Getac rugged computers have helped increase our efficiency immensely. After using them for three years, the computers continue to operate without failure. The ruggedness attributes greatly outweigh the costs of the units. Not only do Getac computers improve our speed of analyzing rock samples and creating our mining maps, but it is also an environmental green solution. The wireless function and the high performance allow us to analyze our rock samples faster and transmit accurate data to our database. In this way, we are able to provide faster analysis for Codelco and drill in the correct areas, saving time, money and headaches.”

Luis Gallegulois, Senior Geologist
The cost of mineral exploration continues to rise, with global spending heading north of US$14 billion. The ability to measure the amount of copper ore in a certain area gives mining executives an idea of the potential profit of a proposed mining project. The old days of prospectors finding mineral deposits on the surface are gone. Mining companies such as Codelco, the world’s largest copper mining producer, need to expand their searches into deeper areas and use newer technologies to improve their search capabilities and yields.

Rock sample data are captured on site and logged into mining software to create mineral topography maps for drilling. In the past, rock sample testing has gotten delayed because of broken computers caused by the harsh mining environment, which is susceptible to drops, dust, and water. Geologists are forced to retest the samples, resulting in a loss of productivity and efficiency.

Chile’s Atamata desert, one of the driest places on earth, is home to some of the world’s richest copper deposits. Codelco harvests rock samples at its underground and open mines by blasting and drilling rocks. Geologists send rock core samples to the field station, where each sample is carefully tested for its magnetism, chemistry, and mineral content. Piece by piece, a picture of geology beneath the Chilean desert is revealed. Once the field geologists finish analyzing the rock samples, the data are inserted into a computer program and then communicated to a central system that helps mining professionals instantly visualize and simplify drillhole management.

In the past, geologists used non-rugged computers to analyze rock samples. The computer’s batteries often ran out and needed to be hooked to electrical wires for charging. This greatly increased the geologists’ safety risks. Also, normal computers easily damage in mining environments and need to be replaced often, costing the mining companies money and time to repair or replace damaged computers and time for the engineers to retest the rock samples. Furthermore, geologists in the field stations analyzing rock samples are required to work for long hours under the bright sunlight. When using ordinary computers, geologists frequently cannot view their screens clearly, leading to delays.

To streamline operations, each geologist is required to insert a thousand rock samples per month. To meet these monthly targets, field workers must capture data and insert them into the system without error. To complete their work, Codelco geologists must be equipped with reliable mobile communication devices that can deliver instant connectivity, high performance, and long battery life, and are tough enough to cope with challenging environments.

Codelco needed to find a way to accurately log its rock samples in the dangerous mining environment. They needed to analyze samples more efficiently and drill more precisely for an immediate boost to productivity.

Codelco geologists tested many different computers. They chose the Getac S400 because of its ruggedness, long battery life, fast performance and seamless connectivity. It is MIL-STD-810G certified, with an IP5X rating, protecting it against drops, shocks, dust and water, minimizing computer downtime. The Getac S400 has a specially treated screen combined with bright LEDs to provide a display that’s readable under direct sunlight. Its fast computing power ensures drillhole and blasthole rock sample data are collected and inserted into the computers without delay. The Getac S400 then connects seamlessly to wireless axis points to quickly transmit the data to a centralized database.

Mining drillhole and blasthole samples is expensive, and accurate analysis is needed to provide correct geological information to drilling engineers. The Getac S400, paired with advanced geological software, increases operational efficiency by allowing engineers to map out key mineral-rich ore deposits in field stations. Through the use of the Getac S400, geologists are able to complete mineral maps and meet their monthly quota of a thousand rock samples faster and more accurately.

Faster geological mapping saves money and time. With computerized mapping software, geologists are able to provide more accurate mineral maps quickly for a more complete picture of what lies underneath the surface. Precise mineral maps give mining executives the ability to decide whether to continue a specific mining project or switch to a more profitable and sustainable project. Thanks to the Getac S400, executives can make these strategic decisions faster.

In the past, geologists did data collection, rock testing and mineral mapping using cumbersome paperwork. The inefficiency of the paperwork was remedied slightly by migrating to computers, but ordinary consumer-grade notebooks couldn’t withstand the harsh environments Codelco geologists work in.

Rugged mobile data collection devices make life easier for Codelco’s geologists. They no longer need to jot down the rock analysis in paper notebooks and later type all their data into desktop computers. They no longer need to worry about losing their data if they accidentally drop their computers. They are now mobile warriors, armed with the Getac S400 and their professional training. Moreover, workers are now collaborating with one another, building mineral maps together from multiple sites into a centralized system.

RuggedTech Getac’s regional distributor and its reseller Intech represent and supply reliable Getac notebooks to Codelco mines.

After implementing Getac S400 computers, workers at Codelco mining operations have saved countless hours. The geologists reduced their number of computer failures over a three-year period to zero, improving Codelco’s mineral mapping operations by upward of 30%.

Codelco is the largest copper mining producer in the world. The corporation also controls around 10% of the world reserves of copper. Codelco has more than US$20.835 billion in assets, and in 2011, Codelco produced 1.79 million metric tons of refined copper. The company employs over 18,000 employees. In 2010 its operating profit was almost US$16 billion. Codelco is the global leader in copper production. In Chile alone, there are 14 mines that Codelco directly operates. Codelco geologists provide reliable information for mining engineers to accurately mine copper. To secure its global leadership position, Codelco wants to provide a world-class operation with the highest levels of reliability, efficiency and safety.