

THE ANALYSIS OF THE TECHNICAL STATIONS STATE IN FEDERATION OF BOSNIA & HERZEGOVINA (FB&H) AND INFORMATIC INTEGRATION IN UNIQUE SYSTEM

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ABSTRACT

With this paper we want to give a short cut of condition of the control of technical status of vehicles, as one of important factors which affects safety of traffic, and work of Technical Station (Stations for technical examinations of vehicles) and professional institution elected in entity of Federation of Bosnia & Herzegovina. The centre of work has been given true preface annotations and legislative competences, following regulations and set of rules in this area for whole Bosnia & Herzegovina, and assignment professional institution for supervision of work on stations on technical examinations in FB&H with barycentre on explanation os assignments, construction of project solutions for informatic integration of Technical stations into unique system, as one of the best solutions in North-Eastern Europe.

1. INTRODUCTION

Permission for work and supervision of work on stations for technical examinations, under Article 219. of Law of basic of safeness of traffic on roads in B&H, from August 2006, are given by entity and cantonal ministries of traffic. By using European directives and new achievements in area of technical accuracy of vehicles, with Law of road transportation of FB&H (Administrative Act of FB&H 28/06) it had been assigned a way of giving working authorization to Technical Stations, transaction of administrative and professional supervision on same Technical Stations. 10 Technical Stations existed on territory of FB&H during 2000. This Technical Stations had authorization from Federal ministry of transport and communications, and they could examine vehicles. Today, there are 155 Technical Stations, equipped with staff and gear according to modern achievements of European countries in this area. The Government of Federation of B&H brought Directive about temporary transaction of administrative supervision of organization of work of Technical Stations (Administrative Act FB&H 42/02). Because of two-part jurisdiction , it was insisted on introduction of order on territory of FB&H , much more quality for technical accuracy of vehicles, but there were not any results . Exclusive jurisdiction on work of Technical Stations was transferred on Federal ministry of traffic and communications and cantonal ministries, which have jurisdiction for road traffic, using a Law about basics of safeness of traffic on roads in B&H. According to given results in area of technical accuracy of vehicles, in last 10 years, we can make a conclusion that main role had insurance houses, agencies for registration of vehicles, economic associations which sell and calibrate equipment, and, also, personal interest of some individuals. Regulations and named activities created

a conditions for making of order in control of technical accuracy according to Law listed procedure, standards and directives of EU.

2. STATE IN B&H AT THE BEGINING OF 2007

State of common and informatic connection between Technical Stations for technical examinations of vehicles in B&H is different in entities and on cantonal level. FB&H, at the end of 2007, had 142 registered stations for technical examinations of motor and coupling vehicles. At that time in B&H was registered nearly 750 000 motor and coupling vehicles. We emphasise, that, never before the war and after the war, an official base of data, of registered vehicles in whole state, did not exist in electronically form. Even worse situation is registered in entity of Republic of Srpska, where exists 196 stations for technical examination of motor and coupling vehicles (according to information of competent Ministry for transport of Republic of Srpska) with much more worse working conditions than in B&H. This relates on installed equipment for technical examinations of vehicles, informatic infrastructure and employed staff. According to contemporary estimation there were 280 000 vehicles, nearly 3 times less than in B&H.

3. STATE IN FEDERATION AFTER ELECTION OF PROFFESIONAL INSTITUTION

Government of Federation of B&H with competent ministries for transport and communications first located a problem, and at the second half of 2006 announce tender for election of professional institution, which would do all jobs related to professional supervision of work of Technical Stations. By Law of road transportation of FB&H, in chapter about technical examinations, there have been assigned institutes for transferring public authorities on professional institution, and also administrative and professional supervision of its work. All that was in favour of making efficient control of work of station of technical examinations and control of technical accuracy of vehicles.

With decision of Government of FB&H about given competences of professional supervision of work of stations for technical examinations of vehicles in FB&H in February 2007 Institute for economical engineering was elected. On April 19th 2007 Institute officially started its work, with applying unique tariff of services on Testing Stations in FB&H. Professional institution got an assignment which it must perform in coordination with Federal Ministry of transport and communications (e.g. following acts in area of control of accuracy of vehicles in our country, neighbour countries and EU). There were four cycles of education and eight seminars for Supervisors and Head of Testing Stations. Over 400 controls of calibration of equipment on stations were made. Integration of stations for technical examinations of vehicles and other subjects in unique informatic system ended before arranged time. Institute accomplished contact with professional, educative organizations, institutes and other legal persons in area of technical examinations of vehicles in B&H and outside the country. A lot of written instructions, information and professional publications (among the other 2 professional guides for Supervisors and Head of Testing Stations) were given. Regular collection, processing and analysis of information in area of technical examinations of vehicles were used for reports and documents for administrative supervision (Professional bulletin with statistical data of number of examinations, was published 2007).

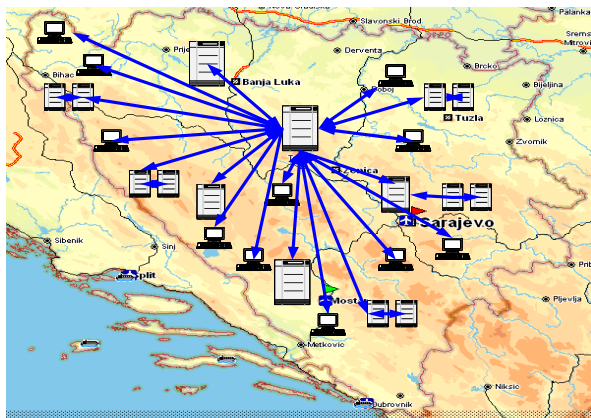
4. IMPLEMENTATION OF UNIQUE INFORMATIC SYSTEM

At the same time, when Government made a dissension to elect professional institution an when IPI-Institute was elected, state started a project of inputting registries vehicles on territory of whole B&H in unique base, along with Ministries of eternal affairs and CIPS (Direction for implementation of electronically system for giving a personal documents). During the development of Integral informatic system, IPI- Institute for economical engineering, Zenica, worked on large number of assignments. We visited Testing Stations in FB&H with assignment of recording real situation. By using this, collected, data we made statistical analysis about technical and infrastructural state in stations. In coordination with Federal Ministry of traffic and communications we joined in solving a huge number of unfinished tasks in law regulations and in defining project assignments as Web application in real time, according to examples of some countries in EU. We accomplished cooperation with direction (management) of CIPS, legal subjects, owners of Testing Stations, concerns and similar. A presumption that state in B&H is on low level was proved. Making of application in real time required that stations must be connected to internet for effective time and that feed-back should be granted. Testing Stations are equipped with

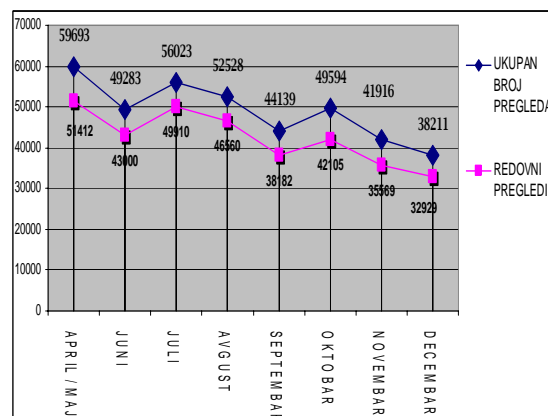
envious technical equipment which concerned various kinds of sensors , cylinders, scales, but their informatic infrastructure was really undeveloped, even for necessary minimum of activities. Low differences on State, entity and cantonal level brought to each-other disproof, and they were solved step by step. Implementation of solution himself on field depended from station to station, from the fact that people hardly change state in which they are, up to introducing of new working assignments. Some of stations agreed for test examine of each solution, which accelerated performance. The first thing that was done was making an application under the title STPV1 as support to stations for technical examinations in filling out of TP1 form (Administrative Act of B&H 13/07), unique on the whole Bosnia and Herzegovina territory. Because of speed of application realisation, small database and idea concept itself – application did not completely satisfy, but it helped because it gave some solutions to the stations. According to Federal ministry of transport and communications, two applications for work in real period of time were made:

a)TEST web application as final integral solution in real period of time operate on principle of web service, and for functioning it is enough to have only one web browser and suitable Internet connection on computer in the station for technical control of vehicles.

a)TEST smart application is also web page based, but it saves some of its components locally, while it handles data integrally. It is more faster and harder for servicing, and it is used as «reserve» in a case of appearance of some problems with a)TEST web application. The functioning of integral system was demonstrated and presented through seminars to employees on the stations for technical review, as well as representatives of Ministry of Internal Affairs. A system with central server was made, LNA-net in IPI-Institute in Zenica, in accordance to procedure ISO 27001:2005, and in accordance to International Standards for Safety and Data Integrity, where base copies are made for aiming information assurance. Every station in Federation of Bosnia and Herzegovina is connected, what can be applied from Federation to hole B&H. Connection between data users and central server in professional institution is achieved, how it is shown with picture1 (Ministry of Communication and Transportation B&H – CIPS - Ministry of Transportation of Entities and Ministry of Internal Affairs of Entities – Brčko District – Control and Inspection Organs – Exterior Chamber of Commerce - Economic Chamber – Institute for measures and Standardisation – Statistical Department – Universities – Special services - Other law subjects). Picture 2 shows relation of ordinary and extraordinary inspections in FB&H during eight months in 2007 .



Picture 1. Main server IPI-Institute in Zenica, customers into F B&H and mutual connection in B&H



Picture 2. Total and ordinary number of inspections, month review in F B&H

Inside the central point a few rented lines of different provider were brought, and redundancy access to system was assured. Numerous scenarios in the case of break down of work of some of system components were predicted. More access solutions were developed, Hard VPN solutions, which include making of users Hard VPN, based on Linksys WRT54GL hardware platforms with installed intended developed operational system, and Soft VPN solution was taken from company Cisco. GPRS VPN solution, was made after detailed examination as well as in cooperation with EroNet, GPRS/EDGE access system to IPI VPN was successfully implemented and Dial In VPN is a solution which is

predicted and in development. Education was performed throughout seminars for Supervisors and Heads of stations of technical inspection, meetings with managers of larger corporations, institutions and responsible persons. Printed instructions, as audio-video CD issues have been delivered to all stations for technical inspection because of easier usage of web application of a|TEST.

At this moment status in this branch originates from hereditary practice, so that it is obvious that a number of vehicles do not come into station for technical inspection, but is performed over by intermediary or agencies. Project about introduction of video supervision in stations of technical inspection was elaborated. On the base of that it could be possible to introduce order in inspection of technical accuracy of vehicles in accordance with standards of some members of EC. By choosing a professional institution IPI-Institute, and by connecting stations for technical inspection of vehicles into a system with info unique data base, for the first time became possible to get public and transparent data for statistic analysis of performed technical inspections at station itself, in town, canton as well as on the level of Federation B&H. It was done because of better control of technical accuracy of vehicles as essential factor of traffic safety. Table 1. shows performed technical inspections in F B&H from May until the end of 2007 and it is indicator of reaching of professional institution and system.

Table 1. Total number of inspections, number of STP, number of ordinary controls M-category in F B&H and in cantons as well as percentage participation

#		Summary of examinations	%	Number of stations	%	m-red. (personal vehicles)	%
	FEDERATION OF BOSNIA & HERZEGOVINA	391387	100,00	149	100,00	294353	100,00
1.	UNA-SANA CANTON	43600	11,14	17	11,41	32334	10,98
2.	POSAVINA CANTON	8125	2,08	3	2,01	5557	1,89
3.	TUZLA CANTON	74137	18,94	26	17,45	54309	18,45
4.	ZENICA-DOBOJ CANTON	59868	15,30	25	16,78	44969	15,28
5.	BOSNIA PODRINJE CANTON	3491	0,89	1	0,67	2839	0,96
6.	MIDDLE BOSNIA CANTON	39819	10,17	23	15,44	29292	9,95
7.	HERZEGOVINA-NERETVA CANTON	46627	11,91	20	13,42	36032	12,24
8.	WEST-HERZGOVINA CANTON	21646	5,53	11	7,38	15139	5,14
9.	SARAJEVO CANTON	84044	21,47	15	10,07	66050	22,44
10.	CANTON 10.-LIVNO	10030	2,56	8	5,73	7832	2,66

5. CONCLUSION

Large step, which was done professional institution IPI-Institute for economical engineering, Zenica in coordination with Federal Ministry of Traffic and communication also presents success of all Government FB&H, because it is immeasurable contribution of introducing of order into neglected field of technical assurance of vehicles as a essential factor of assurance in traffic, and an impulse that other following activities, throughout this info solution put under control, as there are different collecting payment of taxes during registration of vehicles and similar. By strict respect of rule book – book of regulation and applying info solution with wish for survival of solution of electron form (what is delayed because of large falling behind entity of RS in this field in accordance with Decision of Ministry of communication and transportation of B&H) definitively it could be possible to introduce order in accordance with European norms in this field, and in considerable number to make impossible following prohibited activities of single person or organised groups.

6. REFERENCES

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