

# 2023 RESEARCH & INNOVATION SUMMIT



BCSP  
FOUNDATION



ROUNDTABLE  
ANALYSIS

# 2023 RESEARCH & INNOVATION ROUNDTABLE ANALYSIS

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The BCSP Foundation's Research & Innovation Summit represents a convergence of committed individuals unified by a singular mission—ensuring the safety of people. Their careers are dedicated to this noble cause, exemplified by their participation in the Summit and by the valuable thoughts, concepts, and inquiries presented here.

The contents within encapsulate innovative ideas intended to stimulate contemplation on how this profession can evolve, adapt, and transform in sync with changing times. These topics will provide the framework for our Research & Innovation Grants, ensuring that the ideas generated during Summit roundtable discussions are actively funded and researched.

This industry mandates a lifelong commitment to learning, and our aspiration is that the insights from these discussions will ignite fresh, reflective ideas that will provide us all with new, better, and safer ways to work.



# TECHNOLOGY



## How can we apply technology to reduce risks?

This roundtable discussed the possibilities of using technology in an increasingly technological world to identify risks, perform assessments, and communicate with employees. Specifically...

- The use of AI to source clean, quality data to identify and assess risks.
- Designing risk reduction technology with the involvement and acceptance of the end-users.
  - What are the challenges in designing this?
- The efficacy of technology in enhancing employee competency and risk reduction.
  - Use of virtual reality for training.

# HIGH SEVERITY/ LOW LIKELIHOOD ACCIDENTS

This roundtable discussed the types of incidents or events that have the potential to cause significant harm, damage, or consequences, but the probability of these events occurring is relatively low. This roundtable discussed the following questions to address these types of accidents.

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- Why do these events occur?
- How do we maintain focus on these events?
  - There is a tendency to get lost in the data or lose visibility against low severity/high volume events.
- How do we identify the right precursors to these events?
  - How do we measure them?
- How do we increase visibility on the hazards and near misses that are not reported?
- How can we take the lessons learned from other parts of the world and apply them to the U.S.?
- How does organizational attitude affect the perception of risk?
- Can an external entity (i.e., NIOSH) create a system to focus on prevention of fatalities through design?



# DISTRACTED WORKERS

This roundtable addressed employees who are not fully focused on their tasks due to various internal or external factors.

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- What are some of the causes of employee distraction?
- How can management be more present for employees with personal issues?
- What is the “industry definition” of distraction on worksites?
- How can management influence staff to default to safe behaviors when distracted at work?
- What types of technology can be implemented to limit worker distractions?
- How long does it take for an employee to become distracted?

# YOUNG WORKER SAFETY

Those between the ages of 15–24 are particularly vulnerable to workplace accidents. This roundtable discussed ways to create a safe work environment for those with limited risk familiarity.

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## 1 EXPANSION OF CULTURE

- How do we make the worker feel like the organization is invested in them?
  - Organizational and behavioral-based safety.
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## 2 DIVERSITY, EQUITY, AND INCLUSION

- How do workers become invested in the organization?
  - How should diversity be addressed?
    - Language barriers/cultural pressures.
  - How do we close the communication gap between generations and promote open communication?
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## 3 MENTAL HEALTH

- How do we address the mental health crisis among young workers?
- Strategies for personal interventions and organizational intervention.



# PREVENTION THROUGH DESIGN

The concept and approach that aims to integrate safety, health, and environmental considerations into the design and engineering of processes, systems, equipment, and facilities. This roundtable group discussed...

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- Embedding prevention through design in curricula as a required topic.
  - Engineering programs.
  - Utilization of case studies to help make the topic real and motivate students.



- Teaching life cycle review/analysis.
  - True systems approach.
- Integrating engineering, safety, legal, and business in the reviews.
- The need to connect the process to other aspects of the business.



- Overcome “silo” approach.
- Integration into management systems.
- Teaching the phase-gate approach within safety and other business units.

# EFFECTIVELY ADDRESSING INCIDENT CAUSATION

This roundtable discussed the factors and underlying reasons contributing to accidents, near misses, or other undesired events in various contexts. The group came up with the following research topics to address incident causation.

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- Does leadership/team-building (or lack of) in organizations impact incident and injury metrics?
- What can be learned about the effectiveness of corrective actions implemented after causation is determined?
- How large is the gap between “common practice” in organizations and “common knowledge”?
  - Does this gap have a noticeable effect on incident/injury rates?
- What type of impact does recording/reporting near-miss incidents have on the quality of an organization’s accident investigation process?
- How does having a robust safety program affect an organization’s accident investigation process?



INCIDENT INVESTIGATION  
Summary Report

Address: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Location of Incident: \_\_\_\_\_  
of Incident: \_\_\_\_\_



# ERGONOMICS



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**The scientific discipline focuses on designing and arranging products, systems, tasks, and environments to optimize human well-being, comfort, safety, and performance. This roundtable specifically examined...**

- How does technology/artificial intelligence play a role in ergonomics?
- What are the psychological, behavioral, social, and legal implications of technology data collection?
- How do we avoid the Hawthorne effect?
- Will data help standardization?
  - Functional requirements/limiting factors
- What are the ethical and legal implications of engineering controls versus physical capabilities?

# OVERCOMING CULTURAL DIFFERENCES IN SAFETY

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Cultural influences can significantly affect attitudes, behaviors, and perceptions related to safety in various settings. How do we address differences (generational, geographical, religious, linguistic, ability-related, etc.) in order to develop effective safety strategies? This roundtable discussed...

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- What is cultural humility?
  - What is the current state?
  - Where should it be?
- What is the relationship between cultural humility and safety, security, and productivity?
- How do we ensure knowledge of subgroups is effectively communicated?
- How do we identify the strengths of each generation?



# INTEGRATION OF ACADEMIA AND EXPERIENTIAL LEARNING

The integration of academia and experiential learning into ehs can lead to a more effective and comprehensive approach to safety education and training. This roundtable group asked...

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- How can experiential learning be more effectively incorporated into academic EHS programs?
  - In-person/online
- How can EHS internships and learning opportunities be structured and promoted for students?
- How can EHS awareness, knowledge, and research be integrated into academic programs?
- How can academia be used as the basis for safety-focused design?



# SAFETY METRICS AND STANDARDIZED TECHNOLOGIES

Safety metrics and standardized technologies are essential components of effective EHS management systems. This group asked the following questions...

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- What are the proactive metrics that can be tracked?
  - What can be obtained considering privacy requirements?
  - How can metrics be made scalable for various companies/industries?
- What can replace TRIR that businesses will buy into?
- What is a leading and lagging indicator?
  - What are standard definitions?
  - Who is deciding these definitions?
- Outside of surveys, how can we measure employee engagement in ways that are not time-consuming?
- How can industry alliances be utilized for key metrics and data mining?
  - Where is the overlap and divergence in these industries?

# MENTORSHIP



**Mentorship plays a critical role in the career development of young people beginning an academic or professional ehs career. It can aid in personal growth, career development, education, and professional advancement. This roundtable asked the following questions regarding mentorship.**

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- Does gender play a role in mentorship?
    - Is mentorship more successful when gender is aligned or when the mentee selects the gender they prefer in a mentor?
  - How does remote work impact mentorship?
    - Does face-to-face/video play a role in the quality of mentorship?
    - Is the efficacy of meeting in person worth the cost/time?
  - Is there an optimal number of mentees?
    - Is there an optimal capacity for the mentor?
    - Does the number of mentees affect the quality of mentorship?
  - What is the efficacy of mentors outside the organization/management?
    - Should mentors outside the mentees' company be prioritized?
    - Can a supervisor be an effective mentor as opposed to someone without a supervisory role?
  - Is there an optimal formal structure or time that would be preferable when setting up a mentorship program?
    - Monthly, quarterly, etc.
    - How formal is too formal?
    - Differences between career growth/competency plan and mentorship.

# RECRUITING THE NEXT GENERATION OF SAFETY PROFESSIONALS

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Recruiting the next generation of safety professionals is crucial for maintaining workplace safety practices. How do we ensure the need for safety professionals is filled? This roundtable discussed...

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- How can professionals with EHS responsibilities be educated and engaged?
- How can people be compelled to choose safety as a career path?
- Why are undergraduates choosing safety as a career?
- How can the academic community (student advisors) be educated to promote the benefits of a safety career?
- How are professionals recruited from outside the profession?
  - How are they prepared to fulfill the role?



# STANDARDIZATION OF QUALIFICATIONS

The standardization of qualifications refers to the establishment of consistent criteria, knowledge, skills, and competencies that individuals need to meet in order to be recognized as qualified in a particular profession or field. This roundtable group asked the following...

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- What is the business case for the standardization of qualifications?
  - Return on investment?
- What are the potential impacts of standardization of qualifications on small businesses?
- Who are the drivers of change for standardization of qualifications?



# TEMPORARY WORKFORCE MANAGEMENT

Safety metrics and standardized technologies are essential components of effective EHS management systems. This group asked the following questions...

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- Is it a lack of challenge/intellectual stimulation/engagement that is preventing the workforce from sticking?
- Where are the success stories of temp-to-hire?
- What has changed that has resulted in the workforce culture that exists today?
- How can the pinch points of temporary workforce in a region be proactively predicted?
- Is there something of low cost to the employer that can attract workers to stay (other than money)?
- How can we study the workforce practices of companies like Chick-fil-A® to gain insight into engaging employees?



# MENTAL HEALTH AND PSYCHOSOCIAL RISK FACTORS IN THE WORKPLACE



**Mental health and psychosocial risk factors in the workplace are critical areas of concern that impact the well-being and job performance of employees and the overall success of organizations. This group asked...**

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- How are employees addressing the psychosocial risk factors for mental health in the workplace?
- What are the working conditions and tasks that trigger extreme responses from employees?
- What are the reasonably practical interventions in mental health for employees?
- What does it mean to measure an appropriate instrument for mental health and psychosocial risk factors?



**B C S P**

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We extend our gratitude to all those who engaged in the roundtable discussions. The commitment of individuals coming together to pursue a shared objective is essential in our journey toward innovation and progress within the profession.

We look forward to seeing you again in 2025!

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