

## **HOW WE WORK**

When we started our journey as South32 we knew that if done well and sustainably, developing natural resources can change people's lives for the better.

We are working together to create an inclusive workplace where we hold ourselves and each other to account by living our values of care, trust, togetherness and excellence. Our values govern how we act, work, speak to each other and how we evaluate our behaviour. They guide us and are part of every decision we make.



#### **OUR PURPOSE**

Our purpose is to make a difference by developing natural resources, improving people's lives now and for generations to come.

We are trusted by our owners and partners to realise the potential of their resources.



# THE VALUES THAT GUIDE US

#### CARE

We care about people, the communities we're part of and the world we depend on.

#### **TOGETHERNESS**

We value difference, listen and share, knowing that together we are better.

#### TRUST

We deliver on our commitments and rely on each other to do the right thing.

#### **EXCELLENCE**

We are courageous and challenge ourselves everyday to be the best in what matters.



### THE WAY WE WORK

Together we will create an inclusive workplace where we hold ourselves and each other to account to demonstrate our values.

We ensure all work is well designed and reliably delivers safe outcomes, with a focus on continuously improving and learning.





### HOW WE MAKE A DIFFERENCE



We all guarantee everyone goes home safe



We are meaningfully connected and believe in our purpose



Our operations run to their full potential and maximise return on investment



Our functions are lean and enable our operations to deliver their full potential



Technology and innovation is radically lifting our performance



: We create value through our environmental and social leadership



We have optimised our portfolio and have multiple growth options with a bias to base metals

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# **OUR BREAKTHROUGHS**

This year we have introduced seven breakthroughs, which describe how we make a difference.

Our breakthroughs are our new business strategy, and enable us to focus on what is important, balance our priorities and ensure we are all aligned to deliver on our purpose. Our breakthroughs form the foundation of how we plan our business. While no breakthrough has more importance than another, safety sits at the top of the list of seven as it is at the forefront of everything we do. Our breakthroughs bring us together as one South32 to create long-term value for all.

### **Breakthrough**



We all guarantee everyone goes home safe and well

### **Breakthrough**



Technology and innovation is radically shifting our performance



We are meaningfully connected and believe in our purpose



We create value through our environmental and social leadership



Our operations run to their full potential and maximise return on investment



We have optimised our portfolio and have multiple growth options with a bias to base metals



Our functions are lean and enable our operations to deliver their full potential



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### **SAFETY**

The most important thing we can all do is make sure that everyone goes home safe and well at the end of every shift.

We are committed to improving safety at our operations to avoid, mitigate and manage safety risks to our people. We are focused on creating an inclusive workplace, where work is well-designed and we continuously improve our systems and processes.

At South32, an inclusive workplace is one where we all feel comfortable speaking up; where we ask for, offer and accept help, and we encourage each other to challenge the way we do things. When challenges arise, we address and resolve them together.

Well-designed work is aimed at making sure we have people with the right skills and experience, the correct processes, tools and equipment, and plan all work so that it does not pose risks to our people or the community.

We use our risk management framework to proactively identify and manage safety risk, allowing effective controls to be in place. In conjunction with our Leadership Capability Program, this provides our people with the necessary systems and skills to care for themselves and others.

As a member company of the International Council on Mining and Metals (ICMM) we remain committed to upholding ICMM Principle 4, to implement risk management strategies based on valid data and sound science, and ICMM Principle 5, to seek continual improvement in health and safety performance.

## SUSTAINABLE GALS DEVELOPMENT GALS

























#### Our approach to safety aligns to the sustainable development goals

South32 supports the United Nations (UN) Sustainable Development Goals (SDGs). The United Nations 2030 Agenda for Sustainable Development defined 17 SDGs in September 2015 that seek to address the world's greatest challenges. The SDGs build on the work undertaken through the Millennium Development Goals but have a greater focus on the involvement of the private sector. South 32 plans align with the SDGs. The key to a successful  $\,$ result is working with stakeholders to develop and implement actions that contribute to sustainable development.

## **SAFETY PERFORMANCE**

The most important thing we can all do is to make sure that everyone goes home safe and well at the end of every shift. It is with sincere regret that Agnes Masooa, an Overhead Crane Operator, was fatally injured whilst working at our manganese joint venture's Metalloys manganese smelter in South Africa on 12 April 2018. Our support and condolences are with Agnes's family and colleagues as we seek to understand and learn from this incident. A detailed investigation led by a member of our Lead Team was undertaken with the results reviewed by the Chief Executive Officer, management team and Board.

Safety performance is included in our Business Scorecard. Performance against these targets is directly linked to all employee remuneration, including the Lead Team.

In FY18, our Total Recordable Injury Frequency (TRIF<sup>(1)</sup>) improved by 15 per cent to 5.12 per million hours worked, compared with our FY17 TRIF of 6.05 per million hours worked. This performance rates as better than target against our FY18 Business Scorecard. Deeper analysis of the data regarding the root causes of injuries has led to targeted actions to reduce injury reoccurrence. Line management has become more involved in the reporting and investigation of injuries at our operations and we have improved injury treatment techniques particularly during the first 96 hours after an injury.

Our Klipspruit colliery achieved an exceptional safety performance during FY18, having completed more than 12 months without a recordable injury, ending the year with a TRIF of zero.

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We are committed to improving safety at our operations to avoid, mitigate and manage risk. While our TRIF improved in FY18, our true measure of success is when everyone at South32 goes home safe and well, and this was not achieved. We are placing more focus on leading indicators such as hazard and observation reporting so that we are proactive in preventing incidents.

Table 1 Total Recordable Injury Frequency (1)(2)

	FY16	FY17	FY18
TRIF	7.74	6.05(3)	5.12

- (1) TRIF: (The sum of fatalities + lost-time cases + restricted work cases + medical treatment cases) multiplied by 1,000,000 divided by actual hours worked. Stated in units of recordable injuries per million hours worked.
- (2) To ensure that incident classification definitions are applied uniformly across our workforce, we have adopted the United States Government Occupational Safety and Health Assessment guidelines for the recording and reporting of occupational injuries.
- (3) The change in FY17 TRIF from 6.02 to 6.05 is due to the reclassification of one recordable illness to a recordable injury.



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## **HOW WE MANAGE SAFETY**

We believe that key aspects of managing safety risk include having an inclusive workforce, where work is well-designed and we continuously improve. Our safety risk management is supported through robust processes and internal standards.

We value an inclusive workplace where every employee and contractor can feel connected, valued and respected. This environment also provides an opportunity where people can freely share their concerns and ideas. Work is considered well-designed when potential causes of harm have been identified, and the work has been planned to reliably deliver safe outcomes. This is based on assessing the workplace, tools and equipment, processes and people, and ensuring that critical controls are designed before the work is scheduled. These controls must be verified as being in place and effective, before work commences.

# RISK MANAGEMENT FRAMEWORK

Our overarching risk management framework consists of three components:

- Our internal standards that define the key deliverables, materiality and accountabilities.
- Our risk management process which identifies, monitors and manages potential risks and controls, to minimise the negative impact should a risk eventuate.
- 3. Three lines of defence to provide assurance of compliance with our internal standards.

# OUR INTERNAL SAFETY STANDARDS

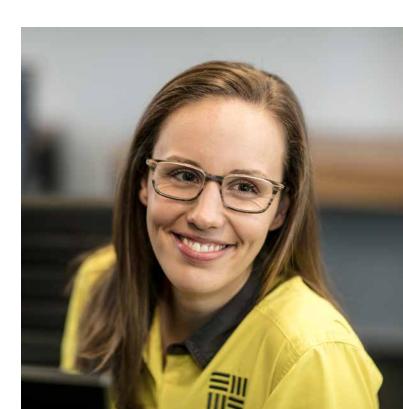
Our internal safety standards describe the minimum mandatory requirement for nine core safety processes that are used to implement the risk management process at our operations. These processes are key components required for work to be considered well-designed.

# IMPROVING SAFETY AT SOUTH32

Our safety standards were updated in FY18 to include a common approach to managing 10 single fatality risks across our operations. These ten risks, which are common to our industry, have been the cause of the majority of fatalities that have occurred at our operations. Mandating the minimum controls to manage these risks enables us to focus on the most important controls associated with the highest risk activities.

In FY19, to advance our risk management capabilities, a new risk management system, Global 360, will be introduced.

Safety training is regularly completed by our people and is based on the work to be undertaken or identified knowledge gaps. An example is in hazard identification; risks cannot be managed if the hazards they pose have not first been identified. An updated hazard identification training program has been introduced, focusing on a practical approach to identifying all hazards.



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#### **CASE STUDY**



### **WELL-DESIGNED WORK AT WORSLEY ALUMINA**

An arc flash is the flow of electrical current that travels in the air between conductors. At our Worsley Alumina refinery, there is potential for arc flash when our people are operating switchgear in the Electronic Distribution Centre, an activity required several times a day. To improve the safety of our people, a dedicated team was established to investigate ways to redesign this routine task. As a result, engineering and systems controls have been upgraded to introduce remote switching of electrical breakers. This has removed the need for manual operation, significantly reducing the risk of human exposure to arc flash.

This initiative illustrates our safety commitment in action through:

- Inclusive workplace: the ability for anyone to speak up and the power to work together to implement improvements
- Well-designed work: reviewing our workplace, engineering controls and eliminating potentially fatal risks
- Continuous improvement: applying what we know to improve the way we work, and sharing the results



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### LEADERSHIP CAPABILITY PROGRAM

We coach and support our people to ensure that they have the right skills and capabilities to design, perform and direct work safely. Our Leadership Capability Program, which commenced in FY17 in our African operations and was introduced to our Australian operations this year, is an investment in our leaders to ensure they have the right skills and capabilities to lead safety improvement across our business.

Each leader is assessed across a broad range of criteria, with individual development opportunities identified and development plans agreed with both employees and their managers. To date, over 1,000 leaders have participated in the program across the Company.

Each leader has undertaken:

- An individual critical experience discussion
- A psychometric assessment focused on personal sources of motivation, preferences and cognitive abilities
- A discussion with an organisational psychologist to provide deeper insight into their psychometric results
- A feedback session involving a Leadership Capability Program representative and their direct leader.
   Key development needs are summarised for each leader and incorporated into their annual performance development plan

# MANAGING UNDERGROUND GAS AT ILLAWARRA METALLURGICAL COAL

Following an extended production outage at our Appin mine from 28 June 2017 to 13 October 2017, the focus at Illawarra Metallurgical Coal underground mining operations was to improve gas drainage, ventilation performance and reliability, embed new structures, systems and processes, and build a stronger leadership team.

A staged improvement plan was developed during the outage. This remains on track, and is expected to deliver more stable, reliable and productive longwall and development performance in the future. Key elements of the improvement plan are a simplified mine design, reliable gas drainage and ventilation infrastructure and systems, a more robust underground coal clearance system, and enhanced risk management systems and processes.



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**CASE STUDY** 



### INNOVATIONS AT OUR CANNINGTON UNDERGROUND OPERATION

At Cannington, we have trialled two technological solutions to improve the safety and performance of our underground activities.

## The world's first autonomous drone flight underground

While drones are commonplace in the mining sector, using them underground is not typical. The use of drones in underground operations had all but been ruled out due to the small spaces to manoeuvre, lack of GPS navigation capabilities and other underground conditions such as dust and moisture. In a world first, Cannington has partnered with a research team at CSIRO to test a drone in our underground mine. The "Hovermap System" uses LiDAR laser and an on-board computer with an autopilot system.

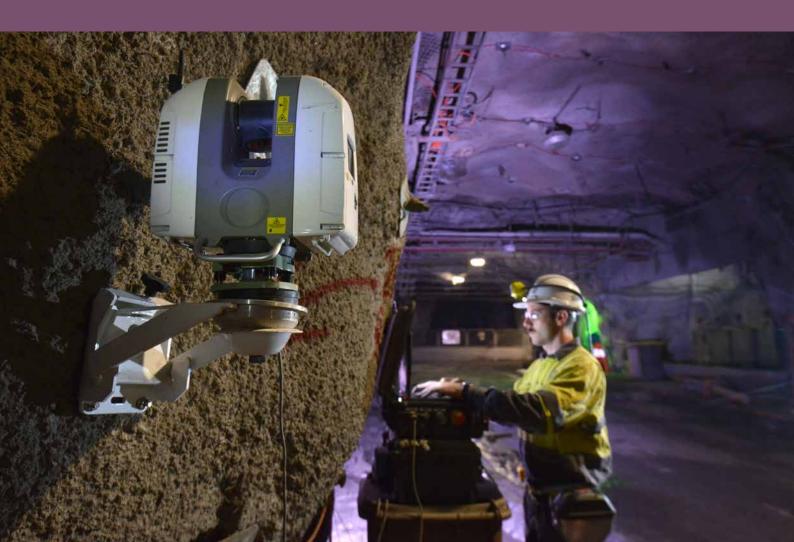
LIDAR is a remote surveying method that measures light pulses reflected from a target with a sensor to measure distances. This intelligent drone manoeuvres underground using LiDAR for guidance while producing a 3D map that can be manipulated and used to take measurements. The drone produces complete 3D images, providing valuable information that enables us to significantly reduce our workers' exposure to potentially dangerous voids. Following this successful trial, the drone is now being used to complement existing methods for scanning stopes and mapping underground access roads.

#### **Optical laser scanner**

Looking to improve ground movement measurement techniques, our team at Cannington have installed an underground laser scanner. The scanner is an optical sensor that measures displacement in an area with a 270 degree field of vision and is placed in locations where it is critical to know if the ground has moved.

The scanner is so accurate that it can detect movement to the sub-millimetre. It does this by scanning an area and sending a live feed to the geotechnical engineers who monitor results on the surface. The data is used to produce a heat map which shows exactly where there is ground movement. In areas with infrastructure, such as the shaft and crusher chamber, having early information about ground deformation is vital to prevent incidents.

The scanner can provide detailed real-time data from areas that are often difficult to access and has improved Cannington's monitoring of risks relating to earth movements.



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## **EMERGENCY PREPAREDNESS**

Our safety standards state our company-wide policy to prepare for and respond to emergencies.

Our operations are required to develop and implement Crisis and Emergency Management Plans (CEM) Plans. These CEM Plans are tested and audited annually to ensure preparedness, and this supports the proactive identification and remedy of any gaps in our ability to minimise impacts.

CEM Plans include guidelines for appointing emergency response teams that oversee frontline response. If the situation requires escalation, our plans include additional management support to harness broader organisational support and resources including comprehensive communication plans.

Our CEM Plans assist in protecting our people during an emergency, minimising our impact on the environment and the surrounding communities and ensure a well-coordinated emergency response. Business continuity and recovery form part of the plan to mitigate significant operational loss.

**CASE STUDY** 





# INCLUSIVE SAFETY IN THE WORKPLACE

During FY17, the security threat at our operations in Southern Africa was identified as increasing. A working environment where anyone feels unsafe or threatened is unacceptable and in response, in FY18, safety improvement measures were undertaken.

A Women in the Workplace survey was conducted along with a gap analysis against our asset protection standards to better understand factors that contribute to women feeling unsafe, both while at work and during the commute to and from work.

A high incidence of vehicle hijacking in the area around our Johannesburg office was identified as posing a safety risk to our employees. A workshop on anti-hijack procedures was conducted for all Johannesburg-based employees which covered situational awareness and evasion tactics.

Some of our mine operations cover large geographic areas, which can be isolated. After identifying the potential risks for women working in isolated locations at night, programs of work were examined for night shift workers. Improvements to work design were implemented, whereby any work that requires our people, both men and women, to be in an isolated place at night is either performed under escort by trained security personnel or is held over until it can be safely completed during the day shift.

Additional measures taken include upgraded changing room security with bio-metric access control systems, appropriate CCTV coverage and effective segregation of change house areas.

These measures have contributed to a 65 per cent decrease in identified crime incidents and made our operations in Southern Africa safer places to work.



