

18 a 21 de outubro de 2016 | Rio de Janeiro - Brasil

October 18th to 21st, 2016 | Rio de Janeiro - Brazil

w w w . w m c 2 0 1 6 . o r g . b r



ROMANIA'S PARTICIPATION TO THE WORLD MINING CONGRESS RIO DE JANEIRO, BRAZIL 24TH EDITION

Ph.D. Eng. Predoiu Ionuț - S. Complexul Energetic Oltenia S.A.

In 2016, October 18-21, the biggest event in the mining sector was successfully organized by IBRAM (national entity representing companies and institutions working in the mining industry in Brazil) in Rio de Janeiro. (Photo. 1)



Photo 1. Opening of the 24th edition of World Mining Congress - Rio de Janeiro, Brazil

At the 24th edition of the World Mining Congress were attended about 850 participants from over 40 countries. About 4100 people visited the exhibition of machinery, technology and mining equipment.

Making an event of this size has been made possible with the cooperation of organizations, institutions, companies and universities.

The Romanian delegation that participated in the Congress was composed of:

- Ph.D. Eng. Predoiu Ionuț, Head office of Production, Topography and Geology - S. Complexul Energetic Oltenia S.A.
- Ph.D. Eng. Dafinoiu Mihail, Manager of Motru-Jilț Mining Division -S. CEO S.A.
- Ph.D. Eng. Bălăcescu Sorin, Chief of CUDV Service – Tg-Jiu Mining Division - S. CEO S.A.



**Photo 2. Participants at World Mining Congress, 2016.
(Ph.D. Eng. Predoiu Ionut - first from the left side)**

The meeting activities were held at the Conference Centre from Rio de Janeiro in the following days: 18, 19, 20, 21 of October 2016. Currently, WMC brings together 45 nations from around the world, including Romania. Our country, through their representatives who have skills in mining, managed to be present at the last three editions of WMC (Istanbul - 2011, Montreal - 2013 and Rio de Janeiro - 2016). We can say that with this result, very few countries and companies (CEO) can be proud with.

The activities were aimed mainly by presenting the performances, ideas, solutions, measures, etc. on mining (coal, minerals, etc) by units / participating institutes. During the four days were conducted sections (exploration of minerals, mining surface, underground exploitation, mining economy, sustainability in mining, mineral processing, automating operations in mining, mining innovation). The papers were presented in PowerPoint and posters (Photo 3).

The paper presented by the Romanian delegation brought to the fore:

- contribution of lignite production to Romania's electricity production;
- area description, the conditions of deposit and lignite extraction process in open pits from Romania (methods, technology working schemes excavation, selective excavation) (Photo 4);
- rehabilitation methods of technological lines (coal and sterile transportation to deposits/dumps);
- upgrading the equipment due to the actions of modernization of belt conveyors, excavators, dumping machinery, the following positive results were obtained:
 - reducing the risk of damage;
 - eliminating the stops caused by necessary maneuvers for additional operation;
 - reducing the accidental stops and increased production;
 - reducing the amount of benefits with auxiliary equipment;
 - reducing the electricity consumption and materials;
 - reducing the time for slipping;
 - reducing the production costs.
- issues regarding the environmental protection and integration into the economic system of degraded lands;
- economic results obtained by modernizing the existing equipment;
- Issues of Romania's mining sector (which can be found in Europe's mining problems and also in the world;



Photo 3. Paper presentation by Ph.D. Eng. Predoiu Ionut

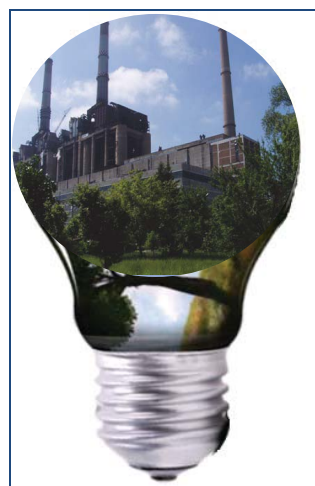


Photo. 4. A bucket wheel excavator with continuous action which extract the useful mineral substance (lignite) in a coal pit from Romania

- performance obtained from the first date opening of the mining perimeters (open pit and underground exploitation);
- future actions: modernization of equipment; perspectives of minerals exploitation substance from Oltenia to meet national economy demands; strategy of extractive activity in the medium and long future in Romania's coal pits.



Photo. 5. Area view of a coal pit from Oltenia area, Roșia de Jiu

I would like to mention that the paper admitted by the Coimmittee of World Mining Congress was reviewed by Prof. Ph.D. Eng. Fodor Dumitru from University of Petrosani.

Further I would like to elaborate some conclusions which mean mining activity in some countries of the world. The first decade of the 21st century has seen an increase in mining activity in many countries in the developing world. Although the mining industry is relatively small compared with the global economy, involves the order of 30 million people involved in mining on a large scale and 13 million involved in mining at a small scale. Mining industry is an important part of employment and GDP for some countries in Latin America, Africa and Asia, including Brazil, China and Australia.

Mining is the necessary foundation for energy supply all over the world. Mining is more than search and production of coal, iron and copper ore etc. The host country, Brazil, is the 7th largest economy in the world and is one of the most important countries producing and exporting of high quality ores. The mining industry is the most important reason for Brazil's positive trade balance and the prospects for this activity are quite optimistic in the short term.

According to the National Department of Mineral Production (DNPM), there are about 8,000 mining companies operating in Brazil. Various foreign companies are interested in investing in Brazil, and the government is working in this direction. Nearly 2.7 million workers are involved somehow in mining activity in Brazil.

Argentina wants to develop the mining potential. It hopes to attract \$ 20 billion in investments by 2021. The growth will be based on industry standards for modern operating. Various Canadian mining companies already operating in the country and their practices are used as a model. Pierre Graton, president of the Mining Association of Canada who participated in the panel on "The future of mining in America", held on Thursday (20/10) at the 24th World Mining Congress in Rio de Janeiro considers the most important issue in terms of attracting investment in mining in the region is political stability and regulation. Mining companies prefer to invest in countries where they know that politics will not bring radical changes."

Kazakhstan had one of the largest delegations to Congress. Zamir Saginov, Executive Secretary of the Kazakh Ministry of Development and Investment, attended the congress opening on Tuesday (18/10) and said his country aims to create a favorable climate for investors. He explained that the mining sector of Kazakhstan has invested in transparency and compliance. "We are the largest producer of uranium, but we also have zinc, silver, and one of the largest coal deposits," said Saginov. Copper has not yet been explored in the country, but there is huge potential with deposits estimated at \$ 3 trillion.

India, the coal is the cheapest and accessible source of energy reserve is abundant and therefore dependence on coal will continue to ensure energy security of the country. CIL, the main supplier of coal in the country, operates to promote growth and has taken a series of measures through massive forestation, water conservation etc.

Namibia has a growing mineral industry and is a valuable primary source for many basic products including: many strategic metals; rare earth elements etc. World's demand for such critical and strategic elements give Namibia an opportunity to become a major player. Namibia has adopted a favorable policy to mining that can attract investment and encourage the development of mining projects. Namibia provides almost a third of the world's diamonds.

Czech Republic will continue to play an important role in the future energy mix. Ensure autonomy and security of supply. Green energy should be a cheap energy and not to be expensive and borne by tenants.

In Greece, lignite is the main fuel with about half the share of electricity - market (44% in 2015). Lignite production was 45.4 million tonnes in 2015.

Polish lignite production was 63.1 million tonnes in 2015, slightly less than the 63.7 million tonnes produced in 2014. PGE Bełchatów is the main manufacturer, with over 42 million tonnes per year. Other producers include PGE Turów, PAK PAK Konin and Adamów lignite provides 53.2 TWh, covering about 33% of the electricity market in Poland.

The lignite production in Germany in 2015 was 178.1 million tonnes almost the same as the previous year. About 90% of the lignite production was used in power stations to generate electricity and heat. Generating electricity from lignite was stable in 2015 to 155 TWh or 24% of total electricity supply. In total, in Germany, more than 70 000 jobs depend on the mining - lignite.

WMC president Józef Dubinski, Chairman of the World Mining Congress and director of the Central Mining Institute in Katowice, Poland congratulated the Romanian delegation and highlighted that the mining sector must invest in innovation to develop more effective means for exploring natural resources (Photo 6).



The world's population tripled in the 20th century and will increase by another 40 -50% over the next fifty years. This population growth, coupled with industrialization and urbanization with, will lead to a dramatic increase in resources. Increasing productivity and reducing operating costs are the biggest challenges for companies in an increasingly competitive and demanding market.

In conclusion, we point out that the purpose of this participation was achieved in very good conditions.

Photo 6. Romanian delegation with president of WMC - Józef Dubinski