Glossary

Acclimatisation chart

The acclimatisation curve shows both the position of the pilot's body clock in relation to the base time zone and the position compared to local time. See Acclimatisation chart for more information.

Activity

Activity is a breakdown of the duty performed within an aircrew schedule during their roster. Some of the activities that could be a part of duty are Check in, Flight, Commuting, and Time at hotel among others.

CARE

Cabin crew Alertness and Rest Evaluation (CARE) is a predictive fatigue tool that is designed to understand the fatigue and alertness levels of flight attendants of commercial air transport airlines.

Cumulative fatigue chart

The cumulative fatigue distribution curve is a useful curve to indicate the number of fatigue scores that are in evidence throughout the schedule. See Cumulative fatigue chart to learn more.

Duty

Duty is the time between the check in at the start of the duty work period and the check out at the end of the duty work period, and contains a series of activites carried out by the schedule that do not include standby. Standby duties are a special form of duty.

Duty risk metric

Duty Risk Metric describes not just the risk of becoming fatigued, which has a knock-on effect of increasing the likelihood of microsleeps, poor communication and degraded vigilance etc,

but directly offers a metric to describe the likelihood of a reportable incident relative to a duty with 2 pilots acclimatised to their time zone working a duty that starts at 10:00 and finishes at 20:00, with two flying sectors. See Duty risk metric to learn more.

Fatigue scale

Fatigue scales are metrics designed to reflect the fatigue scores of the personnel. FRMSc supports seven types of scales. See Supported scales for more information.

FRI

The Fatigue Risk Index (FRI) for general shift work is an excel based model that was built to a specification provided by the UK Government's Health and Safety Executive (HSE), who are a UK government department responsible for safety in the workplace.

FRI+

FRI+ is an upgraded version of the original HSE Fatigue Risk Index which was developed by FRMSc personnel, this model assesses fatigue risk from shift work patterns.

When in 2015 the FRMSc model website was created on the Microsoft Azure Cloud that provided enhanced scalability, security and resilience, the FRI algorithms were integrated into the Azure hosting platform to provide these inherent advantages to all subscribing clients. The name of the model was changed to FRI-Plus (FRI+) to differentiate this enhanced version of FRI from the original product - FRI.

FRI PRO

FRI PRO is a further enhanced version of FRI+ that comes with change of architecture and algorithm library to include the features that are appropriate for a shift worker model which are currently included in the SAFE and CARE models. It provides fatigue scores for each 15-minutes period, individualised sleep periods, and analyse fatigue mitigation strategies entered by a user. It is a very flexible model that can be used in aviaiton for ground crew and ATC.

Nicholson chart

Nicholson chart compares sleep taken within a schedule with work-rate of the schedule to indicate inherent adequacy of sleep for the planned work rate. See Nicholson Chart for more information.

Overview chart

Overview chart provides a picture of the rising and falling fatigue throughout each duty in the schedule. See Overview Chart for more information.

Roster

Roster is a collection of aircrew schedules within the same file.

SAFE

System for Aircrew Fatigue Evaluation (SAFE) is a predictive fatigue model that was originally designed to to evaluate the likley fatigue in piltos of commercial passenger aircraft. It predicts fatigue and duty risk of pilots. Cargo operators can use thie SAFE model but variants of this model are avaiaible for corporate fleets, air taxis and emergency medical services. The CARE model is available for cabin crew.

SAFE API

SAFE API provides a seamless interface to integrate SAFE with your rostering software suite. When a rostering suite calls the SAFE API, it can receive the fatigue scores from the SAFE alogrithm and provide the scores for local display within the rostering software suite.

We have designed the SAFE API to work with large majority of commercially available crew management systems. If your rostering system does not have the SAFE API already embedded in it, please ask your supplier to contact us at info@frmsc.com. We will provide the code along with instructions and technical support. Alternatively, you can ask them to visit our developer portal for more information.

Schedule

Schedule refers to a series of consecutive duties for an aircrew that may typically cover a single month of duties, before some time off is planned to allow recovery.

Sleep reservoir chart

The sleep reservoir curve shows sleep in terms of a reservoir that is full at the end of a good sleep period and then dissipates with time awake, just like a water reservoir. See Sleep Reservoir Chart for more information.