OPTIONS AND POSSIBILITIES OF USING BIOMETRICAL IDENTIFICATION SYSTEMS IN CASE OF DISASTERS IN HUNGARY – IN THE LIGHT OF PRIVACY VERSUS SECURITY

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Abstract
There is a need for possibility and application of a new IT hardware and software in case of catastrophes for better intervention. In our opinion these new IT tools are able to make faster and more efficient disaster management in practice. Better to say, the registration of people can became faster compared to the old (e.g. paper-based) systems. A cooperating partner of official disaster management developed a new biometric identification system which can do it. On one hand, it serves security; on the other hand this application raises privacy issues. We can see a conflict between privacy (rights) and security. Where is the balance between them?

I would like to analyse this question, and solve this problem in my presentation.

1. Introduction

1.1 Demand of interdisciplinary solution

Nowadays, we have to face that a particular problem cannot be solved by the results of one branch of science solely, but in fact the common application of a number of fields is necessary. This in effect results in collaboration and interaction between disciplines, or the development of new areas in an increasing way.

The situation and problem which I would like to show and analyse in this article, on the one hand is a practical problem; on the other hand it causes the joint application of different disciplines. The aim of my paper is not just to solve a problem, but rather create and develop new solutions. My article is mixed type, i.e. interdisciplinary.

The main aim is the increasing defence and security in case of any disasters, and to achieve this, the development of new IT applications is necessary. Unfortunately, we must observe and comply with strict rules. Both of the personal rights of people and rights of security are very important and equally unquestionable. What happens when these collide in a specific case? Which current is stronger? May one overshadow the other? If the answer is yes, then to what extent – fully or partially?

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1.2 Teamwork of professional disaster management and civil partners (IT developers) – for the purpose of security

At first, we can say that the most important factor and goal for professional disaster offices is the security and civil protection. It expressed by the slogan of Disaster Management of Hungary: "In the service of Hungary for security".[2] The professional disaster management try to create a better protection system of Hungary than the old one, so they make a number of activities (e.g. fire-fighting, security industry; ADN[3], ADR[4], RID[5], ICAO[6], prevention of catastrophes, elimination of effects of catastrophes). Perhaps, the most important part of prevention is the provision and preparation for all kind of catastrophes. Better to say, the development of capability of disaster management. It means the nonstop expansion of human resources, machines, and IT tools (hardware and software). I am going to write about the last one in my article. The question arises; what were the reasons for the disaster management to begin to cooperate with partners in IT development, and how did they do it? The Disaster Management of Hungary carries out scientific activities in addition to those mentioned above. E.g. organizing of scientific conferences[7], development of disaster tools. Lots of civil partners (corporations, companies etc.), which took part in these scientific events, recognized the importance of the protection of people, and preparation and the development of skills. The cooperation was established between the professional disaster management and civil partners, and they started to develop several tools, applications, and common methods depending on the actual aim. IT partners also joined in the common work.[8]

In the following I would like to show one of the IT applications and the possible legal concerns of it, and – to my hope – the solution.

2. Existing IT applications

2.1 The reason of looking for new (IT) solutions

At first, I have to explain the chapter title, because these applications were developed by the civil partners, the professional disaster management helped only in their use in case of catastrophes. Secondly, there a few new IT hardware and software items which are going to be created based on the request of disaster management in the future. In this chapter I demonstrate a few civilian purposes. How are these civilian tools able to serve the aims of disaster management? In this case it seems that applications solve a concrete problem. It is the identification and recording of people

[2] It is figured on the armour of the National Directorate for Disaster Management, Ministry of Interior.
[3] Official inspection by the Act LXXXIV. 2015 on the promulgation and domestic application of rules of European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (AND) in Geneva 26 May, 2000.
[4] Official inspection by the Decree of Minister for National Development 61/2013. (X.17.) on domestic enforcement of Appendix "A" and B" of European Agreement concerning the International Carriage of Dangerous Goods by Road.
[5] Official inspection by the Decree of Minister for National Development 62/2013. (X.17.) on domestic enforcement of Regulation concerning the International Carriage of Dangerous Goods by Rail (RID).
[6] Official inspection by the statutory rule 25. 1971 on the promulgation of Convention and its amending Protocol of International Civil Aviation signed in Chicago on 7 December 1944.
[7] E.g. conference of "Experiences of flooding of Danube and Drava in Baranya County - science and defence in the service of each other's" on 14-15 October 2015, and conference and disaster prevention drill of "Virus 2016 – prevention and management of biological hazards and regional solutions" on 1-2 June 2016.
[8] The cooperation has many advantages for both, because the disaster management is able to get new IT tools, and the partners are able to get knowledge about demand of disaster management. He can develop new tools, and sell these as innovation.

who take part in rescuing (professionals), or who are at risk. Both of them are important for the disaster management. If the professional rescue team have a lot of members and they must intervene in a large area under poor visibility for a long time, the disaster management always want to know their precise position, and will make the registration and movement (entering and leaving a critical area) as quick as possible.[9] On the other hand, the disaster management often need to relocate people in a safe place. In this case the rapidity is able to save people's lives. The registration, identification and localization of people is too slow and inaccurate with the old and classic tools, and it is necessary to employ many people for it. The old solutions are not adequate to solve new disaster problems. The disaster management started to think about new applications, which can do it. The biometrical identification systems seem to be competent for it. Usually these IT applications are used for classic security purposes (keeping out unauthorized persons of a place, only authorized recipients can read the e-mails, etc.).

2.2 Using of biometrical identification application by disaster management

The most advanced identification applications are the biometrical systems. There are various biometrical identification systems. Biometric identification is a very reliable method, but it has a few disadvantages without advantages; like the need for expensive software and the need for physical contact; some of the physical characteristics may change with time or sickness.[10] Disaster management must be able to use an adequate, quick and cost effective biometrical identification method. We have to take into consideration that we need to use it occasionally, at times of disasters. It is uneconomic, if the disaster management invests in expensive biometrical systems which are used just occasionally. What is the appropriate tool like? It has to be infallible and relatively cheap.[11] We can say that the best of the biometric identification systems is the vein scanner. It is a new invention by a Hungarian company.[12] More precisely, the hardware and application were developed by a Hungarian company to be applied for identification with a vein scanner, which has been manufactured for a few years y Fujitsu Ltd.[13] The innovation is as follows: the PalmSecure system was developed for medical purposes by Fujitsu[14], but it could operate as a security identification system with the help of IT solutions (hardware and software). It is infallible, because the veins of person are totally unique, and human veins are fixed, it is never changed by the time or sickness (except for vein diseases[15]). What is the relation between disaster management and vein scanners? Many companies and institutions of higher education realized the scientific activity of disaster management[16] and became interested in the possibility of cooperation. They try to make products which are useful for disaster management or army purposes, and hope these will be purchased by them. They try to develop the existing IT solutions to be applicable for the aims of disaster management. One of the civil IT partners of disaster management[17] developed a mobile identification application (hardware and software in one block) operating on the basis of a vein scanner. It is a shock resistant portable box which contains a laptop, a vein scanner, a PC camera,

[9] The areas are usually very dangerous, and the leaders have to provide enough rest periods from the members of rescue team, and the continuous saving while the change of rescue teams is happening.
[10] Tajti Balázs: A biometrikus ujjnyomat azonosítás alkalmazásának új lehetőségei, Hadmérnök VII/1. 2012
[11] Neither of them is cheap, but we can talk about relatively cheap, if this tool is adaptable out of times of disasters, in general activities.
[12] http://index.hu/tech/2013/10/02/uj_magyar_talalmany_a_venaszkenner/
[13] http://24.hu/belfold/2012/05/16/nem-kell-kartya-a-venad-azonosit/
[14] https://www.fujitsu.com/us/Images/palmsecure_healthcare.pdf
[15] Dr. Molnár Andrea Ágnes: A human vénák biomechanikai tulajdonságainak in vivo, non-invazív vizsgálata, Doktori értekezés, Semmelweis Egyetem Elméleti Orvostudományok Doktori Iskola, Budapest, 2008
[16] Better to say, the activity of Baranya County Directorate for Disaster Management
[17] The company which developed the software with PalmSecure vein scanner of Fujitsu.

and a scanner. The disaster management has a problem in the area of identification and recording at times of catastrophes, because he wants to operate the fastest system possible for security and defence. It seems that this "box" could be the best system nowadays. How does it actually work? The disaster management have to prepare for the moving and placement of many people at the time of a catastrophe. E.g. many people are relocated to a safe place and the disaster management wants to have a knowledge about the number of people staying there, and wants to register them and let them all in the host destination as fast as possible. In the app of this mobile "box" it is not necessary to use slow paper-based registration and recording. The person who comes to the host destination puts his palm on the vein sensor; then it registries him. The PC camera takes a photo, the scanner scans his identity card, and the IT application creates his profile. It takes about 30-40 seconds, and it is not necessary to work on paper-based terms. Later, when this registered person goes out or re-enters, he only needs to put his palm on the vein sensor and the IT application is able to provide data of the place of this person, and the number of occupants of a location. Usually, there are hundreds of people, who arrive at the host destination at one time, so this IT application is able to do the job of lots people without the slow paper-based system.

On the other hand, the computer, scanner and PC camera are always available, in peaceful times as well.

It is sure that the new IT application is very useful and cost-effective.

What is the obstruction of its application?

3. Legal questions of the application of these IT solutions

3.1 The legal applicability of biometric identification system

First, the national rules and the legal standpoint of the EU are worth investigating, concerning the using of biometric identification systems. The vein scanner identification IT application is a special Hungarian innovation; as far as we know, it is not regulated by the EU; though the general questions of using biometric identification systems have been examined by offices of the EU. We can say that the usage of general biometric identification systems is not prohibited by the EU, moreover it is suggested e.g. in case of passports and travel documents.[18] The rules of using biometric states in passports are intended for terrorism and crime prevention purposes. Two years before the United States made the use of passports containing biometric identifiers an obligatory condition for visa-free travel, the European Commission had published a motion which had obligated the use of two biometric identifiers in passports.[19] Moreover, it caused debates and doubts between the offices and the Members of the EU. The doubts were arisen particularly in the light of proportionality and necessity for security.[20] They argued that it was not necessary to use biometric identifications on passports to guarantee the security of states and citizens, but it endangered it, because of the risk of technical failures and the lack of adequate data protection.[21] Contrasting the

[18] Council Regulation (Ec) No 2252/2004 of 13 December 2004 on standards for security features and biometrics in passports and travel documents issued by Member States.
[19] Nagy Klára: A biometrikus azonosítás új iránya, 76 p., Jog, állam, politika, Győr, 2010
[20] According to advisory opinion of Article 29 Working Party on enforcement of Council Regulation (Ec) No 2252/2004 of 13 December 2004 on standards for security features and biometrics in passports and travel documents issued by Member States.
[21] Nagy Klára: A biometrikus azonosítás új iránya, 79 p. Jog, állam, politika, Győr, 2010

doubts we must mention the advantages of biometric identification system and it is right to examine the balance between advantages of biometrical identification systems and the occasional risks of privacy.[22]

The problems of applicability of biometric identification systems are examined by lawyers in the United States of America. It is worth to investigate the approach of a different legal system[23]. The EU has a member state which has common law legal system, so it is able to affect the rules of the EU. The question of the effects of the identification system on privacy is very important to the federal legislator of the USA, so they have created five principles.[24] These are the following: notice and awareness of collection of information, choice and consent as to how this information can be used, access to the individual's gathered information, and the ability to contest the accuracy of the collected data, integrity and security of data and enforcement of the aforementioned principles.[25] The dilemma of privacy versus security has resulted in high-level solutions, e.g. creating a competent organization, the Privacy Rights Clearinghouse in 1992[26] We can see that the questions of identification in the light of privacy versus security causes dilemmas for all legal systems.

In my opinion, the regulations of the EU do not answer the question of the application of vein scanners, because they control the use of biometric passport types in the light of fight against crime and terrorism. In our case, we try to analyse the question of a new biometric identification system[27] in a different situation from the previous one.[28]

The application of vein scanners in case of catastrophes is not regulated by the EU; it is a new field of law.

3.2 The legal applicability of biometric identification systems in Hungary

The situation of Hungarian offices was difficult when they came across the problem of the application of vein scanners, that is, the complete hiatus of EU regulations concerning it from two points of view. On one hand, the identification by usage of vein scanners is unknown in the EU; on the other hand, the aim of biometric identification is different Hungary. Finally, I have mentioned before that there is no adequate answer by Hungarian offices and judges to the question of adaptability of vein scanner identification for disaster management purposes, because this area is completely new. The case of application of a vein scanner is being analysed by the Constitution Court of Hungary nowadays. This investigation is still going on; no decision has been made yet.[29]

The case is the following: the management of a football club decided to use the vein scanner identification system to supervise entries to the stadium for the purpose of peaceful football matches. It is the idea of management to able to identify and register all of the fans who buy annual passes and disorderly fans will be prohibited to enter the stadium. After the registration of all of

[22] Ioannis Iglezakis, EU data protection legislation and case-law with regard to biometric applications, 3 p. 2013, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2281108
[23] Common law legal system is operating in USA, excepting Louisiana.
[24] Reuven R. Levary, David Thompson, Kristen Kot, Julie Brothers, Radio Frequency identification: legal aspects 15. p. Richmond Journal of Law & Technology Volume XII. Issue 1. http://jolt.richmond.edu/v12i2/article6.pdf
[25] Federal Trade Commission Fair Information Practice Principles
http://www.ftc.gov/reports/privacy3/fairinfo.htm
[26] https://www.privacyrights.org/
[27] Vein scanner.
[28] Quick identification in case of catastrophe.
[29] The vein scanner identification purpose for security of sports matches is analysed by Constitution Court of Hungary.

fans[30] who bought annual passes, the banned people are not able to visit the football matches in this stadium, and they will be identified each time they want to enter at the check points using the vein scanner. The act[31] was modified by the legislator to allow the adaptation of vein scanners for this purpose. A few fans have suggested that there is a problem related to the records. One of them[32] motioned a constitution complaint on 5 January 2015. The application of vein scanner identification violates of rights of privacy[33], right for informal self-determination[34] and the principles of proportionality and purpose limitation[35] based on this motion[36]. He argues that the use of vein scanner for identification (i.e. the registration of personal data of fans) is not necessary to guarantee of security of football matches in the stadium, so the fans' right for privacy is violated in this case.

Before decision, the Constitutional Court of Hungary asked the opinion of Hungarian National Authority for Data Protection and Freedom of Information.[37] The Authority made a legal remark[38] which did not prohibit to application of identification with vein scanners, but proposed amendments to the act.[39] For example, it is necessary to limit the number of personal data used in case of using vein scanners and the duration of personal data management must not be longer than the validity of fan cards. (The Authority wrote in a previous legal resolution[40] that the home address and the mother's name are not required in the identification process.) Better to say, the management of the football club and stadium can only manage personal data just which are necessary to meet the aims. However, they must examine if there are any other ways to achieve that goal (the security of football matches in the stadium), and if the application of a vein scanner is necessary together with personal data management, because of the level of danger (football hooliganism). The Authority called attention to the requirements of proportionality, and purpose limitation. We are waiting for the decision of Constitutional Court of Hungary.

3.3 The adaptability of vein scanner identification in case of disasters – conflict of principles

At first, we have to declare that the result of the examination of the Constitutional Court of Hungary will not give an adequate answer to our case of the question of adaptability of vein scanners, because the aim is different. However, in spite of differences, from this Decision we can infer the legal position of the Constitutional Court of Hungary about the application of vein scanner identification.

The application of vein scanner in case of catastrophes must correlate with the legal principles of Fundamental Law and data protection. What happens if there is conflict between them? Which principles collide with each other?

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[30] The management of the football club registers and manages the personal data of fans; e.g. mother's name, permanent address, date of birth and place etc. three days after the expiry of the validity of a club card.
[31] 72/A. Paragraph Act I. 2004 on Sport
[32] Lawyer
[33] 1. Paragraph VI. Article of Fundamental Act of Hungary
[34] 2. Paragraph VI. Article of Fundamental Act of Hungary
[35] 1-2 Paragraph IV. Act CXII. 2011 on informational self-determination rights and the freedom of information
[36]http://public.mkab.hu/dev/dontesek.nsf/0/99aeb34aebaa6c68c1257dda005de077/$FILE/IV_6_0_2015_inditvany%20anonim.pdf
[37] a) Point 4. Paragraph 38 Act CXII. 2011 on informational self-determination rights and the freedom of information
[38] NAIH-1387-2/2014/J
[39] 72/A. Paragraph Act I. 2004 on Sport
[40] NAIH-4941-3/2014/V

Primarily, I have to mention the right for security[41]. It means, everybody has right to life, and this right contains strict duties of state; public security, and protection to disasters. It is an active right, that is, the state must operate in an efficient defence system, and it must intervene at times of catastrophe. Secondary all of people have privacy law[42], and the right for data protection[43] is a part of this. It is a passive right, e.g. obligation to non-intervention. One side there is an intervention duty of state, on the other side there is a duty of non-intervention of state. What does happen if both of them are at the same time in the (disaster) case? By the practice of Constitutional Court of Hungary, the offices must exam power of them case by case, that is, what is the more important right of person. According to me, the most important of them is the right of life and security, so the state or disaster management offices can subordinate the right of data protection to right of life of person. In addition we must say that the limitation of right of data protection have to be balance with the security and protection. The offices only may restrict data protection rights to an extent, while the life protection requires. In this case the requirement of balance and proportionality is realized.

By my point of view there is no impediment to app the vein scanner identification system on times of catastrophes, if it is bound to abide by the principles of proportionality a purpose.

4. Summary – the possible future

The IT partners of disaster management started to develop new hardware and software which are able to operate and help the rescue work. According to their plans the vein scanner identification system (the box mentioned above) would be connected to a drone. In practice the vein scanner system would record and register all the members of a rescue team who enter a danger zone with the purpose of life-saving. Each member would have an encoder. Having finished an intervention, when the members of the rescue team leave the zone, the vein scanner IT system could indicate if one of them is still in the zone. Since the zone may be a large area, the search for this person may be difficult and may take a lot of time, the commander could use the drone which would fly above the place and detect the person with the help of the encoder.

I am sure the use of vein scanner identification IT applications can be lawful if we follow the principle and purpose of proportionality in data management.

We would like to solve this problem; and it will be possible after the decision of the Constitution Court of Hungary, but we are still waiting for it. The case was discussed by the Constitution Court 7 February 2017, but it did not result in a decision.[44] The application of vein scanners causes lots of disputes among lawyers, and it has not been solved.

In my opinion the Decision of Constitutional Court will make a decision on the application of vein scanners in case of sports events, but not in defence against catastrophes. We must see that protection of life is the first principle, because in the absence of life the other principles (e.g. data protection, privacy) are meaningless and void. There is no use to talk about privacy and personal data protection of a dead person. If the Constitution Court of Hungary prohibits the use of vein scanners in sport arenas, it would not exclude the use of biometric systems in case of disasters with

[41] 1 Paragraph IV Article Fundamental Law of Hungary
[42] 2:42 Paragraph Act V. 2013 on Civil Code
[43] IV Article Fundamental Law of Hungary
[44] http://www.alkotmanybirosag.hu/testuleti-ulesek/az-alkotmanybirosag-2017-februar-7-i-teljes-ulese

the aim of lifeguarding. If the Constitution Court permits the vein scanner systems in sport stadiums, there is no doubt we can use it in case of catastrophes, because the protection of human life is more important than other personal rights.

I hoped that the Constitutional Court of Hungary would make a decision by the deadline of this paper, but it has not happened yet. So this question remains unanswered for the time being.

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[14] Federal Trade Commission Fair Information Practice Principles

[15] Act I. 2004 on Sport

[16] Fundamental Act of Hungary

[17] Act CXII. 2011 on informational self-determination rights and the freedom of information

[18] http://public.mkab.hu/dev/dontesek.nsf/0/99aeb34aebaa6c68c1257dda005de077/$FILE/IV_6_0_2015_inditvany%20anonim.pdf

[19] NAIH-1387-2/2014/J

[20] NAIH-4941-3/2014/V

[21] Act V. 2013 on Civil Code