

# Dynamic Airspace in Operations

## CFSP Issues

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## Aeronautical Data Truth Source

- Host Nation Aeronautical Information Publications (AIP)
  - Digital Data Provided by Type 1 LoA Supplier
- Notice to Airmen (NOTAM)
- Route Availability Document (RAD)
  - Digital Data via Network Manager B2B Web Services
- Airspace Use Plan / Updated Use Plan (AUP/UUP)
  - Conditional Route Status / Restricted Area Status
  - Digital Data via Network Manager B2B Web Services
- Additional Airspace Constraint Data
  - Standard Route Document (SRD)





# Dynamic Airspace Operations – Flight Planning Enablers

## NM B2B Web Services

- Incremental RAD Updates
  - AIRAC Cycle is Too Long
- EUUP Messages

AUP/UUP Details - Internet Explorer  
 https://www.public.nm.eurocontrol.int/PUBPORTAL/gateway/spec/PORTAL.21.5.0.4.25/gwt-detached-view.jsp?\_portal\_context=/gateway/spec

Route ID  RSA ID  FIR ID  UIR ID  WEF  TIL

Type EUUP  
 Valid WEF 12/01/2018 09:00  
 Valid TIL 13/01/2018 06:00  
 Released On 12/01/2018 09:12

Type EUUP  
 Valid WEF 12/01/2018 08:00  
 Valid TIL 13/01/2018 06:00  
 Released On 12/01/2018 08:04

ATS Route and CDR Type 1 Closure			CDR Type 2 Availability		RSA Allocations			
Route ID	Between	And	MNM FL	MAX FL	WEF	TIL	FIR	UIR
A137	ROLKA	DORER	405	575	09:00	14:00		UKBV
H59	MES	SAM	055	105	09:00	10:00	LGTT	
L18	IRKUM	LANON	195	245	17:00	18:00	EGTT	
L23	GONTU	GORAT	285	465	09:00	15:00	EPWW	
L29	GRUDA	TUPUR	195	245	09:00	15:00	EPWW	
L29	TUPUR	ALUKA	095	145	09:00	13:00	EPWW	
L53	LATMO	MASES	065	105	09:00	10:00	LGTT	
L54	LIAKI	PAXIS	095	115	09:00	10:00	LGTT	
L616	DENKO	VELAB	095	245	09:00	14:30	EPWW	
L619	DENKO	ALUKA	095	145	09:00	13:00	EPWW	
L623	BESTO	MYSKO	095	405	09:00	09:30	EPWW	
L623	BESTO	MYSKO	095	285	09:30	14:30	EPWW	
L623	BESTO	MYSKO	235	275	14:30	18:00	EPWW	
L72	RUSNE	ROLAV	095	285	11:30	13:30	EYVL	EYVL
L730	ALUKA	VAVUN	095	145	09:00	13:00	EPWW	
L856	LODBO	EKRUL	095	125	09:00	15:00	EPWW	
L97	RUSNE	IRBEX	095	285	11:30	13:30	EYVL	EYVL
L979	ENOBI	ATKUN	285	465	09:00	15:00	EPWW	
L980	USTIL	DORER	405	575	09:00	14:00		UKBV
L981	NIDIP	ARSOG	095	115	09:00	18:00	EPWW	
L981	BADNO	OBALU	195	405	09:00	09:30	EPWW	
L981	BADNO	OBALU	195	285	09:30	14:30	EPWW	

No change  Updated data  Original data

# Challenges to Dynamic Airspace Flight Planning Success

## Current Processes and Paradigms

- Software Development Lifecycle
  - Currently Consume NM 20.0
  - PBN Constraints Introduced in NM 21.0
  - Drives Agile Development
- Company (Static) Flight Plans
  - Goal: Optimized Flight Plans
  - Reduce Fuel Consumption / Carbon Emissions
  - Every Flight Plan is Unique
- Digital Aeronautical Data
  - FRA Data Not Available (yet)
  - Drives High Data Maintenance Costs



# Paradigm Changes Driven By Dynamic Airspace Operations

- Flight Planning is Not Complete When:
  - Filing ACK Message is Received
  - Crew Receives Clearance and Departs
  - Crew Receives Oceanic Clearance
- Flight Planning is Complete When:
  - Post Flight Analysis is Complete
  - Feedback is Provided
- Enroute Flight Plan Updates
  - Who is Responsible for Route? IFPS / AOC / Flight Crew / ANSP
  - Who Coordinates Revised Clearance?
  - How Do We Ensure Revised Clearance is Recognized Downstream?

## We Have Come a Long Way, But...

- Data Provided by NM B2B Web Services Have Enabled Flight Plan Quality Improvements
  - Products Comply With RAD Constraints and EUUP Airspace Updates
- Data Provided by NM B2B Web Services Enables Automated Flight Plan Route Optimization
- More Data is Needed – FRA
- Harmonization?
- Paradigm Shifts May be Largest Barrier to Success

Thank You

