



# EASA

European Aviation Safety Agency

## **PANEL#3: FATIGUE RISK MANAGEMENT(FRM) – as a safety enabler**

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# FRM – required

FRM, where required, is an integral part of operator's safety risk management process

FRM is legally required in two cases:

- reduced rest; and
- crew members in unknown state of acclimatisation on a longer FDP

FRM must comply with ORO.FTL.120



# FRM –promoted

Operators apply *appropriate* FRM techniques:

- in the case of night duties of more than 10 hours (CS FTL.1.205 & GM1 CS FTL.1.205); or
- to protect an 8-hour sleep opportunity during reserve (CS FTL.1.230)

ICAO Fatigue Management Guide for Airline Operators - useful reference material for developing appropriate FRM techniques

Operators are encouraged to implement FRM to better fulfil their responsibilities under ORO.FTL.110



# FRM builds on the SMS

<b>SMS ORO.GEN.200</b>	<b>FRM ORO.FTL.120</b>
Safety policy & objectives	FRM policy & documentation
Safety risk management	Fatigue risk management process <ul style="list-style-type: none"><li>• <u>Identification of hazards</u></li><li>• Risk assessment</li><li>• Risk mitigation</li><li>• Implementation</li></ul>
Safety assurance	Fatigue safety assurance <ul style="list-style-type: none"><li>• Monitor FRM performance</li><li>• Management of change</li><li>• Continuous improvement of FRM</li></ul>
Safety promotion	FRM promotion process <ul style="list-style-type: none"><li>• Training programmes</li><li>• FRM communication plan</li></ul>



# FRM – data driven processes

Type of fatigue hazard identification	Source of data	Methods of examination
Predictive	Planned work schedules	<ul style="list-style-type: none"><li>• Previous experience</li><li>• Evidence-based scheduling</li><li>• Bio mathematical modelling</li></ul>
Proactive	Current flight operations	<ul style="list-style-type: none"><li>• Self reported fatigue risks</li><li>• Fatigue surveys</li><li>• Performance data</li><li>• Safety databases and scientific study</li><li>• Planned vs. actual time worked analysis</li></ul>
Reactive	Safety reports and events	<ul style="list-style-type: none"><li>• Fatigue reports</li><li>• Confidential reports</li><li>• Audit reports</li><li>• Incident investigation reports</li><li>• FDM events</li></ul>



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**Thank you!**

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