



Network Manager
nominated by
the European Commission



AIS Basics - NOTAM, AIP, Amendments, Supplements, Circulars, Charts, and NOTAM

Putting the basics in place

Workshop for the development of AIS management and oversight for Civil Aviation Authorities (CAA) and Air Navigation Service Providers (ANSPs)

31 July – 4 August 2017

Dakar

Gaston Liegeois

Directorate Network Manager
gaston.liegeois@eurocontrol.int

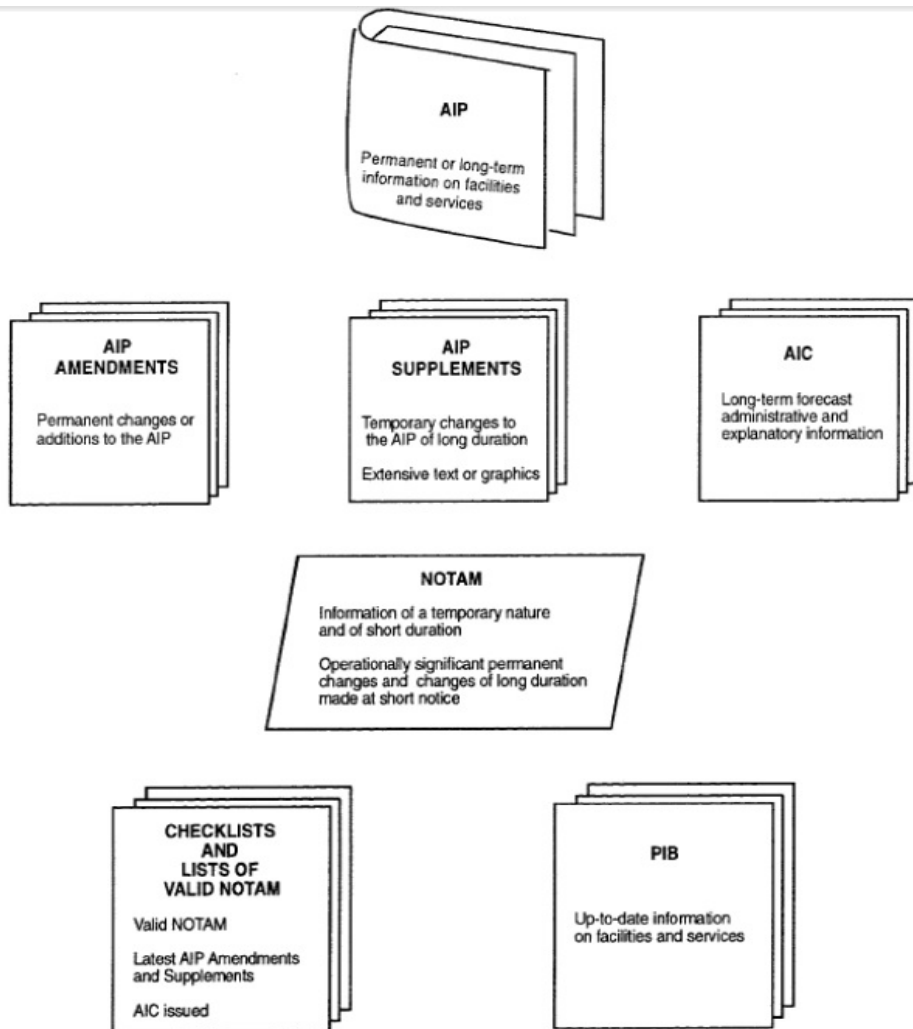
Putting the basics in place

Contents

- Requirements
 - AIRAC adherence
 - Quality Management
 - Agreement with Data Originators
 - Information/Data Integrity Monitoring
- Putting it in place
 - OPADD
 - CHAIN

Integrated Aeronautical Information Package

To be delivered by AIS/AIM Providers



- AIP Amendment
 - Regular AIP Amendment
 - AIRAC AIP Amendment
- Supplements
 - AIRAC AIP SUP

AIRAC AIP or SUP shall be received at least 28 days in advance of the AIRAC effective date

- Circulars
- NOTAM
- Checklist
- PIB

ICAO Roadmap from AIS to AIM

Major components

Phase 1 — Consolidation

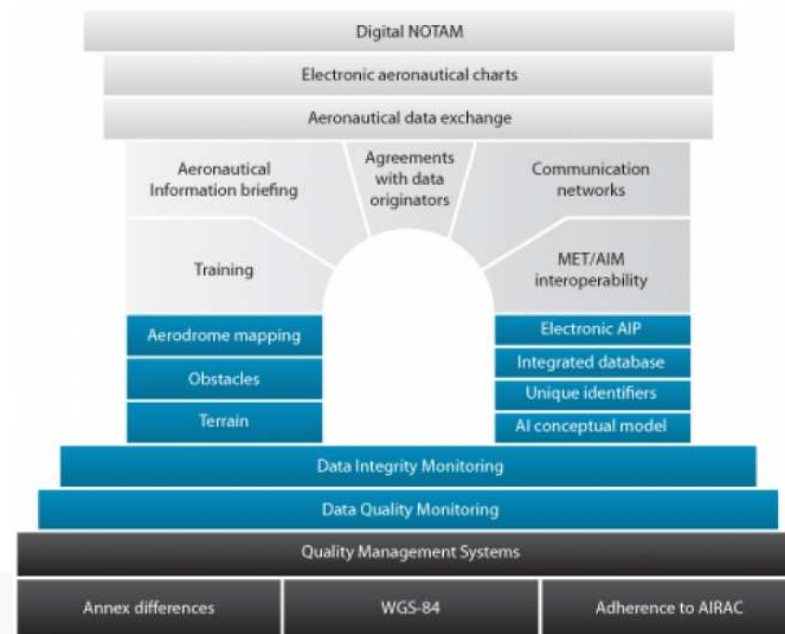
- P-03 — AIRAC adherence monitoring
- P-04 — Monitoring of States' differences to Annex 4 and Annex 15
- P-05 — WGS-84 implementation
- P-17 — Quality

Phase 2 — Going digital

- P-01 — Data quality monitoring
- P-02 — Data integrity monitoring
- P-06 — Integrated aeronautical information database
- P-07 — Unique identifiers
- P-08 — Aeronautical information conceptual model
- P-11 — Electronic AIP
- P-13 — Terrain
- P-14 — Obstacles
- P-15 — Aerodrome mapping

Phase 3 — Information management

- P-09 — Aeronautical data exchange
- P-21 — Digital NOTAM
- P-10 — Communication networks
- P-12 — Aeronautical information briefing
- P-16 — Training
- P-18 — Agreements with data originators
- P-19 — Interoperability with meteorological products
- P-20 — Electronic aeronautical charts



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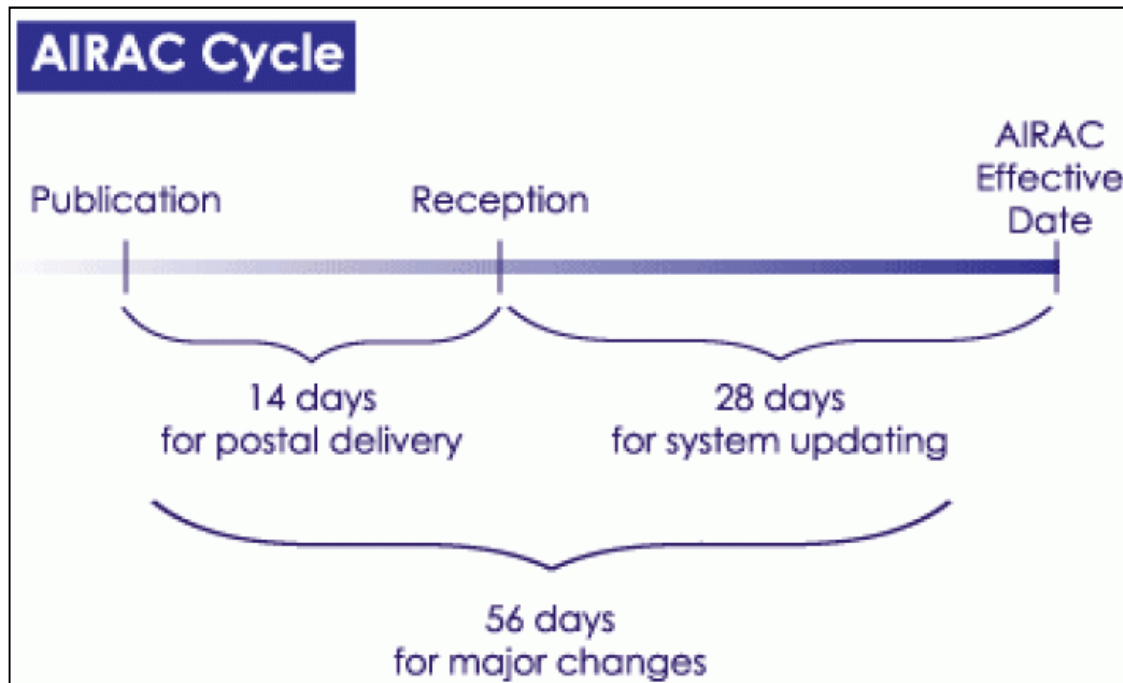
AIRAC Adherence (Phase 1 P-03)

Analysis

- Aviation "environment" data is constantly changing.
- It is essential, for both efficiency and safety, that Pilots, ATM systems and services have the same "environment" data set
- AIRAC: defines a series of common dates and an associated standard aeronautical information publication procedure for States
 - Worldwide effective dates with 28 days intervals
 - Always on a Thursday

AIRAC Adherence (Phase 1 P-03)

Analysis



- Effective date:
 - when changes take effect.
- Reception date:
 - When users should receive the publications
- Publication date: when AIS organisation sends out the information
 - AIRAC AIP AMDT or SUP:
 - At least 42 days (56 for major changes) before effective date.
 - Publication of a Trigger NOTAM (at publication date) coming to force on respective AIRAC date and remaining in force for 14 days.

Publications

Timeline

<i>2015</i>	<i>2016</i>	<i>2017</i>	<i>2018</i>	<i>2019</i>
08 January	07 January	05 January	04 January	03 January
05 February	04 February	02 February	01 February	31 January
05 March	03 March	02 March	01 March	28 February
02 April	31 March	30 March	29 March	28 March
30 April	28 April	27 April	26 April	25 April
28 May	26 May	25 May	24 May	23 May
25 June	23 June	22 June	21 June	20 June
23 July	21 July	20 July	19 July	18 July
20 August	18 August	17 August	16 August	15 August
17 September	15 September	14 September	13 September	12 September
15 October	13 October	12 October	11 October	10 October
12 November	10 November	09 November	08 November	07 November
10 December	08 December	07 December	06 December	05 December

AIRAC Adherence (Phase 1 P-03)

Analysis – Causes of non-adherence

- AIS is not the 'creator' of any aeronautical information and depends fully on many different data originators (route & airspace planners, procedure designers, navaid maintainers, airports, etc.) to provide data both timely and correctly to them. An analysis of European AIRAC Non-adherence events led to the following classification:
- **Non-awareness** among stakeholders of the importance of sticking to the AIRAC rules.
- **Insufficient planning and co-ordination** (nationally, bilateral among neighbouring states and even international).
- **Correction** of timely but incorrect earlier publications.
- **Variable and slow communication means.** Even at state level, information is communicated in varying formats, using different (read: paper = slow) communication means which introduces delays. This can be further aggravated by the need for translation from national to any other publication languages and printing/distribution delays.
- **Postal Delay.** Surprisingly enough, the average European postal delay of any Amendment is three (!) weeks. This makes a mockery of the two week allowance planned in the AIRAC regulations.
- **Monitoring and Regulation.** There is no (centralised) monitoring/policing body. It is the States' own responsibility to adhere to AIRAC.
- The occasional '**force majeure**'.

AIRAC Adherence (Phase 1 P-03)

Put in place

- Identify current deficiencies
 - Non-awareness of the importance of sticking to the AIRAC rules
 - Insufficient planning and co-ordination
 - Variable and slow communication means
 - Correction of earlier publications
 - Etc.
- Establishing Procedures
 - [pTracker user guide](#)
 - Verify your postal delays and monitor your own AIRAC adherence results:
 - Publication announcements
 - Log reception dates
 - ISO 9000
 - ICAO Annex 15 explicitly requires AIS organisations to implement a Quality Management System (QMS). Any such QMS enforces the formalisation of all incoming, processing and outgoing processes. This in itself, is a big step towards as it forces organisations to structure their activities.
- Reporting and action

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Quality Management (Phase 1 P-17)

Analysis : Annex 15 - 3.7

States must implement national regulation on the requirement for all organisation involved in aeronautical data processing and publication, to have a Quality Management System in place, which shall manage the safety of all their services.

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Quality management should be applicable to the whole aeronautical information data chain from data origination to distribution to the next intended user, taking into consideration the intended use of data

-

Letters of agreement concerning data quality between originator and distributor and between distributor and next intended user may be used to manage the aeronautical information data chain

-

The quality management system should follow the ISO 9000 series of quality assurance standards, and be certified by an approved organization



Quality Management (Phase 1 P-17)

Analysis

- *Link: [ICAO - Manual on QMS for AIS](#)*
 - *Page25: 3.4 General requirements for the implementation of a QMS*
- **Process mapping and development**
 - *QMS shall be implemented and maintained encompassing all functions of an aeronautical information service.*
 - *EUROCONTROL has published harmonised guidelines representing "best" AIS practices for receipt, storage and publications of AIS Static Data, that State AIS can refer when developing their QA process.*
- **Links:**
 - [AIS Data Process \(ADP\)](#) - describes **WHAT** actions are carried out to produce the Annex 15 Integrated Aeronautical Information Package.
 - [AIS Data Proces Poster](#) - overview of the mapping of the Static Data Procedures to the ADP.
 - <http://www.eurocontrol.int/articles/quality-phase-1-p-17> - eADP/eSDP

Quality Management (Phase 1 P-17)

Analysis

- Auditing
 - *The execution of such QMS shall be made demonstrable for each function stage, when required*
- Accreditation
 - *To be certified by an ISO 9000 approved organization*
- *Link: [ICAO - Manual on QMS for AIS](#)*



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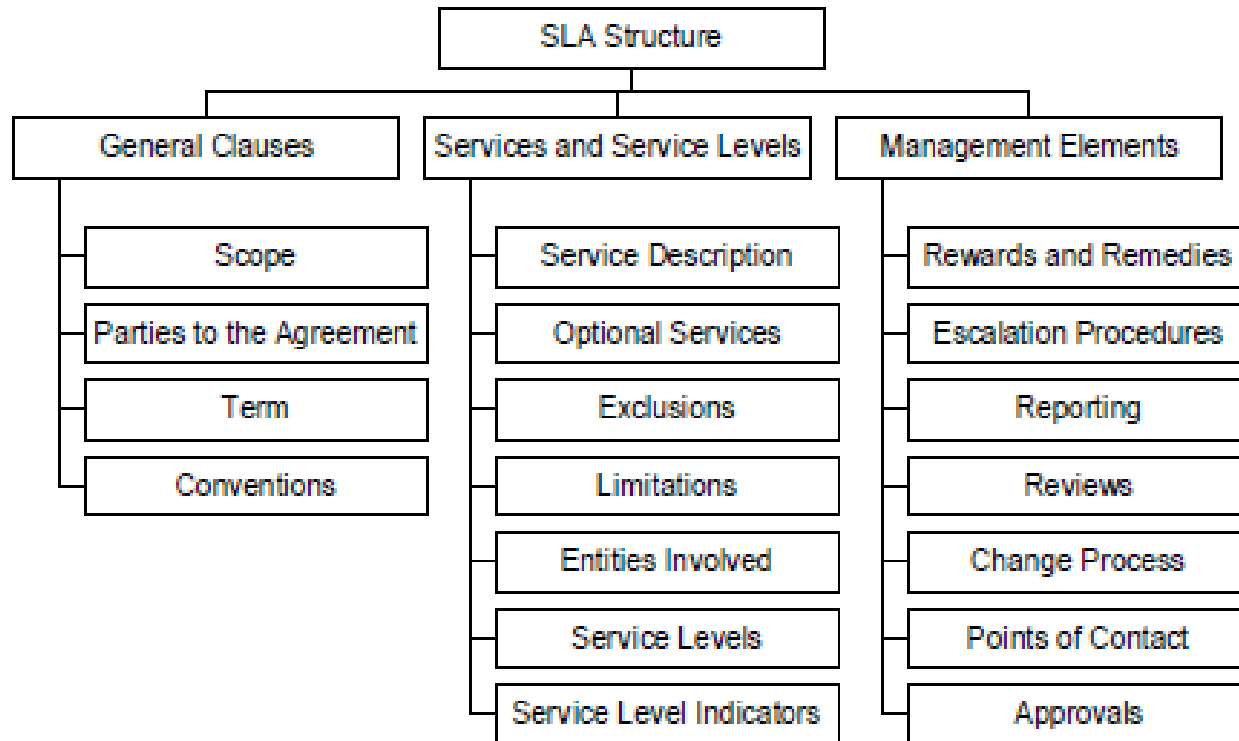
Agreements with Data Originators (Phase 2 P-01)

Analysis

- Clear need for a more formal arrangement for the provision of source information to the Aeronautical Information Services (AIS) and that this need is best served through the use of Service Level Agreements (SLA)
- (ICAO) Doc 8126 AIS Manual - *2.4 Working Arrangements*
 - *2.4.1 To ensure promptness and accuracy in the distribution of aeronautical information, each of the services responsible for providing the AIS with raw data should designate individuals who are to be responsible for maintaining direct and continuous liaison with the AIS.*
 - *2.4.2 Additionally, liaison should be arranged and local agreements established, where necessary, between aerodrome/heliport AIS units and those local authorities in aerodromes, communications, meteorology, air traffic services, search and rescue and facilitation responsible for the origination of current information on aerodrome/heliport conditions and services.*

Agreements with Data Originators (Phase 2 P-01)

Analysis



- Link:
 - [SLA Package](#)

Agreements with Data Originators (Phase 2 P-01)

Analysis

- Specifications for the Origination of Aeronautical Data:
 - Volume 1: [Volume 1](#)
 - Volume 2: [Volume 2](#)
- Service Level Agreement Template
 - [SLA Template](#)

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Information/Data Integrity Monitoring (Phase 2 P-02)

Analysis - Aeronautical Data Supply Chain

Supply chain to get aeronautical data get into the cockpit

- Multitude of actors:
 - Data Originators (e.g. aerodrome, navaid owner, airspace designers etc.) supply their information into the AIS
 - AIS produces the AIP which may be a paper or an electronic copy
 - AIP are processed by the Data Houses (e.g. Jeppesen, etc.)
 - Data houses extract data required from AIP, format and packing it
 - Set of data available for Data Packers (e.g. Honeywell, Garmin, etc.)
 - Data Packers pack the data for the specific FMS of the different aircraft
- Problems: Integrity maybe degraded or lost
 - Multiple actors based on manual processes with the existence of numerous transaction points
 - Re-type the aeronautical data before processing it further, transformation of formats, etc.

Information/Data Integrity Monitoring (Phase 2 P-02)

Analysis -

Data integrity monitoring is the monitoring of the data from originator, through the data process chain, to eventual publication

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Data integrity monitoring can be facilitated by the implementation of processes like CHAIN (Controlled and Harmonised Aeronautical Information Network)

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- Objectives:
 - Improve accuracy and quality of aeronautical navigational data with focus on data integrity
 - Enhance data management by establishing common procedures/processes to enable interoperability
 - Enhance the transfer of aeronautical information between origination & publication

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Information/Data Integrity Monitoring (Phase 2 P-02)

Analysis

- Process and Procedures
 - automated data integrity process addressing the transfer process in the data chain
 - At each step , ensure that hand-over of data being interoperable, traceable and quality assured
 - Link:
 - [Data Integrity - A Practical Guide](#)
- Reporting
- Analysis
- Action

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Operating Procedures for AIS Dynamic Data

OPADD

- Procedures related to NOTAM, SNOWTAM, ASHTAM as well as guidance for the harmonisation of these AIS messages
- OPADD is intended to complement ICAO Standards and Recommended Practices (ICAO Annex 15 and ICAO Doc 8126)
- Objectives:
 - Promote uniformity in the collection and dissemination of aeronautical data and aeronautical information, in the interest of safety, quality, efficiency and economy
 - Improve overall efficiency of AIS, in terms of speed, accuracy and cost effectiveness, by the increased use of automation
- Link:
 - [OPADD](#)

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Controlled and Harmonised Aeronautical Information Network CHAIN

CHAIN is used to improve the accuracy and quality of the originated aeronautical data and its management from the point of origination to the point of publication and to subsequently enable enhanced processing throughout the entire aeronautical data chain.

CHAIN supports aeronautical information regulators and service providers in implementing and maintaining traceable, controlled and auditable processes in compliance with ICAO Annex 15 requirements for data quality with a focus on data integrity.

The mission of CHAIN is to transform the current error prone data supply chain for aeronautical navigation data into one that provides high quality data through automated processes, underpinned by international standards.



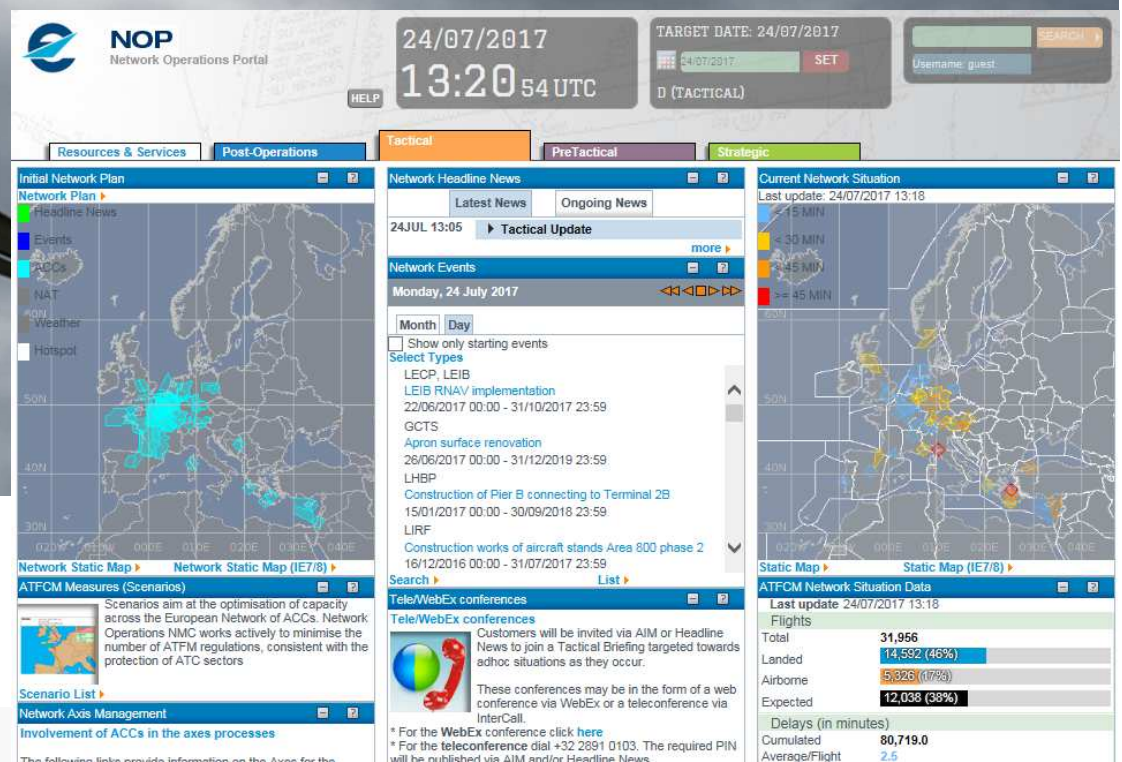
Controlled and Harmonised Aeronautical Information Network

CHAIN - Aeronautical Data and Information Quality (ADQ)

- European Commission Regulation EC 73/2010 laying down requirements on the quality of aeronautical data and aeronautical information for the single European sky
 - [ADQ IR](#)
- Scope:
 - Aeronautical information data process chain extends from the original data sources through AIS and publication to the end users of the data for aeronautical applications
 - The purpose of the draft implementing rule is to supplement and strengthen the relevant existing requirements of ICAO Annex 15.
- 5 means of compliance developed by EUROCONTROL
 - [AI exchange model \(AIX\)](#)
 - [Electronic AIP \(eAIP\) specifications](#)
 - [Data Assurance Levels](#)
 - [Data Quality Requirements](#)
 - [Data Origination](#)

Thank You

gaston.liegeois@eurocontrol.int

NOP Network Operations Portal

24/07/2017 13:20:54 UTC

TARGET DATE: 24/07/2017

24/07/2017 SET

Username: guest

D (TACTICAL)

Resources & Services | Post-Operations | **Tactical** | PreTactical | Strategic

Initial Network Plan

Network Plan

- Headline News
- Events
- ATCCs
- NAT
- Weather
- Hotspot

Network Static Map | Network Static Map (IE7/8)

ATFCM Measures (Scenarios)

Scenarios aim at the optimisation of capacity across the European Network of ACCs. Network Operations NMC works actively to minimise the number of ATFM regulations, consistent with the protection of ATC sectors

Scenario List

Network Axis Management

Involvement of ACCs in the axes processes

The following links provide information on the Axes for the

Network Headline News

Latest News | Ongoing News

24JUL 13:05 Tactical Update

Network Events

Monday, 24 July 2017

Month | Day

Show only starting events

Select Types

- LECP, LEIB
- LEIB RNAV implementation 22/06/2017 00:00 - 31/10/2017 23:59
- GCTS
- Apron surface renovation 26/06/2017 00:00 - 31/12/2019 23:59
- LHBP
- Construction of Pier B connecting to Terminal 2B 15/01/2017 00:00 - 30/09/2018 23:59
- LIRF
- Construction works of aircraft stands Area 800 phase 2 16/12/2016 00:00 - 31/07/2017 23:59

Search | List

Tele/WebEx conferences

Customers will be invited via AIM or Headline News to join a Tactical Briefing targeted towards adhoc situations as they occur.

These conferences may be in the form of a web conference via WebEx or a teleconference via InterCall.

* For the WebEx conference click here

* For the teleconference dial +32 2891 0103. The required PIN will be published via AIM and/or Headline News

Current Network Situation

Last update: 24/07/2017 13:18

- > 45 MIN
- < 30 MIN
- < 45 MIN
- > 45 MIN

Static Map | Static Map (IE7/8)

ATFCM Network Situation Data

Last update: 24/07/2017 13:18

Flights

Total	31,956
Landed	14,592 (46%)
Airborne	5,926 (17%)
Expected	12,038 (38%)

Delays (in minutes)

Cumulated	80,719.0
Average/Flight	2.5



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