

The Benefits of Mobile Computing for Airfield FOD Management

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What is the objective of your FOD Programme?



Aviation is inherently risky



Our job is to mitigate risks to a 'reasonable' level.

What is 'reasonable'?



Operations management is about managing risk



There is no such thing as certainty, but are we applying two thousand year old lessons?



Risk is not a new concept- the Ancient Greeks knew about it

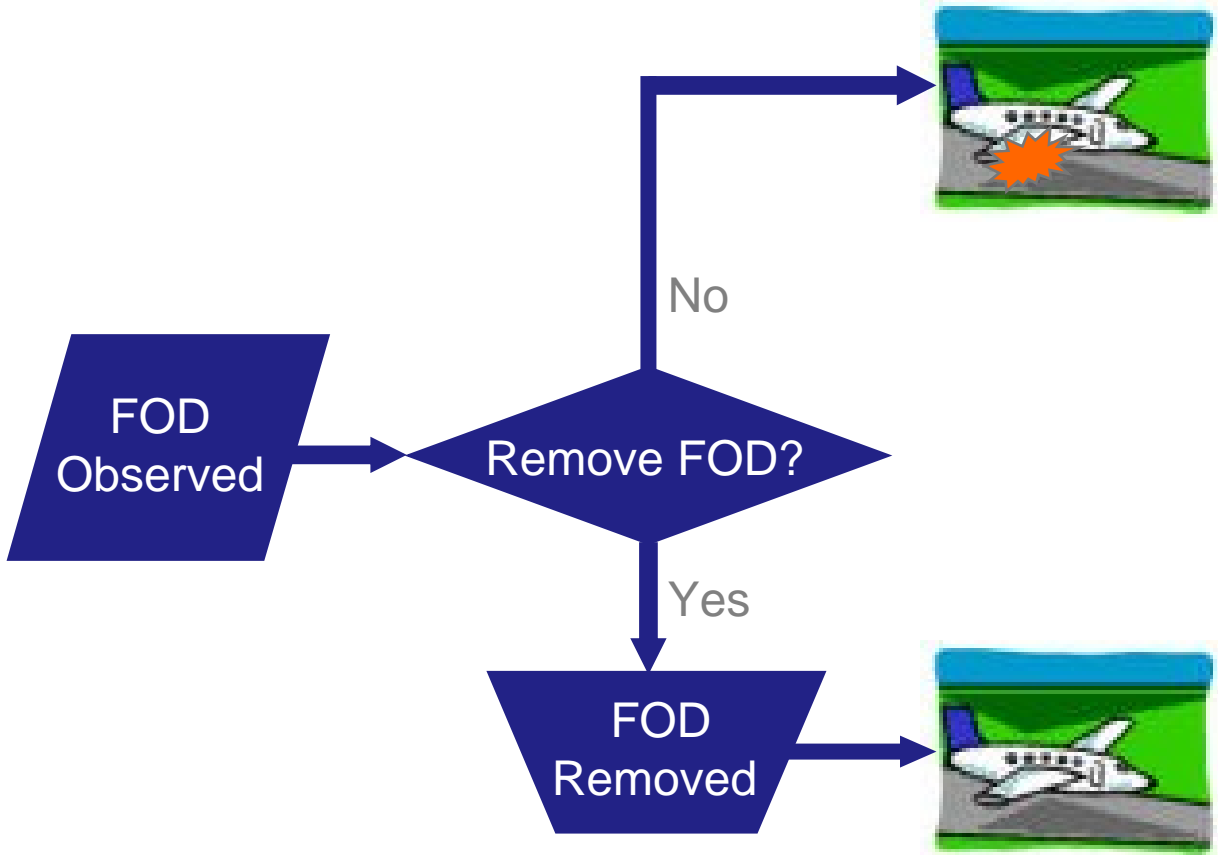


The Ancient Greeks used Astragali (knuckle bones) to gamble. They were the precursor of dice

...but this was just the start. It took centuries before this became useful



What is the difference between chance and running an airfield then?



...the difference is information and decisions

It was the 17th Century that brought this practicality with Probability Theory

CLICK AIR In medieval and ancient times decisions were made to advance interests and carry on trade...

CLICK AIR ...but with no real understanding of risk or the nature of decision-making

CLICK AIR For the first time, people could forecast the future and make decisions with the help of numbers- it was RATIONAL

Pascal and Fermat laid the groundwork for modern Hazard Analysis





So how can we improve the decision making process?

“The difference between the observed value of a sample and its true value will diminish as the number of observations in the sample increases”

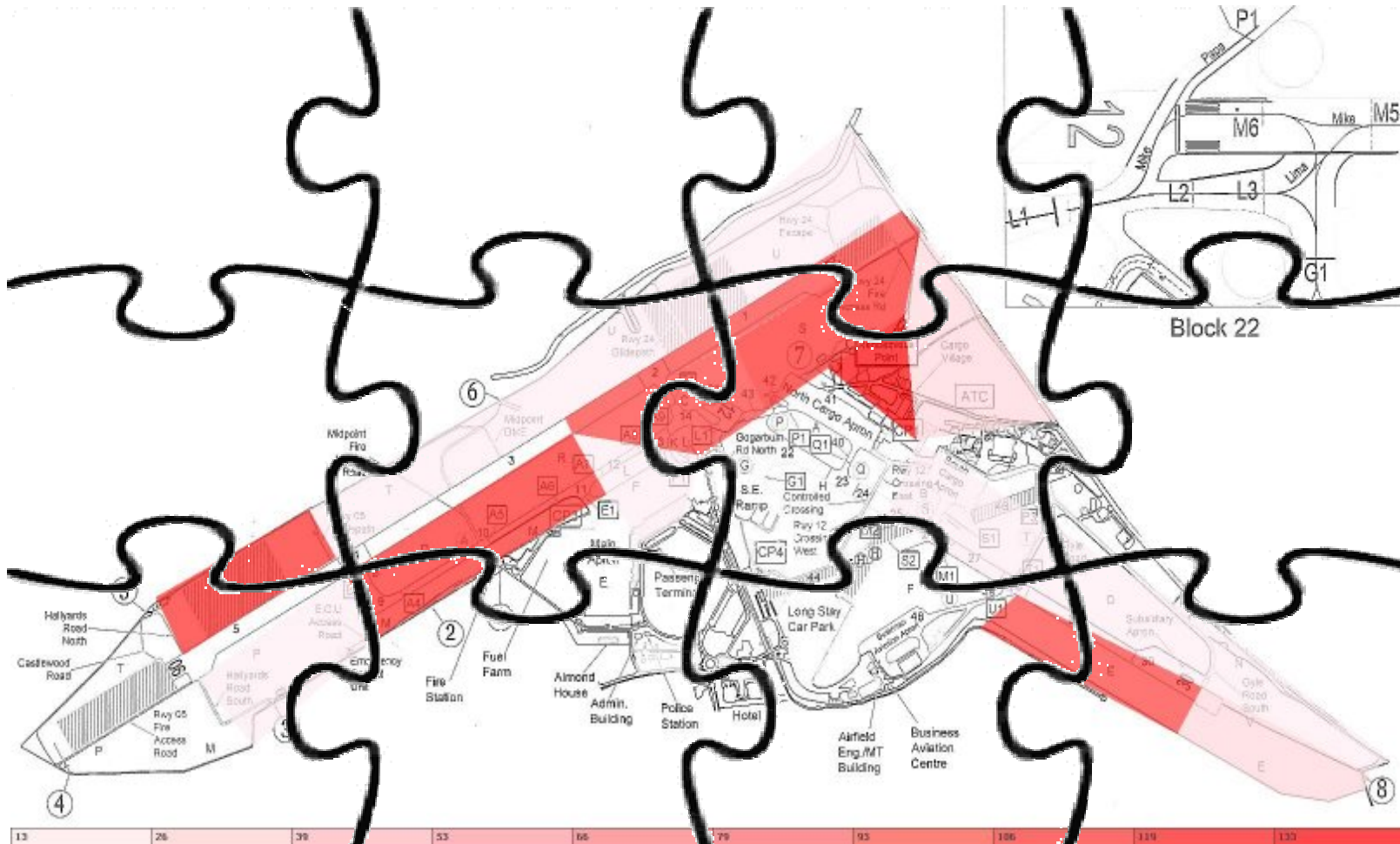
Law of Large Numbers by Bernoulli



We need to capture more observations from the airfield and what we did about them



...and how do we piece this data together?



Rethink what is possible in order to build this picture more regularly



...Or you may miss something





An added complexity



Perceptions of safety are often given as much credence as the facts.



At the end of the day

If you can't measure it, you can't manage it
~Peter Drucker





What happens if you manage with poor information?

The wrong decisions

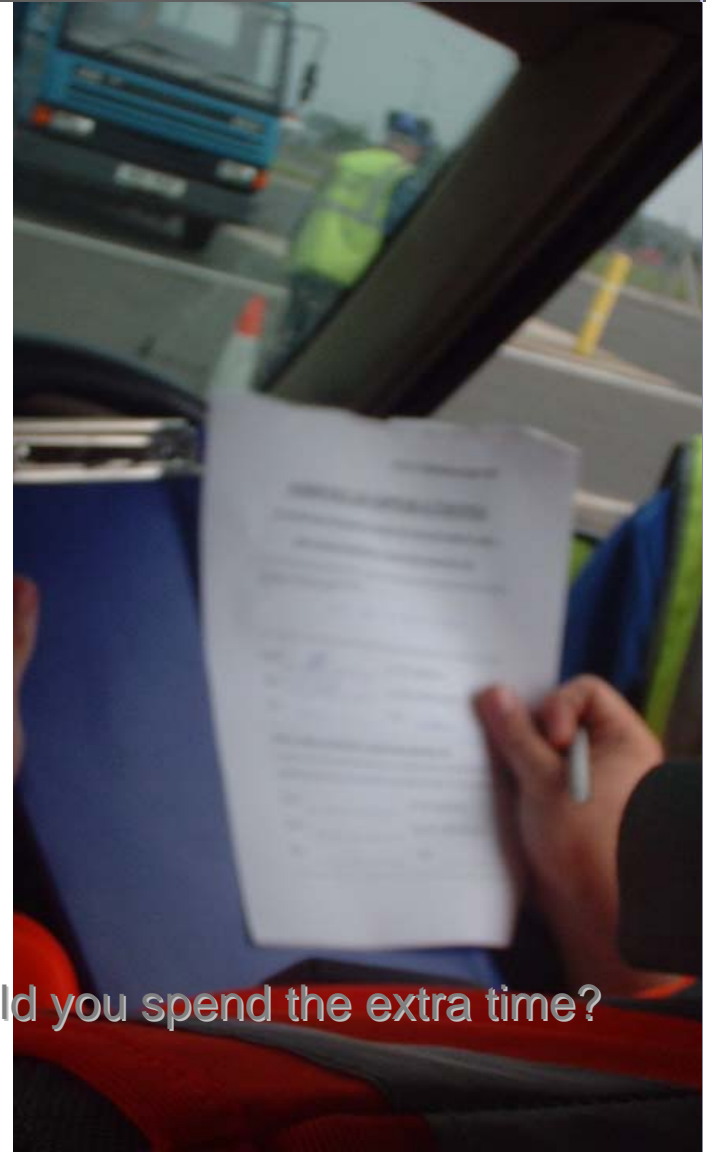
...Such as misplaced safety measures



Are we really applying all the lessons of Pascal, Fermat and Bernoulli?

- CLICK AIR** Safety related recording is inefficient and inconsistent
- CLICK AIR** Multiple data entry, handwriting and soiled/stained paper introduces inaccuracy
- CLICK AIR** Effort goes into data collation rather than the value add- analysis and decisions

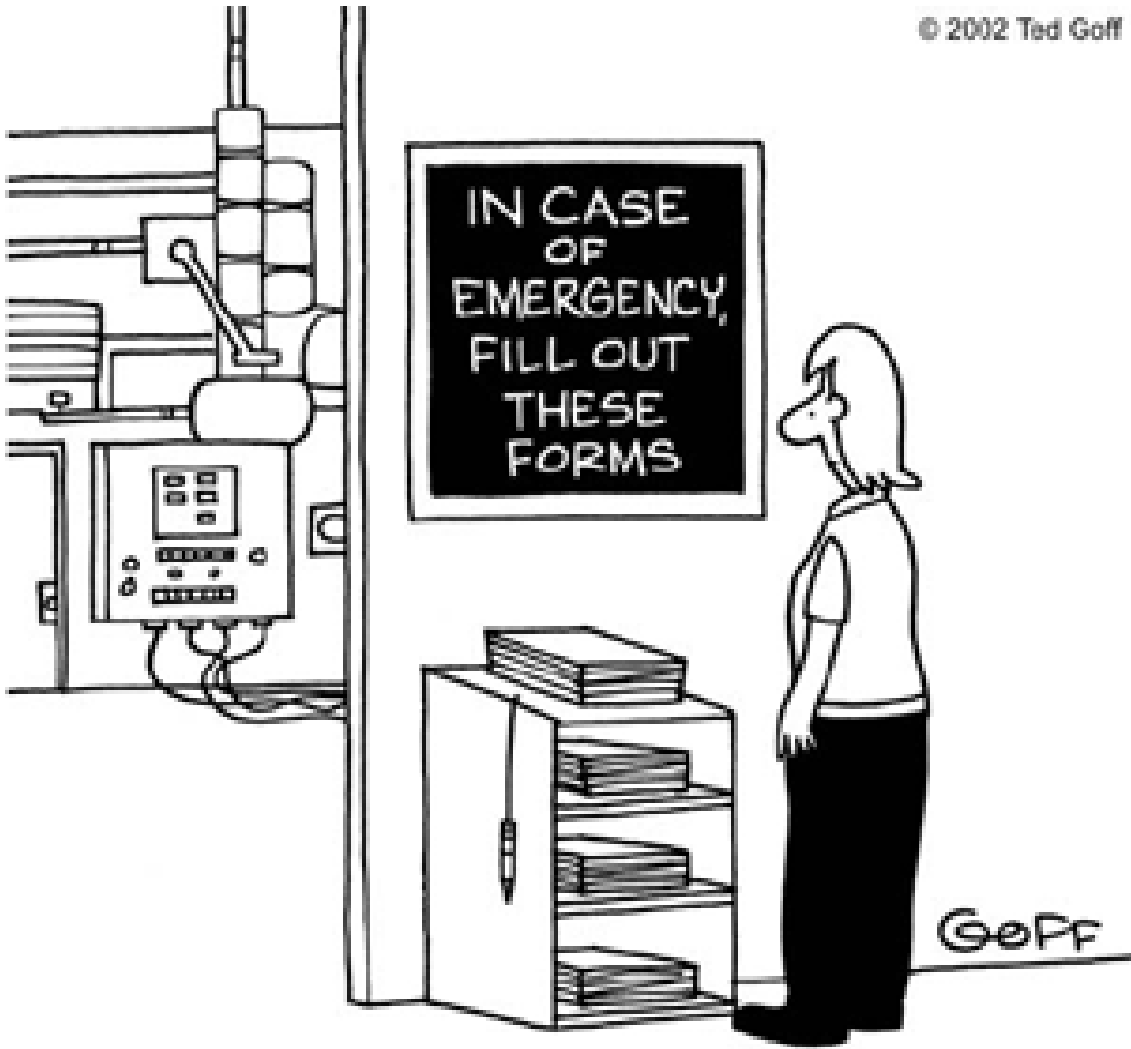
If those reports did not need effort to collate, how would you spend the extra time?





The most valuable prevention information often arises from emergencies

© 2002 Ted Goff



...but it has a tendency to be forgotten!



Capture data on airfield hazards and control activities

- CLICK AIR** Mobile: on the airfield
- CLICK AIR** Quick: Question by Question
- CLICK AIR** Simple: Guided response
- CLICK AIR** Automated: Wireless or cradle transfer





Compile and analyse reports

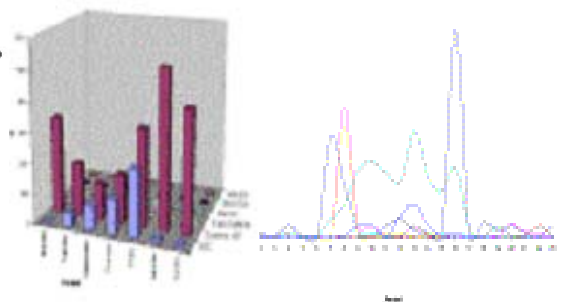
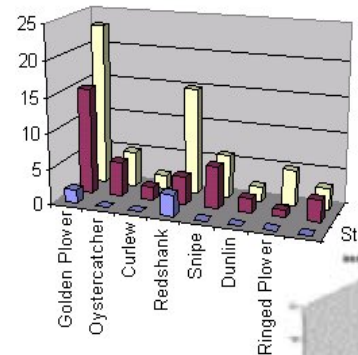
CLICK AIR Automated documentation generation

CLICK AIR Scheduled reporting

CLICK AIR Team notifications

CLICK AIR Challenge, challenge, challenge

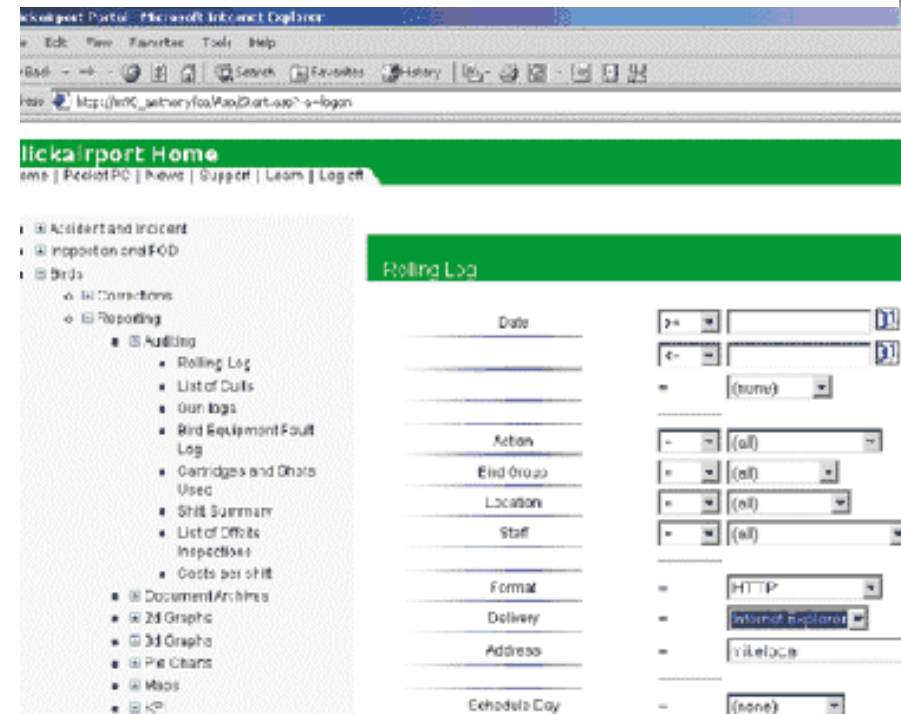
CLICK AIR Concentrate on finding risk, and managing it



Improve safeguarding

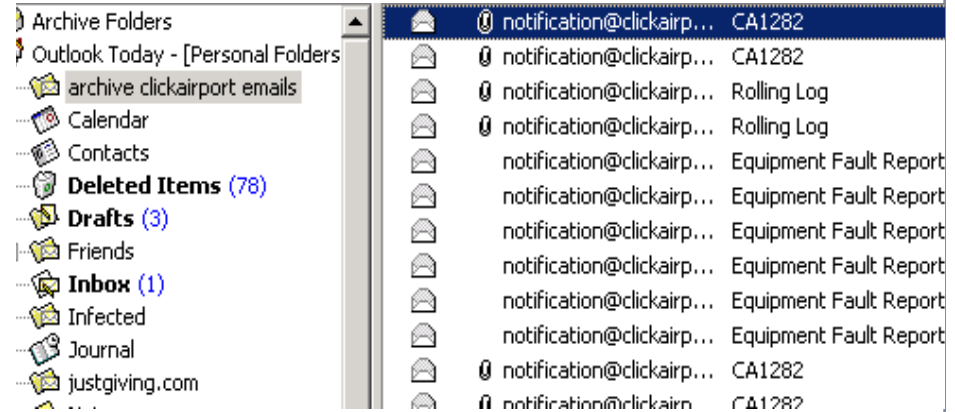
- CLICK AIR** Make decisions
- CLICK AIR** Document decisions
- CLICK AIR** Deploy decisions- communicate changes
- CLICK AIR** Dynamically control inspections
- CLICK AIR** Manage tasks
- CLICK AIR** Data visibility across the organisation





Monitor Compliance and Process Performance

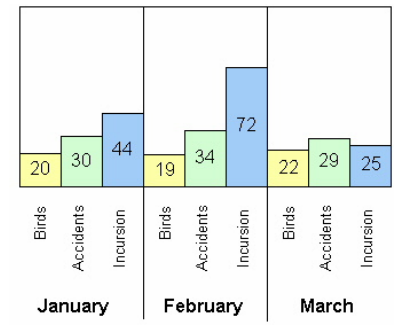
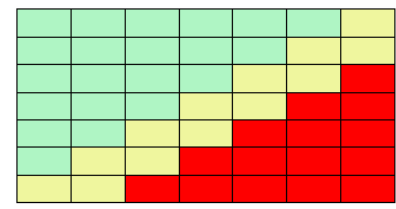
- CLICK AIR** Management by exception
- CLICK AIR** Rules engine constantly checking data
- CLICK AIR** Rules written in the context of the aerodrome manual
- CLICK AIR** Track historical trends and prepare for seasonal patterns
- CLICK AIR** Link airfield risk to financial, commercial and legal risk through a risk register
- CLICK AIR** Escalation of key performance indicators



Encountered to Movement Ratio

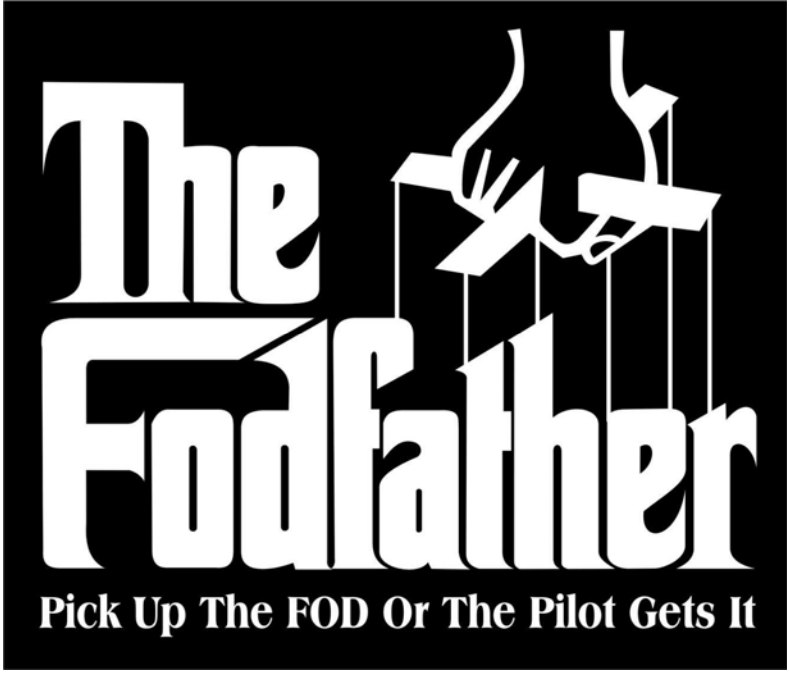
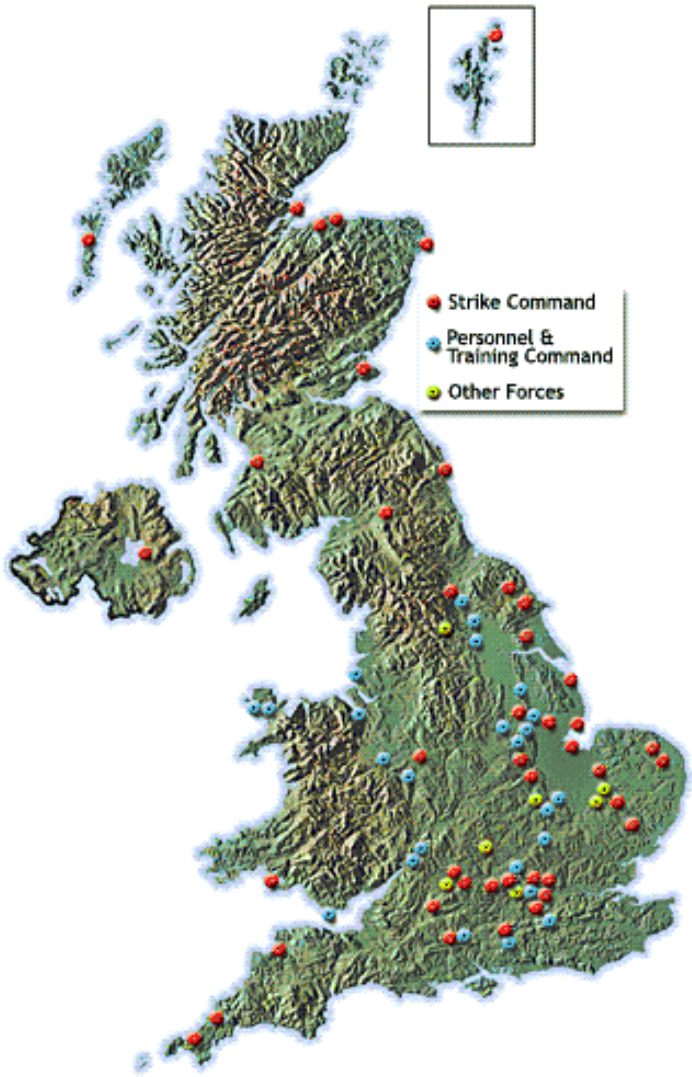
**0.0395 FOD : 1
MOVEMENT**

Threshold





The Royal Air Force Case Study



Clickairport

- ▼ Birds
 - ☀ New BirdStrike
 - ▶ Reports
 - ▶ Command Compliance
 - ▶ Compliance
 - ▶ Database
- ▼ FOD
 - ☀ New F7014A
 - ☀ New F7014B
 - ▶ Reports
 - ▶ Command Compliance
 - ▶ Compliance
 - ▶ Database
 - ▶ System Maintenance
 - ▶ Miscellaneous Actions
 - ▶ News Editor
 - ☀ Support
 - ☀ Log Out

News Forms Airbase **Strike Command** FOD ATC Birds Support

Open Cases All Modules

Select	Case Id	Airbase	Description	Case Type	Created when
☀	41	SC	RAF ODIHAM reported damage to a UNKNOWN serial no [REDACTED] from RAF Odiham with a T55-L712F serial [REDACTED] discovered Aircraft Scheduled Maintenance , Engine Rejected from Aircraft action was taken on [REDACTED]	FOD 7014 Engine Damage	22JUL2004 10:52:00
☀	40	SC	RAF MARHAM reported damage to a TORNADO GR4A serial no [REDACTED] from RAF Marham with a RB199 Mk 103 serial [REDACTED] discovered Other Work on Aircraft , Engine Rejected from Aircraft action was taken on [REDACTED]	FOD 7014 Engine Damage	22JUL2004 09:56:00
☀	39	SC	RAF WITTERING reported damage to a HARRIER GR7 serial no [REDACTED] from Unknown with a Pegasus Mk 105 serial [REDACTED] discovered After Flight , Rectified in Situ action was taken on [REDACTED]	FOD 7014 Engine Damage	22JUL2004 09:29:00
☀	38	SC	RAF WITTERING reported damage to a HARRIER GR7 serial no [REDACTED] from RAF Wittering with a Pegasus Mk 105 serial [REDACTED] discovered Turn Around , Rectified in Situ action was taken on 27/06/2004 09:00:00	FOD 7014 Engine Damage	22JUL2004 09:18:00
☀	37	SC	RAF COTTESMORE reported damage to a HARRIER GR7 serial no [REDACTED] from RAF Cottesmore with a Pegasus Mk 105 serial [REDACTED] discovered Aircraft Scheduled Maintenance , Engine Rejected from Aircraft action	FOD 7014 Engine Damage	22JUL2004 09:09:00
☀	36	SC	RAF COTTESMORE reported damage to a HARRIER GR7 serial no [REDACTED] from RAF Cottesmore with a Pegasus Mk 107 serial [REDACTED] discovered Pilot Debrief Post Aircraft Flight , Engine Rejected from Aircraft action	FOD 7014 Engine Damage	22JUL2004 08:58:00
☀	35	SC	RAF WITTERING reported damage to a HARRIER GR7 serial no [REDACTED] from RAF Wittering with a Pegasus Mk 105 serial [REDACTED] discovered Unknown , Rectified in Situ action was taken on [REDACTED]/2004 09:00:00	FOD 7014 Engine Damage	22JUL2004 08:49:00

Page 1 displayed, records 1 to 7

Refresh Search



Select row / action

Case



So, what are the benefits of a mobile computing system?

Would there have been more incidents had systems NOT been implemented?

- CLICK AIR** 2x data rising to 4x during peak hours
- CLICK AIR** Capturing non-events critical for due diligence
- CLICK AIR** Client rated 100% of system data useable compared with 45% before
- CLICK AIR** Team effectiveness increased by 20%
- CLICK AIR** 5x the number of causal factors were investigated over the previous year

Improving reporting is a bold step, but ignorance is not an option



Thank you

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