

Supporting  
European  
Aviation



# EASA/EUROCONTROL Network Manager/Latin America Webinar On Network Management Functions

## Crisis Management

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NETWORK  
MANAGER



# EUROCONTROL/CFMU involvement in crisis management in the past

- CFMU deals, since 1995, with ATM disruptions (e.g. congestions) in Europe

**1999: Balkan crisis**



**2001: 9/11**

# Aviation crisis?

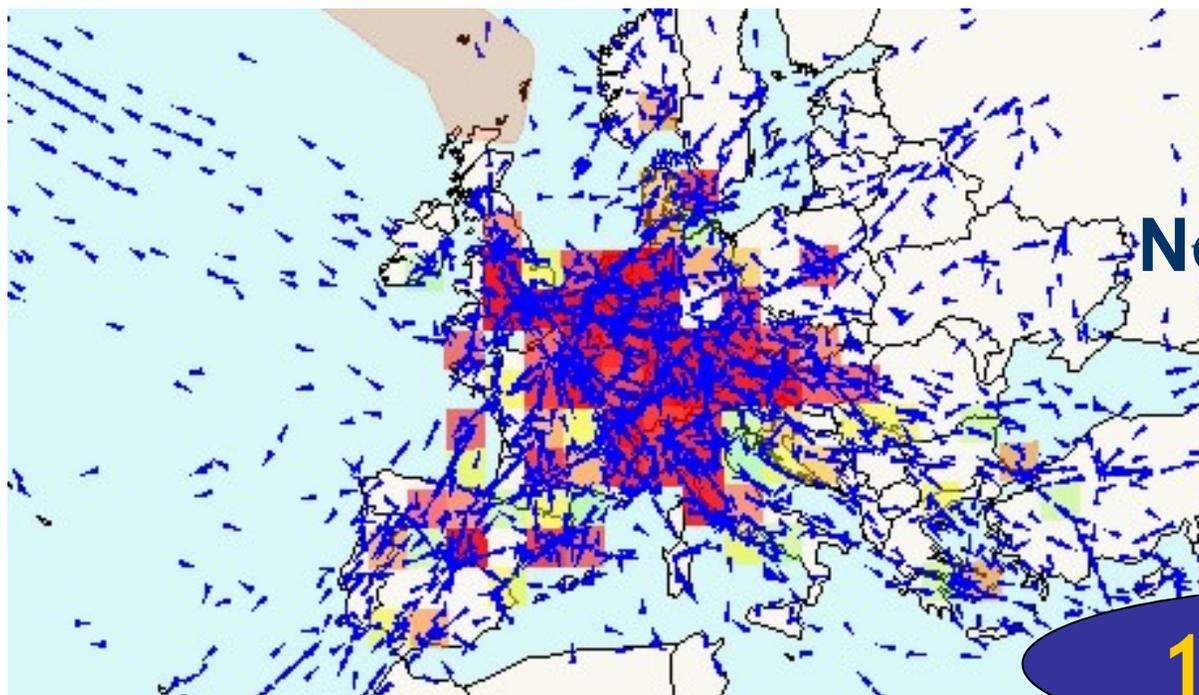


## *Eyjafjallajökull 2010*





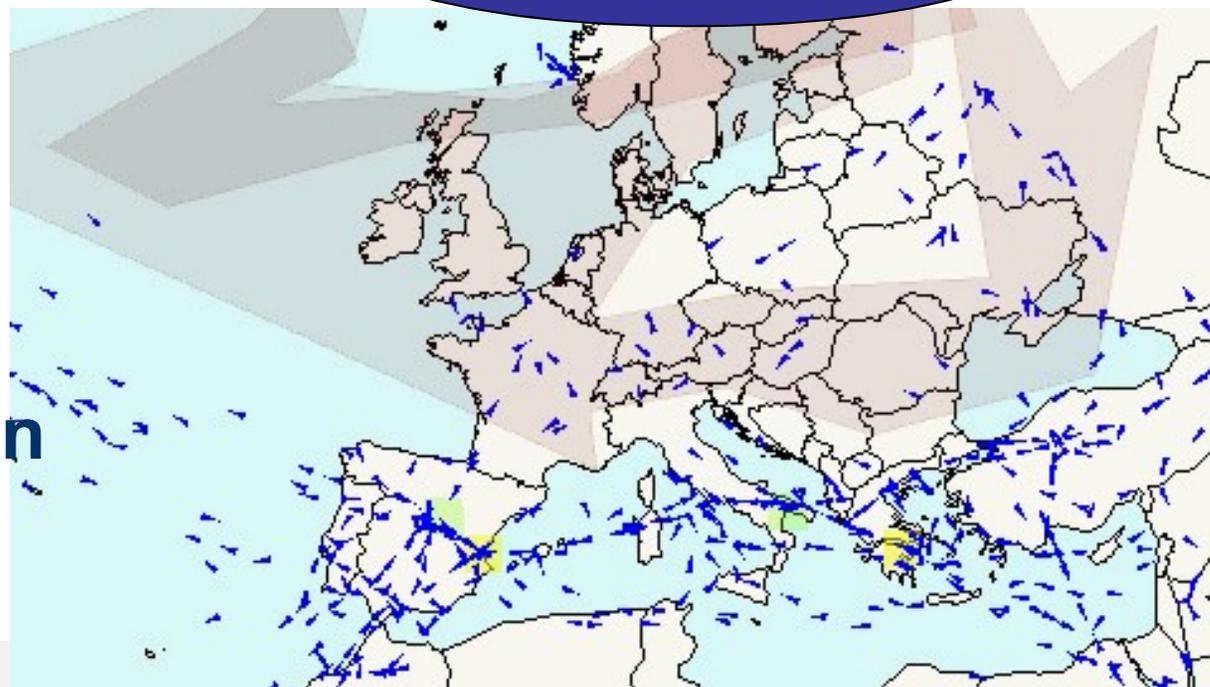
## Normal traffic density in Europe in April



16.00 UTC

What happened?

## Traffic in Europe on 18 April 2010

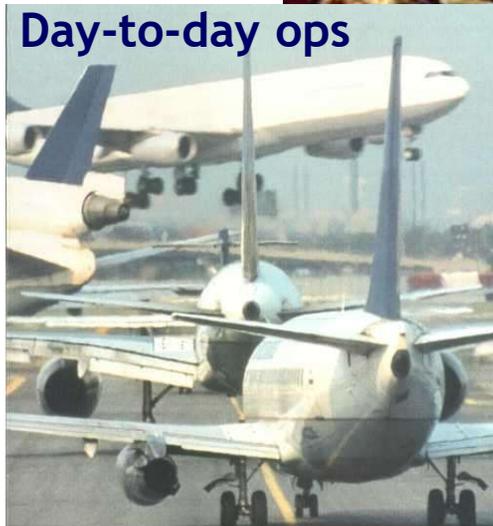


# From disruption to crisis

**Crisis**

**Major disruption**

**Day-to-day ops**





# Lessons learnt from 2010 ash crisis

May 2010:

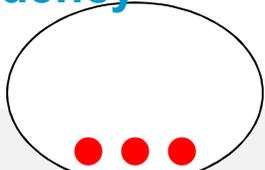
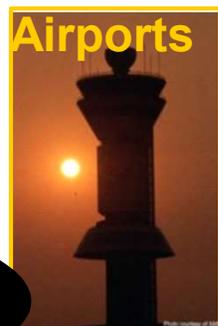
## European Aviation Crisis Coordination Cell



Network management

Political leadership

Airworthiness Safety



State focal points

# Roles of Network Manager (NM) and European Aviation Crisis Coordination Cell (EACCCC)

NM  
&  
EACCCC

Coordinate management of response to the network crisis affecting aviation in Europe

EACCCC activated to support the NM in political aspects of network crises



EU Presidency



Airlines



Members



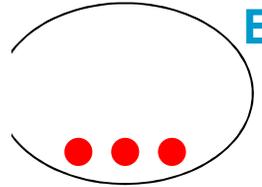
Airports



ANSP



Military



State focal points

# Network Manager: 24/7 contribution to coordinating & managing response to crises affecting aviation in Europe

The screenshot displays the Network Manager interface with several key elements:

- Top Left:** Browser address bar showing `www.nm.eurocontrol.int/PORTALWALL/gateway/spec/nopshowcase.html`. Below it, a section titled "Getting Started" with a "NOP SHOWCASE" button and a sub-header "on the EUR network". A date stamp reads "tion on Friday 5 September 2014 at 06:27 U".
- Map:** A map of Europe with various colored overlays (yellow, blue, red) indicating different operational statuses or delays. A legend at the bottom right explains the colors: blue for < 15, yellow for > 15, orange for > 30, and red for > 45 (delays in mins/flight).
- Callouts (Red Boxes):**
  - Bárðarbunga:** Includes a satellite image of the volcano and text: "Alert status", "NM mechanisms", "Readiness".
  - Brussels attacks:** Includes a photo of a damaged airport terminal and text: "Security measures", "Info exchange".
  - MH17:** Includes a photo of the aircraft wreckage and text: "Airspace status:", "NM ultimate source of info & support to AOs".
- Right Panel:** A "Current situation" dashboard with two tables:
 

Current situation		
✈		
Planned flights	Airborne	Landed
23,382	4,034	2,021

✈		🕒
Flights delayed more than 30 mins	Total amount of delays today (mins)	
79	11,615	

🕒 Today's top 5 accumulated delays (mins)	
NIH+KOH+LXH+LNH FL335+	2,226
APT: LONDON GATWICK	1,402
APT: CHANIA / IOANNIS DASKALOGI	948
AMSTERDAM FIR CROSS BORDER A	825
BORDEAUX R4	821
- Bottom Left Callout (Ebola):** Includes a photo of a street with a sign that says "ATTENTION! EBOLA!" and text: "Supporting role to coordinated response".
- Bottom Right Callout (Conflict zones):** Includes a photo of an explosion and text: "Teleconferences", "Alternate routes", "Mitigated impact".
- Bottom Footer:** "Network Manager nominated by the European Commission". A status report reads: "tistical situation Friday 5th September: Low visibility in London Gatwick , and high demand for the Greek Islands. No significant enroute problems. Bardarbunga".

# Possible threats



- Volcanic ash dispersion
- Nuclear incident
- Armed conflict
- Hazardous chemicals dispersion
- Fire
- Security threats
- Airborne spread of diseases/Pandemic
- Earthquake
- Flooding
- Major failure of a pan-European function
- Industrial action or unavailability of a major or several ANSPs
- Cyber attacks
- Severe meteorological conditions
- Shortage of fuel in Europe
- Threat from space
  - space debris & meteorites,
  - space weather



Preparing  
for the next  
crisis

European  
Aviation  
Crisis  
Coordination  
Cell (EACCC)



- **2013: CYBER**
- **2014: NUCLEAR**
- **2015/6: SECURITY**
- **2017: POWER  
OUTAGE**
- **2018: CYBER**
- **2019: PANDEMIC**



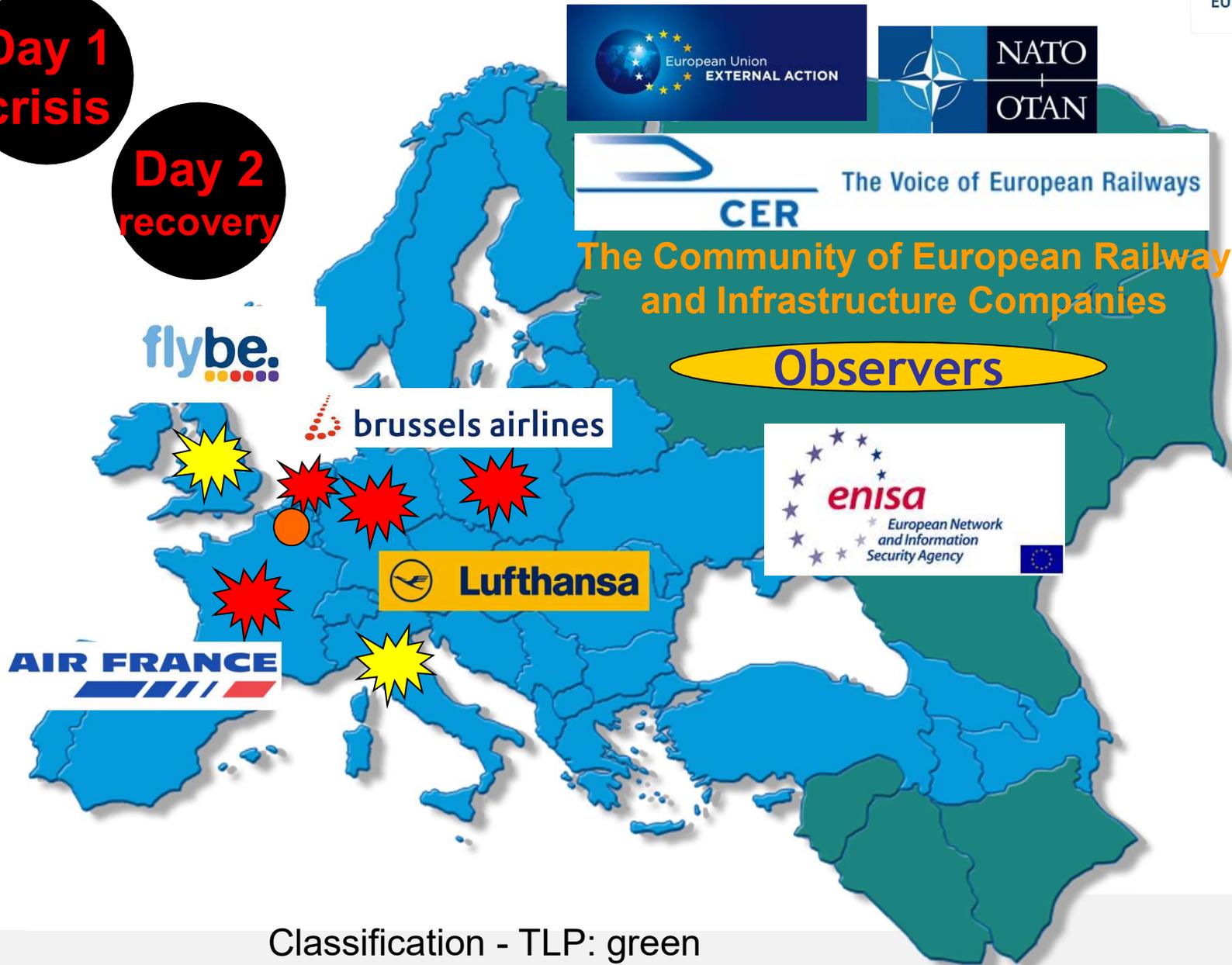
**Exercise, exercise, exercise, ...**

# CYBER 13 – scenario & participants



Day 1  
crisis

Day 2  
recovery



# NUCLEAR 14 – scenario & participants



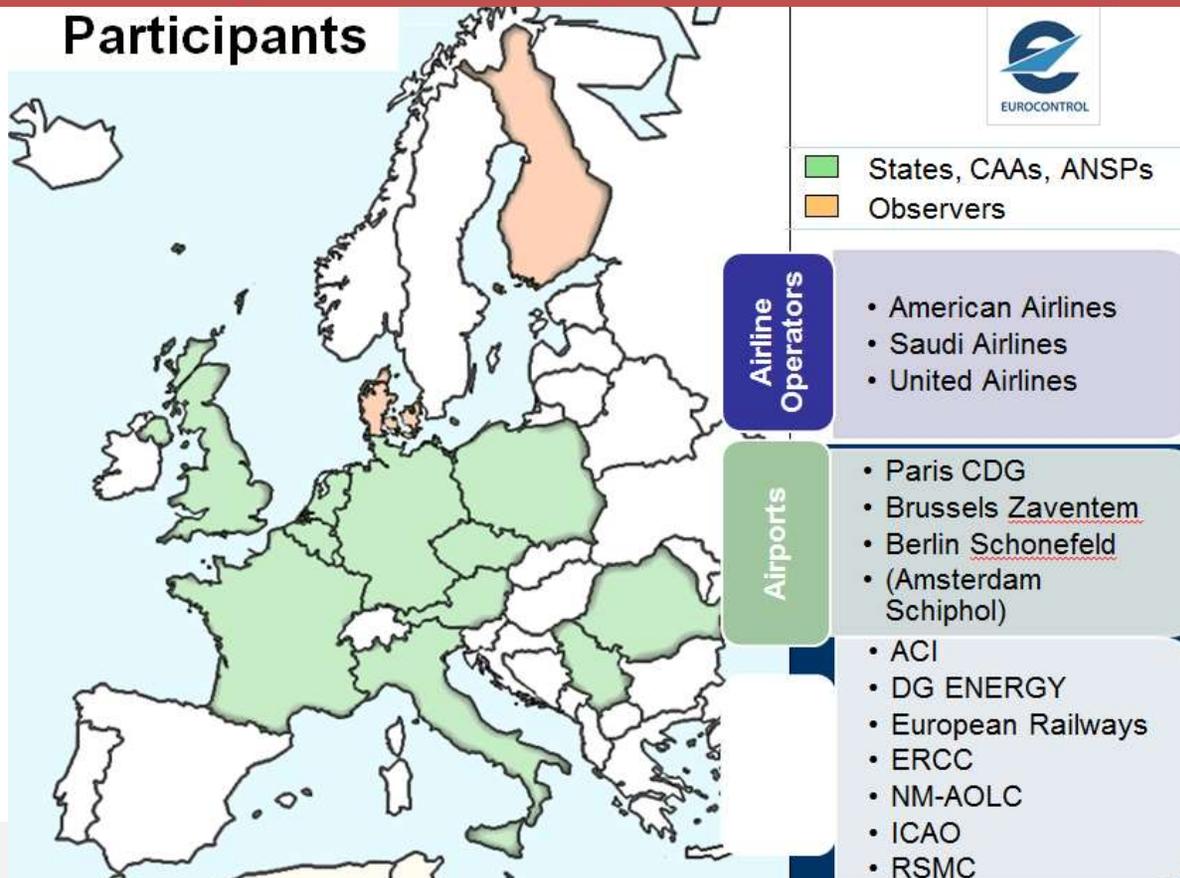
**T0** Fatal incident at a Nuclear Power plant (NPP)

**T0 + 1h** State authorities order evacuation of the vicinity of the NPP

**T0 + 2h** NPP meltdown → airspace above (30km radius closed)

**T0 + 2h45** NM receives the dispersion model output → forecast SFC-500m (RSMC)

## Participants





# SECURITY 15

- Held on 2-3 February 2016 - security related scenario

**Bombs going off at 2 European airports simultaneously**

Unclear if these bombs were just targeting the airport

**Aviation all over Europe under threat**

**How will the different states (directly affected and other) react to the threat?**

- 18 States + EACCC
- Security and aviation experts from airports, airlines, EC & NM



# POWER 17

- Held on 1-2 February 2017 – blackout scenario

Full loss of power in 4 States

Test the response of aviation in major power failure events, including decision making and interfaces between crisis management, and operational organisations in aviation and power supply.

- 12 States + EACCC
- Expert Organisations: European Network of Transmission System Operators for Electricity (ENTSO-E)
- ANSPs, airports, airlines, EC & NM

# CYBER 18



## ATC centres under cyber-attack or under cyber-threat

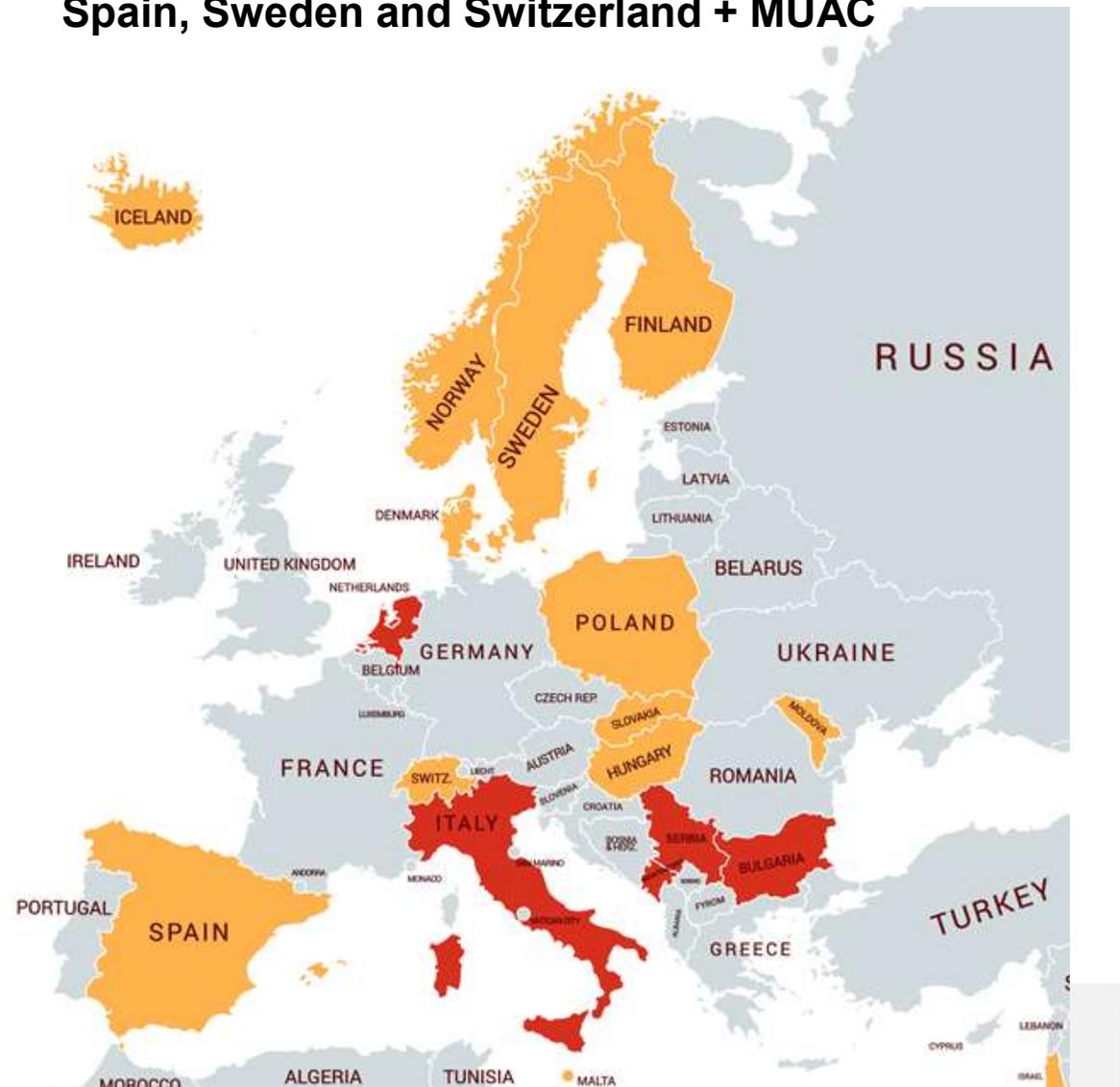
- Held on 13/14 March 2018 – ATCO reduction in confidence
- Test the EACCC preparedness in case of cyber-attack on ATM:
  - EACCC coordination of harmonised approach based on national and European coordination
  - EACCC support to communication
- Strengthening relationship between the cyber-security and aviation experts at European as well as national level
- 18 States + EACCC **80 participants**
- Expert organisations: EU Agency for Network and Information Security (ENISA) and European Centre for Cyber Security in Aviation (ECCSA)
- ANSPs, airports, airlines, EC & NM

# Participating states and their ANSPs



- States whose ATM systems are suffering from the cyber-attack: **Bulgaria, Italy, Montenegro, Serbia and The Netherlands**
- States with ATM systems fully functioning but under threat of cyber-attack: **Denmark, Finland, Hungary, Iceland, Israel, Malta, Moldova, Norway, Poland, Slovakia, Spain, Sweden and Switzerland + MUAC**

- Directly affected from cyber-attacks
- Indirectly affected (Under threat) from the cyber-attacks



# PANDEMIC 19



Flu-like illness develops in Sweden; no available medical countermeasures; high mortality; spreading to neighbouring areas, later across continents

Held on 26-27 February 2019 – flight cancellations; some countries ban or restrict flights from affected countries

Exercise EACCC preparedness in case of Pandemic through:

a) EACCC coordination of harmonised approach based on:

i) National coordination

ii) EC/ICAO/WHO coordination

b) EACCC support to communication

(2) Strengthening relationship between the health and aviation experts at European as well as national level

- 15 States + EACCC **70 participants**
- Expert organisations: DG SANTE, ECDC; IATA, ICAO, WHO
- ANSPs, airports, airlines, EC & NM

# Planning during times of crisis



# Communication



Following

@teemul we're looking into this, will publish jpg maps asap today

30 minutes ago via HootSuite in reply to teemul

@monstermunch99 sorry only Flash, can I help by forwarding a map or transmitting info?

39 minutes ago via HootSuite in reply to monstermunch99

@odeckmyn we are moving to a new site ,same as the White House :-> soon soon... sorry about the inconvenience, what were you looking for?

about 1 hour ago via HootSuite in reply to odeckmyn

Join us on [www.facebook.com/eurocontrol](http://www.facebook.com/eurocontrol) to share your stories about the massive air traffic disruption #euva



facebook

EUROCONTROL [Become a Fan](#)

Wall Info YouTube Links Photos Discussions >>

EUROCONTROL + Fans **EUROCONTROL** Just Fans

EUROCONTROL Latest official #eurocontrol update now live, please check at [#euva #ashcloud](http://ow.ly/1zluR)  
4 hours ago via HootSuite · View Feedback (2)

EUROCONTROL Map used during the press conference showing forecast the ash cloud position (based on risk model) <http://ow.ly/1zjfm>  
5 hours ago via HootSuite · View Feedback (9)

EUROCONTROL reporting live from the EUROCONTROL press conf on European air traffic situation – here we go!  
6 hours ago via HootSuite · View Feedback (8)

EUROCONTROL Share with us your stories related to the massive air traffic disruption in Europe!  
7 hours ago · View Feedback (6)

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Suggest to Friends

Our aim is to ensure that your European flight will be safe, punctual and that it won't cost too much – either for you, or for the planet.

# Communicating in Aviation Crisis -



## **The need for speed:**

- Social media have changed the paradigm, no one waits for a press conference or press release
- Public-facing organisations need to respond to the need for accurate information fast – before the space is occupied by others

## **The need for preparation:**

- Who can speak, what would they say, how should they say it, are they trained etc?
- Do you know key local journalists or influencers?

# Communicating in Aviation Crisis -



## Importance of your message and language

- Language on social media is very different from official texts
- Understand the difference between language between operational staff and public-facing
- Be factual, don't speculate

## During a crisis, keep thinking, keep adapting!

- Keep your staff informed and aligned with messages – be flexible – be ready for the crisis to last
- Coordinate information with partner organisations
- Keep monitoring the press and social media, keep adapting your message

# Preparing a proportionate response EACCC risk register



Risk ID

**Allocating resources for  
crisis management?**

Risk name

Risk description

Risk impact description

Previous Prb	Previous Imp	Previous Scr	Trend	Prb	Imp	Scr
3	2	6	▲	3	3	9

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- Threat from space
  - space debris & meteorites,
  - space weather
- ...

Mitigation

**+ a few new ones**

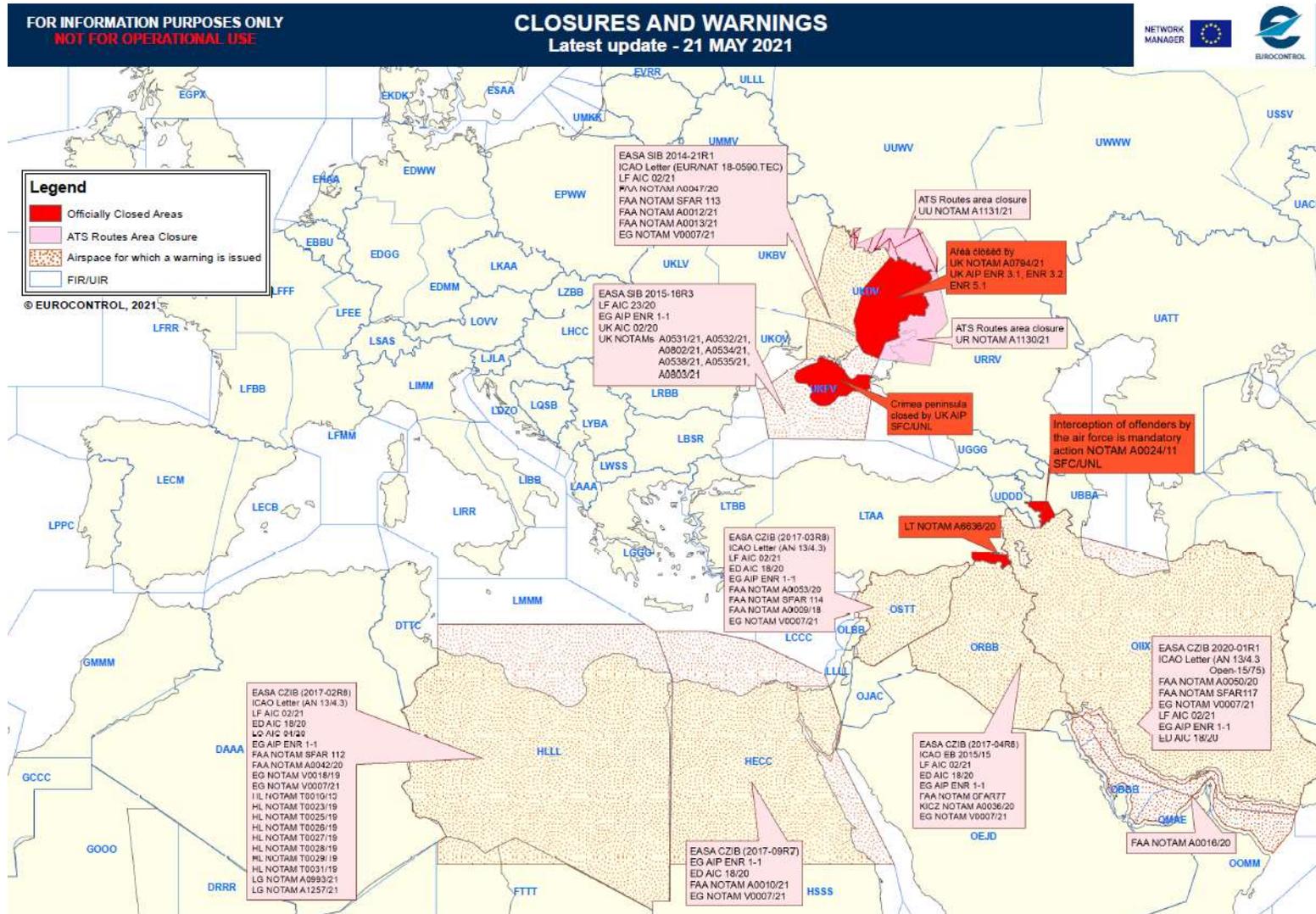
Action owners and Deadlines

Progress / comments

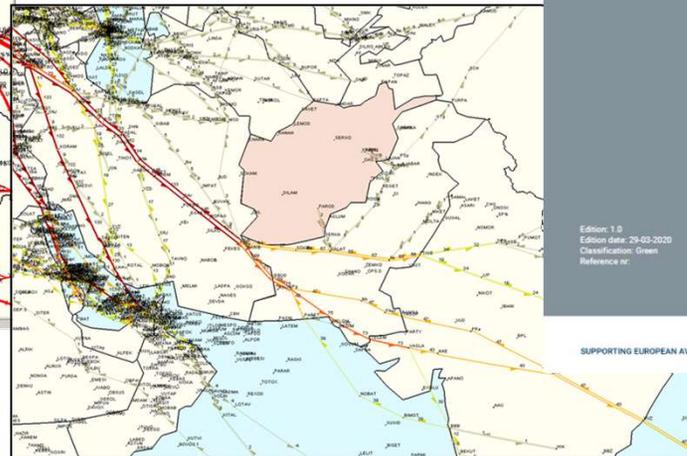
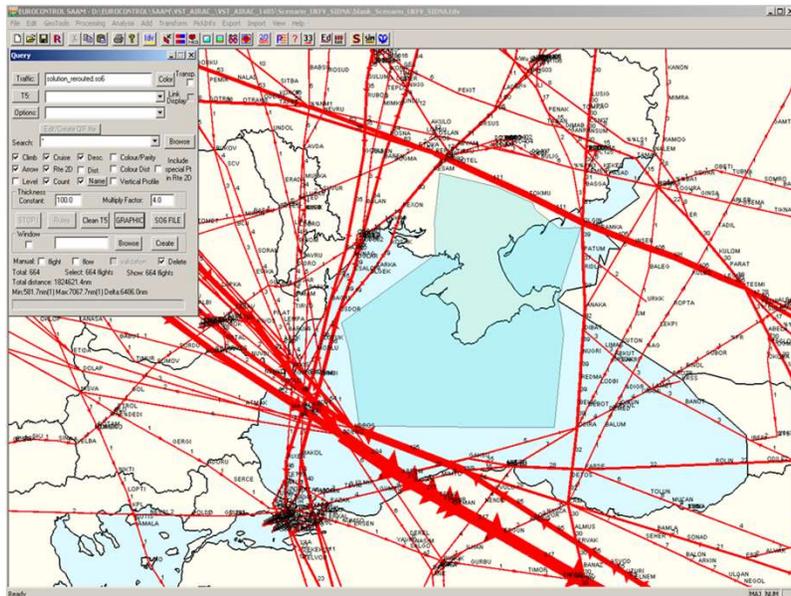
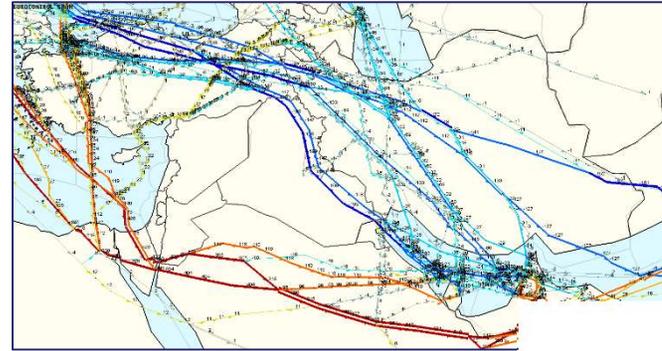
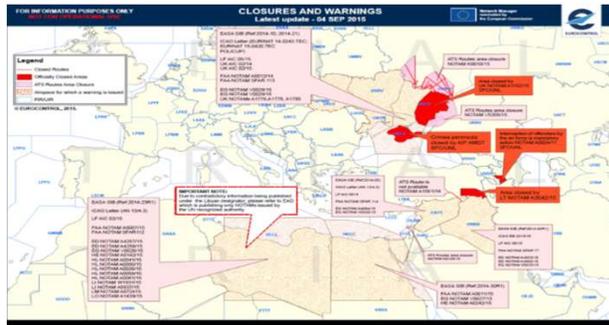
# Civil-military – disruptions and crises



<https://www.nm.eurocontrol.int/PORTAL/gateway/spec/index.html>



# Support to Crisis Scenarios and Planning



## ATFCM Procedural Contingency Plan

Summer 2020

Edition: 1.0  
Edition date: 29-03-2020  
Classification: Green  
Reference nr.

SUPPORTING EUROPEAN AVIATION





## How is the situation addressed/communicated between the individual state and the Network Manager?

- State Focal Point is the interface between the State's crisis management structures and EUROCONTROL Network Manager
- Commission Regulation (EU) No 2019/123, Article 19.3: *'Each Member States shall nominate a focal point (State focal point) and an alternate to the EACCC and facilitate their access to relevant information from national crisis management structures not limited to the aviation domain. The State focal points shall carry out their duties in accordance with the EACCC Rules of Procedure.'*

# Who has the authority to declare the crisis and what are the criteria for declaring it?



- EACCC Rules of Procedure: *'The Network Manager shall be responsible for activating the EACCC after consultation with the Commission.'*
- EACCC Rules of Procedure: Criteria for activation of the EACCC:
  - *Disruptions may happen within one State/FAB but have a significant impact to other parts of the network.*
  - *Current ATFM/Network Management processes are not sufficient to mitigate against significant flight cancellations or large delays.*
  - *An event in one or more States/FABs causes significant flight cancellations and displaced/stranded passengers, in general, severely affects ATM performance.*
  - *On request from a specific stakeholder the Network Manager, in consultation with the Commission, may consider the need to convene EACCC.*

# What are the tools to manage the network in crisis situation, how to minimize the effects of a crisis to the network, taking account the nature of the crisis?

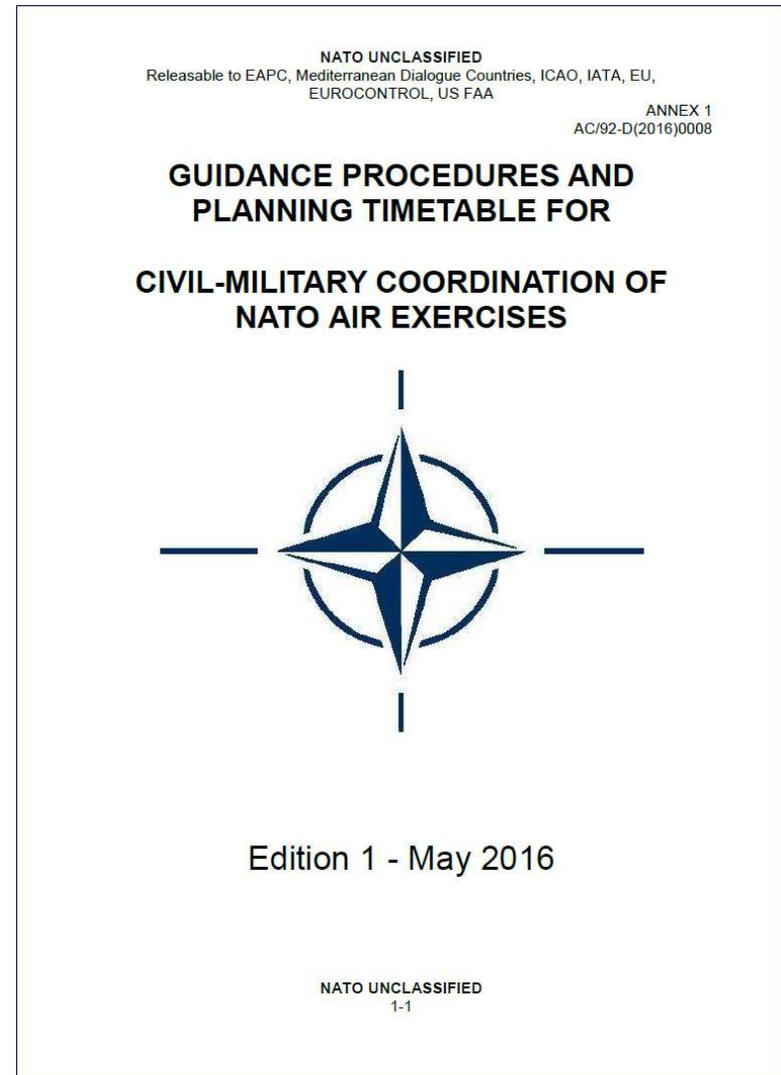


- Communication – teleconferences, e-mails, SMSs, ... -  
EACCC Rules of Procedure:
  - *The EACCC does not have a public persona, and as such, does not itself communicate to the press or directly to the public but supports communication by EACCC members on the situation, its evolution and the actions taken*
  - *The EACCC Communications Focal Point shall be responsible for providing communication expertise to the EACCC, and shall enable provision of consistent information for communication purposes to the permanent members of the EACCC and the State Focal Points*
- Factsheet – sharing the latest info on the crisis development and measures taken in individual States

# How NM sees the civil military coordination in crisis and pre-crisis situations?



1. EUROCONTROL/NM has a direct link with the national military authorities and/or AMCs.
2. EUROCONTROL/NM under the umbrella of the MoU with NATO has developed a NATO Guidance Procedures AC/92-D(2016)0008:
  - 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 and coordination channels between civil and military





**Thank you for your attention!**