WHITEPAPER

ENHANCING SAFETY IN THE RESOURCES INDUSTRY

through smart electrification

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01

Introduction

In the Australian Resources sector, which encompasses both Mining and Oil & Gas operations, the paramount concern for industry leaders is ensuring the safety of personnel and compliance with stringent safety regulations. The increasing complexity of operations, coupled with the high-risk nature of these industries, requires organisations to prioritise safety measures that protect their workforce and assets.

Safety regulations in Australia are among the most rigorous in the world, necessitating that companies implement comprehensive safety protocols to mitigate risks associated with electrical systems and equipment.

This is particularly critical in the Oil and Gas sector, where the potential for hazardous incidents is heightened by the presence of flammable materials and high-pressure environments. Similarly, in mining operations, the risks associated with heavy machinery and electrical systems demand robust safety measures to prevent accidents and ensure the well-being of workers.

As organisations strive to comply with these regulations, they face several challenges, including the need for advanced safety technologies, effective training programs, and proactive maintenance strategies. The pressure to modernise the aging infrastructure and adopt innovative solutions that enhance safety is further compounded by the ongoing labour shortages in both industries. With many skilled workers nearing retirement, companies must also focus on attracting and retaining talent while ensuring that existing personnel are adequately trained to operate advanced technologies safely.

ABB recognises the critical role it can play in supporting the Australian Resources sector, particularly in addressing these safety challenges. ABB's portfolio extends from electrification solutions to digital technologies and advanced life cycle services. At the heart of its offering lies decades building domain know-how and global experience with many of the world's Oil and Gas, Mining and metal process plants. With a strong local and global engineering, manufacturing and service presence, leveraged by innovative solutions in condition monitoring, diagnostics, digital solutions, and predictive maintenance, ABB supports organisations navigate the complexities of safety regulations, ensure plant and personnel safety while enhancing operational efficiency and protecting the environment.

In this whitepaper, we address how ABB's smart electrification solution assist in improving plants' safety with a focus on low voltage switchgear, UPS systems and collaborative service solutions.

SECTION

02

The current landscape of the Resources industry in Australia

Sustainability and environmental concerns

The industry is under increasing scrutiny regarding its sustainability and environmental impact. Companies are pressured to adopt practices that minimise waste and reduce carbon emissions. The "Mining's Moment" report indicates that 50% of Australian mining businesses anticipate significant or total transformation of their operations over the next five years in response to these pressures. This commitment aligns with global trends, where 53% of mining companies are similarly forward-looking.

Efficiency and rising operational costs

Rising operational costs necessitate improved energy efficiency. The Australian Energy Market Operator (AEMO) reports that energy prices are expected to rise, compelling organisations to optimise their energy consumption without sacrificing productivity. This challenge is compounded by a significant shortage of skilled labor, which hinders the adoption of new technologies. The "Mining's Moment" report highlights that nearly half—48%—of the industry is grappling with this talent shortage, a challenge echoed globally. However, Australia shows promise, with 74% of companies committed to reskilling their workforce.

Modernisation and aging infrastructure

As outdated equipment increases the risk of accidents and inefficiencies. The Australian Industry Group emphasises the need for modernisation to extend the life of existing assets and ensure compliance with safety regulations. High operational costs further exacerbate the situation, as companies must find innovative solutions that enhance productivity while maintaining stringent safety standards. Compliance with safety regulations and the ongoing need for maintenance and upgrades place additional financial strain on organisations within the Resources sector.

Safety

Safety remains a paramount concern, particularly with risks associated with arc flash incidents, maintenance safety, and the necessity for continuous monitoring to prevent accidents. According to a report from Safe Work Australia, electrical incidents are among the leading causes of workplace injuries in the Resources sector. Consequently, companies must implement robust safety measures to protect their workforce and assets.

Integration of IoT and AI

The Resources industry is poised for evolution, driven by technological advancements that promise to enhance safety and operational efficiency. Key future trends include the integration of the Internet of Things (IoT) and artificial intelligence (AI), which are set to revolutionise asset monitoring and management. By leveraging IoT sensors and AI algorithms, organisations can gain deeper insights into equipment performance and predict failures with greater accuracy.

Enhanced cybersecurity measures

With the rise of digital technologies, enhanced cybersecurity measures will also become critical. Ensuring the integrity and security of data will be paramount for maintaining safe and efficient operations.

Workforce training and development

Finally, as new technologies are adopted, ongoing workforce training and development will be essential. Companies must invest in upskilling their employees to ensure they can effectively operate and maintain advanced systems, thereby fostering a safer and more efficient future for the Resources industry in Australia.

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According to a report from Safe Work Australia, electrical incidents are among the leading causes of workplace injuries in the Resources sector.

SECTION

03

Addressing key safety challenges in the Resources industry

The integration of ABB's solutions directly addresses the safety challenges faced by the Resources industry in Australia. The unique landscape, characterised by vast and often remote mining operations, presents specific safety concerns that necessitate robust and innovative solutions.

CHALLENGE

01

Arc flash safety

Arc flash incidents are a significant concern in the Resources industry, particularly in Australia, where high voltage systems and harsh environmental conditions increase risks. The complexity of electrical systems and high-energy demands of machinery make the mining sector particularly vulnerable. Additionally, remote locations complicate emergency response efforts.

SOLUTION:

Safe switchgear

Selecting a type-tested switchgear and arc proof tested switchgear, for example, ABB MNS Low Voltage Switchgear leaves you with peace of mind.

With the world's largest installed base of energy distribution switchgear and motor control centers, ABB MNS offers the assurance that your systems are supported by a global network of top experts. ABB is committed to delivering superior customer experience with world-class products from state-of-the-art manufacturing facilities.

MNS switchgear features advanced thermal management and arc containment technologies that significantly reduce the risk of electrical faults. With arc-resistant designs and real-time monitoring capabilities, operators can detect abnormal conditions immediately, preventing arc flash incidents from escalating. This technology enhances safety for personnel and minimises equipment damage, leading to reduced downtime and maintenance costs.

CHALLENGE
02

Regulatory Compliance

Compliance with safety regulations is a critical concern for the Resources industry in Australia. The government imposes stringent regulations governing electrical safety, and non-compliance can lead to severe penalties.

Most countries and regions in the world have regulatory requirements and guidelines regarding the safe installation and operation of electrical plants. In Europe, for example, it is EN50110-1:2023, and in Australia, it is AS4836:2023 and NFPA 70E in North America.

Depending upon the country, there are different approaches to the management of arc hazards. The primary requirement is to ensure that electrical equipment and working processes around that equipment are safe for the people working in or around the equipment through the use of risk minimisation of potential hazards such as internal arc-faults.

Some regulatory standards are more explicit in the way that arc hazards are assessed and minimised, such as EN50110-1:2023, which describes risk connected with arc hazards and requires a risk assessment to be conducted when work is done in the vicinity or on live equipment. EN50110-1 recognises the need to use proper Personal Protective Equipment (PPE). Guidelines for protective clothing against thermal hazards of an electric arc are outlined in the IEC 61482 series. A set of rules for safe working practices during maintenance is gathered in IEC TR 63482.

To meet the requirements of the regulations, customers employ various strategies for the management of the hazards associated with electrical equipment. One of the hazards that can cause serious injuries to personnel is the arc fault, and the way to reduce the risk is to employ arc-contained switchgear. The rising awareness of the risks related to internal arc faults results is clear in stating the requirements for personnel and assembly protection in other IEC standards for low voltage. An example is IEC 60364-4-42 which deals with protection against thermal effects.

SOLUTION:

Meeting industry standards by design

ABB's solutions are designed to meet or exceed industry standards, ensuring organisations remain compliant with local regulations. Our low voltage switchgear and digital monitoring solutions adhere to IEC standards, integrating safety measures into electrical systems. By utilising ABB's compliant solutions, organisations can mitigate regulatory risks and foster a culture of safety.

CHALLENGE
03

Maintenance safety

Maintenance activities often involve working on live electrical systems, posing inherent risks to personnel. In remote areas, the availability of skilled maintenance personnel can be limited, increasing the likelihood of accidents. Harsh conditions can also lead to equipment degradation, complicating maintenance efforts.

SOLUTION:
Digital solutions

ABB's digital solutions, including condition monitoring and battery monitoring systems, provide real-time insights into electrical equipment health. These systems enable operators to monitor critical parameters, allowing for timely interventions before maintenance is required. By shifting to predictive maintenance strategies, organisations can significantly lower the risk of accidents and optimise resource allocation, enhancing safety and reducing operational costs.

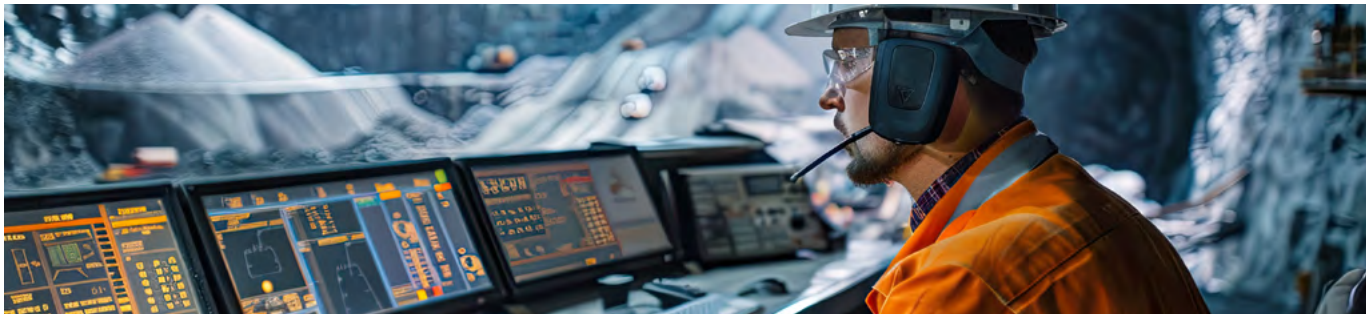
CHALLENGE
04

Reliability and continuity of operation

Continuous operations are crucial in the Australian Resources industry, where interruptions can lead to significant financial losses. Equipment failures, particularly in electrical systems, can halt production and pose safety risks. Remote locations complicate maintenance and repair efforts, leading to prolonged downtimes.

SOLUTION:
Predictive maintenance

ABB's predictive maintenance tools leverage advanced analytics to forecast equipment performance and identify potential failures. By integrating these tools with ABB's low voltage switchgear and digital monitoring solutions, organisations can enhance the reliability of their electrical systems. This minimises unplanned outages, maintains productivity, and safeguards the well-being of the workforce.



CHALLENGE
05

Upskilling the workforce

The shortage of skilled labor in the Australian Resources industry poses significant challenges to safety. As new technologies are adopted, ongoing training becomes essential. Inadequate training increases the risk of accidents and operational failures.

SOLUTION:
Workforce training and development

ABB supports workforce development through training programs focused on the safe operation and maintenance of electrical systems. Our initiatives cover safe use of digital technologies and predictive maintenance practices. By investing in workforce training, organisations enhance personnel skills and knowledge, reducing accident risks and fostering a culture of continuous improvement. A well-trained workforce is better equipped to identify and address potential safety issues, contributing to overall operational efficiency.

CHALLENGE

06

Decarbonisation through Carbon Capture and Storage

The oil, gas, and mining industries in Australia face significant challenges in decarbonising, particularly with Carbon Capture and Storage (CCS) technologies. As these sectors strive to meet stringent emissions reduction targets, effective CCS solutions are essential. Integrating CCS into existing infrastructure is complex and costly, posing substantial obstacles to achieving Australia's greenhouse gas emissions reduction goals of 43% by 2030 and net zero by 2050.

SOLUTION:

ABB's SureWave Frequency Converter for electrifying ports

ABB's SureWave Frequency Converter is crucial for facilitating the electrification of ports, which is essential for shipping carbon globally. This technology enables seamless, automated power transfer from a ship's onboard power plant to an onshore source, allowing vessels to shut down their diesel generators while berthed. By reducing fuel consumption and emissions, the SureWave Frequency Converter supports the decarbonisation of port operations, which is vital for meeting the increasing LNG demand forecast for 2028/2029. With Australia's extensive coastline and stable geography, this technology positions ports to play a pivotal role in the global CCS landscape, enhancing sustainability and operational efficiency while minimising environmental impact.

ABB's commitment to safety and innovation

ABB's solutions are designed to enhance safety and operational efficiency in the Resources industry. Our approach focuses on integrating advanced technologies that facilitate condition monitoring, diagnostics, and predictive maintenance.

SECTION

04

ABB's Electrification solutions: Built on decades of domain know-how for Safety

MNS Low Voltage Switchgear

Since ABB first introduced the modular low voltage switchgear platform MNS over 50 years ago, it has been at the forefront of innovation in the marketplace. The MNS switchgear is engineered with safety features that minimise the risk of electrical arc events, adhering to stringent IEC standards to ensure reliability in demanding environments. ABB has invested over $60 million in testing and verification of MNS to enhance safety levels, achieving ratings of 415 V, 100 kA and 690 V, 80 kA, which meet arcing class C criteria 1 to 7.

Arc testing

ABB MNS switchgear is certified according to IEC 61439-2 and IEC TR 61641, ensuring it meets the highest standards for arc fault protection. The rigorous arc testing simulates real-world fault conditions, confirming the switchgear's ability to contain and mitigate the effects of internal arc faults, thereby safeguarding personnel and equipment from serious hazards.

Modular design

The modular design of MNS switchgear provides exceptional flexibility, allowing for seamless adaptation and expansion as operational needs evolve. This design facilitates easy maintenance and upgrades, minimising system downtime and ensuring that the switchgear can be tailored to meet specific requirements without compromising reliability or safety.

Temperature monitoring of critical connections:

MNS switchgear integrates advanced sensor technology to continuously monitor the temperature of critical electrical connections. By detecting abnormal temperature rises early together with ABB Ability Condition Monitoring of Electrical Systems CMES, it prevents the development of hazardous conditions such as electrical fires or arcs, significantly enhancing the safety and reliability of the overall system.

Seismic and vibration resistance:

Designed to withstand seismic activity and vibration stresses, MNS switchgear ensures reliable performance even in environments prone to such disturbances. This robustness makes it suitable for deployment in regions with seismic risks or in industrial settings where vibration is a constant concern, providing peace of mind that the system will remain stable and operational under challenging conditions.

Maintenance-free busbar system:

The busbar and frame structure of MNS switchgear are engineered for a maintenance-free operation, significantly extending the service life of the equipment. This design not only reduces the total cost of ownership but also ensures long-term reliability by minimising the need for regular maintenance interventions, thereby enhancing the overall safety and dependability of the system.

Monitoring and maintenance:

MNS switchgear provides access to a variety of digital functions. Integration with ABB Ability™ CMES allows online monitoring of your energy distribution or motor control center. This means you get immediate insights into the condition of your systems and can respond quickly as needed. Online condition monitoring and predictive maintenance not only enhances operational safety but also helps increase efficiency and reduce costs.

Find out more about ABB MNS switchgear:

VISIT WEBPAGE

SACE Emax 3 circuit breaker

The recently announced ABB SACE Emax 3 marks a significant advancement in circuit breaker technology, designed to be adapt to any environment or sector in Australia, i.e. Data Centers, Mining, Oil and Gas. With a focus on reliability, safety and security, the Emax 3 integrates innovative features that enhance performance while protecting personnel and assets. This cutting-edge solution is designed to meet the evolving demands of modern electrical systems, setting a new standard for safety in high-stakes environments.

Remote Racking Device (RRD) function

The Emax 3 features a 'remote racking device' (RRD) function that allows operators to perform maintenance tasks from a safe distance, at the click of a button on their smart phone. This minimises exposure to hazardous arc flash incidents, ensuring personnel safety while maintaining operational integrity in high-pressure environments.

Rapid arc flash detection

Equipped with rapid arc flash detection technology, the Emax 3 utilises up to 12 sensors per circuit breaker for faster detection times. This proactive measure significantly reduces the risk of injury and equipment damage, ensuring safe and uninterrupted operations.

Robust cybersecurity measures

The Emax 3 is the first air circuit breaker which adheres to stringent cybersecurity standards, including IEC 62443-4-2 Security level 2 (SL2), to protect data integrity and personnel safety. Features such as secure firmware updates and role-based access control safeguard against unauthorised access, enhancing overall operational safety and building trust among stakeholders in modern electrical systems.

Predictive maintenance capabilities

The Emax 3 enhances operational reliability through its predictive maintenance capabilities, which provide accurate estimations on when maintenance is needed. By adapting predictions based on real usage information and the health of the circuit breaker, the Emax 3 allows for condition-based maintenance. This proactive approach minimises unexpected failures and optimises maintenance schedules, ensuring that systems remain operational and efficient while reducing downtime and associated costs.

Find out more about SACE Emax 3, the next generation of air circuit breakers capable not only of preventing potential issues, but also of transforming data into actionable insight:

VISIT WEBPAGE

ABB Modular DPA PowerLine Industrial UPS

ABB's Modular DPA PowerLine Industrial UPS systems are designed to provide a continuous power supply that is critical for operations in the resources sector. The standout feature of these systems is the Distributed Parallel Architecture (DPA), which offers significant advantages in reliability, efficiency, and safety.

Independent module operation:

The DPA modular design allows each UPS module to operate independently. This means that if one module requires maintenance or experiences a fault, the remaining modules continue to support critical loads without interruption. This redundancy ensures that operations remain unaffected, minimising downtime and enhancing reliability.

Flexibility of design:

The flexibility of design inherent in the DPA architecture allows for fully redundant configurations, enabling organisations to tailor their power solutions to meet specific operational requirements. This adaptability ensures that the power supply can evolve alongside changing demands, making it an ideal solution for dynamic environments in the Resources sector.

Efficient power distribution:

Furthermore, the DPA concept optimises power distribution across multiple modules, ensuring that energy is used efficiently. This not only reduces operational costs but also enhances overall system performance.

Advanced monitoring capabilities with ABB Ability™:

The DPA design also incorporates advanced monitoring capabilities that provide real-time insights into system performance. Integration with ABB Ability™ enhances these monitoring features, enabling proactive maintenance and quick identification of potential issues. This ensures the safety of personnel and operations while leveraging digital solutions for improved efficiency and reliability.

By leveraging the Distributed Parallel Architecture of ABB Modular PowerLine UPS systems, organisations in the Resources sector can achieve unparalleled reliability and efficiency in their power supply. This innovative approach safeguards operations against disruptions while prioritising safety and operational excellence, all while offering the flexibility to adapt to future needs.

Find out more about DPA Powerline Industrial UPS:

VISIT WEBPAGE

Service solutions

ABB provides comprehensive service solutions tailored for the Resources sector, specifically targeting the Oil & Gas and Mining industries in Australia. These solutions are designed to enhance operational reliability, efficiency, ensure safety, and extend the lifecycle of equipment. Among the key offerings are Type Tested Medium and Low Voltage Retrofit solutions, along with specialised Advisory Services, both of which play a crucial role in optimising performance and maintaining safety standards.

Type Tested Medium and Low Voltage Retrofit solutions

ABB's Type Tested Medium and Low Voltage Retrofit Solutions are engineered to modernise existing electrical systems while ensuring compliance with the latest safety standards.

Enhanced safety

These Retrofit solutions significantly enhance safety by incorporating advanced protection mechanisms that minimise the risk of electrical faults, thereby safeguarding personnel and equipment.

Regulatory compliance

In addition to enhanced safety, these solutions meet stringent Australian safety regulations and international standards, ensuring that operations are not only efficient but also compliant. This compliance is crucial for maintaining operational licences and fostering trust with stakeholders.

Increased reliability

The increased reliability of these systems reduces downtime through robust design and proven technology, which is critical in the Resources sector where operational continuity is paramount.

Scalability and energy efficiency

Furthermore, these solutions are scalable, allowing for future expansions and upgrades without compromising safety, while optimising energy usage, contributing to sustainability goals that are increasingly important in today's industry landscape.

Find out more about ABB Modernisations:

VISIT WEBPAGE

Advisory Services

ABB's Advisory Services provide expert guidance and support to organisations in the Resources sector, helping them understand the condition and lifecycle status of their electrical infrastructure and develop a roadmap to better navigate complex operational challenges and improve safety protocols.

Comprehensive risk assessment

One of the primary benefits of these services is the comprehensive risk assessment, which identifies potential hazards and recommends strategies to mitigate risks. This proactive approach enables companies to address safety concerns before they escalate into serious incidents.

Regulatory compliance and reputation

Additionally, ABB ensures that clients adhere to local and international safety regulations, which is essential for maintaining operational licences and avoiding penalties. This commitment to compliance not only protects the organisation but also enhances its reputation in the industry.

Training and support

The training and support offered through these services enhance safety awareness and operational practices among staff, fostering a culture of safety within the organisation.

Performance optimisation and incident investigation

Moreover, performance optimisation analyses existing processes to improve efficiency and safety outcomes, while incident investigation expertise provides valuable insights to prevent future occurrences. Ultimately, these services lead to a safer and more efficient operational environment in the Oil & Gas and Mining sectors across Australia.

Find out more about ABB Advisory services:

VISIT WEBPAGE

Enhanced Safety through digital solutions

Digital MNS Low Voltage Switchgear

Digital switchgear, leveraged with current and emerging standards and technologies, can be used to reduce the risk of arc flash event, improve the reliability of the switchgear and thereby protecting people and process plants.

The MNS switchgear integrates temperature monitoring solutions for early detection of abnormal changes in critical electrical connections. Advanced safety features such as passive arc protection and modular designs enable safe and flexible adaptation to different operating conditions, ensuring the protection of personnel and equipment.

The digital switchgear offers several advantages:

Automated data collection and analysis:

The digital switchgear collects and manages data automatically, enabling teams to make data-driven decisions while applying lifetime analytics for further value creation.

Condition monitoring:

Operators can verify switchgear function and performance even before factory acceptance tests (FAT) and generate condition reports during commissioning and throughout the operational life of the equipment.

Predictive maintenance:

By analysing performance data, organisations can shift from preventive to predictive maintenance, identifying areas that need repair before they fail during operation.

Asset management:

On-site data collection from day one allows for better estimation of the remaining useful life of electrical equipment and the probability of failures.

Condition monitoring in monitoring and motor operation

Especially in process industries with their large motor control center (MCC), the continuous monitoring of motors and motor operation ensures that deviation from normal operation is detected early, and operation and maintenance teams can act before major interruption occurs. Redundant communication to control systems enables high availability. With ABB Ability CMES and connected motor controllers such as UMC100.3 or M10x series of devices conditions of the MCC as well as the connected motors are continuously monitored.

Analysing operational data in energy distribution or motor control centers allows early detection of potential problems and planning maintenance measures before costly failures occur. With the ABB Ability™ CMES condition monitoring function of the MNS switchgear the next maintenance is predicted and informed, so companies can continuously monitor the condition of their equipment and plan maintenance activities proactively.

Real-time data provides a solid foundation for informed decisions that improve both operational efficiency and sustainability. Data is collected and analysed on-premise through the ABB Ability CMES to offer detailed insights, supporting companies

in making better decisions. With advanced cloud-based applications the customers can utilise the power of future enhanced data analysis.

The digital switchgear functions similarly to a black box in an airplane, continuously collecting data and status information, which can be accessed by operators and service specialists as needed. This capability enhances the decision-making process, allowing for timely interventions that prevent minor issues from escalating into major problems.

Enhanced operational efficiency

The integration of condition monitoring solutions allows for real-time insights into equipment performance, enabling operators to make informed decisions that enhance efficiency. The digital switchgear can be easily adapted and customised as requirements change, supporting upgrades without the need for extensive physical modifications.

By using a digital switchgear solution from ABB, organisations gain the visibility and knowledge necessary to make data-driven maintenance decisions, ultimately increasing uptime, decreasing maintenance costs, and allowing teams to focus on high-value tasks instead of manual monitoring and data collection.

Find out more about Digital switchgear:

VISIT WEBPAGE

SECTION

05

Case studies: ABB solutions in action

To illustrate the effectiveness of ABB's solutions in enhancing safety within the Resources industry, here are some specific case studies:

01

Oil & Gas facility:

An Oil & Gas facility faced challenges related to aging infrastructure and safety risks associated with electrical equipment. By retrofitting their existing switchgear with ABB's digital solutions, the facility was able to enhance condition monitoring and predictive maintenance capabilities. This proactive approach led to a 25% decrease in maintenance costs, increased rehabilitation and improved safety outcomes, with no reported electrical incidents over a two-year period.

MNS Low Voltage Switchgear is the leading technology in Chemical, Oil & Gas industry. An example is the implementation of MNS in an Oil & Gas facility that had to replace its motor control centers following a devastating arc flash incident. MNS ensures reliability and safety for operators including arc fault containment and not only restored the damaged switchgear but also integrated temperature monitoring systems and ABB Ability™ Condition Monitoring for Electrical Systems (CMES).

This platform enables online monitoring and predictive maintenance, avoiding future failures and optimising operating costs. The successful implementation of these solutions demonstrated how ABB can significantly enhance safety, reliability and efficiency in the Chemical, Oil & Gas industry.

02

Mining operations:

A major mining company in Australia implemented ABB's MNS low voltage switchgear and digital monitoring solutions across its operations. The integration of real-time monitoring capabilities allowed the company to detect potential electrical faults before they escalated into serious incidents. As a result, the company reported a 30% reduction in unplanned downtime and significant improvements in safety compliance.

03

Energy efficiency project:

A leading energy provider in Australia sought to optimise its energy consumption while enhancing safety measures. By implementing ABB's digital low voltage switchgear and condition monitoring systems, the company achieved a 15% reduction in energy costs and improved operational efficiency. The real-time data provided insights that enabled the company to make informed decisions regarding energy usage and maintenance practices.

Upgrading from Outdated Power Systems to ABB PowerLine DPA UPS Systems in an Australian Gas Facility

Client background:

A leading gas processing facility in Australia faced significant challenges due to its existing power supply systems, which had become outdated and reached their end of life. The aging infrastructure posed risks of power disruptions, inefficiencies, and safety concerns, prompting the facility to seek a modern solution that could meet the demands of current operations and future growth.

CHALLENGE:

The primary challenge was to replace the obsolete power systems with a reliable and efficient solution while ensuring minimal disruption to ongoing operations. The facility required a power supply that could provide uninterrupted service, accommodate future scalability, and enhance safety during maintenance activities.

SOLUTION:

Upgrading to ABB PowerLine DPA UPS Systems ABB proposed a comprehensive upgrade to its latest PowerLine UPS systems featuring Distributed Parallel Architecture (DPA) modular technology. This state-of-the-art solution is specifically designed to address the challenges faced by the gas industry, providing a fully redundant configuration that ensures operational continuity.

KEY FEATURES:

DPA modularity

The DPA modular technology in the ABB PowerLine UPS systems allows for a distributed approach to power management. Each module operates independently, ensuring that if one module requires maintenance or experiences a fault, the remaining modules continue to support critical loads without interruption. This modularity not only enhances reliability but also provides the flexibility to scale the system according to operational needs.

Efficient operation

ABB PowerLine DPA UPS systems are engineered for high efficiency, optimising energy consumption and reducing operational costs. The systems continuously monitor power quality and automatically adjust output to ensure that equipment operates at peak performance, resulting in significant cost savings and a reduced environmental footprint.

Seamless integration

Transitioning from outdated systems to the new ABB PowerLine DPA UPS technology was executed with meticulous planning to minimise disruption. ABB's team of experts collaborated closely with the facility to ensure a smooth installation process, allowing for ongoing operations without significant downtime during the upgrade.

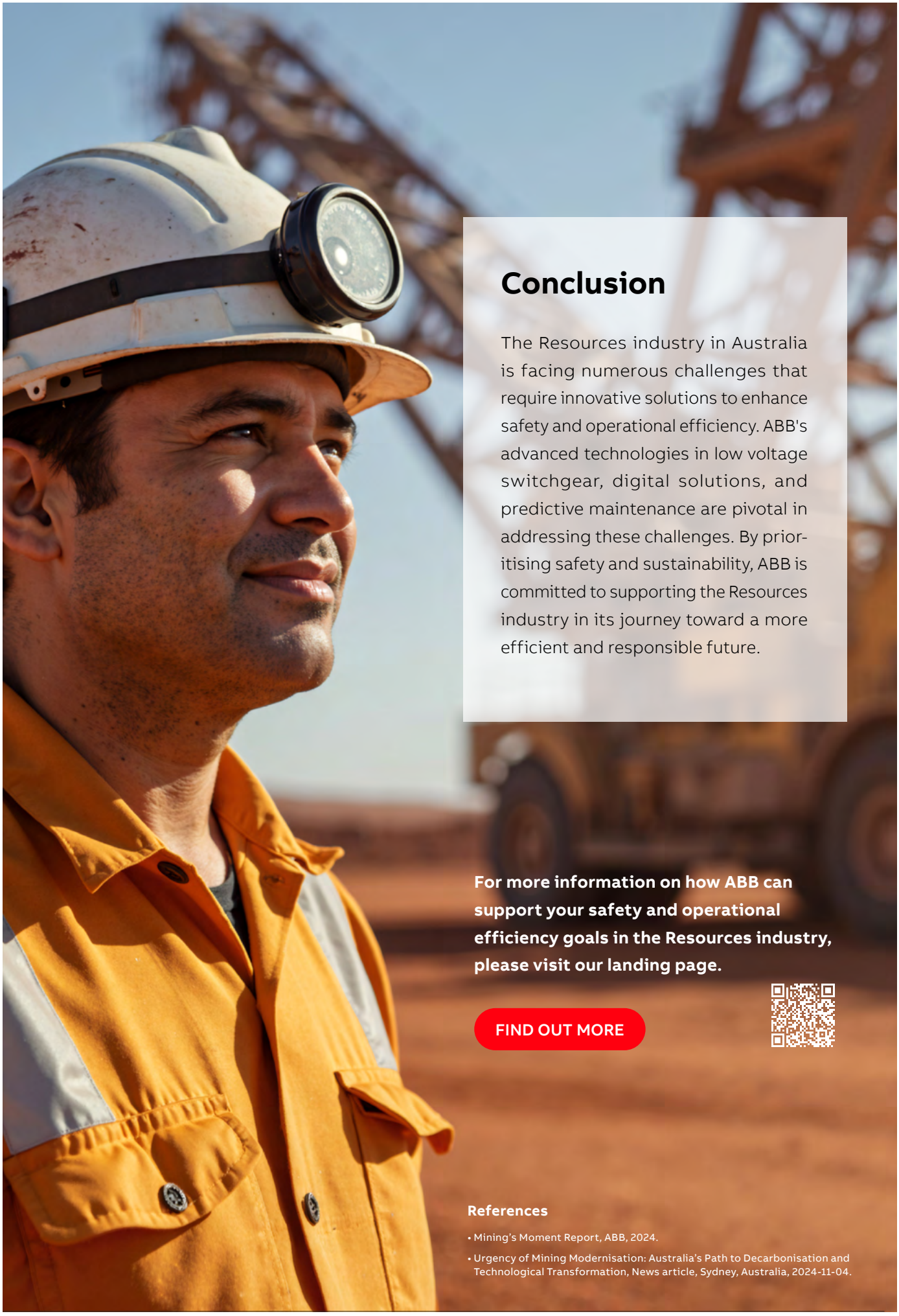
Enhanced safety features

Safety is paramount in the gas industry, and the upgraded ABB PowerLine DPA UPS systems are equipped with advanced monitoring and diagnostic capabilities. Real-time data provides critical insights into system performance, enabling proactive maintenance and immediate response to potential issues, thereby ensuring the safety of personnel and equipment.

RESULTS:

The upgrade from outdated power systems to ABB PowerLine DPA UPS systems dramatically transformed the gas processing facility's power management strategy. The facility now enjoys uninterrupted power supply during maintenance activities, enhanced operational efficiency, and reduced energy costs. The modular design of the PowerLine UPS also allows for future scalability, ensuring that the facility can adapt to changing demands with ease.

Upgrading from outdated and end-of-life power systems to ABB PowerLine DPA UPS systems has proven to be a vital step for the Australian gas facility. This advanced power supply solution has not only improved reliability and efficiency but has also prioritised safety and operational flexibility. ABB remains committed to delivering innovative power solutions that empower industries to thrive in an ever-evolving landscape.



Conclusion

The Resources industry in Australia is facing numerous challenges that require innovative solutions to enhance safety and operational efficiency. ABB's advanced technologies in low voltage switchgear, digital solutions, and predictive maintenance are pivotal in addressing these challenges. By prioritising safety and sustainability, ABB is committed to supporting the Resources industry in its journey toward a more efficient and responsible future.

For more information on how ABB can support your safety and operational efficiency goals in the Resources industry, please visit our landing page.

FIND OUT MORE

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