

# Regional and Sub-regional Initiatives for Improved Weather Service Delivery to Aviation

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## EUMETNET Aviation Support Programme

- Representing the aviation MET community at various European institutions, industry bodies, and stakeholder and technical groups, undertaking lobbying and reporting developments to our members
- Coordinating R&D and deployment activities such as SESAR/SWIM
- Identifying new opportunities for collaborative research and service provision for all our Members
- Fostering collaborative approach between Members for post-deployment service provision and identifying risks and issues that may require change management and mitigation.



ABOUT US  
EUMETNET is a grouping of 36 European National Meteorological Services that provides a framework to organise cooperative programmes between its members in meteorology and related fields. These activities include observing systems, data processing, basic forecasting products, research, development and training.



Green – MET ANSP = NMHS organization  
Blue – MET ANSP = ATS organization  
Red – MET ANSP = mix  
Figure 1: Organizational setup of European Aeronautical Meteorological Service Providers in 2017

## The State of Aeronautical Meteorological Services (MET) in Europe

- In 67% of the 36 EUMETNET member countries the NMHS organisation provides the MWO function, in 25% this is the ATS organization
- In only 19% of members all MWO, AMO and AMS functions are being provided by the NMHS organization
- There are many MET ANSPs with varying responsibilities and differing cost structures
- ECMWF (intergovernmental organisation), DWD, Météo-France and UK Met Office run global models, some other national MET services run limited area models

## Coordinating European Aeronautical Meteorological Services

- Aviation Advisory Council (AVAC)
  - Executive level participation in biannual meetings
  - Decides on strategic direction, aviation support programme and AVIMET priorities
  - Reports to the EUMETNET Assembly
- Working Group AVIMET
  - Expert level cooperation, exchange of information and other tasks as given from AVAC
  - Meeting annually at ICAO EUR HQ ahead of METG
- Consortia
  - MET Alliance (8 members: Austria, Belgium, Ireland, Luxembourg, the Netherlands, Switzerland, Germany and France)
  - NAMCON (7 members: Denmark, Estonia, Finland, Iceland, Latvia, Norway and Sweden)

# NAMCON

Northern Europe Aviation Meteorological Consortium

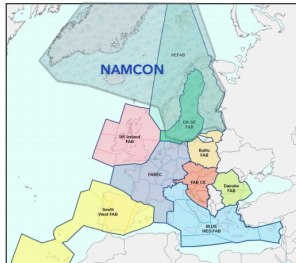


Figure 2: European Functional Airspace Blocks (FABs) and the NAMCON area of responsibility

## NAMCON Started from the Copenhagen Declaration (2011)

- Signed by NMS Directors from all 7 NAMCON States
  - Note: Cooperation on aviation weather matters between Nordic NMS has started much earlier
- Willingness to cooperate in production and development
- Agree on consortium – equal partners
- Cost-efficiency and high quality achieved through
  - Efficient division of tasks without regard to national borders
  - Minimising duplication
  - Harmonised products
  - Automated production without compromising quality
  - Mutual back-up production capabilities

NAMCON is the leading aviation meteorological service provider in Northern Europe, setting global standards on the efficiency, quality and technology of aviation weather service provision.

## Objectives achieved through collaboration and a shared vision

- Harmonisation of products, procedures and guidance material
- Joint production strategy and joint production (where feasible)
- Joint quality, competency assessment and compliance framework
- Cooperation in training and professional development
- Common Terminal Aerodrome Forecast (TAF) verification system
- Consolidated research & development

## Harmonisation, joint operations and shared tools

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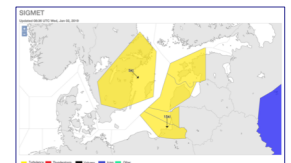
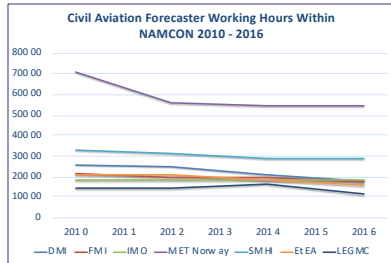


Figure 3: Display of effective SIGMETs in the Baltic Sea from www.Norhavimet.com

Chart 1: Evolution of working hours spent to produce ICAO Annex 3 meteorological forecast and warning services per NAMCON member country



Average reduction of -20%  
FMI -19%, SMHI -12%, METno -23%, DMI -30%, LEGMC -20%, ESTEA -24%

## Main Challenges

- Resources (more service and development needed with less staff and besides current operations)
- Common for all Aeronautical Meteorological Service Providers in Europe: cost-efficiency and other EU targets, open markets, more and new services needed, innovations, technology etc.
- Some challenges associated also with differences between NAMCON providers and/or countries
  - Economics, history, culture and habits
  - EU members vs. non-EU members
  - Status of (additional) national legislation for aviation
  - MS, CA and ATSP dependent issues
  - Variety in operator need
  - Possible MIL operator issues
  - Amount and size of airports and FIRs, amount of air traffic
  - Service level (variety of products)
  - Current practices and technical solutions (joint operations or shared tools)
  - Readiness for changes and development

## Harmonisation, joint operations and shared tools

### Results Thus Far

- Joint Significant Weather Chart production between FIN and SWE: N(ord)SWC using SWIM-compliant SWC tool
- Joint aviation weather briefing portal www.norhavimet.com
- Joint low-level forecast (LLF) production between SWE and DEN using a new interactive tool
- Subcontracted service: DMI (DEN) responsible for TAFs in southernmost Sweden
- Some back-up procedures and technical solutions e.g. for AFTN distribution between SWE-DEN
- SIGMET coordination procedure between all seven countries
- TAF and SIGMET Guidelines developed and implemented
- FMI's TAF verification tool in use in all NAMCON countries



Figure 4: Special mention of the jury in the 2017 Single European Sky awards for NAMCON

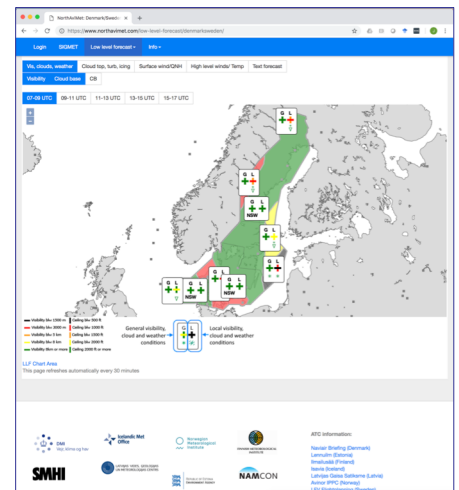


Figure 5: Display of the Low-Level Forecast (LLF) for General Aviation over Sweden and Denmark from www.Norhavimet.com. This product is to expand to cover Finland and Estonia in 2019