

ZRÍNYI MIKLÓS NATIONAL DEFENCE UNIVERSITY
Doctoral Council

Gábor Lázár lieutenant of firefighter

**THE CHARACTERISTIC OF THE HUNGARIAN ADR-
ACCIDENTS AND ANALYSE OF THEIR PESPONCE
STRATEGIC AND TACTIC**

Dissertation (PhD)

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I. Formulation of the scientific problem

Circa 10% of all commodities transported on roads fall under dangerous goods, based on international reports. This indicator remains approx.: under 1% in Hungary yet, however on account of the increased satisfaction of our mobility, moreover the growing road transport of the fuel consumption it is increasing. In consequence the needs of dangerous goods distribution are rising.

. The Hungarian reception of ADR in 1979, which had had validity mostly in the western part of Europe, indicated the change of the applied regulation as well. This circumstance could have a negative effect on his efficiency.

The ADR accidents have characteristic that theoretically almost wherever, whenever would happen, and anybody in the near could have been treated. In more than proportions 90% of the transported commodities on the road are fuel and pb-gas, so the lorries could make use all of public roads.

Accordingly it has also to calculate upon their presence in such a neighborhood, where the released hazardous substance might have a serious consequence.

That is why there is a need on precise of general statement with using data sources for frequency and consequence analysis. The starting point to realize this mentioned methodology is a valid data base, covering a long term period. In Hungary hardly somebody has dealing with developing a data base, making an impartial analyzing yet. Standard studies have not appeared concerning this.

However an efficient response which is proportionate to the likely risk always has to be based on up-to-date knowledge about the real flows. Without analysis of adequate risk data the overhead expectations can not be accomplished.

Failing adequate central database can only hypothesize that the hazardous material carriers, passing settlements are resulting higher risk potential than necessary one.

The outcomes of the possible accidents are suffering people staying in tighter or extended environment of the site. These are usually inhabitants of a settlement. The accident severity depends on the circumstances of the occurrence firstly, and the efficiency of the first response.

For this reason an emergency responses at an ADR accidents – similarly to other treatment of dangerous situation – are beginning with preparation according to plan, whose base is the valid civil defensive regulation.

This is particularly important in case of regions, where the hazardous material road transport is appreciated as a marked risk factor in the valid civil protection plans.

Civil defense forces of such settlements – without local fire-station – are not able to insure necessarily safety for the inhabitation because of missing equipment and training to realize an adequate response.

In addition the firefighters, alarmed from other settlements can only lean on their own equipment at the most critical first time of the response action.

The regulation determining the firefighter response has to be also revised, whether they are assuring conditions of the quick, appropriate operation.

To determine the requirements in relation to regulation it has to be clarified the goal and the task of the codes usually.

Just with revealing of mentioned information and after their analysis can be formulated an opinion about its quality and its role at a response action.

In that case we will be in a position to make a good proposal for the improving of efficiency of the first response.

Objectives of the research

After my experiences of the previous years and my pre analysis I draft the following objectives to my research, which will be developed in a form of dissertation:

- 1. I have to analyze the hazardous material transportation respectively the ADR regulation, based on a few system characteristics.*
- 2. I have to collect facts and figures concerning ADR accidents in Hungary at least for a four-year period then systematize and appreciate those.*
- 3. I have to examine the methodology of the present data collection during obtaining data. I have to set recommendation onto the development depending on result of the examination.*
- 4. I have to analyze and to appreciate the ADR risks arising from hazardous material transports further to examine how are opportunities for operation on local level based on home laws*
- 5. I have to set detailed recommendation onto the risk assessment process*
- 6. I have to analyze the response strategy and tactic of the ADR accidents, which are specify by home and international regulations*
- 7. I have to work a gradual response model, which based on a system approach.*

Research methods

At development of my recommendations I tended to start from the objective facts, and present background and inferences of the examined field as well.

On employing the method of analysis, I examined the database of the Hungarian fire-department.

I used software to select facts and figures, which were adaptable for further examination in terms of the investigational topic. I continued an appointment with computational technicians, who carry out data-processing.

I applied the main analyzing and methodizing norms, which are accepted for introduction of the processes and functional interrelationships concern to regulation systems generally.

For the examination of ADR, which can be characterized as a regularly developing, interdisciplinary system, the chosen method proved particularly fit one, considering that even numerous exterior and interior factors influence the effectiveness of the rules.

I applied the method of collecting special bibliography and analysis when I was reviewing emergency response processes established in authoritative foreigner standards and in the Hungarian codes.

I employed the method of deduction for studying bibliography of decision making theories in general. Further more during all my studying I specifically employed it for the adaptability of comprehensive rules for firefighter response.

I applied the psychological principles of human processing of information on the examination of decisions making and other operational activities of firefighters with regard to ADR accident scenario.

I applied decision making theories and cognitive psychological principles during the comparative analyses of the Hungarian Firefighting and Technical Rescue Code and that of similar foreign firefighting norms.

I attended a number of home and international conferences dealing with prevention and averting of ADR accidents, consulted

with experts as a national representative. I strove to adapt my experiences in home relation.

Abstract of performed research

I. CHAPTER

The analyze of the ADR regulation system

The competent minister (was authorized by a law nr.: 19/1979) issued the European directive code ADR, harmonized into regulation system of the Hungarian traffic sector. This regulation – affecting a broad sector of the society - and the administrative appropriate measures based on this adjustment are expected to minimize ADR transports risk first of all by the legislator.

That comprehensive regulating system can however supply domestic prevention and response at just occurred accidents efficiently, if the directed process will be times to time reviewed on the basis of certain system approach. I tried to introduce a certain kind of method with analysis taking place along principal five basic premises to characterize the artificial systems. During the analysis the principal task to define the goal of a regulation.

The goal is a part of the system, which his single indicator is the result, in our case to avoid the accidents. The hazardous material transportation accidents (its number, its severity) have to affect back on regulation process. After the accidents, which are a kind of indicator of default or divergence from accepted final goal, we have to define the mistake, and have to revise the specification.

In Hungary, the jurisdictional regulation in connection with evaluation of the ADR accidents and the enforcement of the necessary counter-measures exists only from the second half year of 2005

A basic condition of an efficient regulation system for a longer period is the self-adaptation to the environment, because it is encased in that. The environment have to be checked up again at preparation of every decision or change. If the environment is not prepared enough to

receive a new regulation it can evolve serious situation. These symptoms were experienced after joining ADR regulation system for several years and even some today. In that case we tried applying it in Hungary, in which the economic, social condition were total different for that one regulation was prepared.

The ADR structure based on the goods' divisions, which are determined by the classification of hazards. They own the basic information whereby is framed a higher security level. There has not been an established practice in Hungary yet, in cause of control authority people would be able to check with taking a sample the correctness of the ADR classification. The contravention of classification rule can almost turn out in Western Europe exclusively, where the authorities are able to check it.

The system of road transport of dangerous goods has had strongly lack of funds from side of state control. Increasing efficiency at some functions of regulating system, belonging to external environment insomuch burdens the budget, which is not expectable ongoing upkeep from organizations out of the system, or from the whole society. This externally has to be restricted step by step.

Control of a system means, that the management make sure regularly, that the participants of the system operate accordance to rules if not, the reasons have to be identified and to correct them. Moreover the changes and the intervention are planned within the system, because they are unavoidable in every regulating system. During the preparation period of our joining EU took place a screening which had number of negative statements with respect of control and the data operation above all.

We have already built the ADR other related EU directives in our own law system, or we continuously apply them. The jurisdictional frameworks essentially are specified, but we still have numerous tasks till the system works efficiently enough.

II. CHAPTER

ADR accidents and recording in Hungary

In this Chapter I analyzed data record system of the firefighters' response. The result of this research can be summarized according to the following.

The introduction of the new data record system for investigation of firefighting and rescue operations (K.A.P.) can be characterized as an improvement compared to the previous practice. About data and figures of years before my period under survey were prepared as summarized statistical tables only.

I defined a time limit of data and figure of KAP. for researching in four years. The first investigated year was 1998 (at this time started the new system) Further data did not stand at my disposal. I obtained despite the uncertainty of elements, new information after their painstaking examination, which will be utilizable during future risk management. Such kind of statement is, that no more than eight accidents classified as ADR event, happened in years on average. Addition information is: most accidents happened in the afternoon hours and a lesser bigger material relies occurred.

In this Chapter Two I analyzed the aspects of identifying of ADR accidents inclusion of his data recording. I have been found, that, the accident risk within the correct estimation of accident frequency in Hungary because of missing statistical raw data currently not possible. After a couple of years I hold it realizable exactly on the basis of my research.

III. CHAPTER

Principals and methods for managing the ADR transportation risk factor on local level

The ADR transportation causes such a risk, which influences risk level of a numerous settlements predominantly. It is especially presumable high

risks level on that settlements, where international priority road are passing over.

The Hungarian regulations ensure the mayors and by means of them the local government a main role in managing of emergency situation at the local level. The law also reckons with the local citizens'. In the first part of the third chapter I analyzed the relevance, the up-to-datedness and the pragmatic applicability of executive laws, concerning preparedness for managing of possible ADR accident.

I have established that the present risk ranging methodic of the settlements result a crude assessment of risks, therefore it needs relevant revision. The prescribed self protective requirements did not differentiate enough. The existence and operation of the civil protection units in the researched topic are rather formal.

It can be laid down as a fact that prescriptions appertaining to managing of ADR emergency situation on local level - apart from a number of law places - do not difference in task. Their execution in consequence specifically bigger burden is laid onto community of smaller community. Lots of settlements do not have these financial sources, therefore decided differences can arise considering inhabitants' protection at level of execution.

Develop of the self-defense can not mean centrally definite organizational form, if we want to step at creation of real independence of self-governing. The central government has to force out requested result: with specification of the output capability of self protection, with their financing and with exacting control of that system. The voluntary initiations put their name down for discriminate support in any case.

As solution of the problem I have worked out recommendation for a practice oriented risk assessment and management process. As a result, it can prepare the precautionary measurements onto a given settlement, as onto a fundamental unit of defensive system.

The advantage of recommended method is, that in case of imperfect central statistical database is working properly. Further

advantages, that the ADR events are reducible, the severity of the consequence can mitigate. As a final result: our environment will be safer.

In case of gradual dislocation of the response forces and equipments, it is more efficient, with severity of the event balanced defensive capability realizable. In case of most communities within the frame of the local protection a defensive capacity - falling within the competence of the first grad – realizable

IV. CHAPTER

Influence factors of firefighter response

In Chapter four I examined and proved, that an effective and safety firefighter response postulates a system of intervention tasks. The incident commander has the responsibility for all decisions relating to the management of the incident. Basic requirement of the successful response is the good management. At the same time an attribute of the nontransferable responsibility is the one-person decision-making. Additionally this activity has to be supported with decisions making process chiefly tested in the intervention practice. These methods, based on the best practice principia have to be published for all commanders as a unified command system.

The structure could be form by decisions phases adapted generally in the decision theory, which will be the frame of the necessary tactical tasks to execution response successfully. On the other hand by reason of these operational tasks decisions and executive competences can be determined for specified type of emergency situation (e.g. ADR accident, other hazmat accident etc.) The training tasks have to be defined in consideration of this step by step revised system. The incident commander hereby can be unburdened, as and result are: more efficient response, reducible training cost because of shorter time, adjusted to the

competences which need quicker learnable, well evocable information blocks.

The quick recall in memory of the knowledge is especially important for first responders in case of emergency situation. Having usable knowledge influences positively the image of the incident commander from his preparedness. A healthy professional self-confidence formed in nearly real training conditions can prepare firefighter only. Though the creation of reality modeling training conditions quite expensive, but the problem is resolvable with a before mentioned considered, competence based training blocks.

In our country the efficiency of the ADR response in a given case could be less, because rules to be applied are not in an exact protocol arranging. On the other hand, a decision model is not outlined on level of the regulation, which would make the incident commanders' activities easier in an emergency situation. Failing this, he has to complete himself the conceptual selection of relevant rules for the accident on the scene very quickly. He has to select the limits of his own competence, then the ranging of response actions as well. It is reasonable more sophisticated task he has to realize more difficult to fit for this challenge. For this reason I have made a proposal for the realization of a gradual response model concerning ADR accident.

The gradual response system involves technical, training and information elements. Using this system, it is faster and at the same more cost economical intervention can be reached. My suggested four-stage model takes into account existing response capacities on this field in Hungary concerning industry, and among others the few years ago established technical-rescue bases. The principles of the model based on analysis of Western European and North American response activity.

My proposal regarding information element of the model system makes possible incident commander can get substance specific information conformity with periods of the response. My suggestion also

handles the requirement that the decisions have to be made under time pressure in such action.

With regard to the technical set of tools I specified machines, apparatus and personal protective equipment conforming to requirements of response tactics. This suggestion of mine is also starting from the home realities and it also forms guideline of an expedient development according to plan for equipping in parallel.

In the training block based on tactics suited to levels of the response I specified the training targets and the knowledge to be mastered.

III: Summarizing of scientific achievements, recommendations

One of the requirements of efficient prevention and response of the ADR accident, that we have to follow the transportation flow, identify contradictions and make feedback in this comprehensive regulation system periodically. One of the possible methods for examines the home effectiveness of ADR. is certain principle of system theories which I have chosen in my study. The analysis was taking place along five basic premises of system approach. My final conclusion deducted from it that we have already built the ADR and the connected directives in our own law system before joining European Union, some of its part have been adopted. The frames to rule are fundamentally given, but we still will have numerous tasks till it operates as an efficient system in our country too. One of these that we have to get up-to date information about functioning of every prime element of ADR transport, in which the data processing is an important part.

Until the recent years there was not given specific law for recording statistical data of ADR accidents separately. As I outlined before, to become informed about real processes among others, the exact accident data of longer period is precondition of planning an efficient accident response. Some facts and figures, details of firefighter's response in case of ADR accident are also recorded in the K.A.P, which

have been analyzed by me first. I defined and classified indicators which analysis is important with regard an accident scenario development. I made a recommendation for aspects of an ADR accident data survey system. I took a conclusion that accident risk within the frequency as transportation safety indicator has not been estimated exactly yet. The reason of this is the missing statistic relevant raw data. In the future it can be realized based on my dissertation data recordings.

I found characteristics after processing facts and figures of ADR-accident, which have not been published yet. This information can be utilized at risk management particularly during drafting of firefighter response.

The ADR transport - despite his accidents taking place with relatively low accident frequency – in lots of settlements is becoming potential risk factor. Starting from this fact I analyzed serviceableness of laws for managing emergency situation on local level government. I took a conclusion that the defensive requirements have been based on a crude risk assessment and they have not rather been differentiated.

As solution of the problem I worked out a practice oriented risk estimation and managing process. Using that it is possible to bring onto the given community measured with risk proportioned appropriate measurements. Having regard to the fact that my suggestion does not give details the task and competences of firefighters as a first responder, I analyzed interior and exterior principal factors of that comprehensively.

Essence of my conclusion is that the fundamental condition of efficient and safety firefighter response is to form the information in knowledge blocks and a good decision support system. It extremely important to achieve that the firefighters become stress resistant after their training. This training method needs to create a reality modeling training conditions. It is quite expensive, but with considering competence based training blocks, and adjusting on each other the costs can be moderated.

In Hungary the efficiency of the ADR response in a given case could be less, because rules applied are extended. Moreover, a decision model is not appears consequently in the response rules, therefore it does not support efficiently enough of the commanders' activity on accident scene. For resolving this problem I made a proposal for realization of a gradual response model concerning ADR accident. .

Avoiding the total modernization of the previously, it is needed to establish a multistage response system, which I elaborated and described in my dissertation in detailed. By utilizing one of significant results of my search it could be achieved quicker and more cost economical response at the same. The suggested model is a four-stage one and its elements are technical training and information ones.

Scientific achievements

1. I *described* the Hungarian regulation system concerning hazardous material transport on road. I *verify* in my analysis the possible reasons, inferences of the paradoxes regulation and the effect onto efficiency of the emergency response. I lean on my own one and a half decennial experience in this sphere and information gained from the bibliography.
2. I *collected, systematized* and *evaluated* the ADR accident occurred in Hungary relating to a four years period time interval. I *defined* aspect of the statistical data survey considering demand of data for risk assessment based on international special bibliography. also dice adopted by to analysis onto viewpoints of necessary data demand .
3. Considering the subsidiarity as basic principle of the EU, I *analyzed* and *evaluated* the main Hungarian regulations for risk management on local level in case of ADR accidents. As an alternative of the ranging of valid civil protection regulation I *made a practice oriented recommendation* for managing the real risk of ADR transportation.

4. I *examined* and *adapting* principle of the cognitive psychology I, *verify* that the basic of an effective and safety firefighter response is a system of intervention tasks., which frame based on the general accepted decision making principles. I have made a proposal a for a gradual response model concerning ADR accident, which consists technical, training and information elements. This model takes into account existing response capacities on this field in Hungary concerning industry, and among others the few years ago established technical-rescue bases. Principles of the model based on analysis of Western European and North American response activity.

Suggestion

1. The screening of the ADR regulation system is helping to identify inferences and defects therefore it is very utilizable during ongoing modernization of the system as a background material and as an analytical method. In addition it could be adapted as educational material for advance course.
2. The analysis of the main characters of ADR accidents harmonized with data demand is well utilizable during development of captures of data at the KAP. After my defined criteria collected and evaluated facts and figures create possibility for development characteristic accident scenarios. On these developed scenario can be the basis of the response standards.
3. My analysis of the civil defensive regulations can be used as a background material for a revision in the future. On the other it could used by the mayors for preparation and during realization their responsibility in case of emergency.
4. *My practice oriented recommendation* for risk assessment and management will be useful to establish an efficient self defense on the local level The suggestion is suitable to publish in a form

of recommendation, perhaps regulation. In addition it could be used as an educational material during training.

5. The analyze of the Hungarian firefighter and rescue regulation (TMMSZ) as a decision and response support system in a wider context could generate a revision of it. In this case is utilizable as a background material.

Some elements of my response model have been already used for training of first responders. Furthermore my suggestion is harmonized for firefighters' response tactic therefore is suitable as guideline for development of firefighters' equipment according to plan.

Publications

Journal article:

1. „*A veszélyes áruk raktározása a katasztrófa megelőzés érdekében*” (7 old.) Rendészeti szemle 1991/10. sz.
2. „*Információforrások a veszélyes árurol*” (2 old.) Védelem 1994/5. sz.
3. „*Guruló forintok*” (2,5 old.) Florian press 1996/5. sz.
4. „*Fizetett vagy önkéntes-tűzoltóságok az USA-ban*” (3 old.) Magyar Tűzoltó Szövetség Hírmondó 1998/2. sz.
5. „*A németországi Sachsen-Anhalt tartomány Tűz-és Katasztrófavédelmi Iskolája*” (3 old.) Tűzvédelem 1999/3. sz.
6. „*Felborult egy PB-s tartálykocsi*” (2 old.) Védelem 1999/2. sz.
7. „*Változások az ADR-ben*” (1 old.) Védelem 1999/1. sz.
8. „*Veszélyes anyag balesetek: CTIF kezdeményezések*” (3 old.) Tűzoltóság '98 a tűzoltóság évkönyve
9. „*Szászország tűzvédelme*” (2,5 old.) Tűzvédelem 2000/1. sz.
10. „*Tudósítás a Portugál Tűzoltók III. Nemzetközi Szimpóziumáról*” (3 old.)Tűzvédelem 2001/3. sz.
11. „*CTIF rendezvények Bécsben*” (1,5 old.) Tűzvédelem 2002/12. sz.

12. „*Veszélyes anyag szállító tartány járművek baleset elhárítása*” (4,5 gépelt old. és mellékletek) CAMION TRUCK & BUS 2003/2. né.
13. „*A veszélyes áru közúti fuvarozási statisztika és ami mögötte van*” (4 gépelt old. és mellékletek) Védelem 2003/2. sz.
14. „*A veszélyes anyagok kimutatása beavatkozáskor*” (5 gépelt old.) Védelem 2004/1. sz.

Study:

1. „*A (közúti közlekedési) vállalatok tűzvédelmi feladatai a végrehajtás tükrében*” vitaindító tanulmány (17 gépelt old.), Fővárosi Tűzoltóparancsnokság Kibővített Szakmai Konferencia 1990.
2. „*A veszélyes áru közúti szállításával összefüggő rendszer elemzése*” (23 old.) Veszélyes anyagok és készítmények c. könyv X. fejezet; Környezetvédelmi kiskönyvtár 6.; ISBN 963 224 615 2; KJK-KERSZÖV Jogi és Üzleti Kiadó Kft.; Bp. 2001.
3. „*Veszélyes áruk fuvarozásával kapcsolatos súlyos balesetek elhárítása*” (11.5 old.) Környezetvédelmi kiskönyvtár sorozat; KJK-KERSZÖV Jogi és Üzleti Kiadó Kft.
4. „*A magyar légoltalom szervezete, feladata a II. világháború időszakában*” (27 gépelt old. és mellékletek) Rendvédelmi Füzetek; (Rendőrtiszti Főiskola kiadványa) 2003/2. né.
5. „*Az operatív tűzoltói tevékenység vizsgálata a magyar légoltalom keretei között a II. világháború időszakában*” (15,5 gépelt old. és mellékletek) Rendvédelmi Füzetek; 2003/2. né.
6. „*A kiképzés elméleti alapjai és felhasználhatósága a katasztrófavédelem oktatásában*” Magyar Rendészet 2004/3 (15 old.)
7. „*Alapelvek és módszerek a közúti veszélyes áru szállítás kockázatának település szintű kezelésére*” Magyar Rendészet 2005. (18 gépelt old.)
8. „*Strategical approach of accident response involving hazardous cargo*” AARMS 2005/2 (7 old.)
9. „*An analysis of domestic ADR accidents and the system of their data collection*” Magyar Rendészet 2006/2 (30 gépelt old. és mellékletek)

Presentations:

1. „ *A szállítványozói tevékenységhez tartozó veszélyes áru tárolás hazai tűzvédelmi szabályozottsága a nemzetközi gyakorlat tükrében*”
Gépipari Tudományos Egyesület Tűzvédelmi Központi Szakosztályának *III. Országos Tűzvédelmi Szemináriuma*; 1991.
Gyula
2. „*A szállítványozói raktározás tűzvédelmi problémái és megoldási lehetőségei*” vitaindító (9 gépelt old.) Széchenyi Ödön Tűzvédelmi Társaság 1992.
3. „*A munkahelyi tűzoltóság léte, szerepe, szabályozottsága*” (3,5 gépelt old.) Magyar Tűzoltó Szövetség Munkahelyi Tűzoltóság Munkabizottsága 1995.
4. „*Önkéntesség a tűzvédelemben*” Hivatásos Üzemi és Települési Tűzoltóságok Országos Szövetségének *Fóruma*; 1998. Abádszalók
5. „*A tűzoltóság információs stratégiája a veszélyes anyagokkal történt balesetek elhárításához*” Magyar Kémikusok Egyesületének *Biztonságtechnika '99 Továbbképző Szemináriuma*, 1999. Siófok
6. „*Veszélyes anyag balesetek beavatkozási stratégiája, különös tekintettel az önkéntes tűzoltóságokra*” Önkéntes és Létesítményi Tűzoltók *III. Országos Szimpóziuma*; 1999. Hajdúszoboszló
7. „*Veszélyes anyag baleset elhárítási stratégia*” Gépipari Tudományos Egyesület Békés Megyei Szervezetének *II. Veszélyes anyagok Országos Konferenciája*; 1999. Gyula
8. „*Balesetek veszélyes anyagok közúti szállítása alkalmával és hatásuk a környezetre*” Magyar Kémikusok Egyesületének *Biztonságtechnika '2001 Továbbképző Szemináriuma*, 2001. Siófok
9. „*What sort of data do we collect about hazmat transportation incidents or accidents*” CTIF Veszélyes Anyagok Bizottság ülése, 2004. Ljubljana

Professional and scientific curriculum

Personal data

Name: Gábor Lázár lieutenant colonel of fire fighting

Birth of place, time: Mezőkövesd, 1953. 07. 05.

Schools and education

- 1978 – 1981** College, Magdeburg ; a fire-protection engineer (excellent result))
- 1982 - 1984** Military College „Kossuth Lajos”
faculty: pedagogy, teacher (certificate with medal.)
- 1989 - 1991** College of Foreign Trade; international logistic - economics (with remarkable result) .
- 2000 - 2003** Zrínyi Miklós National Defense University
defense manager (with an excellent result)
- 2003 -2006** Zrínyi Miklós National Defense University
Military Technical Doctoral School.
- 1999 and 2000** Training course in Magdeburg for dangerous goods (D .)

Practical experience

- 1976 - 1978** Fire-department (Miskolc)→ firefighter
- 1981 - 1983** Firefighter Training Center; Chair for Firefighting and Technical (Budapest); teacher.
- 1983 – 1986** Firefighter Training Center; Chair for Firefighter technical professorship; teacher
- 1987 - 1997** Hungarocamion (Budapest.); fire-protection manager.
- 1993 – 2003** CTIF (International Firefighter Association)
Hungarian representative of „Hazmat. Commission”
- 1998 - 1999** Ministry for Interior
HQ Fire department chief official .
- 2000 – 2001** Ministry for Interior

	Direction General of Disaster Management chief official
2001 - 2004	Ministry for Interior Police College, chair for Disaster tutor
2004 -	Direction of Disaster Management County Pest Department Civil Protection chief official

Research activity

2001	TDK (ZMNE institution) place II. Section: military history
2002	TDK (ZMNE institution) place II. Section: public order
2003	OTDK (military science) place III.
2003	OTDK (military science) Extra prize
2001-2003	<i>Research of ADR accidents</i> (Police College)

Data of my publications:

journal article: 8
study: 9 (in English 2)
presentations: 12 (in English 2)

Knowledge of language:

1983	German higher degree „C” extended with special knowledge
2005	English intermediate „A” (Origo)
2006	English intermediate „B” (Origo)

Budapest 03. October 2006.

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