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**“*Scientia et potentia humana in idem coincidunt*”**  
**Francis Bacon**

Dear readers,

The famous thought of the world-renowned philosopher, Sir Francis Bacon, in the opening of this foreword indicates that ‘human knowledge and human power largely coincide’, but it should always be kept in mind that ‘knowledge and science, *per se*, elevate, but do not glorify the human’. Or, they just empower people, but even though they provide more information, they make them more knowledgeable, they still do not make the people wiser. This is why the science should be incorporating within itself a huge body of positive values, knowledge and science should be fitted to serve the humanity and the development of society, not their destruction. To illustrate this, there are many examples in the development of civilization. In part of them, the scientists were abused even without knowing it, as was the case with the *Manhattan* project when the first A-bomb was constructed in the USA. When the scientists became aware of the terrifying consequences that the bomb might cause (through a process of testing), a large number of them protested against its usage and propagated its abandonment and introducing alternative ways of convincing the Japanese to sign the capitulation in World War II. Unfortunately, the highest military and political establishment did not have the ear for this and used the A-bomb even twice – in Hiroshima and in Nagasaki. The atomic bombings of these two cities were defined by some philosophers as ‘the moral Promethean fall of Humanity’. It is also a tragedy, as history confirms, that the well-known American scientist and humanist, Lewis Mumford, was right claiming that people holding the highest positions and having the power to make crucial decisions when it comes to humanity, actually possess an enormous psychological defect – provided they have at their disposal, an invention that might have disastrous consequences upon humans, they would not be able to resist the craving to use it. Hence it is advisable, for the scientists, if they have doubts about the possible abuse of their inventions, not to go into its production. But, it is a great fortune that in this sense there are much more positive instances of this kind over the history of science. There were many more scientists with high moral standards, great responsibility and care for the Humanity. Among them is the grand Leonardo da Vinci, who kept a large share of his inventions in a drawer thus not allowing for them to be made public. In his notes, in justification of his decision, he writes about his uncertainty that people would use them in the most appropriate manner, should they hear about them. Hence it is always good to wait for some better times and for

people showing higher level of conscientiousness and sense of responsibility.

In this context I would like to quote the positive examples of two more scientists of the 20<sup>th</sup> century – both computer experts: Hubert Dryfus (What Computers Can't Do) and Joseph Weizenbaum (Computer Power and Human Reason). They both, independently of each other claim that, a) modern societies tend to overestimate computers and their possibilities; b) the humans are underestimated and the human capacities, those purely, humane features, such as the emotional life of people, the concept of happiness and satisfaction, are more and more transferred to computers, and c) it is not a matter of whether or not, things can be done with the support of science and technology (particularly computers), but whether or not such competences should be left to computers and computer systems? Hence, the contemporary science and researchers are facing the key challenges in the realm of moral, and not only scientific and technical, specific knowledge and achievements. Still, without such tangible, measurable professional achievements, neither the science can be further developed, nor the technology or the science in general. And the results cannot be simply kept to oneself, they have to be shared with the others. One of the best ways is to publish them in a corresponding journal (in hard copy or electronically, or even better both ways).

Dear readers, you can afford an access to the newest issue of *Horizonti*, the scientific journal of “St Kliment Ohridski” University – Bitola, but this time it has a new form and a new structure, as well as prepared and published in a new technology. The journal, true to the name it bears, starting with this issue, opens us new horizons, educational, scientific and research, not only locally, but spreading to reach the European Higher Education and European Research Areas, with certainty and faithfulness of a many-year well-established publication. The development trajectory of the University scientific journal now enters a new stage – a stage of its Europeization and Internationalization. Its international dimension is recognized primarily in its formal organizational structure and the international editing board, but also in the list of reviewers. Namely, the members of the international editing board come from seven different countries – Slovenia, Serbia, Bulgaria, Turkey, Spain, Germany and Macedonia, with the list of foreign reviewers outnumbering the involved Macedonian scientific-research and academic scholars. What is considered a matter of even greater visibility and more convincing, is the international dimension of the scientific papers submitted for publishing, evident in the large number of papers by authors from abroad.

This is in confirmation and enlargement of the promotion function the journal has regarding the scientific-research activity of the researchers from our country and in front of the international auditorium. The University scientific journal, *Horizonti*, confirms the role that “St Kliment Ohridski” University – Bitola plays in the development and advancement of the scientific thought in Macedonia, in a number of scientific fields as a proof of its scientific and holistic approach. Thus, this issue of the journal contains papers dealing with topics in the area of mathematics and science, technology and technical sciences, medical sciences, biotechnical sciences, social sciences and humanities.

By the next issue of *Horizonti*, I wish you to enrich your educational perceptions, to broaden your scientific horizons and to increase your research perspectives.

And last, but not the least, dear colleagues, both from our University and from universities abroad, I would like to remind you about the efficiency of your work, always following the advice that the famous Michael Faraday gave to young scientists: **‘Work, finish, publish!’**

Respectfully,

Prof. Zlatko Zhoglev, PhD  
Rector of “St Kliment Ohridski” University – Bitola

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## **SURVEY OF THE NUMBER OF INJURIES RELATED WITH WORK PLACES IN THE BITOLA REGION**

**Silvana Angelevska, PhD, Ivo Kuzmanov, M. Sci., Zore Angelevski, PhD**  
Technical Faculty, Bitola  
silvana.angelevska@uklo.edu.mk, ivo\_kuzmanov@yahoo.com,  
zore.angelevski@uklo.edu.mk

### **ABSTRACT**

The way of organizational action in the past few years have been dramatically changed. While in the past, organizations have worked with very similar attention to the number of injuries on the work places, today some movements in that direction are made. However insufficient records are kept of the number of officially injured. Also it should be taken more measures so the number of injuries could be reduced.

The purpose of this paper is the survey on business subjects in the Bitola region, and the number of injuries during work.

**Key words:** occupational safety, OSHAS 18001

### **INTRODUCTION**

Considering the Law on health and safety on work places, some efforts to improve the current situation are made, yet the impression remains that the number of injured persons primarily in the private sector is drastically high. It can be confirmed by comparative analyzes conducted with R. Serbia, from where can reach to staggering data. Although R. Serbia is considered as a country that is in the same end in Europe, in the number of injuries at workplaces, R. Macedonia is in a far worse situation.

Also in addition of this labor are given the number of injuries of direct jobs in the Bitola region.

### **COMPARATIVE ANALYSIS WITH R. SERBIA**

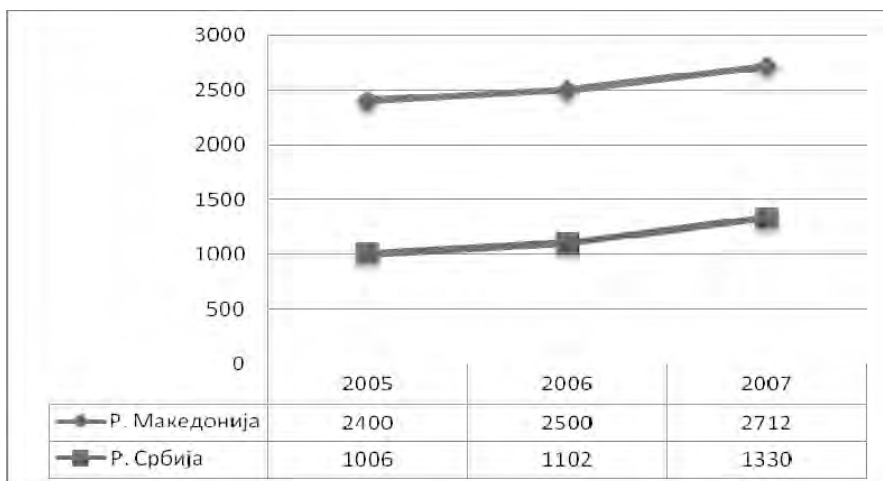
If we compare the data for the period 2005-2007 in the Republic Macedonia and the Republic Serbia (keeping in mind that R. Serbia is the "leader" in this region according to official data in the number of injuries) are coming to the conclusion that it is necessary as greater use of standards

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for safety and health in the Republic. Macedonia and consistent application of the recommendations of the competent inspectorate.

The data show that our country comparatively compared with a country that is located on the bottom in the EU by number of injuries is in a far worse position. The facts show that is urgently required greater campaign in this direction.

In addition, is given an illustrative display of comparative comparison of data. Data on the number of injuries in the Republic. Macedonia are received from insurance premiums paid in respect of injury job, but according to relevant data to the Macedonian Association for protection at work.



*Figure 1 Comparative analysis of the number of injuries in 2005-2007*

## **RESEARCH CONDUCTED IN THE BITOLA REGION**

Detailed research on the number of injuries was conducted in the Bitola region. The same is done thanks to Bitola Association for protection at work. The summarized data show that the current situation is striking and immediate application of necessary measures according to law on occupational safety and proper implementation of the recommendations of the international standard for that purpose OSHAS 18.001 are necessary. Survey results are presented in tabular reports below.

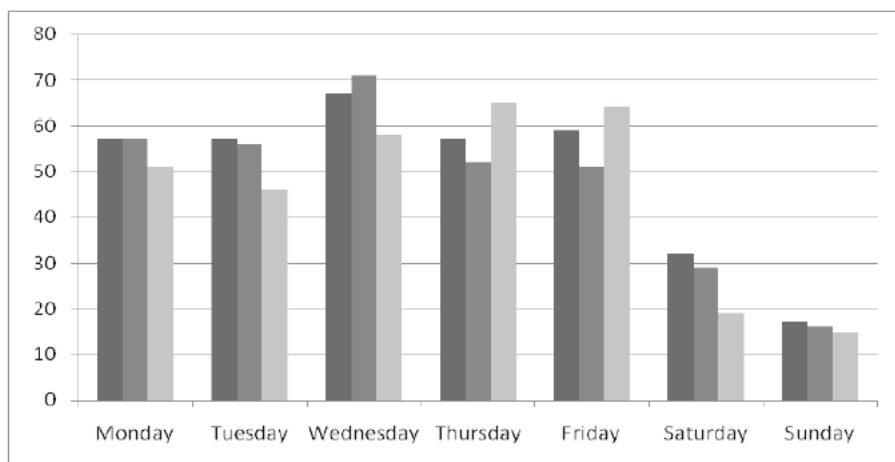


year	Num. of injuries	Num. of injuries categorized				Lost work days
		easy	difficult	death	total	
2009	11643	295	47	1	347	3490
2010	13627	307	24	1	332	4785
2011	12413	231	54	0	285	6931

*Tabular display 1 Registered injuries in the Bitola region, 2009-2011*

If you see the results you can conclude that although the figure is with a tendency to rise, yet the number of deaths are in a tendency to decrease as the number of light injuries. However at this point it is important to mention that this are incomplete data, primarily because of the private entrepreneurs, who are not willing for cooperation in this direction.

In addition to this section it's shown a tabular display and range after days when the injury occurred. From the tabular display is free to conclude that the number of injuries in the so-called non-working days is particularly large, primarily as a result of injuries in the construction industry and the private sector, where the nature of the work there are non-working days.



*Figure 2 An illustrative representation of the number of injuries for working days in the period 2009-2011, Bitola region*

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If we analyze summarized data, can be concluded that the tendency of reducing the number of injury exists. However, "Black Wednesday" remains the day that happen most of the injuries.

## **CONCLUSION**

Data from the survey led to the factual situation that Macedonia is in the same end in Europe in terms of occupational safety. Analyzing the data obtained, indicate a need for further research on the measures undertaken in enterprises in order to reduce the occurrence of injuries. Also as a field for further research is the extent of application of the provisions of the Law on Protection at Work.

## **LITERATURE**

1. Msc. Ivo Kuzmanov, Branding and application of ISO 9001:2008 standard and OSHAS 18001 as a model for continuous improvement of industrial systems, PhD dissertation, Technical Faculty in Bitola, 2012
2. Association for protection at work, relevant data, 2012
3. Msc. Ivo Kuzmanov, research on business entities, Technical Faculty in Bitola, 2012