

Safety Security and  
Compliance

FRMS

# FRM as a Safety Enabler

europe by  
**easyJet**

# About easyJet...

**1995**

**1 base**

**3 airports**

**2 routes**

**2 leased aircraft**

**Virtual airline!**



**2018**

**29 bases**

**156 airports**

**33 countries**

**971 routes**

**310 aircraft**

**85+ million pax**

**12000+ crew**

# Fatigue management in easyJet

- In 2003 easyJet identified increased operational risk arising from fatigue.
- There was a realisation that despite being compliant with CAP371 easyJet remained exposed to the risk of roster related fatigue.
- This initiated a fundamental review of rostering practices and philosophies which in turn led to the creation of an FRMS.



# 6 & 3 and 'Project Blue'

## Project Blue

- A basic human factors study correlating Flight Data Monitoring/Air Safety Report data against duty day on 6 & 3.
- XXX EEELLL XXX EEELLL XXX
- Driven by requirements of prescriptive legislation.



# 6 & 3 and 'Project Blue'

## Project Blue

- Results helped negotiate a prototype 5452 pattern that went beyond the limits of CAP 371.
- EEEEE XX LLLLL XXXX EEEEE XX LLLLL
- Fewer “wasted” duty days: “flexi-days” repackaged as days off.
- Lower risk of cumulative limits being a constraint.
- Increased productivity.



# Development of the easyJet FRMS: the first decade:

- Rulesets evolved: 5453 (November 2006) and non fixed pattern variation (March 2009).
- FRMS capability evolved: October 2005 programme for the use of predictive software.
- September 2006 availability of bespoke fatigue reporting.
- October 2006 rollout of crew computer based fatigue awareness training.
- December 2007 inclusion of FRMS into CAA approved FTL scheme.
- November 2008 drafting of comprehensive FRMS procedures manual.
- July 2009 coding of FRMS guidelines into optimised rostering systems.



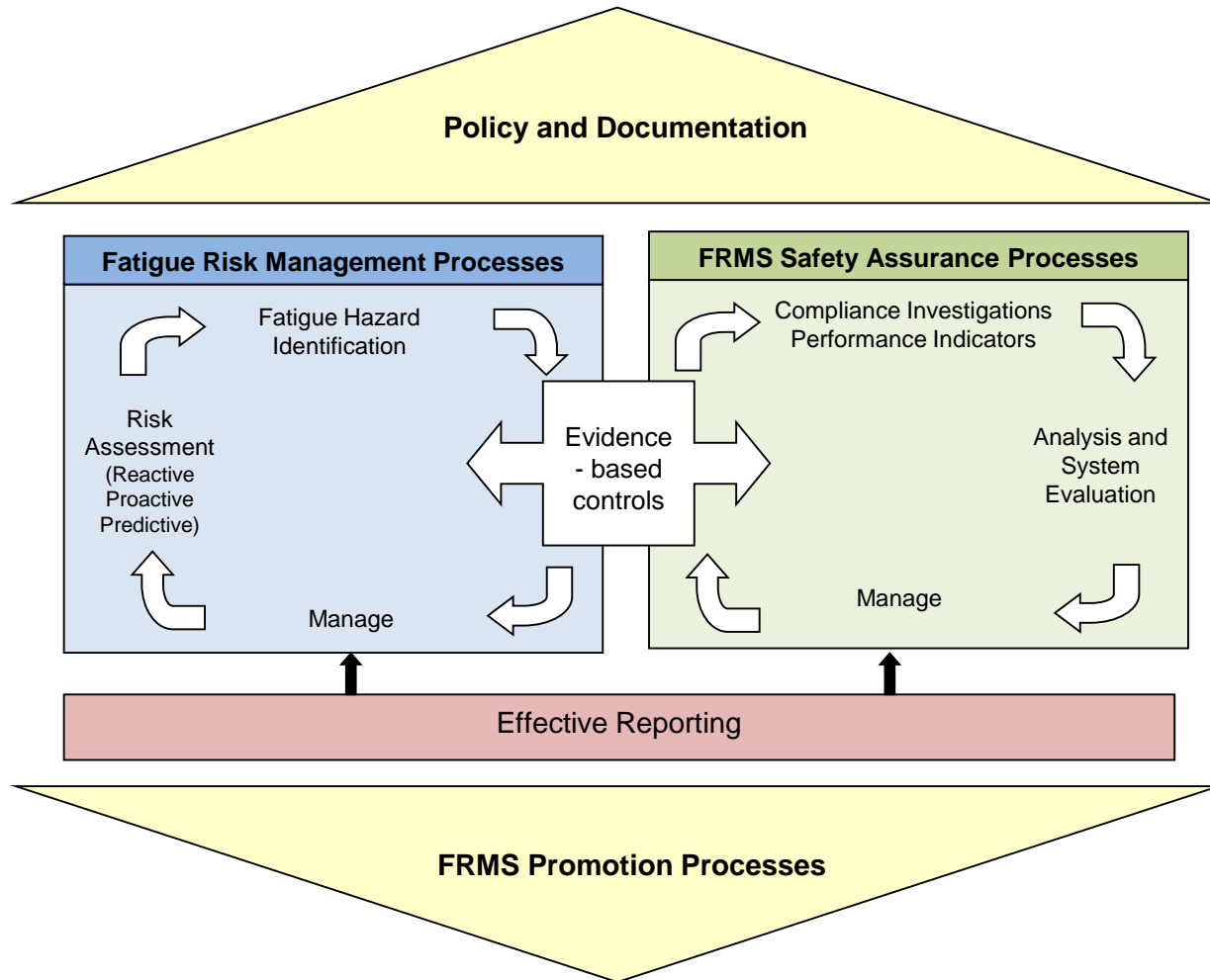
# Development of the easyJet FRMS: the second decade:

- 2010: Development of Human Factors Monitoring Programme (HFMP) methodology in partnership with NASA Ames.
- January 2011 completion of first formal regulator FRMS specific audit.
- 2012: Second generation fatigue training and predictive software update contract agreement.
- 2013: Expansion and rebranding of HFMP to Alertness and Performance Examination (APEX.)
- 2014: First APEX lite study.
- 2015: First EASA FTL FRMS approval.
- 2016 -7: Development of an EZY Fatigue Risk Assessment Model.





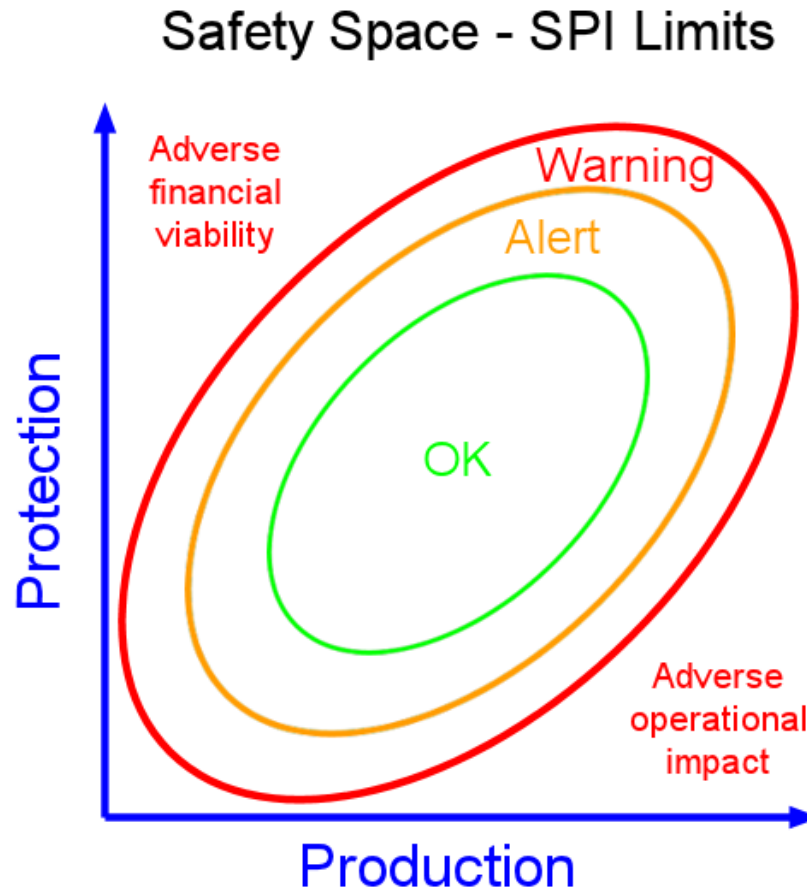
# Independence and Credibility



- ✈ Policy and documentation.
- ✈ FRM processes.
- ✈ FRMS safety assurance processes.
- ✈ Effective reporting.
- ✈ FRMS promotion processes.
- ✈ Meeting structure.
- ✈ Reflects SMS processes



# FRMS – Dynamic Risk based approach



# Benefits of FRMS

- Reduces operational risk by mitigating against fatigue related crew error.
- Promotes crew effectiveness, lifestyle sustainability and retention.
- Underpins improved actuarial rates.
- Operational flexibility including derogation from prescriptive FTL rules.
- A regulator approved FRMS allows for greater levels of corporate self governance.
- Promotes informed decision making by the business.
- Qualitative v Quantitative.



# Smart Safety

“We cannot solve our problems with the same thinking we used when we created them.”

Albert Einstein

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# Thank You For Your Attention

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**easyJet**