COMPLEX MODEL FOR RISK ASSESSMENT IN INDUSTRIAL PROCESSES
(MOPORI)

This work was supported by the Slovak Research and Development Agency under the contract No. APVV-0043-10

Abstract
Dynamical development of technologies is a result of man's desire to achieve higher living standard. The modern technologies are becoming still more complicated and may lead to industrial accidents. Industrial processes running over in "Seveso establishment" (notice 261/2002 about major industrial accidents prevention) using hazardous substances are potential treat for employers, public, environment, property that is why it is needed to pay attention to prevention. The part of prevention is risk management and the part of it is risk assessment. In Slovak Republic there exist a lot of approaches for risk assessment but nearly none of them is clearly structured and is not harmonized with European standards. The purpose of this project is to create a logic and clear complex model for risk assessment based on structured diagrams and quantitative methods in compliance with European standards for "Seveso establishments" in Slovak republic what present one of the major risks of industrial accidents occurrence in Slovak Republic. The goal of the project is to create more effective tools for safety/security raising et hoc reduce risks of industrial accidents occurrence in Slovak Republic. There is also needed to design a possibility for comparing "Seveso establishment" all around the Europe and to work what after this model creation will be possible because Seveso establishment will use the same tool.

Project objectives

Main objective of project, as is implicated from recent status analysis of issue, is improvement of security in industrial establishments “Seveso establishments” in Slovak Republic, by creating a complex model of industrial enterprise risk assessment using quantitative methods, its synchronization with standards of EU and following application in conditions of Slovak republic. Main objective and partial objectives were set for whole timeline and their interaction can be seen on figure 1.
Main objective of the project is to increase industrial security in the „Seveso establishments” according EU standards in Slovak Republic.

Objective 1
Definition of input and output parameters of model according the current state analysis.

Objective 2
Creating of general risk assessment model in industrial processes based on new scientist approaches usable and applicable in the field of risk management and serious industry accidents prevention.

Objective 3
Integration and transformation of EU standards of serious industrial accidents prevention into the new general risk assessment model in industrial processes in SR.

Objective 4
Verification of model designed on the base of practical application in the „Seveso establishments” followed with correction of their weaknesses.

Objective 5
Creating a software tool for risk assessment in the industrial processes.

Project target groups:
- „Seveso establishments” in SR from the industrial accidents point of view (their activities are limited by the Law about)
- Reviewers/experts (natural or legal person) of serious industrial accidents prevention
- Evaluators/auditors of safety (Ministry of environment SR).
- University students of programmes connected to industrial safety.

The originality and innovative approach (comparing to traditional procedures used in SR) of the model is in the synthesis and verification on new scientist approaches usable and applicable in the field of risk management and major industry accidents prevention.

The model of risk assessment in industrial processes will be designed by structured diagrams enabling its transformation into the software tool, which is currently missing and it is wanted by target groups. Its advantage will be an easy application of created model based on the flowcharts and it will use quantitative methods for risk defining. The creating of the model of risk assessment in industrial processes will increase the risk assessment processes as well as the civil security and safety of private or public possession, environment and it will also have a positive impact on sustainable development of SR.

The next innovation of the project is the complex analysis of the state – of art in Slovak Republic and also in EU in the area of major industrial accidents prevention, defining actual problems, solutions and terms definition in this area.
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