

Mining for the digital era: talent

Mining companies face challenges, from process inefficiency and the high cost of equipment maintenance to environmental access and worker quality of life.

Workforce challenges are also taking center stage in the digital era despite known and unsung improvements to the world of work in mining.

Technology has a huge impact on the mining industry and its workforce as digital transformation projects of various sizes are underway at many mine sites.

Major mining workforce trends

THE WORKFORCE IS AGING

While the mining workforce is approaching retirement, the industry is struggling to attract new talent to fill these positions. There are more job openings than candidates, meaning companies are competing to attract what talent is available.

50% of mining workers are over 45 years of age

INDUSTRY ADOPTION OF DIGITAL TECHNOLOGY

Over the next 10 years, investments in digital technology for mining are expected to grow by

270%

Digital technology growth will include:

AUTOMATED EQUIPMENT like autonomous excavators and trucks

HARDWARE COMPONENTS like RFID tags and smart sensors

SOFTWARE like analytics solutions

SERVICES like automated equipment training

Source: US-based Transparency Market Research

Workers need new skills to support new technology

NEW SKILLS REQUIRED

- Data-driven
- Technology literate
- Optimization focused
- Big-picture understanding
- Mobile / virtual / remote capable
- Foresighted
- Sustainable solution focused
- Commercially oriented
- Mission and stakeholder focused
- Partner network dependent

NEW KNOWLEDGE REQUIRED

- Data analytics & data science
- AI, machine learning and cognitive technologies
- Robotics and assistive technologies
- IT / OT and advanced automation
- Cybersecurity, data security and risk mitigation
- UI / UX design
- Advanced automation, autonomous operations & remote management
- Mobile equipment operations
- Integration and innovation leadership
- Energy, environmental management and biomimicry
- Employee and community stewardship

Digital evolution in the mining industry means the evolution of current roles. While conventional workforce positions will not go away, roles as we know them today will change.

CONVENTIONAL ROLE

EVOLUTIONARY ROLE

Drivers → Remote operators

Maintenance mechanic → Predictive maintenance specialist

Highly specialized engineer → Multi-skilled engineer

Environmental manager → Environmental accountant

Learn more about the future of the mining workforce



Sources: Mining for Digital Era Talent Market Study