NIOSH - focus on worker health and safety



President of the United States

Department of Health and Human Services



Centers for Disease Control and Prevention

National Institute for Occupational Safety and Health

NIOSH Mining Program

- Office of Mine Safety & Health Research
- Pittsburgh Mining Research Division
- Spokane Mining Research Division

- 11 Divisions and Labs located across 8 States
- 10 industry sectors
- Create new knowledge in the field of occupational safety and health and transfer it into practice through:
 - Research
 - Surveillance
 - Field investigations
 - Guidance/recommendations
 - Engineering Controls

NIOSH - interaction with other federal agencies



The NIOSH Mining Programs' mission is to eliminate mining fatalities, injuries and illnesses through relevant research and impactful solutions.



Safe mines - Healthy miners

Our research portfolio addresses 3 overarching strategic goals



Reduce mine worker's risk of occupational illness and disease

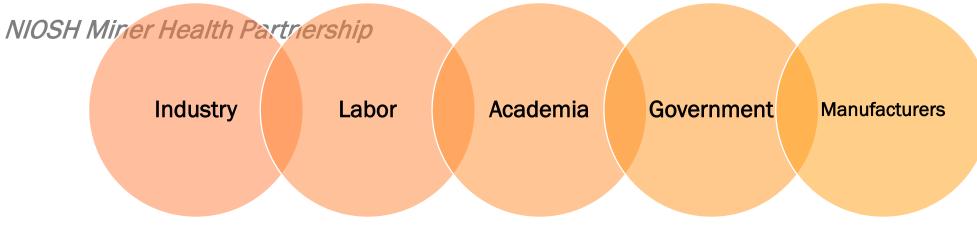
Reduce mine worker's risk of traumatic injuries and fatalities

Reduce the risk of mine disasters and improve survivability of mine workers

Our Partnership Model for Research

- **NIOSH-MSHA** Respirable Mine Dust Partnership ۲
- MSHA-NIOSH Diesel Exhaust Health Effects Partnership
- **NIOSH Automation & Emerging Technologies H&S Partnership**
- **NIOSH Proximity Detection Partnership**
- **NIOSH Refuge Alternative Partnership**
- **NIOSH Breathing Air Supply Partnership**
- **NIOSH Rock Dust Partnership**

"Mining research is most effective when it has been done in cooperation with the ultimate users of the research."



Automation and Emerging Technologies Health and Safety Partnership

- 2018 intramural report: Mine of the future: disruptive technologies that impact our future mine worker health & safety research focus
- MSHRAC Subcommittee Public Workshop
 - 9/10-11/18 Aurora, CO report and presentations both available
- 12/2018 Contract report: Safety and health research is needed to address the automation movement in the mining industry - Introduction, Insight, Context and Research Recommendations; Joel Haight
- RFI: Mining Automation and Safety Research Prioritization
 - Posted 3/18/19; Closed 5/17/19
- Haul Truck Health and Safety Issues Research Roadmap
 - 12/2019 initial draft
- NIOSH Automation and Emerging Technologies Health and Safety Partnership
 - 10/8-9/20
 - 8/17-18/21

Extramural Research: Broad Agency Announcements (BAA)

- Funding 4 projects related to automation
- FY 21 solicitation included automation focus areas:
 - Roof bolter automation and operator dust exposure reduction
 - Big data analytics and machine learning techniques
- Open to any concept related to miner H&S
- Planned funding for 3 projects related to automation
 - 2 OEMs
 - 1 University/OEM collaboration
- Announcements usually come out in November on the NIOSH Mining web page
 - Proposals up to \$650,000 over 5 years (typically 3-year, \$350,000 contracts)

Primary Domains

Organizing the work of the mining program by work / topic areas to facilitate systems thinking

Research related to how

humans interact with all

communicate & provide health & technology & mining safety content directly to stakeholders Human System systems Integration **Shared Services** (Human & Technical Systems) Mining Research related to the acute, Miner **Systems** chronic, & overall health of Health (Mine mine workers Design) **Disaster Prevention** & Response

Research related the design, implementation, & evaluation of the many physical, virtual, and environmental systems in mining

Research related to preventing, mitigating, addressing, & recovering from emergencies & disasters

Non-research activities to