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Flight Planning Challenges for Airspace Users

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Flight Planning Challenges & Constraints

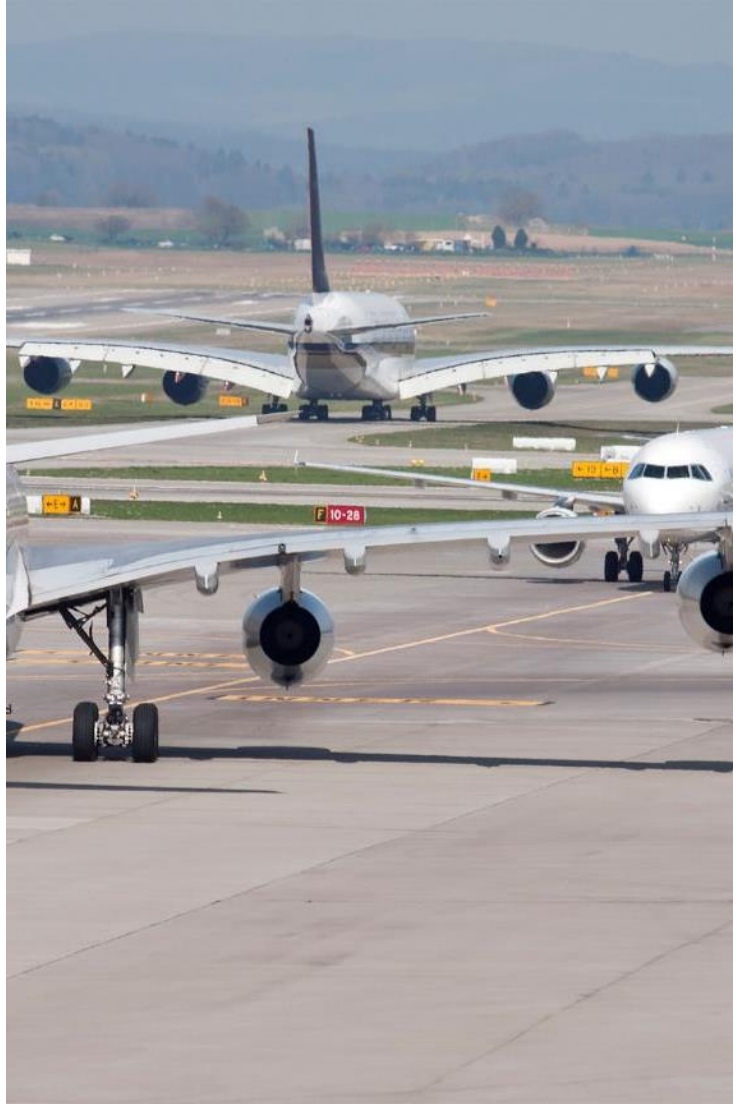
- Current ICAO FPL2012 format has finite fields for content – approaching (reached?) capacity similar to move from FPL to FPL2012
- Doesn’t permit pre-flight negotiation of preferred trajectory
- Can be rejected due inaccurate analysis
- Doesn’t easily enable inflight replanning
- Need for local agents and lack of automation
- Ad hoc flight approvals – manual process, FPL should be ‘File and Fly’

Flight Planning Challenges & Constraints

- Expectation that all ANSPs would transition to FPL2012 - a number of ANSPs took a long time to adopt (some still haven't fully)
- Although the number may be relatively small, the time that transpired between adoption and implementation raises concern for future implementations.
- Regional/fragmented implementation brings operational and safety concerns especially for global carriers. Eg: requiring H for A380 WT not J

Flight Planning Challenges & Constraints

- Limited fields in FPL2012 mean valuable additional information can’t be submitted and utilised
- Without that information, ANSPs have less data to use for optimising airspace capacity
- In a complex ATFM environment provision of additional data would aid centrally managed regional flow management units to better predict actual trajectories and hence optimise flow management releasing capacity.



Flight Planning Challenges & Constraints

- Following is a technical example where the ANSP uses default aircraft performance/wind data to estimate flight profile.
- Because the planning system does not have actual aircraft performance, weather data, etc their estimated flight profile differs significantly from the airline's Flight Planning tool calculations.
- Result is that FPL is rejected unnecessarily

Calculated profile comparison


```
-A388/J-SADE3GHIJ1J2J3J4J5M1P2RWXYZ/LB1D1
-EGKK2025
-N0485F370 DVR UL9 KONAN DCT
KOK DCT MATUG DCT AMASI DCT BOMBI DCT TENLO DCT DEXIT/N0478F390 DCT
PESAT DCT TEGRI DCT ARTAT UP975 ERGUN/N0484F410 UL124
```

FPL submitted to ANSP (doesn't include any actual aircraft performance data or other data such as weather)

```
(R)PROF205: RS: TRAFFIC VIA KONAN IS OFF MANDATORY ROUTE REF:[YX2173A]
KONAN NOT AVBL FOR TFC
(R)ROUTE165: THE DCT SEGMENT KONAN..KOK (25 NM) IS TOO LONG FOR EBDCTX:
115:245. MAXIMUM IS 0 NM [EB2X]
```

ANSP rejects the FPL after profile calculation concludes it is outside required parameters

```
LOVV0109 LHCC0126 LRBB0146 LBSR0218 LTBB0239 LTAA0246 OIIX0359
OMAE0540 SEL/JRMQ CODE/8963EF PER/C RMK/TOW:429281 TAXI:0024 NRP
HAR TCAS ADSB)
```

TOW and Taxi time added in and FPL system returns "No Errors".

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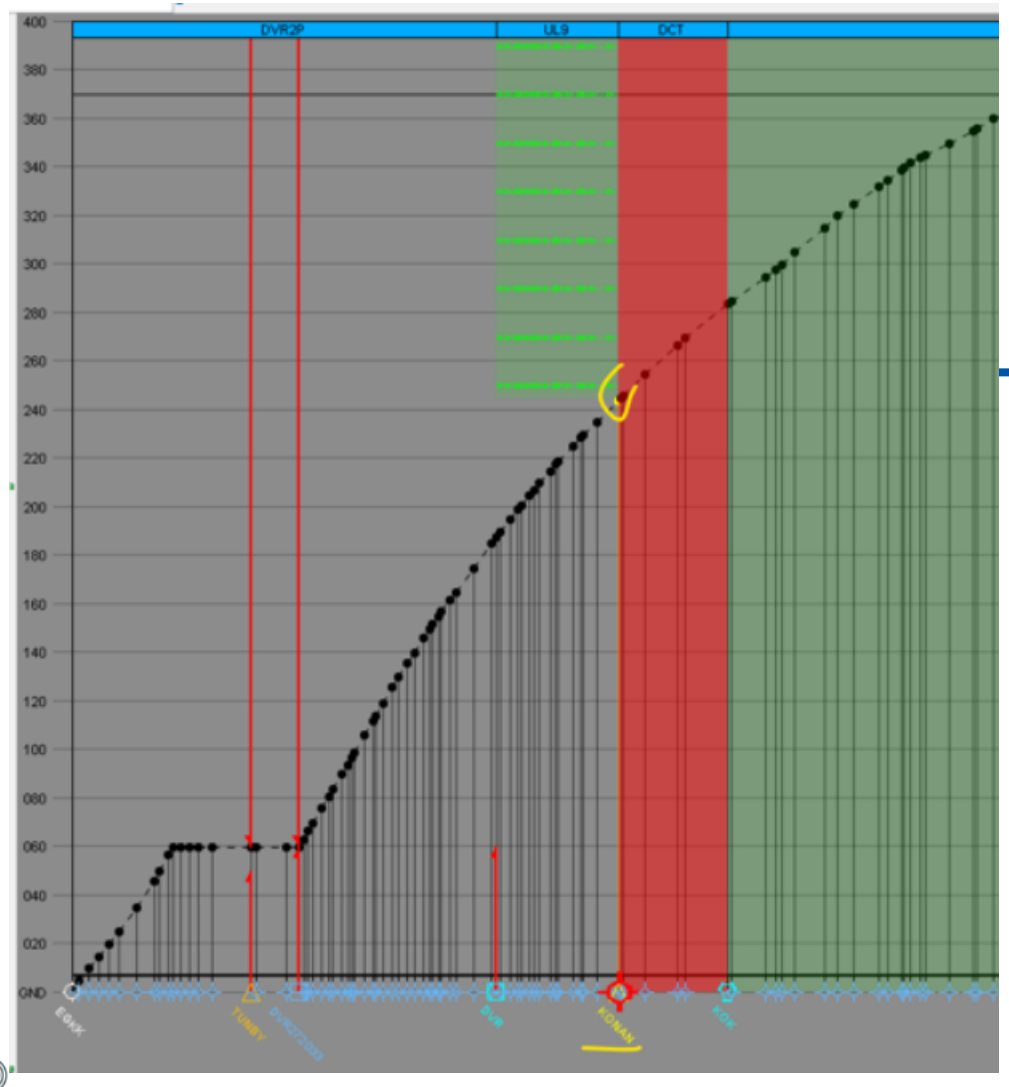
Calculated profile comparison

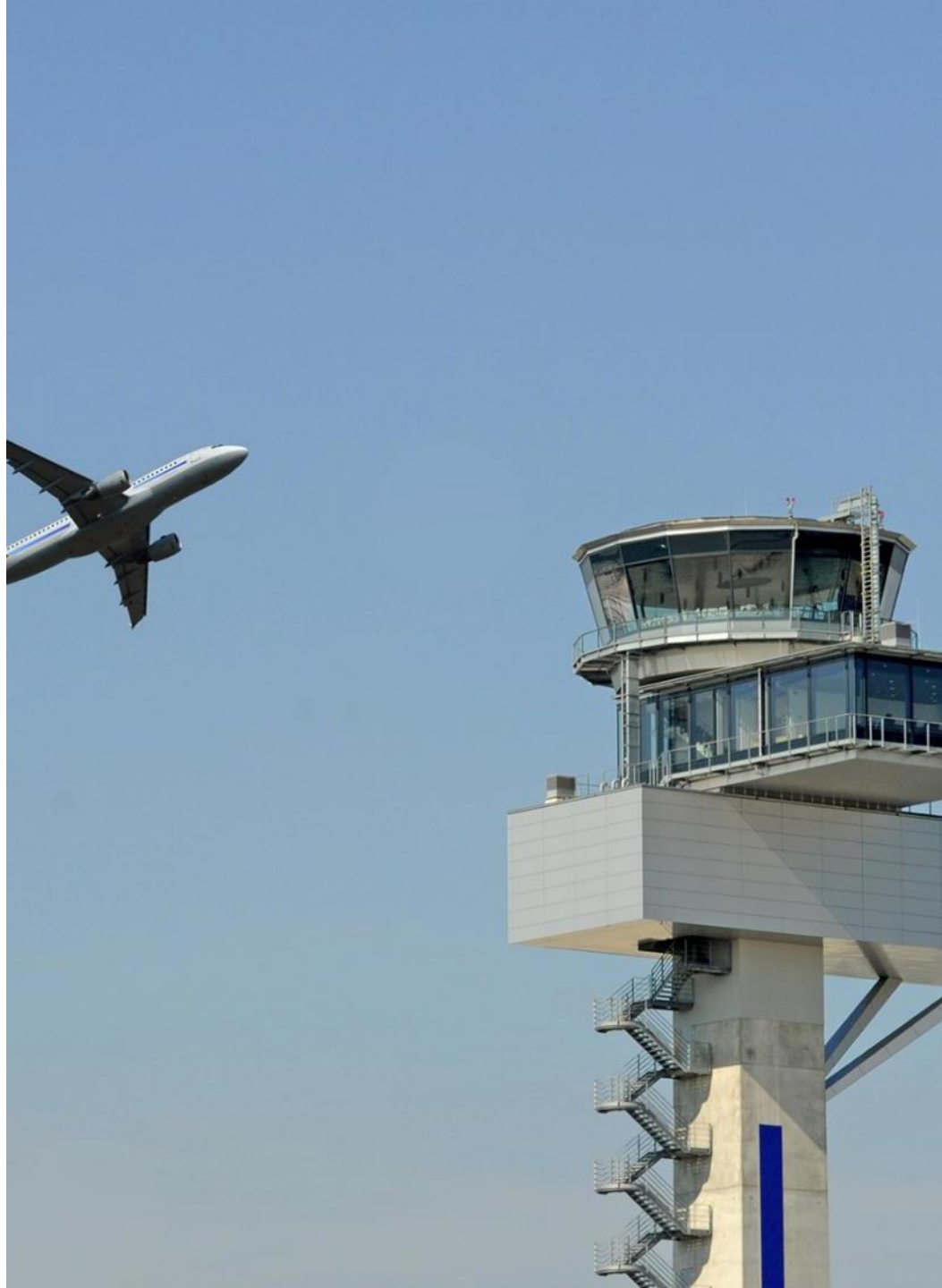


Free Flight	WPT Code	Symbol	Ctry	AWY	Type	MSA [FT]	Vert Unit	FL WPT	Cruise	IAS
View	EGKK		EG	MIMFO1M	RSID	2000	FF	2	ECON	250
View	ACORN	NI	EG	MIMFO1M	RSID	2000	FF	50	ECON	314
View	MIMFO	NI	EG	MIMFO1M	RSID	1800	FF	99	ECON	314
View	DVR	VORDME	EG	UL9	AWY	1700	FF	222	ECON	314
View	KONAN	NI	EG		DCT	1200	FF	276	ECON	314
View	KOK	VORTAC	EB		DCT	3400	FF	320	ECON	270
View	MATUG	CCAI	EB		DCT	3400	FF	370	ECON	262
View	AMASI	NI	ED		DCT	4000	FF	390	ECON	262

- KONAN DCT KOK is available above FL245.
- The ANSP rejects the plan because it estimates flight will cross KONAN at FL244.
- Without additional data, the ANSP's estimated profile over WPT KONAN differs by 3000FT in comparison to the airline's Flight Planning tool calculations.

Summary:

- Current FPL2012 design becoming unable to accommodate all necessary information
- Capacity for more information required to enable improved trajectory design and planning for demand capacity balancing
- Flight planning needs to be simplified and automated
- Flight planning should support ‘File and Fly’ for flight approvals (particularly non-scheduled flights)
- Want to avoid another transition program like the one for FPL2012



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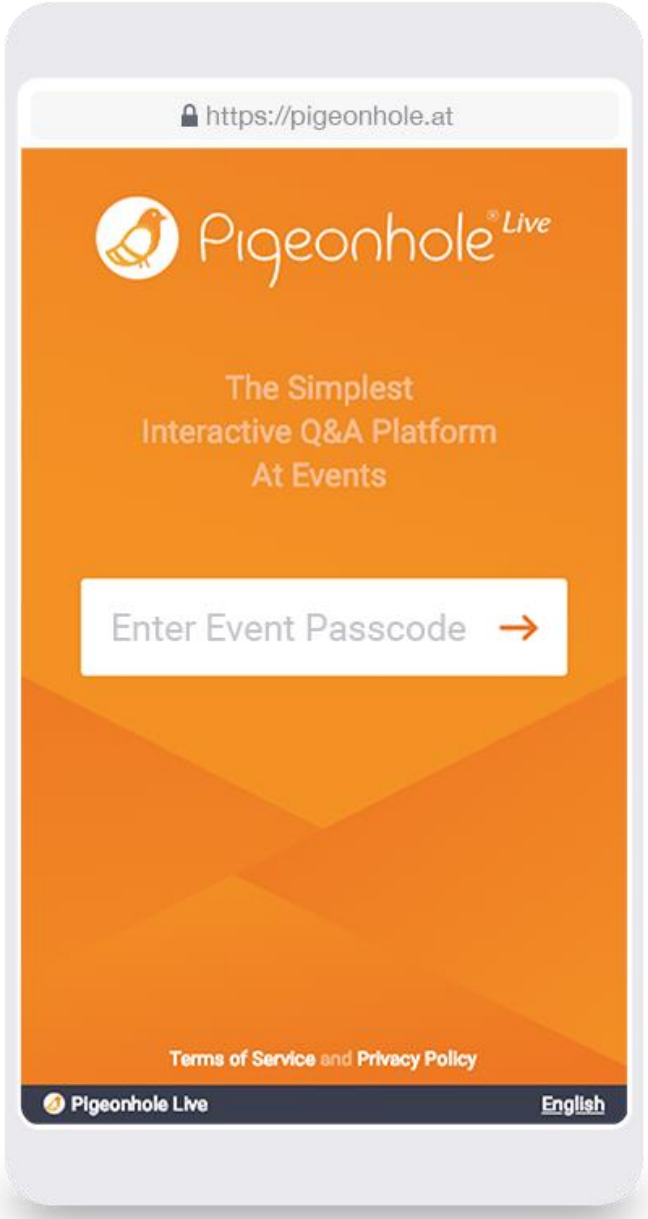
For Questions



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