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Dear Ladies and Gentlemen,
Dear colleagues,

On behalf of the National organizing committee I have the pleasure to greet all of you for participation in the XV International conference of the open and underwater mining of minerals. The conference has become a significant scientific forum, traditionally hosted by the Scientific and Technical Union of Mining, Geology and Metallurgy.

More than 30 years have passed since the first conference on open mining of minerals and stability of the slopes in mines, which proved the prestige of this already traditional forum. Underwater mining was also included, as a thematic area of particular importance.

Conducting the conference is also important for countries with developed mining industry. This forum is a platform of experts, scientists and industrialists from all over the world that allows discussions to be held on the new technological developments and production methods in the mining industry. Mining, scientific and technical aspects of the sustainability of mining activities as well as their social impact will also be discussed during the conference. In this context, besides discussing scientific and technical issues, the main goal of the conference is to create new opportunities for business development.

I would like to congratulate you and to wish you good health, professional and scientific success. Thank you for your participation which contributes to the success of the conference.

I wish you all fruitful work and good luck!

Prof. DSc Eng. Tzolo Voutov

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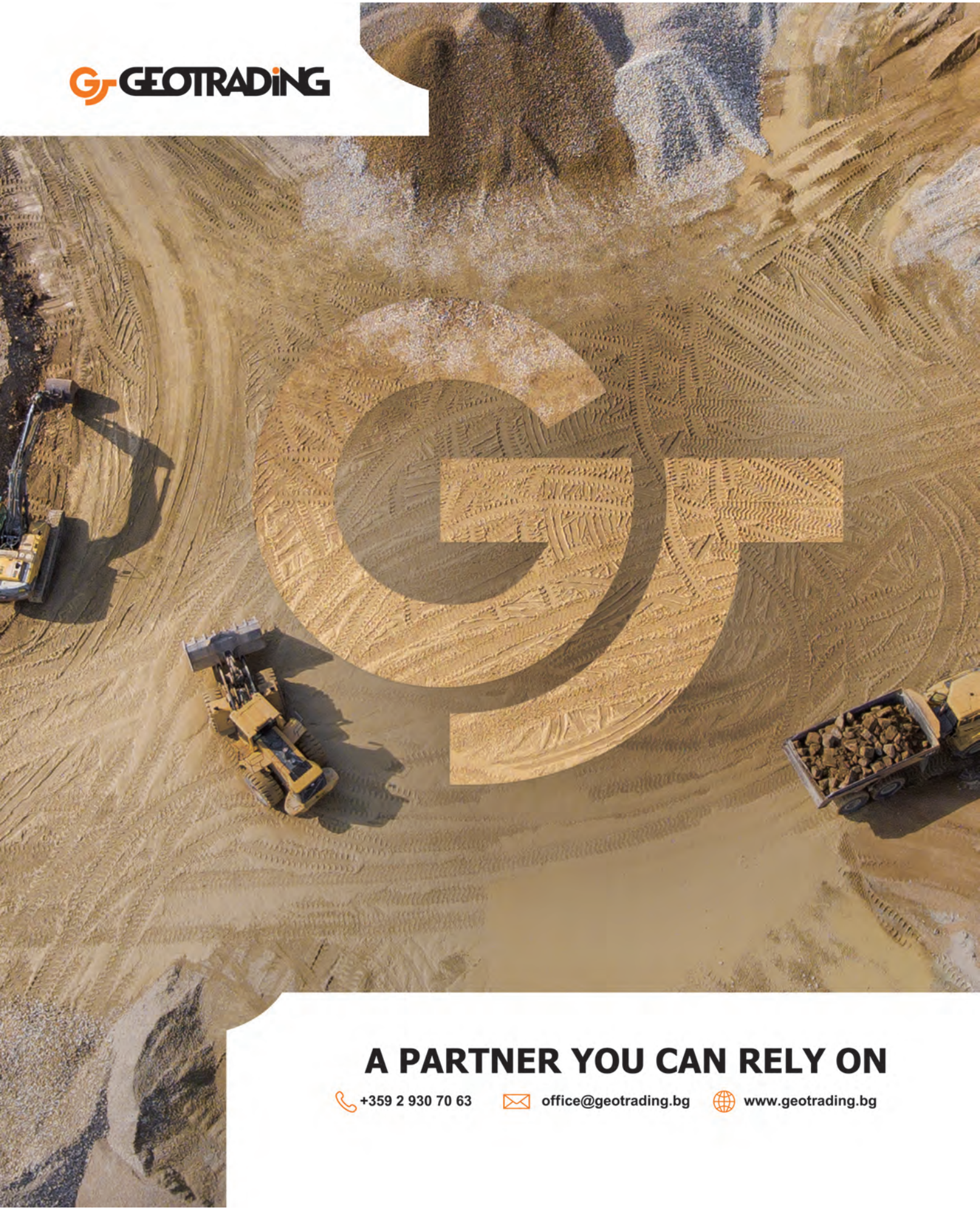

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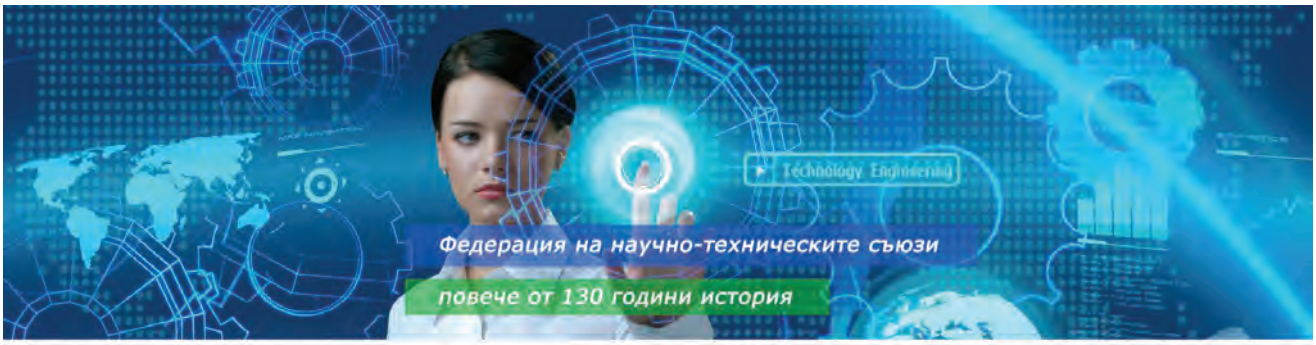

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- *Да стимулира и насърчава творческата активност и постижения на своите членове, както и да защитава професионалните им интереси.*

ФНТС, съвместно с националните и териториалните сдружения, организира годишно повече от 600 научно - технически мероприятия: конференции, симпозиуми, семинари, дискусии и др.

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A. Innovations in the construction and operation of opencast mines and quarries.
B. Modern technologies and facilities in underwater mining of minerals.
C. Drilling and blasting activities and safety techniques for open mining of minerals.
D. Drainage and stability and consolidation of the slopes in mines, quarries and waste dumps.
E. Quality management. Economic efficiency in open and underwater mining.
F. Protection and reclamation of environment during and after mining activities.
G. Information technologies in geological and mining activities.
H. Innovations in electrification, automation, mechanization and repair.
I. Advanced technologies in mineral processing and leaching.
J. Mining legislation. Qualification and specialization of the experts in open and underwater mining.

RISK ASSESSMENT METHOD FOR THE OPERATOR OF THE MACHINE FOR DEEP PIT AND GEOLOGICAL EXPLORATION DRILLING

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ABSTRACT
Safety at work is a multidisciplinary field, a set of multiple sciences that find application in everyday life. An important segment is the risk assessment at the workplace. Making a risk assessment, encouraging workplace visits, talking with the employee, and collecting other data needed to produce such as work equipment, personal protective equipment, working hours, etc. The correct selection of risk assessment methodology determines the risk of the workplace and proposed measures for risk reduction.
Keywords: *Risk, assessment, methodology, hazard, drilling, machine etc.*

INTRODUCTION

Risk assessment as a methodology of work for the first time begins to be applied in activities that are not related to professional pathology, this approach today is one of the basic instruments used for estimating the probability of occurrence of harmful agents in the work environment and the estimation of the severity of the professional damage they could cause.

The risk assessment has been carried out in accordance with the following international regulations and national legislation: International Labor Organization, which includes general and special conventions, Directive 89/391 / EEC of the European Union, the European Union Strategy for Safety and Health at Work and Laws and Regulations.

Recognition and identification of hazards in the workplace and the working environment are done on the basis of data obtained from the documentation, by observing and following the work process at the workplace, by obtaining information from the employees, finally defining all the hazards.

THE RESEARCH SUBJECT

The subject of the research will be the analysis of risk assessment methodologies at the workplace - operator of the machine for deep and pit geological exploration drilling.

Before making a checklist of hazards at the workplace it is necessary to make a detailed analysis of the work process, hazard analysis and harmfulness with all the constituent operations, employee analysis and all other hazards related to the workplace that will be subject to research and subject to risk assessment.

The workplace risk assessment that is the subject of research includes:

- Identification of hazards
- Analyzing and examining the severity of the consequences for the health of the employees from the identified hazards
- What are the exposure to all hazards and harmful effects
- Determining the risk

Fig. 1 Process of geology research drilling

Fig. 2 Process for mining (for blasting) drilling

METHODOLOGY OF RESEARCH

There are many methodologies for making a risk assessment:
- Qualitative
- Semi-quantitative (combined),
- Tabular,
- Graphic,
- Quantitative, etc.

As the best methodology that gives good results ie it determines the risk correctly:
- Methodology for risk assessment (KINNEY)

METHODOLOGY FOR ASSESSMENT OF RISK (KINNEY)

In the KINNEY methodology, the risk is observed as an occurrence of harm or danger which may affect the safety and health of the worker working at the workplace for which the risk assessment is made.

Based on the identification of hazards and hazards at the workplace and statistical data on the description of events (incidents or injuries at work), hazardous substances used during the work process and the critical points of the process can be assessed at risk. The procedure for hazard identification and hazard identification is as follows:
- Identify hazards that have an impact on the workplace and work environment;
- The impact of hazards and hazards on the workplace is analyzed;
- Establish a system of valuation of any hazard and harm that may arise;
- A method for determining the significance of each hazard is prescribed harmfulness.

The method for assessing risk according to the KINNEY methodology is easy to understand. The essence of the methodology consists in the realization of the following activities: Identification of all potential hazards that may arise as a consequence of the work activity.
- Determining the possible parameters for the occurrence of each hazard and harmfulness.

- Analysis of each hazard in order to determine analytical methods such as:
- Probability of occurrence of potential harm and danger;
- The severity of the consequences to which employees would be exposed if hazard and harm were present;
- Frequency of occurrence of hazards and harmfulness

CONCLUSION

The most acceptable risk assessment method for the operator of the machine for deep and pit geological exploration drilling is the KINNE methodology, with the given odds on:

The likelihood of occurrence, exposure time, and the severity of the consequences of workplaces give a quick, simple and fairly accurate approach to risk assessment at the workplace.

At the workplace Operator of the geological and pit exploration geological drilling machine, the risk according to the KINNEY methodology is HIGH.

In our contry we geve advatage to KINNEY methodology when comes to calculate risk assessment in openan and deep pit mining.

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