INNOVATION MANAGEMENT

OPERATIONAL INNOVATION CHALLENGES

YEAR 2021

ANTUCOYA DIVISION

Operation Start **2016**

Production 2019 **71.900** t Cu

Lifespan of the Mine **2038**

Property of Antofagasta Minerals **70%**

LOS PELAMBRES DIVISION

Operation Start **1999**

Production 2019 **363.400** t Cu

Lifespan of the Mine **2050**

Property of Antofagasta Minerals **60%**

CENTINELA DIVISION

Founded (Mining Esperanza and El Tesoro Merge) **2014**

Production 2019 **276.600** t Cu

Lifespan of the Mine **2067**

Property of Antofagasta Minerals **70%**

ZALDÍVAR DIVISION

Operation Start **1995**

Production 2019 **58.100** t Cu

Lifespan of the Mine **2029**

Property of Antofagasta Minerals **50%**

ANTOFAGASTA MINERALS

STRATEGIC PILLARS

PEOPLE

SECURITY AND SUSTENTABILITY

COMPETITIVENESS

GROWTH

INNOVATION

Innovation as the fundamental lever for a safer, more efficient and environmentally responsible mining

Operational Challenges

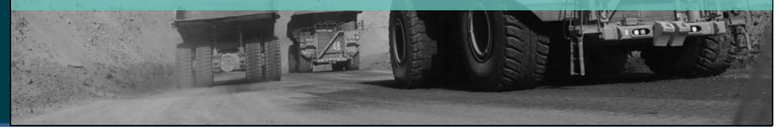
Through innovation it is expected to meet the following industry challenges.

Automation and robotization in specific stages of the production process

Antofagasta Minerals need to introduce automation and robotics in those repetitive and dangerous tasks, to avoid the risk of accidents to people and increase productivity.

Guarantee operational continuity in critical equipment

The decrease in the ore grade has forced the company to extract greater volumes of material to maintain production levels, creating a greater challenge in improving the availability of critical equipment.

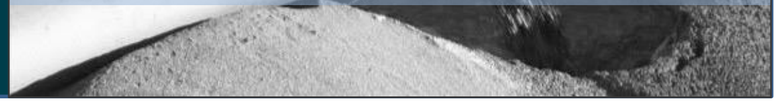


Improve productivity by managing critical processes

It is desired to adopt technological tools that have been developed to support the management of tasks and knowledge, which allow streamlining procedures and improve productivity.

Treatment increase

Antofagasta Minerals understands that productivity increases can be achieved by generating greater use of equipment, through active management that improves operational conditions.



Operational Challenges

Through innovation it is expected to meet the following industry challenges.

Efficiency in consumption of critical inputs

Costs are an important competitive lever in this industry. That is why reducing consumption of critical inputs incorporating innovative solutions is a vital challenge for companies.

Condition improvements that enable the operation

Antofagasta Minerals is renewing the way of interacting with third parties, with a long-term vision in the territories where it operates, through joint work with its inhabitants, local governments, and state agencies.

Improve the traceability of critical process variables in real time

Advances in sensors and data processing create immense opportunities for new developments in information capture methods and improvements in the control of operational conditions that were previously unthinkable. The challenge today is to exploit this new information to generate positive impacts on the business.

- Belt splicing
- Movement and lifting of heavy equipment
- Worker information integration
- Online monitoring system for Camp Dust Control

TRANSVERSAL

MINING PROCESSES

SCOPE: Drilling, blasting, loading, transportation and primary crushing.

- On route interference by inactive CAEX
- Increased tires life
- P80 Blasting Improvement
- Autonomous Fuel Supply System
- Mine Pollution Control

- Cathodic quality measurement
- Online phreatic level measurement on leaching piles
- Nitrate extraction in PLS
- Improve the Running Coefficient of Gravel Equipment
- Improve Stack Running Coefficient
- Online monitoring system for gravel geotechnical behavior

HYDROMETALLURGY

SCOPE: Crushing, Agglomerate, Leaching *heap Leach* and *dump Leach*, SW, EW.

CONCENTRATOR

Scope: Crushing, milling, flotation, thickening and tailings.

- Ball Mill Misalignment
- Thickener Sedimentation Control Improvement

- AR Robotics and Automation
- CT Critical Variables Traceability
- OC Operational Continuity
- CI Critical Inputs
- EC Enabling Conditions
- TI Treatment Increase
- IP Improve Productivity

ANTOFAGASTA MINERALS

“Online phreatic level measurement on leaching piles”

Impacted OM process:

Cathode / Wet Area.

Objectives:

Guarantee operational continuity in the Leaching process.

1 CHALLENGE DESCRIPTION

ANTOFAGASTA MINERALS

The main objective of the leaching process is to generate a homogeneous irrigation in the piles that allows the extraction of the maximum copper recovery per module. Although there are systems to control irrigation, the amount of solution that accumulates in some areas of the bed is unknown, which can generate landslides. These events, in addition to representing a security risk, also mean production losses.

2 SCOPE OF THE CHALLENGE

Technological solutions are being sought that allow the freatic level of the basins to be measured online.
It should be noted that this must be throughout the entire bed depth.

3 POTENTIAL TECHNOLOGICAL SOLUTIONS

There are several monitoring solutions on the market, but they have the limitation of making superficial measurements. 3D solutions are required.

4 EXPECTED BENEFITS

It is expected to eliminate the risk of landslides due to excess irrigation.

5 KEY PERFORMANCE INDICATORS

- Acid consumption.
- Cu recovery.

6 BACKGROUND: PREVIOUS SOLUTION ATTEMPTS

Offers of moisture measurement or monitoring systems in piles have been evaluated but have not been satisfactory.

ANTUCOYA

“Nitrate extraction in the PLS”

Impacted OM process:

Cathode / Wet Area.

Objectives:

Maintain or improve the efficiency of the solvent extraction stage with the presence of nitrates.

1 CHALLENGE DESCRIPTION

The leaching process aims to extract the maximum copper content from the ore through irrigation with an acid solution. The solution resulting from this process is called PLS, which is enriched in Cu, in addition to the mineral's own impurities. As minerals with high nitrate content are fed to industrial modules, their leaching and subsequent drainage will raise the concentration of NO3 gpl, above the permissible limits of the PLS fed to the SX plant, which generates a decrease in copper transfer, increased separation times. , higher drag, increased viscosity, and lower cathodic quality, among others. Due to the characteristics of the Antucoya mineral, increasing concentrations of nitrates have been observed that seek to decrease, as it could generate irreparable damage to the organic phase.

2 SCOPE OF THE CHALLENGE

Feeding of minerals with high nitrate grade (> 0.25%) to industrial modules. Mineral that has a better grade than low-grade stock, in addition to being a mineral of good quality from the permeability point of view.

3 POTENTIAL TECHNOLOGICAL SOLUTIONS

Additives and / or equipment are being sought to eliminate nitrate from the solution.
- In Lomas Bayas where an additive (Sulfamic Acid) is used.

4 EXPECTED BENEFITS

Enable minerals of good copper grade and quality in terms of permeability to sustain mixtures with sulfate-type minerals. With the above, ensure and/or increase copper production in 5YP.
Not damaging the organic phase, which would imply an increase in the costs related to the replacement of extractant inventory.

5 KEY PERFORMANCE INDICATORS

Keep NO3 concentration in PLS solution <3 gpl.

6 BACKGROUND: PREVIOUS SOLUTION ATTEMPTS

It has only been used to send the high copper drains of the modules to make the “long” turn where the battery would be used as a NO3 filter.

ANTUCOYA

“P80 Blasting Optimization”

Impacted OM process:

Mine / Drilling and Blasting.

Objectives:

Increase grinding performance based on optimization of blast granulometry.

1 CHALLENGE DESCRIPTION

ANTOFAGASTA MINERALS

The granulometry of the mineral is a critical variable that is monitored throughout the entire process in the concentrator plants from the mine to the milling. There are several technologies that allow this task to be carried out, but they are reactive systems that do not support the anticipation of the conditions of the plant to possible inconveniences.

2 SCOPE OF THE CHALLENGE

They are looking for explosives, models, sensors, best practices, to improve the P80 from blasting to grinding.

3 POTENTIAL TECHNOLOGICAL SOLUTIONS

Unknown.

4 EXPECTED BENEFITS

Increase the performance of the concentrator plant.

5 KEY PERFORMANCE INDICATORS

TPH

6 BACKGROUND: PREVIOUS SOLUTION ATTEMPTS

Studies have been carried out for changes in blasting meshes, according to the hardness conditions of the mineral that have allowed to improve this indicator.

PELAMBRES

“On route interference by inactive CAEX”

Impacted OM process:

Mine / Loading and Transportation.

Objectives:

Improve operational continuity at the mine by reducing interference times on routes.

1 CHALLENGE DESCRIPTION

ANTOFAGASTA MINERALS

The mine roads are designed with high standards according to the safety and operation protocols, which allow the movement of CAEX equipment, trucks and auxiliary equipment safely. However, due to operational contingencies, routes are often interfered with by stopped equipment or the movement of heavy equipment in a slow manner, which reduces the productive times of the CAEX.

2 SCOPE OF THE CHALLENGE

Methods, equipment and systems are being sought to improve towing times or optimize cycle times by incorporating these unforeseen events.

3 POTENTIAL TECHNOLOGICAL SOLUTIONS

Unknown.

4 EXPECTED BENEFITS

1. Improve CAEX’s UEBD.
2. Optimize towing times.

5 KEY PERFORMANCE INDICATORS

- UEBD CAEX.
- Cycle times.

6 BACKGROUND: PREVIOUS SOLUTION ATTEMPTS

No previous antecedents.

PELAMBRES

“Ball Mill Misalignment”

Impacted OM process:

Concentrator / Grinding.

Objectives:

Increase secondary grinding performance.

1 CHALLENGE DESCRIPTION

ANTOFAGASTA MINERALS

The MLP concentrator plant configuration has two ball mills that are fed by a SAG mill. The loads that each ball mill receives are not necessarily always homogeneous due to the different operational conditions that govern at the time of discharge. This heterogeneity causes the ball mills not to operate optimally, which causes misalignments that are difficult to detect and prevent.

2 SCOPE OF THE CHALLENGE

Solutions are being sought that allow monitoring and controlling the feeding of the mills, or warning of misalignments.

3 POTENTIAL TECHNOLOGICAL SOLUTIONS

They are looking for sensors, software, systems that allow to improve the performance of the ball mill.

4 EXPECTED BENEFITS

- Increase the performance of the ball mill.

5 KEY PERFORMANCE INDICATORS

- TPH ton / hour.

6 BACKGROUND: PREVIOUS SOLUTION ATTEMPTS

No previous antecedents.

PELAMBRES

“Thickening improvements”

Impacted OM process:

Concentrator / Copper Concentrate Floatation and Molybdenum

Objectives:

Increase water recovery before tailings deposition.

1 CHALLENGE DESCRIPTION

ANTOFAGASTA MINERALS

The scarcity and demand for water motivate the optimization of this resource. In addition, the difficulty of monitoring the physical and chemical stability of tailings deposits increases the need to do something about the quantity of solids that make up these wastes. In these problems, a critical process is thickening, which generally has insufficient automation and control systems to respond to the new requirements of the operation.

2 SCOPE OF THE CHALLENGE

Online monitoring systems, alerts, sensors and best practices are being sought to improve the operation of the thickeners.

3 POTENTIAL TECHNOLOGICAL SOLUTIONS

There are control systems in the thickeners that could support this solution.

4 EXPECTED BENEFITS

Increase water recovery before tailings deposition, improving tailings stability.

5 KEY PERFORMANCE INDICATORS

- Solid content in tailings [%].
- Water recovery [%].

6 BACKGROUND: PREVIOUS SOLUTION ATTEMPTS

Solutions to improve stability and evaporation in tailings have been studied but should be complemented with possible solutions to this challenge.

PELAMBRES

“Improve the Running Coefficient of Gravel Equipment”

Impacted OM process:

Cathode / Wet Area.

Objectives:

Improve productivity of the gravel deposit process.

1 CHALLENGE DESCRIPTION

ANTOFAGASTA MINERALS

The gravel discharge system in the leaching plants is the integration of several systems of long belts and transfers that allow the waste material that remains after being leached to be deposited in a landfill.
It is a mobile system, which is required to be moved manually, according to the speed at which the tank is filled. Due to the complex nature of the system, there are various possibilities of failure, which reduces the running coefficient of the equipment, generating possible delays in previous production activities, such as ore stacking.

2 SCOPE OF THE CHALLENGE

Online monitoring systems, alerts, sensors and best practices are being sought to improve the reliability of the components of the gravel deposit system to consequently increase its running coefficient.

3 POTENTIAL TECHNOLOGICAL SOLUTIONS

Incorporate intelligent systems that warn about inconveniences in the operation of the gravel disposal system to avoid arrests.

4 EXPECTED BENEFITS

Increase the tonnage of ore stacked and its consequent increase in production.

5 KEY PERFORMANCE INDICATORS

- Stacked ore tonnage.
- Gravel running coefficient.

6 BACKGROUND: PREVIOUS SOLUTION ATTEMPTS

No previous antecedents.

ZALDÍVAR

“Improve Stack Running Coefficient”

Impacted OM process:

Cathode / Wet Area.

Objectives:

Improve productivity of the stacking process.

1 CHALLENGE DESCRIPTION

The stacking system in the leaching plants is the integration of several systems that allow the formation of the ore heaps in the place where they will be irrigated. It is a mobile system, which moves continuously as it deposits the mineral that forms the piles. Due to the complexity of the system, there are varied possibilities of failure, which reduces the running coefficient of the equipment, generating delays in production.

2 SCOPE OF THE CHALLENGE

Online monitoring systems, alerts, sensors and best practices are being sought, which allow improving the reliability of the components of the stacking system to consequently increase their running coefficient.

3 POTENTIAL TECHNOLOGICAL SOLUTIONS

Incorporate intelligent systems that alert about inconveniences in the operation of the stacking system to avoid stoppages.

4 EXPECTED BENEFITS

Increase the tonnage of ore stacked and its consequent increase in production.

5 KEY PERFORMANCE INDICATORS

- Stacked ore tonnage.
- Running coefficient Stacked.

6 BACKGROUND: PREVIOUS SOLUTION ATTEMPTS

No previous antecedents.

ZALDÍVAR

“Design and implementation of an online monitoring system to know the geotechnical behavior of the advance front of the gravel deposit”

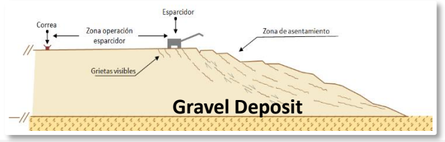
Impacted OM process:

Cathode / Wet Area.

Objetives:

Improve the operational conditions that allow ensuring the operational continuity of the gravel deposit process.

1 CHALLENGE DESCRIPTION



ANTOFAGASTA MINERALS

Due to the physical characteristics of the material coming from the leach heaps (gravel), the construction of the final deposit is at risk of ground faults in the operating front. These failures cause cracks and settlements in the slope platform, and these, eventually, can occur in front of or around the spreader equipment, generating a risk to the physical stability of the equipment, resulting in the halting of the deposit construction operation. Given the above, it is necessary to design and implement a monitoring system that allows the operation to be alerted early, allowing the spreading equipment to be displaced and safeguarded against an eventual ground failure. The system must operate online and have direct early warning systems for the shift manager and/or equipment operator. The platform that manages the database and its analytics must be adapted to the mine's connectivity network and allow its interoperability with other processes related to mineral extraction.

2 SCOPE OF THE CHALLENGE

Design and implement an online monitoring system to know in advance the geotechnical behavior of the advance face of the gravel deposit. For this, the solution must be developed in a stepwise manner in three phases.

Phase 1: R&D (Research and Development)
Phase 2: Engineering
Phase 3: Industrial Scale

3 POTENTIAL TECHNOLOGICAL SOLUTIONS

Unknown.

4 EXPECTED BENEFITS

- Eliminate or mitigate operator safety risk and potential damage to spreader equipment.
- Guarantee compliance with the gravel emptying plan.
- Ensure operational continuity.
- Reduce the presence of inspection personnel on the operating front.

5 KEY PERFORMANCE INDICATORS

- Reduction in the times and number of arrests as a result of geotechnical alerts.
- Reduced risk of equipment damage.

6 BACKGROUND: PREVIOUS SOLUTION ATTEMPTS

Traditional solutions for monitoring surface displacements through topographic and interferometric systems (radar) are not applicable, given the requirements of a position that gives visual to the platform where the equipment operates. On the other hand, access to the area of operation is limited and is in permanent physical and geometric change.

ANTUCOYA

“Belt Splicing”

Impacted OM process:

Chatode / Wet Area.

Objectives:

Reduce the times used in executing the belt splices in the Shifting processes.

1 CHALLENGE DESCRIPTION

Conveyor belts are used massively in mining operations, both in concentrator plants and in leaching plants. One of the most common failures is belt breakage or damage, which must be repaired on site. Currently, belt splices are carried out manually, using a lot of time in this activity (approximately 24 hours).

2 SCOPE OF THE CHALLENGE

Methods, equipment or additives are sought that allow splicing and repairs of the conveyor belts in less time.

3 POTENTIAL TECHNOLOGICAL SOLUTIONS

Automation / Robotization

Chemical products

4 EXPECTED BENEFITS

- Reduce maintenance times used in belt splicing
- Decrease operator exposure

5 KEY PERFORMANCE INDICATORS

Conveyor Belt Availability

6 BACKGROUND: PREVIOUS SOLUTION ATTEMPTS

Mechanisms have been developed as a result of the experience of the maintenance teams, such as incorporating a tape reel for splicing, which have improved this activity, allowing to reduce time.

ZALDÍVAR

ANTUCOYA

“Moving and lifting heavy equipment”

Impacted OM process:

Chatode / Wet Area.

Objectives:

1. Reduce heavy equipment transfer times
2. Reduce operator risks

1 CHALLENGE DESCRIPTION

ANTOFAGASTA MINERALS

Currently there are various maintenance operations in the leaching plants that require moving heavy equipment from one place to another, tasks that are carried out manually, dragging equipment and facilities, with high demand for labor and auxiliary equipment making these activities require several days for its development. Furthermore, in some cases, such as the movements of the gravel deposit equipment, due to the instability of the terrain, these maneuvers become more complex, putting the equipment at risk and increasing the risk of exposure to the operators.

2 SCOPE OF THE CHALLENGE

All heavy equipment that requires transfers within the site, especially for shifting maneuvers.

3 POTENTIAL TECHNOLOGICAL SOLUTIONS

Automation / Robotization

4 EXPECTED BENEFITS

- Reduce field personnel for these actions
- Avoid damage to the facilities needed to be mobilized
- Reduce the transfer times of the facilities

5 KEY PERFORMANCE INDICATORS

- Availability of critical equipment in leaching plants.

6 BACKGROUND: PREVIOUS SOLUTION ATTEMPTS

Various maneuvers have been improved by incorporating equipment transfer in low-bed trucks.

Activity management studies have been generated to improve maintenance times, but it is still not enough.

ZALDÍVAR

ANTUCOYA

“Autonomous fuel supply system”

Impacted OM process:

Mine (ESur) / Loading and Transportation

Objectives:

Robotization of the fuel loading process.

1 CHALLENGE DESCRIPTION

ANTOFAGASTA MINERALS

Centinela Mining will begin the implementation of Autonomous Trucks in one of its pits, which incorporates a series of new automation opportunities around this equipment. Refueling is one of the tasks that is required to be carried out continuously during operation, which is carried out manually. The objective of this challenge is to incorporate a system that allows autonomous trucks to be fueled in a robotic way, eliminating a risk factor that would be the interaction of people with autonomous teams and improving the performance of autonomous teams.

2 SCOPE OF THE CHALLENGE

Autonomous truck fueling automatic/robotic systems are being sought.

3 POTENTIAL TECHNOLOGICAL SOLUTIONS

It is known that there are some solutions on the market applied to CAEX operated in a traditional way, and the challenge would be to adapt them to autonomous operation.

4 EXPECTED BENEFITS

- Eliminate risk of interaction of people with autonomous teams
- Improve performance of autonomous teams

5 KEY PERFORMANCE INDICATORS

- CAEX availability
- CAEX Use

6 BACKGROUND: PREVIOUS SOLUTION ATTEMPTS

No previous antecedents.

CENTINELA

“Increase the useful life of Tires”

Impacted OM process:

Mine / Loading and Transportation

Objectives:

Increase in the availability of CAEX.

1 CHALLENGE DESCRIPTION

One of the inputs classified as critical in the mining operation are the tires of the CAEX. There is constant and rigorous monitoring of the condition of the tires, where their replacement is one of the most regular maintenance activities in the loading operation. Increasing the useful life of this input is necessary, not only because of the possible reduction in costs that this would mean, but also because of the need to improve the availability of the equipment by postponing its stoppage for maintenance.

2 SCOPE OF THE CHALLENGE

It is necessary to find intelligent monitoring and management systems that allow to improve road conditions, avoid spills, improve the load in the CAEX and consequently improve the performance of the tires.

3 POTENTIAL TECHNOLOGICAL SOLUTIONS

Online systems that integrate sound systems and management measures and alarms are sought.

4 EXPECTED BENEFITS

- Tire performance improvement

5 KEY PERFORMANCE INDICATORS

- Hours of tire use
- CAEX availability

6 BACKGROUND: PREVIOUS SOLUTION ATTEMPTS

No previous antecedents.

CENTINELA

“Pollution Control”

Impacted OM process:

Mine

Objectives:

Operational continuity of the mine process.

1 CHALLENGE DESCRIPTION

The monitoring and control of pollution inside mining sites is a challenge that has been tackled for a long time in the industry, achieving great advances. However, the growth of operations and new environmental requirements make this a subject under constant study. In Centinela Mining, the exploitation of new pits has begun, which generates more operational activity with the consequent increase in pollution inside the camp, so it is necessary to find solutions that allow controlling this pollution that prevents it from reaching the camps and the nearby population.

2 SCOPE OF THE CHALLENGE

Find a solution that allows to control Pollution in areas close to the camp (it also impacts S.Gorda)

3 POTENTIAL TECHNOLOGICAL SOLUTIONS

It is necessary to evaluate technological solutions that prevent pollution from affecting the camps and nearby territories, in order to take better care of people's health.

4 EXPECTED BENEFITS

Maintain operational continuity avoiding stopping tasks due to increased pollution.

5 KEY PERFORMANCE INDICATORS

TBD

6 BACKGROUND: PREVIOUS SOLUTION ATTEMPTS

There are operational monitoring systems, but the implementation of additives or particulate material abatement systems has not been investigated.

CENTINELA

“Cathodic quality measurement”

Impacted OM process:

Chatode / Wet Area.

Objectives:

Reduce time and cost of the activity.

1 CHALLENGE DESCRIPTION

Cathodic quality is the most important variable when offering the final product on the market. The methods that exist to measure it are quite rigorous and respond to international regulations. The most common methods require a manual sampling in various areas of the cathode, and then refer to the laboratory for analysis to determine the quality of the cathode, which implies great costs and time in this work.

2 SCOPE OF THE CHALLENGE

It is necessary to implement an online cathodic classification system, which reduces the times and costs of this activity.

3 POTENTIAL TECHNOLOGICAL SOLUTIONS

Solutions that apply image processing are known; these could be an alternative to this challenge.

4 EXPECTED BENEFITS

- Decrease times in the activity of cathode quality measurement
- Lower cathode quality laboratory service costs

5 KEY PERFORMANCE INDICATORS

Improve the cathodic quality and with that the sale price.

6 BACKGROUND: PREVIOUS SOLUTION ATTEMPTS

No previous antecedents.

CENTINELA

“Design and implementation of an online monitoring system to know the behavior of the Dust Control System”

Impacted OM process:

Dry Area / Crushing Plant

Objectives:

Generate enabling conditions for operational continuity in the crushing plant under polluted conditions.

1 CHALLENGE DESCRIPTION

The high amount of dust in the crushing plant, product of the same operation, makes it impossible to control and inspect the condition of the Dust Control Systems (SCP) and use them predictively. For this, it is necessary to design and implement a monitoring system that allows early warning of the conditions in the SCPs, where the reality of the online systems can be made available, generating the corresponding alarms early, giving notice to the shift manager and / or systems operator. The platform that manages the database and its analytics must be adapted to the plant's connectivity network and allow its interoperability with other related processes.

2 SCOPE OF THE CHALLENGE

Design and implement an online monitoring system for crushing plant dust suppressor systems. Therefore, the solution must be developed in a stepwise manner in three phases:

- **Phase 1:** Maintenance (Research and Development)
- **Phase 2:** Engineering
- **Phase 3:** Enhancement application

3 POTENTIAL TECHNOLOGICAL SOLUTIONS

- It is proposed to insert sensors in the cabinets and nozzles, in order to monitor the parameters of: water pressure and amount of water (L / S)
- The system must be adapted to the network connectivity at the Antucoya plant, in such a way that its reading is online and an eventual failure can be detected, being attended to by the operator. Allowing to be viewed online and on different platforms

4 EXPECTED BENEFITS

- Eliminate or mitigate safety risk and operator exposure to dust (decrease HH)
- Guarantee the correct maintenance and compliance with the SCP.
- Monitor constantly, 24 hours a day
- Ensure operational continuity
- Reduce the presence of inspection personnel at the operating front

5 KEY PERFORMANCE INDICATORS

1. Availability of nozzles
2. Water consumption (L / s)
3. Water pressure
4. Decrease in the % of system failures

6 BACKGROUND: PREVIOUS SOLUTION ATTEMPTS

The monitoring of the dust suppression system and humidifiers is carried out by 3 mechanics, each one in different plants, with the restrictions that have per plant, taking 4h in this activity.

ANTUCOYA

“Integrating worker information system”

Impacted OM process:

Transversal

Objectives:

Maintain the traceability of relevant information of the workers during their stay at the site.

1 CHALLENGE DESCRIPTION

Currently, AMSA does not have a centralized system that incorporates all the information regarding workers; Attributes, work rules, assignments according to contractual contributions, Health data, Industrial Safety. Today we have information from different independent systems that do not integrate with each other, the most important SIGA, is an accreditation and access control system (entry-exit), which by itself is vulnerable to factors that deviate the correct accounting of manning (in real time) and times at work.
Since 2020 there has been a greater focus on the control and management of third parties through the SSTT and HR areas, added to the learning and gaps that have shown us the new way of operating in the COVID context and the incorporation of the new ways of working.
To comply with staff control and others, work is done manually involving various areas at the site and a high number of resources daily. **We need to change the way we integrate worker information to have greater control and advance management of the workforce.**

2 SCOPE OF THE CHALLENGE

It is necessary to generate a system that integrates the information regarding workers and allows global control in the main issues, that contains updated and online information and that allows to project and manage resources in advance.

3 POTENTIAL TECHNOLOGICAL SOLUTIONS

- Progress has been made in independent lines according to local information needs and management needs.
- SIGA improvements, Hospitality Software, COVID daily checks, Manual counts, etc.

4 EXPECTED BENEFITS

- Integrated information according to attributes per worker Implementation of patterns (Telework)
- Greater control of provision on site (Access-Food-Hospitality)
- Advance management of resources (Food, Hospitality, Transportation)

5 KEY PERFORMANCE INDICATORS

- Decrease FTE at work (Flatten curve)
- Reduce losses in food and hospitality (Expense)
- Maximize resource occupation (transportation, Hospitality)
- Online information
- Projection of scenarios for business risks

6 BACKGROUND: PREVIOUS SOLUTION ATTEMPTS

Surveys were carried out with SIGA to improve the information and functionalities, but the support times are long (> 1 year) and require development. It leaves out the capture of information from other systems.

¿How to collaborate with the challenges?

We invite organizations to address these challenges by visiting the website www.innovaminerals.cl.

If you have doubts, consult:

- Ada, our virtual guide is here to help you.

May I help you?