



# Electronic TechLog Case Study

Bangkok – October 2017 – Nick Phillips



# ABOUT THE THOMAS COOK GROUP



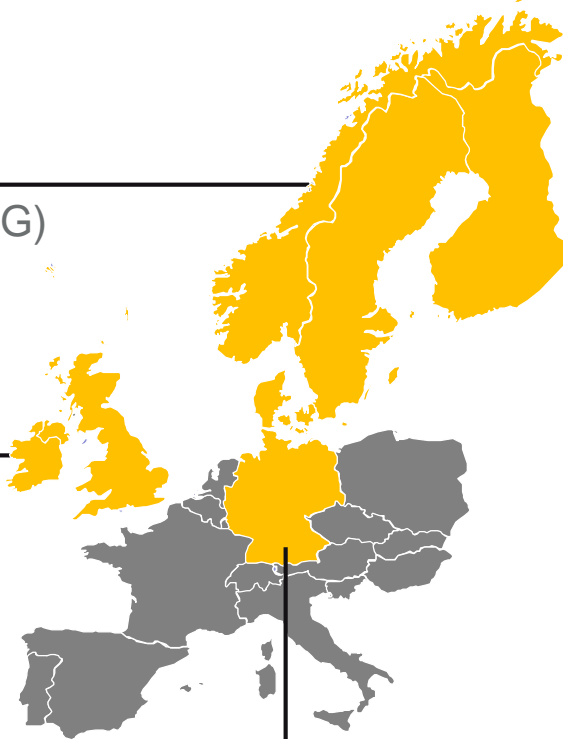
Northern Europe (VKG)



UK & Ireland (TCX)



Germany (CFD)



94 aircraft



17 million customers



GBP 2.7 billion revenue



6,700 employees



Europe's 11th largest airline

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HEART**

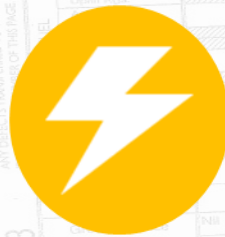
# WHAT IS AN **ELECTRONIC TECHLOG**?



**A PAPER TECHLOG** is completed after every flight as a legal record of the aircraft's journey and airworthiness status



**A COPY OF THE PAPER TECHLOG** is left on the ground, faxed back to base and the information is manually entered into the airline's MRO system (AMOS)



**AN ELECTRONIC TECHLOG** is the total replacement of this antiquated process with a mobile technology solution that integrates seamlessly with the airline's systems

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AIRCRAFT TECHNICAL LOG SECTOR RECORD

Serial No. Type A319

Log Time 21:10:10

From Peak Sheet

| Defect State       | T/O           | ASR           | Full Rated Thrust T/O | ASR Raised    | Full Rated Thrust T/O | ASR Raised    | Full Rated Thrust T/O | ASR Raised    | Full Rated Thrust T/O | ASR Raised |
|--------------------|---------------|---------------|-----------------------|---------------|-----------------------|---------------|-----------------------|---------------|-----------------------|------------|
| Simulated          | Un-Successful | Successful    | Un-Successful         | Successful    | Un-Successful         | Successful    | Un-Successful         | Successful    | Un-Successful         | Successful |
| Autoland Reporting | Actual        | Un-Successful | Successful            | Un-Successful | Successful            | Un-Successful | Successful            | Un-Successful | Successful            | Successful |

Commander's Signature / Print Name

Arrival

Planned

Pre-Flight Date/Time

Signature / AUTHORITY

Commander's Acceptance

Batch No. N<sup>o</sup> 483323

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# OUR JOURNEY TO A GROUP ETL



*Group  
Airlines eTL*

*How do we  
get there ?*



*Today*



# THE STORY SO FAR.....

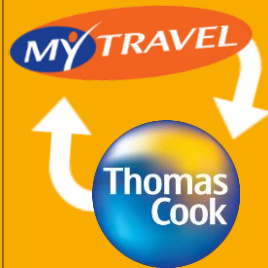


**MyTravel Airways gain first UK CAA approval of an Electronic Techlog**



**2006**

**Thomas Cook & MyTravel Merger**



**2008**

**Roll out of eTL and EFB applications to entire Thomas Cook UK fleet**



**2009**

**Conduce takeover the service of the eTL/EFB**



**2012**

**EFB and eTL applications decoupled**



**2013**

**eTechLog8 chosen for new Group ETL solution.**



**2016**

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WE'RE READY FOR A **CHANGE**



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## WHY DO WE NEED A **NEW eTECHLOG?**

**The legacy eTL operating system runs on Windows XP – now obsolete**



**The legacy hardware is over 10 years old and beyond it's normal life cycle.**



**There are numerous areas where duplication of data entry is occurring: into AMOS / Cabin Log**



**A single Group way of working with greater compliance oversight.**

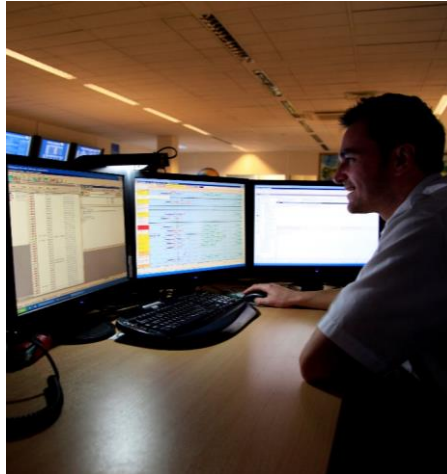


# WHAT ARE THE BUSINESS BENEFITS?



## ERROR REDUCTION

Greatly improved accuracy and data consistency through elimination of human errors



## REAL-TIME ANALYSIS

Instant access to our entire fleet technical status as soon as flight log data is entered



## FULLY INTEGRATED

No more duplication of data input into AMOS and other backoffice systems



## REDUCE COSTS

Reduced turn round times and improved on time performance

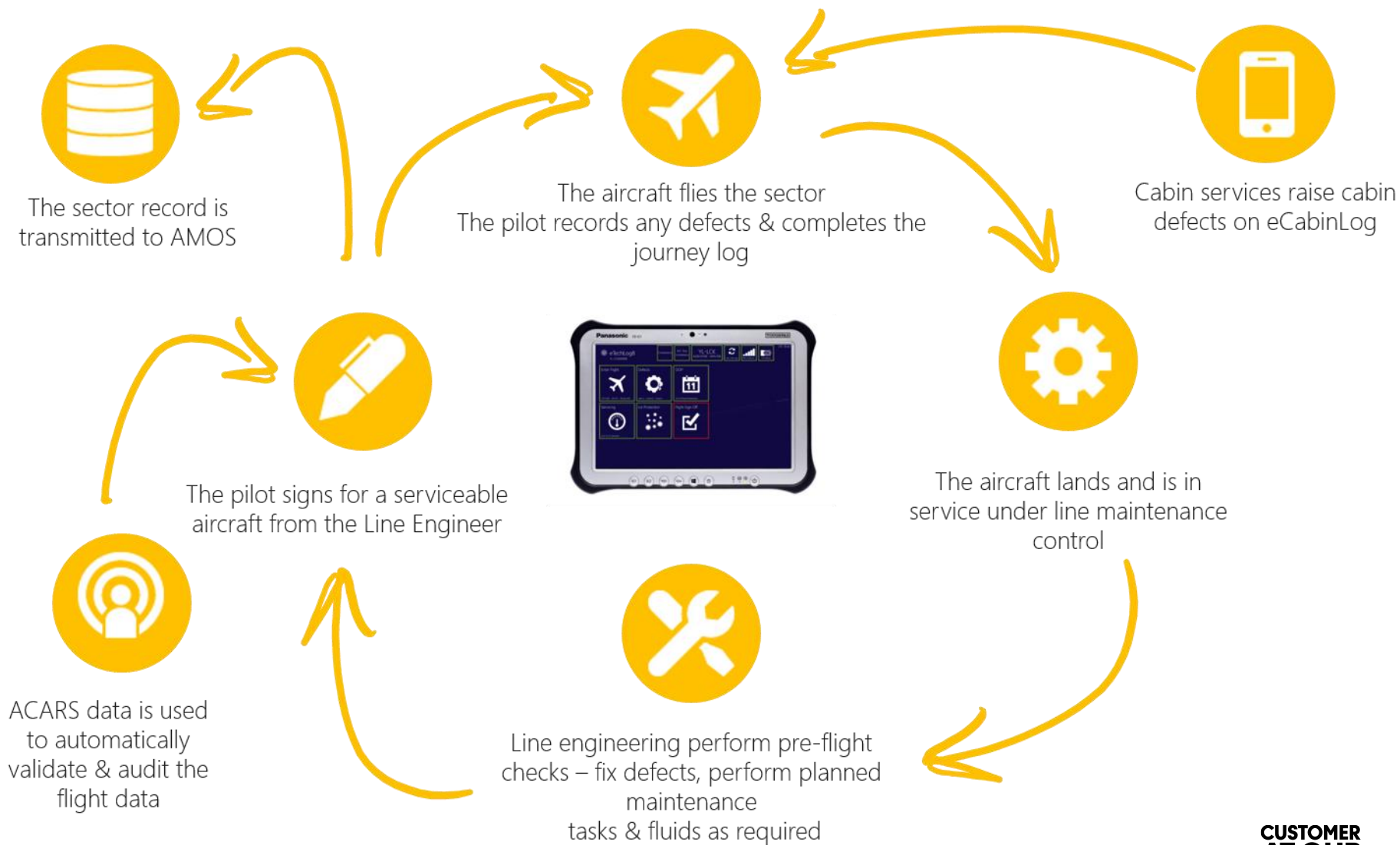


# INTRODUCING THE eTECHLOG

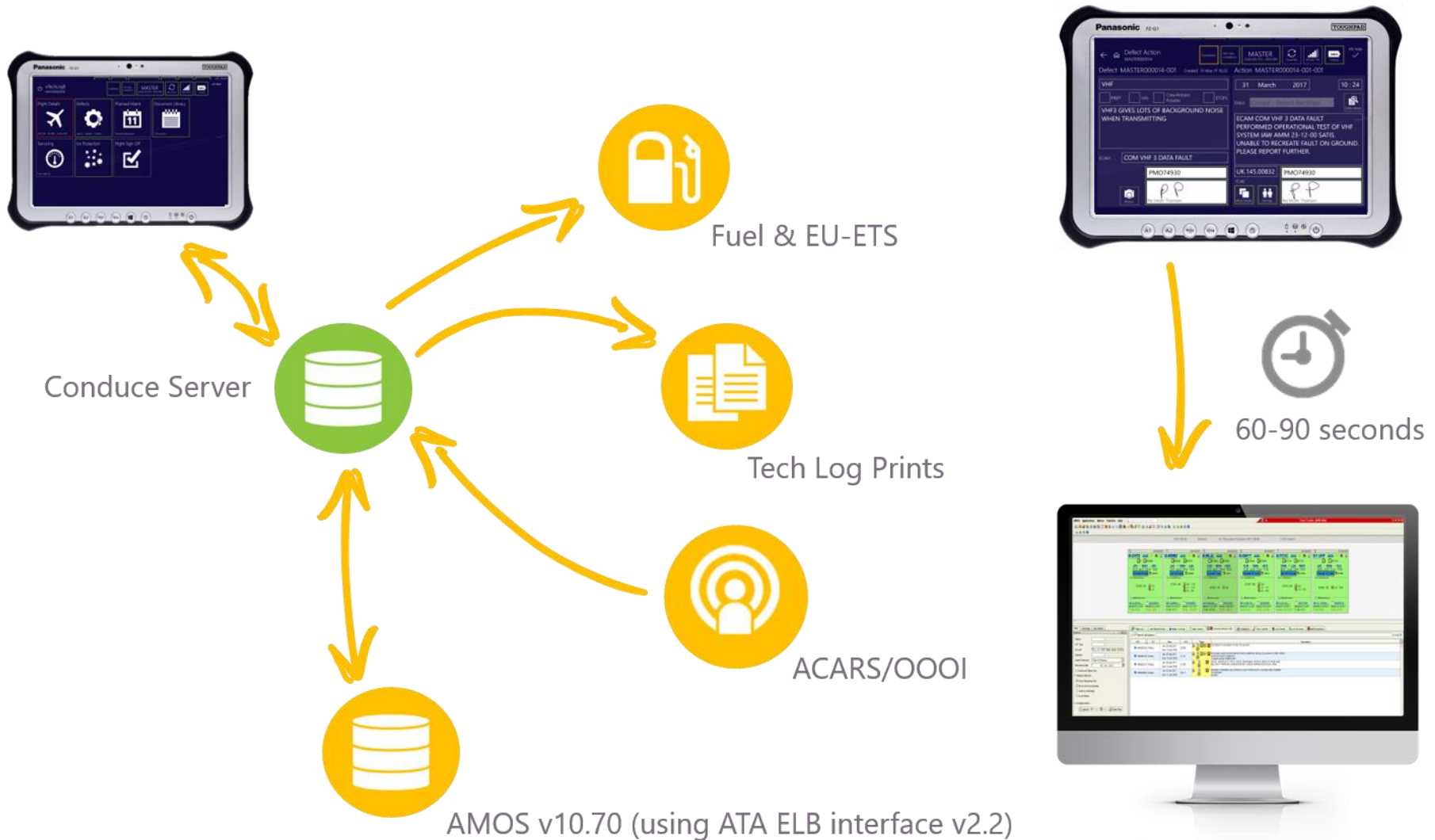


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# HOW THE NEW ETECHLOG WORKS



# SYSTEM INTEGRATION



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# HOW'S IT GOING?



| Thomas Cook Airlines  |  |   |  | AIRCRAFT TECHNICAL LOG   |  |  |  | Serial No. 00001  |  |  |  |
|---|--|---|--|--|--|--|--|---|--|--|--|
| <b>Act Type:</b> A330 <b>Reg:</b> G-MUJL<br><b>Date:</b> 6/10/2017 <b>Flt No:</b> M1022<br><b>From:</b> BHX <b>To:</b> JTR<br><b>Captain:</b> T1047444  |  |   |  | <b>LANDED (GMT):</b> 08 55<br><b>ARRIVED (GMT):</b> 06 55<br><b>SECTOR FLT TIME:</b> 2 00<br><b>HOURS BFWO:</b> 1112 14<br><b>HOURS CFWD:</b> 1119 14<br><b>SECTOR LDOS:</b> 13 47 1<br><b>LDOS BFWO:</b> 13 47 1<br><b>LDOS CFWD:</b> 13 47 2 |  |  |  | <b>OPERATED EGTOT:</b> (Y/N) N<br><b>AUTOLAND USED?</b> (N/C/M) N<br><b>MCWASRT:</b> (Y/N) N<br><b>FULL POWER T/O?</b> (EPR/N1) N   |  |  |  |
| <b>Item 1:</b> DEFECT (State if NG)<br><b>Act:</b> RUL AND TEL PAULI<br><b>1:</b> LEMET.  |  |   |  | <b>ACTION TAKEN:</b><br><b>Defect Deferred:</b> O/S<br><b>TAN 27-25-01 A.</b><br><b>Further INVEST RAO.</b>  |  |  |  | <b>SIGN &amp; DATE:</b><br><b>Part 140 Auth. No.:</b> 46.145...<br><b>TAN 0001</b>  |  |  |  |
| <b>Item 2:</b> TAXI LT N/S.   |  |   |  | <b>Act:</b> X2 TAXI LIGHTS REPAIR<br><b>1AW ANM 33-40-00</b>   |  |  |  | <b>SIGN &amp; DATE:</b><br><b>Part 140 Auth. No.:</b> 46.145...<br><b>TAN 0001</b>  |  |  |  |
| <b>Item 3:</b> WP G-MUJL/0400   |  |   |  | <b>Act:</b> C/OUT SMTS.  |  |  |  | <b>SIGN &amp; DATE:</b><br><b>Part 140 Auth. No.:</b> 46.145...<br><b>TAN 0001</b>  |  |  |  |
| <b>Sign &amp; Date:</b> ENG. <b>ATA:</b> <b>DDF:</b> Open/Close <b>MEL Ref:</b>   |  |   |  | <b>Post Flight:</b><br><b>Cabin Log Reviewed:</b><br><b>SRP Completed:</b><br><b>Signed:</b> <b>Auth:</b>  |  |  |  | <b>Ground De-Anti-ice:</b><br><b>Start:</b> <b>Finish:</b><br><b>Fuel Type:</b> <b>Mx:</b><br><b>Area:</b> FUSE/WINGS/TAIL/FIN<br><b>Signed:</b> <b>Auth:</b>   |  |  |  |
| <b>Fuel Kg:</b><br><b>LEFT:</b> 500 <b>6500</b><br><b>CENTRE:</b> 0 <b>0</b><br><b>RIGHT:</b> 500 <b>6500</b><br><b>THIMACT 1:</b> 0 <b>0</b><br><b>ACT 2:</b> 0 <b>0</b><br><b>TOTAL:</b> 1000 <b>9000</b> |  |   |  | <b>Fuel Uplift:</b><br><b>Bowser Delivery (L):</b> 10050<br><b>Bowser Converted (Kgs):</b> 7939<br><b>Calculated (Kgs):</b> 8000<br><b>Specific Gravity:</b> 0.79<br><b>Fuel Type:</b> A1<br><b>Fuel Supplier:</b> ALE OF.                     |  |  |  | <b>Oil/Hyd:</b><br><b>Eng 1:</b> 18 <b>18</b> <b>OK</b> <b>OK</b> <b>OK</b><br><b>Eng 2:</b> 10 <b>10</b> <b>OK</b> <b>OK</b> <b>OK</b><br><b>APU:</b> 19 <b>19</b><br><b>Next Sect Dep:</b> 19 <b>19</b>                     |  |  |  |
| <b>PRE-FLIGHT/TRANSIT INSPECTION CHECK COUT</b><br><b>Date:</b> 4/10 <b>Sign:</b> <b>Auth:</b> T1047444<br><b>Time:</b> 0545 <b>Auth:</b> T1047444  |  |   |  | <b>I certify that the quantities and distribution of fuel at completion of refuelling are as shown above.</b><br><b>Sign:</b> <b>(Refuel Supervisor)</b>   |  |  |  | <b>I certify that the quantities and distribution of fuel acceptable for the intended flight. Pre-flight checked out MEL/CDL restrictions acknowledged. Prepared for Service Condition checked.</b><br><b>Sign:</b> T1047444. |  |  |  |
| <b>ITEM</b> <b>Part No. OFF</b> <b>Locn/FIN</b> <b>Ser. No. OFF</b> <b>Repair Tag No.</b> <b>Part No. ON</b> <b>Ser. No. ON</b> <b>GR</b>   |  | <b>2</b> <b>4626</b> <b></b> <b></b> <b></b> <b>4626</b> <b>567</b> |  |  |  |  |  |   |  |  |  |

TC/AUKCAMO 001 ISSUE 1 12/10 DISTRIBUTION WHITE - MAINTENANCE RECORDS YELLOW - DEPART STATION



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# PROJECT STATUS



**October 2017:** six aircraft now live.



**August 2017:** live cutover of 1<sup>st</sup> aircraft



**May 2017:** flight trials commenced



**Spring 2017:** approval for flight trials

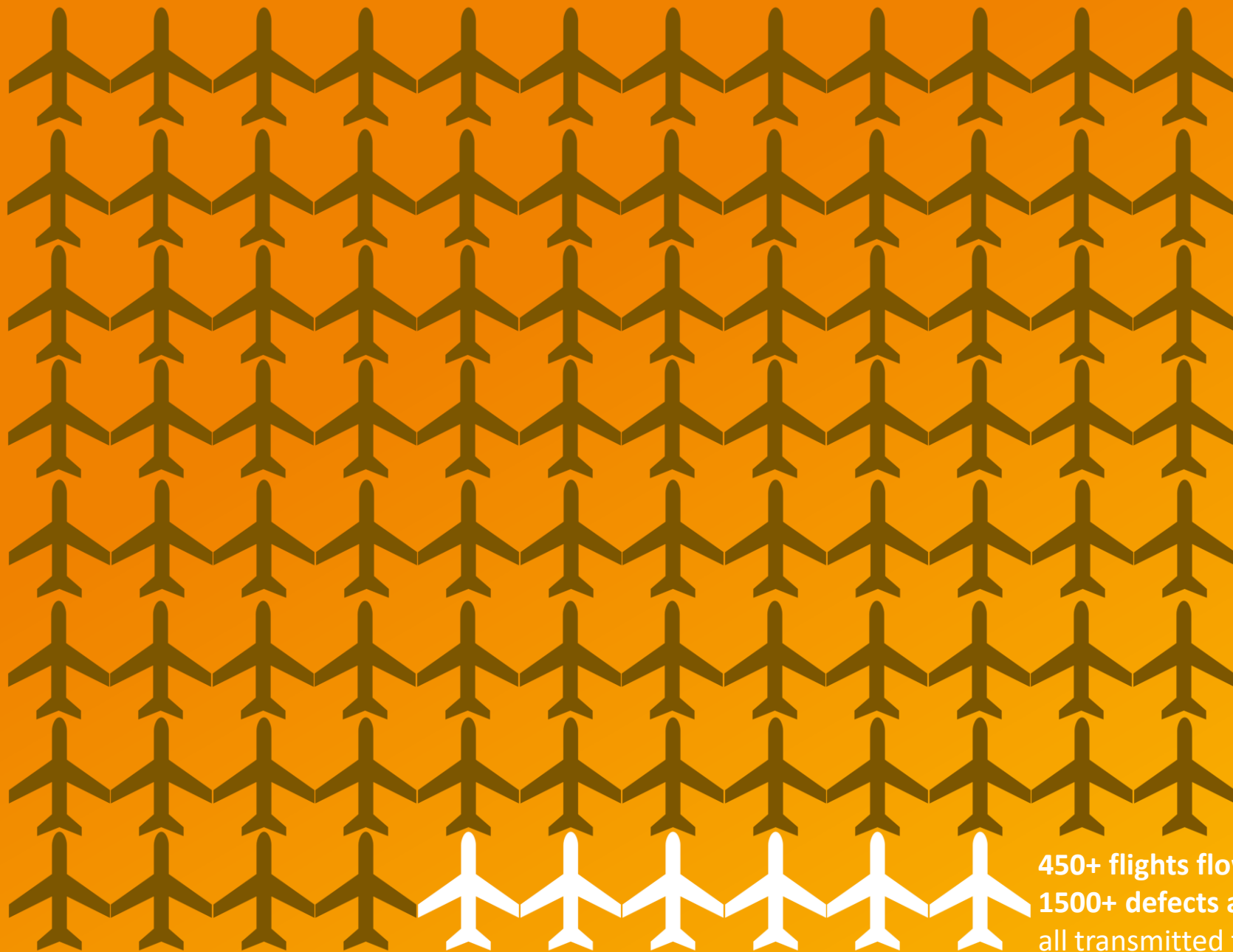


**Winter 2016:** device approval



**Summer 2016:** project start





450+ flights flown  
1500+ defects actioned  
all transmitted to AMOS

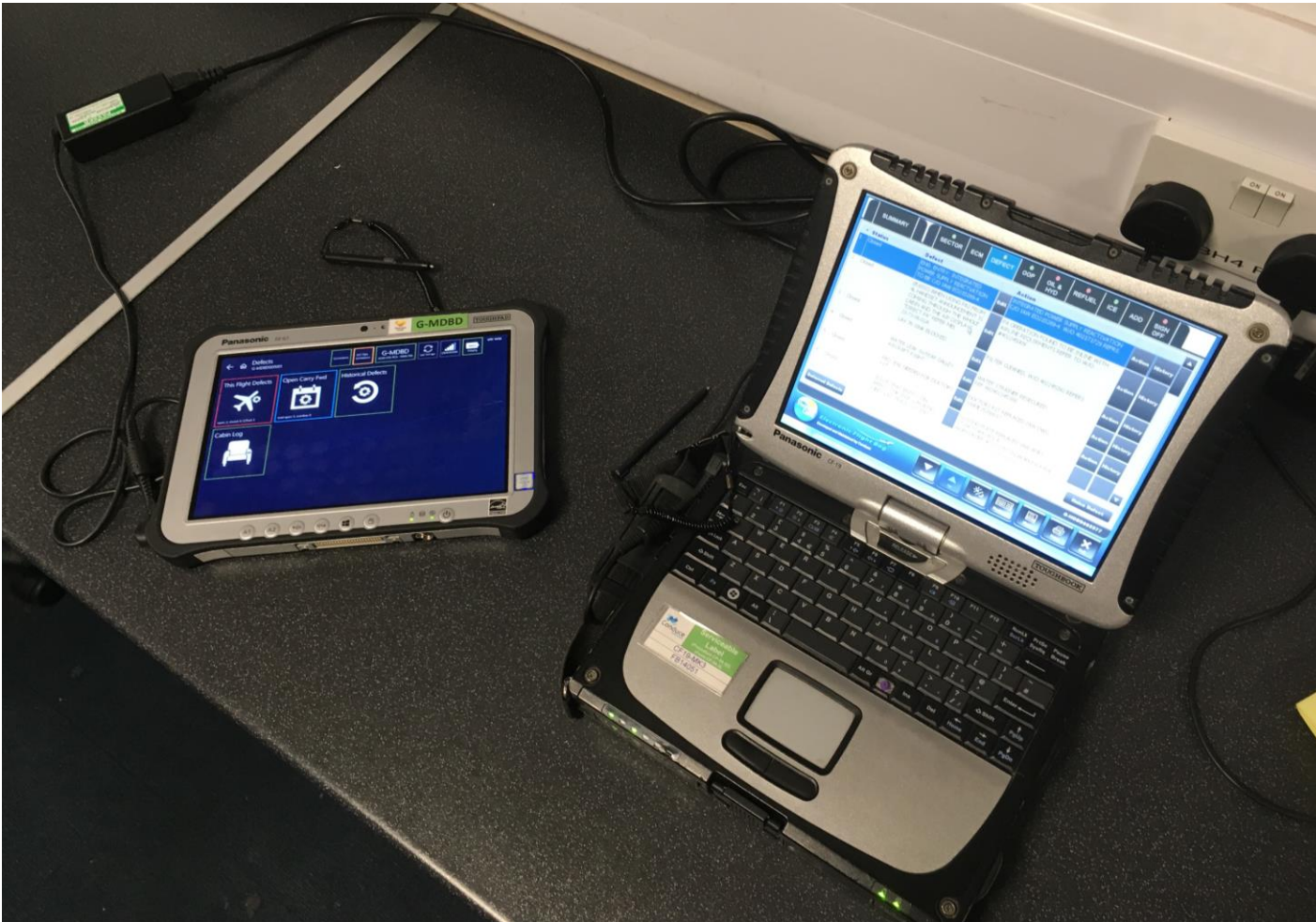
## THE TRIAL AIRCRAFT ARRIVES

Timing is key and the schedule is always subject to change



## DURING THE CUTOVER

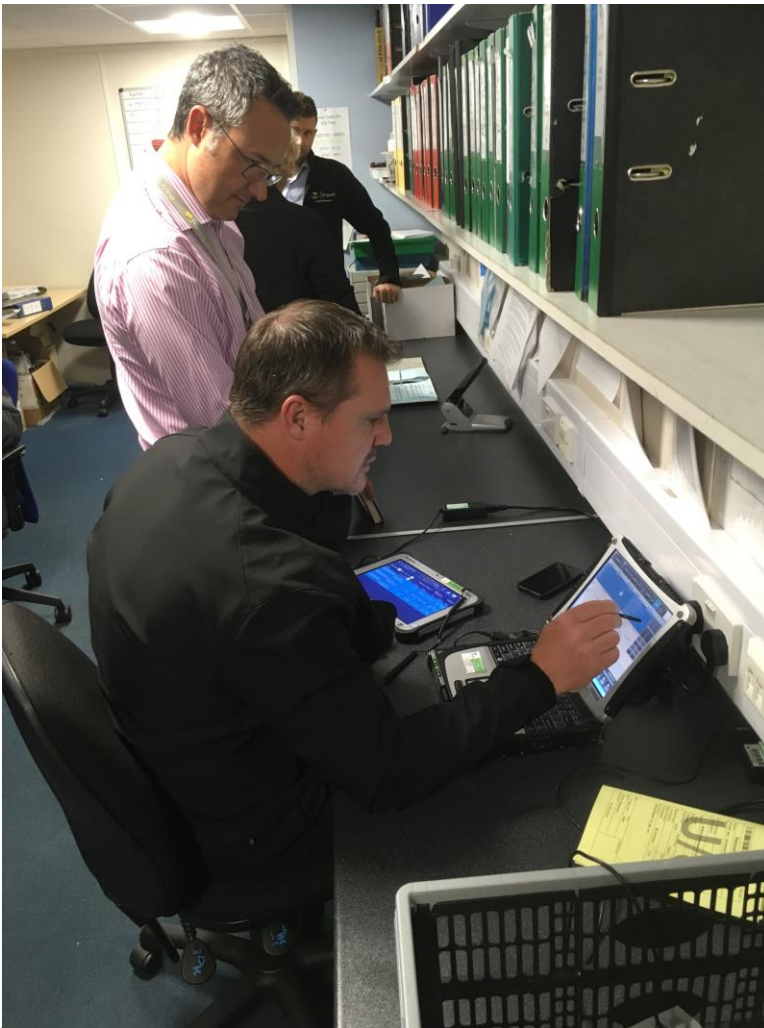
All deferred defects reviewed, reconciled and transferred to the new techlog





## DURING THE CUTOVER

An A-check was being carried out and new defects were raised on the device. Allocated spares for deferred defects transferred to the new work orders.



# CUTOVER **COMPLETE**

Live and ready for departure





**EVERYTHING READY**



Flight acceptance from the crew



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## FIRST FLIGHT COMPLETE



Successfully transmitted from JFK after a long day

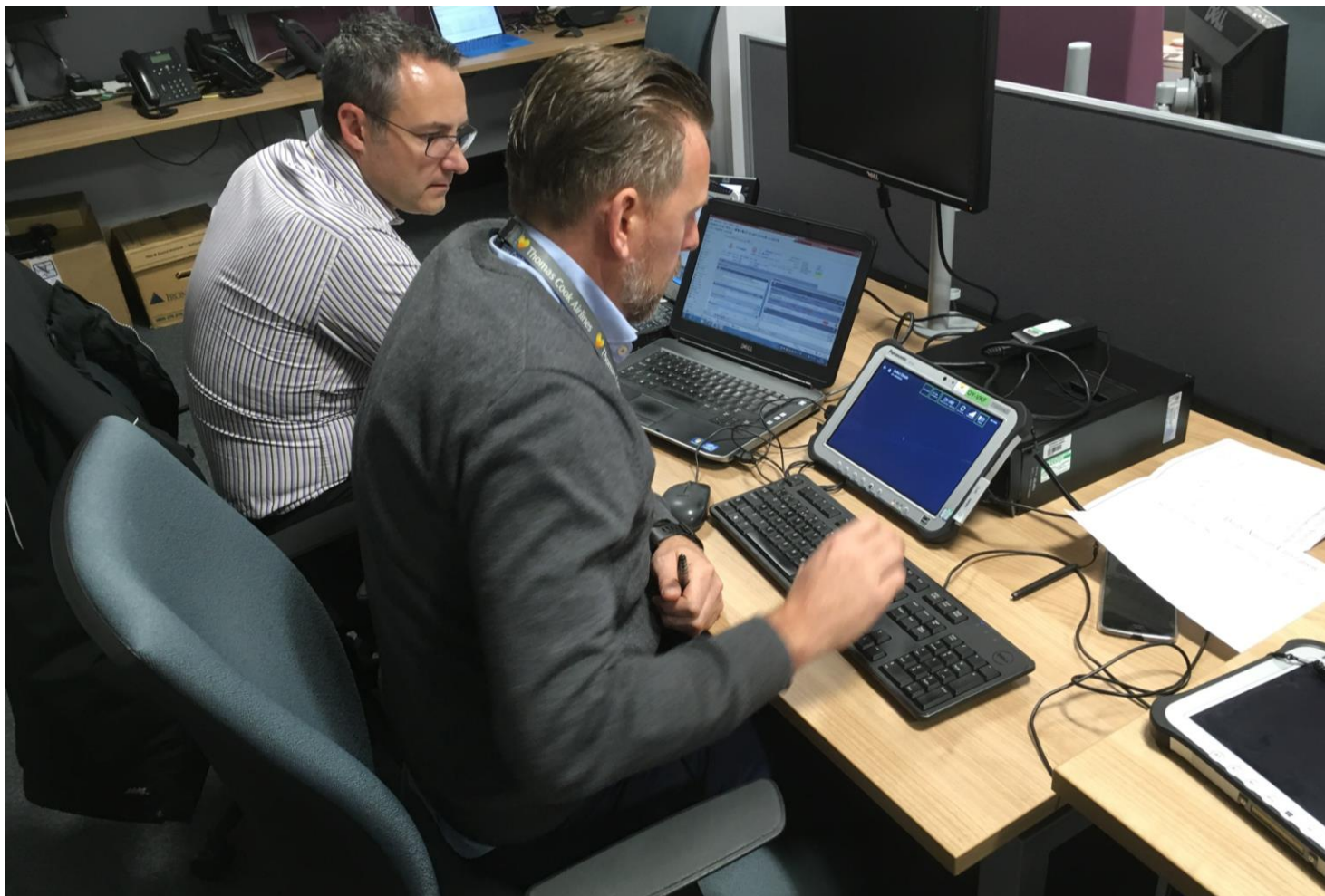


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## THE ROLLOUT **CONTINUES**

The sixth aircraft goes live last week



All flights, defects and defect actions are ingest into AMOS almost instantly

AMOS Applications History Favorites Help Program / Barcode / APN

Search Filter: General A/C Type

Events

Type-Filter: XOR

W/O related filters: OR

Event-Filter: 4500

Create Work-Documents: Issue W/O Pickslip Wizard

Event-Type: Workorders not linked to Maint. Events  
Based on last readout from Wednesday 4 October 2017 06:31; H (Flight Hours): 91221:09; C (Flight Cycles): 13'619  
Only events that are containing '4500' (Description included)

| Type | Event/Description                             | Part   | A/C | To go | Expected    | Planned | P | EstMH | EstGT | W/O-Flags |
|------|---|--------|-----|-------|-------------|---------|---|-------|-------|-----------|
| ✓    | 450000180/P341347 /FE DEFECT: IFE DEFECT A... | G-MLJL | D   | 105   | 18.Jan.2018 |         | 2 |       |       | US DD     |
| ✓    | 450000185/P341101 /PLACARD CARGO DOOR F...    | G-MLJL | D   | 105   | 18.Jan.2018 |         | 2 | 1:00  | 1:00  | US DD     |
| ✓    | 450000277/DECAL: RESIDUE OF STICKY DECAL ...  | G-MLJL | D   | 111   | 24.Jan.2018 |         | 2 |       |       | US DD     |
| ✓    | 450000459/ENGINE 2: ENGINE2 CNA AT 06:00 C... | G-MLJL | D   | 118   | 31.Jan.2018 |         | 2 |       |       | US DD     |

AMOS Applications History Favorites Help Program / Barcode / APN

Workorder (APN:1418)

Workorder Number: 450'000'185 Load New System W/O Modify

Standard: Copy Preview Print Update Revision

Edit Functions: Edit Header Edit Type Close Reopen

Related Actions: Create Draft Create Sched. W/O Issue Pickslip Label Booking Tech. Assist. Counter Update Corp. to Rem. Time Bookings Structural Ad Hoc J/C Related Programs History

No. 450000185 External No. Type MAINT Due Date 18.Jan.2018 Due TAH Due TAC

A/C Reg. G-MLJL FlightLog No. 8099 / 2561032 Station MAH A/C Type A332 Station from MAH Station to MAH Date 29.Sep.2017 Time 14:38 Sign T1032344

ATA-Chapter 11-21 Type/Origin Position

Est. MHR 01:00 Used MHR 00:00 Percentage 0 % Outgoing Rotables 0 Open Orders 0

+++ Est. Ground Time: 01:00 +++ Prior: 2 ELB+++

Production View

Work Step added by T1032344

PLACARD CARGO DOOR FWD IN POOR CONDITION: DECAL ADJACENT TO FWD CARGO DOOR IN POOR CONDITION. "CARGO DOOR OPERATION"

Description Sign T1032344

Action performed by T1032344 on 20.Sep.2017 14:41

NIL SPARES AVAILABLE DURING DOWN TIME. STILL LEGIBLE

DECAL PART NO. 0231-112-330-071

Performed Sign T1032344

References/Links

| Type | Link                   | Remarks  | Details |
|------|------------------------|----------|---------|
| TL   | "G-MLJL000001-012-001" | Type: TL |         |

Transfer

ACTIVE TRANSFER

| Transfer Baseline | Time  | Due Date    | Prio |
|-------------------|-------|-------------|------|
| 20.Sep.2017       | 14:38 | 18.Jan.2018 | 2    |

Station MAH Days 120 Reason ASP Transfer Sign T1032344

Planning View

Work Step added by T1032344

Resource Request

Total Hours 01:00

Requirement: Total Hours 01:00 Quantity 1.0 Duration 01:00 Time Offset 00:00

Staff (Default) Skill = "CT-1"

Part Requests

| Part No.         | Description                    | IPC Ref. | Qty | Info                                 |
|------------------|--------------------------------|----------|-----|--------------------------------------|
| 0231-112-330-071 | PLACARD "CARGO DOOR OPERATION" |          | 1   | Confirmed 0.00 Stock 2.00 Forecast A |

References/Links

| Type  | Link   | Remarks  | Details |
|-------|--|----------|---------|
| ME    | Maintenance Event "2A"                                     |          |         |
| MET   | Maintenance Event Taskcard "110000-03-TCX/E (01) / ITEM 1" |          |         |
| TCREV | Task Revision "110000-03-TCX/E (01) / ITEM 1"              |          |         |
| TL    | "G-MLJL000001-012"   | Type: TL |         |
| TL    | "G-MLJL000001-012-001"                                     | TYPE: TL |         |
| WO    | Workorder "402358845"                                      |          |         |
| WP    | Workpackage "G-MLJL/H-17-5"                                |          |         |

Additional 'Pickslip' Requests (Info only)

# NEXT STEPS



Phase Two feature testing & rollout



Condor Fleet implementation



Confirm Danish DTA approval



Commence Scandinavian flight trials

Roll out to rest of the UK fleet



Confirm CAA approval



Roll out to last remaining A330



Cutover to merged AMOS instance





**GET YOUR NAA ON BOARD**



**GET CAMO OVERSIGHT**



**DATA QUALITY IS IMPERATIVE**



**TRAINING IS KEY**



**KEEP EVERYONE INFORMED**



# THANK YOU



**Condor**