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DIECI in Eldorado



Eldorado was the name of a legendary place in South America said to contain vast amounts of gold, according to Spanish conquistadors who colonised South America from the early 16th century. Cortés, Pizarro, Caboto, Francisco de Orellana, Lope de Aguirre and many others spent years—and in some cases their entire life—searching for it without success. Nowadays, the conquistadors of olden times have been replaced by modern mining companies that find and extract gold in large quantities throughout the South American continent, although now the job is done with buckets and telehandlers rather than swords or pickaxes.

In nature, gold can be found mainly in the form of particles or nuggets, either contained in alluvial deposits or crystallised in seams or veins, and almost always mixed with quartz or other metals such as copper, zinc or silver. It is in great demand due to its widespread use in the electronics industry and



has steadily increased in value over the years. Just as the conquistadors suspected, Latin America contains vast gold deposits, although they are dispersed across the whole continent. The largest mine in the world, Pueblo Viejo, is in the Dominican Republic, while the largest gold reserves appear to be held in Venezuela (which according to geologists accounts for 63% of all Latin American gold reserves). Brazil is famous for its alluvial deposits such as those at the Sierra Pelada mine, which was made famous by photographer Sebastiao Salgado, whose work highlights the contrast between old and new methods of extraction: days and days of effort were expended to obtain each ounce of metal, whereas now several tonnes can be extracted with a single scoop of a bucket.

In the mining industry—from conventional tunnels or wells, where rocks are taken away and crushed to extract the metal, to open-air mines where large



alluvial deposits are exploited—telescopic handlers have many uses due to their particular characteristics of immense power combined with small dimensions, making them ideal for working in tunnels. Furthermore, they can be fitted with a variety of accessories, making them suitable for conventional mining jobs, such as reinforcing tunnels with metal beams and nets, disposing of excavated materials, drilling, moving boulders and any other work that involves handling and lifting materials. In an environment where falling rocks and materials are a daily hazard, cabins equipped with ROPS-FOPS safety systems are a lifesaver. Even outside of tunnels or at open-air facilities, telehandlers come in very handy in the construction and maintenance of processing plants, or, thanks to a special gripper, the replacement of tyres on giant haul trucks that can carry hundreds of tonnes of minerals at any one time. Even in the refining process, telehandlers have their own unique use, performing a delicate task in which power and precise movements are essential. Until a few years ago, mercury was used to separate gold from minerals or sand in a chemical process that caused serious environmental pollution. Now it is predominantly done using a new process called cyanidation, in which oxygen and potassium cyanide react with the mineral in sealed autoclaves without dispersing harmful elements. The substances are handled by a single operator equipped with the necessary protective equipment, who loads the autoclaves using a telescopic elevator to minimise the risk of accidents. At the end of the cycle, the mineral becomes an inert aqueous compound, from which the precious metal can easily be extracted. Although mining remains a laborious and often dangerous job, it is nothing like the hellish occupation it once was, thanks to modern technology — and telescopic handlers.





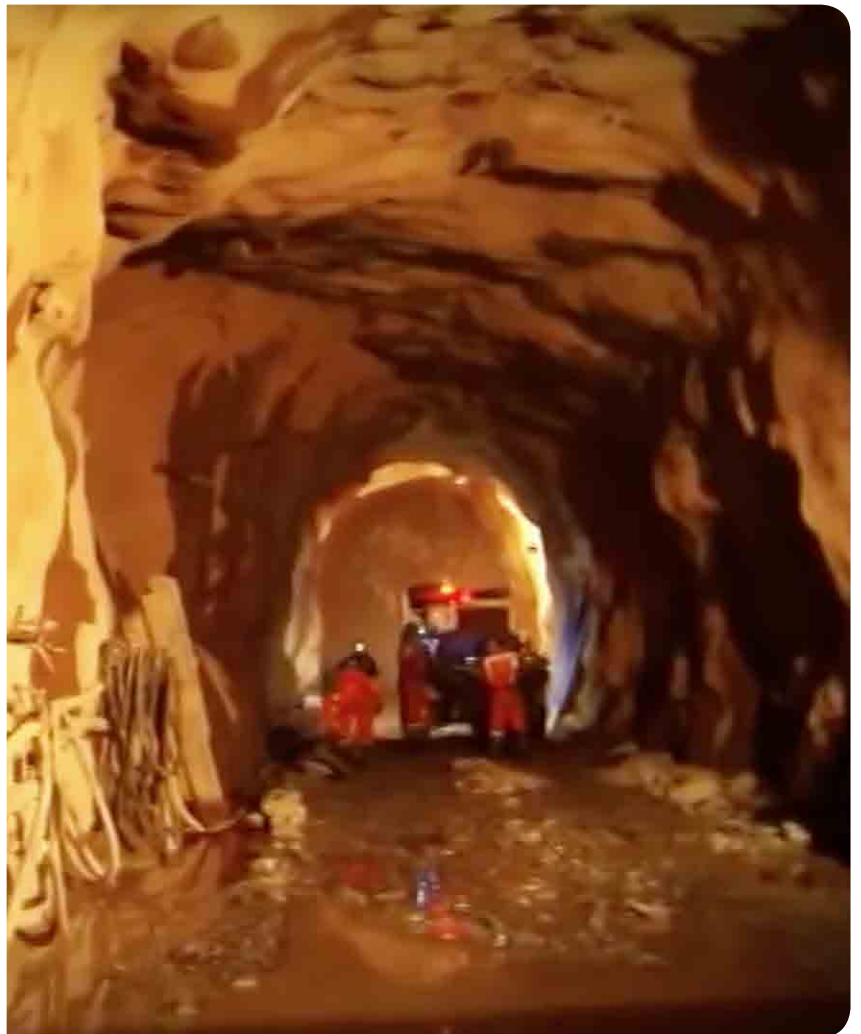
CLEAN energy for PERU



In times like these, when problems caused by global warming have become the subject of intense debate, it is interesting to know that southern hemisphere countries produce more clean energy than industrialised nations, generating 70 GW of clean power compared with 59 GW in the northern hemisphere. One prime example is the Peruvian hydroelectric power plant of Cheves, which last year generated 700 GWh of energy. Compare that statistic with the largest Italian power plant, which generates only around 150 GWh per year.

A number of DIECI truck mixers contributed to the construction of the Cheves plant and are still being used to build ancillary works. The plant is located around 130 km north of Lima, among the barren mountains of Huarura province.

Its construction began in 2009 and, despite political, technical and financial difficulties that protracted the process, ended in August 2015 when the plant





officially entered operation. Nevertheless, this was a relatively quick turnaround given the large size of the facility (around 4000 hectares, almost all of it underground). Techniques and equipment typically used in the heavy machinery and mining industry accelerated the construction of the plant, which is now functioning at full capacity.

The facility comprises 13 km of tunnels and caves excavated in the mountain rock, including water intakes on the Checras and Huaura rivers, forced pipelines, service tunnels and the large engine room, which contains two Pelton turbines each capable of generating 86 MW of power. This output is made possible by the force of water descending 2200 m from the first intake to the drain, located 1200 meters above sea level in the Picunche compensation basin. For the construction of the two water intakes alone, 74,000 cubic meters of concrete were used, an extraordinary amount if you also take into account the cement used to line the tunnels. Numerous DIECI truck mixers



were involved in this undertaking, their small size and high concrete production capacity contributing to the rapid progress of the tunnelling and other works, including dams, pipelines, pumping and discharge plants, electrical substations and machinery bases.

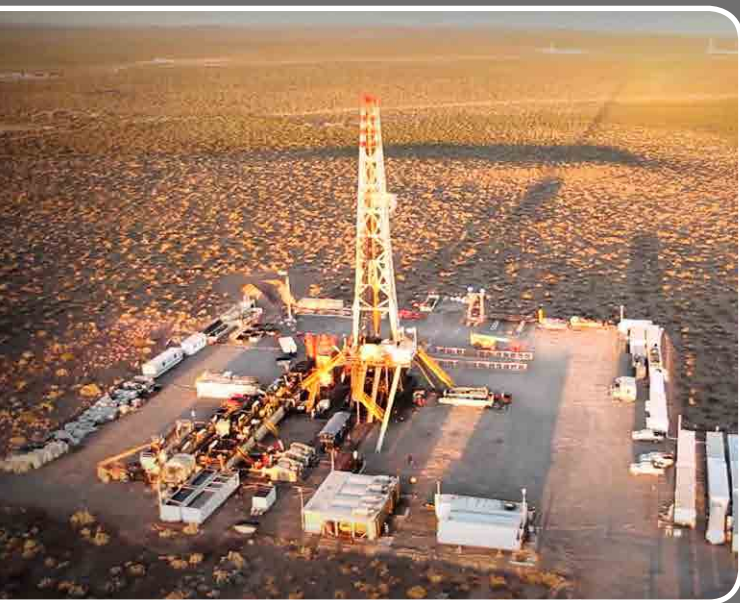
Although in most cases, the rocky and often almost inaccessible nature of the sites precluded the use of heavy vehicles, the agile truck mixers once again proved their worth by delivering a steady supply of concrete.

The facility is vital not only for Peru, but also for the rest of the world: according to a study by the United Nations Climate Change Agency, it will help to reduce CO2 emissions by approximately 394,000 tonnes per year.





patagonia's BLACK GOLD



Anyone wanting to retrace the footsteps of Bruce Chatwin, author of the celebrated book "In Patagonia", might be disappointed by what they discover. Leaving Buenos Aires and heading out of the Pampas towards the Andes mountains, they would still encounter a desert, but one that has changed profoundly from the descriptions in the book. In the area of Vaca Muerta (literally meaning "Dead Cow") in Neuquen province, the empty and sparsely populated expanses of sand and shrubs have evolved into a landscape dotted as far as the horizon with drilling rigs and pumping stations, trucks trundling back and forth over dozens of new tracks, large stores of machinery and materials, and a cosmopolitan contingent of technicians, workers and engineers all in perpetual motion. Modern travellers approaching the plants are likely to see a large Hercules or Samson telehandler replenishing the drilling rigs with tonnes of sand, one of the two elements (along with water) needed to extract precious shale oil from the subsoil.

Shale oil is a natural form of crude oil that almost always occurs in combination with natural gas.

Known since antiquity, it was historically used for medical purposes and even as a low-cost fuel for public lighting. Contained in rocks called shales, shale oil has been ignored for years by the oil industry due to its high extraction





costs. In recent years it has become financially viable and a veritable cash cow for Argentina, which has vast deposits of shale oil, thanks to the invention of an extraction technique called fracking. The technique involves drilling horizontal wells into shale formations and injecting large quantities of a sand and water mixture at high pressure, which fractures the rock and then returns to the surface with the oil and gas. Proposals to use the technique in Italy (and specifically in the Po Valley) have faced staunch resistance due to concerns of possible seismic and environmental consequences. Nevertheless, fracking is being used without any problems in the desert area of Vaca Muerta.

Judging by the statistics, this cash cow is far from dead, since the mining plants currently produce 45,000 barrels of oil per day in a basin estimated to contain reserves of around 930 million barrels. This natural asset has attracted interest (and funding) from large international companies and is yet to be fully exploited.

Extracting it is a huge undertaking involving several DIECI models specifically designed for working in heavy-duty mining industries, namely the Samson, Icarus, Pegasus and Hercules models.

The very nature of fracking means that cranes and telehandlers are essential machines for rapid progress of the work. Once the pumps are installed on



the shaft and extraction starts, the drilling phase is effectively complete. In order to continue mining the deposits, all the drilling rigs must then be moved several hundred metres and new wells drilled along the shale formation. This involves relocating all of the accompanying facilities, a job for which the telescopic handlers are indispensable. The new well sites then need to be connected to the main pipeline, to transport the crude oil to the storage tanks. This involves sorting the thousands of meters of pipes that arrive daily in the area, a job for which the telehandlers are routinely used when they are not helping to supply sand, maintain the plants, build the power grid and install pumps. The Vaca Muerta site, though populated and equipped with all the necessary infrastructure for habitation, is nevertheless situated in an arid desert subjected to extreme temperature variations and swept by an incessant and dusty regional wind called the Zonda. In conditions like this, working long shifts, the operators certainly appreciate the convenience of our cabs!



**DIECI DEALERS
FOCUS****LocaTop**Carlo Cazzola,
Administrator of LOCATOP

Evolution is a necessary natural process that has always characterised human activities. By adapting to changing conditions and improving their capabilities, different cultures have been able to survive and prosper.

A similar thing has happened in Italy with the construction machinery rental market, which is relatively new here (originating around 20 years ago) compared with other European countries such as the UK, where it is now well established after 60 years. It is an evolution that arrived here late, perhaps driven by the side effects of globalisation.

The Italian market is now worth more than 1.3 billion euros according to Assodimi, the Italian rental and distributors association, although the rental sector is still highly fragmented: according to Assodimi, most of the 1500 or so active businesses are medium/small or very small, with a limited offering and in many cases obsolete machinery, and fail to provide sufficient safety guarantees.

Rental companies that have managed to make the difference (numbering about 50, but accounting for only 40% of total market turnover) are those that have developed and evolved by increasing the quantity and quality of their offering, and going beyond the supply of machinery and equipment to provide a leading-edge service to construction companies.

The companies that stand out from the crowd are those that have kept up to date and continued to improve themselves, providing customers with support above and beyond simple machinery rental, as well as the most suitable solutions for any type of request.

One such firm is LOCATOP, which is one of the largest Italian rental suppliers and counts Dieci telescopic handlers among its range-topping models. LOCATOP has an exceptionally broad and diversified fleet of over 500 high-quality vehicles to meet every possible requirement in the agricultural, engineering, construction and urban landscaping industries.

LOCATOP is one of those rental companies that have been able to improve themselves, so it was a logical decision for the firm to forge a partnership with DIECI, which has made continuous improvement its business philosophy.

According to its managing director Carlo Cazzola, this philosophy is a prerequisite for "offering a safe, quality and competitive rental service".

The equipment supplied to customers is always "full optional" to ensure full functionality of the machines and comprehensive service: in particular, DIECI machines come equipped with all the available accessories in our extensive range. According to Mr Cazzola: "Our partnership with DIECI began eight years ago and has been a great plus for our customers, who appreciate the versatility and ease of use of the machines, making it a profitable and consolidated relationship."

And since safety must always come first, the machines are subjected to a comprehensive maintenance cycle after each use, which involves checking for malfunctions and restoring the vehicles to the manufacturer's required standards. The range of services also includes staff training.



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