

MineGear Solutions

MineGear Solutions Pty Ltd is an Australia-based importer and distributor of mining equipment. We help producers lift productivity and recovery, cut OPEX, and meet ESG goals. Our end-to-end delivery—scoping, testwork, commissioning, spares and performance optimisation—ensures confident adoption and ROI. As the exclusive Australian agent for OBOTE's XRT dry ore sorter, we provide water-free, sensor-based pre-concentration that rejects waste early, raises head grade, relieves milling bottlenecks and lowers energy per tonne. Combining OBOTE technology with engineering expertise, we enable higher throughput.

Vision

Equip Australian mines with high-performance, low-impact equipment. AI-driven automation cuts water and energy use while lifting recovery and throughput. With robust training, remote diagnostics, and local service, end-to-end support ensures quick adoption, reliable uptime, measurable value, and a safer, cleaner, more profitable operation on every site.

Mission

Equip Australian mines with high-performance, low-impact equipment. AI-driven automation cuts water and energy use while lifting recovery and throughput. End-to-end support ensures quick adoption, reliable uptime, and measurable value.

Values

- **INTEGRITY:** Transparent, standards aligned. Proven & high-tech.
- **INNOVATION:** Water-free, energy-efficient, smaller footprint.
- **SUSTAINABILITY:** Shared risk, aligned incentives & measurable results.
- **PARTNERSHIP:** Shared risk, aligned incentives & measurable results.

MineGear Solutions partners with world-class OEMs after rigorous technical, commercial, and service due diligence. Led by our exclusive OBOTE XRT who provides end-to-end support for reliable outcomes. Our roadmap adds smarter ore-separation and on-site energy, with SGS/AS conformity testing underway to streamline adoption.



→ Spares & Ongoing performance monitoring



→ Flowsheet integration & commissioning



→ ROI modelling



→ Sample and pilot test work



Underground Transportation Patent Dust-removal Patent Temperature Control Patent Anti-block Patent



Explosion-Proof X-ray Source Enclosure Explosion-Proof Electrical Control Cabinet Explosion-Proof Solenoid-Valve Control Cabinet Explosion-Proof Industrial Computer (Host Unit) Explosion-Proof X-ray Detector Enclosure



ISO9001 ISO14001 ISO45001 Radiation Safety License

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Mon-Sun
9AM - 3PM
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TikTok

MineGear Solutions

AI DRIVEN DRY ORE SORTER



OBOTE XRT DRY ORE SORTER
"Sensor-based Ore Sorting Since 2013"

Flagship Agency Product

Phosphate Mine

- Raw ore grade: 6.63%
- Concentrate grade: 22.52%
- Tailings grade: 2.73%
- Enrichment ratio: 3.4

Gold Mine

- Raw ore grade: 0.4g/t
- Concentrate grade: 3.6g/t
- Tailings grade: 0.09g/t
- Enrichment ratio: 9

Manganese Mine

- Raw ore grade: 14.87%
- Concentrate grade: 30.53%
- Enrichment ratio: 2.05

Copper Mine

- Raw ore grade: 0.38%
- Concentrate grade: 1.79%
- Tailings grade: 0.074%
- Enrichment ratio: 4.7

Tungsten Mine

- Raw ore grade: 0.007%
- Concentrate grade: 0.25%
- Tailings grade: 0.001%
- Enrichment ratio: 35.7

Coal-series Kaolin

At an Inner Mongolia kaolin mine, ETDS-1800 lifted recovery from ~70% to >95%.

Lead-Zinc Mine

- Raw ore grade:
Lead - 0.62%, Zinc - 1.89%
- Concentrate grade:
Lead - 9.26%, Zinc - 7.61%
- Tailings grade:
Lead - 0.12%, Zinc - 0.18%
- Enrichment ratio:
Lead - 14.9; Zinc - 4

- EFFICIENCY
- PRECISION
- DURABILITY
- SUSTAINABILITY

OBOTE Group

OEM Profile

OBOTE Group (Hefei) is a national high-tech enterprise specializing in intelligent dry ore sorting. Evolving from grain color-sorting R&D (2003) and a 2011 JV with Switzerland's Bühler, it founded Hefei Obote Automation in 2013 to scale mining R&D, manufacturing, and sales. Recognized as National High-Tech/AAA Credit, its dry sorters serve coal, non-ferrous, rare-earth, and industrial minerals—boosting productivity, cutting costs, and supporting sustainability.

R&D Capabilities

Through a deep partnership with the Hefei Innovation Institute of Technology, OBOTE accesses advanced labs, shared equipment, and expert teams for problem-solving, grants, and talent. This ecosystem produced its new XRT dry sorter—AI+ dual-energy X-ray + line solutions—delivering early waste rejection, higher head grade, and lower water/energy use. OBOTE continues to strengthen R&D leadership.

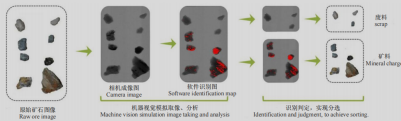
Australian Standard Compliance

A Chinese National High-Tech Enterprise, OBOTE holds ISO 9001/14001/45001, Mining Product Safety Mark, and explosion-proof licenses—underpinning safe, efficient, responsible sorting. Australian conformity is underway with SGS and other accredited bodies, aligning product testing and technical documentation to Australian Standards for streamlined market entry.



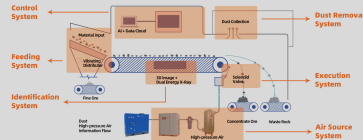
Sorting Principle

OBOTE's intelligent sorter combines 3D imaging with dual-energy X-ray transmission (XRT) to see inside each rock on the belt. As X-rays pass through, under-belt sensors capture attenuation differences, generating a unique digital signature for every particle. Proprietary big-data processing and AI models classify type and position in real time, then trigger high-frequency solenoid valves for precise ejection. The model adapts automatically to changing ore density, size, texture, lustre, and thickness, sustaining highly accurate separation—even in complex, variable sorting conditions.



Machine Composition

OBOTE's dry ore sorter integrates six systems for efficient, safe sorting:



Core Technologies

3D + dual-energy XRT — Real-time ore/waste ID (shape + density).

Online sensors — remote monitoring with predictive alerts.

Anti-block conveyor, anti-clog valves — Steady feed; fast, low-energy ejection.



AI compound — Online learning, adaptive blowing, real-time QC.

Adaptive platform — 20-300+ mm; high-speed precision; mobile/underground-ready.

OBOTE Data Cloud — centralised data; remote tuning/diagnostics.

Product Advantages



3D Imaging + Dual-energy XRT
"Deeper penetration and higher confidence on clumped ore"

Self-optimising models, auto-tuning cut-points

Adaptive blowing
"Higher precision"

Included live analytics and predictive maintenance

FPGA parallel processing
"Microsecond response"

Ultra-wide 20-300+ mm

Anti-block Conveyor & Valve
"Stable with long-life seats"

Dry
"No water and reagents, ESG gains"



Single-energy XRT for optical
"Surface-biased, more manual QC"

Operator-dependent, frequent recalibration

Fixed-timing jets
"More air used"

Add-on or limited

CPU/CPU pipelines
"Higher latency"

Often capped — <120 mm per model

Frequent replacement, clog risk

Need pipelines or water-treatment circuits

Application Scenarios



Coal — CHPP assist, dry de-stoning



Iron Ore - Silica/shale rejection



Cu/Ni/Zn — coarse waste rejection



Gold — sulphide pre-concentration



Lithium/pegmatites - barren granite/quartz removal



Industrial minerals/kaolin dry upgrading; kaolin recovery



Rare earths - dry upgrade; contaminant removal



Underground /mobile-sort at source; reclaim dumps/tailings