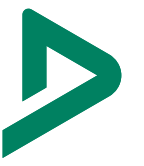




WHITE PAPER

DEKRA's Methodology for Assessing Safety



DEKRA has developed a holistic approach to achieving and sustaining EHS improvements.

Executive Summary

Heightened scrutiny of environmental, health, and safety (EHS) performance means organizations face increasing pressure to address safety concerns comprehensively. To meet this need, DEKRA has developed a holistic approach to achieving and sustaining EHS improvements. A Holistic Safety Assessment offers profound insights into an organization's safety dynamics and paves the way for meaningful safety enhancements, considering the organization's risk profile, resources, and business environment.

DEKRA's methodology revolves around examining five critical domains — leadership and culture, governance, exposure control systems, performance management, and operational interface — encompassing 21 organizational disciplines. Organizations that leverage these domains effectively are able to achieve world-class results in controlling risk and exposure.

The five domains provide a framework for identifying vulnerabilities in an organization's systems and processes that impact its ability to recognize and control risks. The assessment process collects and analyzes quantitative and qualitative data in each domain to form a comprehensive view of an organization's safety performance. It identifies barriers to improvement and equips leaders with practical recommendations and an implementation road map to operationalizing the path forward.

By systematizing the process of understanding and mitigating exposures, DEKRA's holistic approach to safety assessments enables organizations to reduce risk; achieve sustained, transformative safety performance improvement; and establish a robust safety culture to protect people, property, and communities.

A Road Map for Long-Term Safety Improvement

With public and media eyes and ears on business, many stakeholders are becoming increasingly concerned with organizational EHS performance (sometimes referred to as holistic safety performance). They may cite repeated safety incidents stemming from similar causes, inadequate performance against EHS metrics, the unrecognized role of human actions in the evolving workplace, and unaddressed merger and divestiture influences on worker and community risks.

These are valid concerns that can't be adequately addressed by piecemeal solutions. Based on our decades of experience in organizational safety, reliability, and process safety, DEKRA has found that sustainable EHS improvements require holistic solutions. Implementing these solutions begins with the powerful insights provided by a holistic assessment process. A Holistic Safety Assessment provides a comprehensive yet practical, view of organizational factors that determine why exposures occur and what risk factors most likely lead to incidents and other undesired events.

Understanding these factors in the larger organizational context enables the development of a road map for long-term improvement that accounts for the organization's risk profile, available resources, and business environment.

Approach

In helping organizations improve their overall EHS performance, DEKRA has identified their ability to recognize and control exposures as a key variable. Why exposures? Because exposures originate at the potential intersection of hazards and people, whether workers, stakeholders, or the affected community. And where exposures exist, so does the potential for incidents, including injuries and catastrophic events, both inside and outside the operational fence line. That means that when exposures are reduced, the safety of workers, stakeholders, and the community improve.

But why do certain organizations, business units, facilities, etc., appear more prone to incidents than others? Are there differences in their exposure and risk postures? To answer these questions, the DEKRA Holistic Safety Assessment examines five key domains encompassing 21 organizational disciplines. The results lead to strategic recommendations for transforming how a particular business recognizes and controls its exposures and risks, thereby reducing incidents that may impact workers, adjacent communities, or others.

These five domains, illustrated in Figure 1, provide the levers that may be used to systematically identify

system vulnerabilities. They influence the organization's effectiveness in recognizing and controlling risk, as well as its exposure to adverse consequences emanating from operations. Organizations that are robust in implementing the domains based on broad organizational understanding display world-class results in controlling risk and exposure.

DEKRA's approach evaluates cultural, organizational, and system performance in the EHS and reliability aspects of the organization through the lens of these five domains. This evaluation enables a holistic understanding of the full range of exposures and risks that may originate from an operation or process. Using this information, DEKRA is able to provide:

- Quantitative measures of organizational performance
- A diagnosis of the problems and barriers preventing higher performance
- Where performance is already high, a pressure test to uncover blind spots or help accelerate the journey
- Most importantly, a critical few, foundational, pragmatic recommendations to reduce risk and drive sustained transformative performance improvement

These five system domains are interdependent — how one domain functions may support or influence how one or more of the others function. Understanding how these domains function and interact leads to those critical few strategic recommendations so important to creating the foundational

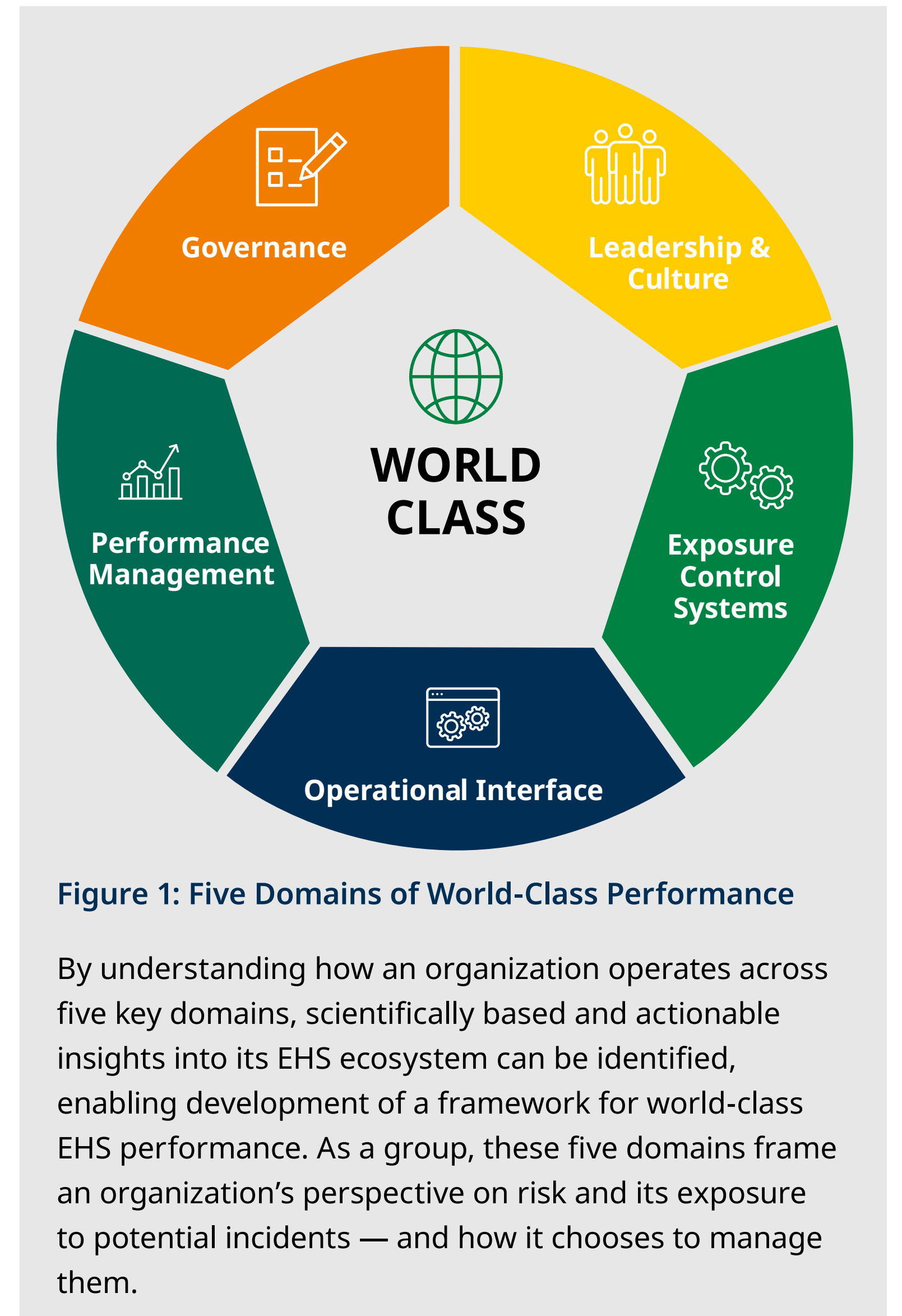


Figure 1: Five Domains of World-Class Performance

By understanding how an organization operates across five key domains, scientifically based and actionable insights into its EHS ecosystem can be identified, enabling development of a framework for world-class EHS performance. As a group, these five domains frame an organization's perspective on risk and its exposure to potential incidents — and how it chooses to manage them.

transformational changes that reduce risk and exposure, not just today but in a sustainable way going forward.

Assessment Inputs — Quantitative and Qualitative

The DEKRA Holistic Safety Assessment process draws on quantitative and qualitative data to develop a clear picture of how an organization operates, how it considers risk, and how it recognizes and controls exposure.

In turn, the results of this assessment indicate the organization's level of safety performance (its maturity) relative to its workers, stakeholders, and the community. These data inputs include quantitative data on incidents and near incidents; investigative, audit, and inspection reports; and policies and programs. Each is examined to understand the organization's overall holistic safety systems and performance. Additional quantitative data is gathered from people across the organization by using DEKRA's Organizational Culture Diagnostic Instrument (OCDI).

To get to the why behind the what of the quantitative data analysis, qualitative data is gathered through individual interviews with executive team members; focus groups with key specialty teams (e.g., training); and field visits that include interviews and focus groups with plant leaders, supervisors, and line workers. Additional qualitative data is gathered at

the operational interface through direct observation and discussion with workers engaged in real-time activities and validation of system and process implementation.

How the Five Domains of World-Class Performance Drive Transformational Change

Leadership and Culture

As Figure 2 demonstrates, leadership's influence is felt throughout the organization. Leaders drive performance and culture by their actions (and inactions) and by the messages they convey. Through culture, leadership exerts a powerful and sustained influence on both behavior and the overall functioning of the organization. Knowing this, we assess the effectiveness of culture and leadership around EHS culture, workforce involvement, and stakeholder outreach.

Leadership's actions and behavior establish the level of seriousness that people in the organization assign to safety. These include the value placed on rules and procedures, reporting near misses, engagement, and performing with excellence.

DEKRA uses its Organizational Cultural Diagnostic Instrument (OCDI) to delineate the organization's overall culture, as well as to provide an understanding of workers' relationships with one another and with their supervisors and managers. The OCDI data can provide comparisons between sites, departments, and levels of the organization. DEKRA uses interviews and focus groups to probe for the



Figure 2: Leadership Model for Influencing Culture

Strong leadership functions through rings of influence, where the leaders exhibit their personal beliefs and values (personal safety ethic) through their leadership style to those around them. This in turn impacts the individual leader's proficiency in the seven best practices and, when considered collectively across the leadership team, shapes the organizational culture.

issues and actions that explain the scores employees give on their OCDI (the why behind the what). The OCDI is unique as a survey tool in that it is predictive of organizational safety performance measures and indicative of key indicators of workplace satisfaction. This in turn provides a depth of understanding that enables targeted solutions and the ability to measure progress over time.

Governance

Governance is how the organization deploys critical safety decisions at all levels, communicates them across the organization, and implements them at appropriate levels of authority. Key to governance is how and at what levels various types of decisions are made and who is responsible for their delivery. In assessing governance, we examine management review and continuous improvement, measurement and metrics, auditing, and incident investigation processes.

Sound governance also requires an understanding of lagging, leading, and predictive data. This includes the performance of exposure controls and risk-mitigation activities related to potential for life-altering or fatal injuries and for catastrophic events. Whether the organization uses such data in meaningful and effective ways is part of the assessment of governance.

Exposure Control Systems

These are the systems that organizations use to identify, reduce, and control risk and exposure. They typically include operating procedures, safe work practices, asset integrity and reliability, operational readiness, documentation management, contractor management, hazard identification and risk analysis, process knowledge management, and change management. DEKRA systematically reviews the presence and application of these nine systems in its assessment process.

The assessment provides insight into how safety systems and programs are implemented, their quality, and how they are sustained.

Understanding begins with a review of program documentation, followed by an assessment of the program's effectiveness in the field.





Direct observation and discussions with employees and leaders provide real-time understanding of any gaps that may exist between objectives and implementation. Field verification of systems determines the degree to which documented intentions are put to practice. The field experience normally surfaces best practices, as well as important opportunities for improvement.

Performance Management

Performance management focuses the organization's attention on what truly matters: selecting the right people for the needed role, providing them resources to be successful, including knowledge development, motivating people to perform, recognizing individual and team successes, and properly directing accountability for performance. How well and how much safety is appropriately incorporated into these systems determine the sustainability of effective, reliable, and resilient performance.

performed successfully, or not, consistently over time. These influences may be confined to a single worker, a team, or critical processes. When not adequately and consistently controlled, a state of vulnerability develops that may encompass immediate workers, the larger operation, the community, and the surrounding environs.

Through formal field observations, process validations, and other engagements, we examine the tools, systems, and behaviors employees have in the course of their work to recognize and mitigate exposures for themselves and others. Specific areas of review include conduct of operations and operational discipline, compliance with standards, and emergency management.

At the operational interface, all the influences of the previous four domains manifest themselves in the creation of work product.

DEKRA assesses training and performance assurance and EHS competency, including the resources allocated to the development of safety skills and leadership, the motivation to continue to use them, and meaningful access to supervisors and mentors who guide workers to perform safely and effectively. Key to sustaining safety is clarity and consistency in policies, such as supervisor-to-subordinate ratio expectations, and working within capacity.

Operational Interface

The operational interface is the point in the work process where people physically interact with equipment, facilities, and processes that enable work to get done to create value for the organization. This is the arena where risk is manifested and exposure originates, and EHS performance is (or is not) realized. Human performance reliability and human error are key to the potential for work being

▶ **Understanding the operational interface gives us a real-world view of the risks and exposures workers face in the course of their work and how those influences can be managed so that the workers can protect themselves, their operation, the community, and the surrounding environs.**

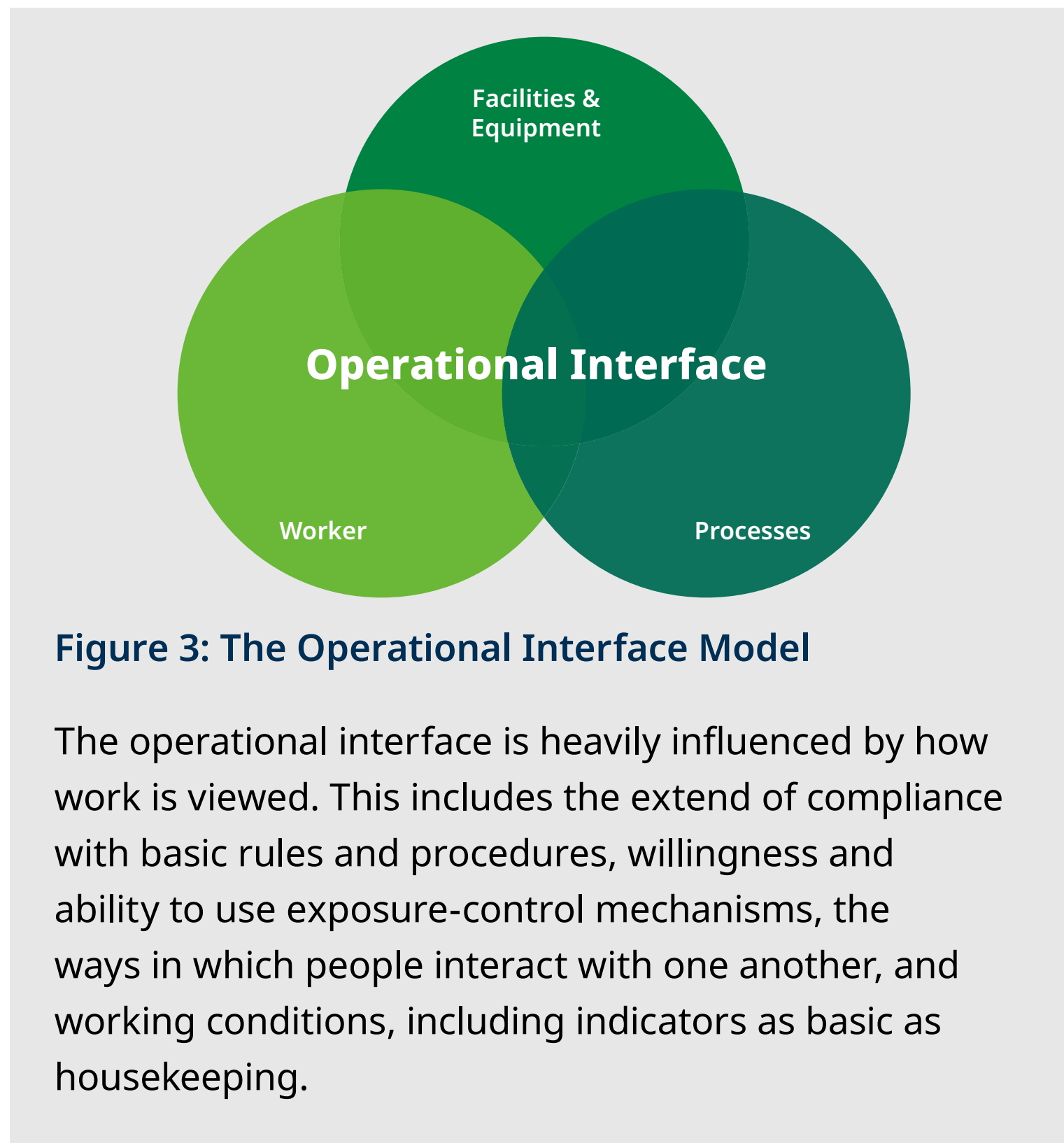


Figure 3: The Operational Interface Model

The operational interface is heavily influenced by how work is viewed. This includes the extend of compliance with basic rules and procedures, willingness and ability to use exposure-control mechanisms, the ways in which people interact with one another, and working conditions, including indicators as basic as housekeeping.



▶ 1. Quantitative Baseline

Orientation of leadership and internal assessment team.

Planning the assessment process and assigning actions to facilitate analytics and diagnostics and gathering documentation.

Corporate Interviews of key executives and leaders; review of systems.

OCDI (Cultural Diagnostic) administered across the organization.

Midpoint Report to deliver quantitative data for a status discussion.

2. Qualitative Validation

Field Assessment to understand the factors influencing the culture and exposure-control mechanisms through interviews, focus groups, and line-of-work engagements.**Planning** the assessment process and assigning actions to facilitate analytics and diagnostics and gathering documentation.

Final Report to leadership and the assessment team of qualitative observations, overall evaluation, and key strategic recommendations with tactical courses of action for implementation.

Executive Agreement on the approach forward and how to communicate results and actions to the organization.

3. Transformation Change

Development of a Road Map to operationalize the path forward, identifying resources, responsibility, and timing of particular courses of action to fully implement a sustainable plan.

Leadership Review of the road map and acceptance of its final form, providing the sponsorship and resources necessary to fully implement it.

Leadership Communication of the plan and periodic updates to the organization on its progress.

Oversight and Support from the executive safety governance team owning responsibility for full-plan implementation.

Summary of Assessment Process

The centerline flow of activities used to complete the assessment is outlined I. This sequence of steps enables collaboration and ongoing communication throughout the assessment process. It also provides for progressive sharing of results and opportunities, allowing for adjustments, if indicated. This process then flows beyond the final recommendations into the creation of a road map, enabling the organization to create sustained transformative change.



▶ Conclusion

Leaders need a thorough and sound understanding of the organization through the collective eyes of their workforce in order to provide superior safety leadership. They are responsible for understanding risk and identifying and controlling injury exposure throughout their organization, so understanding what actions they might take and which might be effective is paramount. As leaders reach for evermore challenging goals, DEKRA's holistic approach to safety assessments gives them a systematic process to understand critical elements affecting exposures across their organization. The DEKRA Holistic Safety Assessment gauges the organization's maturity across five key domains and provides an actionable road map, so leaders can tailor solutions to control risk; reduce workplace exposure; and improve the safety of their workers, their stakeholders, and even their community.

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and identifying and controlling injury
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