

**Fatigue Risk
Management Systems
Regional Meeting**



GOL FRMS Implementation

May 27 - May 28, 2015

Lima, Peru

Summary

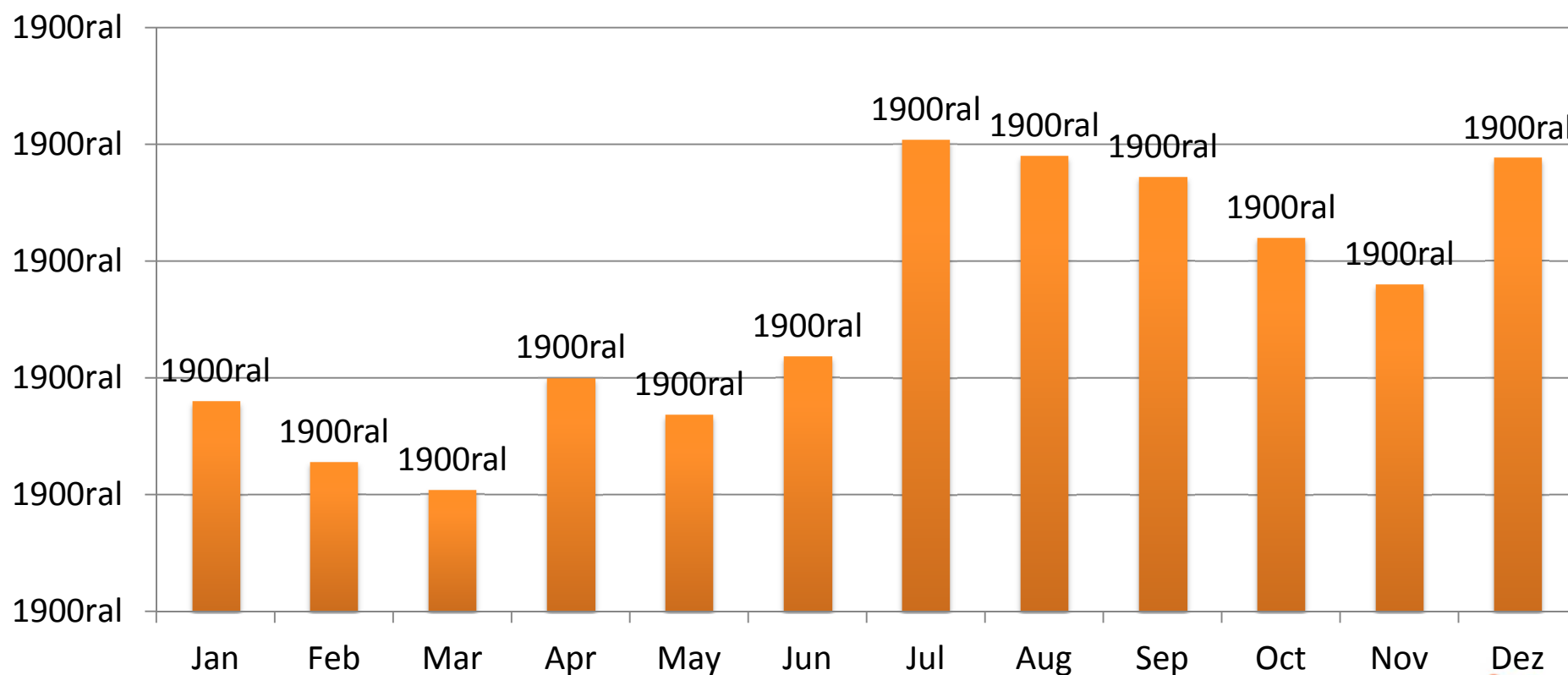
- “a step back”
 - Numbers & Demand
 - What were we doing?
- Current Status
 - Back to the Basics
 - Lessons Learned
- Survey
- Next Steps
 - Electronic Flight Bag TOD Survey
 - AQD Mobile Fatigue Report Form



“a step back”

Numbers & Demand

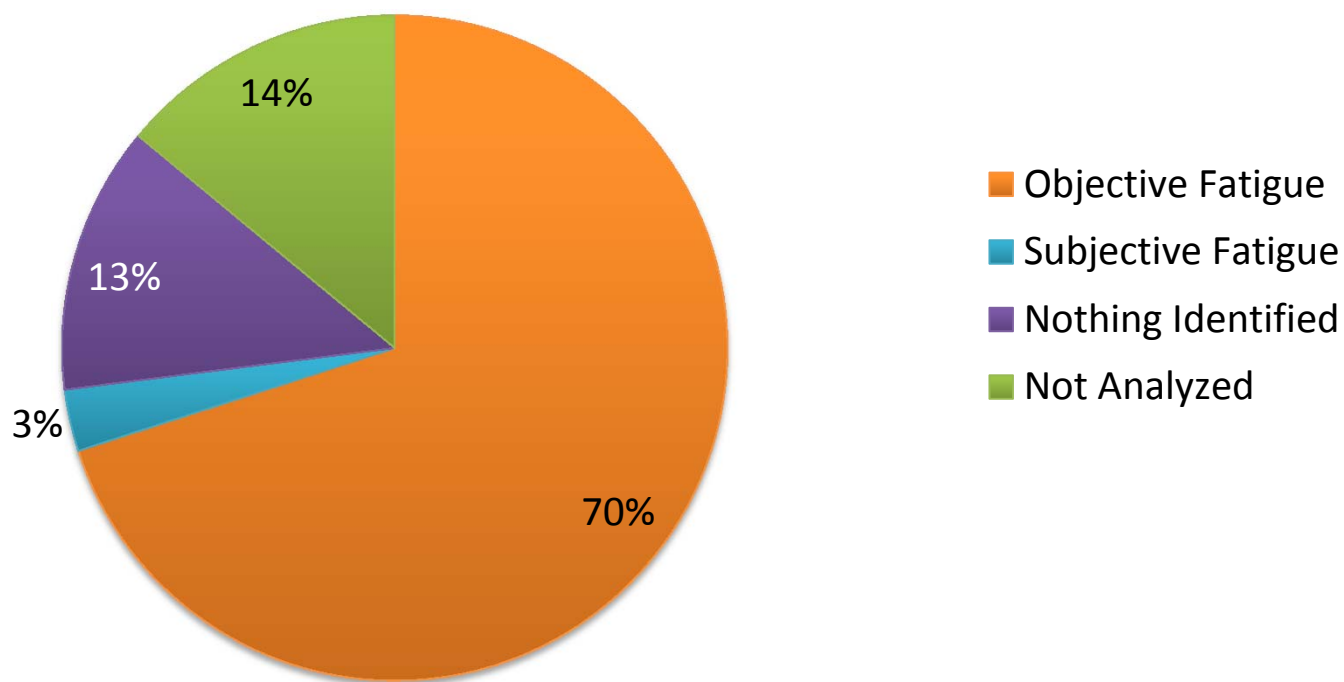
Fatigue Analysis 2014



Total: 1.576 ASR 

Numbers & Demand

Fatigue Analysis Result 2014



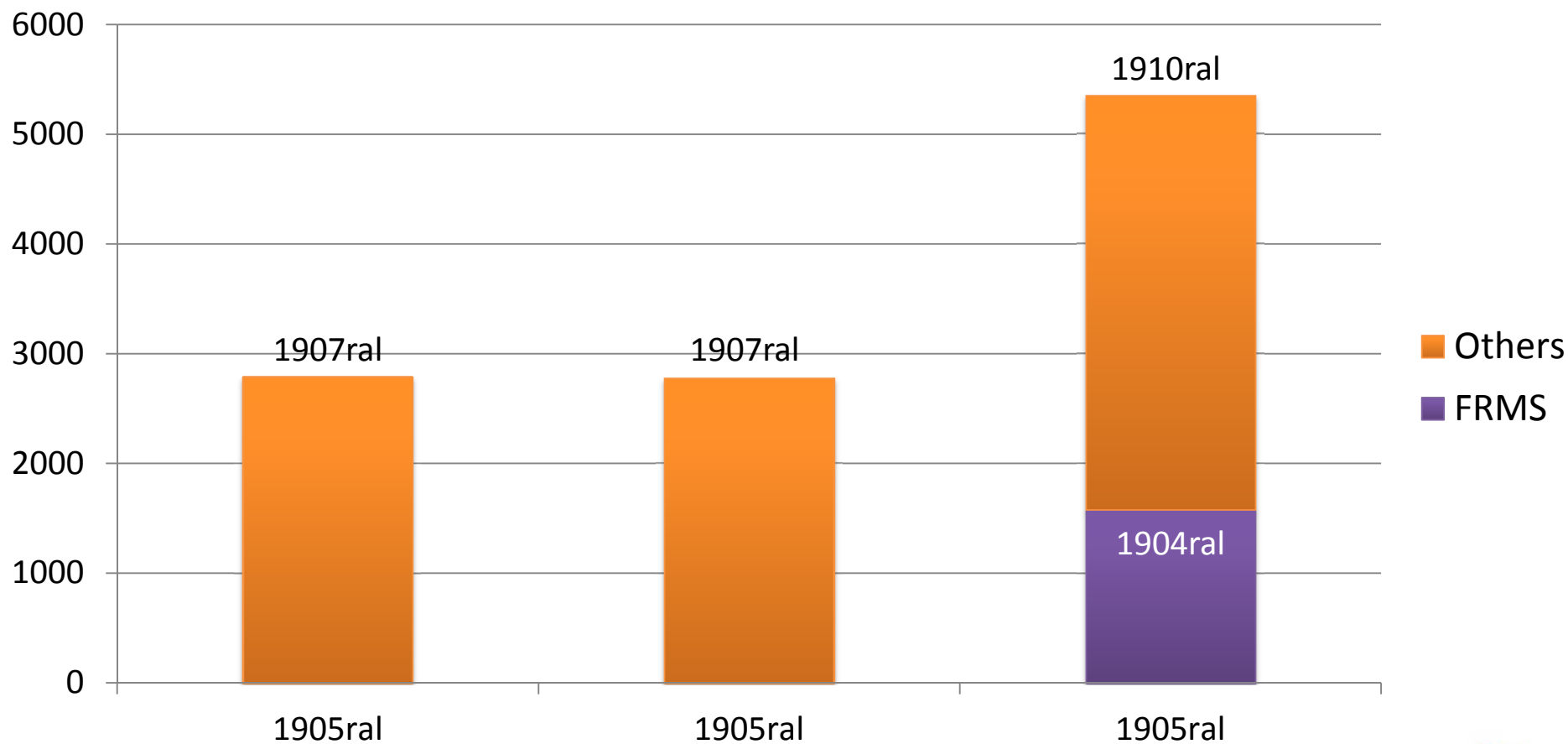
Total: 1.576 ASR 

What were we doing?

- Safety reporting culture;
- FRMS Implementation;
- Policy and Documentation;
- Classroom and E-learning.

What were we doing?

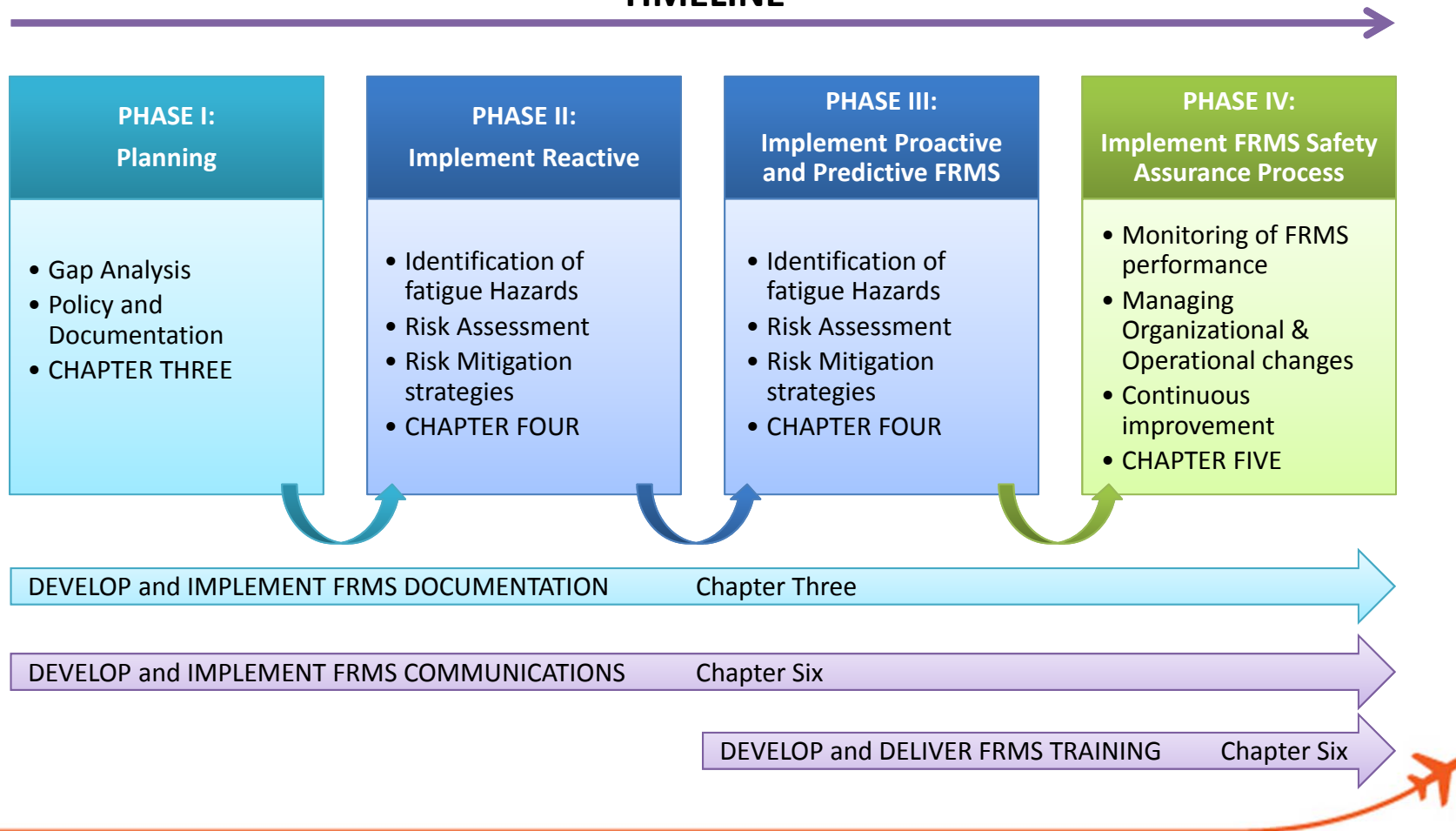
Safety Reporting Culture



What were we doing?

FRMS Implementation

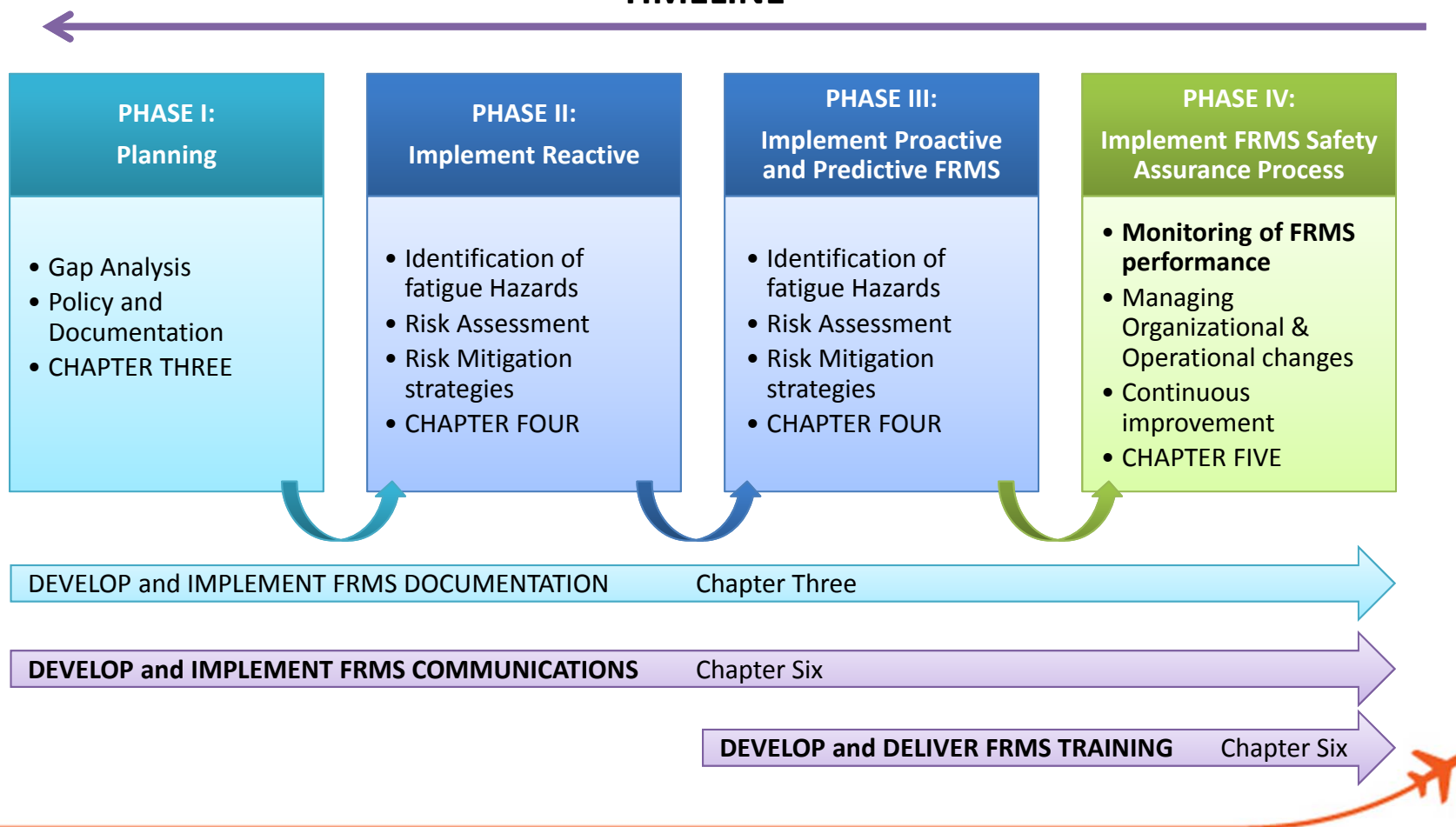
TIMELINE



What were we doing?

FRMS Implementation

TIMELINE



What were we doing?

Policy and Documentation

Policy

- Identifies FRMS elements
- Identifies FRMS operations
- Reflects Shared Responsibility
- States Safety objectives
- Declares management commitment
- Identifies lines of accountability

Documentation

- Policy and objectives
- Processes and procedures
- Accountabilities, responsibilities and authorities
- Mechanism for involvement of all stakeholders
- FRMS training records
- Planned and actual times worked
- Outputs

What were we doing?

Classroom and e-Learning

- Subject dealt in class to all crewmembers and crew planners.
- Use our existing training structure:

CRM – Corporate
Research
Management

TEM – Threat
and Error
Management

Periodical
Training

e-Learning

What were we doing?

Classroom and e-Learning



Current Status



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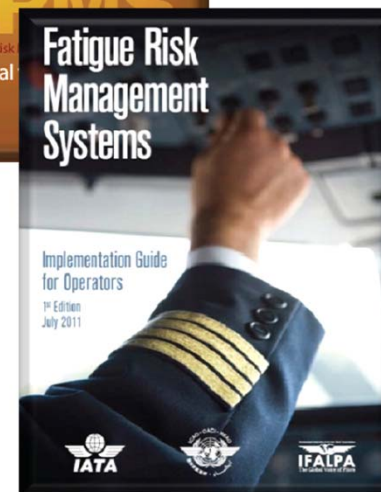
Back to the Basic

- FRMS & SMS;
 - DOC 9966
 - FRMS Implementation Guide
- Fatigue Safety Action Group (FSAG);
- Bio-mathematical Models.

Back to the Basic

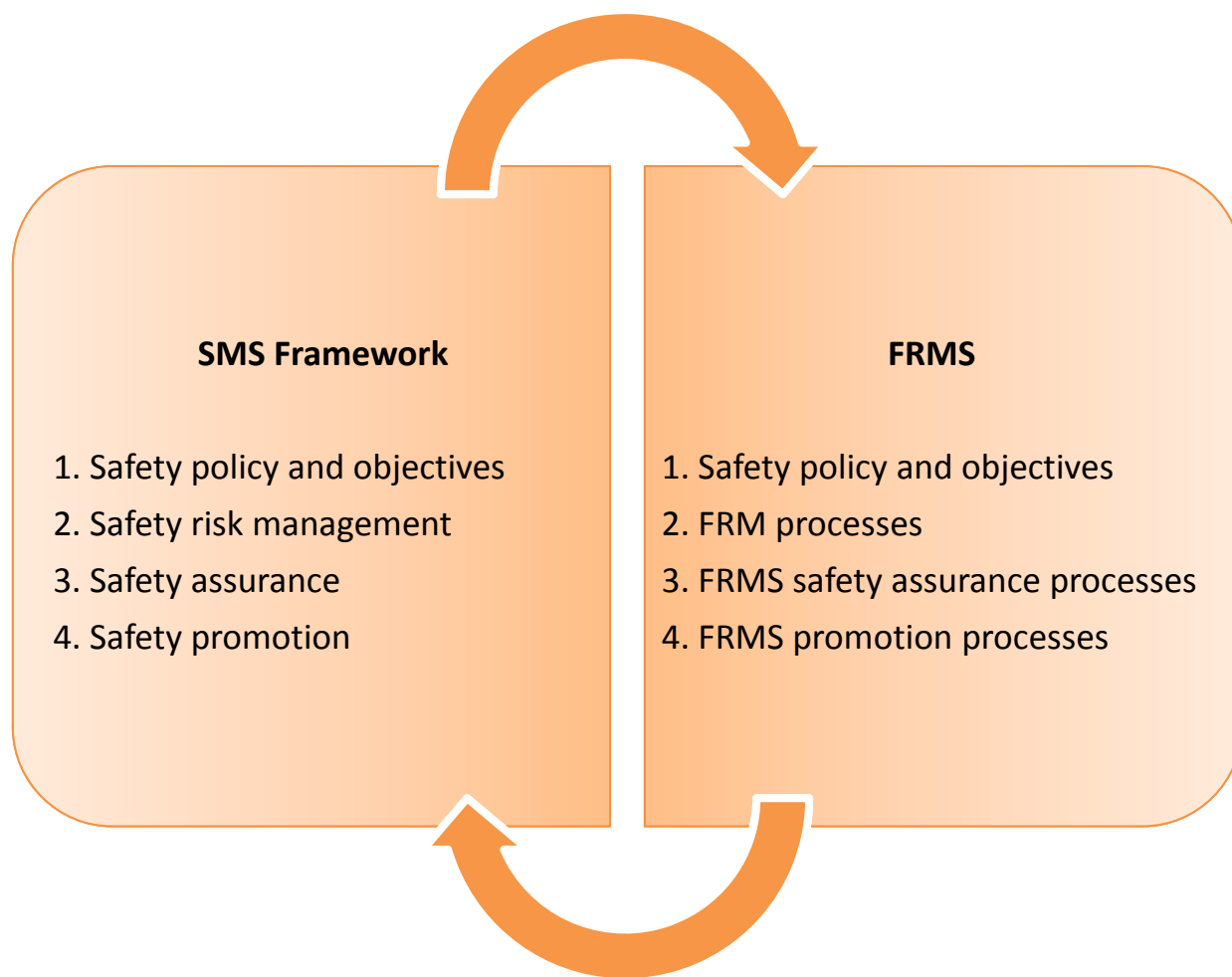
FRMS & SMS

- FRMS & SMS;
 - DOC 9966
 - FRMS Implementation Guide



Back to the Basic

FRMS & SMS



Back to the Basic

FSAG

- Lack of FSAG on 2014;
- Re-started with the new year;
- All envolved areas invited:
 - Safety Management;
 - Schedule Management;
 - Flight Operations;
 - Flight Standarts;
 - Medical Department.



Lessons Learned

- As Low as Reasonable Possible (ALARP);
- Bio-mathematical Models are not the FRMS;
- Develop Safety Performance Indicators (SPIs);
- Data collection is necessary.



Lessons Learned

ALARP

- How much is it costing?
- Don't forget the M in FRMS;
- Make things more personal.

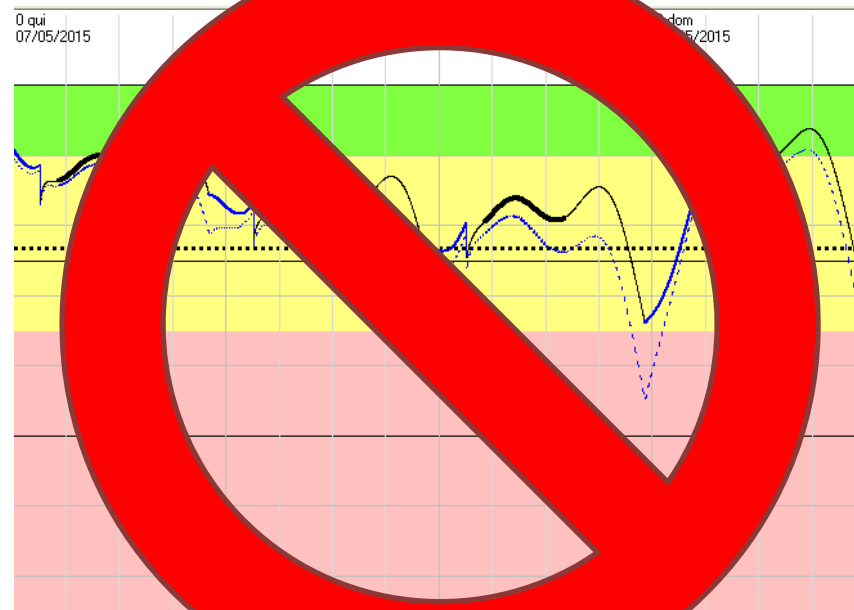
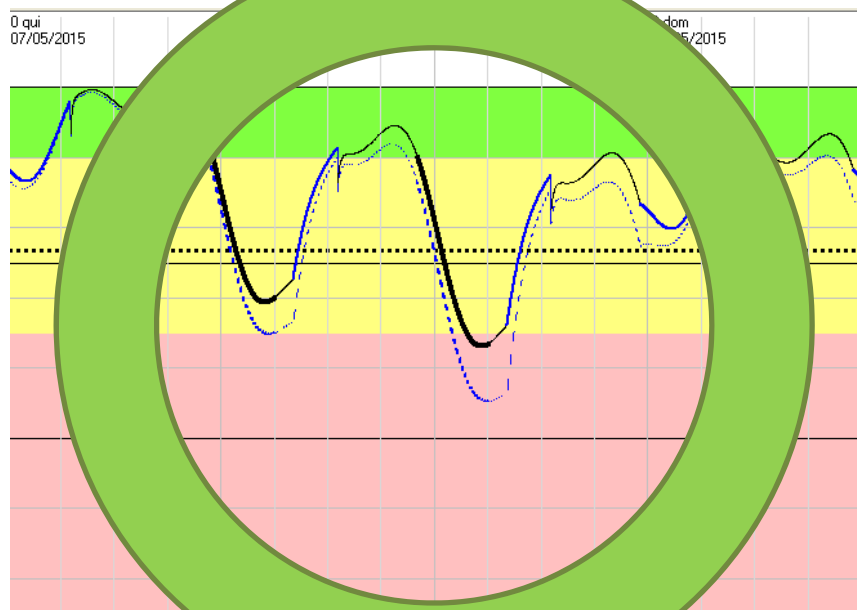
Lessons Learned

Bio-mathematical Models are not the FRMS

- Look to all the roster;
 - Search for improvement possibilities.
- There will be critical operations;
- It's not a GO/No GO tool;
- It's not a shadow over the common sense.

Lessons Learned

Bio-mathematical Models are not the FRMS



Lessons Learned

Develop SPIs

- Look to all the roster;
- We need to find our threshold;
- Total hours below the threshold;
- Pairing/Roster Comparisons ;



Lessons Learned

Data collection is necessary.

- Review our database;
 - Too much useless info;
 - Too much unused info;
 - Too much missed info;
- Expand our coverage area;
- Maintain the current reactive process;
- Field survey.

Survey

Survey

- Methodology Test;
- Demographic Data;
 - Morningness-eveningness questionnaire
 - Epworth sleepiness scale
- Subjective Fatigue Forms;
 - Samn-Perelli
 - Sleep LOG
- Objective Analysis;
 - FAST & CFAS Comparison



Next Steps



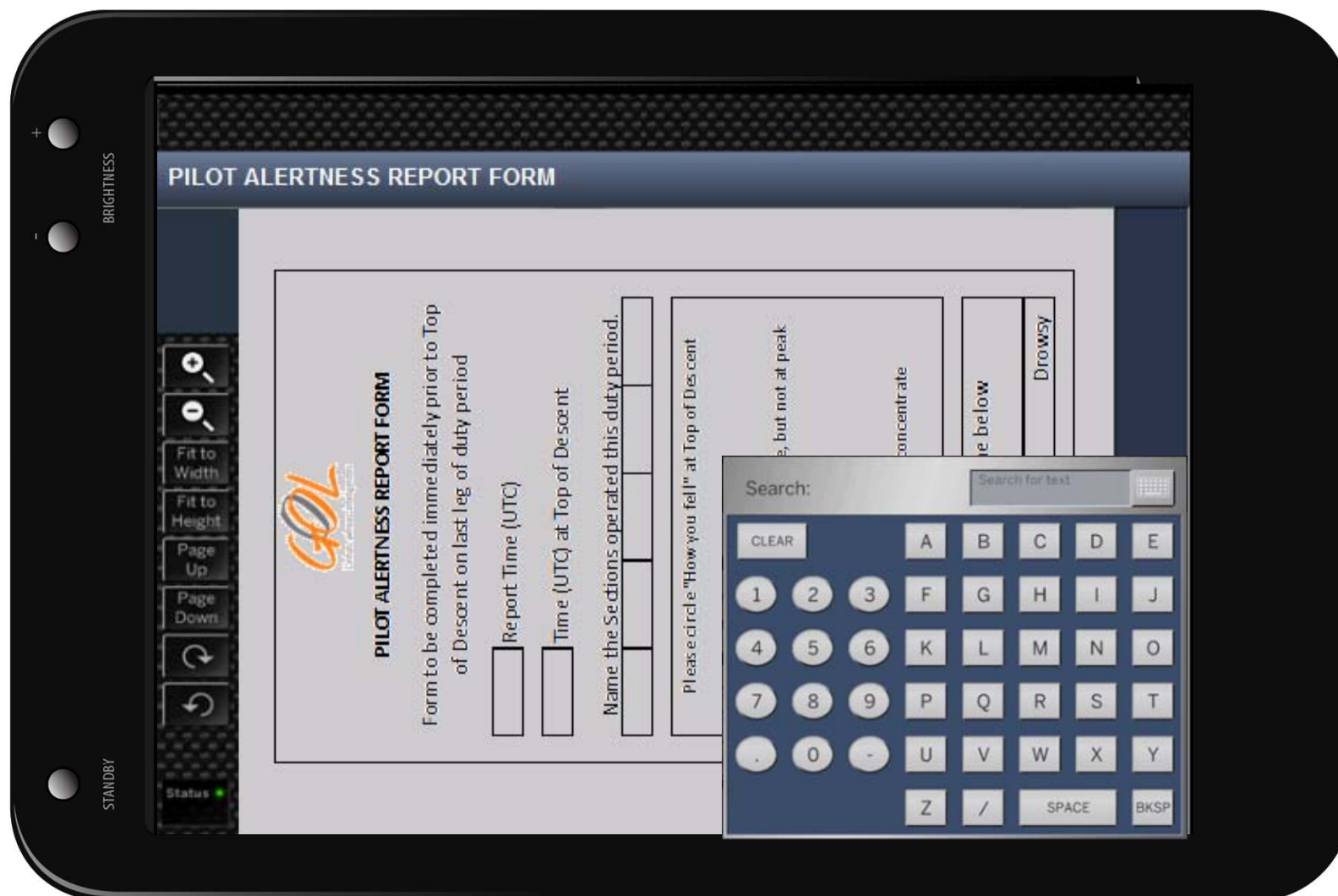
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Electronic Flight Bag TOD Survey



- Available in all flights;
- Pairing evaluation;
- Quick-Response;
 - Pairing
 - Crew-members
- Development in Company.



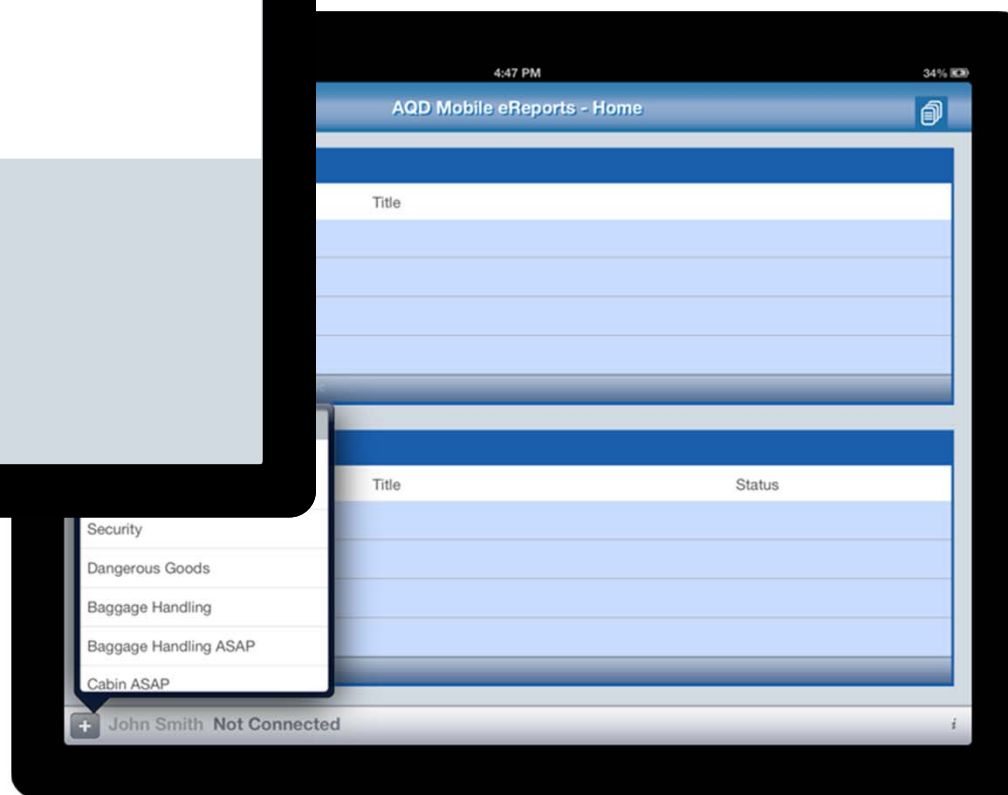
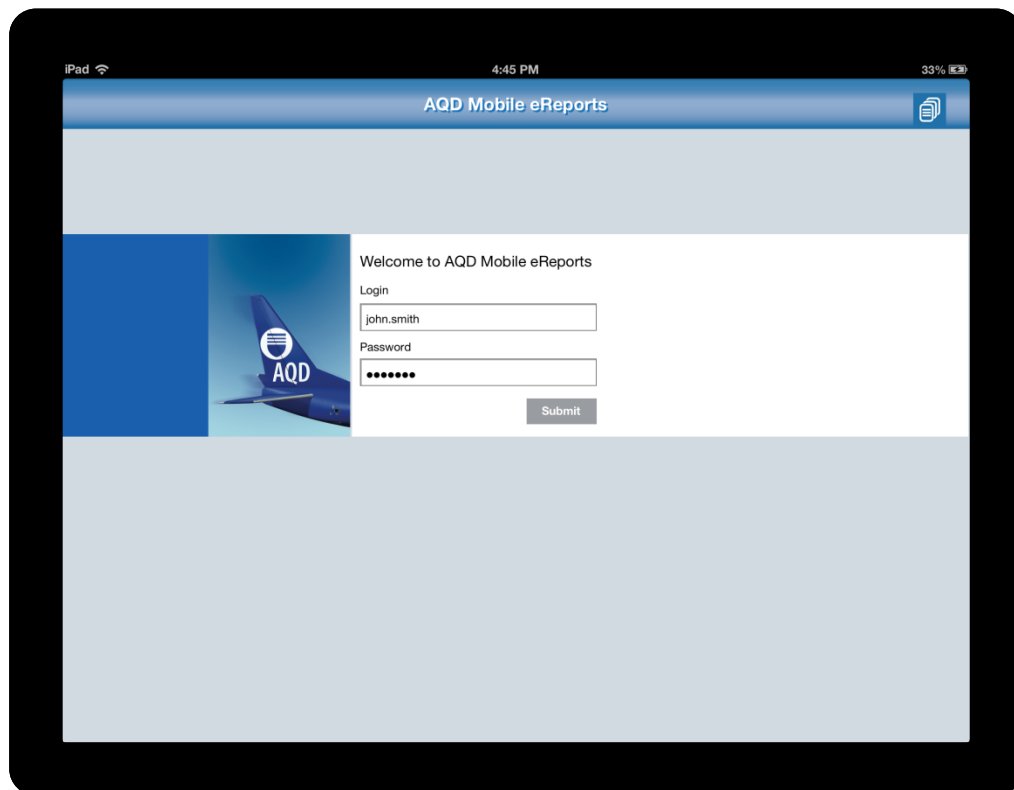


AQD Mobile Fatigue Report Form



- Works in any smartphone/tablet;
- Off-line (transfers info when connected);
- Get the information where it happens;
- Assure the quality of gathered data.





- Security
- Dangerous Goods
- Baggage Handling
- Baggage Handling ASAP
- Cabin ASAP



Thank You!

Safety Management

frms@golnaweb.com.br

