

Frequency Management Group (FMG)

Outline

- FMG Overview
- Planning, coordination and registration tools
- Datalink
- 8.33 KHz channel spacing
- DME/GNSS compatibility

Frequency Management Group



Overview

International Civil Aviation Organization
Search EUR/NAT • Search all ICAO • Contact Headquarters and Regional Offices

European and North Atlantic (EUR/NAT) Office



EANPG & SubGroups Documents

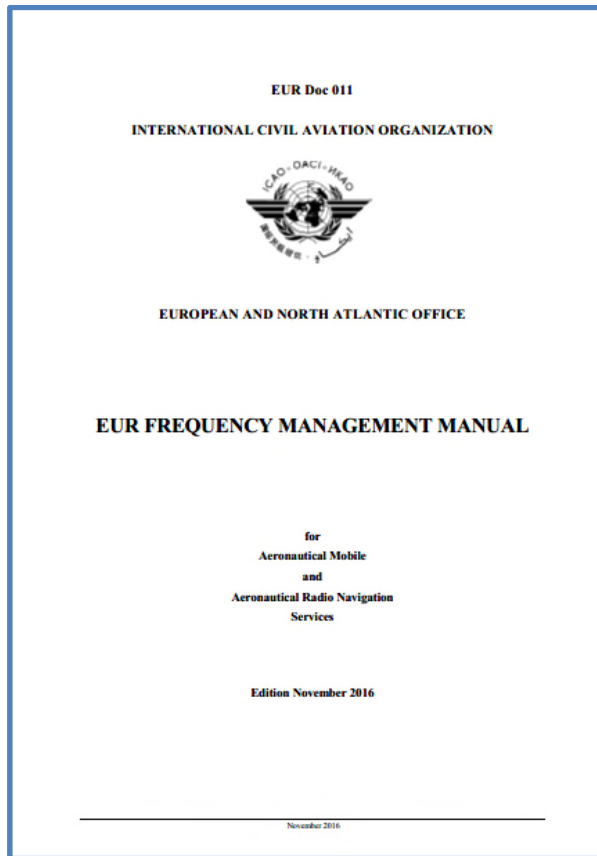
Air Navigation Deficiencies in the the European Region *(new)*



Geographical scope



Frequency Management



- Assignment compatibility criteria
- Planning, coordination and registration
- Interference analysis
- Implementation support

Assignment Planning Tools

Project **Facilities** | Polygons | Antennas | Compatibility | Search | Maps | Free Pad |

Com2 | Com3 | Com4 | Com5 | Country = E

14 of 13567

COM	Status	CTY	Ref	NatRef	Location	Service	Is8	UnPro	Areas	MaxFL	Radius	Vh
2	IR	ALB	1540		TIRANA/TIRANA	TWR	N		412700N 194300E	40	25	122
2	IR	AUT	3652		GRAZ/GRAZ	AFIS	N		470000N 152600E	30	16	134
2	IR	ALB	3348		TIRANA ACC	ACC	N		TIRANA ACC(U)	450		11E
2	IR	AUT	3667	2-0033	GRAZ/GRAZ	AS	N	U	470000N 152600E	0	1	131
2	IR	ALB	3349		TIRANA ACC	ACC	N		TIRANA ACC(L)	450		134
2	IR	AUT	3730		GRAZ/GRAZ	APP	N		470000N 152600E	150	40	11E

Facility Objected Ref.

COM: 2 | Country: AUT | Reference: 3652

Location: GRAZ/GRAZ

Service: AFIS

Nat ref:

Remark: INST GLD sd31122017

ICAO dates: Submitted:04/12/1995 Registered:04/12/1995

Areas: 470000N 152600E

Element Type: **VHF.25.C** | Channel: 130.600 | Operation:

Remark:

R/T Function: Air RcvTr | Max dist to Tr. (NM):

Remark:

Volume Type: Coordinates | Radius (NM): 16

Coordinates: 470000N 152600E

R/T Function: Ground RcvTr | Height (m): 0 | Power (dBV):

Remark:

Volume Type: Coordinates | Altitude (m):

Coordinates: 470000N 152600E

Project | Facilities | Polygons | Ground sites | Compatibility | Search | Maps | Google map | Sdrso upload | Free Pad |

Select: DDC Show Air DDC

Options:

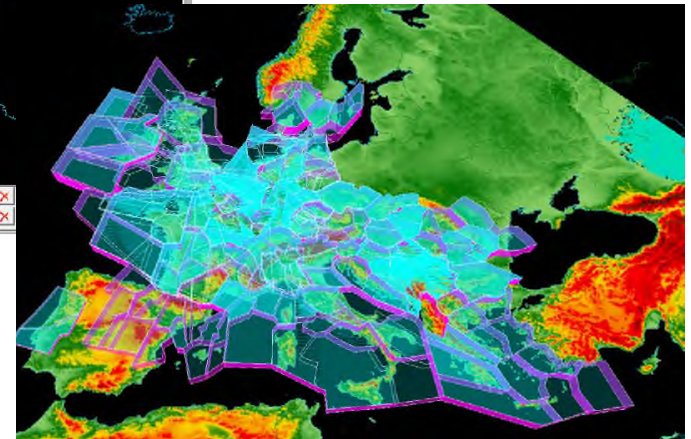
- AFIS Show Air Radio Horizon
- show 5 x DDC radius (COM2 VHF 1B and VHF 1C only)
- GPH Show Ground Radio Horizon
- MFC Show MaxRadius Circle (Polygon and aeroblation cess)
- DDB Show Shortest distance from "Main" Ground to "Alt Air"
- DAG Show Shortest distance from "Main" Air to "Alt Ground"
- DAA Show Shortest distance from "Main" Air to "Alt Air"

Background color:

Map projection (automatic by default): Orthometric

Mouse: 4 123 17N 211803E | Magnetic declination: 4.5'E | Altitude(m): | Cls&Az:

1:61NM |



Online Coordination and Registration

- Central Register of EUR radio frequency assignments
 - Spectrum and Frequency Information Resource (SAFIRE)
 - COM2: ~13500
 - COM3: ~ 3000
 - COM4: ~ 2000

The image displays three sequential screenshots of the SAFIRE web application interface, illustrating the registration process for a VHF Comms facility. Red boxes highlight key elements in each screenshot.

Top Screenshot: Shows the main navigation menu with 'FREQUENCY' highlighted. The left sidebar contains a search bar and an 'Add' button. The main content area is titled 'FREQUENCY' and has a 'Facility' tab selected. The 'Facility' form includes fields for Country (Spain), Location (BARCELONA), ICAO COM Table (COM2), Facility Type (VHF Comms), and Service (ACC). The 'ITU: E' and 'ICAO: LE' labels are also visible.

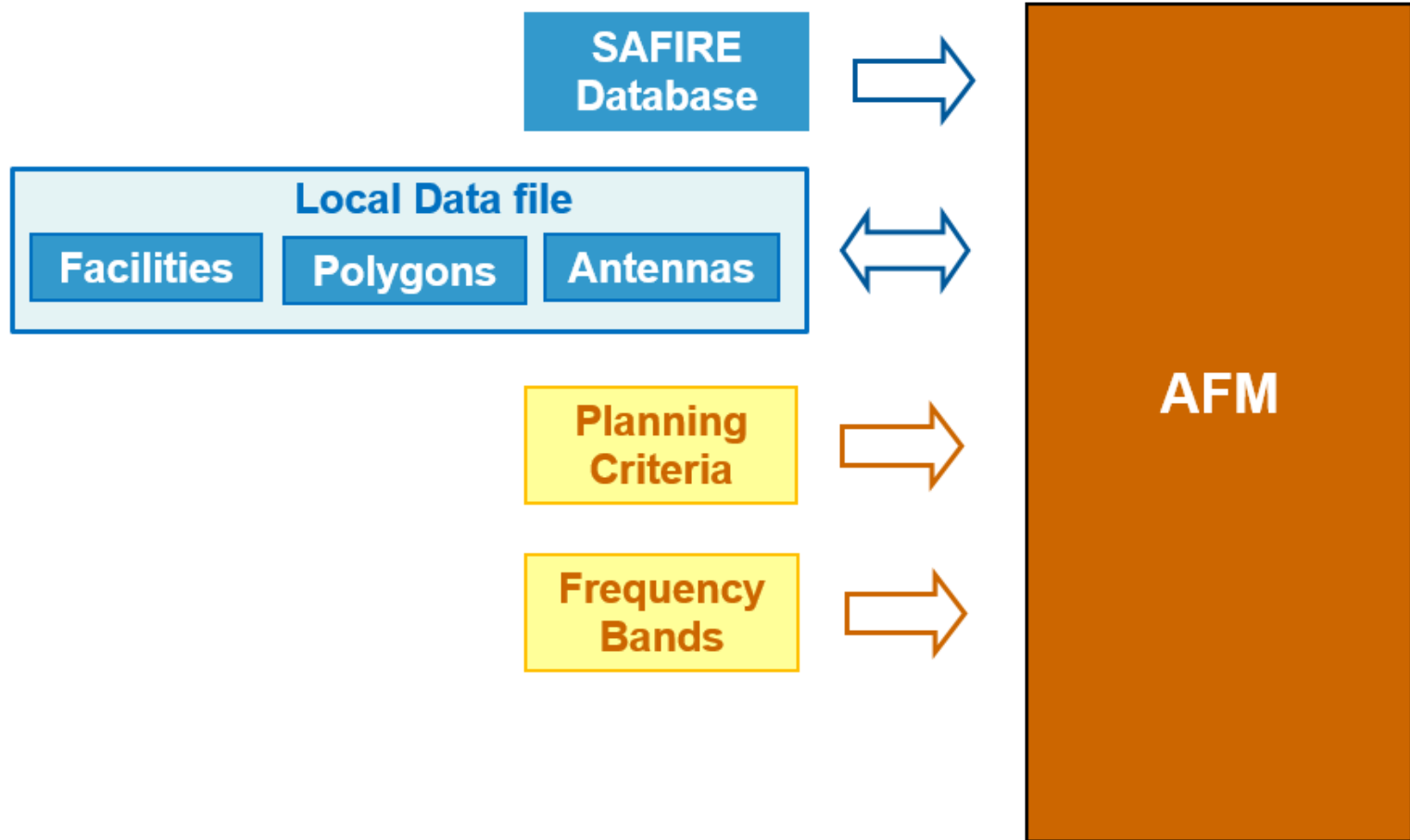
Middle Screenshot: Shows the 'FREQUENCY' page with the 'Coverage' tab selected. The 'VHF Comms - Coverage-Area' section is visible, with 'New' and 'Existing' radio buttons.

Bottom Screenshot: Shows the 'VHF Comms - Coverage-Area' form. The 'Name' field is set to 'SE2'. The 'Co-ordinates' section includes Latitude and Longitude fields. The 'Position' table is as follows:

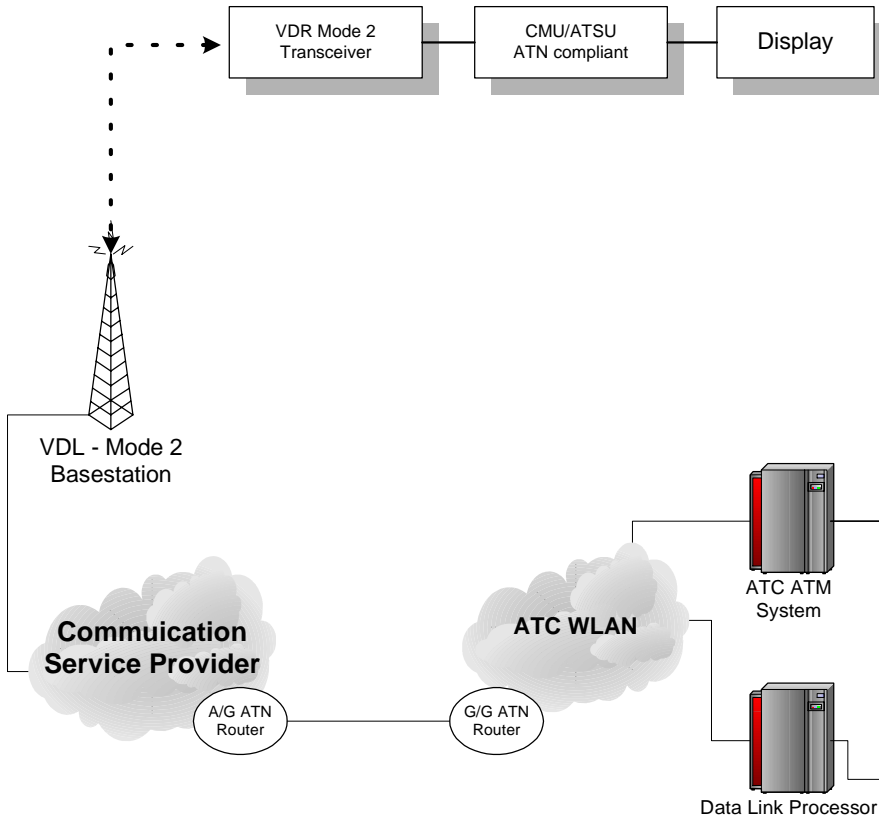
Position	Latitude	Longitude
Position 1	N493206	E0105931
Position 2	N494317	E0123415
Position 3	N484938	E0135716

The 'Add to Coverage' button is highlighted. A note at the bottom states: '* indicates mandatory field.'

Interoperability of Software Tools

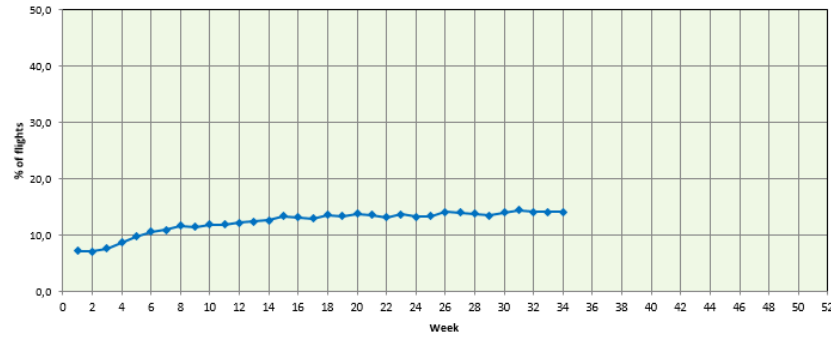


Data link

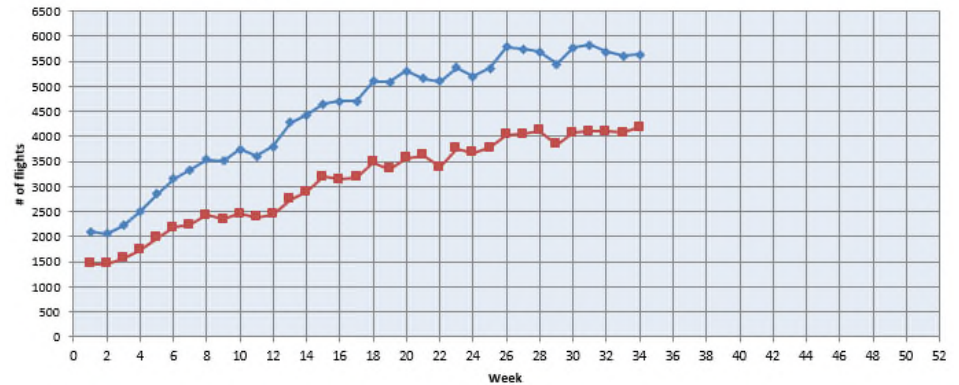


EDUU - Rhein UIR

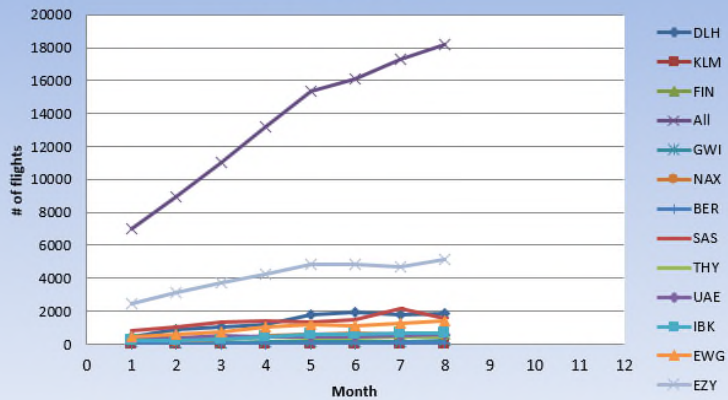
Percentage of ATN flights within EDUU - 2017



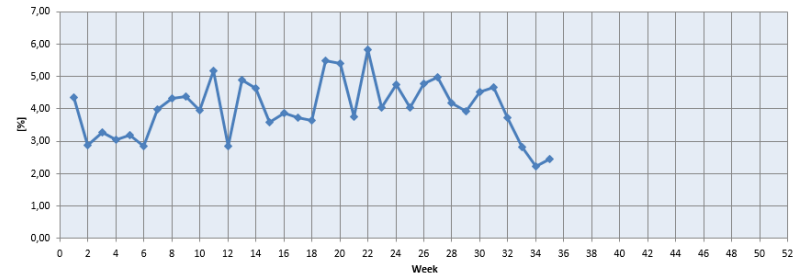
of ATN flights EDUU - 2017



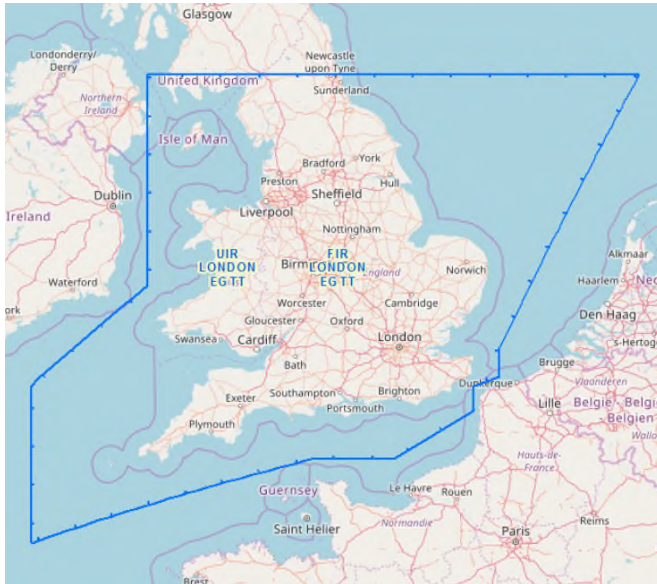
of flights with at least one successful CPDLC transaction - 2017



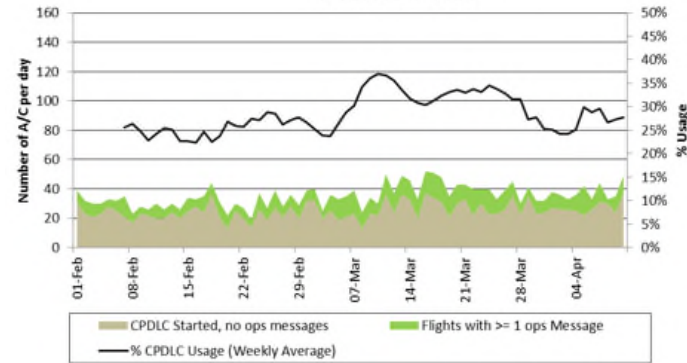
of PAs / # of CPDLC sessions [%] - 2017



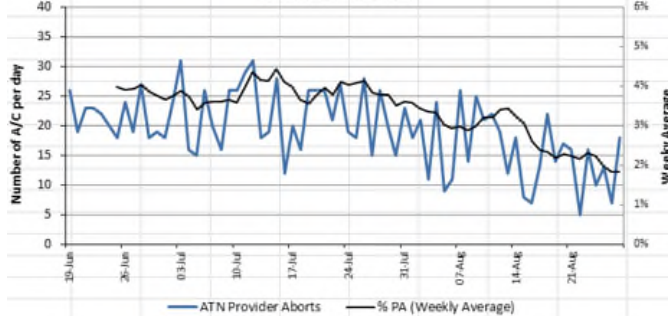
EGTT – London UIR/FIR



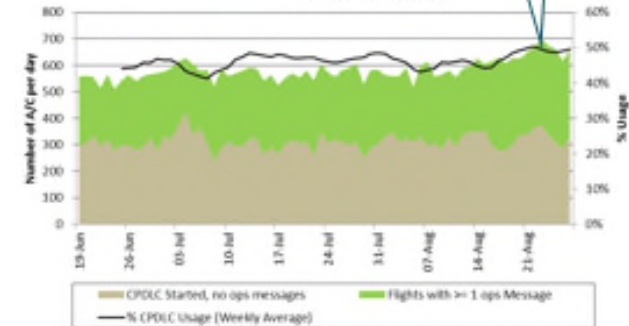
ATN CPDLC ACTIVITY (LAC)
Past 10 weeks



P-ABORT BREAKDOWN (EGTT)
Past 10 weeks



ATN CPDLC ACTIVITY (EGTT)
Past 10 weeks

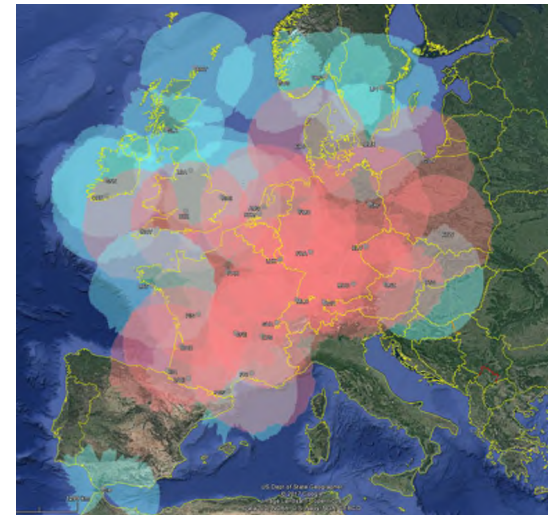
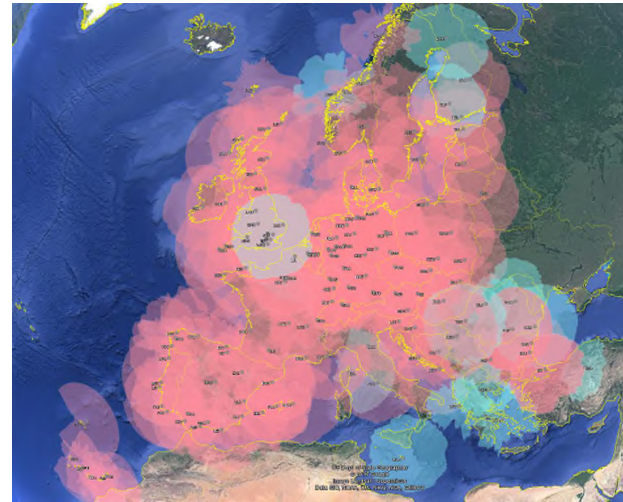


Data link Allotment Plan

Channel	Usage	Remarks
131.515	-	guard channel
131.525	ACARS	
131.535	-	guard channel
131.715	-	guard channel
131.725	ACARS	
131.735	-	guard channel
131.815	-	guard channel
131.825	ACARS	
131.835	-	guard channel
136.700	-	guard channel
136.725	VDL Mode 2	GND
136.750	-	guard channel
136.775	VDL Mode 2	AIR
136.800	-	guard channel
136.825	VDL Mode 2	AIR
136.850	-	guard channel
136.875	VDL Mode 2	GND
136.900	-	guard channel
136.925	VDL Mode 4	common signalling channel (CSC)
136.950	-	guard channel
136.975	VDL Mode 2	common signalling channel (CSC)

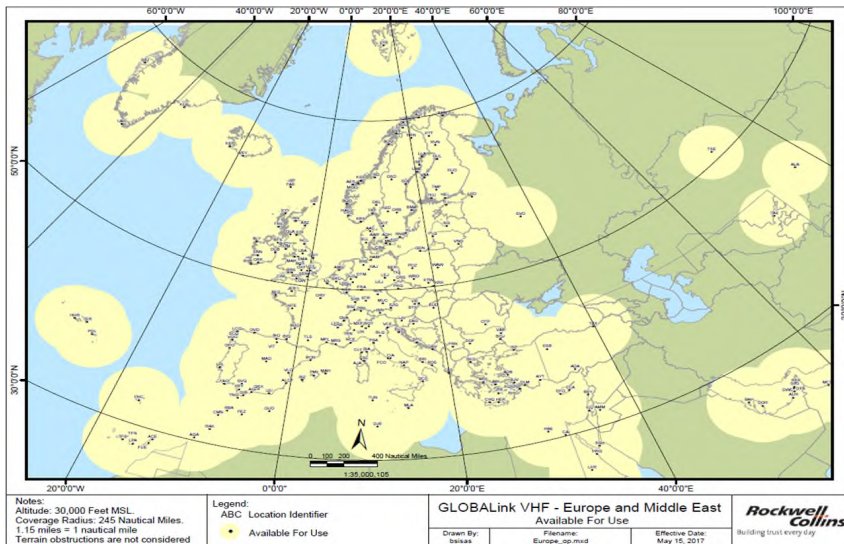
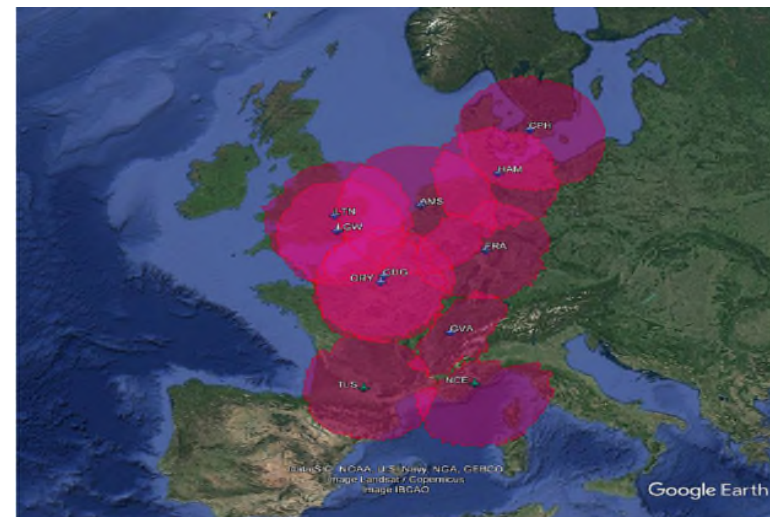
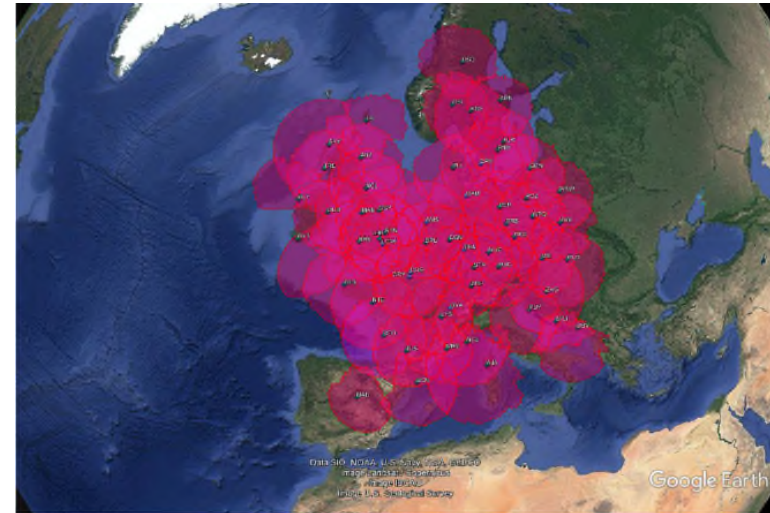
SITA network

- ACARS (POA)
 - 131.525 MHz
 - 131.725 MHz
- VDL Mode 2
 - 136.975 MHz
 - 136.875 MHz
 - 136.775 MHz



ARINC/RC network

- ACARS (POA)
 - 131.825 MHz
- VDL Mode 2
 - 136.975 MHz
 - 136.725 MHz



Dual squitter network

DL coverage

EN-ROUTE

FL 245-463 (FL285 accordingly IR):

- *ATS over ATN*
- *D-ATIS over ACARS*
- *AOC (AoA and PoA)*

MXP TMA:

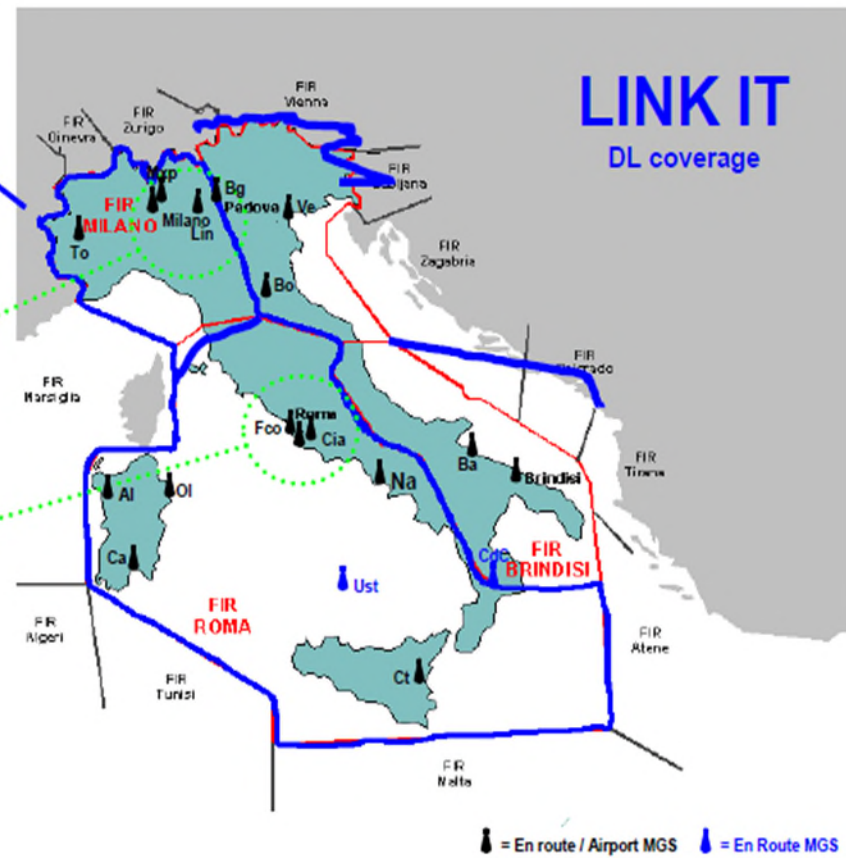
- *D-ATIS over ACARS*
- *DCL over ACARS*
- *AOC (AoA and PoA)*

FCO TMA:

- *D-ATIS over ACARS*
- *DCL over ACARS*
- *AOC (AoA and PoA)*

Airports surface:

- *AOC (AoA and PoA)*



Ground siting guidance

European and North Atlantic Office

ICAO • OACI • ICAO
WORLDWIDE • ALIANT

FMG CM – WP03
20/04/2017

FREQUENCY MANAGEMENT GROUP (FMG)
COORDINATION MEETING
(Riga, Latvia, 7 to 9 June 2017)

Agenda Item 2: VDL

VDL GROUND STATION INSTALLATION GUIDANCE
(Presented by VDL Drafting Group, led by John Banks)

SUMMARY
This paper introduces Guidance Material for VDL Ground Station Installation. The meeting is invited to review the documents and provide comments as appropriate.

FMG CM WP03

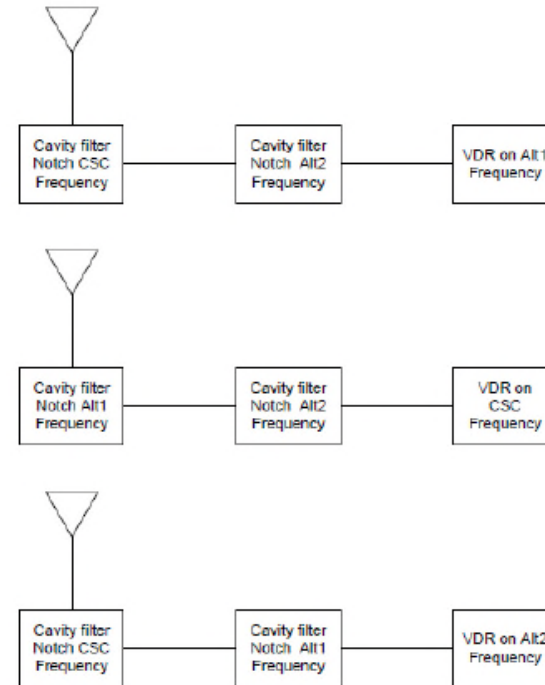


Figure 1 - Three VDRs with the corresponding cavity filter configuration

Future work

- Modernization of regional planning and guidance material - EUR Doc 011
- Promote region-wide use of web-based assignment coordination and registration SAFIRE
- Foster use of software tools AFM
- Inter-regional coordination

8.33 kHz channel spacing

DME/GNSS compatibility

- Study on C/N0 degradation