NATS

Performance through Innovation

Fatigue Risk Management in NATS

Neil May
Head of Human Factors and Chair of the NATS Fatigue Risk Management Steering Group
FRMS Forum,
7 – 8 April, 2016

En-route ATC

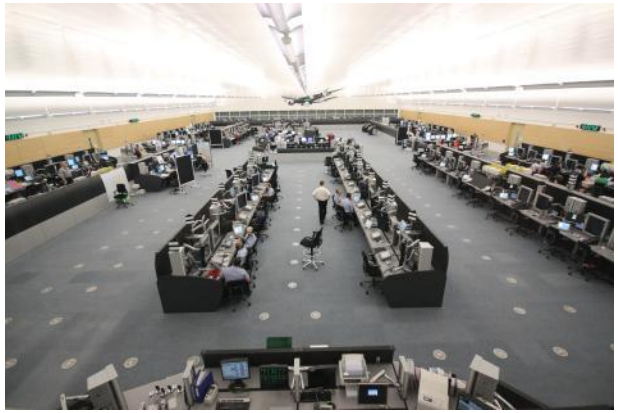
Prestwick

Handles on average 2,500 flights/day

Scottish Oceanic Control Centre

Scottish Area Control Centre

Manchester Area Control Centre



Swanwick

Handles on average 5,500 flights/day

London Area Control Centre

London Terminal Control Centre

London Military Air Traffic Control

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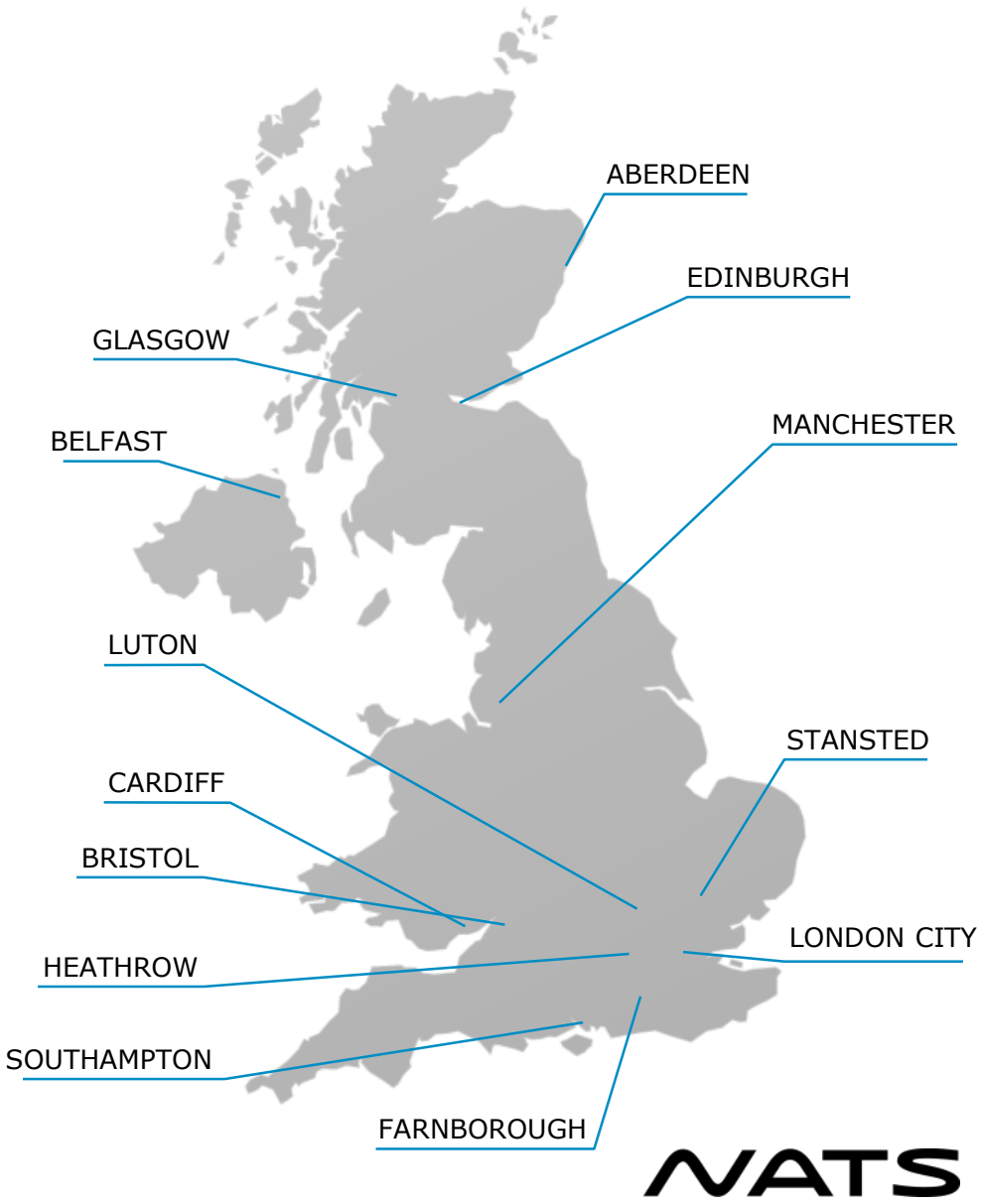
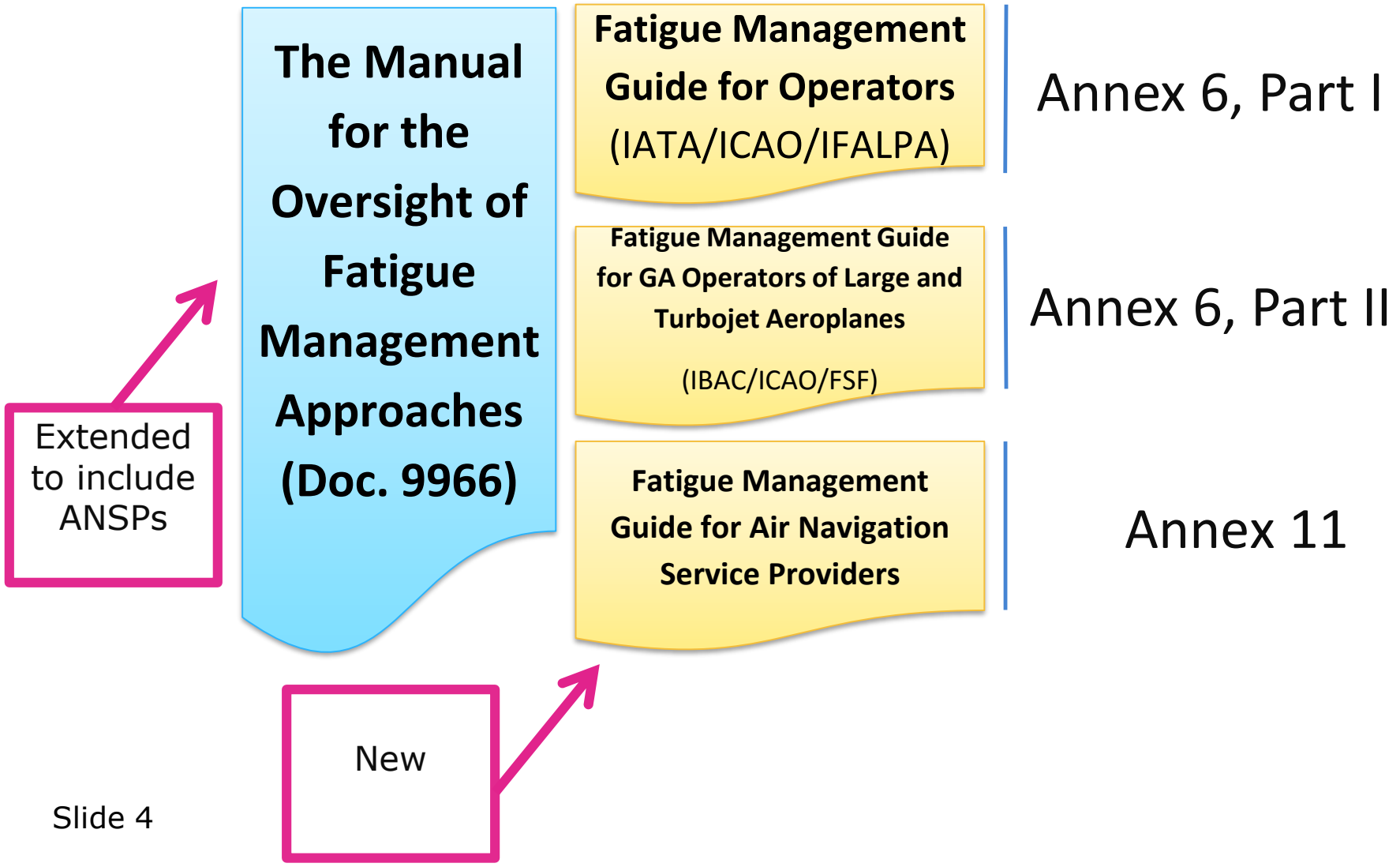
Airport ATC

- 13 major UK airports
- Gibraltar
- 9 airports in Spain



A Suite of Fatigue Management Manuals



Air Navigation Service Provider Responsibilities

- Implement work schedules that enable Air Traffic Controllers to perform their duties safely
- Provide a working environment that has appropriate emphasis on controls and/or mitigations for fatigue-related risk
- Provide adequate opportunities for rest and sleep
- Provide fatigue management education and awareness training for all stakeholders
- Have a process for monitoring and managing fatigue

Air Traffic Controller Responsibilities

- Arrive for work fit for duty
- Make appropriate use of non-controlling periods (both between duty periods and during a duty period)
- Manage own fatigue levels
- Report fatigue issues

Prescriptive Limitations

The UK has a Scheme for the Regulation of Air Traffic Controllers Hours (SRATCOH) published by the UK CAA as CAP 670

- The prescriptive limitations can found in Part D, Section 2

It's purpose is to:

"ensure, as far as is reasonably possible, that controller fatigue does not endanger aircraft and thereby to assist controllers to provide a safe and efficient service"

SRATCOH sets Prescriptive Limitations for

- Periods of duty
- Intervals between periods of duty
- Consecutive periods of duty
- Operational duty
- Night duty
- On call duty
- Early starts
- Morning duty
- Holidays

Local Agreements and Actual Practice

SRATCOH provides generic, maximum limitations

Each part of our operation also has local agreements which are equal to or more restrictive than SRATCOH

- These take into account what a controller in that part of the operation actually does

Supervisors make on-going tactical decisions based on current and predicted controller workload and who they have available.

- How many sectors need to be open?
- How busy is an individual controller?

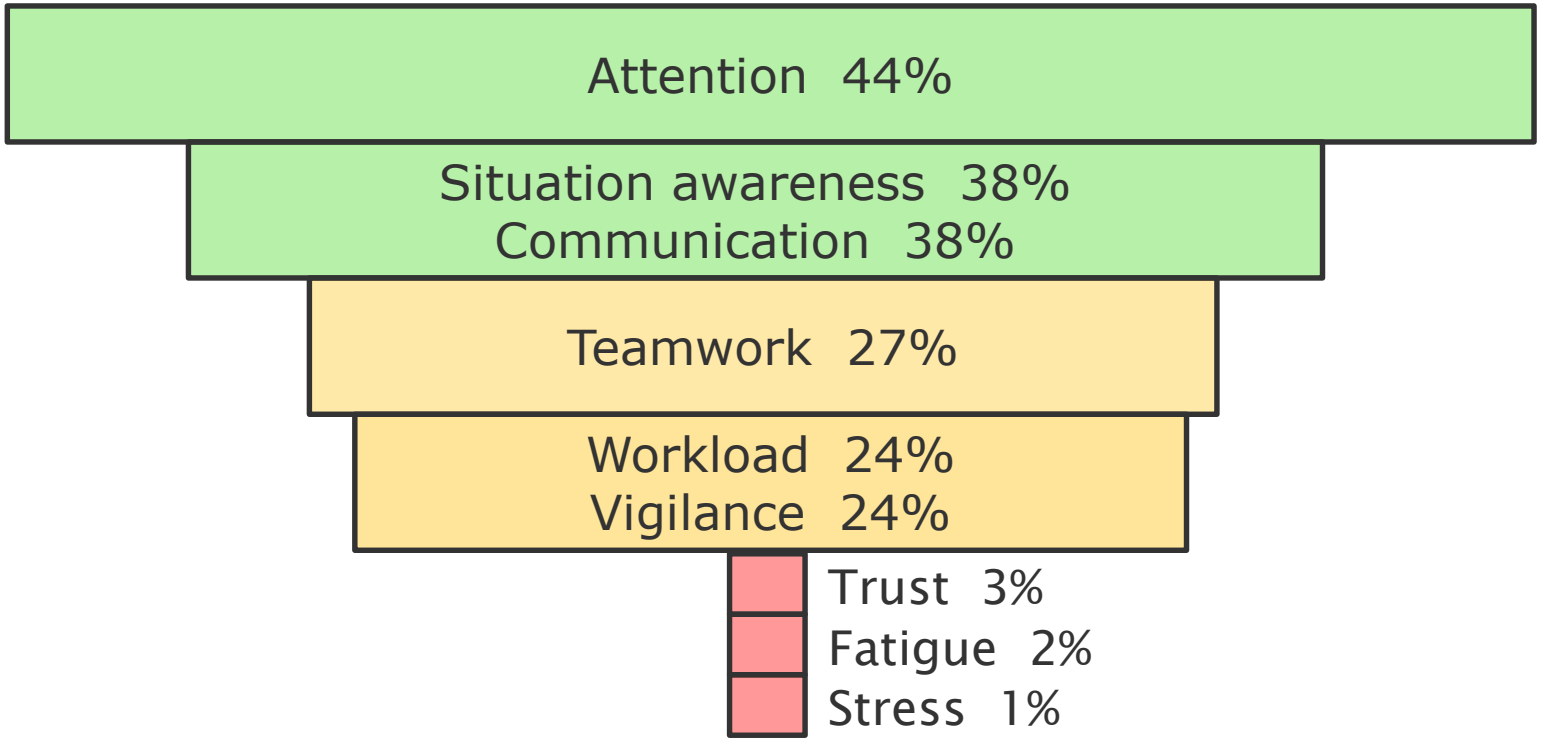
Example for a Busy London Sector

SRATCOH
- "No operational duty shall exceed a period of two hours"

Local Agreement
- No operational duty shall exceed a period of 90 minutes

Actual Practice
- At busy times, controllers work for around 60 minutes

Factors Contributing to Air Traffic Control Incidents in Europe



From Edwards et al., 2013

Fatigue Reporting in NATS

NATS has a good safety reporting culture

- Over the last 5 years, there have been no safety incident reports where fatigue has been identified as a causal factor
- Does that confirm that we are managing fatigue effectively?
- Should we be worried?

Awareness Training and Workshops

Awareness training was provided and workshops were held with controllers to highlight:

- The signs of fatigue in themselves and their colleagues
- Tips and techniques for avoiding / managing fatigue
- What to do if fatigue is identified

Awareness Training and Workshops

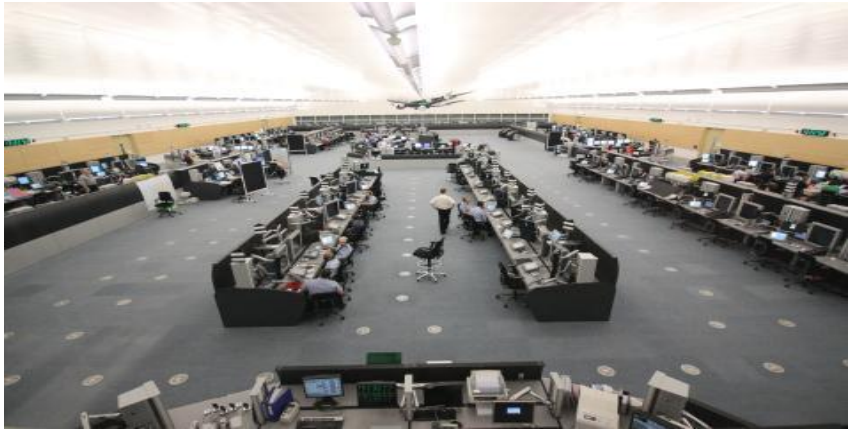
Stories and anecdotes were shared

"I've never been fatigued at work but I have a friend who …"

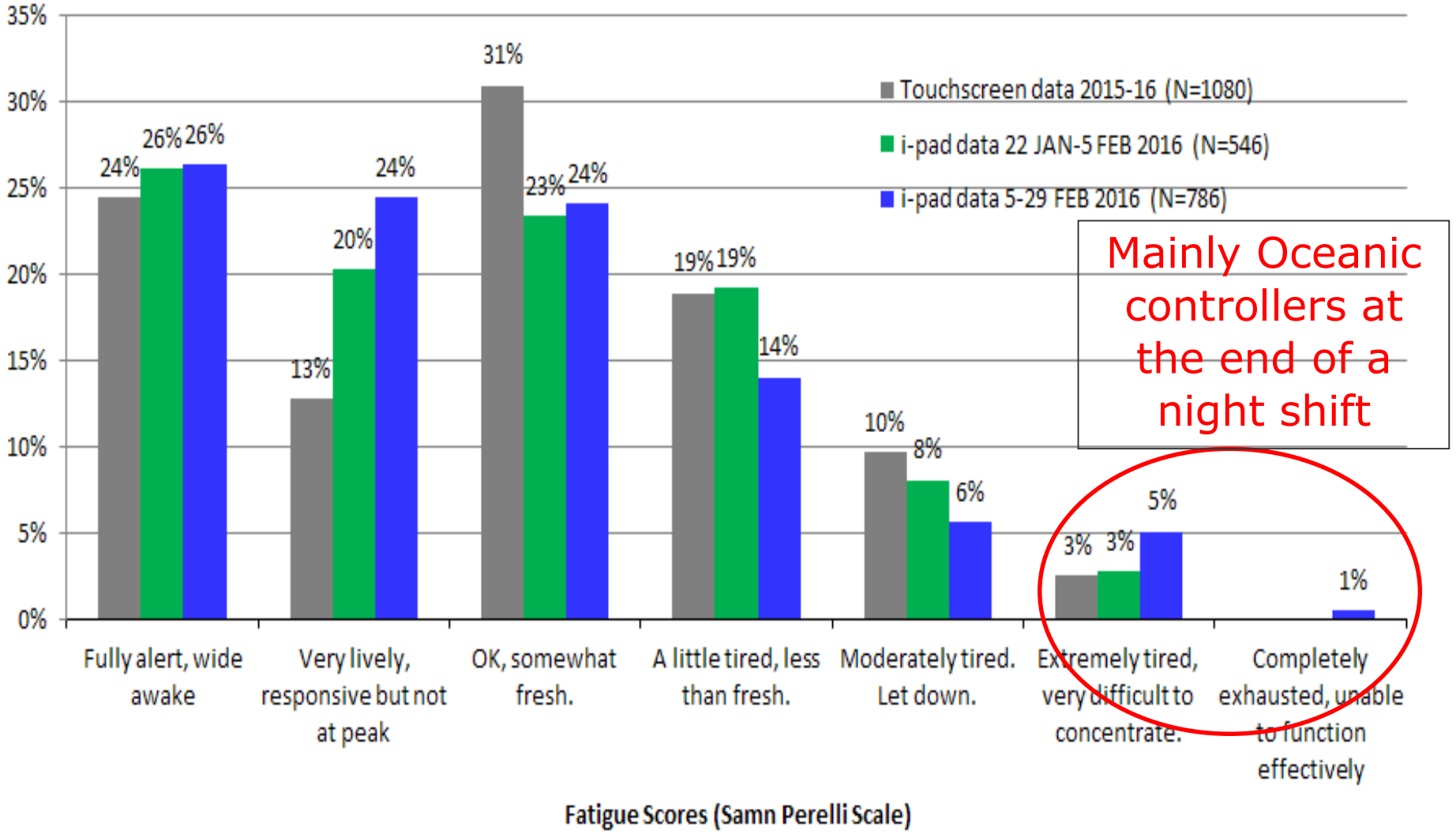
Measuring Fatigue

Method used

- Electronic data collection via touchscreens
- Subjective, self-reporting scale (Samn-Perelli (1982))
- Completed post- shift



Measuring Fatigue - Results



Objective Measurements

Can we collect objective measures of fatigue and correlate them to the subjective measures?

Conclusions

Do we have a problem with fatigue in NATS?

- No – there is good evidence that fatigue risk is being managed effectively
- But - we should not be complacent, as fatigue can reduce people's performance

What are our priorities?

- Improve reporting
- Investigate how to collect objective measures of fatigue automatically

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