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NEW MEvAR RISKS EVALUATION METHODOLOGY IN CONSTRUCTION

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Abstract: *The paper presents some considerations regarding the work environment and the updating of the professional risk assessment methodology by MEvAR for construction activities. MEvAR is an occupational risk assessment management methodology also applicable in the field of construction that ensures the overlap of the management system and OHS legislation in the mathematical calculation of risks.*
Aspects are presented on the interpretation of certainties and risks to establish reasonable limits of acceptance, tolerance or assumption of risks, supplementing environmental risk factors with external, social, financial elements. The innovative and comparative aspects of the MEvAR methodology are presented in the associated figures and tables. The conclusions highlight the current aspects implemented in the method and their usefulness.
Key words: *MEvAR, management, work environment, construction, risks.*

1. INTRODUCTION

The article presents a current way of managing the assessment of professional risks in the field of construction based on the MEvAR methodology in the context of the emergence of the need to update risk factors and determine the probability and prevention and protection measures. To carry out the work, research will be carried out on the opportunity of using the MEvAR methodology in the field of construction, the presentation of the specific elements of environmental risk factors, the new ones and comparisons with the methodologies currently used by construction companies.

Based on the results, the appropriateness of the proposal to use the MEvAR methodology will be analyzed [2].

1.1. Current situation of OHS in the construction sector in Romania

The construction sector in Romania has shown an upward trend in the last 30 years for housing construction, mainly due to local economic growth (see Figure 1) and the highest growth in terms of the share of construction area is observed in Ilfov, Cluj and Bucharest counties.

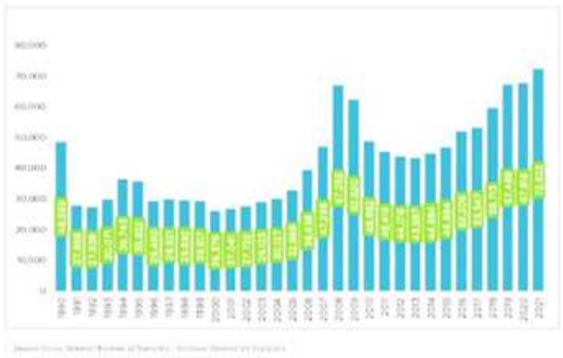


Fig. 1 Building construction situation Romania 2020 [16]

Most of the companies active in the construction field have organized the OHS (Occupational Health and Safety) activity through their own staff and external prevention and protection services.

1.2. Accident situation in Romania

Against this backdrop of increased construction activities, the number of accidents at work also increased in 2018, with Romania being number 1 in the European Union (Figures 2 - 4) and with the construction of buildings accounting for 16.8 of all fatal accidents in 2020 and being in first place (Figure 2) [5].

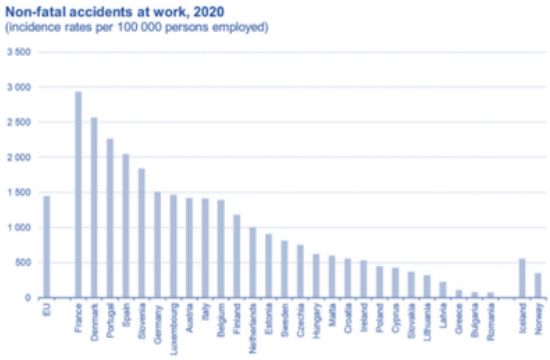


Fig. 2 EU fatality situation 2020 [17]

As can be seen, the OHS situation is not much different and official statistics do not provide sufficient details for a thorough analysis of the occurrence of events in the construction sector [7], [9].

For this reason, we believe that a systematic approach is needed both to the statistical data and information in the field and to the content of the occupational risk assessment report, which should include elements to ensure the large-scale implementation of the OHS management system and integrated quality-environment-OHS management systems [1, 3].

Table 1 present the situation of construction accidents in Romania in 2021 [3]

Table 1

The situation of construction accidents in Romania 2021

Year	2021			
Category	**No. injured**	**Percent from total**	**Fatalities**	**Percent from total**
Total	2055	-	41	1.99
Building construction	130	6.3	6	14.6
Works of civil engineering	-	-	4	9.8

In the classical definition of environment, it is understood as - the totality of conditions (relief, climate, soil, etc.) in which organisms live.

The working environment is defined as the set of physical, chemical, biological and psycho-social conditions in which one or more workers carry out their work [1], [6].

1.3. Assessment of professional risks in the field of construction

The assessment of occupational risks is carried out before the start of the activities, at the level of the work base, on the construction sites, and afterwards an update or reassessment specific to each construction site is ensured.

These activities are necessary because even if the activities are almost identical in each construction site, there are different conditions that require updating the identification, analysis, assessment and evaluation of risks.

Specialists use different risk assessment methods or methodologies depending on their experience and specific activities [8].

In the paper we have chosen to present the elements of the MEvAR methodology that support its application in the field of construction.

2. SHORT PRESENTATION ON THE MEvAR METHOD OF OCCUPATIONAL RISK ASSESSMENT

The MEvAR method (Management of Evaluation and Appreciation of Risks/ Management of risk assessment and evaluation) method is developed by a team of specialists in the field of occupational health and safety at National University of Science and Technology Politehnica Bucharest and specialists from the private sector who have adapted the technical requirements of occupational risk assessment methods to current legal and management system requirements [1, 3].

The method is intended for technical occupational risk assessment specialists and managers of private or governmental organizations from a managerial and administrative perspective to assessing the level of occupational risk in the organization, the treatment, prevention, and protection measures necessary to mitigate risks, monitoring and recording of control measures and continuous improvement of work processes [1, 9].

The method is applicable to all areas of activity because it is based on a particular freedom in the selection of the two technical methods of occupational risk assessment that

can be adapted to the specifics of the activities and the superimposition of legislative requirements, management system requirements and/or management involvement [4],[10].

In the context of the change in the requirements of the OHS management systems by SR EN ISO 45001:2018 and the need to use a method of assessment and evaluation of occupational risks adapted to the current requirements, the MEvAR method presents the following aspects [1], [6]:

- It has correspondence in the Community or international standards in the field;
- The method considers elements of certainty before risks, risks are aggregated based on sources, dangerous situations and hazards, elements specific to the organization, work teams, workers, direct relationship with the organization's management, company management and workplace managers, records and history of impact on workers;
- The assessment covers the workplace/station/activity/process/sensitive group/work equipment/chemical substances and/or preparations used/workplace layout in the organization;
- Risks generated in the analysis and action, opportunities, vulnerabilities and capabilities are considered;
- Technical data, operating parameters and up to date maintenance are analyzed for failure predictions of analyzed equipment;
- The work environment is separated into the workplace environment and the environment in its vicinity for better analysis of external sources and impacts;
- Risks in combining and adapting the main elements of SR EN ISO 31010:2019, SR EN ISO 45001: 2018 are analyzed and assessed from different assessment methods, considering the participation of minimum two assessors, analysis and identification of sources, interview, supervision and organization of process meetings, the assessed values use parameter specific mathematical models, different type 5x5, 4x4, 3x3 with associated values that are chosen by the assessor in order to realize the relevance of the risk and proposed measures;
- The risk can be assessed in different forms - initial, proposed - residual, weighted with that of the basic method according to the established purpose and objectives, there is a selection of the risk treatment strategy and the risks can be reviewed during the assessment;
- The method incorporates harmonized elements of classical occupational risk assessment methods, ohs management system requirements and current legislative requirements;
- Severity is expressed as the ratio of consequence to harm, with the level of injury being a ratio of trauma to illness and the level of material damage being estimated according to the financial level of the organization;
- Probability is analyzed in terms of the likelihood of an event occurring and the characteristics of the exposure - route, duration and frequency;
- The number and quality of workers are included in the assessment;
- The influence on processes of situations such as the coronavirus SARS COV-2 - Covid -19 pandemic is considered;

The MEvAR calculation formula for risk is presented in Figure 3 (adapted from [1]). The method is intended for technical occupational risk assessment specialists and managers of private or governmental organizations from a managerial and administrative perspective to assessing the level of occupational risk in the organization, the treatment, prevention, and protection measures necessary to mitigate risks, monitoring and recording of control measures and continuous improvement of work processes.

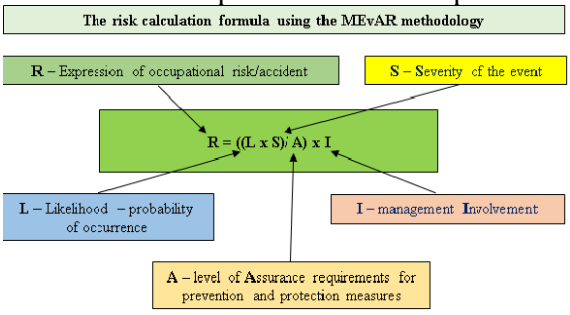


Fig. 3 MEvAR calculation formula (from authors).

3. RESULTS AND DISCUSSION

3.1. Study about the working environment in construction

The working environment in the construction sector comprises variable elements to most specific risk factors determined by climatic conditions, organization, internal or external influences, other sources.

Prior to the study of the working environment, it is necessary to establish whether the structure of the working system in the current definition is comprehensive or whether it still needs to be updated or supplemented to ensure an analysis adapted to current conditions [11, 12].

Following the analysis of the influence of other environmental elements not classified in common methods, we found the need to adapt, complete or compare the following elements specific to the work environment that may affect workers' health and safety (Table 2):

Table 2

Risk factors specific to the working environment.

WORK SYSTEM ELEMENTS /WORK ENVIRONMENT		
Category hazards/ hazardous situations/ risk factors	**Hazards/ hazardous situations/ risk factors for occupational injury and illness**	**Causes of risk**
Own workplace environment/ environment in the vicinity	**High and specific risk areas:**	
	areas exposed to natural hazards	the occurrence/existence of work areas exposed to natural hazards (working in open air areas, snow clearing, construction site, landscaping, others) regular/predicted/random
	destructive phenomena: landslides, earthquakes	regular/ predicted/ random occurrence/ existence of destructive phenomena such as landslides or earthquakes
	CBRN/NBC risks: chemical contamination, biological contamination, epidemics, epizootics, irradiation, nuclear contamination	regular/ predicted/ random occurrence/ existence of CBRN/NBC* hazards (*Chemical, Biological, Radiological and Nuclear defense/Nuclear, Biological, Chemical)*
	risk areas for visitor security	regular/planned/random occurrence/existence of hazards in the visitors' area of operation
	general risks: (fall, slip, hit, road accident, others)	occurrence/regular/planned/random occurrence of other general risks not specific to the working environment
Workplace environment details	**Details/location/sizing of work environment/workplace layout:**	
	environment: building/ outdoors/site/ mixed/on premises/means of transport/ underground/other	influence of the type of environment on the working environment
	access zones: in administration premises/clients, beneficiaries/ institutions/ at home/on site/means of transport/other	influence of access areas on the working environment
	working level: underground/ground/floor/ gondola/ scaffolding/ pit/ overhead/ underwater/ underwater/ hoists	influence of working level on the working environment
Physical risk factors	season: hot/cold	variation in seasonal characteristics
	air temperature: high/low	variation in the influence of air temperature
	temperature of objects/ materials/ work equipment: high/ low	variation in the influence of the temperature of objects
	precipitation: rain/snow	variation in the influence of precipitation
	air humidity: high/low/ presence of steam/condensation	variation in the influence of air humidity
	draughts: in the environment/at head level/ at torso level/at feet level	variation in the influence of air currents
	air quality: natural ventilation/ventilation/	variation in the influence of air quality

	stationary/filtered/conditioned/with fresh air supply/ without fresh air supply	
	air pressure: high/low	variation of air pressure influence
	air ionization	air ionization influence variation
	overpressure in water depth	variation in the influence of overpressure in water depth
	noise	noise influence variation
	ultrasound	ultrasound influence variation
	vibration	vibration influence variation
	lighting: low light level/natural/ artificial/mixed/ glow/ flicker	variation in the influence of ambient lighting
	electrostatic potential	variation in the influence of electrostatic potential
	irritant/ pneumoconiogenic/ carcinogenic dusts: nanomaterials/ toxic/harmful dusts/flammable dusts/smoke/mist	variation in the influence of irritant dusts
Chemical risk factors	toxic or caustic gases, vapors, aerosols	variation in the influence of toxic or caustic gases, vapors, aerosols
	airborne dusts, flammable or explosive gases or vapors	variation in the influence of flammable or explosive airborne dusts, gases or vapors
Biological risk factors	airborne micro-organisms: bacteria, viruses (including Sars CoV-2), fungi, spirochetes, protozoan fungi, etc.	variation in the influence of airborne micro-organisms
	dangerous plants (poisonous, irritant plants, etc.)	variation in the influence of contact with hazardous plants
	dangerous animals or insects (diseased, aggressive, venomous animals, etc.)	variation in the influence of contact with dangerous animals or insects
Sensitive risk factors	risks identified/previous/on record	the influence of the number and consequences of risks observed/ previous/on record
	pregnant women/childbirth/ breastfeeding/young people/ disabled people	influence on the number and needs of sensitive categories of workers
Financial risk factors	financial means: cash, bank cards, vouchers, bank cheque	influence of financial means
Specific risk factors	chemical pollution	influence of chemical pollution
	dangerous actions of workers, visitors, neighbors	influence of dangerous actions of workers, visitors, neighbors and their consequences
	relationships with external stakeholders and their perceptions and values	influence of stakeholder relationships
	changes relating to any of the external issues	influence of changes in external aspects
	overlapping activities	influence of overlapping activities

3.2. Study of risk assessment

To analyze the influence of risks through the methodologies used in construction sites and the MEvAR methodology, it was chosen different organizations, construction sites and risk assessments that have common and new elements through a case study applied between October 2021 and October 2022 at a number of 17 companies which carries out civil construction activities in different areas of Romania: Bucharest and Ilfov, Prahova, Giurgiu and Buzau counties [13]. We propose an analysis of the application of the MEvAR method in the field of construction with increased attention to environmental risk factors in the context of introducing into the analysis the specific risks of the surrounding environment and that in the immediate vicinity of the workplace.

Based on the results, we will be able to check whether the application of the method is appropriate and what is the contribution of this analysis to improve the activity of assessing professional risks [14],[15].

For this, we will introduce in the list of risk factors elements specific to evaluations from different fields of administrative, security, economic, environmental, management system

or other types. For a civil construction site shown in figure 4, we carried out a re-evaluation of the existing occupational risks to see if the differences are significant and can influence the way of risk analysis.

Fig. 4 Image from the studied construction site (from authors).

Re-evaluation is necessary and mandatory especially after finding the non-conformities, these can be seen in Figure 5.

Fig. 5 Compilation of images of workplace non-conformities (from authors).

Table 3 presents the comparisons between the risk levels assessed by different evaluation methodologies construction sites regarding the assessment of professional risks were selected.

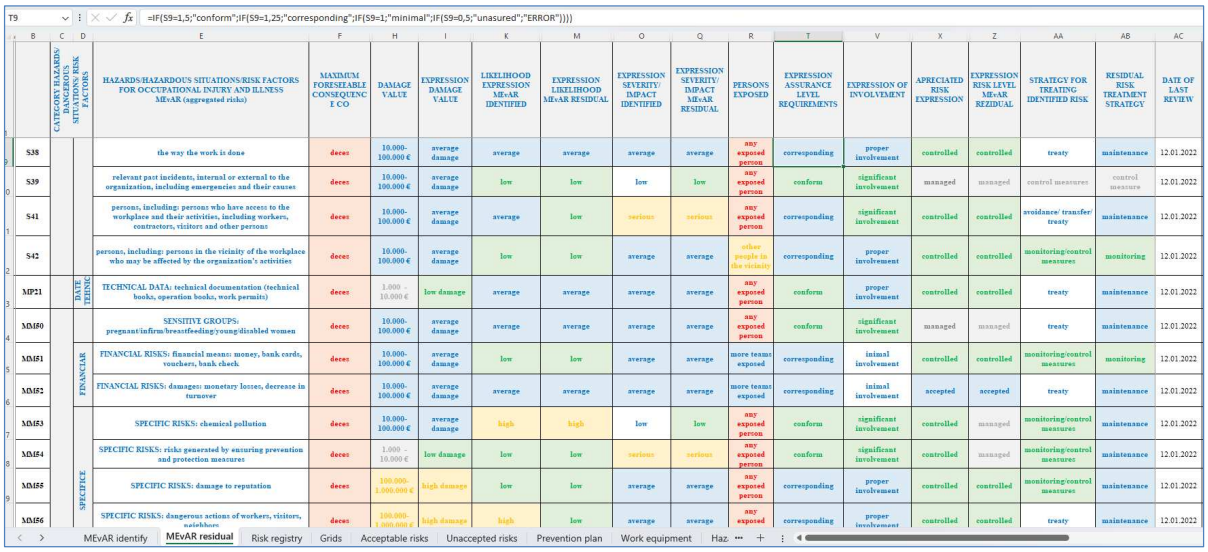
Table 3

Risk level comparisons between the methodologies used and MEvAR in construction sites.

THE ASSESSED RISKS SPECIFIC TO THE SITES ANALYZED							
Methodologies used in the sites	**site 1**	**site 2**	**site 3**	**site 4**	**site 5**	**site 1 reassessed**	**MEvAR methodology**
Number risks with value 7	0	0	0	0	0	7	**Number certainties**
Number risks with value 6	0	0	0	0	0	1	**Number of risks not accepted**
Number risks with value 5	1	4	4	3	1	7	**Number of risks tolerated**
Number risks with value 4	13	32	11	9	5	32	**Number of risks accepted**
Number risks with value 3	83	57	43	21	15	108	**Number of risks controlled**
Number risks with value 2	0	3	4	2	2	43	**Number of risks managed**
Number risks with value 1	11	1	3	5	1	**191**	**Total number of risks MEvAR**
Total number of risks methods used	**108**	**97**	**65**	**40**	**24**	**4,12 (tolerated)**	**General level of assessed risk**
General risk level	**3,13**	**3,49**	**3,34**	**3,42**	**3,32**	**1,82**	**General residual risk level**
Risk level expression	**average**	**average**	**average**	**average**	**average**	**controlled**	**Risk level expression**

Figure 6 shows some aspects of the MEvAR method-specific spreadsheets for identified, assessed and residual risks based on which the risk level can be determined and how to treat them according to the selections of the professional risk assessors. In the worksheets of identified or residual risks, the elements necessary for the identification and assessment of risk are displayed, the areas for selection and calculation, the results in a convenient visual

way, the level of danger being highlighted by colors. Excel software was used as a spreadsheet and work tool in the MEvAR application.



	CATEGORY HAZARDS/ DANGEROUS SITUATIONS/RISK FACTORS		HAZARDS/HAZARDOUS SITUATIONS/RISK FACTORS FOR OCCUPATIONAL INJURY AND ILLNESS MEvAR (aggregated risks)	MAXIMUM FORESEEABLE CONSEQUENCE CO	DAMAGE VALUE	EXPRESSION DAMAGE VALUE	LIKELIHOOD EXPRESSION MEvAR IDENTIFIED	EXPRESSION LIKELIHOOD MEvAR RESIDUAL	EXPRESSION SEVERITY/ IMPACT IDENTIFIED	EXPRESSION SEVERITY/ IMPACT MEvAR RESIDUAL	PERSONS EXPOSED	EXPRESSION ASSURANCE LEVEL REQUIREMENTS	EXPRESSION OF INVOLVEMENT	APRECIATED RISK EXPRESSION	EXPRESSION RISK LEVEL MEvAR REZIDUAL	STRATEGY FOR TREATING IDENTIFIED RISK	RESIDUAL RISK TREATMENT STRATEGY	DATE OF LAST REVIEW
S38			the way the work is done	deces	10.000-100.000 €	average damage	average	average	average	average	any exposed person	corresponding	proper involvement	controlled	controlled	treaty	maintenance	12.01.2022
S39			relevant past incidents, internal or external to the organization, including emergencies and their causes	deces	10.000-100.000 €	average damage	low	low	low	low	any exposed person	conform	significant involvement	managed	managed	control measures	control measure	12.01.2022
S41			persons, including: persons who have access to the workplace and their activities, including workers, contractors, visitors and other persons	deces	10.000-100.000 €	average damage	average	low	serious	serious	any exposed person	corresponding	significant involvement	controlled	controlled	avoidance/ transfer/ treaty	maintenance	12.01.2022
S42			persons, including: persons in the vicinity of the workplace who may be affected by the organization's activities	deces	10.000-100.000 €	average damage	low	low	average	average	other people in the vicinity	corresponding	proper involvement	controlled	controlled	monitoring/control measures	monitoring	12.01.2022
MP21		DATE TEHNICE	TECHNICAL DATA: technical documentation (technical books, operation books, work permits)	deces	1.000 - 10.000 €	low damage	average	average	average	average	any exposed person	conform	proper involvement	controlled	controlled	treaty	maintenance	12.01.2022
MM80			SENSITIVE GROUPS: pregnant/infirm/breastfeeding/young/disabled women	deces	10.000-100.000 €	average damage	average	average	average	average	any exposed person	conform	significant involvement	managed	managed	treaty	maintenance	12.01.2022
MM81		FINANCIAR	FINANCIAL RISKS: financial means: money, bank cards, vouchers, bank check	deces	10.000-100.000 €	average damage	low	low	average	average	more teams exposed	corresponding	inimal involvement	controlled	controlled	monitoring/control measures	monitoring	12.01.2022
MM82			FINANCIAL RISKS: damages: monetary losses, decrease in turnover	deces	10.000-100.000 €	average damage	average	average	average	average	more teams exposed	corresponding	inimal involvement	accepted	accepted	treaty	maintenance	12.01.2022
MM83		SPECIFICE	SPECIFIC RISKS: chemical pollution	deces	10.000-100.000 €	average damage	high	high	low	low	any exposed person	conform	significant involvement	controlled	managed	monitoring/control measures	maintenance	12.01.2022
MM84			SPECIFIC RISKS: risks generated by ensuring prevention and protection measures	deces	1.000 - 10.000 €	low damage	low	low	serious	serious	any exposed person	conform	significant involvement	controlled	managed	monitoring/control measures	maintenance	12.01.2022
MM85			SPECIFIC RISKS: damage to reputation	deces	100.000-1.000.000 €	high damage	low	low	average	average	any exposed person	corresponding	proper involvement	controlled	controlled	monitoring/control measures	maintenance	12.01.2022
MM86			SPECIFIC RISKS: dangerous actions of workers, visitors, neighbors	deces	100.000-1.000.000 €	high damage	high	low	average	average	any exposed	corresponding	proper involvement	controlled	controlled	treaty	maintenance	12.01.2022

Fig. 6 MEvAR risk assessment sheet extract (authors own development).

	Na.	MEvAR (aggregated risks)	MAXIMUM FORESEEABLE CONSEQUENCE MEvAR	LIKELIHOOD METHOD MEvAR P	SEVERITY/ IMPACT MEvAR	LEVEL OF ASSURANCE REQUIREMENTS C	INVOLVEMENT I	RISK EXPRESSION MEvAR METHOD	RISK TREATMENT STRATEGY
2	W 1	Executive organization/team/ group/worker skill level	TIW 45-180 days	low	average	conform	significant	managed	eliminate/ avoid/ transfer/ treaty
3	W 2	Executive organization/team/ group/worker the experience	TIW 45-180 days	low	average	conform	significant	managed	monitoring/control measures
4	W 3	Executive organization/team/ group/worker authorized trades/qualifications	TIW 45-180 days	low	average	conform	significant	managed	monitoring/control measures
5	W 8	Executive organization/team/ group/worker days of medical care/days worked	TIW 45-180 days	low	average	conform	significant	managed	treaty
6	W 25	Omissions: non-use of protective equipment	TIW 45-180 days	low	average	conform	significant	managed	monitoring/control measures
7	T 82	movements, positioning in dangerous areas	DIS gr. III	low	high	conform	significant	managed	eliminate/ avoid/ transfer/ treaty
8	P 91	energetic fluids: electricity, gases, fuels, water under pressure, steam	fatality	low	high	conform	significant	controlled	eliminate/ avoid/ transfer/ avoidance/ transfer/ treaty
9	P 92	dangerous energies: electric voltages, pressures, kinetic energies, potentials	fatality	low	high	conform	significant	controlled	monitoring/control measures
10	P106	Technical data: equipment compliance	TIW 45-180 days	low	average	conform	significant	managed	control measures
11	P 107	Technical data: evidence of defects/ disturbances/damages	TIW 45-180 days	low	average	conform	significant	managed	monitoring/control measures
12	P 120	Electrical risk factors - electric current: direct contact/ indirect contact/ step voltage	fatality	low	high	conform	significant	controlled	eliminate/ avoid/ transfer/ treaty
13	P 121	Chemical risk factors - caustic substances	TIW 45-180 days	low	average	conform	significant	controlled	eliminate/ avoid/ transfer/ treaty
14	E 171	Biological risk factors Microorganisms in suspension in the air: Sars CoV 2	TIW 45-180 days	low	average	conform	significant	managed	treaty
15	O 179	Specific risks: chemical pollution	TIW 45-180 days	low	average	conform	significant	managed	monitoring/control measures

Fig.7 Extracted from the risk spreadsheet by MEvAR method (from authors).

In the analysis from the method-specific spreadsheets, new elements are used, risk factors specific to personnel, ergonomics, chemical substances and preparations, the external environment, and effects on personnel [18, 19]. They deepen the analysis and provide a highlighting of risks that are generally not identified and evaluated (Figure 7).

The assessment of occupational risks in the construction site is significantly facilitated by completing the work tables simultaneously with their identification, and it is possible to view the work options regarding the selection of the way to treat the identified risks, the establishment of prevention and protection measures and the related drafting of the other spreadsheets regarding the non-accepted risks, accepted, risk register, risk assessment regarding work equipment, sensitive groups, hazardous substances, workplace layout,

preparation of the prevention and protection plan. The assessment is carried out jointly by at least two professional risk assessors [20, 21].

4. CONCLUSION

By adapting and correlating risk factors in general and work environment factors in particular with the requirements of the OHS management system applying the MEvAR method can be achieved:

- Update and complete the uncovered and/or niche aspects of the assessment methods used by most specialists;
- Linking with the requirements of the ohs management system and the integrated quality - environment – OHS - HACCP - information management system;
- Adaptation with territorial administrative management systems;
- Awareness of hazards and prevention and protection measures on the part of the organizations' management by taking over the assessment report;
- The possibility of mitigating hazards by ensuring greater attention and weighting to the treatment of risks, managing and keeping under control those that are highly variable or likely to occur;
- Improving the resilience of OSH, emergency, environmental protection to events.

The work environment is an element of the work system together with the worker, the workload and the means of production related to the work process, but it is not directly related in the regulations in the field of occupational health and safety to the external environment, proximal and distal socio-human, relational and informational, financial, political-economic, environment in general.

Certainties, near-certain risks and/or risks that are not manageable by the organization can be dealt with by eliminating hazardous situations/sources of occurrence or eliminating the possibility of occurrence, if man does not interact with the hazardous situation the event will not occur.

Variations in the characteristics of work environment factors are mainly determined by subjective judgements of specialists in estimated short assessment periods or by technical measurements with calibrated equipment, system procedures/established methodologies that show certain values.

The impact on the working environment and on workers can be assessed based on the medical conditions found during occupational medical examinations, the number of days of sick leave or in serious cases death.

Adapting occupational assessments to the elements proposed by the MEvAR method in construction activities can ensure an analysis adapted to the requirements of integrated management systems and optimize expenditure by treating the risks initially assessed with a view to reducing the level of residual risks since indicators and reports generated in the application associated with the method.

The implementation of system-based communications significantly helps the internal and external processes of the organization primarily at management level which can ensure the elements of control and continuous improvement.

In the construction sector, activities start from the project preparation phase and during the execution phase, if the necessary elements of risk analysis and the proposed prevention and protection measures are in place, coupled with an adequate level of monitoring and control, both the legislative requirements and the requirements of the OHS or integrated management system are ensured.

Organizations carrying out construction activities, whether beneficiaries or contractors, can compare the elements of the methods applied by the specialists with whom they have contracted to provide assessment or services in the field of OHS with those of the MEvAR method and apply the significant optimized parts in their own processes or collaborations with third parties.

After analyzing the application of the MEvAR method we can conclude the following:

- The method is also applicable to the field of construction;
- The method applies the management system principles by directly involving the management of the company in risk management and ensuring prevention and protection measures;
- New environmental and external risk factors were introduced and analyze;
- The influence of newly introduced risk factors can have a significant effect depending on management involvement;
- The analysis highlights the effects of risk factors on workers and other affected persons;
- The spreadsheet method can provide the necessary elements for applying the management system.

The proposed objectives of the research were ensured, the conclusions being favorable to the proposal of using the new methodology. The article follows and presents the usefulness of the MEvAR methodology in the field of construction by presenting the elements of the management system combined with the practical ways of carrying out the assessment of professional risks. Future research will focus on movement study and OHS responsibility and leadership [22-24].

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MEvAR o nouă metodă de evaluare a riscurilor în construcții

Lucrarea prezintă câteva considerații privind mediul de lucru și actualizarea metodologiei de evaluare a riscurilor profesionale de către MEvAR pentru activitățile de construcții. MEvAR este o metodologie de management de evaluare a riscurilor ocupaționale aplicabilă și în domeniul construcțiilor care asigură suprapunerea legislației sistemului de management și SSM în calculul matematic al riscurilor. Sunt prezentate aspecte privind interpretarea certitudinilor și riscurilor în vederea stabilirii unor limite rezonabile de acceptare, toleranță sau asumare a riscurilor, completând factorii de risc de mediu cu elemente externe, sociale, financiare. Aspectele inovatoare și comparative ale metodologiei MEvAR sunt prezentate în figurile și tabelele asociate. Concluziile evidențiază aspectele actuale implementate în metodă și utilitatea acestora.

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