

Excellence in Operational Improvement - Immersive Technologies' 15th Annual Business Improvement Award Presented to 6 Mining Companies

25 June 2024



We are proud to announce the winners of our 15th annual Global Business Improvement Award. The award acknowledges the most outstanding results achieved by mining companies who use simulation as a key driver in mining operation and workforce development optimization.

Category winners are selected from customers across 51 countries for their achievements in continuously improving mining safety, productivity, machine reliability, and sustainability through strategic workforce development-based initiatives. These projects demonstrate excellence in aligning people, process, and technology to push the mining performance envelope across any OEM make, this

year's winners conducted continuous improvement projects on mixed fleets including Komatsu, Caterpillar® and Sandvik.

15th Annual Global BI Award Winners:

- Safety – Lundin Mining Caserones (Chile)
- Reliability – Kaz Minerals (Kazakhstan)
- Productivity – OceanaGold, Haile Gold Mine (United States)
- Sustainability – Kalimantan Prima Persada (Indonesia)
- Training Effectiveness – Northern Star Resources (Australia)
- Community Development – Barrick, Bulyanhulu (Tanzania)



lundin mining

The Caserones mine operates amidst challenging conditions, perched at over 4,000 meters above sea level in the Atacama Region of Chile. In a dedicated effort to enhance safety metrics, the company collaborated with Immersive Technologies on a safe haul truck operation project.

Results include:

- 90% improvement in workforce risk profile (operating errors)
- 47% reduction in events related to machine damage

“For us, safety is a value, which is why the Mine Management has set as a primary objective to reduce material damage events. Together with Immersive Technologies, a gap closure plan is developed in conjunction with the annual evaluations, this work

was continuous throughout the year and allowed us to have operators with a higher retention rate, operators with a lower risk rate, therefore, safer operators and that naturally resulted in obtaining an excellent result that allowed us to achieve our KPI.”

- Rafael Osorio - Training Manager, Caserones



Kaz Minerals, the leading copper producer in Kazakhstan and the CIS region, prioritizes large-scale, cost-effective open-pit mining operations. A comprehensive examination of simulator data and [Cat® 793F haul truck](#) VIMS data revealed an opportunity to reduce machine events. Subsequently, the company initiated a continuous improvement initiative aimed at enhancing machine reliability and availability. This project focuses on reducing equipment misuse and instilling proper operating techniques through operator simulation training for their [Cat® 793D haul truck](#) fleet.

Results include:

- 76% decrease in engine over-speeds
- 31% decrease in overall transmission abuse events
- 45% decrease in gear selection events

“The use of the simulator to conduct practical training for mining equipment operators in specific scenarios is an outstanding example of an innovative approach to training and professional development of personnel. Using the simulator to improve certain indicators really deserves recognition not only for the use of advanced technological solutions, but also for clearly demonstrating the real results of their use, which is confirmed by feedback from my colleagues.

Simulators provide a unique opportunity to train in real-life operating conditions without risk to equipment or personnel, which becomes a key factor in ensuring workplace safety and efficiency. Introducing hands-on simulator training allows operators to better master the necessary skills and techniques, ultimately leading to increased overall productivity and reduced operational risk.

This approach not only improves staff skills, but also takes technical readiness and operational reliability to new levels. The project demonstrates an example of successful integration of technology and practical training, and is a role model for the industry.

Overall, this initiative has all the qualities to become a significant contribution to the development of the industry and an example of the effective use of technological innovations in training and development processes.”

- Zhanibek Ilyassov - Head of Training and Development, KAZ Minerals Aktogay

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EXPECT RESULTS

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The Haile Gold Mine, operated by OceanaGold (U.S.) in Kershaw, South Carolina, stands as the largest gold mine along the East Coast. Throughout the production and exploration of the Haile Gold Mine, OceanaGold (U.S.) has remained committed to the safety of their employees, the environment, and the local community. Their CI Project utilized an Immersive Technologies operator training solution to support not only safety but also increased mine production output with their [Komatsu 730 haul trucks](#).

Results include:

- 65% reduction in machine events
- 10% improvement in haul truck spot times
- 10.8% improvement in haul truck dump times



PT. Kalimantan Prima Persada, an internationally accredited Integrated Mining Services Company aimed to leverage training as a tool to reduce operational costs. Utilizing the fuel efficiency training feature of their Immersive Technologies simulator, KPP focused on enhancing the competencies and practices of their [Komatsu HD785-7 haul truck](#) operators. By assessing equipment fuel consumption rates pre and post-training, they gauged the effectiveness of training fuel-efficient behaviors.

Results include:

- 11% reduction in fuel consumption
- 25% cost saving from operator training
- 100% Zero Incident

"As a user, accuracy in simulation is very important. We have used Immersive Technologies PRO4 simulators in my projects and I am really impressed with its ability to model a complex mining environment with high precision. The intuitive interface and powerful data visualization features really help me to analyze the results. One of the aspects that I appreciate the most is its precision in detecting incorrect operation, be it related to work effectiveness or efficiency and safety. With our PRO4, we have been successful in several ways, including:

- Increasing the operating competence scores of local workforce by 12%
- Reduction in fuel consumption by 11%
- We were able to run training without any work accidents

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EXPECT RESULTS

- Training costs also decreased because the graduation of training students are job ready
- Reduced Co2 levels which reached 208.65 TCO2e
- We received the Indonesia Green Sustainable Companies Award in 2023 from SWA and Good Mining Practice from ESDM.

We would like to thank you for the [PRO4 simulator & tools](#) which are indeed very helpful for us in developing human resources to support the processes in our business.”

- **Yohanes Budi Kurniawan** - Operation & SHE Director, Kalimantan Prima Persada



Northern Star Mining Services (NSMS) is an in-house contractor that Specialize in providing underground mining services to our parent entity, ASX 50 listed Northern Star Resources Ltd.

NSMS has a steadfast commitment to operational excellence and top-tier training standards. The primary objective of this project for NSMS was to deliver consistent, high-quality training amid demands to supply proficient operators to various operations.

Results include:

- 23% reduction in onboarding time for green operators
- 25% On average 7 days (1 week) less of “unproductive” time per trainee

“Since deployment of the simulator assets, NSMS has been measuring the efficiency and effectiveness of our onboarding program for green truck operators. Before the launch of the simulators, it was taking approximately 30 days from starting inductions to being signed off as safe and competent on the truck. This has been trending down since the commencement of the simulator program in January 2023, and while there are still some variations, the average is now down to 23 days. There has been no compromise to safety either – in fact – there has been a notable reduction in injuries to green truck operators since the start of this program.”

- **Adam Gibbs** - Safety/Training Manager, Norther Star Mining Services

BARRICK

Located in the Kahama district of the Shinyanga region in north-west Tanzania, Barrick Bulyanhulu has implemented Immersive Technologies simulators in collaboration with a regional training partner to advance women’s involvement in mining. The participants in this program did not have any previous mining operating experience.

Simulation was utilized to train the group in the safe, productive operation of the [Sandvik TH545i underground truck](#). This training initiative followed a blended learning approach, combining experiential training with other forms of instruction to enrich skills and knowledge. Not only does this program foster opportunity growth for women but it also contributed to the overall development of the community.

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Results include:

- 100% pass rate of the practical driving assessments for the [Sandvik TH545i](#)
- 100% of participants completed the program successfully and received employment opportunity

“In 2023, ten (10) dump truck operator trainees from the local community underwent comprehensive training to transition from novices to skilled dump truck drivers. This initiative aimed to foster gender diversity and community development. The training journey commenced in the classroom, where theoretical knowledge was imparted. Subsequently, trainees utilized immersive simulators to bridge theory with real-world scenarios, followed by on-the-job training in the field, providing hands-on experience in operating the trucks.”

- **Everjoy Ngomamiti** - Mining Manager, Barrick Bulyanhulu

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About Immersive Technologies

Immersive Technologies is the world’s largest, proven, and tested supplier of surface and underground Advanced Equipment Simulators to the global mining industry. The company has achieved this unique position by focusing on its mission to increase customer profitability by optimizing the safety and productivity of their operators. Immersive Technologies’ Advanced Equipment Simulators are helping hundreds of mining companies around the world to increase their equipment operators’ safety and site profitability through effective simulation training.

With advanced simulator modules deployed in 51 countries, Immersive Technologies is dedicated to providing outstanding service. To deliver on this commitment the company has customer sales and support offices located close to its customers in Perth and Brisbane Australia, Salt Lake City and Tucson USA, Fort McMurray, Vancouver Canada, Zacatecas Mexico, Lima Peru, Santiago Chile, Belo Horizonte Brazil, Johannesburg South Africa, Jakarta Indonesia, Kolkata India and Moscow Russia.

Immersive Technologies has the global mining experience, innovative technology, product range, industry endorsement, proven support commitment and industry vision to partner with you to ensure your simulator training solution delivers the significant results you expect.

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