1 of 4)

Date	Event	Action	Responsible	Participants	Remarks
Nov 2016  (7 – 11 Nov)	Initial meeting between NM and exercise planners - NATO	Explain the NM requirements and agree on an Action Plan for the preparation and execution of the exercise	NM OPL	NATO	DONE  (3 Nov 16 – ECTL HQ)  <i>Checklist and NM reqs were presented</i>
End Nov 2016	Initial Planning Conference		NATO Exercises Planning branch	(NM)	DONE
1 Dec 2016	Airspace structure (dates, geographical area, initial daily operations plan)	Forward airspace structure to NM PoC	NATO exercise PoC		8 Dec 16  <i>Email: Airspace management BALTOPS17 (Capt Schwarz)</i>
14 Dec 2016	2 <sup>nd</sup> meeting between NM and exercise planners - NATO	Explaining concept of OPS and requirements. Discuss provided airspace and operational schedule	NATO exercise Poc	NM	Provide Polish a/s structures and schedule + NEW4 coordinates  DONE
15 Dec 2016	Start initial assessment	Initial Network Impact Assessment with NM tools	NM OPL	ANSPs	NATO coordination if required  Presented at mtg on 23 Dec
1-15 Jan 2017	Updated airspace structures and operations schedule	Delivered to NM PoC	NATO		<i>New a/s structures + schedule provided on 22 Feb</i>
Jan 2017	Pre-validation of exercise requirement for airspace	Build the exercise airspace in CACD and cross-check with national AMCs	NM OPL		<i>On going</i>

# Milestones (part 2 of 4)

Date	Event	Action	Responsible	Participants	Remarks
24 Jan 2017	Meeting between NM and NATO	Assess the results of the pre-validation	NM OPL	NATO ANSPs, national MIL	List of issues to be solved
24 Jan 2017	Provision of SABRE STRIKE data	Airspace structure (dates, geographical area, initial daily operations plan)	NATO	NM, ANSPs, national mil	a/s + schedule update received 20 Mar 17
24 Jan 2017	Provision of airspace request to States		NATO	States	DONE
10 Feb 2017	Provision of clarification to the loose issues	Respond to the questions in excel file and slides 12/13 of PPT	All	All	a/s + schedule update received 22 Feb 17  some issues still require clarification
15 Feb 2017	Publication of initial NIA on NOP Portal	Consolidate information for BATOPS17 and initial NIA	NM		DONE
15 Feb 2017	Finalisation of Communication Plan	PoC for NM, NATO, ANSPs and national MIL including PoCs for planning and execution of exercise	All		NM, NATO, ES, ED EK and EP mil are defined  Missing EP civ + EV
1-3 Mar 2017	Air Main Planning Conference		NATO exercise PoC	NM	DONE
Early Mar 2017	Draft AIS publication	Draft AIP Supplement for coordination with NM	NATO	ANSPs	EP draft AUP Supp
Early Mar 2017	Final and stable configuration of airspace structure	Update of required airspace for the exercise area and freeze the configuration in CACD	NATO, NM	ANSPs	Missing for SABRE STRIKE
Mid Mar 2017	Final draft of airspace allocation schedule	Update the operations schedule with confirmed final version	NATO	NM	

# Milestones (part 3 of 4)

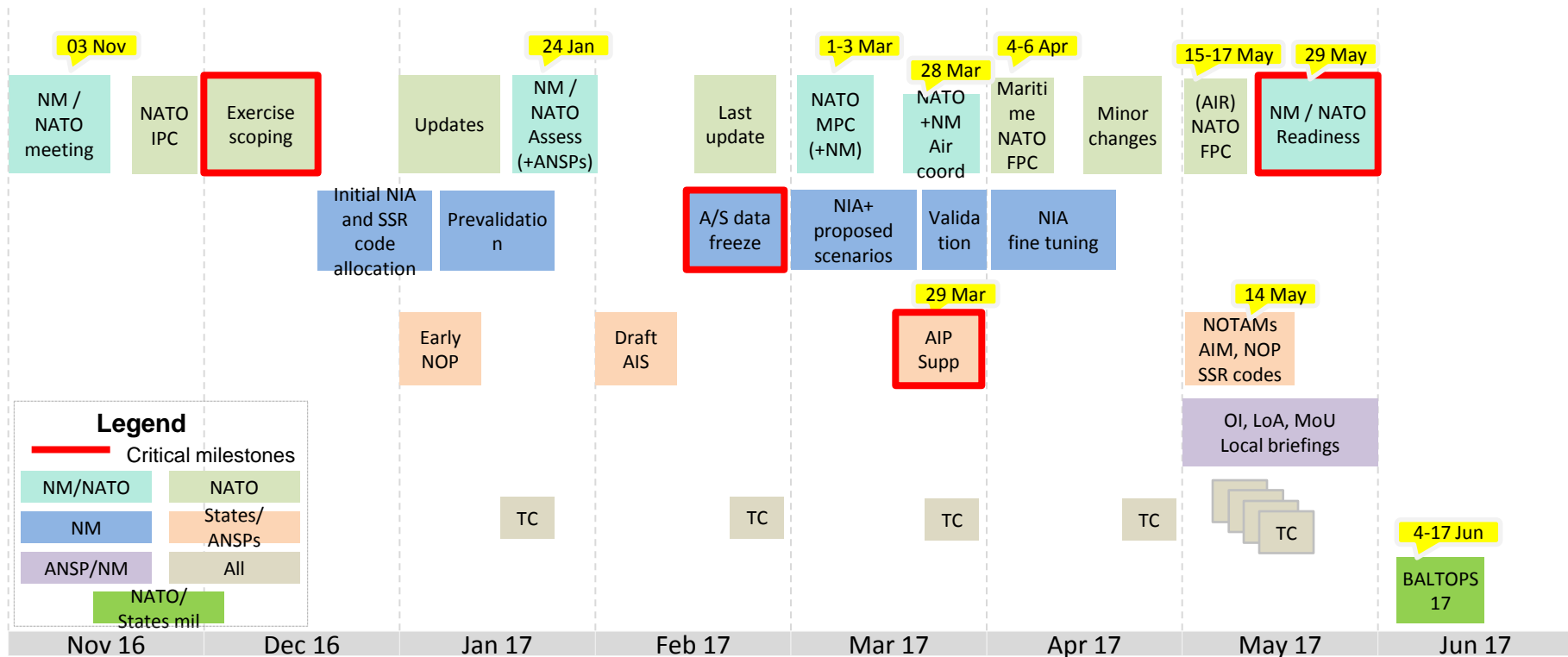
Date	Event	Action	Responsible	Participants	Remarks
End Mar 2017	Mature network impact assessment	Network Impact Assessment with traffic forecast for exercise period	NM OPL+MILO		
End Mar 2017	Scenarios and avoidance routing proposals/temporary airspace structures	Develop proposals for scenarios with re-routings and/or ATFM measures	NM OPL+MILO		
End Mar 2017	Validation with States/ANSPs of mitigation proposals and associated procedures and ATFM measures	Presentation and endorsement of scenarios/mitigating proposals	NM NMOC, States, ANSPs		States commitment to implement agreed procedures
End Mar 2017	Finalisation of flight schedule and airspace allocation plan.  ATFM measures and RR proposals	Latest modifications in airspace and schedule of the exercise communicate it to NM  Fine tuning of the scenarios and procedures	NATO  NM NMOC	ANSPs	
29 Mar 2017	Publication of AIP Supplement*  (2 AIRAC cycles)		States/NATO		When new airspaces have been established
4-7 Apr 2017	Final Planning Conference	Exercise planners to provide final updates on airspace configuration, AIS publication and airspace allocation	NATO  NM	NATO, ANSPs	NM participation
April 2017	Fine-tuning of airspace allocation schedule	Minor adjustments acceptable for flight schedule and the resulting impact on network	NATO  NM NMOC		
26 April 2017	Publication of AIP Supplement*  (1 AIRAC cycle)		States/NATO		When there are no new airspaces
14 May 2017	Last NOTAMs publication for airspace changes	Minor airspace adjustments with freezing of airspace configuration in CACD	NATO and  States		



# Milestones (part 4 of 4)

Date	Event	Action	Responsible	Participants	Remarks
May 2017	Production of local ATM documents	ATC procedures, Operational Instructions, LoAs	NATO, States, ANSPs, NM		
May 2017	Briefing of local staff	NM OPS staff, ANSPs staff	NMOC, States, ANSPs		
May 2017	AIS publication of exercise information	AIM, NOP Events List	NMOC		
29 May 2017	Joint Conference NM/NATO	Check readiness status for the exercise	NATO, NM, States		Last Teleconference. Regular monthly teleconference, once per week (and when required) one month before the exercise.
4-17 June 2017	BALTOPS 17				
5-16 June 2017	SABER STRIKE (EP)				
June 2017	Collection of data	Airspace availability, traffic, delays	NM		
July – August 2017	Post-ops analysis  (meeting)	Preliminary and final synthesis, findings, conclusions and lessons learnt	NM and NATO	ANSPs and national military agencies	

# Exercise Preparation Timeline



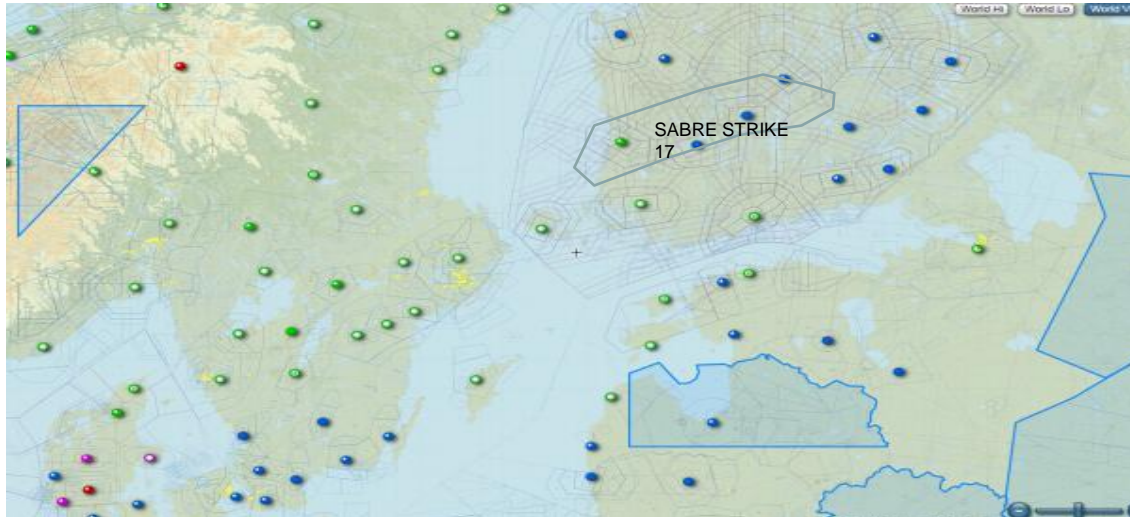


## AIRSPACE requirements for additional SABRE STRIKE 17

Time period: **05 – 16 June 2017**

Area: **TBD**

Schedule: **TBD**

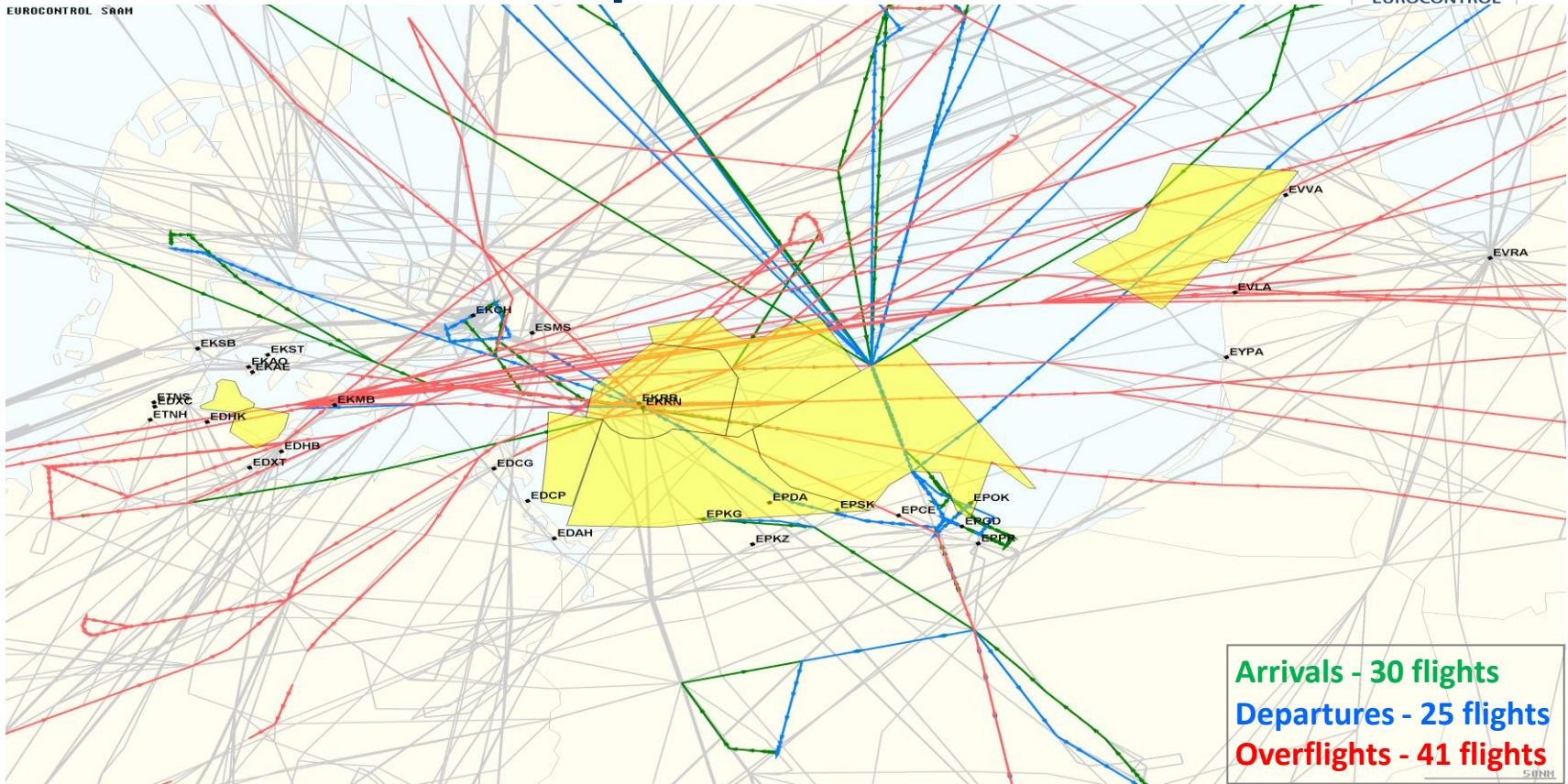


Time and exercise areas of the two events are overlapping.

Network Impact Assessment must consider both for full impact on traffic and mitigation scenarios.

# BALTOPS17 Initial Impact Assessment – 24hrs

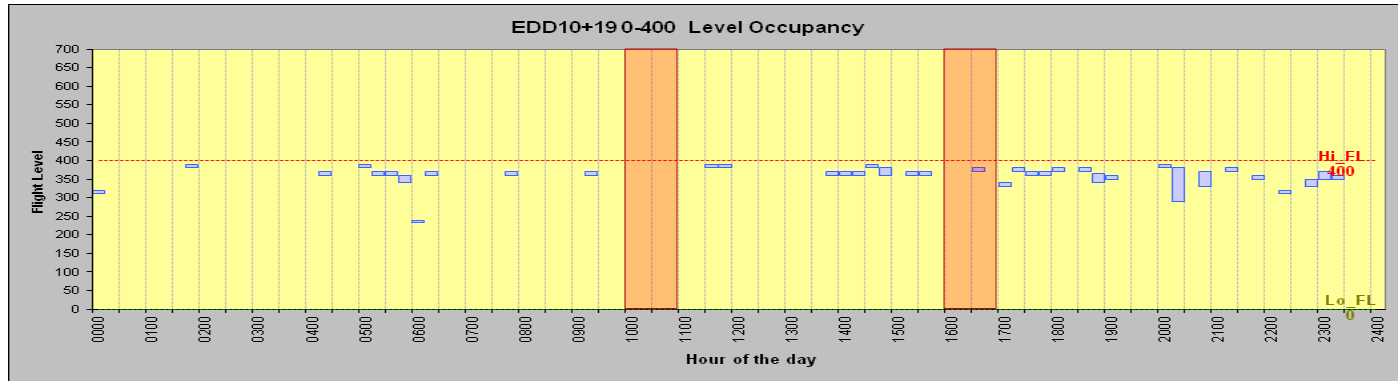
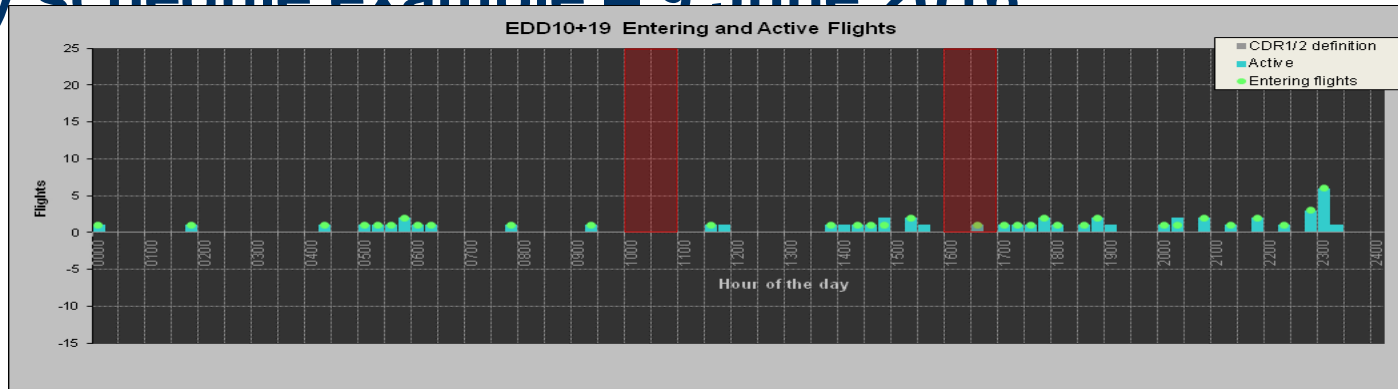
EUROCONTROL SAH





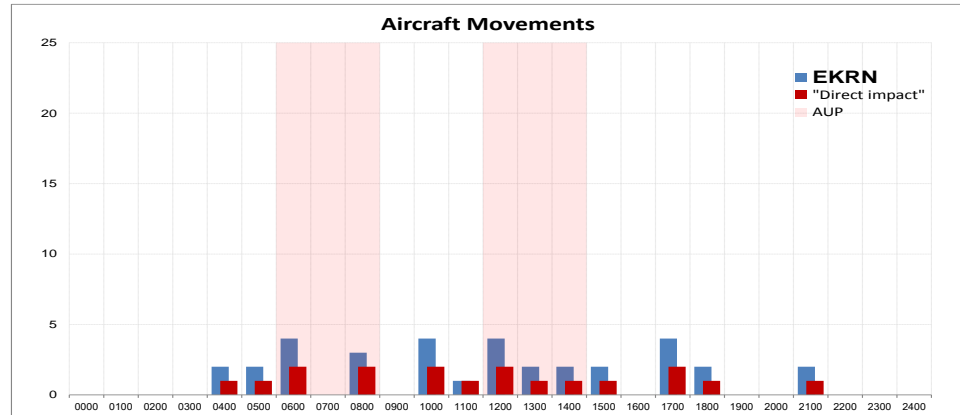
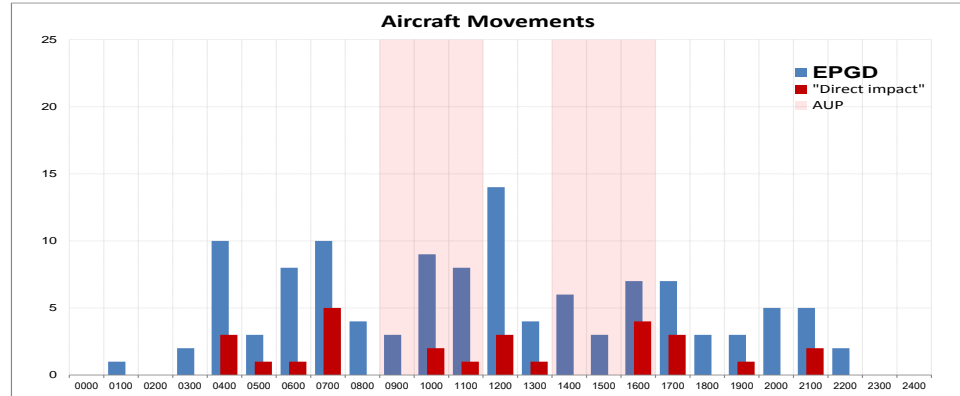
# BALTOPS17 Initial Impact Assessment

## Daily schedule example – 9 June 2016



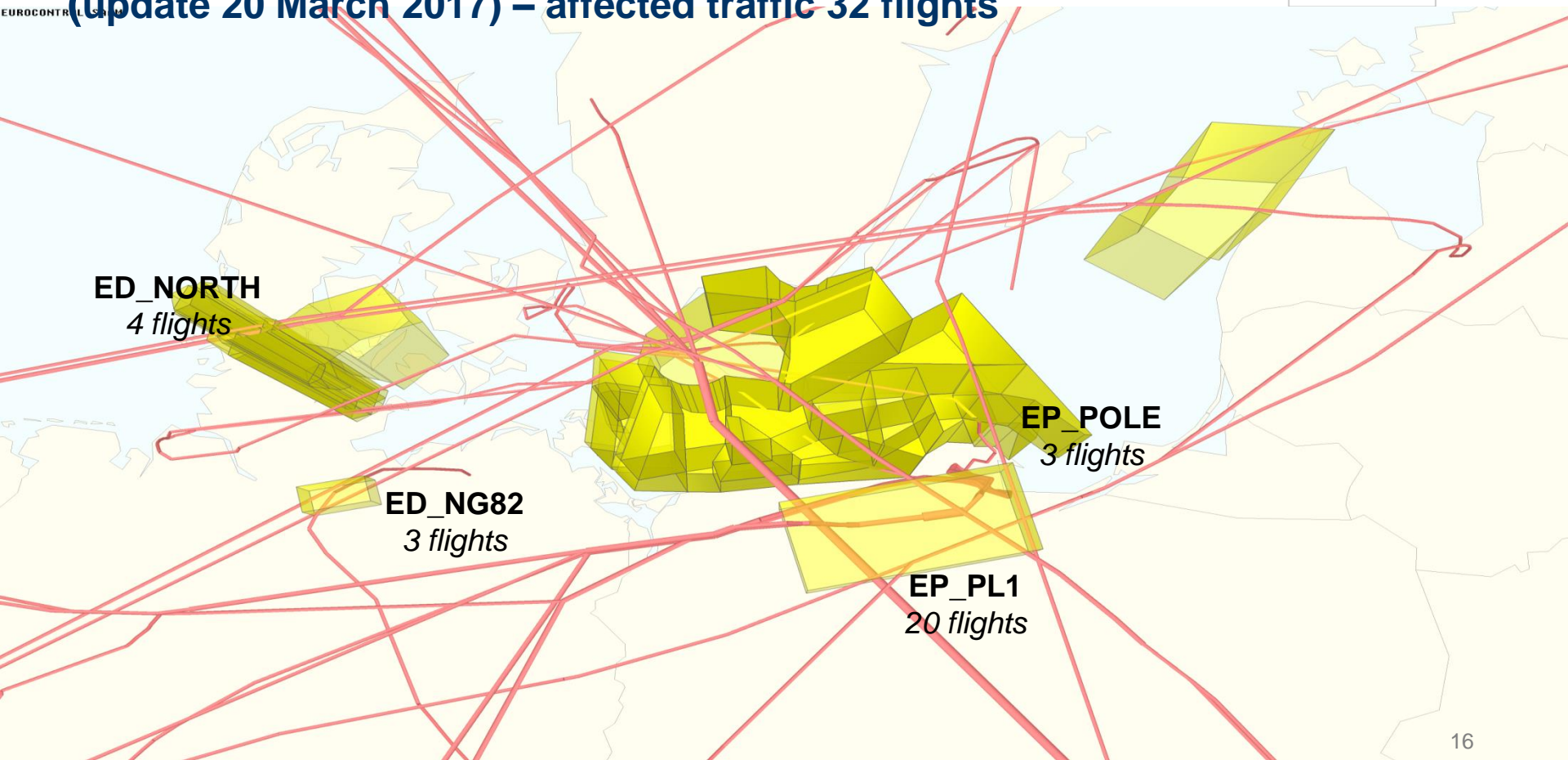
# Airports – exercise impact

Airport	Movements in 24hrs	Movements affected by AUP
EKCH*	904	22
EVRA	232	12
EPGD	117	27
ESMS	106	1
EKRN*	34	18
EKSB	29	
EYPA	23	5
EDHK	8	0
EDAH	6	0
EPOK	6	6
ETNH	3	



# BALTOPS17 Initial Impact Assessment for 13 Jun 2017 (update 20 March 2017) – affected traffic 32 flights

EUROCONTROL



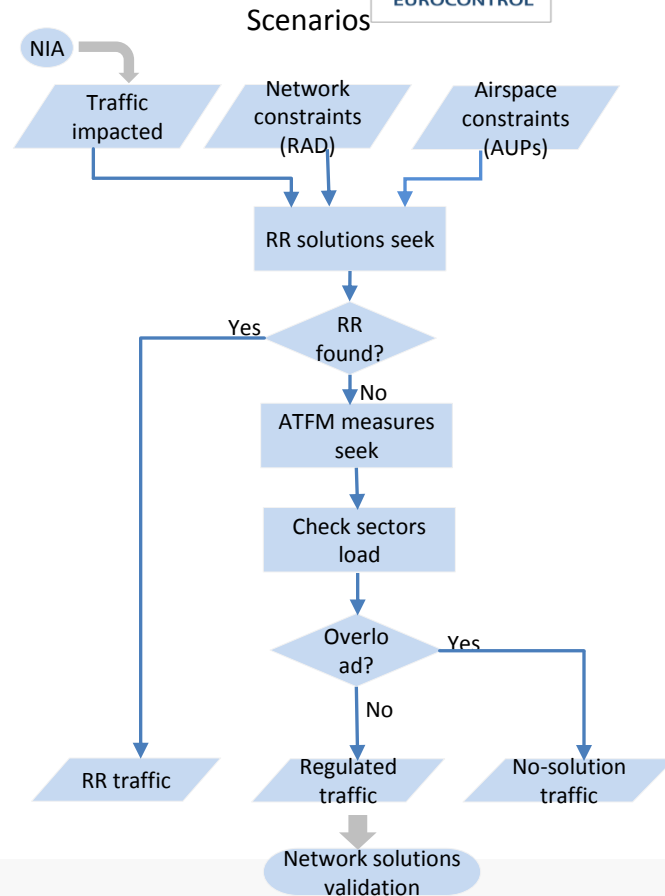
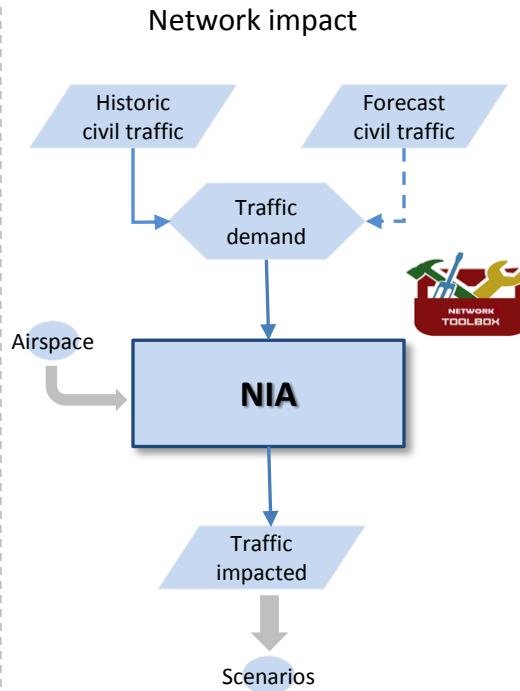
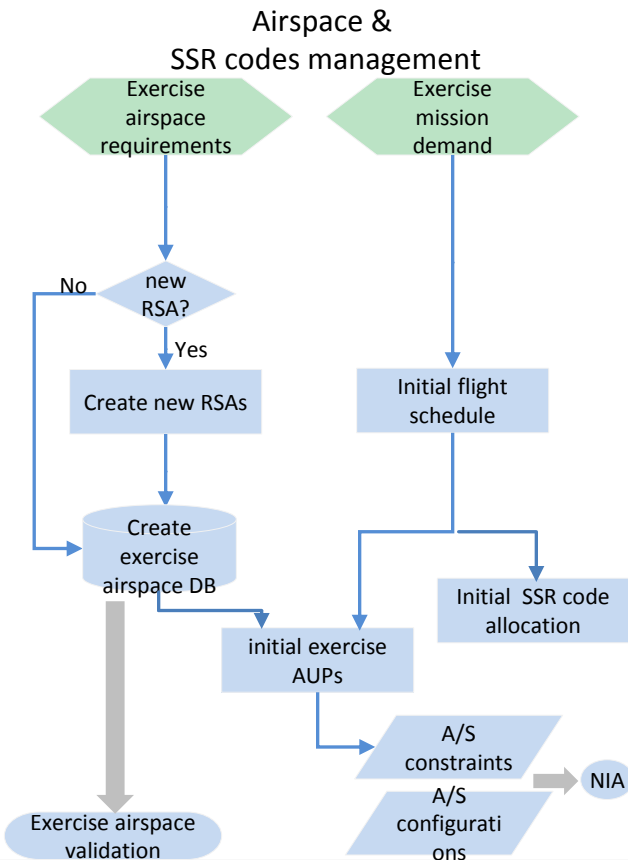


# BALTOPS17 Initial Impact Assessment - AUP for 13 June 2017(update 20 March 2017)

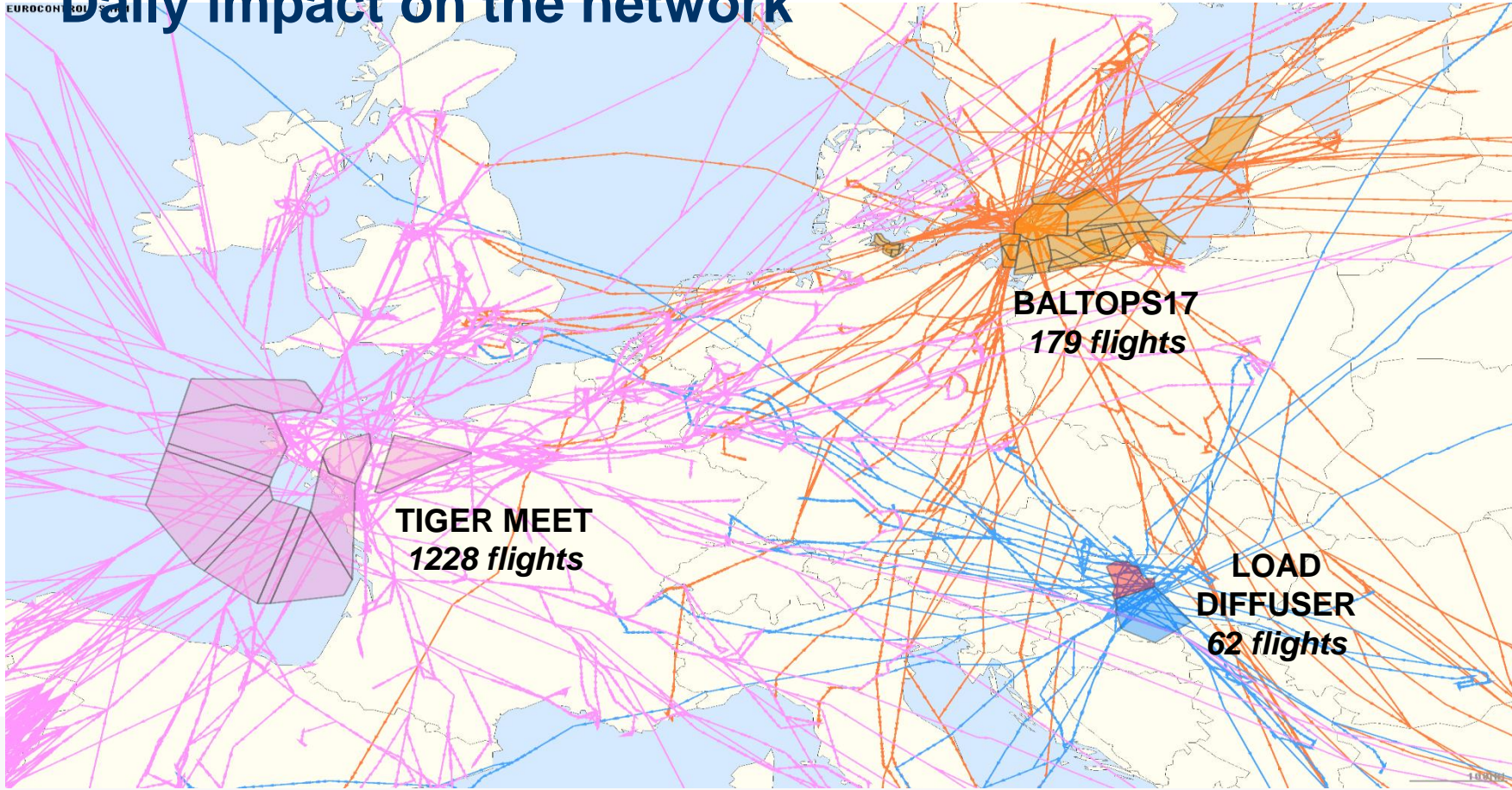
RSA	From Time	Until Time	Min FL	Max FL	WEF_time / City_Pairs	Date	9	00:00	01:00	02:00	03:00	04:00	05:00	06:00	07:00	08:00	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24:00
AUP																																
ED_EP_ES	1400	1530	0	195	0600	20170613																										
ED_EP02	1100	1300	0	195	0600	20170613																										
ED_NG5	1400	1700	270	310	0600	20170613																										
ED_NORTH	1200	1600	0	400	0600	20170613																										
EP_PL1	0800	1200	270	350	0600	20170613																										
EP_PL1	1400	1530	270	350	0600	20170613																										
EP_POLE	0500	0700	0	195	0600	20170613																										
EP_POLE	0700	0800	0	195	0600	20170613																										
ES_EP01	0800	0900	0	195	0600	20170613																										

Areas	Levels	Flights affected in active hours	Remarks (mitigation actions)
ED_EP_ES	GND - 195	1	Mil flight - coordination
ED_NG82	270 - 310	3	Coordination for crossing
ED_NORTH	GND - 400	4	Tactical re-routing
EP_PL1	270 - 350	20	Coordination for crossing
EP_POLE	GND - 195	3	Low level traffic – coordination or RR

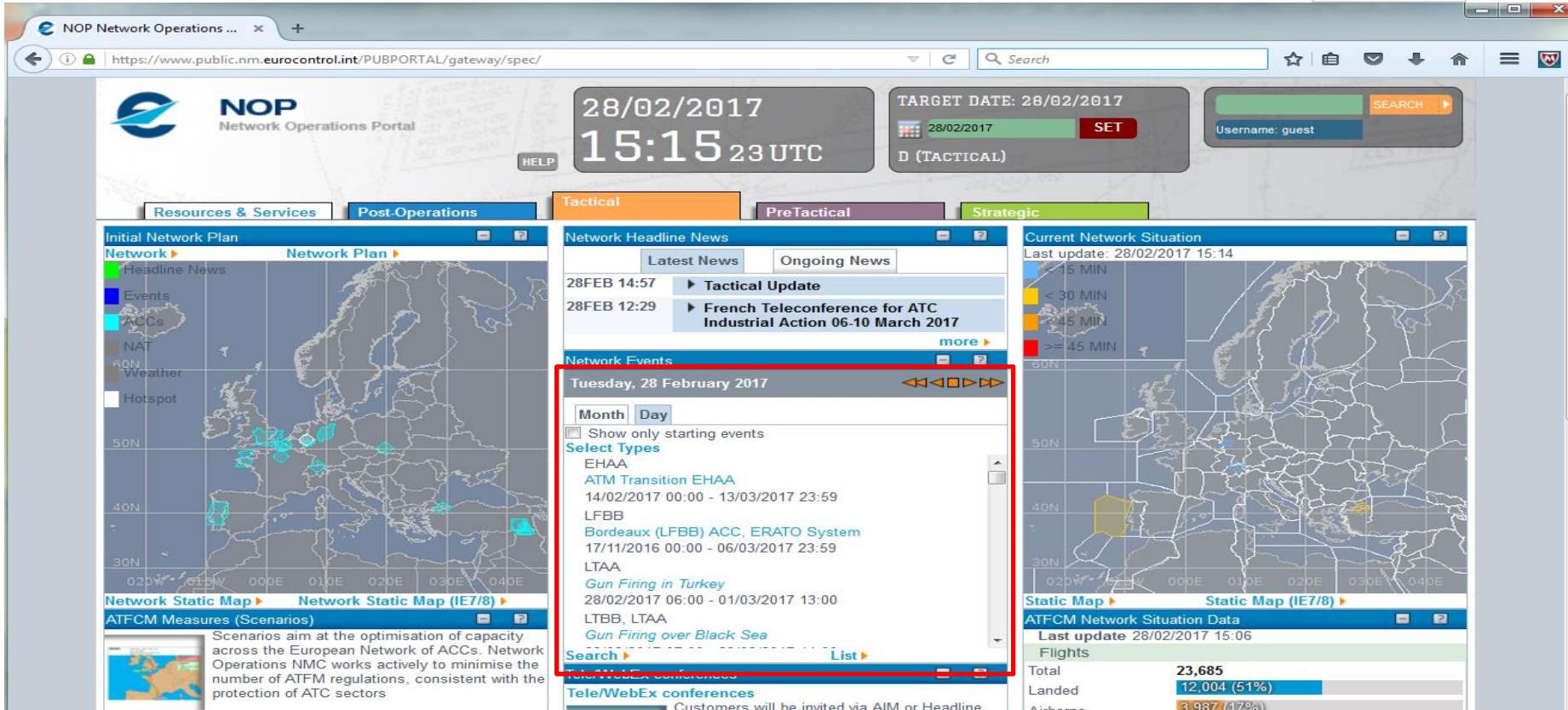
# Exercise Network Impact Assessment



# Military Exercises (4-17 June 2017) - Daily impact on the network



# NOP Portal access



The screenshot shows the NOP Network Operations Portal interface. At the top, the date and time are 28/02/2017 15:15 UTC. The target date is also 28/02/2017. The user is logged in as 'guest'. The interface is divided into several sections:

- Initial Network Plan:** A map of Europe showing various network elements like ACCs, NAT, and weather.
- Network Headline News:** A list of news items, including a tactical update and a French teleconference for ATC Industrial Action.
- Network Events:** A list of events for Tuesday, 28 February 2017, including ATM Transition EHA, LFBB, Bordeaux (LFBB) ACC, ERATO System, LTAA, Gun Firing in Turkey, and LTBB, LTAA.
- Current Network Situation:** A map showing the current network situation with a legend for flight delays (15 MIN, < 30 MIN, 30-45 MIN, > 45 MIN).
- ATFCM Network Situation Data:** A table showing the total number of flights and the number of flights landed and airborne.

Category	Value	Percentage
Total	23,685	
Landed	12,004	(51%)
Airborne	3,987	(17%)



# NOP Portal access

Print date: 27/02/2017 10:29

## MILITARY Event

### BALTOPS 17

#### General Information

##### Summary

**Type:** MILITARY  
**Sub Types:** Exercise  
**Status:** Confirmed  
**Estimated Period:** 04/06/2017 00:00-17/06/2017 23:59  
**Locations:** EDVVUIR (IR), EKDKFIR (IR), EPWWFIR (IR), EDWWFIR (IR), EVRRFIR (IR), ESAAFIR (IR)  
**Short Description:** A military exercise conducted mainly over the Baltic High Sea,  
**Last Published:** 17/02/2017 09:29

##### Description and Expected Benefits

**Description:**  
A military exercise conducted mainly over the Baltic High Sea.  
Moderate to High impact expected.

**Areas activation:**

- Week 1 (4-11 June 2017): two 3-hours slots between 0600 - 1500 UTC;  
FL: GND - 195, 290, 480
- Week 2 (12-17 June 2017): three 3-hours slots between 0600 - 2000 UTC;  
FL: GND - 195, 290, 480

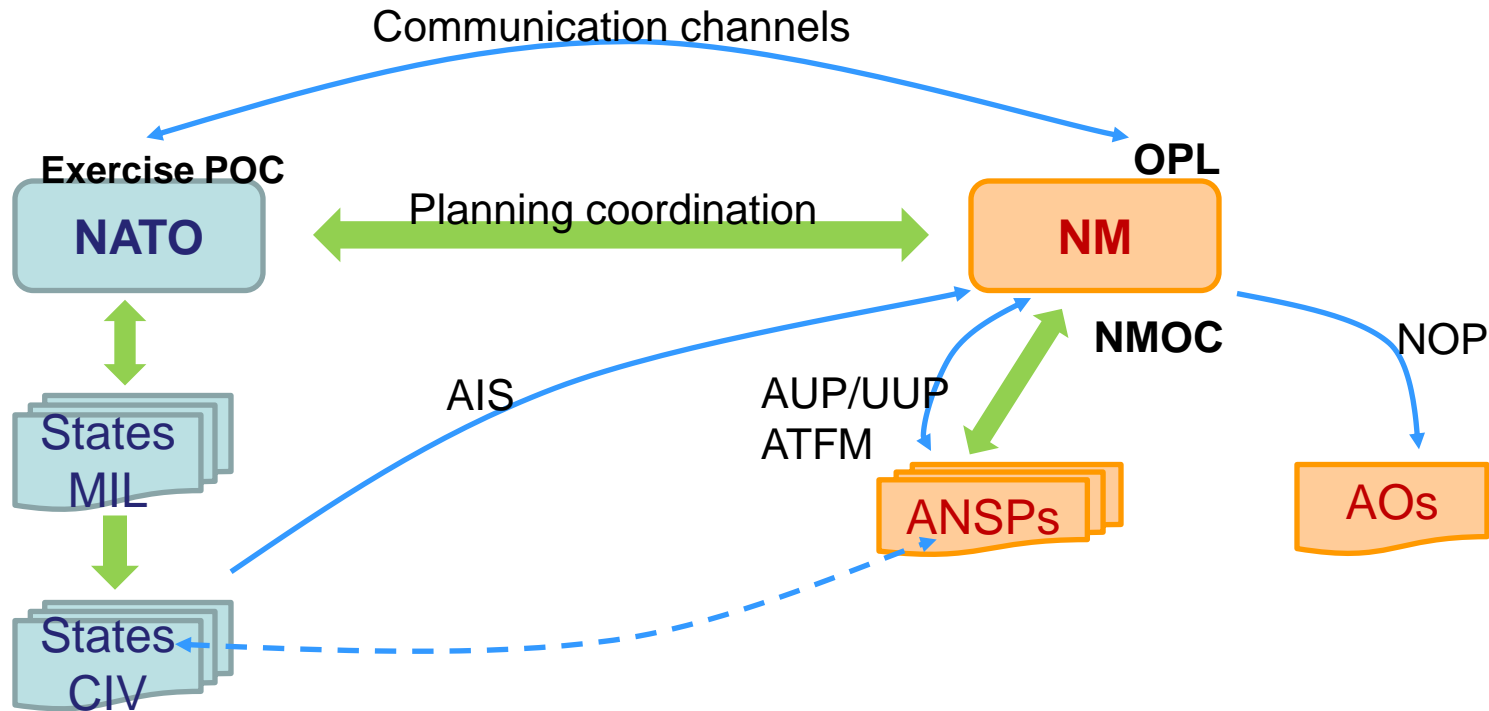
**Measures:**  
Ronne TMA up to FL195 and airport EKRN available for traffic during the exercise

**MAP**  
Preliminary information. More to follow

le Data	Last Date
	11/03
	11/03
	06/06
	21/05
	02/06
	17/02
	11/03



# Communication process



# Communication Plan

Type	Description	Frequency	Means/ Channels	Originator	Recipients
Update messages	Changes in airspace structure, flight schedule and SSR code needs	When needed	Standard (email, AIS publications)	NATO *), States *)	all
Overview meetings	Confirmation of valid solutions, new issues	1/month (1/week in May) and on request	Meetings/ Teleconference	NM	NATO, States and ANSPs
AIS Publications	AIP Supplement, NOTAMs, AIM, NOP Portal	AIRAC dates or established deadlines	AIS channels, Eurocontrol NOP Portal	States, NM	all
AUP/UUP	In the execution phase	Daily	NM systems	States	all
NOTAMs, coordinating messages	In the execution phase	When required	Current standard channels	States, ANSPs	NM, AOs
Feedback from participants	Post exercise		Standard (email)	all	NM
Post ops meetings	Exercise de-brief, conclusions and lessons learnt		Meetings	NM	all

# Despite congested environment



**BIG scale military exercises are possible if civil & military cooperate/collaborate**







ICAO

UNITING AVIATION



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THANK YOU