

## THE APPLICATION OF INNOVATIVE TECHNOLOGIES IN ORDER TO IMPROVE THE SAFETY IN PRODUCTION

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**Abstract:** Work production in the enterprise security is an important problem is, modern innovative technologies, this process effectively to manage and help will. This article automation, digital technology and smart protection tools by security increasing the issues of covering. VR/AR, sensor technologies and robotics use in the production process in the human factor, because they came of error to reduce the serve will. That is in addition to, the new generation of protection tools, automated security systems and artificial intelligence on the basis of worked out has been the technology discussed will be.

**Key words:** Labor safety, innovative technology, automation, VR/AR, robotics, artificial intelligence, intelligent protection means.

### Introduction

Work, production the process of human health and the environment have significant effects shows. Traditional security measures of effectiveness has increased, although innovative technologies in this process, new opportunities has created[1]. Security increase to the io (Internet of Things), VR/AR technologies, smart protection tools and automated control systems are widely used[2]. Modern work out in the enterprise security and the effective management of labour productivity to increase both serve will. For this reason, in the enterprise security technology introduction be and work production in the process of technological approaches to the application of important is professional is.

### Methodology

Research for international security standards (ISO 45001), U.S. OSHA and NIOBIY recommendations on the basis of analysis of get will go to. Sensor technologies and VR/AR simulyasiya security effects of practical studies through was studied. Work production in the enterprise advanced technologies, the introduction of were observed and the results analyzed were[3].

Analysis for the following methods were used:

➤ Experimental studies: work with production environment security systems testing conduct.

- Control and monitoring: advanced technology security the effectiveness of the monitor.
- Data analysis to: a previously studied the security of the system effects and the results were compared.

### **Results and discussion**

Us gets, work production enterprises in labor safety is a very important problem is, because this environment is often highly dangerous activities of their into gets. Security improve in order to innovative technologies, the application of today's day of work and production in the field of the most important priorities of the one is. Traditional security measures effective they are, although the technology development use innovative solutions with increasingly more of us are paying. Innovative technologies, automated systems and digital technologies for use in production of safety in ensuring a big role earned is. Work production enterprises in labor safety , increase workers safety ensure, productivity increase and the rules to follow to for a very important.

Innovative technologies introduction to through work , the production process of the security is carried. Automation and digital technologies using the working out of the process more effective it is and the human factor come out that the error is reduced. For example, robotics with the help of dangerous or harmful conditions of work to automate , you can. This is not only the workers safety to ensure, but also their physical and psychological health to maintain both help will. Work in and out of dangerous processes and random error of automatic basis to identify and them to prevent to take for sensors and advanced monitoring systems are used. Such technologies security increases and the work of the production efficiency improves. Innovative technology using workers training and them security preparation also has an important role to have. Smart personal protection tools modern technology with improved traditional protection of means of means, especially Io (Internet of Things) sensors and virtual and augmented reality (VR/AR) technology use through to working safety and teach, them in dangerous situations to prepare and real - time mode security provide can. This technology using working work production in the process of the occurrence of the cause , can the dangers about in advance warned can be

#### **1. Security increaseh in innovative technologies.**

- VR/AR technologies using working safety on training effectiveness carried. This technology is a real time mode in the risk-risk pre - assess an opportunity to gives[4].
- Io sensors of environmental conditions (air quality, gas concentration) track go to and warning system to work is down[5].
- Robotics dangerous tasks automation through men the injuries, the likelihood decreases.

➤ Artificial intelligence systems in real time mode, work, production process monitoring to, the potential risks in advance, forecasting the possibility of returns.

2. Aql with personal protection means.

➤ Io with integrated of dubulg'a, gloves and overalls working heart pump, the body temperature , such as parameters on the monitored get to go and in real time mode in the security it provides[6].

➤ Emergency situations pre - detection systems through workers in their own time, was warned and possibility of the risk before they are taken[7].

➤ \* Biometric protection system of working the security level automatic on the basis tracking, risk of birth in cases quick response give you the opportunity to provide.

3. Automation and robotics- Kobotlar (joint robots) in humans with together safely to work for work out if, they injury risk reduces.

➤ AGV (Automated guided which transport means of) shipping handling is the process of automating and work out security increases[8].

➤ Artificial intelligence on the basis of the operated security system use the production in the process of risk in advance forecast to be and preventive make the opportunity it creates.

Work in and out of security and improve in order to robotics and automation is a multiple advantages ko'sits o'built in the us[9].

1. Productivity increase: automation work production process significant level of foster and such work to stay reduce you can.

2. Improved security: robots for dangerous tasks are their responsibility to take the can, that while the human worker to injury to supply the risk reduces.

3. Consistency and quality: the robot tasks with high accuracy and consistency with perform you may, that while the product quality to improve taking comes in.

4. Cost savings: the initial investment is high be can is, although automation is often productivity increasing and labor costs reducing by long - term cost savings out comes.

This innovative solution out increasing investment and security in the first place, put , and new technology is the use of cultural change require will. However, unfortunate events decrease, workers welfare improve and operational efficiency increasing of view point from useful it is.

### Conclusions.

Innovative technologies for use in production of the enterprise current the security significant level of carries. VR/AR, smart protection tools and robotics human factor because they come with the risk reduces. Artificial intelligence systems for the production to be applied be real - time mode security monitoring implementation

enhance and productivity increase in the opportunity it gives. In the future this technology to further development through the work of the production efficiency increase and safety to ensure opportunities will expand.

Innovative technologies for use in production of safety in increasing an important role earned is. Automation and digital technologies using the production process efficiency increase, the human factor come out that the error reduction and risk prevention get you can. For example, robotics with the help of dangerous processes automation, sensors and monitoring systems through the working out of such a system pre - detection procedure of the introduction is. That in addition to virtual reality (VR) and augmented reality (AR) technology workers to the safety of teach and to them the real situation of the simulation to the opportunity it gives.

Personal protection means of the development of, in particular, the io sensors with equipped smart of dubulg'a, gloves and clothes through the workers' health in real - time tracking and emergency situations in quick action see you can. Joint robots (kobotlar) , while men with together safely work to designed is, their risk to minimizing serve will. Work in and out of automated transport vehicles (AGV) materials - handling process optimization, labor costs reduce and workers , the safety of the increase to be used.

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