GLENCORE

GLENCORE EASTERN CHROME MINES

Noise Reduction Initiative – OEM Engagement Strategy

Noise Engineering Controls Convention

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13 June 2025

PRESENTATION OUTLINE

1. SETTING THE SCENE

- ❑ New Mine Health & Safety Milestones for adoption beyond 2024
- ❑ Noise Control Policy
- ❑ Our Journey
- ❑ PLH Shifts Reported (2014 – 2024)

2. RISK PRIORITISATION

- ❑ Risk Ranking of Critical Noise Equipment
- ❑ Critical Noise Equipment Screening Tool Risk Parameters
- ❑ Critical Noise Equipment Screening Tool Outcome

3. OEM ENGAGEMENT

- ❑ OEM Engagement Implementation
- ❑ IBMQI Internalisation

4. OEM ENGAGEMENT OUTCOMES

5. CONCLUSION

SETTING THE SCENE

NEW MINE HEALTH & SAFETY MILESTONES FOR ADOPTION BEYOND 2024

HEALTH	OBJECTIVE	PROPOSED MILESTONES
ELIMINATION OF NOISE INDUCED HEARING LOSS	Elimination of noise induced hearing loss through quietening of equipment	▪ By **December 2034**, the noise emitted by **individual pieces of equipment** operated by employees and individual process equipment should not exceed a milestone sound pressure level of **104 dB(A).**
		▪ Using current diagnostic methods, by **December 2034**, there should be **no novice cases of noise induced hearing loss** amongst previously unexposed individuals. ("Previously unexposed individual" are those unexposed to occupational noise prior to December 2024 i.e. Equivalent to a new person who entered the industry in January 2025)

GLENCORE ALLOYS EASTERN CHROME MINES NOISE CONTROL POLICY

01

Goal

Identify all individual noise sources with noise levels exceeding 104dB(A) and apply proposed noise controls.

02

Control Methods

- ❑ Implementation of Industry Buy and Maintain Quiet Initiative
- ❑ Requiring Third Party Noise Verification for measurements above 100dB(A).
- ❑ Implement a Hearing Conservation Programme (>82.5 dB(A))

03

Responsibility

The Occupational Hygienist is appointed to oversee and coordinate the Noise Control Policy.

OUR JOURNEY

Step 1 — Noise Measurements and IBMQI Manco Orientation Workshop

Step 2 — Develop an IBMQI Internalisation Action Plan

Step 3 — Internalise Workshop Outcomes and align with Operational Procedures.

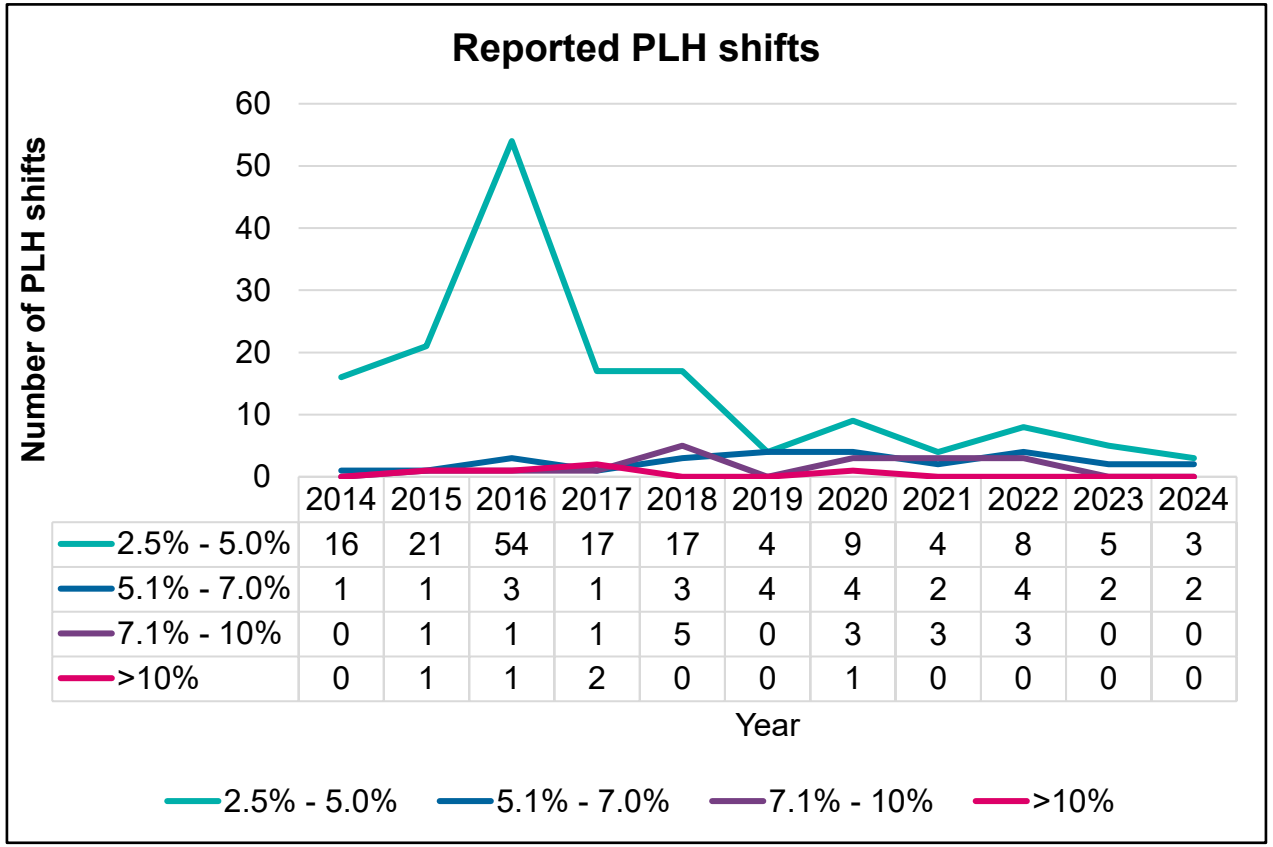
Step 4 — Prioritisation of Critical Noise Equipment 

Step 5 — Conduct OEM Engagements

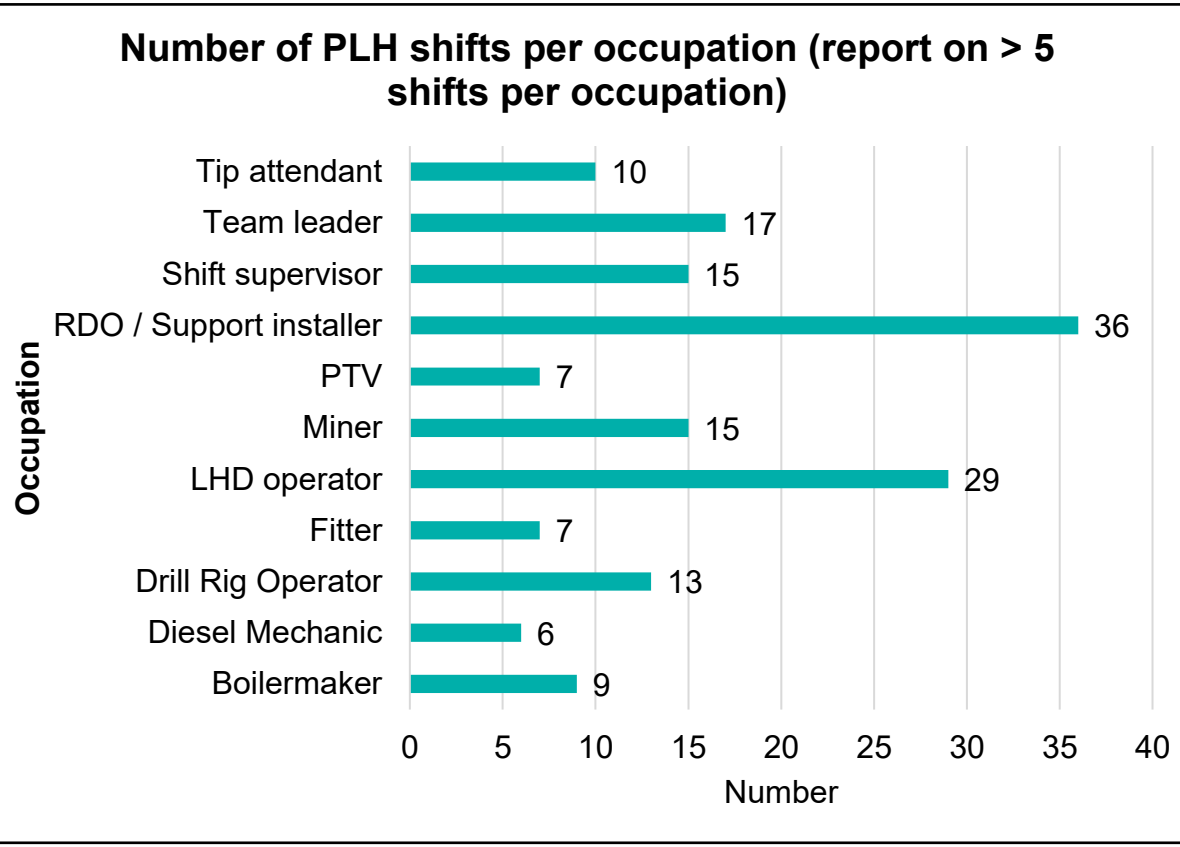
Step 6 — OEM Noise Reduction Initiatives presentations

Step 7 — Continuous Improvement

PLH SHIFTS REPORTED (2014 – 2024)



	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
2.5% - 5.0%	16	21	54	17	17	4	9	4	8	5	3
5.1% - 7.0%	1	1	3	1	3	4	4	2	4	2	2
7.1% - 10%	0	1	1	1	5	0	3	3	3	0	0
>10%	0	1	1	2	0	0	1	0	0	0	0



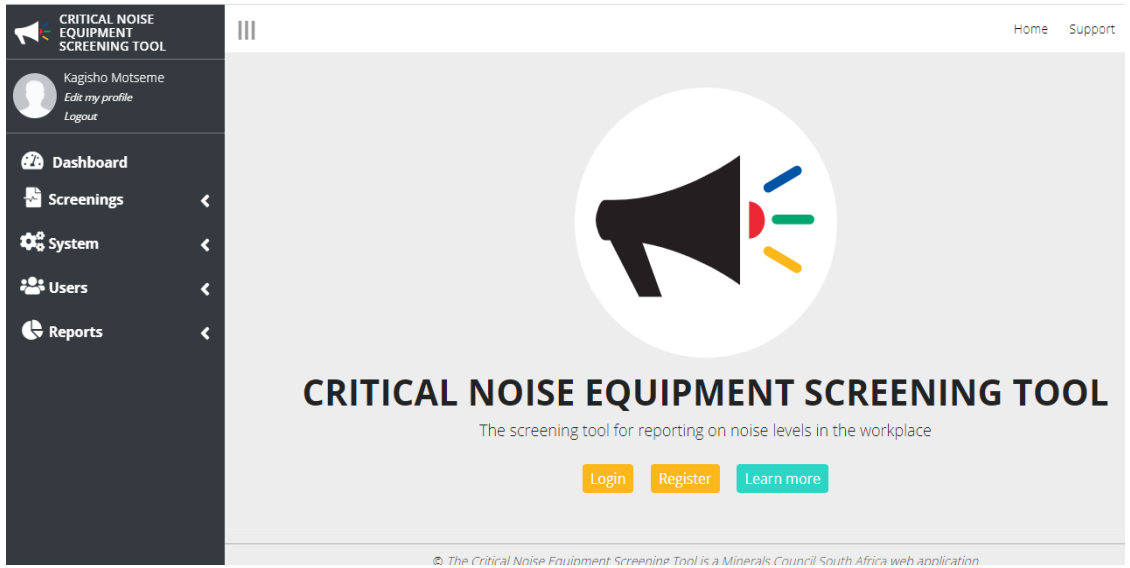
RISK PRIORITISATION

RISK ANALYSIS

Noise is not the only parameter considered in the screening of equipment.

The following parameters are incorporated in the Screening Tool:

- Noise Measurement Result in dBA
- Number of Persons Exposed
- Number of Machines within the Work Environment
- The Duration of Exposure
- The Acoustical Environment / Confined Workspace
- Machine Vibration
- Equipment Maintenance
- Equipment Improvements and Solutions
- Hearing Protection Devices
- Critical Noise Frequency Range



RISK RANKING OF CRITICAL NOISE EQUIPMENT

Step 01

Noise Register Update

Consolidate and update noise registers in consultation with the mine's asset register.

Step 02

Noise Measurements

Conduct Noise Measurements in line with IBMQI Guidance Notes

Step 03

Equipment List

Identify all equipment exceeding 100dB(A)

Step 04

Risk Prioritisation

Subject equipment to the Noise Equipment Critical Screening Tool

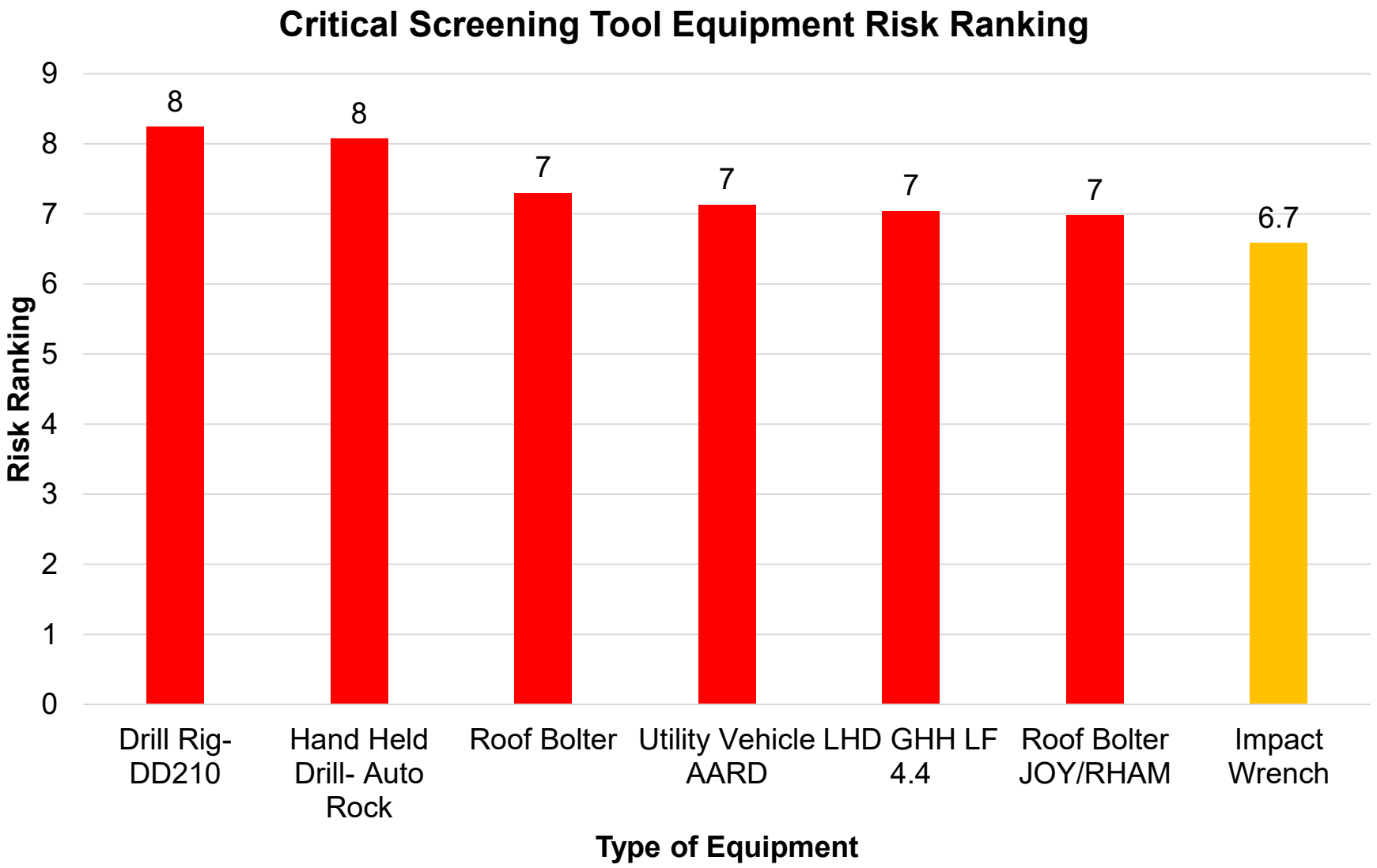
Step 05

OEM Engagement

Engage all OEMs based on Screening Tool outcomes.

Risk Category	Risk Ranking Range
Low	>0, but <4.0
Moderate	>4.0, but <7.0
High	>7.0, up to 10.0

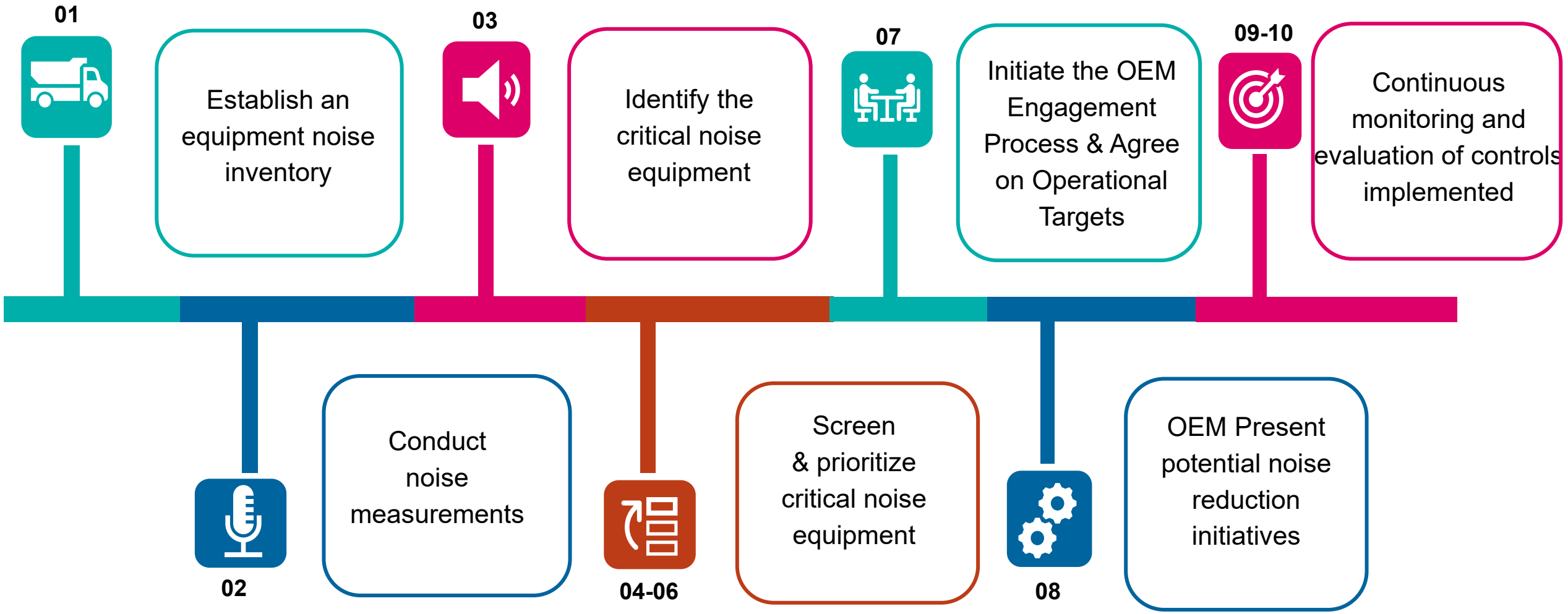
CRITICAL NOISE EQUIPMENT SCREENING TOOL OUTCOME



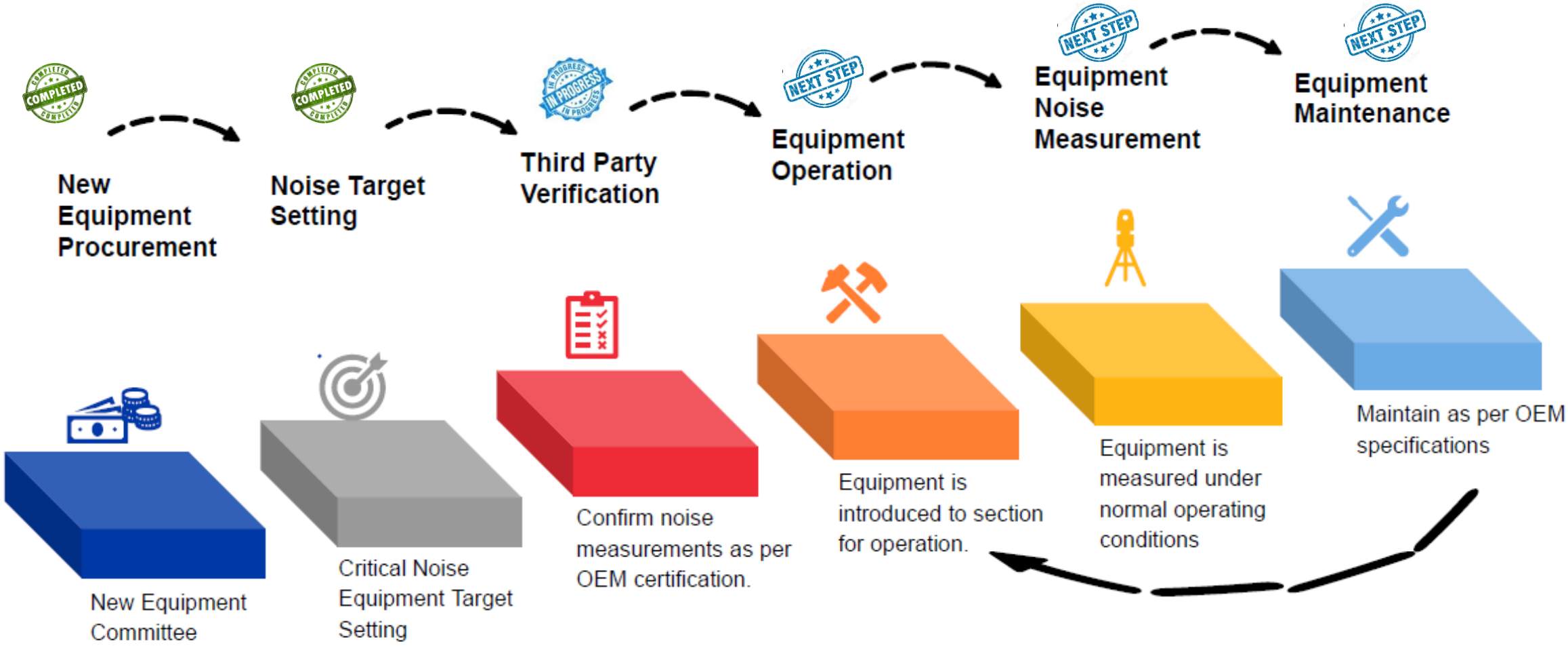
OEM ENGAGEMENT STRATEGY

OEM ENGAGEMENT STRATEGY IMPLEMENTATION

OEM ENGAGEMENT PROCESS



IBMQI IMPLEMENTATION PROCESS



OEM ENGAGEMENT OUTCOMES

OEM ENGAGEMENT OUTCOMES

Buraaq

Roof Bolters

- ❑ Third-party noise verification in progress
- ❑ Explore alternative drifter design methods.

RHAM

LHDs

- ❑ Third-party noise verification in progress
- ❑ Install Diesel Particulate Filters
- ❑ Enclosing of operator cabins
- ❑ Application of sound absorbing materials in critical areas.

Komatsu

LHDs

- ❑ Third-party noise verification in progress
- ❑ Install Diesel Particulate Filters and Silencers
- ❑ Enclosing of operator cabins
- ❑ Encapsulated Engine Bays
- ❑ Investigate alternative power sources

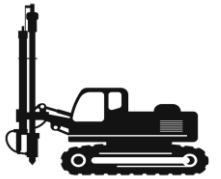
Minova

Rock Drills

- ❑ Third-party noise verification in progress
- ❑ Improvement of existing mufflers
- ❑ Design of new rockdrills (New prototype being tested)
- ❑ Investigate alternative power sources

Sandvic

Drill Rigs



- ❑ Third-party noise verification in progress
- ❑ Drifter Redesign

CONCLUSION

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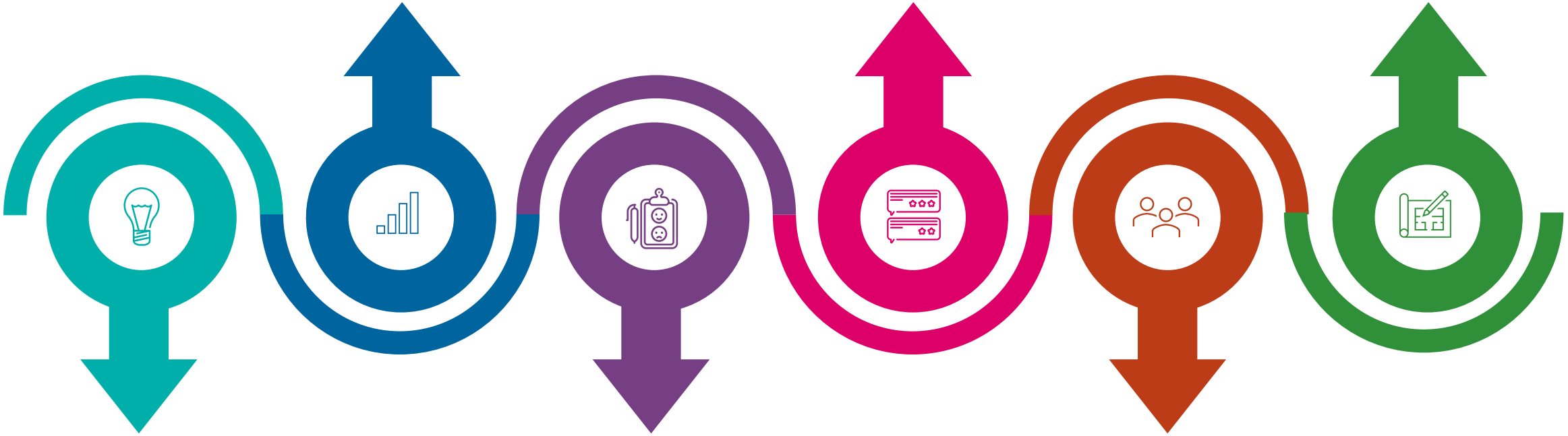
The use of a risk analysis tool is essential.

IBMQI requirements should be integrated into procurement processes.

Continuous monitoring and reporting are necessary for sustainability



Conducting detailed noise risk assessments is critical.

A multidisciplinary approach is critical to IBMQI internalization

Comprehensive OEM noise reduction and maintenance strategies

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THANK YOU