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Urban mining: The way to reach a real sustainability

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Nowadays mining projects are focused on the implementation of techniques and methods which minimize the impact on environment, ensuring that the mining production has to fill the society needs. Because of that, mining projects are being modified to fit with sustainable development requirements. The problem is that, strictly speaking, “classical” mining never could reach the sustainability, basically because of mineral deposits are limited, and it is impossible to ensure the same production ratio for future generations. That means the depleted mineral deposits could not be mined again. The alignment of the mining projects to maintain a high rate of exploitation with the need to maintain a high degree of environmental protection makes necessary to promote the exploration of “alternative deposits”. Thus, the development of secondary resources, coming from the recycling of manufactured products is discovering new applications which are becoming profitable. There are daily products, mainly electric and electronic devices, which contain high metal concentration based on complex mixtures. The metal content of these products could be big enough to consider the end of life of these elements as a raw material to be used in the manufacturing process of new ones. The use of those secondary mineral deposits is known as “Urban Mining”. Urban mining could be considered as the way to take out profitable metals from a certain device. Metals considered as a target for that are: gold, silver, platinum and copper, also electronic devices, such as mobile phones, have considerable rare earths content. The challenge which urban mining has is that there are no methods to recycle the most part of valuable metal content. Overcoming these challenges make it possible to achieve the scope of global sustainability in mining.

Biography

Jorge Castilla Gomez has completed his PhD in Mining Engineering from Technical University of Madrid. Currently he is a lecturer, researcher and consultant in the Department of Geological and Mining Engineering. His research field is focused in environmental impacts of mining operations and also he has experience in construction and demolition waste recycling, when he worked in a demolition company. Furthermore he has developed his career working for the International Technical Services Department in an International Mining Supplies Company.

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