



ZERO INCIDENTS THROUGH COLLABORATION

TRANSPARENCY IN SAFETY SHARING INNOVATIONS

September 28th 2022
Member Meeting

Innovations Member Meeting

Transparency in Safety: Sharing Innovations

September 28th, 2022

Thank you to our sponsor



Innovations – Contributors

Andersen • United Rentals

Kids Chance of Oregon • JE Dunn

Hoffman/Skanska JV • Charter Mechanical

General Sheet Metal • Fortis

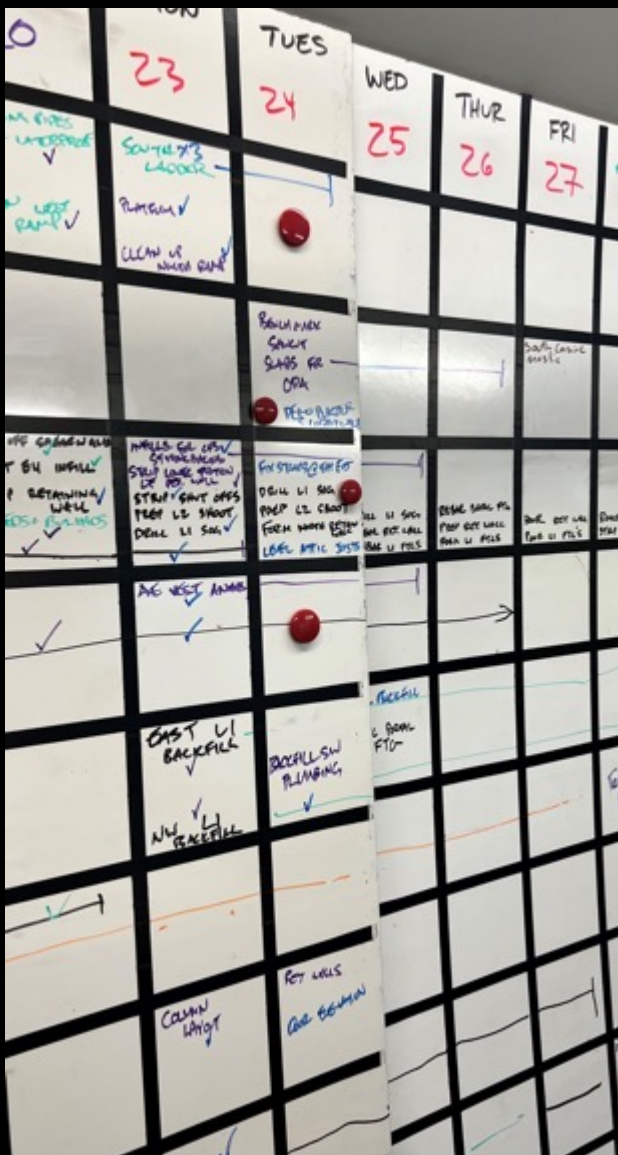
Rosendin Electric • McKinstry

RISE UP • Cochran

Disclaimer: The activities and innovations discussed are for reference only. Please do your own due diligence before implementing new technologies, equipment or procedures.



Rory Martindale – Andersen



Today's quick Brief is About "Detailed Process Planning." And Predictable Outcomes!

- Rory J. Martindale
- Profession EHS
- Field Safety Manager for
Andersen Construction
- Personal Life
- Pitmaster at RJ's Smokehouse
and BBQ Joint
- Team RJ's (Fatboyzsports)



Na, Let's Talk about
Steak

Not Just your
everyday Backyard
Steak; No, Not even a
King of the Cul-de-
sac Steak; we're
Talking a World
Championship; melt
in your Mouth, Best
Steak you Ever Had;
Steak!



Preparing at High levels for High Levels of Performance

- **Think about utilizing the Hierarchy of Controls to eliminate Un-needed Processes and focusing on the value-added tasks to those processes!**
- **For Success to be consistent, plans must include Tolerance of Upset!**
- **You are gonna make a Mistake!**
- **Think Lean**



Setting up for Success

- LEAN
- Everything has a Place, and Order
- Leave out un-needed tools or moves; they cost you time and Money
- Select the right process for your targeted outcomes.
- Prepare for contingencies (Change of Conditions)
- Follow the Plans! Evaluate Change



Execute the Plan

Following the Plan
Allows the processes to
prove out

PDCA
Always! Always
Plan Do Check and
Adjust!



Planning at this level can be rewarding and Can be recognized ... 2021!

- Just Like construction
- Have a detailed Plan
- Account for Changes of Conditions or Process upsets!
- Control what you can Control! (PDCA)
- You Never know? Currently, Team RJ's team members are
 - Nephew 67th
 - Niece 37th
 - In the SCA World for Steak!





Matt Pierce & Jon Canton – United Rental



Advanced Solutions Group

SafeBuild Alliance
Innovations – 2022



Advanced Solutions Group

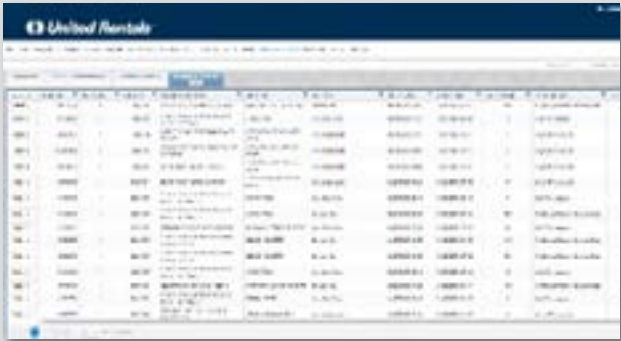
ASG delivers safety, productivity and performance improvements through proven innovative technology solutions.

Access Management



Prevent unauthorized access to equipment and track equipment use by operator or business unit

Telematics



Alerts that help you manage and gain visibility into your equipment and jobsites
Low fuel, excess use, & low utilization

WEDGE



Remotely monitor and manage worksite temperature and humidity levels.

Worker Insights



Gain visibility to worksite safety and productivity through the tracking of location and slips, trips, and falls of workers.

Worker Insights – Worker location and safety

Gain visibility to worksite safety and productivity through the tracking of location and slips, trips, and falls of workers.

Real time worker location

Safety incident reporting and evacuation alerts

Automatic time and attendance collection

SPOT-r Clip



Spot-r Clip At-a-Glance

- Automatic badge-in and badge-out of workers on the jobsite
- Audible evacuation alerts
- Fall detection notifications
- Real-time location of each worker
- Worker push-button to report site hazards or other incidents
- Customizable safety and productivity reports
- Auto On/Off
- Waterproof and Impact Resistant
- 6-Month rechargeable battery
- 2 oz.
- Made in the USA

Worker Insights - Wearable tech transforms plant project efficiency

The Problem

How could United Rentals help Worley identify pinch points at site locations or in work processes causing inefficiency or safety concerns?



“Wearable devices enabled this process to be automated so that our people could move freely in and out of the units. It was a huge time saving for our people.”

– Kim McAllister, Solutions and Technology Lead, Worley



Our Solution

The Triax Spot-r clip operationalized through the digital team at Worley.

Customer Outcomes

Within a matter of weeks the team identified several issues that were causing inefficiency or even creating potential safety risks,



Identified a 15 min wait time to turn in or access a tool. By adding toolroom staff Worley dropped this time to only a few minutes.



Delays were occurring as workers needed to sign in and out of the control room. Wearables were able to automate this process.



Finally, Spot-r indicated a delay for workers entering the jobsite at the beginning of shifts. Staggering worker start times eliminated this issue.



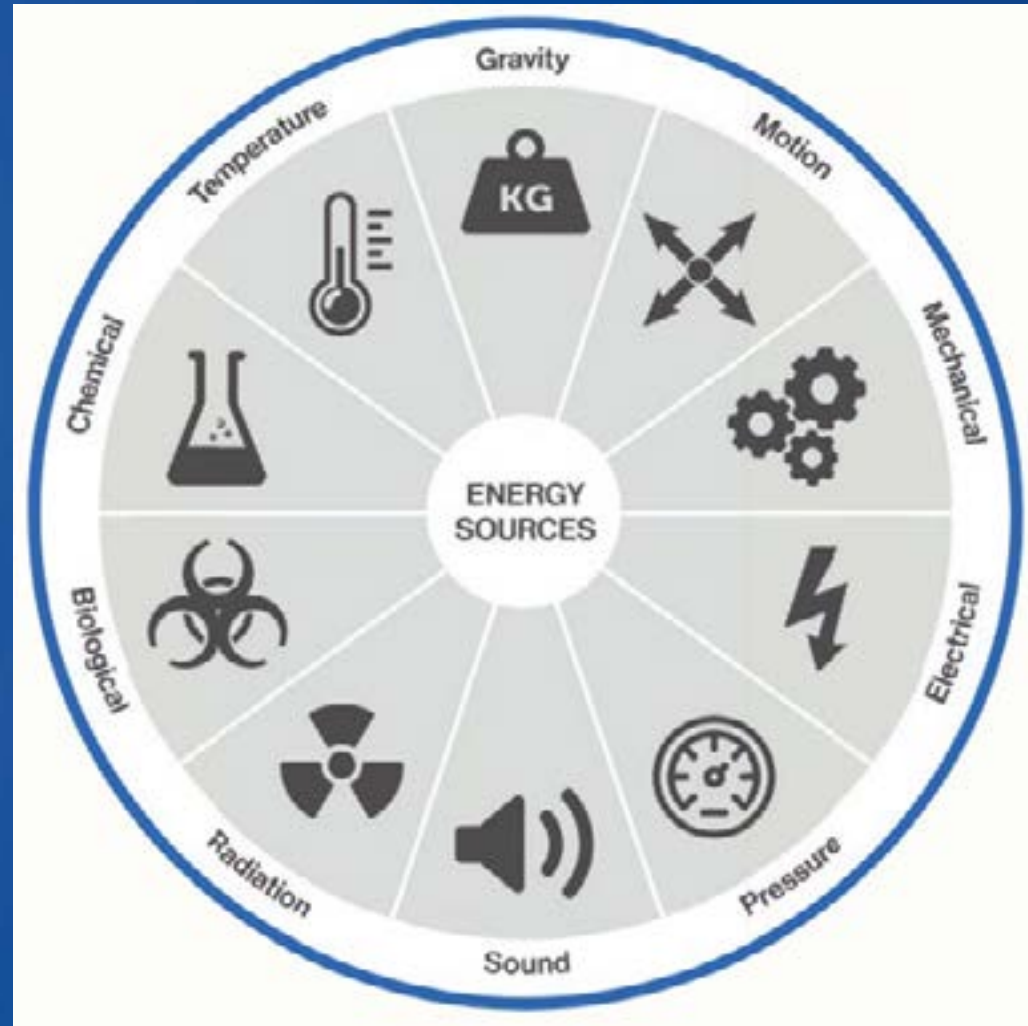
Bob Shiprack – Kids Chance of Oregon





Royal Willard – JE Dunn

Every injury is the result of the unwanted release of and contact with one or more energy sources.



Situational Awareness



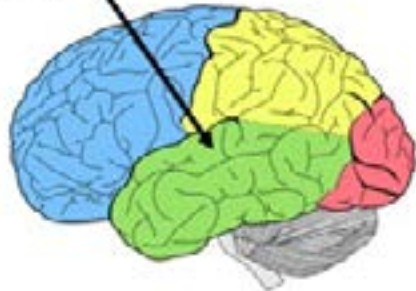
Figure 1. Hazard recognition is the first step in situational awareness

What hazards do you see?



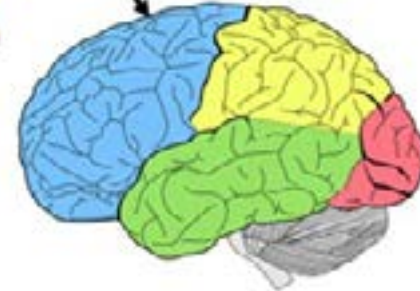
SAFETY FUNCTION

- Physiological response
- Voluntary movement
- Emotions
- Motivation
- Physiology



SAFETY FUNCTION

- Communication
- Sequencing
- Memory
- Learning



SAFETY FUNCTION

Key Take-Aways

01.

In pre-job safety briefings, workers identify only about 45% of the hazards that they actually face during the work period.

04.

Hazards that are most often missed (e.g. mechanical, pressure, and chemical) are processed in the cerebrum and require relatively high cognitive effort.

02.

Hazard recognition blind spots are consistent and predictable, regardless of trade, experience, or education.

05.

Field experiments showed that using the energy wheel improves hazard recognition by approximately 30%.

03.

Hazards that are easily identified (e.g. gravity and motion) are recognized instinctually and require comparatively low cognitive effort.

06.

The energy wheel is effective because it provides a simple set of reminders to search for hazards that are commonly overlooked.



Tony Howard – Hoffman
Jamie Smith – Skanska

5x5 Safety Walks



- How'd this idea come about?

- Project in Israel

- English, Hebrew, Islamic, Russian and Chinese
 - Safety in the 1970's – Compliance Driven
 - Chris O'Connor (H.S.I. EHS) & Owner's Rep

5x5 Safety Walks



- Purpose is to foster a culture that says
 - “We Care About Our Workers Safety!”
- 5x5 means
 - Supervisory/EHS personnel and talking 1-on-1 with Craft Personnel
 - 5 Minutes
 - 5 Questions

Culture committee

1. Picture of committee member and worker

✓ Attached Images:



2. Worker Company

✓ Total

3. One detail about worker's family

✓ married, with one son in ukraine

4. Worker Home Country

✓ Ukraine

5. One Hobby of the Worker

✓ swimming in nature

6. Three words or less to describe the safety culture of the company they work for

✓ the highest level he's ever seen, worked alot of companies and feels safe, pre-planning is great

7. Does the worker feel empowered to speak up

✓ Yes

Comments: no problem speaking up

8. Would the worker allow or encourage their family member to work for the company

✓ Yes

Comments: 100%

THE QUESTIONS

- One Hobby of the Crew Member
- One Detail about the Crew Members Family
- Does the Crew Member feel empowered to speak up?
- Describe the safety culture of the company they work for
- Would the crew member encourage their family member to work on this project?

THE QUESTIONS

- What positive observations do you have regarding your work area? What about the project in general?
- What opportunities for improvement do you have in your work area? What about the project in general?
- If you had a family member in the industry, would you recommend they work here?
- Have you or someone in your crew or family ever gotten injured at work? How did that affect you/them? What did it make you realize?
- Who on this project is a leader when it comes to safety? What do they do that makes them stand out?



THE QUESTIONS

Craft Focus 5		HOFFMAN SKANSKA	
1			
Date:			
Name and work group:			
Interviewer Name:			
Interviewee (Company):			
<p>Before starting, interviewers do you have something you wish to say? What about the project in general? <small>(Start area comments)</small></p> <p>Project comments:</p> <p>Opportunities for improvement do you have in your work area? What about the project in general? <small>(Start area comments)</small></p> <p>Project comments:</p> <p>If you had a family member in the industry, would you recommend they work here? <small>(Explain who or why not)</small></p> <p>What job or experience in your area or family does gotten injured at work? How did that affect you/them? What did it make you realize?</p> <p>What is this project's biggest safety risk? What do they do that makes them stand out?</p> <p>CHARTING YOUR TARGETS (SUMMARY OF TALK)</p>			

PDX T-CORE PROJECT





**Brad Prince & Amme Standring
Charter Mechanical**



TRANSPARENCY IN SAFETY INNOVATIONS

Charter
Mechanical

GROUP PLATFORM FOR URGENT COMMUNICATION



Charter needed an effective group message platform for Field Supervision, Project Management and Safety to quickly relay important messages.

- Injury and incident communication
- Critical project updates
- Communication in the case of an evacuation

PROJECT TEAM COMMUNICATION CHALLENGES



Text Messages

Android and iPhones did not message well together.



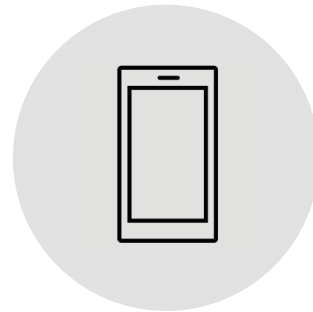
Changes in Distribution List

List must be maintained with changes in team.



Efficiency

E-mail blast platforms are great for outbound messages, but require time to log in. Best used from a computer.



Lost Messaging

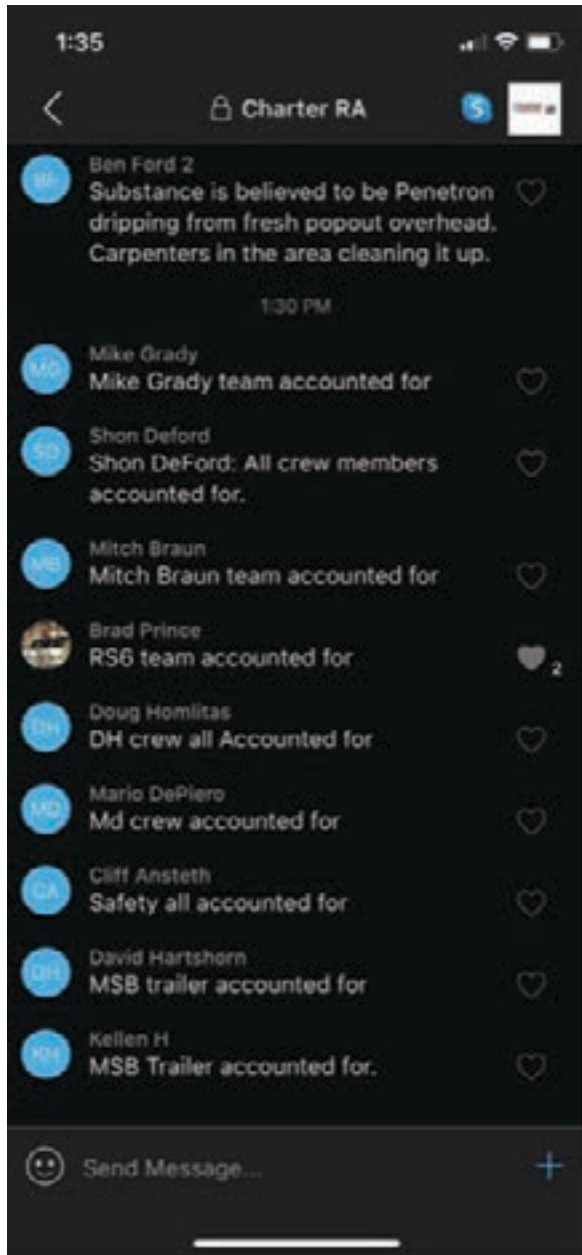
Important information can get lost with meetings/groups/chats.

GROUP COMMUNICATION SOLUTION

Group Me App

- Text Messaging for everyone....on every phone
- Compatible with





Group Me App was used to communicate to project team that crews were all accounted for in a recent evacuation drill.

Messaging explains incident location, injury information and update to worker.
Information does not provide employee's name or personal information.

Working on [REDACTED], developed neck pain climbing out of work space up in the rack, twisted to the right to go underneath an evac line missed their footing and felt a pop in their back. Pain was not immediate, soreness increased over yesterday and this morning. Waiting for work right to open at 7, will update when more info available.

Mon, 7:35 AM

[REDACTED] Johnson

Worker released back to work, given stretches to do at home. Will follow up with work right in a couple days f soreness does not improve.

ADVANTAGES OF GROUP ME COMMUNICATION

- It's free!
- Owned by Microsoft – Safe, Secure, Reliable
- Separate app from Text Messages, Teams, Email, etc. This creates awareness that a notification is urgent. We do not use this platform for anything other than EHS critical messaging.
- App can be downloaded on any smartphone – messages/push notifications come through like a text message and a separate ringtone can be used.
- List of group members is easy to maintain by admins in the group. A group can have one or many admins.
 - **This eliminated the problem of adding/removing users.**
- App can be downloaded to desktop computer. Employees at their computer get a notification on their computer/phone at the same time.
- Our most and least tech savvy users have found it user friendly.



Kim O'Donnell – General Sheet Metal



FOSTERING PSYCHOLOGICAL SAFETY ON YOUR TEAMS

Psychological Safety...

- Is a shared belief that it is safe to discuss ideas, experiment, take risks, give feedback and learn from mistakes.
- It's a work environment and management style that allows people to engage and thrive.
- It is the **#1 driver** of team engagement and performance.

Four Quadrants of Psychological Safety

- Does your team feel safe to experiment and learn from mistakes?
- Does your team foster constructive debate and encourage unrestrained engagement?
- Does your team feel safe to challenge how things are done, express ideas or expose problems?
- Does everyone on the team feel included, valued and treated fairly no matter who they are?

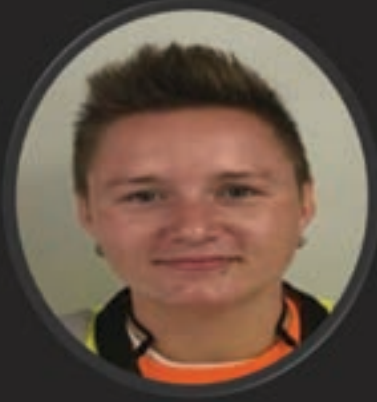


Interview with Foreman Chris Parker

1. What do you do intentionally to create a “psychologically safe” environment?
2. What is the impact or result you see because of those actions?



Project Team Feedback



RESULTS

- Zero Accidents
- Engaged & Happy Employees
- Profitable Project
- Happy Customer (Letter)



Michelle Brunetto – Fortis



FORTIS CASE STUDIES

August 2022

VLL #1



WORK RIGHT^{NW}

— INJURY PREVENTION —

- Work Right NW strives to be the industry leader by integrating an innovative model of workplace wellness on the jobsite.
- Utilizes licensed Athletic Trainers and Physical Therapists as Injury Prevention Specialists at the job location.
- Builds a comprehensive model that targets the employee's overall safety and risk of injury. Kinentisense Data is used to create a wellness program prior to the development of an injury.

About Kinetisense

Kinetisense allows engagement with workers and provide them real-time biofeedback for how they truly move. The data will analyze over 40 joint ROM movements and gives workers the information needed to improve their movements.





VLL KINETISENSE

- Announced Kinetisense Roll-Out at all hands
- Provided multiple times and settings to access kinetisense:
 - Lunch tent access multiple days/times
 - PEMB conference room
 - By appointment
 - On-site for retrofit and Fortis self-perform



CONCLUSIONS

- Take-aways from this experience:
 - Power requirements and back drop challenges
 - Safety vests altered the testing
 - Good morale boost with competition
 - Able to achieve testing time of ~6 minutes/person

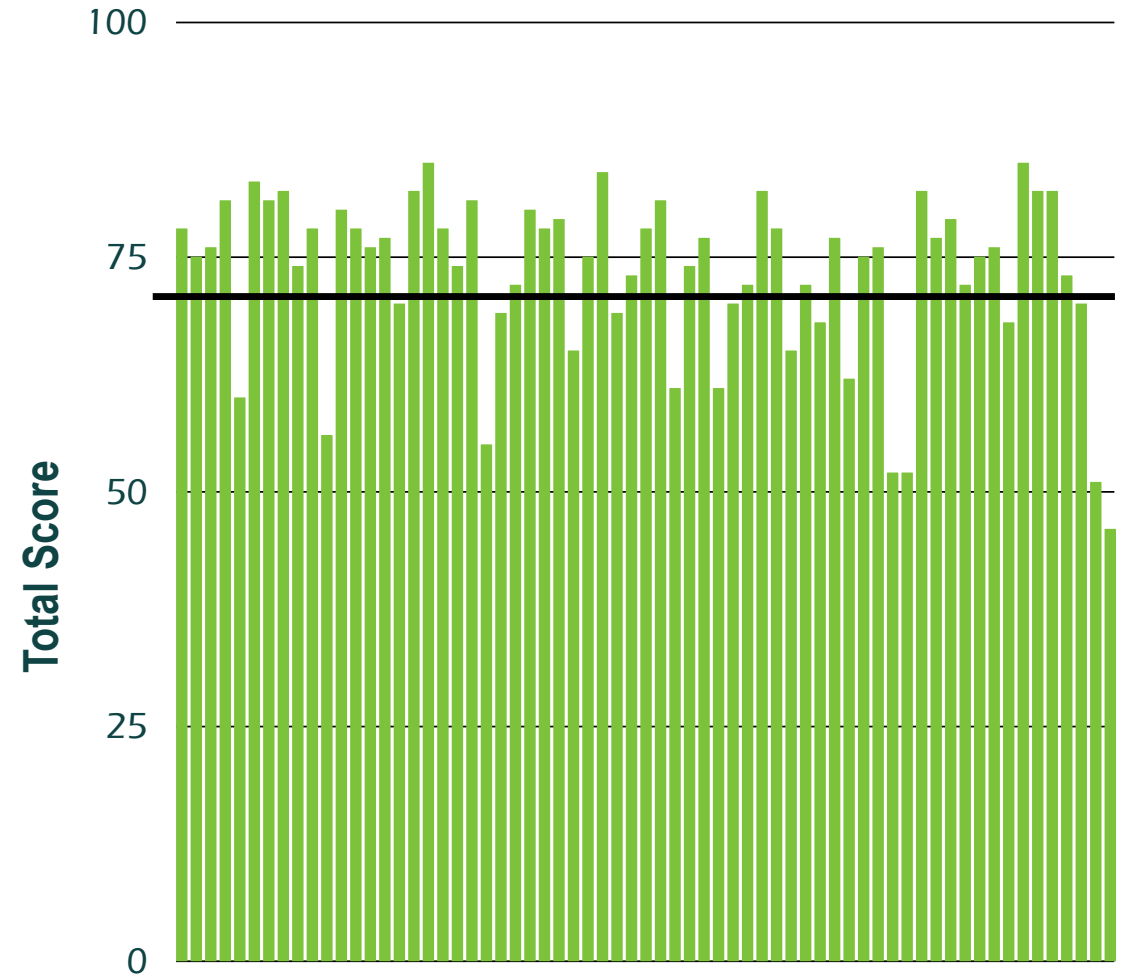
SELF PERFORM RESULTS

- **65 TESTS COMPLETED BETWEEN 6/20-8/18**

- Tests completed at laydown or gen yards
- Collaborated with foremen to organize schedules

- **TEST RESULTS**

- Average Score 73%
- Strengths:
 - Lumbar Range of motion
 - Posture angel: 91%
- Areas to improve:
 - power: 30%
 - balance: Left 54%, Right 60%
 - overhead squat 54%



STRECH & FLEX PRIORITIES

1



HIP AND SI JOINT MOBILITY

- 83% OF EMPLOYEES NEED IMPROVED HIP MOBILITY
AVERAGE SCORE 25%
- 87% NEED TO IMPROVE SACROILIAC JOINT MOBILITY
AVERAGE SCORE 28%

2



SHOULDER MOBILITY & STABILITY

- SHOULDER MOBILITY:
AVERAGE SCORE 56%
- SCAPULAR STABILITY:
AVERAGE SCORE 56%

3



ANALYZE CREW-SPECIFIC NEEDS

ANALYZE RESULTS TO DETERMINE STRETCH & FLEX OR INJURY PREVENTION INITIATIVES FOR EACH CREW



Phil Dobbin – Hoffman / Skanska

Vince Granato – Chief Project Officer – Port of Portland

Microsoft Teams

Meeting with Granato, Vince

2021-08-17 19:48 UTC

Recorded by

Granato, Vince

Organized by

Granato, Vince

YOU HAVE THE **POWER** TO STOP WORK

DON'T RUSH. MAKE SURE YOU HAVE ENOUGH TIME.

- Review the pre-task plan
- Get your questions answered
- Recognize and eliminate potential hazards
- Perform your job without shortcuts
- Leave the area safe for others when complete

STOP WHEN IN DOUBT. SAFETY OVER SCHEDULE, ALWAYS.



1

**HOFFMAN
SKANSKA**

YOU HAVE THE **POWER** TO STOP WORK

DON'T ASSUME. OTHERS MAY NOT UNDERSTAND THE PLAN.

- Review pre-task plan together as a team
- Revisit the plan if there is any change in crew
- Ensure everyone is clear and confident in their role
- If the plan changes, stop and revisit the plan
- Ensure you have the right person for each task

STOP WHEN IN DOUBT. SAFETY OVER SCHEDULE, ALWAYS.

**HOFFMAN
SKANSKA**

YOU HAVE THE **POWER** TO STOP WORK

3

DON'T WING IT. THERE'S A PLAN FOR A REASON.

- Consult the pre-task plan
- Ensure the plan is accurate for the work you will perform
- Stop work and evaluate any time the plan changes
- Modify the plan if conditions have changed
- Plan the work, work the plan

STOP WHEN IN DOUBT. SAFETY OVER SCHEDULE, ALWAYS.



**HOFFMAN
SKANSKA**

YOU HAVE THE **POWER** TO STOP WORK

4

DON'T BE SILENT. COMMUNICATE WITH OTHERS.

- Talk with other trades that may be impacted by your work
- Ensure you have all communication tools in place prior to start of activities
- Determine a communication plan accross crew in the event of a problem
- Establish and maintain a constant chain of communication
- Be an active listener

STOP WHEN IN DOUBT. SAFETY OVER SCHEDULE, ALWAYS.

**HOFFMAN
SKANSKA**

YOU HAVE THE **POWER** TO STOP WORK

DON'T USE THE WRONG TOOL. WORK SAFELY AND EFFICIENTLY.

- Reference the pre-task plan for the right tools and equipment
- Always use the right tool for the job
- Ensure everyone has received proper equipment training
- Confirm if all tools are in good working order
- Safeguard equipment for the next person

STOP WHEN IN DOUBT. SAFETY OVER SCHEDULE, ALWAYS.





Josh Johnson – Rosendin



Walk with Apprentice

Josh Johnson

Corporate Safety Director

Program

- Piloting on Project in Central Oregon
- Why
 - At one point last year we had upwards 80% of recordables were apprentice
- Project leaders required to walk week. (PM, Super, GF, and Fm)
 - They pair up with apprentice to walk a section of the project and talk about what they observe related to safety as well as process



Feedback

- Going over well
- Apprentice really like the engagement with the site leadership
- Currently working on plan to roll out across the company



Joe Forest – McKinstry

McKinstry Safety Excellence Recognition



Safety Excellence Recognition Program (SER)

The McKinstry SER Program recognizes employees whose actions and initiative lead to the prevention of harm.



Active Caring



Wait-a-Second

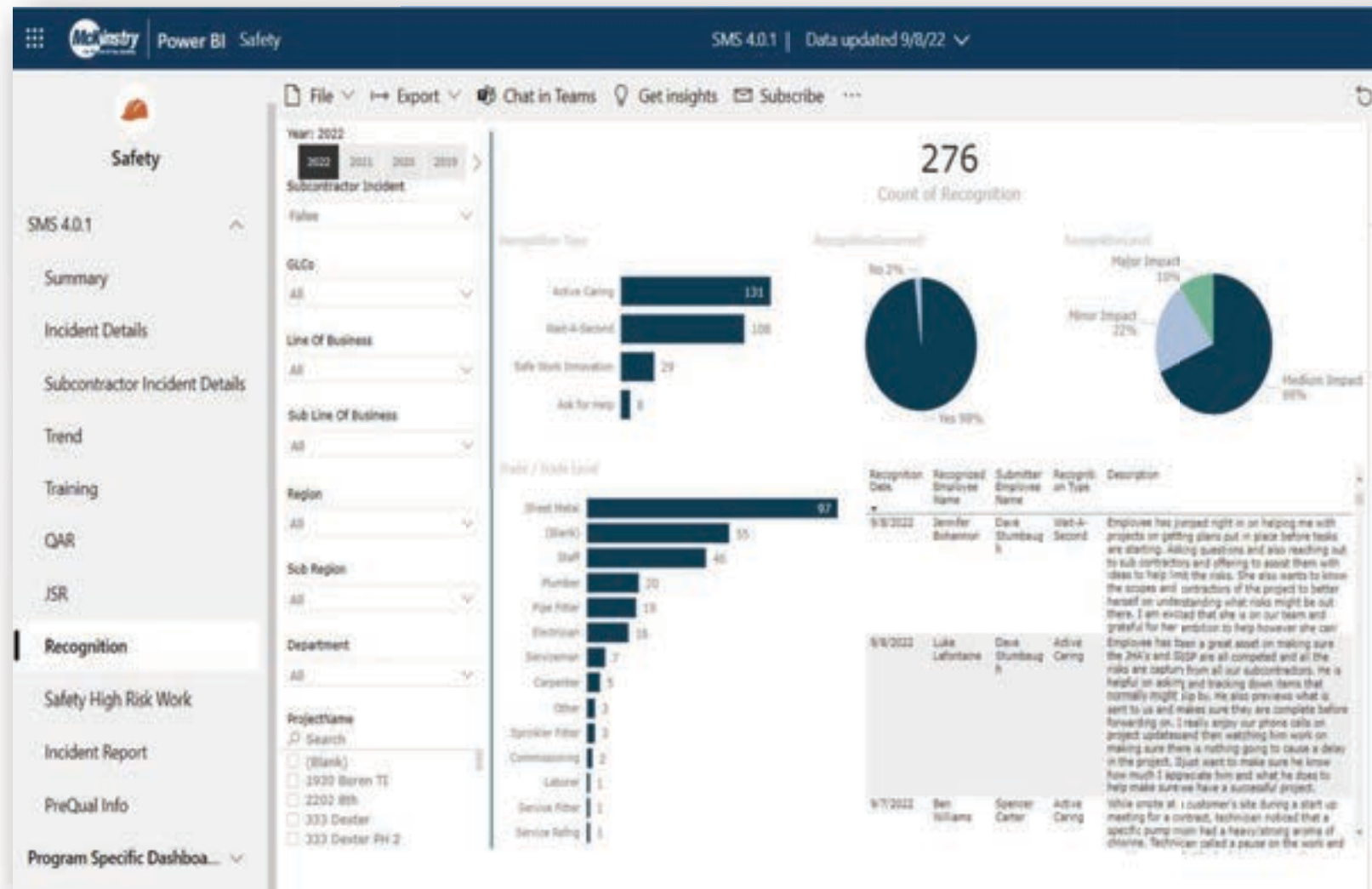


Safe Work Innovation



Ask for Help

2022 Safety Excellence Recognitions



SER Safety All-Stars





Amy James Neel & Lauri Rollings
RISE UP



SafeBuild Transparency in Innovations

Respectful Workplaces Are Safer



Why?

Negative jobsite culture impacts worker retention, healthy & safety, productivity, and the bottom line.



Harassment and Discrimination Are Unsafe

Harassment and discrimination make it **difficult to concentrate**

New people are often intentionally assigned **unsafe tasks** like carrying a heavy piece of material up a ladder without assistance from equipment or another person

Women and people of color often **do not receive mentorship or training** that can help them work more safely

EEOC v. Focus Plumbing (2021)

Male supervisors and co-workers subjected female employees at construction sites to **groping, forcible kissing, forcible touching of a man's genitalia, vulgar language and threats of rape**

Employer reassigned two women who **complained to undesirable or detrimental work assignments involving heavy lifting with no help**. One of those women suffered a **stroke** as a result of the difficult labor.

Burch v. United Electrical Contractors (2022)

White employees referred to a Mexican American plaintiff as "**brown boy**" and **told him repeatedly to "go back to Mexico," even though he was born in the U.S.**

Foreman referred to a different Black apprentice as a "**boy on a slave ship**" and made references to a plantation

After plaintiff complained of racism, a foreman forced him to dig trenches by hand while other employees were allowed to use the backhoe

EEOC v. AMI Mechanical (2018)

Plumbing and mechanical contractor paid **\$82,500** to settle national origin and color discrimination and retaliation lawsuit

AMI assigned non-white Hispanic employees to work in a confined space containing human waste and dangerous gas levels at a rate of **nearly 4:1 compared to white non-Hispanic employees**



What is RISE Up?

Rise – to assume an upright position

Up – into an advanced or better state

Changing Jobsite Culture



Create awareness of the impacts of negative culture in the construction industry.



Educate and train supervisors and craftworkers.



Provide tools to identify, disrupt, address, and reduce such incidents.



Ilene Ferrell – Cochran



Mack Lock

An innovation by
Richard Mackenzie
for



Electrical.
Service.
Communications.
Security.
Wireless.
DAS.
Audio Visual.
Shore Power.
BIM.
LEED Building.
Prefabrication.
Trusted.

LOCKOUT / TAG OUT / TEST OUT

Create an electrically safe work condition.

CONTROL of HAZARDOUS ENERGY

Electrical
Thermal

Mechanical
Pressure

Chemical
Hydraulic

LIMIT ACCESS

Unqualified Persons & Unauthorized Persons

**Electrical.
Service.
Communications.
Security.
Wireless.
DAS.
Audio Visual.
Shore Power.
BIM.
LEED Building.
Prefabrication.
Trusted.**

Simple Design

Easy to Install

Accommodates 2 Locks

Panel Remains Closed

Watch how easy it is to use...



**Electrical.
Service.
Communications.
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Shore Power.
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LEED Building.
Prefabrication.
Trusted.**

- **Inspiration:** Requested by Cochran due to lack of products on the market.
- **Imagination:** Attempts to improve current products didn't provide expectation.
- **Process:** Clean slate and new concepts.
- **Prototypes:** Currently on Revision 3 with body gusset for improved strength.
- **Field tested and approved.**



**Electrical.
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Cochran



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**Creating a Culture
Of Innovation
It's Everyone's Job**



Nick Brodeur, Sponsor Presentation





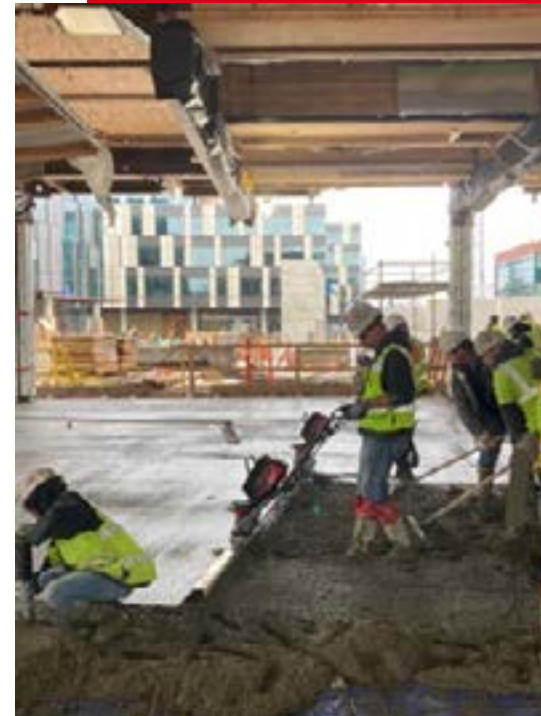
MX FUEL Innovation in the Light-Duty Equipment Space

Nick Brodeur

- 1 User Issues & Frustrations
- 2 Battery Technology
- 3 Individual Tool Breakdown



**PART OF THE MX FUEL™
EQUIPMENT SYSTEM**



USER ISSUES & FRUSTRATIONS

STARTING

EMISSIONS

GAS & MIX

NOISE

IDLING

MAINTENANCE

VIBRATION



PORTABILITY

MOBILITY

TRIPPING BREAKERS

TRIP HAZARD

LOSS OF CONTROL



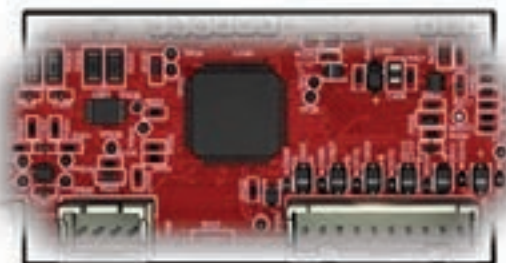
WORLD LEADER IN CORDLESS INNOVATION

MX FUEL™ REDLITHIUM™ BATTERY PACKS



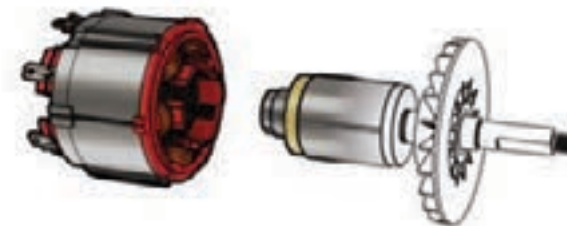
- ✓ **Hardest Working, Most Reliable Power for Equipment**
- ✓ Developed with world leading lithium-ion cell technology, unique patents to protect against, drops, water, and extreme temperature
- ✓ Advanced intelligence to maximize life and ensure long-term compatibility.

REDLINK™ PLUS INTELLIGENCE



- ✓ Most advanced system of equipment electronics in the industry
- ✓ In-application communication
- ✓ Optimizes power delivery to maximize performance.

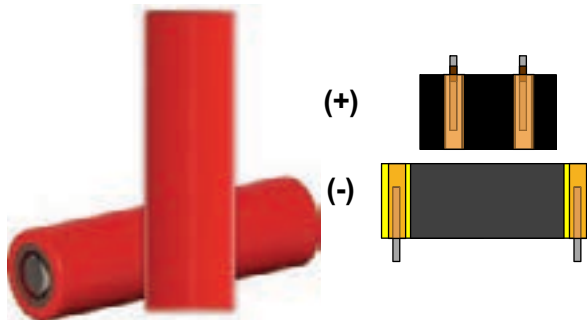
POWERSTATE™ BRUSHLESS MOTORS



- ✓ Uniquely engineered for the demands of equipment
- ✓ Superior copper content
- ✓ Top-grade rare earth magnets

THE HARDEST WORKING, MOST RELIABLE POWER FOR EQUIPMENT

WORLD LEADING CELL TECHNOLOGY



REDLITHIUM™ CELLS

- ✓ Milwaukee® leverages the best-performing and highest-quality lithium-ion technology, developed through deep partnerships with world leaders in cell design.
- ✓ Our world-class battery lab ensures optimum performance and life for the most demanding equipment applications.

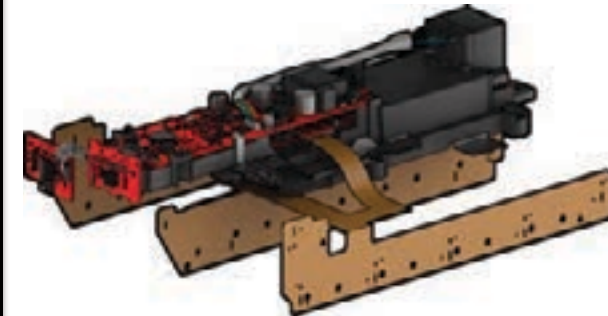
SUPERIOR PACK CONSTRUCTION



PACK CONSTRUCTION

- ✓ Milwaukee® utilizes unique & patented designs to protect against drops, water, and extreme temperatures.
- ✓ This significantly improves durability in the most demanding equipment applications.

ADVANCED ELECTRONICS



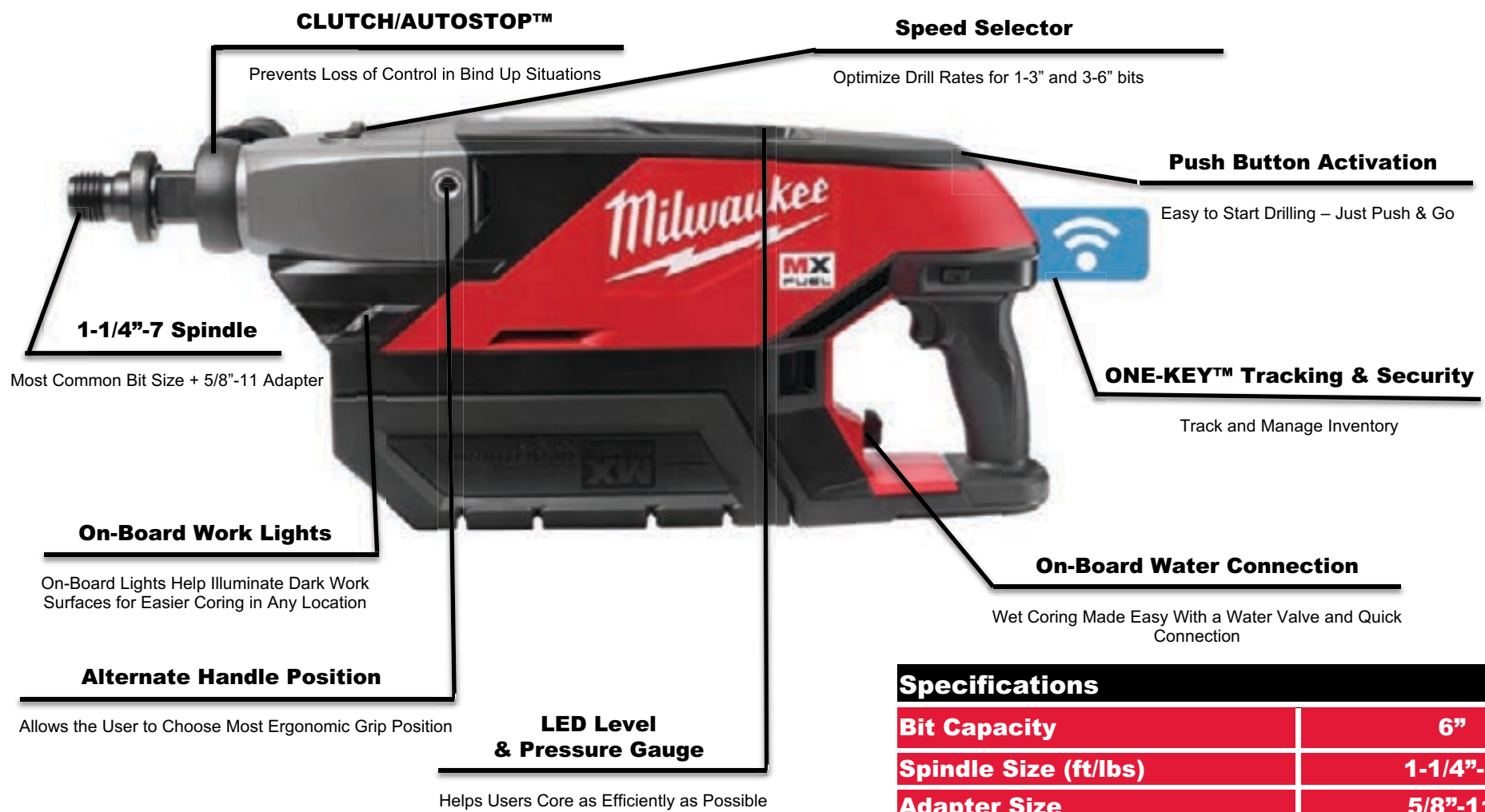
REDLINK™ INTELLIGENCE

- ✓ Provides industry-leading communication between the battery, equipment and chargers ensuring optimum equipment performance, compatibility, and battery life.



MX FUEL™ HANDHELD CORE DRILL

EQUIPMENT WALK-AROUND



Specifications	
Bit Capacity	6"
Spindle Size (ft/lbs)	1-1/4"-7
Adapter Size	5/8"-11
Speed (low/high)	790/1,550 RPM
Weight w/ CP Battery (lbs)	21.58
AUTO-STOP™	Yes
Wet/Dry Coring	Yes



2023 Engagement

Are you interested in becoming more involved with SafeBuild?

There are many ways to contribute, including:

Board of Directors

SafeBuild Committees

Become a Mentor or Mentee

Sponsorships & Advertising

Participate in an upcoming member meeting

Contact jason@safebuildalliance.com to learn more!

ZERO INCIDENTS THROUGH COLLABORATION