

Digital NOTAM

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Lima, Peru, 28 September to 2 October 2015

Content



- Specifications
- Initial implementations
- Graphical PIB applications

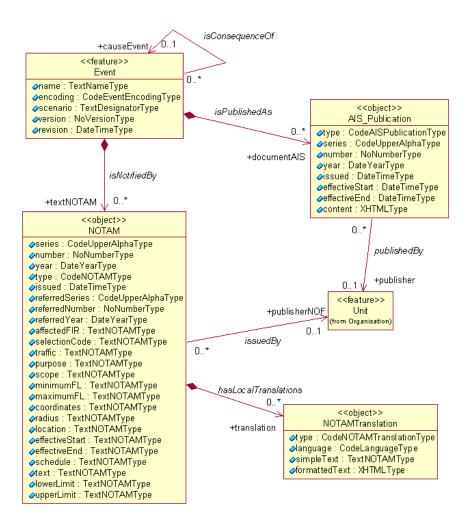


Purpose

- Identify types of "events" for which the information is currently provided through NOTAM
 - Example: runway closed, navaid u/s, new obstacle, etc.
- Provide the AIXM 5.1 encoding rules for each type of event
 - business rules!
- Support the automatic generation of NOTAM messages (as long as necessary)
- Overall, ensure global harmonisation



- Introduced the concept of "aeronautical information events"
- Applicable to all aeronautical data, including AIP, charts, NOTAM data...
- WIP
 - extract a separate AI Event Specification
 - Including support for both short term and long term planning





Event Specification version 2.0 (work in progress)

•Increment 1 scenarios	•Increment 2 scenarios		
•Published special activity area — activation	•Displaced threshold		
•Published ATS airspace - activation or deactivation	•Declared distances changes		
•Ad-hoc special activity area — creation	•Runway portion closure		
•Ad-hoc ATS airspace – creation	Airport Usage limitation		
•Route portion closure	•Runway usage limitation		
•Route portion opening	•Taxiway usage limitation		
•Aerodrome closure	Approach lights unserviceable		
•Runway closure	Approach lights downgraded		
•Navaid unserviceable	•Runway lights unserviceable		
•New obstacle	Obstacle lights unserviceable		
•Taxiway closure	Visual Approach slope indicator unserviceable		
•Surface contamination (SNOWTAM)	•Taxiway lights unserviceable		
•Other Event (any other situation that does not have a dedicated scenario)			

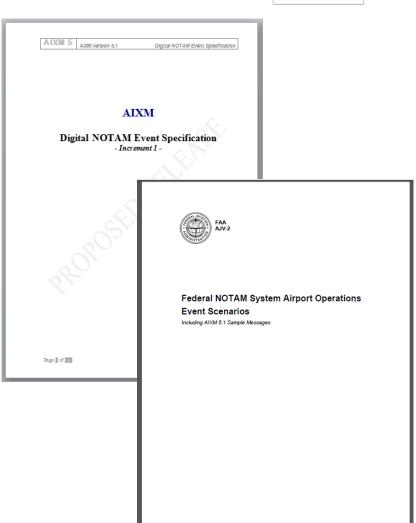


Eurocontrol

- model the most common events, both airport and airspace
- focus on R&D (SESAR)

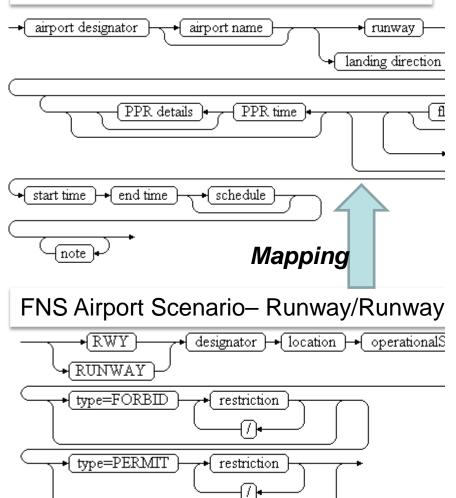
FAA

- initial focus on all airport events
- fast deployment (FNS-NDS)





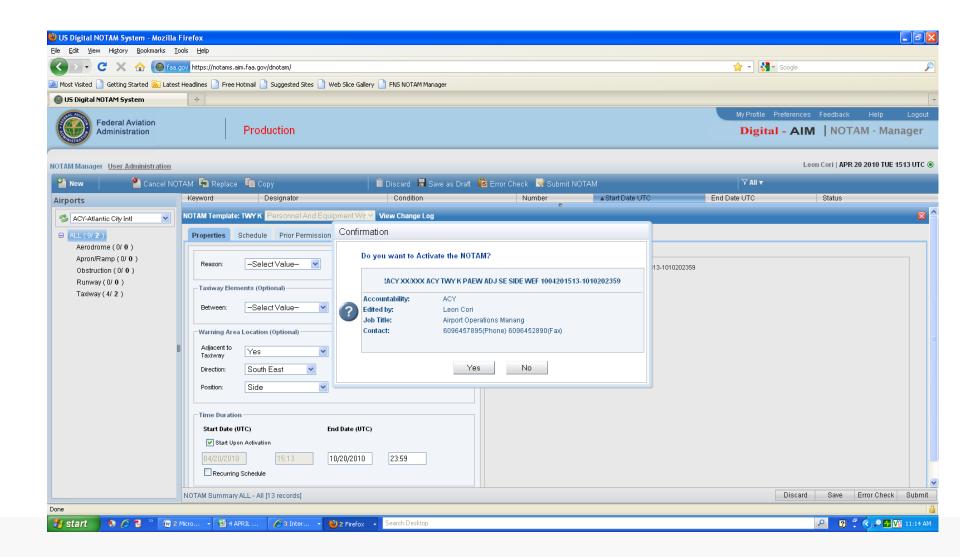
Event Specification 1.0 – Runway Closure







FAA Digital NOTAM implementation



Digital NOTAM implementation in Europe



- Through Centralised Service CS#5 (EAIMS)
 - Digital NOTAM coding capability available in 2018 (at the latest!)
 - Including ePIB (graphical briefing)
 - Currently working on the functional specification (requirements)
 - One key challenge for deployment
 - Need a critical mass of Digital NOTAM data in order to justify the investment in graphical briefing
 - Some NOTAM will have to be post-digitised by the service provider, at least in the initial phase







Source: HindSight - Aviation Safety Magazine for Air Traffic Controllers - Skybrary

Current PIB = list of NOTAM



Fit to window width and enable scrolling

EAD AERONAUTICAL INFORMATION SERVICES						
Pre-Flight Information Bulletin:	Validity (UTC):					
NARROW ROUTE	09 MAY 2011 15:15 - 10 MAY 2011 15:15					
Service Type: FULL						
Date: 09 MAY 2011 Time: 15:15 UTC	Flight Rules: IFR					
Contents: Aerodromes, En-route, Warning	10					
Briefing Type: International, Military						
	s (lower/upper): :: 220/400					
ADEP: UKBB ADES: LFPG	Aerodromes: EBBR EHAM					
FIR: UKBV UKLV EPWW LZBB LKAA EDMM EDGG	LPEE EBBU LFFF EHAA					
Generic Route: UKBB KR UP27 SW UT709 DI	BED UL984 NOSPA UN857 RAPOR UZ157 VEDUS					
Width of Route: 20 NM	Radius around AD: 25 NM					
Legend: + NOTAM not older than 250 days						

AERODROMES

AFR1953

AERODROME (DEPARTURE)

- Beginning of the message () Original NOTAM is available

UKBB - KYIV / BORYSPIL

	TRY A1 AND TRY A2 CLOSED. FROM: 18 MAR 2011 08:00 TO: 31 MAY 2011 08:00	(A0261/11)
	TWY A3 CLOSED FROM: 24 MAR 2011 10:00 TO: 30 JUN 2011 23:59	(A0308/11)
7	SEGMENT TWY C2 CLOSED FM TWY B TO ABEAM STAND 22. SEEF AIP URBB D0 2.24.2-1. TREM: 24 MAR 2011 10:00 TO: 30 JUN 2011 23:59	(A0301/11)
I	SEGMENT TWY B BTN TWY A2 AND TWY A3 CLOSED DUE TO REPAIR. SEE AIP URBB AD 2.24.2-1. FROM: 24 MAR 2011 10:00 TO: 30 JUN 2011 23:59	(A0306/11)
	STANDS 22-28 AND 29-31 CLOSED. FROM: 04 APR 2011 08:00 TO: 30 JUN 2011 23:59	(A0361/11)
	DIGGING WIP. RWY 18L 135M TO THE WEST RCL. EQPT HGT 3M. FROM: 04 APR 2011 08:00 TO: 30 JUN 2011 23:59	(A0360/11)

AERODROME (DESTINATION)

LFPG - PARIS CHARLES DE GAULLE

NG PROCESS EXPERIMENT UPON SOME TERMINALS 2F1 ACFT STANDS 17 JAN 2011 06:00 TO: 15 MAY 2011 23:59 (A0217/11) E-ICING AND ANTI-ICING PROCESS SHOULD BE MODIFIED AS WS-CONFIRMATION ON DE-ICING FREQUENCIES: E-ICING/ANTI-ICING IN ONE PHASE: ING OF TYPE I PRODUCT (BRAND 'CLARIANT SAFEWING MPI1938 0)'OR 'ABAX DE950') MELTING OF FLUID AND WATER E-ICING/ANTI-ICING IN TWO PHASES: ING OF TYPE I PRODUCT WITH MIXED FLUID/WATER FOLLOWED APPLICATION OF TYPE II PRODUCT AT 100 PER CENT STRATION (BRAND'CLARIANT SAFEWING MPII FLIGHT 22 JAN 2011 05:00 TO: 15 MAY 2011 23:59 (A0329/11) OR RSY 356 KHZ, RSO 364 KHZ OUT OF SERVICE 01 APR 2011 08:00 TO: 30 NOV 2011 16:00 (A1550/11) SUBJECT TO OUERY RADIO NAVIGATION AIDS TO BE CONFIRMED SZ 370KHZ, CGO 399.5 KHZ OUT OF SERVICE 01 APR 2011 08:00 TO: 30 NOV 2011 16:00 (A1551/11) ER NOTAM- AIRAC AIP SUP 018/11 IN FORCE ON 2011 APR 07TH, ON ACFT STANDS.AVBL ON WWW.SIA.AVIATION-CIVILE.GOUV.FR 07 APR 2011 00:00 TO: 16 DEC 2011 23:59 (A0909/11) ER NOTAM - AIP SUP 021/11 IN FORCE ON APRIL 07, 2011 : FOR TWY U AND C COMPLIANCE. NT PHASE : PHASE 1. P AVAILABLE ON WWW.SIA.AVIATION-CIVILE.GOUV.FR 07 APR 2011 04:00 TO: 26 JUN 2011 04:00 (A0912/11) ER NOTAM - AIP SUP 020/11 IN FORCE ON APRIL 10TH, 2011 : RATORY WORKS IN ORDER TO MODIFY THRESHOLD 08L : 3 THIS PERIOD, TAXIWAYS UN, UC1, UC2, UC3 AND U BETWEEN N AND CLUSIVE ARE CLOSED H24 UP AVAILABLE ON WWW.SIA.AVIATION-CIVILE.GOUV.FR CHANGE OF WORK ENDING DAY 09 MAY 15H00 INSTEAD OF 10 MAY 06 MAY 2011 11:31 TO: 10 MAY 2011 06:00 (A2253/11) DROME (ALTERNATES) BRUSSELS/BRUSSELS-NATIONAL SHALL REQUEST START-UP BTN TSAT MINUS 5 MIN AND TSAT PLUS 5 ARLY REQUESTS WITHOUT FPL UPDATE ONLY AS OF EOBT MINUS 15 MIN NLY AFTER PRIOR PILOT CHECK ON ALL DOORS CLSD AND PUSHBACK ABLE OR PRESENT AT THE ACFT. 05 JUL 2010 15:10 TO: PERM A1436/10 STAND TAXILANE STRIP 1 CLSD DUE TO WIP 28 MAR 2011 06:00 TO: 30 JUN 2011 15:00 A0476/11 RWY 02 MISSING BARETTE 390M FM THR 31 MAR 2011 21:30 TO: 30 JUN 2011 14:00 A0512/11 STANDS 305, 306, 307, 421, 422, 423 AND 424 CLOSED DUE TO WIP. 05 APR 2011 07:55 TO: 01 JUL 2011 15:00 A0526/11 RN PART TWY N2 ABEAM ACFT STAND 906 ONLY AVBL FOR ACFT ON AX.WINGSPAN 45M. CL DISPLACED 25M TO THE NORTH FROM: 26 APR 2011 05:00 TO: 16 MAY 2011 15:00 A0688/11

III DOWNGRADED TO CAT I . PPR 1HR FOR CAT II/III OPS 11 18:00 TO: 10 OCT 2011 16:00 0400-1600 ERDAM/SCHIPHOL 5M LEFT OF CL RWY 09 AND 660M BEHIND THR RWY 09. 010 14:22 TO: 01 AUG 2011 15:00 a1043/10 THERLANDS EHAM AD 2.20 (LOCAL TRAFFIC REGULATIONS) AVIATION: AVBL CAPACITY) FOR GA AND TECHNICAL FLIGHTS AS FLW: 140/1320 1400/1640 1820/2040 0840/1000 1200/1800 2000/2040 011 01:00 **TO:** 30 OCT 2011 01:00 A0224/11 ERECTED AT PSN 52165908N 004431511E, EPARTURE END RWY 24, HEIGHT 105FT AMSL. ICAO MARKED. LANDS PAGE 2.EHAM-AOC-06-24 (14 JAN 10). 011 04:00 TO: 22 JUL 2011 17:00 A0244/11 011 05:00 TO: 22 MAY 2011 15:00 A0253/11 ANDS CHANGE OPERATING MINIMA OCA (OCH) RWY 22: 2.1: GP INOP CAT A-D 540(550). A0288/11 ANDS CHANGE OPERATING MINIMA OCA (OCH) RWY 18C: 8C.1: GPINOP CAT A-DL 690(700). 8C.2: NDB/DME CAT A-D 690(700). A0289/11 011 09:43 TO: PERM 011 08:11 TO: 22 MAY 2011 12:00 EST A0379/11 RWY 04/22 AND TWY G. SEE: WWW.EHAM.AERO 011 17:00 TO: 16 MAY 2011 07:00 A0383/11 EN TWY A, B, R, Q AND EXIT S2 PARTLY CLOSED. FOLLOWING JUNCTION REMAIN AVAILABLE:

+ ALL ACFT DEPARTING FM APRON 9 SHALL BE PUSHED ON TO TWY N2 FACING EAST ABEAM ACFT STAND 903 OR FURTHER EAST. PUSHEACK DISCONNECTION AND ENGINE START UP ONLY ALLOWED FM THIS POSITION.

IV FIR

ND TWY A

AND TWY B

2 BETWEEN TWY A AND TWY B AS AN ALTERNATE JUNCTION. 011 16:00 TO: 12 MAY 2011 13:00

AND TWY R

*+ TAKING INTO ACCOUNT PECULIARITIES OF FLIGHTS PERFORMANCE IN THE AIRSPACE OF UKRAINE AND OVER THE HIGH SEAS UNDER THE RESPONSIBILITY OF UKRAINE, AIMING AT ENSURING SAFETY OF FLIGH

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A0396/11

Graphical PIB – SESAR project



Pre-Flight Information Bulletin

Validity (UTC): from 09 May 2011 15:15 to 10 May 2011 15:15

Request Date: 09 May 2011 - 15:15 UTC

Flight Number: AFR1953

Departure Aerodrome: UKBB Boryspil

Destination Aerodrome: LFPG Paris Charles de Gaulle

Alternate Aerodromes: EBBR Brussels

EHAM Schiphol

FIR: UKBV UKLV EPWW LZBB LKAA

EDMM EDGG LFEE EBBU LFFF EHAA

Generic Route: UKBB KR UP27 SW UT709

DIBED UL984 NOSPA UN857

RAPOR UZ157 VEDUS LFPG

Heigth Limits (lower/upper):

First: 000/380 Other: 220/400 Last: 000/380

Width of Route: 20 NM Radius around Aerodrome: 25 NM

Content

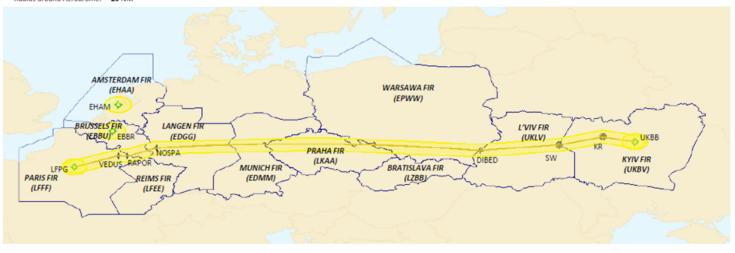
AERODROME Departure: Kyiv/Boryspil UKBB

- · Stand/Push-back/Taxiing/Take-off
- Climb/Emergency return EN-ROUTE
- SIGMET
- · Upper wind and temperature
- FIR UKLV. UKBV
- FIR- EPWW, EDMM, EDGG
- FIR-LFEE

Phase of flight

AERODROME Destination: Paris Charles de Gaulle LFPG

- Approach/Landing
- Taxiing/Stand/Departure information AERODROME Alternates: Brussels EBBR
- Approach/Landing
- Taxiing/Stand/Departure information
 AERODROME Alternative: Amsterdam EHAM
- Approach/Landing
- Taxiing/Stand/Departure information



AFR1953 - 09 May 2011 15:15 UTC - UKBB-LFPG

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Graphical PIB – SESAR project



Departure Aerodrome: UKBB

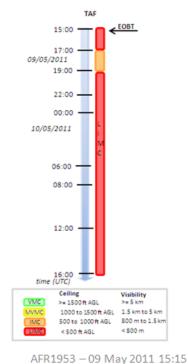
stand/push-back/taxiing/take-off

METAR:

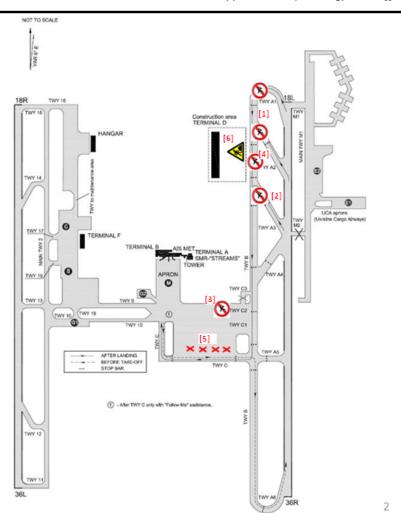
UKBB 091455Z13509KT 090V165 9999 BKN500 20/12 Q1015 CAVOK NSW

TAF:

UKBB 091432Z0915/1016 10012G21KT 6000 OVC007
TEMPO 0915/0917 1000 SHSN BR BKN003 SCT008CB
BECMG 0917/0919 10016G25KT4000 -SN BLSN OVC005
TEMPO 0919/1016 0600 +SHSN BLSN OVC003 BKN008CB
BECMG 1006/1008 14014G23KTTNM04/1003Z TXM00/1012Z



AFR1953 – 09 May 2011 15:15 UTC – UKBB-LFPG



Graphical PIB – SESAR project

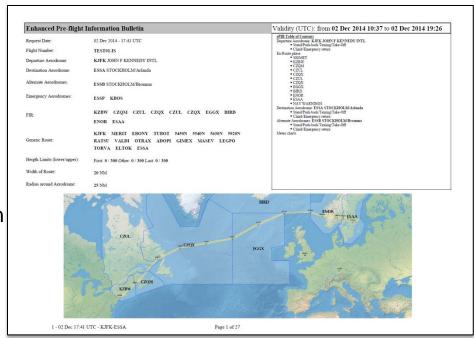


→ Prototype

 Prepared by Frequentis for SESAR 13.2.2

→ Covers

- enhanced Preflight Information Bulletin
 - DNOTAM events
 - Division into phases of flight
 - Representation as charts / text / timeline

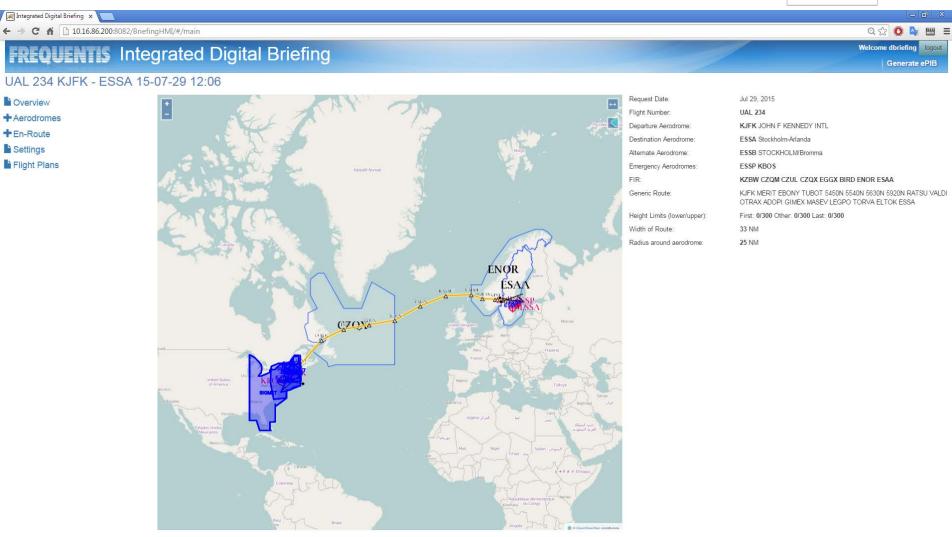




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✓ Integrated Digital Briefing x					_ a ×
← → C ㎡ 🗋 10.16.86.200:8082/Br	iefingHMI/#/main				Q☆ 💽 📭 🛗 ≡
FREQUENTIS Int	egrated Digita	l Briefing			Welcome dbriefing logout
Flight Plans	Departure	Arrival	EOBT Date	EOBT Time	Flight Identification
Settings	KJFK	ESSA	2015-08-04	10:16	UAL 234
	KIAD	ESGG	2015-08-04	10:16	UAL 234



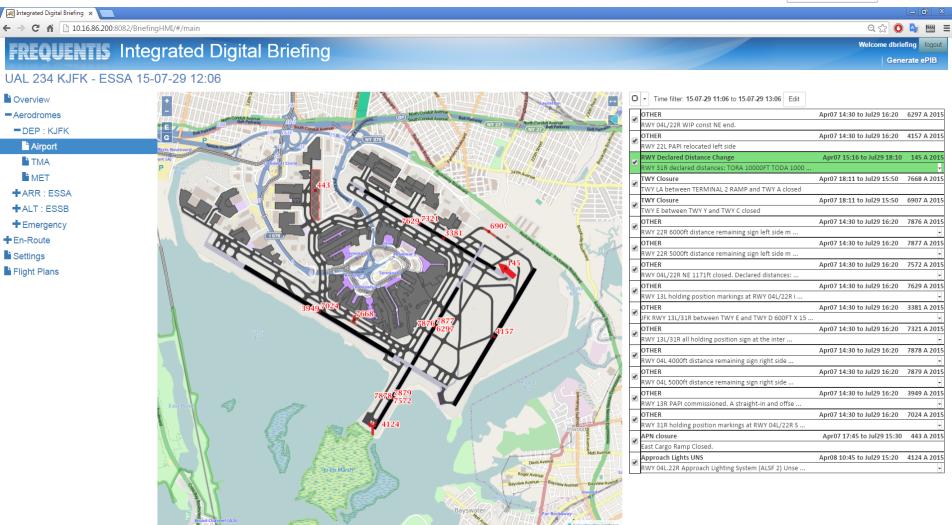




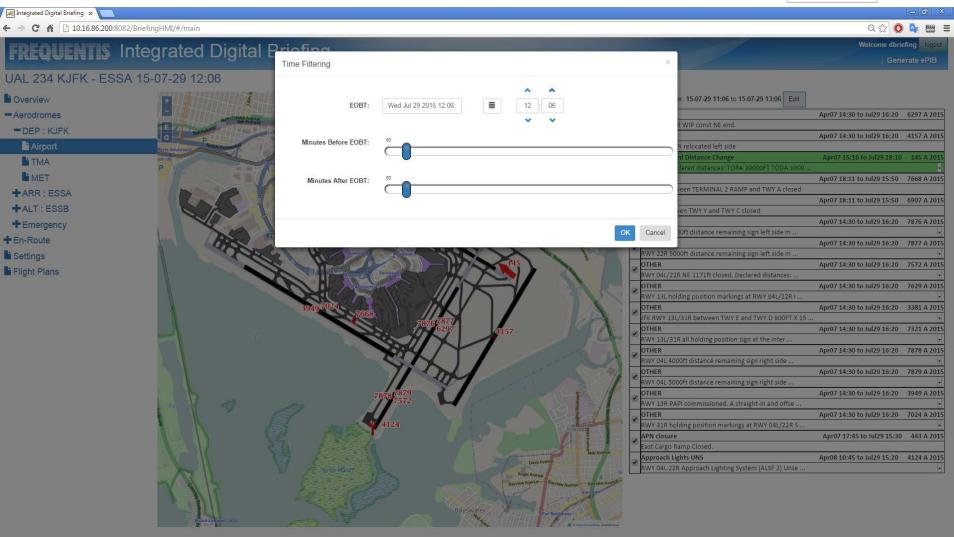










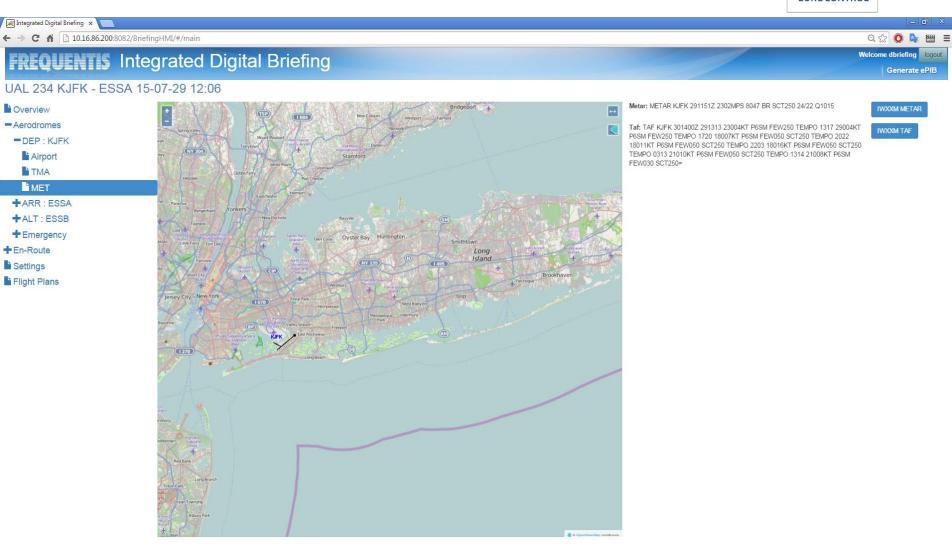


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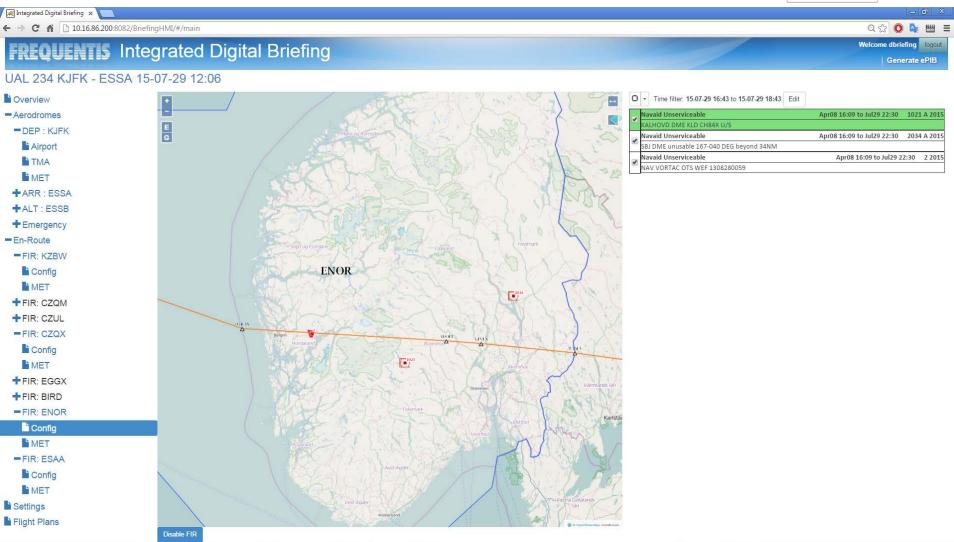
Author: SAVULOV Alexandru







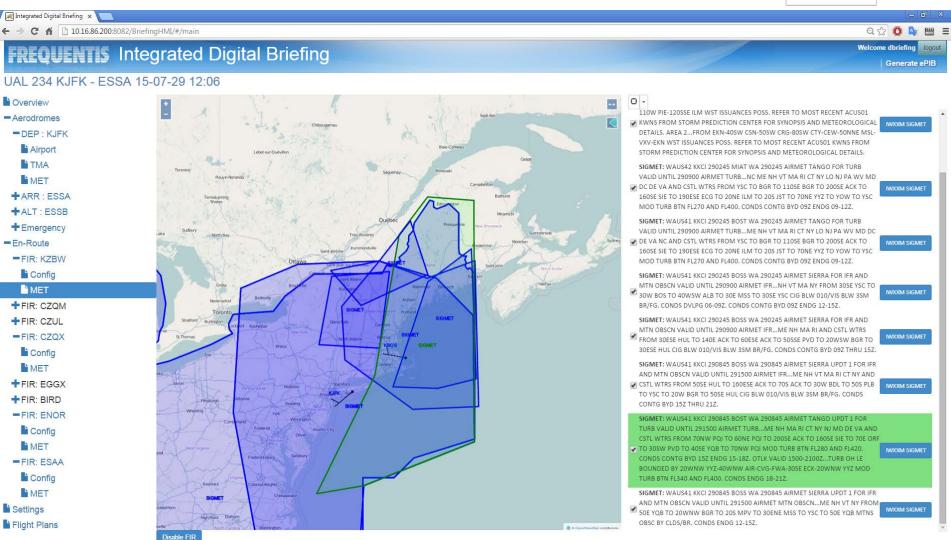




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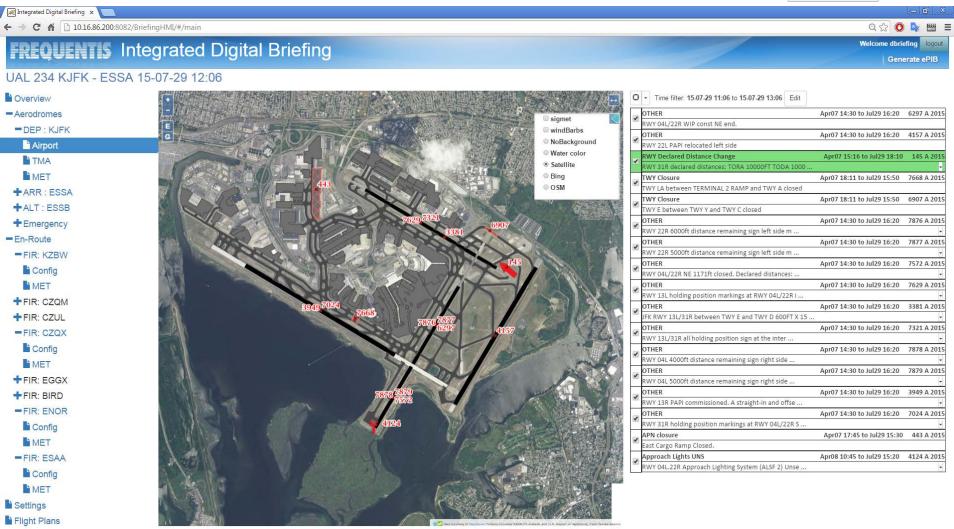


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Author: SAVULOV Alexandr





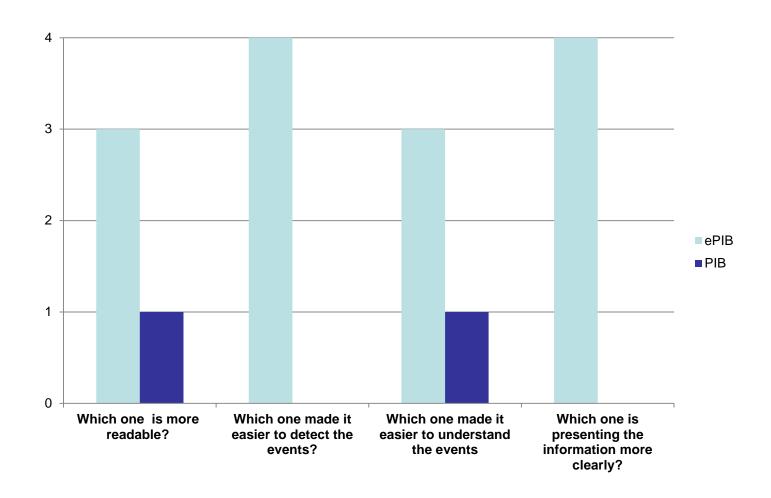






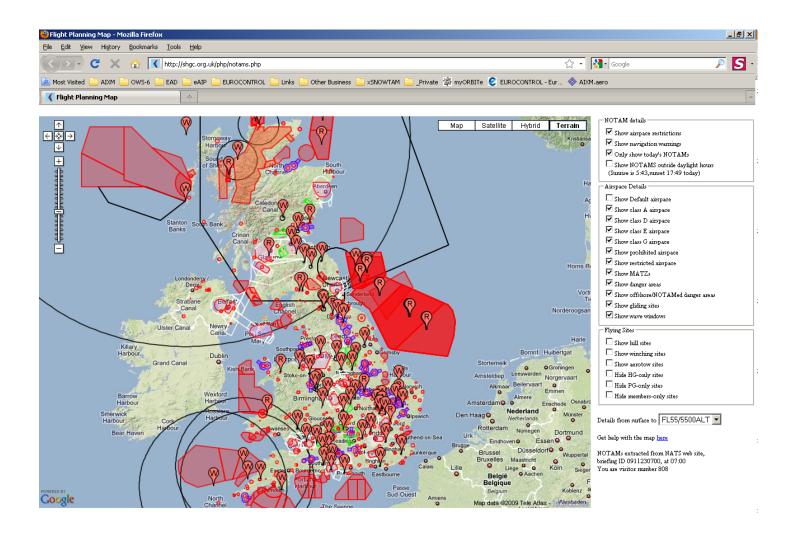


Comparing PIB-ePIB (pilot feedback)

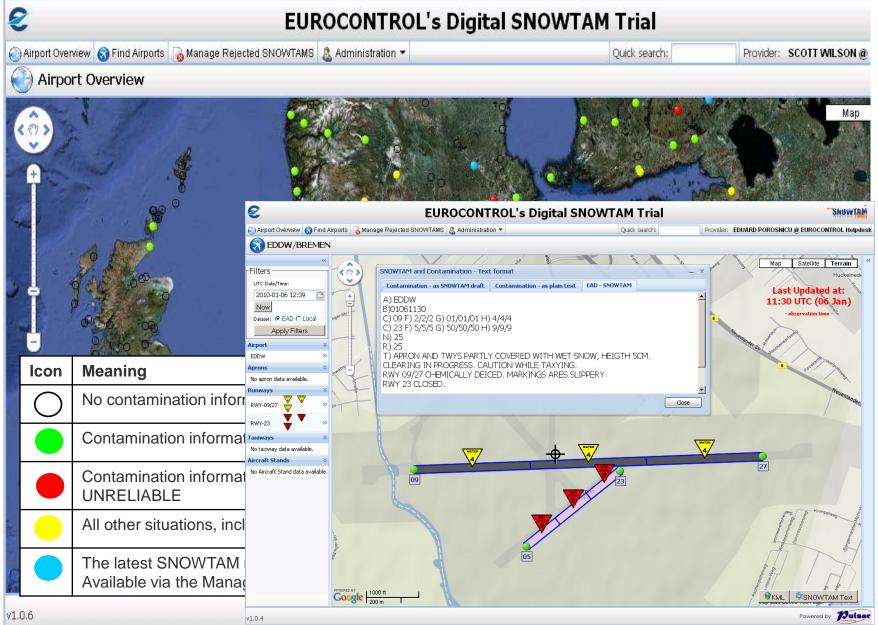












Conclusions



- "Digital NOTAM" is not a NOTAM in another format!
 - it is AIXM 5.1 data complying with the coding rules established for a specified event scenario
- Global harmonisation of Digital NOTAM encoding is the common goal
 - FAA FNS-NDS versus Event Specification 2.0 is just a temporary situation due to
 - Different priorities
 - Faster FAA implementation
 - Digital NOTAM Specification 3.0 needs to bridge the eventual gaps (target 2018)
- Europe
 - Focus on Graphical PIB research and development (SESAR)
 - Moving towards implementation through Centralised Services