



# The future of work in mining

What will jobs look like in intelligent mining operations?



## **Operations SuperTeam lead**

The front-line leadership of a mining operations team; balances onsite and remote working activities aimed at empowering and enabling SuperTeams to drive production targets



# OPERATIONS LEAD/OPERATIONS SUPERTEAM LEAD

## Summary

The operations SuperTeam lead is the first-line leader of operational mining SuperTeams (groups of people and intelligent machines working together) and works with the team to plan for and execute the mining operational plan. This role's day-to-day responsibilities and activities are multifunctional, and include mining/operations leadership (including budget and contractor focus), SHERQ (safety, health, environment, risk, and quality), people leadership, and continuous improvement of processes, team delivery, and equipment.

The purpose of this role remains the same as an operational supervisor, but their work—supported by technology—results in a change in the nature of their team and the location of where they perform their day-to-day activities. The operations SuperTeam lead role therefore represents the epitome of the hybrid working mine—where mining teams are elevated by the collaboration of self-driving haul trucks, automated drilling machines, and machine coworkers.

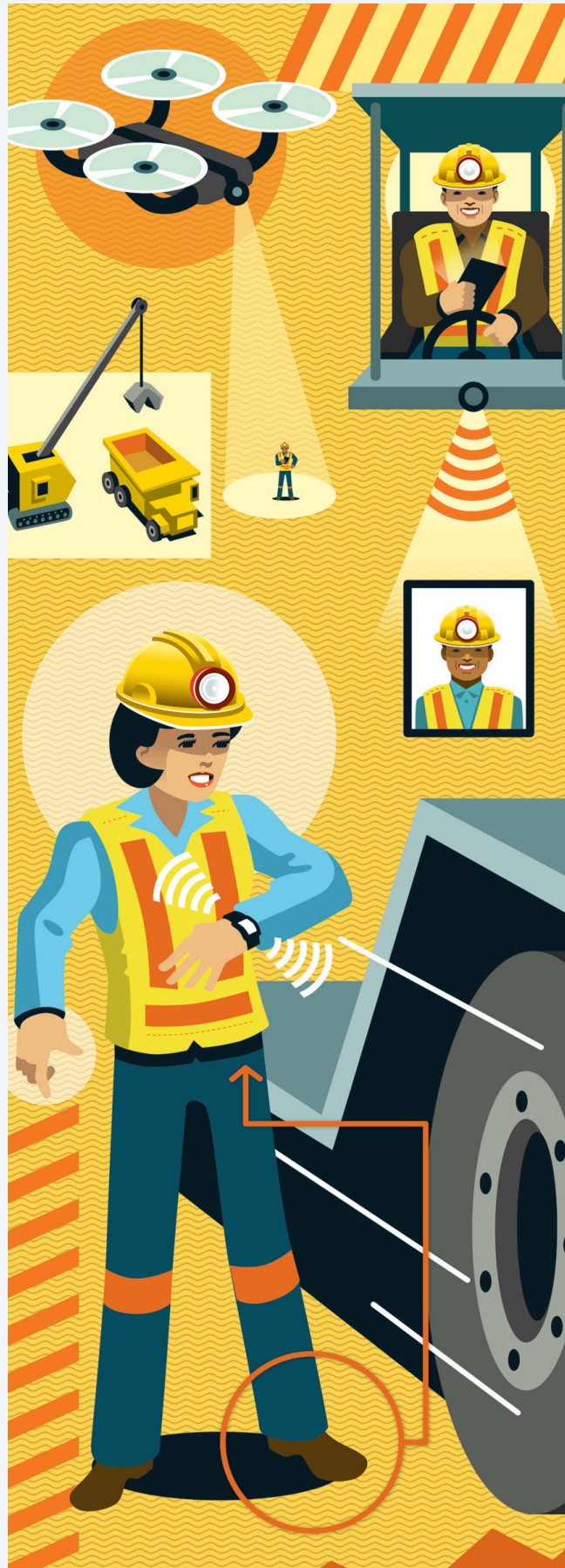
The operations SuperTeam lead will serve as the main link between the physical and remote workplace and can use technology to plan far in advance, and conduct streamlined tasks and administration, so they can make strategic decisions, lead, empower, and support their SuperTeams to achieve their work outcomes. Critical to their hybrid working arrangement is their capability to communicate, collaborate, and lead. They use these human capabilities to ensure production goals are met and work closely with the team performance scientist and safety experience architect to maximize individual and team performance and productivity, compliance, and safety.

## Responsibilities

- Develop a mining operational plan using automated production and shift reports, digital operational analytics, insights and trends, as well as on-time input from team, leader, peers, and support functions
- Execute the mining operational plan through SuperTeams
- Continuously monitor operational activities, including energy demand needs from renewable energy supplies, using live data, and manage operations and teams based on deviation from plan
- Ensure availability of resources for the SuperTeam (employees, tools, equipment, components, systems, software) to achieve mining operational plan
- Ensure the performance of the SuperTeam through tracking of the health and wellness indicators for human members and machines
- Role-model leadership behaviors and coach the team to perform in current and future roles (technical and behavioral coaching)
- Ensure daily critical collaboration points with peers and human team

## Time spent on activities

- Planning and forecasting (based on collaboration and data)
- Operational leadership (execution of plan through SuperTeam using live data, within budget)
- People leadership (leading, coaching, collaborating)
- Keeping SuperTeams safe and functional (through live SHERQ, and contractor data)
- Other





# CHARMAINE WILSON

## OPERATIONS LEAD/OPERATIONS SUPERTEAM LEAD

FutureWaze Mining

Charmaine has several years of experience in operational mining. She is a miner at heart, like her father, and has a passion for working on the mine. Improving inefficiencies is linked to her core values of continuous learning. Through creative ways of working, she wants to continue to be part of, and build, high-performing SuperTeams and achieve the work/life integration warranted by the remote/onsite work arrangement.

## Experience

### Hybrid operations lead

Mining Inc. | Jun 2019–present  
Leads operational SuperTeams that work alongside emerging and advanced technologies to achieve production goals in a safe manner

### Operations project leader

Surface IronCore | Jun 2014–Jun 2019  
Generated business solutions based on opportunities and underperformance as indicated by trends (SHERQ, operational budget, contractor, etc.)

### Production supervisor

Mine Z | Jun 2009–Jun 2014  
Coordinated and managed plant processing using modern technology, according to legislation and safety standards

## Education

- Diploma in production/operations and productivity management
- Certificate in safety management
- Certificate in change and transition management
- Certificate in leadership of SuperTeams and remote working
- License in the relevant technologies

## Toolbox

### IntelliOps

Real-time visualization of the mining operation by monitoring leading indicators as well as integrating with the short-term schedule; front-line supervisors can manage areas on an exception basis, reacting to alerts and notifications through smart workflows

### CONNECT

Digital enablement solution to enhance the engagement experience with employees and team

## Skills and endorsements

### HUMAN

- + SuperTeams leadership .367  
Endorsed by **Alexa**, who is highly skilled at this
- + Strategic planning based on operational data .400  
Endorsed by **Philip**, who is highly skilled at this
- + Strategic decisioning .372  
Endorsed by **Khutso** and **Leani**, who are highly skilled at this
- + Data-driven solution curator .502  
Endorsed by **Rickus** and **Jessica**, who are highly skilled at this
- + Teamer (cross-functional) .501  
Endorsed by **Conrad**, who is highly skilled at this
- + Emerging trends adaptability .371  
Endorsed by **Matthew**, who is highly skilled at this
- + Innovative ignitor .411  
Endorsed by **Linus** and **Grant**, who are highly skilled at this

### TECH

- + Digital fluency .502  
Endorsed by **Gideon** and **Cassandra**, who are highly skilled at this
- + Data fundamentals .255  
Endorsed by **Tinashe**, who is highly skilled at this
- + Data verification .362  
Endorsed by **Tumelo**, who is highly skilled at this
- + Data interpretation .392  
Endorsed by **Claire** and **Aisha**, who are highly skilled at this



# A DAY IN THE LIFE

06:30 AM

Logs into IntelliOps, the short interval control software, on her enabled phone. Opens up the generated operations report. It seems that mostly all operations went off smoothly during the night shift. Just before closing the report, the system notifies her that the rate of rotation of drill rig B is starting to run slightly slower than usual. Checks if the automatic notification reached the team and adds it to her agenda for the collaboration point with her peers at 8:30 am

07:00 AM

Using drones linked to IntelliOps, conducts site inspections of the morning shift without actually being on-site. Also receives real-time data derived from sensors via her iPad. Quickly checks the live footage but cannot see anything outwardly wrong with the automated drill. Then inspects the conveyor belts using the same technology

07:15 AM

Connects with her SuperTeam via the CONNECT digital engagement platform. Finds that they may need more PPE next week as well as an additional medical scan due to the health indicators picked up across the mine. Approves this request and logs a speed request on the platform. The drone will drop the delivery on site

08:30 AM

Joins the peer collaboration point via the CONNECT digital engagement platform where she discusses the drill rig KPI from the automated report with the intelligent maintenance lead, and based on input, adjusts plans for the next 24 hours to ensure production still meets targets. In the meeting, the safety experience architect mentions that a safety update has been made to everyone's smart watches

09:30 AM

Grabs her ruggedized tablet and heads off to the mine

10:00 AM

Enters the premises once the facial recognition camera at the gate identifies her and automatically clocks her in. As she walks through the turnstile, she is screened (total body screening) to pick up any health concerns such as low hydration levels and fatigue

10:15 AM

Joins the SuperTeam on site to overinspect and coach them on the current task

12:00 PM

Takes a quick break for lunch

01:00 PM

Sits down with Ben, a new team member who has not been taking direction well. They have constructive discussion where Ben commits to his responsibilities within Operations and shares where Charmaine can assist and enable him in honoring this commitment

03:00 PM

Conducts further inspections of load and haul operations, which use self-driving haul trucks. Also monitors the loading and hauling of raw materials via her tablet while looking through workflow information on safety and health, safety compliance, and expenses

04:00 PM

Heads back home, although her work day is not over yet

## About the authors

**ANDREW SWART** Andrew Swart is both the global and Canadian leader of the Mining & Metals practice as well as the global leader for the sector. In his global roles, Swart leads a team from around the world and sets the strategic direction and go-to-market strategy for the global practice. With 20 years of industry and consulting experience, he is passionate about client service, having worked across many major mining and metals geographies, including Canada, Chile, Russia, Ukraine, Kazakhstan, Brazil, Germany, India, South Africa, the United Kingdom, and the United States. Swart's areas of expertise include corporate and competitive strategy engagements, digital and innovation systems, and large organizational transformation programs.

**JANINE NEL** Janine Nel is Deloitte's global Future of Work leader for Energy, Resources & Industrials, and Deloitte's global colead for the People & Diversity pillar of the mining and metals group. Leading delivery and thought leadership in the area of digital and its impact on work, Nel focuses on the workforce and the workplace in the future of work. She helps clients unpack the elements of work that are truly human, what can be done by machines, and what this means for people. She is also part of an effort that pioneers the people impacts of the mine of the future.

**TALITHA MULLER** Talitha Muller is the Future of Work program manager for Deloitte Africa and a member of the Global Future of Work Regional Leadership forum. Muller plays an integral part in leading the Future of Work movement within South Africa by providing strategic guidance to business leaders on navigating the complexity of digital disruptions pertaining to changes in work, workforce, and workplace, and how to create exponential professionals.

**JENNA WING** As an industrial psychologist with two years' experience within the energy and resources industry, Jenna Wing has worked with the Future of Work team on developing the digital nerve center solutions for the intelligent mine. She focuses on the future of the workforce, the change in skills and capabilities, how roles will be deconstructed, and the business case for reskilling/repurposing people. Through creative ways of working and learning, Wing wants to continue to be a part of, and build, high-performing teams by challenging everything we do from a personal, work, and mindset perspective.

## Acknowledgements

The authors would like to thank the following people from Deloitte Consulting for their contributions to this article: **Kristy Delaney** and **Aparna Burke** for their knowledge of operational mining roles, **Jessica Sonnekus** for her expertise on supervisor roles in the mining sector, and **Leani Hanekom** and **Cassandra Wilding** for their passion and insight into behavioral drivers of safety practices. The authors would also like to thank **Joanna Lambeas** and **Meghan Gragtmans** for their contributions and **Anup Mistry** for his endless support and expertise on the mining roles of the future.

Lastly, a special thank you to **Tania Nieuwoudt** for her contributions in both driving this publication as project manager and contributing as a future of work expert.

## Contacts

### Andrew Swart

Global and Canadian Mining  
& Metals leader  
Partner  
Deloitte Touche Tohmatsu Limited  
+1 416 813 2335  
aswart@deloitte.ca

### Janine Nel

Partner, Consulting,  
Deloitte Canada  
+1 403 390 6510  
jnel@deloitte.ca

### Andrew Lane

Energy, Resources & Industrials leader  
Partner  
Deloitte Africa  
+2 783 326 2849  
alane@deloitte.co.za

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