



FATIGUE & DISTRACTION RISK SOLUTIONS

CATERPILLAR®

FATIGUE AND DISTRACTION RISK MANAGEMENT

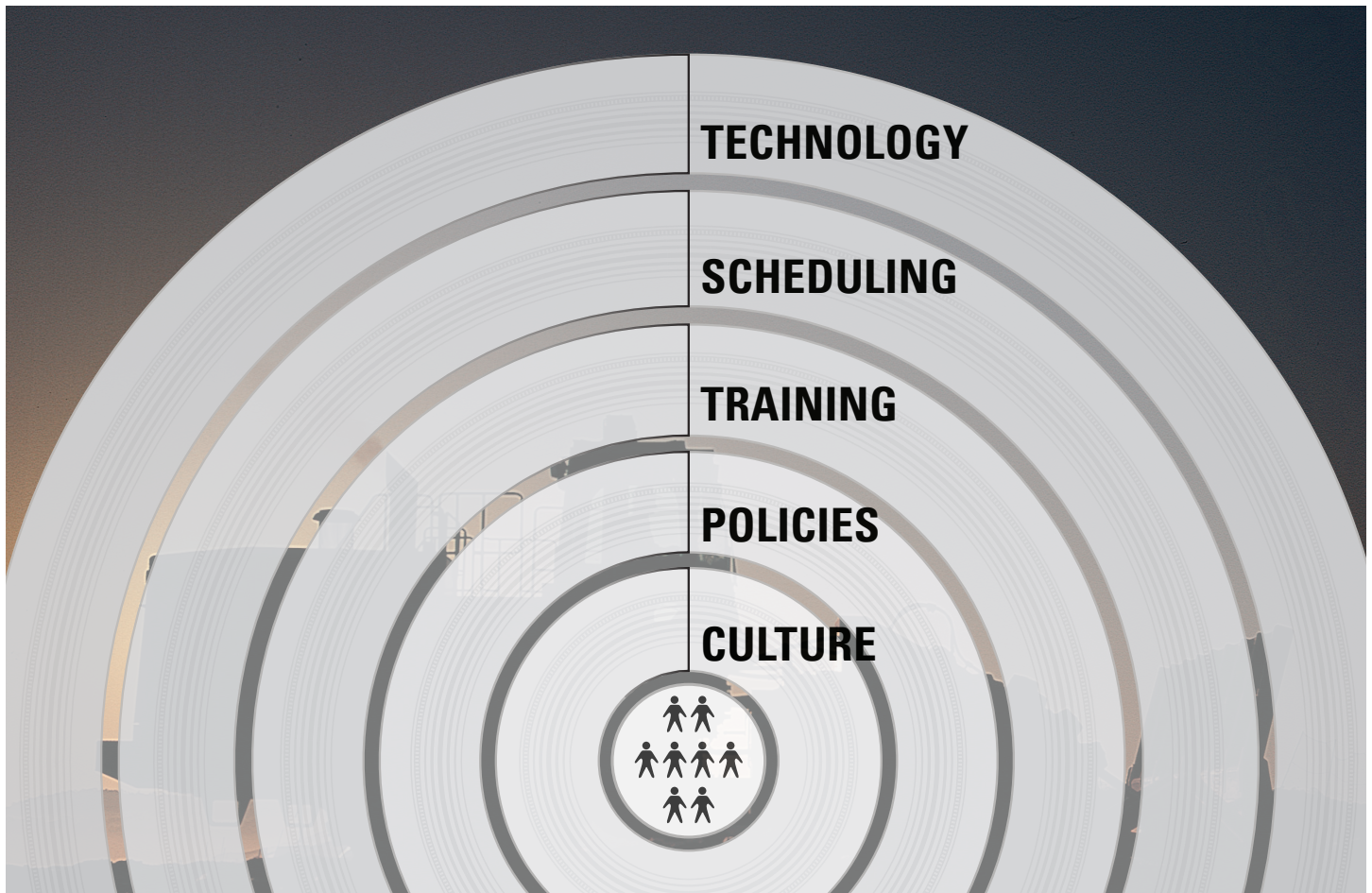
VISIBILITY TO RISKS YOU'VE NEVER SEEN, AND THE POWER TO MANAGE THEM.

Fatigue and distraction are “hidden” causes of excess costs, incidents and injuries in many organizations. Caterpillar offers the solutions and technologies to detect risk in real time, alert operators when a fatigue or distraction event occurs and drive a continuous improvement process that applies multiple layers of protection to your operation.

What you can **SEE** you can **MEASURE**

What you can **MEASURE** you can **MANAGE**





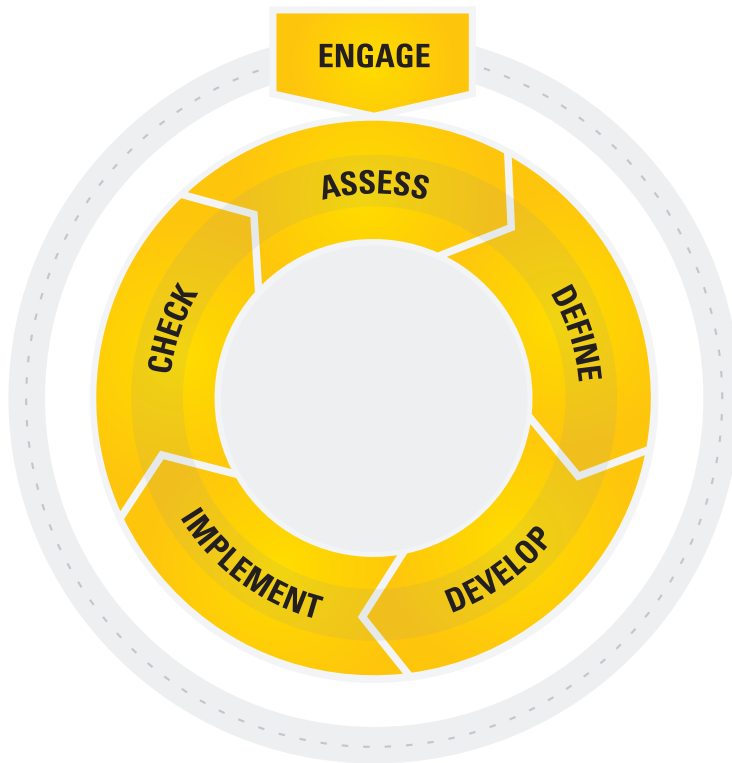
LAYERS OF RISK PROTECTION

An effective Fatigue Risk Management System utilizes multiple layers of protection to minimize the risk of fatigue hazards becoming incidents. Caterpillar is uniquely positioned as the sole provider of a comprehensive solution that merges people, process and technology to optimize risk protection.

Together these layers will deliver not only reduced fatigue risk but also greater operational productivity and reduced costs. Embedded in the development process are change management methodologies to help your organization absorb and embrace the transition to an improved safety culture and maximize results.

FATIGUE RISK MANAGEMENT SYSTEM

The Fatigue Risk Management System Process is most effective when deployed in the sequence **Engage > Assess > Define > Develop > Implement > Check**, but each phase can also be used individually to help you reach specific goals.



ENGAGE

Bring leaders together to learn about the negative impact fatigue and distraction can have on operations and understand the process Caterpillar uses to design layers of risk protection.

- Build foundations for a long-term and successful Fatigue Risk Management System
- Educate key stakeholders on fatigue and its impact on performance
- Understand the operational benefits of implementing a comprehensive FRMS
- Establish a mission that recognizes fatigue management as an integral part of operations
- Focus on the tasks that are consistent with the leadership journey
- Learn how to assess the current health of the safety culture
- Apply tools to initiate the change process
- Identify champions and supporters to ensure obstacles are overcome

ASSESS

Caterpillar will assess existing data and gather additional input, if needed, to help you understand the current scope of fatigue risk within your organization. The assessment will be used to build an improvement plan drawing on data points from people, process and technology.

- Safety Perception Survey
- Wearable Technology Data
- NASA Task Load Index
- Staffing Analysis
- Driver Safety System Data
- Schedule / Roster Assessments using FAST

DEFINE

Leverage people, process and technology to define a practical, effective management system that predicts, measures and mitigates fatigue and distraction and provides operators tools and knowledge to improve their alertness.

- Create a Fatigue Risk Management System (FRMS)
- Fatigue Risk Management (FRM) Task Team Training

DEVELOP

Create a site-specific accountability system for deploying the layers of risk protection outlined in the FRMS. Use existing tools and / or new solutions designed to counter identified problems.

- Training & Education
- Sleep Disorder Screening and Treatment
- Work Load Assessments
- Shift Schedules
- Policies
- Staffing
- In-cab Technology
- Wearable Technology
- FAST

IMPLEMENT

Deploy and embed the FRMS layers of protection into your organization's systems and processes.

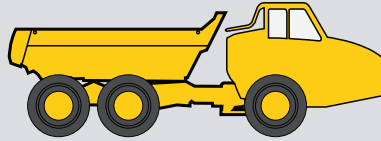
CHECK

Re-assess people, processes and technology using tools in Assess phase to evaluate progress and identify continuous improvement opportunities.

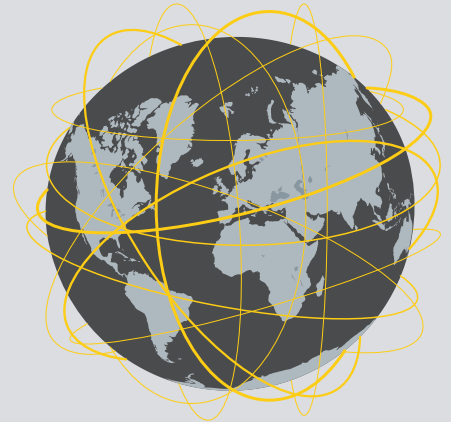
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**MILES
WHILE ASLEEP**

using an onboard fatigue
monitoring system



**x 2,500
TRUCKS STUDIED**



59,000,000

miles monitored on haul
roads around the globe



**290
HOURS**

travelled while
operators were
asleep at the wheel



Using an onboard fatigue monitoring system, Caterpillar alliance partner Seeing Machines has monitored 59 million miles on haul roads around the globe. The results are alarming – more than 1,200 miles and 290 hours travelled while operators were asleep at the wheel.



Todd Dawson
Fatigue Practice Manager

DEEP EXPERTISE

Todd Dawson leads a team of Caterpillar safety culture consultants who work alongside customers to develop operational excellence through safety improvement. Over the past 20 years, Todd has become one of the leading experts in developing and implementing comprehensive fatigue risk management systems in large, complex environments. He has played an integral role in shaping the landscape of fatigue management, particularly in the transportation, mining and oil/gas industries. His recent work in the pipeline industry and assisted companies with fatigue mitigation as part of PHMSA regulations. Todd brings a strong academic and research background together with invaluable real-world experience to provide fatigue management solutions that are both practical and effective. He received his Bachelor of Science degree in Biological Anthropology from Harvard University.

CATERPILLAR SAFETY SERVICES

Wherever you are on your journey to zero, we have tools to help you build engagement, accountability and operational excellence.

BUILT FOR IT.™

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