

EASYJET – THE EVOLUTION OF FRM



SAFETY, SECURITY & COMPLIANCE

easyJet

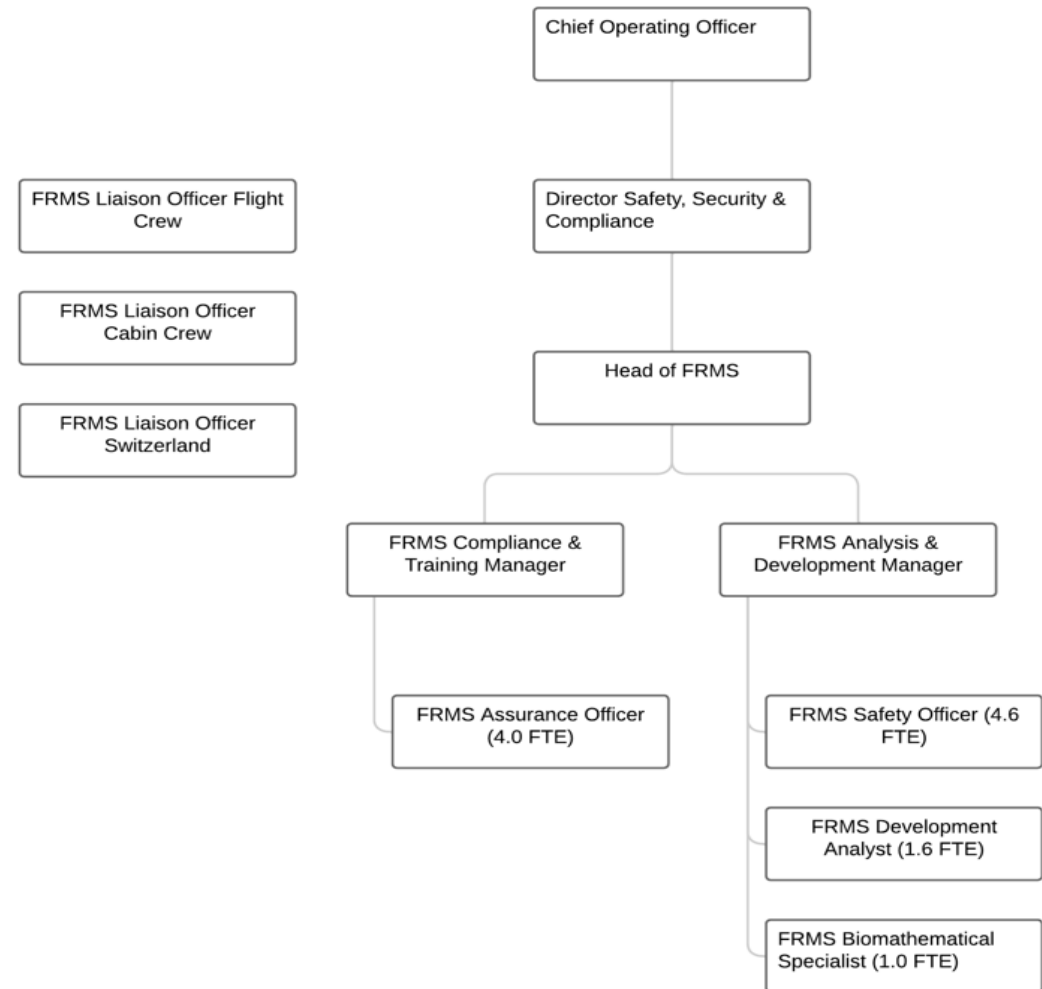
EASYJET

- > Aircraft - 337
- > Bases - 31
- > Crew - >13,000 (4,000 flight deck; 9,000 cabin crew)
- > 3 AOCs; 3 formal FRM approvals - all managed within a centralised FRMS
- > The first formal FRM approval was received from the CAA in 2006 following a three year project phase



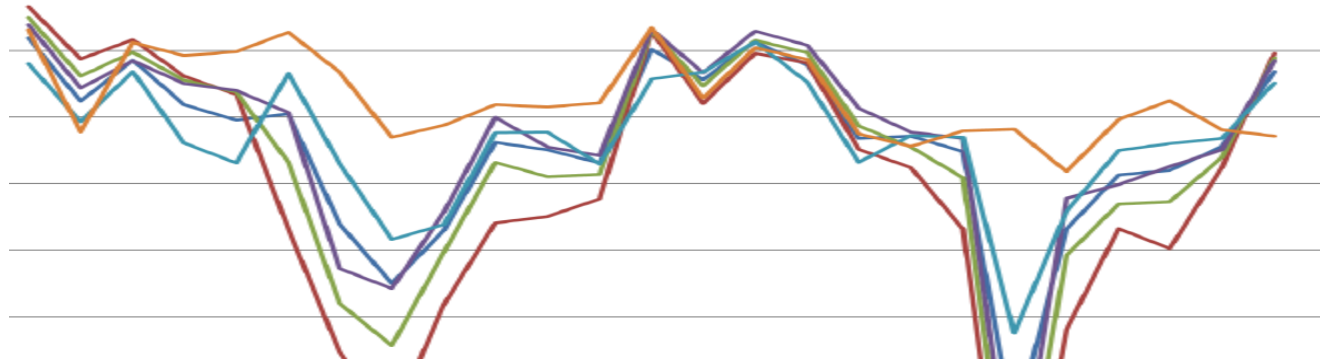
EASYJET FRMS STRUCTURE

- > Intended to promote independence and credibility
- > FTL Compliance and Quality Assurance; FRM Analysis; FRM Training; FRM Research and Development
- > Reflective of forensic principles – balance of probability based on the weight of evidence



DATA AND OPERATIONAL EXPERIENCE

- > The McNamara or quantitative fallacy – “facts are important in proportion to their susceptibility to quantification.”
- > “The scope of foresight is reduced when numerical convenience is decisive in selecting and processing data. As a consequence, some futures will not be foreseen that otherwise might have been.”
- > Challenger; January 1986 – Morton Thiokol’s argument to postpone launch was “qualitative, intuitively correct” but they failed NASA’s test to quantify their concerns.
- > Colgan 3407; Feb 2009: Chairman Hersman: “The report diminishes the significance of this finding when it states that “[sic] the extent of their impairment and the degree to which [fatigue] contributed to the performance deficiencies that occurred during the flight cannot be conclusively determined.” More simply, the report concludes that while fatigue likely impaired the pilots’ performance, because we could not assign fatigue a percent or number, we discount it as a contributing factor of the accident.”



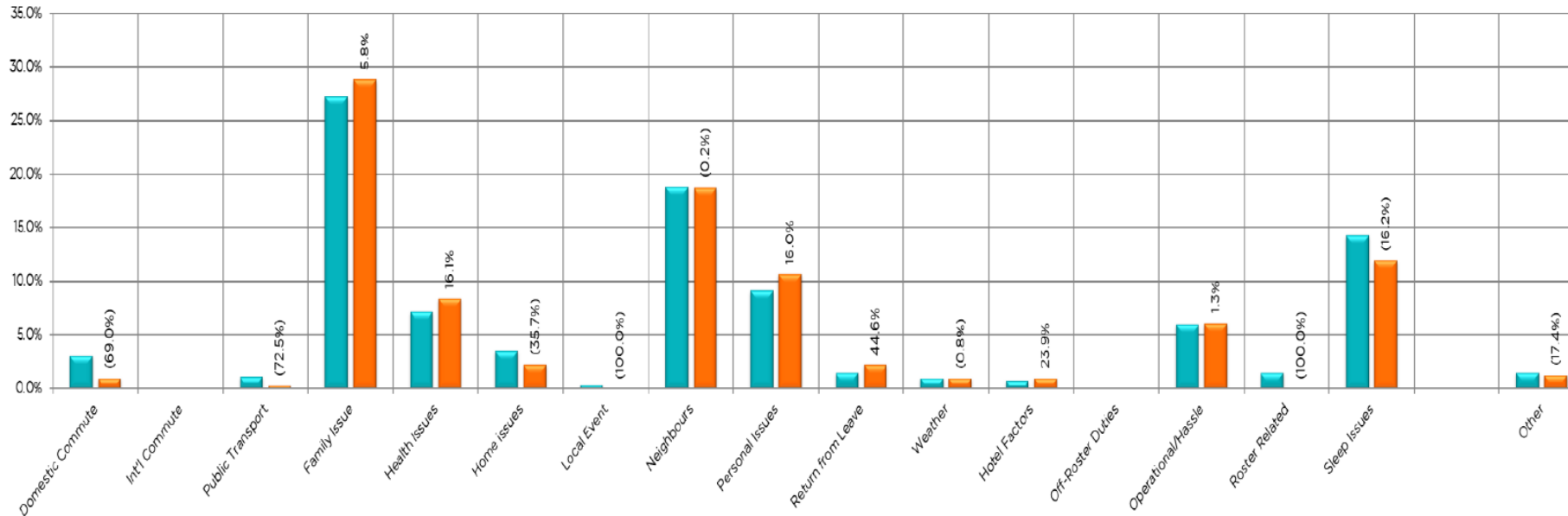
QUANTITATIVE V QUALITATIVE

- > FTL Quantitative - FRM demands interpretation of data and qualitative moderation based on operational experience.
- > Understanding that relationship is key to achieving a performance based outcome that guards against “success based optimism.”
- > Assumptions stifle thought; questions are the antidote to assumptions.
- > Data delivers greater effectiveness with balanced and targeted granularity.
 - SPIs/KPIs should reflect both granularity and purpose.
 - Trend v Absolute.
- > Reporting is the key element.
- > “We will implement all policies and procedures with understanding and sensitivity recognising there is a person behind every fatigue report.



REPORTING

> The reporting of non-roster related fatigue began in 2013.



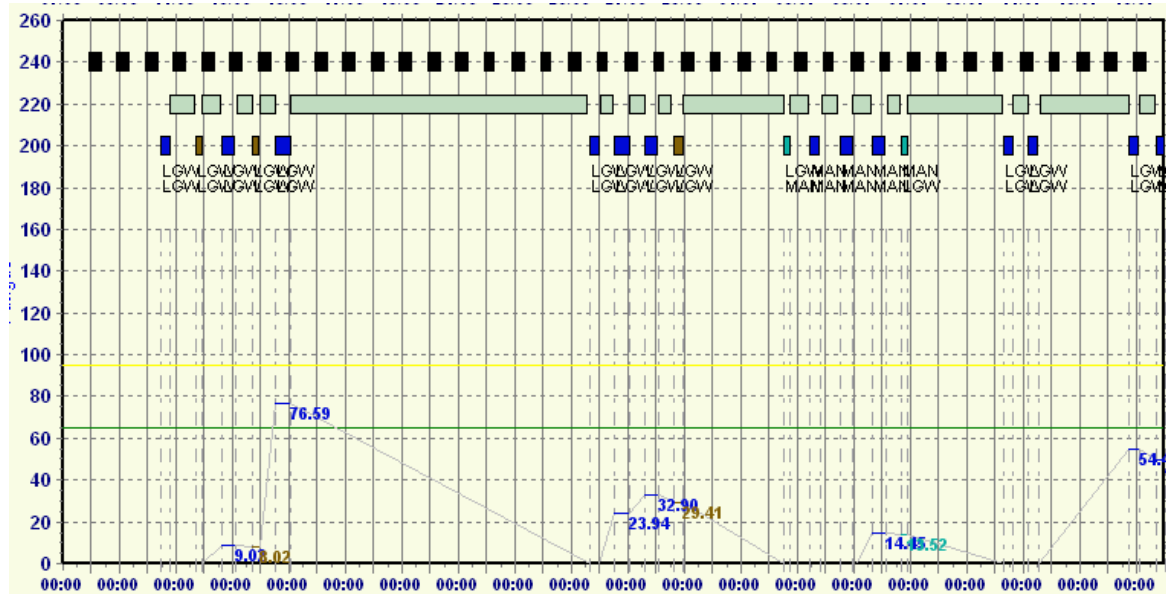
> 25%-30% of all reporting.

> Refined fatigue reporting process



FRAM

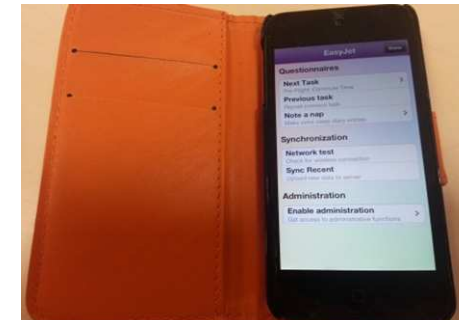
- > Utilises easyJet Fatigue Guidelines based on APEX research.
- > Development based on nearly 200,000 Fatigue Report Forms.



- > Future plans to advance model by assessing commute based on real time API data from mapping tools.
- > Dynamic and adaptive model based on individual characteristics and schedule performance data.



- > Alertness and Performance Examination
- > A biennial analysis of roster related crew performance which utilises a diverse range of objective and subjective methodologies including physiological and psychomotor assessments.
- > APEX entails proactively identifying and studying fatigue precursors and trends across all easyJet demographic profiles thereby complementing the FRF process.
- > The most recent studies incorporated melatonin testing and light exposure control to assess their impact on circadian shift.
- > Correlations are performed against FDM data.
- > Utilises advanced data mining techniques.
- > Individuality.



VASA Task Load Index

fart and Staveland's NASA Task Load Index (TLX) method assesses work load on five 7 point scales. Increments of high, medium and low estimates for each point result in 21 gradations on the scales.

Name	Task	Date
Mental Demand How mentally demanding was the task?		
Very Low Very High		
Physical Demand How physically demanding was the task?		
Very Low Very High		
Temporal Demand How hurried or rushed was the pace of the task?		
Very Low Very High		
Performance How successful were you in accomplishing what you were asked to do?		
Perfect Failure		
Effort How hard did you have to work to accomplish your level of performance?		
Very Low Very High		
Frustration How insecure, discouraged, irritated, stressed, and annoyed were you?		
Very Low Very High		



- > FRF Textual analysis
- > Chat functionality - Manual queries
- > Determine way to assess Fatigue Reporting with support from AI
- > Read narrative and assign contributory factors correlated against FRMS guidelines
- > Initial assessment made through 2000 FRFs. Accuracy around 96% in Proof of Concept
- > Further work ongoing to determine functional applicability



THE EASYJET FRM EXPERIENCE

- > An evolution away from reacting to generic fatigue and towards understanding and promoting individual performance.
- > A refining progression away from generic prescriptive rules and reactive processes, and towards predictive, proactive, and preventative initiatives.
- > Entails a more granular approach which takes into account individual differences and susceptibility to all aspects and manifestations of fatigue and, as such, it provides an enhanced degree of career sustainability and retention.
- > Acknowledges a more strategic and holistic emphasis utilising state of the art techniques and methodologies.
- > Performance and Alertness Management.
- > Facilitated by IMS principles.



THE FRM EVOLUTION

“It is paradoxical, yet true, to say that the more we know, the more ignorant we become in the absolute sense, for it is only through enlightenment that we become conscious of our limitations.”

Nikola Tesla

