



The Brain-Centric Reliability™ System (BCR)

The Brain-Centric Reliability™ System (BCR) and its suite of interventions help an organization focus on more reliable human performance and address identified gaps to ensure its operation is free from significant unplanned events. These events may be related to catastrophe, injury, quality variability, damage to assets, and related reputational damage.

When we adjust work processes and the work environment itself to accommodate how the brain operates, the result is right-first-time performance.

Executive Summary

DEKRA OSR incorporates components of a traditional human and organizational performance (HOP) approach then expanding on this using a deep understanding of how the human brain performs at work, at home, and on the road.

BCR™ creates strong human performance reliability through an applied understanding of how humans get it right (and wrong) in known ways, all based on the natural functioning of the human brain as well as related decision science that drives us

Brain-Centric Reliability focuses on Three Core Areas:

Values-Based Alignment and Decision-Making. The organization prioritizes decisions to better ensure leaders, teams, and individuals make aligned and safe decisions when it really counts (For example: By assuring safety first when this is in conflict with meeting customer demands.)

System Enhancement. The organization builds in defenses to guard against the Brain-Centered Hazards, which are pre-cursors to Human Performance Error. (Examples of these defenses: SOPs, Job Briefings and Event Learning/ investigations that improve human performance reliability.)

Skills to Improve Human Performance Reliability. Building leader, individual and team human performance capabilities for critical error reduction is key given that many people believe these errors only happen to “other people” and not themselves. Therefore they don’t make full use of existing performance tools like Take 5s, Stop Work, JSAs, and Job Briefings. Here, a paradigm shift for all employees through a meaningful understanding of Human Performance Reliability accelerators is key.

The Brain-Centric Reliability™ Model



SEVEN BRAIN-CENTERED HAZARDS™



Human Performance Reliability Interventions

ORGANIZATIONAL ALIGNMENT:

Alignment to Guide Values-Based Decision Making

When employees and leaders make decisions based largely on their own perceptions of what is risky versus what is acceptable, injury and operational upset may result. Starting at the top by aligning on values, and cascading this alignment throughout the organization allow for values-based decision-making and stronger operational discipline and safety performance. This intervention focuses on decision science and related system integration for improved decision quality and outcomes.

Understanding Brain-Centered Hazards

This session allows executives and senior leaders to align their thinking on how human performance errors occur, and how to incorporate a brain-centric focus to safe operations as they look through the lens of human performance reliability. This intervention focuses on knowledge building and strategy discussion.

Controlling Brain-Centered Hazards

Controlling Brain-Centered Hazards allows supervisors and line managers to learn practical application of human performance improvement actions to better support their teams for right-first-time performance.

SYSTEM ENHANCEMENT:

Brain-Aligned SOPs™ Consultation

Internal SMEs focused on Standard Operating Procedure (SOP) development receive brief training on the principles of brain-alignment. They then practice applying brain-aligned design principles to improve selected sample SOPs or critical work documents. SOP consumers are less likely to make errors such as skipping steps, misunderstanding intent, or not realizing the importance of specific aspects of the procedure due to poor wording and visual design. This consultation can make other tools, such as Checklists or Toolbox Talks, more reliable.

Brain-Activating Job Safety Briefings Consultation

This intervention improves reliability through pre-start optimization. Existing safety enabling processes like Job Briefings, JSAs, Safety Meetings, and Town Halls, are selected for review by internal SMEs as the team learns to address Brain-Centered Hazards. An iterative support post session adds sustainability to this built-in human performance intervention.

Brain-Activating Job Training™ Consultation

Sparking insight or impart skills for later use is what training is all about. However, too often neither is accomplished despite significant investment of time and resources. This consultation improves the company or site's approach to training and imparts capabilities for internal SMEs to design training that incorporates the neuroscience of learning and memory. It teaches neuro-facilitation skills as well, for strong science-based engagement and retention of training content. This intervention improves training quality for true learning that informs correct job task performance.

Event Learning Consultation

A group of internal SMEs focus on high quality event learning (investigation) of unplanned events to learn how to discover what led to the actions that contributed to an unplanned event. Asking "Why" will not accomplish this important task. In this way the group learns new ways to arrive at the full human performance event chain for optimal action planning and future risk mitigation. This intervention shifts an organization's role from "investigation" to "event learning" through the integration of human performance lines of inquiry that informs effective collaborative learning and action planning.

Fatigue Risk Management System (FRMS)

Fatigue increases risk for human performance error. Reducing fatigue risk in a systematic way requires a comprehensive approach. DEKRA OSR's world-class FRMS helps client organizations reduce fatigue risk at a customized pace and scope. This can include organizational fatigue risk analysis, creating or improving a fatigue risk management policy and practices, fatigue management and shiftwork training, and making individual fatigue assessment capabilities available within the organization.

Human Machine Interface (HMI) Consultation

This consultation gives internal SMEs capabilities to address latent conditions regarding how employees interact with machinery or other technology. This work also includes the identification of relevant Brain-Centered Hazards within targeted critical work areas and allows the organization to better design work environments that allow employees to be safe and perform optimally.

The Making Safe Decisions® Approach

Four modules of human performance skills enhancement gives the workforce an opportunity to share in a common understanding of how to reduce their risk for error within critically important tasks. It also provides an understanding of the human brain as it relates to work tasks and allows employees to plan for reliability and to foster improved situational awareness and decision making.

Exposure Based Safety™ Technology (Human Performance Upgrade)

DEKRA OSR's behavioral observation process is validated by Cambridge University as an effective exposure reduction intervention. Additional technology improvements have led to the creation of EBS™ including real-time exposure control tracking and related report out dashboards. A focus on human performance reliability can now be infused within any existing behavioral observation process or via EBS™ to inform employee discussions of how to control Brain-Centered Hazards in real-time for a safe and high quality result each day.

Building Shiftwork Vitality™ Training

This brief training focuses on fatigue risk management. It provides information and insight on how the brain benefits from sleep. It also shows how sleep hygiene, the neuroscience of sleep, dietary choices and digestion, and shiftwork guidance will optimize performance results every day. This intervention improves individual decision-making by alert, well-rested employees at all levels.

Customized human performance improvement projects are welcomed.

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Conclusion

For companies that have reached a plateau in safety improvement, are experiencing high-potential near misses, or increases in injuries or critical errors, the solution is clear: Investing in human performance reliability driven by neuroscience will get them to the next level of performance.

Next-level safety improvement is achieved by:

Ensuring effective layers of protection related to human performance reliability.

Improving knowledge, skills, processes, and alignment.

Building capabilities to empower aligned and value-based decision making.

Installing improvement throughout the work process to prompt safe correct actions systematically.

Applying neuroscience that drives safe results

The Advantage of DEKRA OSR's Human Performance Reliability Solution:

A proven track record of:

- Injury reduction
- Values-based decision making
- Building skills in human performance reliability

Adds protective value to existing work processes by design.

Sustainably safe and in-control operations.

Transfer of expertise to client SMEs.

Reduces performance variability across levels.

Sustainability embedded for continuity of change.

Services available globally for scalable intervention.

BCR™ fits within existing systems and processes.

Operationalizes human performance capabilities with leaders through frontline employees.



Author

David Musgrave is VP and Subject Matter Expert for DEKRA OSR's Human Performance Reliability group. With 20 years of experience in psychology and applied neuroscience, David focuses on shaping solutions with clients that create next level safety performance based in science. DEKRA OSR's global Human Performance team is powered by a brain-centric approach that helps maintain reliable, safe, and in-control operations.

Learn More Interested in learning more about how you can enable your teams to achieve the next level of human performance reliability? **Connect with us!**

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