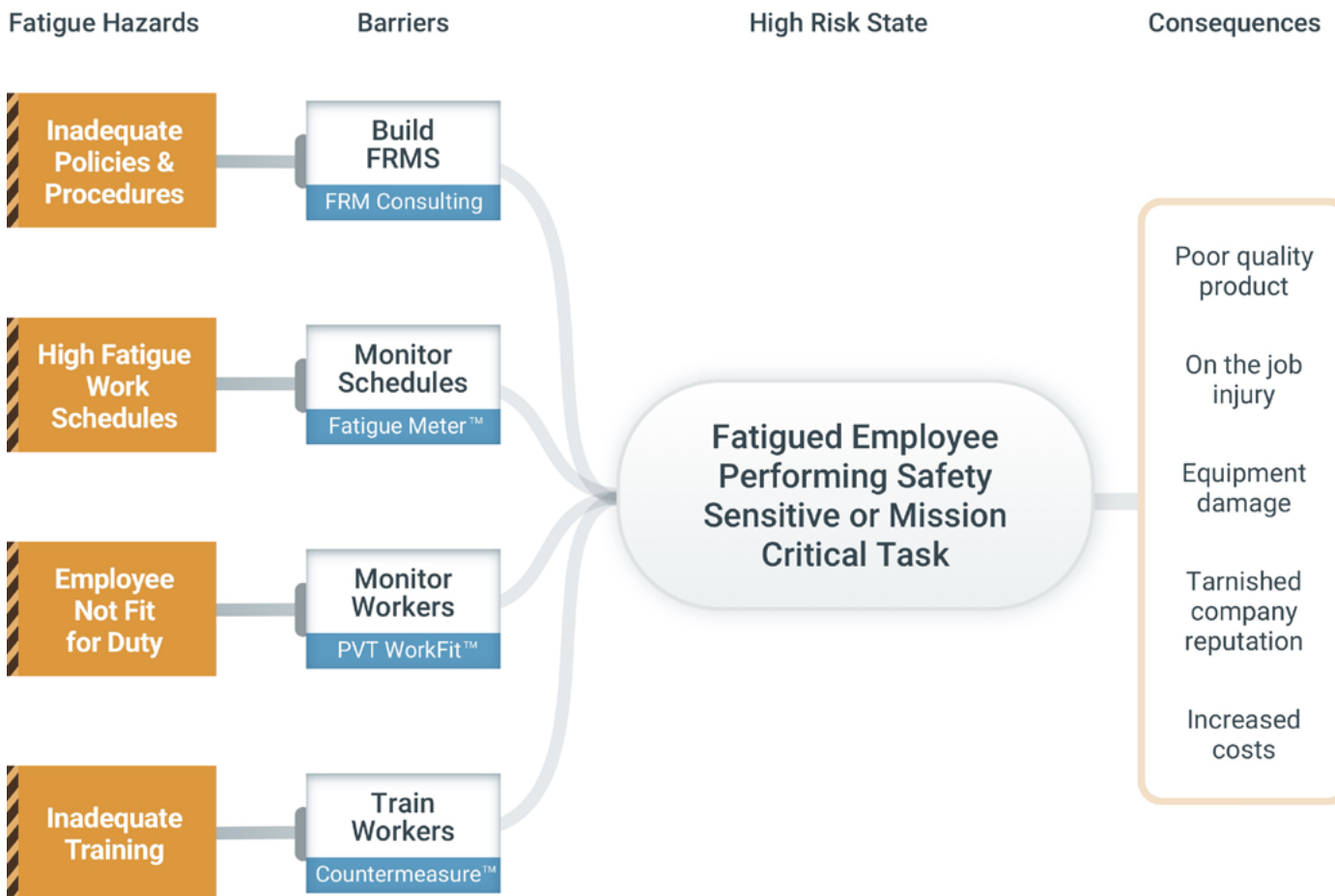




# Fatigue Risk Management Tools

Everything you need to manage fatigue risk in your operation.

**Fatigue can put your business at risk of incidents that impact safety, cost, and company reputation.** Effective fatigue risk management starts by identifying the causes of fatigue hazards in your organization and then implementing active barriers to prevent high risk conditions. Pulsar Informatics has validated a comprehensive approach to fatigue risk management consisting of the four barriers illustrated in the bowtie diagram below.





# Implementing a Fatigue Risk Management System

Unmanaged fatigue jeopardizes safety and increases costs. Pulsar Informatics provides a comprehensive set of resources and professional services to move you forward with fatigue risk management in your operation.

## What is an FRMS?

A Fatigue Risk Management System consists of an integrated set of policies and procedures, monitoring technologies, risk controls and workflows that together promote safety and reduce fatigue related risk in operations. Having an effective FRMS improves safety, saves costs and helps meet evolving regulatory requirements.

## What are the steps?

We will interview your safety manager and other stakeholders to understand the current state of your risk management policies and procedures and prepare a gap analysis with recommendations on how to implement industry best practices, align with guidance from the Flight Safety Foundation and the International Business Aviation Council, and adhere to relevant FAA regulations.

## FRMS Manual

Our FRMS Manual template is based on years of experience implementing fatigue risk management programs for air operators around the world. Our policy experts will integrate findings from interviews with your team to customize the template to the specific needs of your operation.

## Implementation Roadmap

We will provide guidance and resources at each step in the implementation process. We are confident your Fatigue Risk Management System will begin to deliver measurable safety improvements within six months.



Ready to get started?

info@pulsarinformatics.com

215.220.4250

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# Track Fatigue Risk in Flight and Duty Schedules

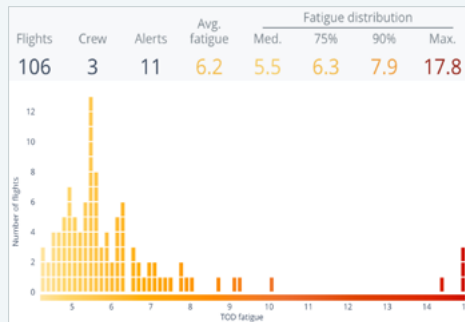


We can help you conform to both FAA and IS-BAO standards.

## ANALYZE

Assess fatigue risk levels while planning upcoming schedules.

- Access a fatigue risk analysis of your entire fleet with the click of a button using a seamless integration with your scheduling system.
- Comply with both FAA and IS-BAO standards.



“Fatigue Meter has been a great addition to the department so far. Many times, we already know that we’ll be augmenting the crew for a particularly long trip, or prepositioning crews for short international layovers. But it’s great having the scientific backing to justify these decisions.”

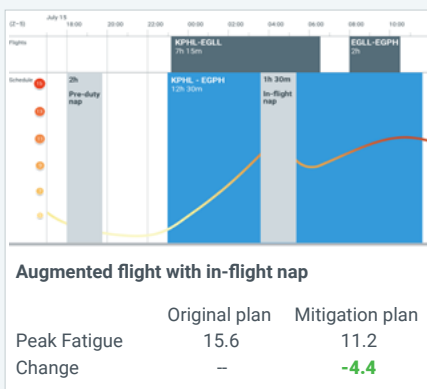
**stryker**

– Mike Thomas,  
Corporate Pilot / Aviation  
Safety Manager

## MITIGATE

Take action to reduce fatigue risk well before takeoff.

- Pinpoint the high risk flights in your schedule and explore ways to reduce risk with our powerful, easy to use scenario modeling tool.
- Export PDF reports to document mitigation strategies for internal and external audits of your FRMS.



## TRACK

Set safety goals and measure the effectiveness of your FRMS.

- Configure a set of metrics that are relevant to your operation.
- Run monthly reports to analyze your historical flight data and uncover recurring fatigue issues.

Description	Specification	Values
All flights, duties and crew	Count of flights	106
	Count of duties	61
	Count of crew	3
	Count of alerts	11
Flights with elevated fatigue at TOD (Fatigue above 12)	Count of flights	4
	Percentage of flights	3.8%
Duties with elevated fatigue at TOD (Fatigue above 12)	Count of duties	4
	Percentage of duties	6.6%
Number of long haul flights (12h or longer)	Count of flights	2
	Maximum fatigue at TOD	17.8
Aggregate fatigue at TOD	Median fatigue at TOD	5.5
	90th percentile fatigue at TOD	7.7
	Maximum fatigue at TOD	17.8

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# Manage Fatigue Risk in Mission Critical Operations



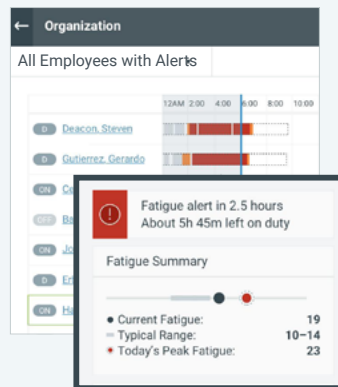
**Fatigue risk management is not just for pilots.** Fatigue risk impacts all your employees including mechanics, ramp personnel, schedulers, and dispatchers whose mission critical activities ensure that everything is ready for flight.

Workforce Fatigue Meter™ is designed to make fatigue risk management easy. It's a cloud based application that integrates with your work schedule or timecard data and uses scientifically validated algorithms to predict the fatigue level of each employee—for every hour that they are on duty.

## MONITOR

No wearables or additional equipment required.

- Fatigue Meter seamlessly integrates with your resource management system through an API and samples the data to monitor for fatigue risk.
- When a worker's fatigue level exceeds a specified threshold, your safety manager receives a notification so that they can activate risk mitigation workflows before an incident occurs.



Originally developed for NASA and DOD, our validated technologies offer the best in risk assessment, data analytics, security, and ease of use.

“We utilize Fatigue Meter for our Dispatch, Flight, and Maintenance departments to provide a robust mitigation strategy and manage the risk of fatigue impacting our daily operations.”

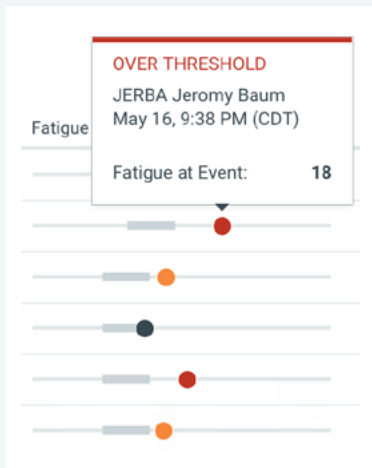


— Tony Field  
Safety Manager,  
Aurora Jet Partners

## SAFETY INTERVENTIONS

Data-driven approach to manage fatigue risk.

- Select from a menu of risk controls when schedules contribute to elevated fatigue risk as in the case of extended or irregular duty days or transitions to night shifts.
- Quantify the extent to which fatigue may have been a causal factor in a safety critical event.
- Identify fatigue patterns to support a data-driven approach to setting policies and procedures.



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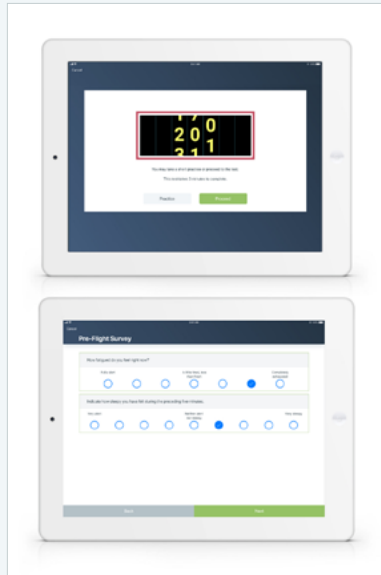
# Assess Crewmember Alertness with PVT



## MEASURE

Assess employee alertness as part of standard operating procedures.

- Assessments include the Psychomotor Vigilance Test and self-reported measures such as the Samn-Perelli Scale and Karolinska Sleepiness Scale.
- Data are collected on an iPad app with minimal impact to operations.
- The platform supports custom survey questions to complement the fatigue measures.



We can help you conform to both FAA and IS-BAO standards.

“PVT WorkFit provides us with a validated, objective framework to assess crewmember alertness. We use it as part of a comprehensive commitment to addressing the human element of safety, to identify high risk scenarios that require mitigations to ensure the safety of our crews and patients. Through its use, I believe that we are saving lives.”

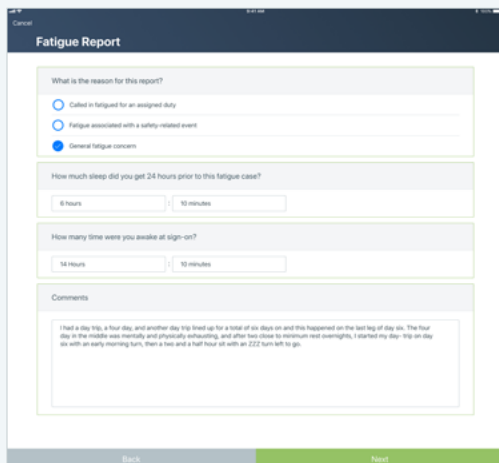


– Dave Motzkin  
President,  
PHI Health

## REPORT

Enable crewmembers to create and submit fatigue reports.

- A pre-configured survey within the iPad app makes the process of completing a report simple and efficient.
- Streamlined inputs allow crew members to enter all the required information with just a few taps.
- Report data can be integrated with the incident reporting module in your Safety Management System.



PVT WorkFit uses the Psychomotor Vigilance Test, the global gold standard measure of alertness and vigilant attention.

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# Fatigue Training and Personalized Insights



Effective fatigue risk management requires a partnership between the organization and individual employees. Organizations must provide fatigue risk management resources to educate and support their employees. Employees have a personal responsibility to manage their schedule and get the rest they need to be fit for work. Our Countermeasure™ tools enable organizations and their employees to manage fatigue risk together.

**Integrates with Apple Watch, Fitbit, and other wearables.**

## FATIGUE TRAINING PLATFORM

Deliver fatigue training content to your employees anytime, anywhere.

- Employees can access our web-based library of fatigue risk training courses on any device.
- Course content can be tailored to comply with your organization's specific fatigue risk management training requirements.
- Managers can see completion and pass rates on courses.



“Countermeasure works for me because it helps me track my sleep and fatigue in a way that keeps my personal information private.”

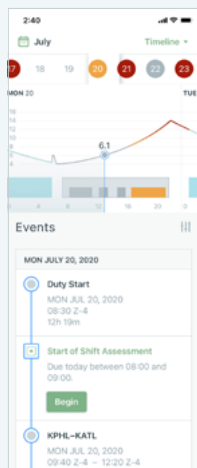
– Mechanic at a major airline

## COMPANION MOBILE APP

Put the power of Fatigue Meter™ and PVT Workfit™ into the hands of your employees. Organizations that subscribe to our Fatigue Meter or PVT Workfit products can offer their employees access to personalized insights accessible on their mobile device.

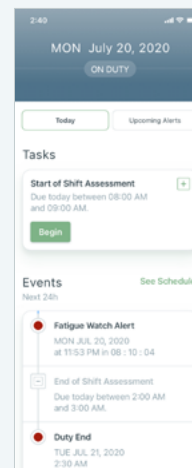
With a Fatigue Meter integration, your employees can:

- Quickly identify the high risk duties and flights in their upcoming schedule
- Track sleep patterns
- Explore insights about their fatigue trends and patterns



With a PVT WorkFit integration, your employees can:

- Receive notifications when scheduled assessments are due
- Perform PVTs and view a timeline and statistics of their assessment history and scores



Countermeasure™ delivers fatigue training and personalized insights to empower your employees to manage their individual fatigue factors.

**Request a live demo today!**

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