



Fatigue Risk Management

EASA
*'Flight and Duty Time
 Limitations and Rest
 requirements'*

Is this really necessary?



Human limitations - really?



Legal vs illegal vs safe



Blurred lines



This is a BUSINESS!



Will this cost money or save money?



Sleep





Fatigue Risk Management

ICAO definition of Fatigue explained

EASA
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A physiological state of reduced mental or physical performance capability resulting from sleep loss or extended wakefulness, circadian phase, or workload (mental and/or physical activity) that can impair a crew member's alertness and ability to safely operate an aircraft or perform safety related duties.

ICAO definition from Operators FRMS implementation guide 2011



Symptoms

Causes

Consequences





Sleeploss

Circadian rhythm

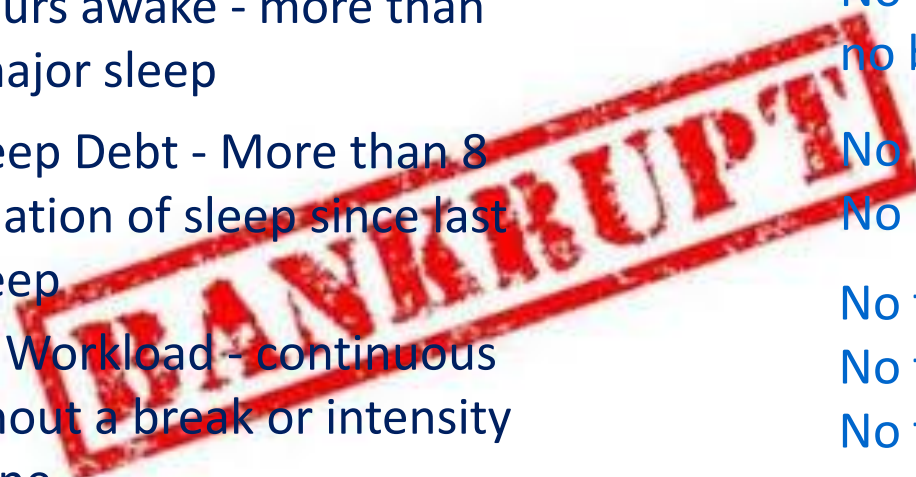
Wakefulness

Workload

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cause

- Being awake between 0000 and 0600
- Recent sleep - less than 8 hours in the last 24
- Continuous hours awake - more than 17 since last major sleep
- Cumulative Sleep Debt - More than 8 hours accumulation of sleep since last full night of sleep
- Time on Task / Workload - continuous work time without a break or intensity of the work done



We are a 24 hour, 365 day, global, Multi-time zone, Market led, culturally diverse, ever changing business.

solution

- No flying at night
- No earlies or Lates
- No Long Haul, no delays, no bad weather
- No blocks of Earlies or Lates
- No Long haul flying
- No flying in bad weather,
- No flying new routes,
- No flying new aircraft type
- Really short days
- No passengers





Fatigue Risk Management and FTL

9 points to consider

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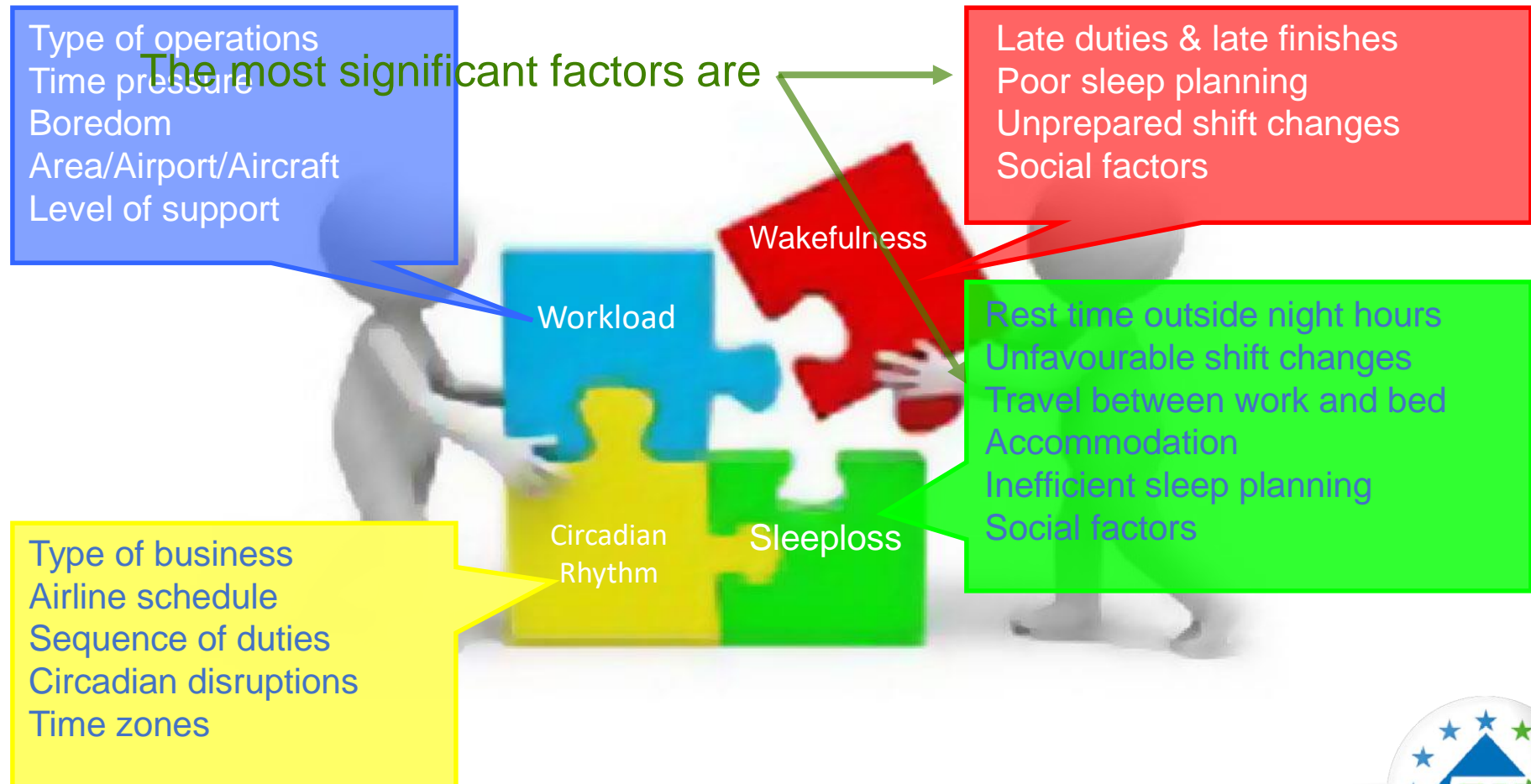
- 1 - What is Fatigue?
- 2 - Factors that cause Fatigue
- 3 - The importance of sleep
- 4 - The Circadian Rhythm (*Body Clock*)
- 5 - A modern and scientific approach to FTL (*Prescriptive vs Performance*)
- 6 - Fatigue Risk Management and FTL
- 7 - The responsibility of ICAO / EASA / Competent Authority
- 8 - The responsibility of an Airline
- 9 - The responsibility of the Crew member





FTL schemes and affecting Factors

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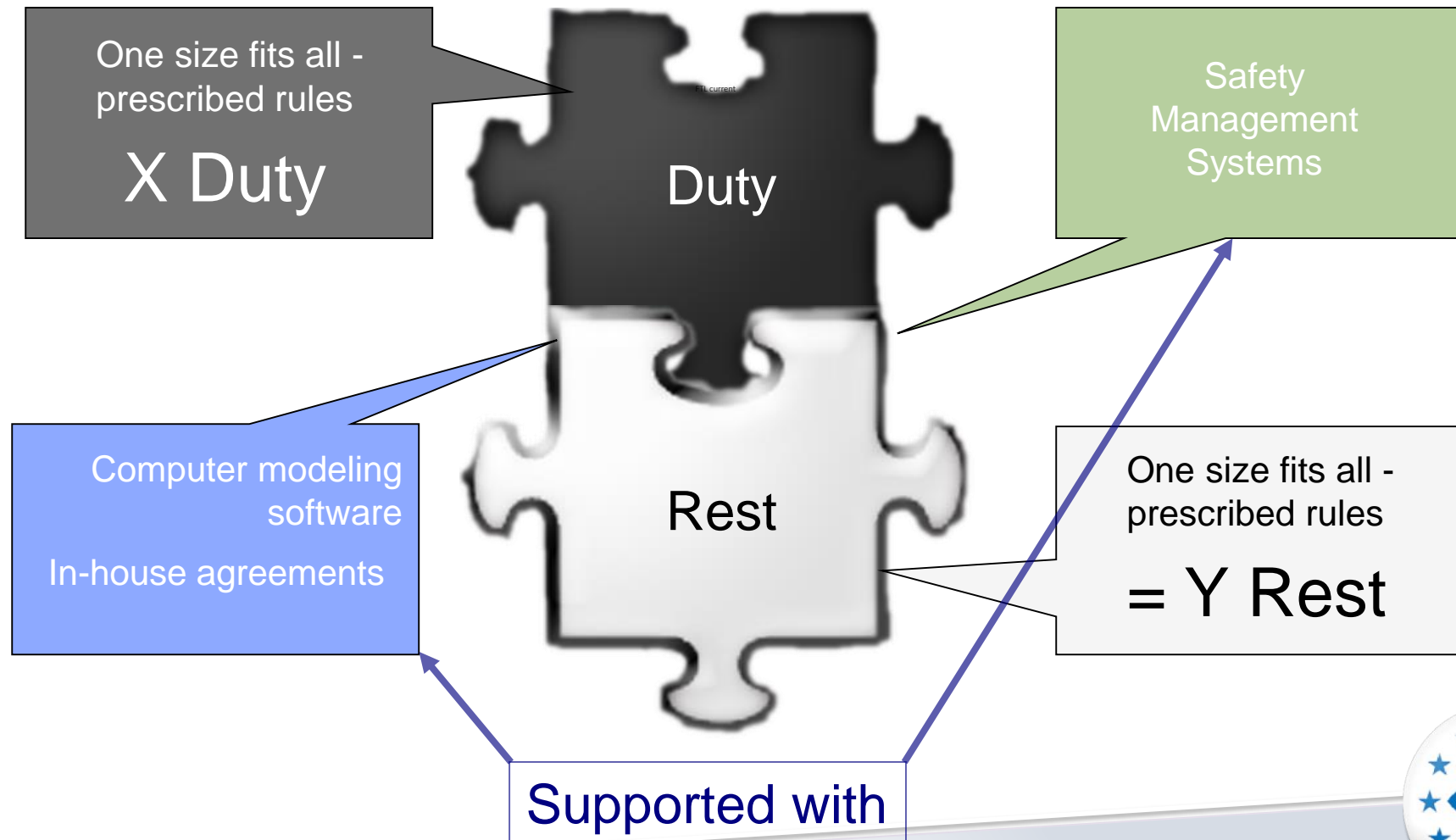




FTL schemes and affecting Factors

Pre FTL prescriptive schemes

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Prescriptive & Performance

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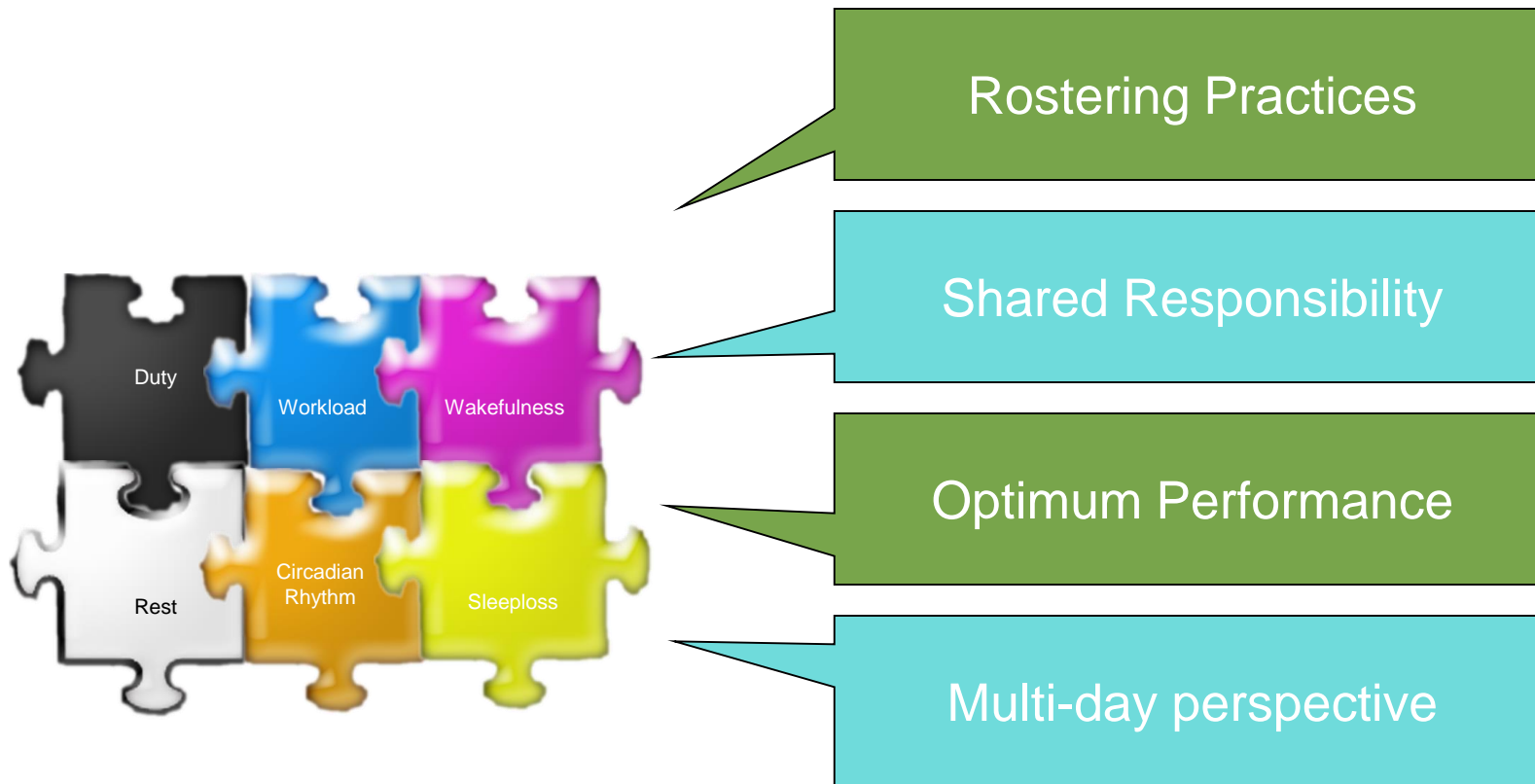




Fatigue Risk Management

The complete picture -

EASA
*'Flight and Duty Time
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Fatigue Risk Management Systems

EASA evolution

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*'Flight and Duty Time
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An FRMS can look at:

- The Airline - everything
- Route / Duty specific
- Build it slowly
- Involve the NAA regularly

Cabin crew and Flight crew differences:

- Night Ibiza - Cabin crew
- Innsbruck - Pilots
- Airline management





FRMS and employee co-operation

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The point of any effort to progress the concept of FRMS and 'Just Culture' is not to shackle an airline or create some irresponsible rules that unduly restrict Flight or Cabin crew from operating when it's perfectly safe for them to do so.

Its singular aim is to respect the human condition because neglecting us creates fatigue and ultimately will lower performance below acceptable standards.

The how, the when and the why are vital components and our understanding needs to be developed if we are to be safer than we are right now.





Fatigue Risk Management

The EASA evolution - 'Just Culture' = *(justice, equal, fair)*

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FRMS committees are usually advisory only
Strength lies in the ability to persuade not force

Respecting human limitations is key

ICAO - FRM Manual 2010 1.3

Operators are responsible for providing schedules that allow crewmembers to perform at adequate levels of alertness and **crewmembers are responsible** for using that time to start well-rested



Operators need to admit that Fatigue may occur

- Locate it - set up systems and processes
- Report it - a change in culture - reporting is good
- Predict it - analyse your information
- Stop it - work together and yes productivity will improve





Fatigue Management Guides for Airline Operators and Regulators

EASA
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Scientific Principles of Fatigue Management
Sleep, Circadian Rhythm, Workload

Operational Knowledge and Experience

The Prescriptive Approach

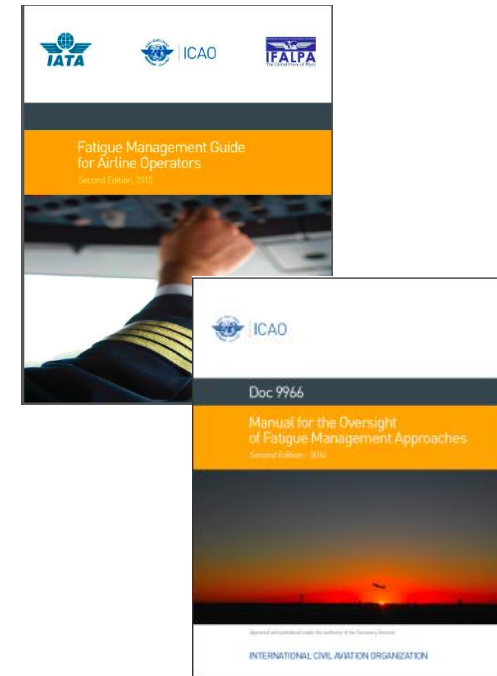
FRMS Operational Components

FRMS Organisational Components

FRMS Implementation

Preparation - Trial - Launch - Maintain and improve

Appendix A - G: FRMS examples, processes & records



Thank-you.

