

# Airlines Safety Procedures – Evolution and Simplification for Global Operations

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Why are we Safe?

What are Airline Safety Procedures?

Technology challenges / Disruptions

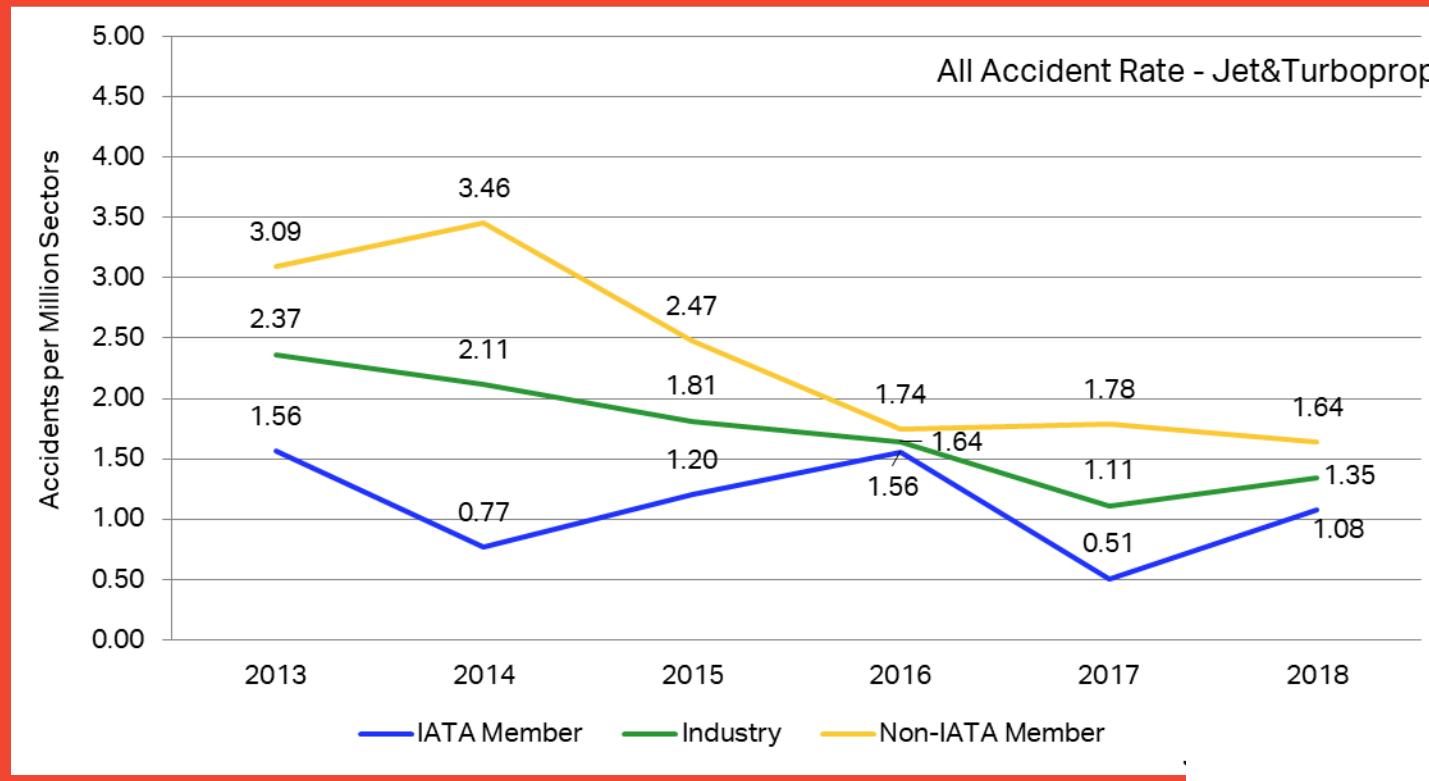
Can we still improve?

What does a typical airline do?

# Industry Accident Rate Increased, but it keeps a five year downward trend

Civil Aviation is an ultra safe environment

Civil Aviation is not a static domain



2018 has seen the overall accident rate increase over 2017, which had reached the historical minimum with 45 accidents and 19 fatalities in the whole year

# What do we mean by Safety Procedures?

Checklists

Operations Manual (Part A, B, C, D...),  
Ground, Cargo, Security

Maintenance Manuals and  
Procedures

SOP = Standard Operating  
Procedures

Management Manuals and  
Procedures, Safety, Compliance etc.  
etc.



# Why do we need procedures?

## Procedure

An organized series of actions accomplished in a prescribed or step-by-step manner to achieve a defined result.

But a Procedure by itself does not bring Safety.

It is the Operators who consistently use the correct procedures that builds the safe system we all enjoy today.



# What keeps us awake ?

Documentation vs. Implementation – “it takes 2 to Tango”

You may have the best procedures in the world but which would come to nothing if not used in operations

Implemented – specifications are established, activated, integrated, incorporated, deployed, installed, maintained and/or made available, as part of the operational system, and (are) monitored and evaluated, as necessary, to ensure the desired outcome is being achieved.



# IOSA Effectiveness – impact on Procedures



# IATA Digital Aircraft Operations (Paperless)

More efficient aircraft Operations

Move to less paper environment on the flight deck

Move to pilot issued tablets

All documents controlled electronically from original source, through editing, to final operational document, available to pilots and other company staff.

# Fleet



Airbus A340-600

7 Aircraft



Airbus A330-200

4 Aircraft



Airbus A330-300

10 Aircraft



Airbus A350-1000

**EIS 2019**



Boeing 747-400

8 Aircraft



Boeing 787-9

17 Aircraft

# Current Network and Numbers



 28 Worldwide Spare Locations

 Long-haul only  ~1000 Pilots

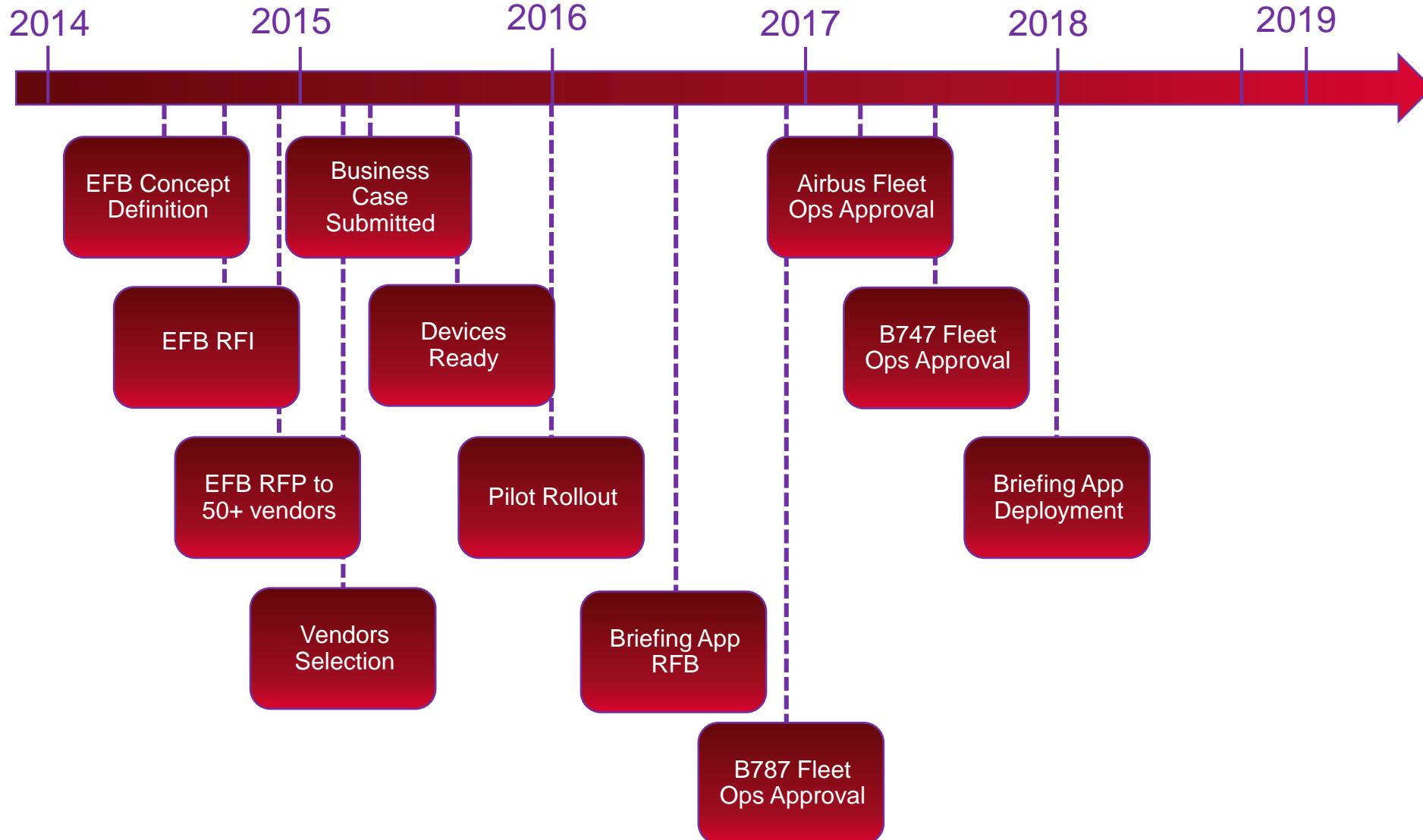
# The Objective

To enable and connect all pilots by taking advantage of a mobile solution in the aircraft environment and outside of it.

Real time data from the aircraft to ground and vice versa to optimize the operation.

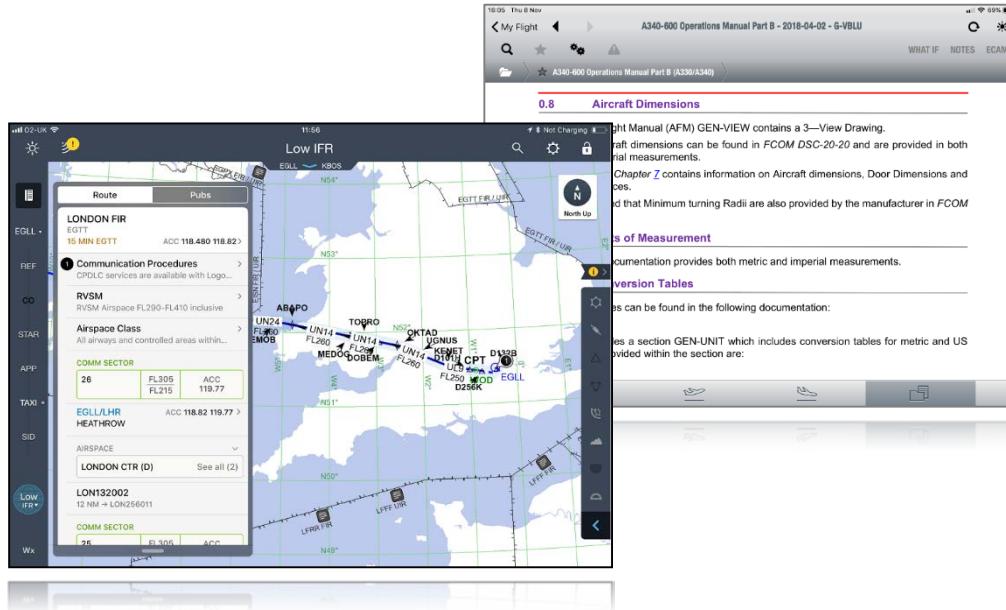


# Electronic Flight Bag Project Timeline





# Documentation



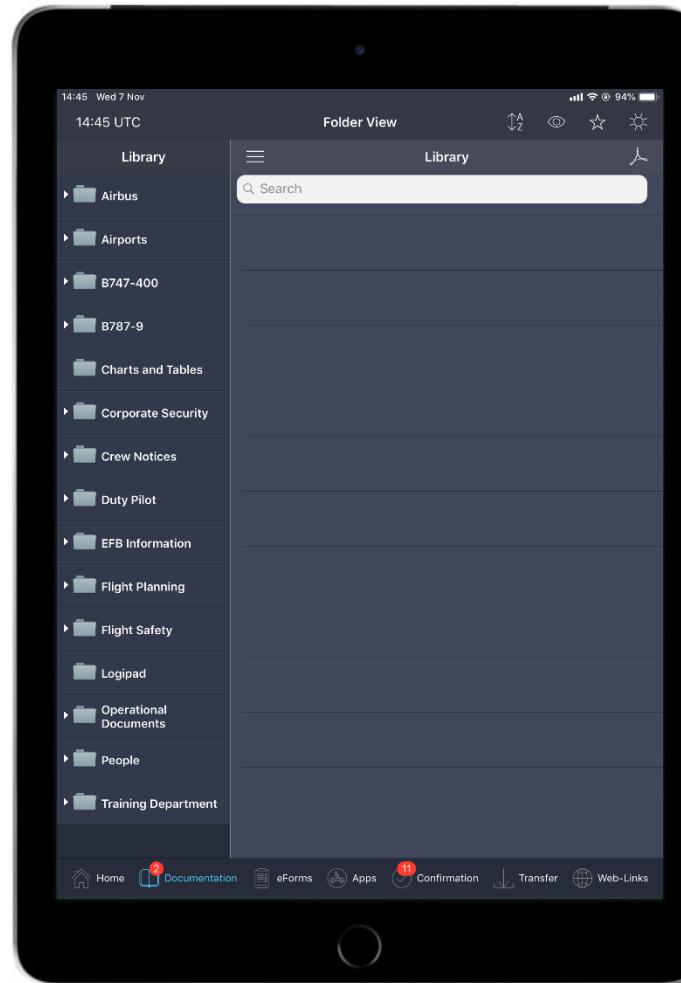
Logipad main source of Documents



All fleets have a secondary application as back up



Gives the ability to quickly push data and track compliance.





# Electronic Flight Manager

Flight Information			Fuel Calculations		
EGLL / LHR			Flight VS11   Aircraft 330-3 GVGEM		
STD 16:45	Out	Off	Flight VS11	Aircraft 330-3 GVGEM	
ETD 16:45		17:10	Plan ID 33	23:59	On
Kbos / BOS			STA 00:15 ETA 00:11		
EDIT MODE					
ACT/ZFW	PLN	MAX	FUEL	Fuel	Time
160.0	156.5	175.0	TAXY/APU	0.7	00:25
ACT/TOW	PLN	MAX	TRIP	38.0	06:49
202.9	198.7	233.0	CONT5	0.5	00:06
ACT/LWT	PLN	MAX	ALTN(KPSM)	1.6	00:18
164.9	161.4	187.0	ETP ADJ	0.0	00:00
TD Fuel	kg/1000	4.9	ADDNL	0.0	00:00
CI	16		UNUSABLE	0.0	00:00
CI	16		FNL RES	2.4	00:30
TD FUEL	kg/1000	4.9	ENR RES	5.4	00:30

VS11 EGLL /LHR » KBOS /BOS Mar 09 16:45 - 00:15 12:17 Not Charging

**CYYT/YY ST JOHNS INTL Done**

**METAR**

091500Z 11012G18KT 8SM **FEW005** SCT032 BKN120 M00/M03 A3012  
RMK SF2SC2AC1 FG BNK N E S SLP209=

**TAF**

091507Z 0915/1012 11012G22KT P6SM **FEW005** BKN120  
TEMPO 0915/0918 5SM BR **BKN005**  
BECMG 0915/0917 09015G25KT FM091800 09018G28KT P6SM  
BKN030 FM100300 10020G35KT 6SM -SHSN BKN030 OVC060  
FM100500 **10025G40KT 1/2SM** SN BLSN **VV004** FM101000  
10020G35KT 2SM -SN BLSN **VV008**  
RMK NXT FCST BY 091800Z=

**NOTAM**

CYHQ A0629/18 (2018-03-06 19:47) VALID 2018-03-06 19:30 -  
2018-03-29 09:01 EST  
RNAV (GNSS) X **RWY** 16 APCH: WAAS CH 80207 NOT AVBL

CYHQ A0628/18 (2018-03-06 19:47) VALID 2018-03-06 19:30 -  
2018-03-29 09:01  
RNAV (GNSS) X **RWY** 11 APCH: WAAS CH 80206 NOT AVBL

KBGR KBOS CY EINN Add ICA



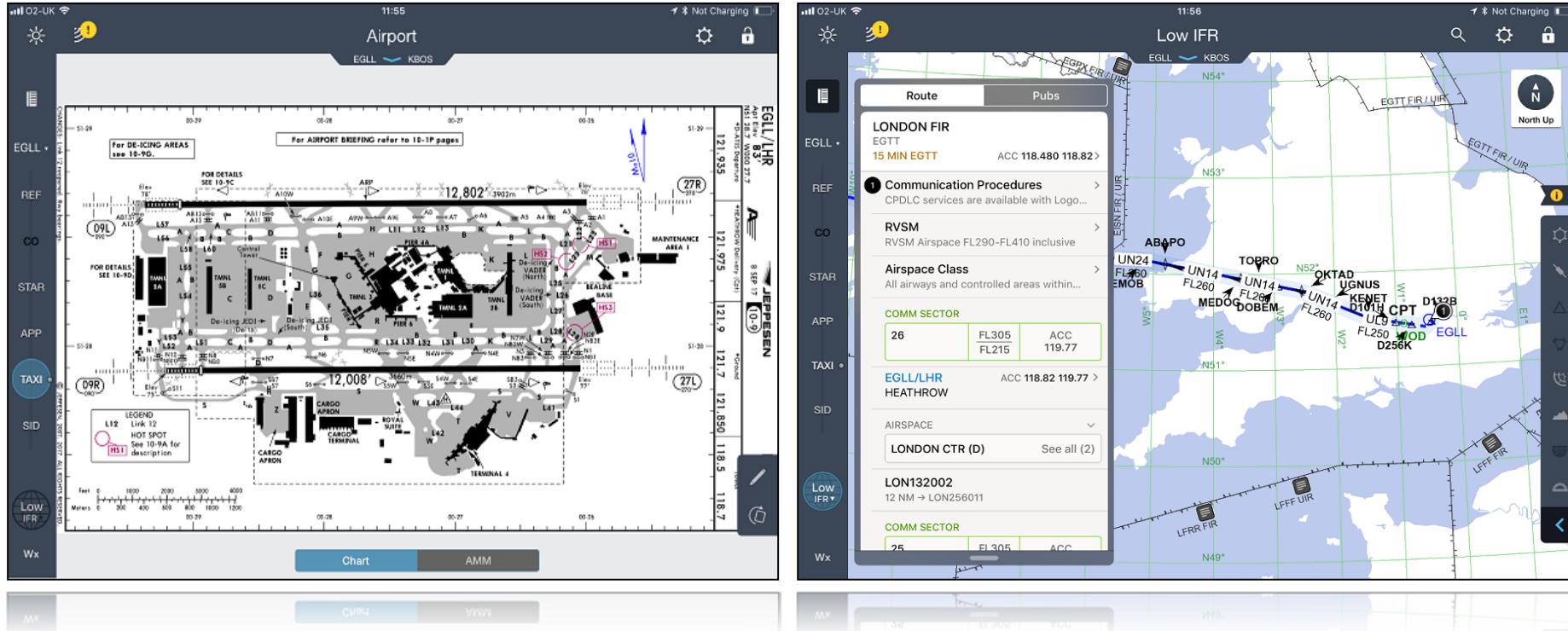
## Sabre eFM



Crews can access their flight plans remotely 2 hours before flights



# Mapping and Charting



JeppFD-Pro



Charting solution across all fleets



Displays routing copied from Sabre eFM



# Performance

12:12 PERFORMANCE - TAKEOFF

NOTAM MEL CDL SEND OUTPUT

G-VYUM B787-9

ARPT EGLL/LHR RTG TOW: 240000 KG ZFW: 180000 KG

RWY 27R MAX ATM CG (%): 25

INTX FULL 27R OPTIMUM FLAP

COND WET OFF A/I

WIND 250/15 KT (14 HW/5 XW) KT

OAT 10 C (50 F)

QNH 1011.0 HPa (29.85 IN HG)

OPTIMUM NO ICING

STD LIMIT CGE...

Engine Failure Procedure: \*\*\* NO EMERGENCY TURN \*\*\* 21 MAR 2018

787-9/TRENT\_1000-K FULL ATM

FLAP 5 ACCEL HT 1020 ft AGL

RWY / INTX 27R (SK-R) V1 169 KT

TOGW 24000 KG D-TO 1 77.9 SEL TEMP 33 C VR 175 KT

TAKEOFF Vref30 171 KT LANDING

DISPATCH DISPATCH ENROUTE

ATM

- Boeing OPT
- Boeing 747 and 787
- Used with installed EFB on 787

12:07 TAKEOFF G-VINE A330-343

EGLL/LHR HEATHROW 27R

WIND °/kt (250/15/G20)

OAT °C 10 (ISA -5)

QNH hPa 1011

RWY COND Wet

TOW T 228

THRUST FLEX (STD)

CONF OPT CONF (STD)

AIR COND Off (STD)

A-ICE Off

MEL 0 CDL 0

CLEAR MODIFY

REV FOR COMPUTATION All reversers operating

MTOW (PERF) 255.5 T

TAKEOFF BASED ON CLIMBING ON EXTENDED RUNWAY CENTERLINE

ASD 12577 ft

14

161 kt

166 kt

168 kt

TOW - TOW

1078 ft

244 kt

12736 ft

259 ft

Entry angle 180°

27R FULL

- FlySmart
- Airbus A330 and A340

# Approval Process

- Submit an operational approval report to the CAA
- Granted a “6 month probation” period with paper as backup.
- Information (operational reports, comments, feedback forms) then collated and sent over to the CAA for review.
- Once all points were satisfied, CAA Approval was granted (with incorporation into AOC Ops Spec Approval).
- Change carried out one fleet at a time: B787, then B747, then A330/340 and lastly A332.



# Challenges Faced

-  Multiple fleets – various mounting solutions and data access required
-  All our flights end in a change of crews
-  Multiple applications all needing updating
-  Global aspect of updating iPads in areas with poor connectivity

# Conclusions

Procedures will remain the backbone of safety into the future

Organizations need to consider the technological and demographical developments

Effectiveness of safety procedures must be monitored

Keep procedures simple – write what you do and do what you write

Always try to improve

Allow feedback from the users

# Thank you

