

Chilean lithium mining: A safe place.

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ABSTRACT (USE 'HEADING 1' STYLE)

As the global interest in sustainable energy sources has increased, lithium has emerged as a vital resource, playing a crucial role in the transition towards a cleaner and more efficient economy, but with this comes important challenges, especially associated to health and safety matters. In this work we present how the Chilean lithium mining industry becomes a safer and more compliant industry using digital transformation.

In the context of the lithium industry and considering the indicators of worldwide mining production in 2022, Chile is the second producer of lithium, and the first country with reserves of lithium worldwide. In 2018, the 2 main companies that operate all the lithium mine in Chile, were managing their safety, health, and environmental risk through paper, and all the data captured were in documents. Some of the data was processed in spreadsheets, and engineers had to collect by e-mail the reports for each area to build their legal compliance and the indicators of sustainability, making it hard to make decision based on data. Using this opportunity and through a system that allowed the digitalization of safety management, capturing data in mobile applications, processing data in the cloud and generating indicators for decision making we saw astounding results.

After a period of implementation, we saw a considerable decrease in incidents from a pick of over 140 incidents on 2019 to less than 40 on early 2020, this due to two reasons, first, the incidents began to be reported immediately, investigated and having as a result an action plan defined, ensuring accountability of the different actors, on the other hand, we implemented the critical control verification and field leadership programs, allowing to identify deviations and solve it with immediate corrective actions.

In conclusion, the digitalization of processes allowed the fast detection of risk potential actions and conditions, the quick correction of them, and the data based decision-making strategies.