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Sport and Security — New Technologies

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Abstract. The aim of the study is to present legal innovation, the police forces and the innovative technical and technological solutions and the links between them, which are of utmost importance in sports policing work. Sports events tend to have more and more show elements, which sets new security requirements. Security is in "follow-on mode", as incidents and terrorist acts result in constant revisiting of the definition of security. Thus, experts of both theory and practice have a great responsibility.

In recent decades, IT storage capacities, data processing and data transmission systems, IT tools and technologies have also evolved tremendously. In the 21st century our everyday life is shaped by technology and this is true of the world of sport — among other things — and, to a growing extent, of sport policing, too. Also, peak performance, similarly to guaranteeing security, requires cutting-edge technology, anyway.

In the European Football Championship 2020, to be only held in 2021 due to the Covid-19 pandemic, 12 countries are involved in the organisation. The event is also attract particular attention because of the 60th anniversary of the European Football Championship. In this relation I consider that presenting the operation and collaboration of the new innovative tools, technologies and the legal means introduced and applied in the area of sports policing is of key importance.

Keywords: sports policing, sports event, football hooliganism, security, safety, law enforcement, concept of sport policing, regulatory and technology innovation, drone detection, face recognition, data protection, privacy, COVID-19 pandemic, security and safety regulations of UEFA European Champion

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Спорт и безопасность – новые технологии

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Аннотация. Цель исследования — представить правовые инновации, полицейские силы и инновационные технические и технологические решения, а также связи между ними, которые имеют огромное значение в работе спортивной полиции. Спортивные мероприятия, как правило, содержат все больше элементов шоу, что предъявляет новые требования к безопасности. Безопасность находится в «последующем режиме», поскольку инциденты и террористические акты приводят к постоянному пересмотру определения безопасности. Таким образом, на экспертов как теории, так и практики ложится большая ответственность.
В 21 веке наша повседневная жизнь формируется под влиянием технологий, и это относится, в том числе, к миру спорта и, в растущей степени, к спортивной полиции. Кроме того, для достижения максимальных результатов, как и для обеспечения безопасности, в любом случае требуются самые современные технологии.
В организации чемпионата Европы по футболу 2020 года, который из-за пандемии Ковид-19 будет проведен только в 2021 году, участвуют 12 стран. Это событие также привлекает особое внимание в связи с 60-летием чемпионата Европы по футболу. В связи с этим я считаю, что представление работы и взаимодействия новых инновационных инструментов, технологий и правовых средств, внедренных и применяемых в области спортивной полиции, имеет ключевое значение.
Ключевые слова: спортивная полиция, спортивное мероприятие, футбольное хулиганство, безопасность, охрана правопорядка, концепция спортивной полиции, нормативные и технологические инновации, обнаружение дронов, распознавание лиц, защита данных, конфиденциальность, пандемия COVID-19, правила безопасности и охраны чемпионов Европы УЕФА
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1. Introduction

By the end of the 20th century sport had become an area of utmost importance, one of the national strategic sectors. Sport is a most complex phenomenon. It affects physical education, education policy and healthcare and its economic and socio-political significance is also growing. Today we can rightly speak about a "sports industry". As many authors notice sport is constantly gaining in importance in both internal and foreign policy and has become an important means of enhancing a country's image [1; 2; 3]. This especially applies to soccer, the most popular branch of team games, which presents numerous examples in sports law and sports policing, the area concerned with the security of sports events. This study will address the issue of legal innovation and innovative solutions adopted by police organisations and the links between them, which are of particular importance for sports policing.

2. Clarification of the concept of sports policing

In the last few years establishing, maintaining and enhancing order, safety and a sense of security in the general public and athletes has become increasingly important, mainly due to the top events of the most popular team games and individual sports becoming mass events all over the world,

including Hungary, but this paper primarily examines the Hungarian aspects. Many events of top-level sport move tens of thousands of people not only during the sports event but also before and after it. Sports events tend to have more and more show elements, which sets new security requirements. Security is in "follow-on mode", as incidents and terrorist acts result in constant revisiting of the definition of security. Thus, experts of both theory and practice have a great responsibility [7, p. 6].

More and more people attend sports events, therefore sports policing has come increasingly into the limelight. In Hungary this is a priority area also because the infrastructural background is relatively fresh. Several new stadiums and sports facilities have been built, but, in spite of that, the number of spectators falls behind the average. Still, the teams play more and more matches in fully booked stadiums, which has made guaranteeing security an even more serious policing issue.

The concept of sports policing can be placed in the system of administrative law. It is a specific area of sports administration, the intersection area of the public law segment of sports law and the specific, administrative segment of administrative law. This, more narrowly interpreted area can clearly be defined as a specialised area of law enforcement; a range of statutes regulates everything related to sports policing. They are supplemented by regulations issued by the sport federations, which also provide guidance on keeping sports policing records and securing sports events [4, p. 13].

If, nevertheless, we want to create a concise concept, we can say that sports policing is a specific part of sports administration, as the concerning legislation is supplemented by regulations issued by Hungarian and international sports federations.

The primary task of the state is to maintain and/or restore public safety at sports events and at the related venues. As organisers, sports organisations must take all the necessary measures to protect the personal safety of those attending sports events and that of their property and in order to prevent the violations of law, or initiate that these measures are taken by the competent authority. In order that the management tasks of the event are carried out in a lawful and professional way, the organiser must assign them to a hosting organisation. The organiser and the hosting organisation entrusted by it have joint liability for the event.

According to the relevant legislation, the cooperation of the following organisations is indispensable when organising sports events: police, Disaster Management, the Evaluation Committee of the National Police Headquarters, the healthcare provider, the owner and operator of the stadium, the organising and the hosting organisation.

Ticket sales and control have a key role in sports events. In the case of matches posing normal security risks the organiser will decide on the form of ticket sales. It will have the opportunity to sell personal tickets, too. In the case of matches posing high security risks, the Committee for the Evaluation of Sports Events from the Aspect of Safety will define the way of selling tickets. In the event of matches posing high security risk it is compulsory to issue personal (name) tickets. According to the Hungarian act on sport, the hosting organisation is authorised to check the spectators' identity on entry and to compare the data on the ticket with the personal data in an identification document. If the data are not identical, entry must be refused. This does not only prevent the intermingling of the different teams' fans but it also contributes to mitigating the risks of black markets and ticket touting and it facilitates the screening of undesirable (banned) persons and preventing them from entering [5].

At the sports facilities the hosting firm has the primary obligation to take measures. Under Hungarian legislation, in the stadiums, which are considered public places, the police can take part in assisting with securing matches only if contracted or — if it is necessary because of the security risk of the match — if they carry out a public service task.

The representative of the police is allowed to be present in the sports facility at matches of average or high security risk, but police forces may assist with securing a match only after conducting a contract, for remuneration. Lacking a contract, the police force must invoice the expenses incurred to the organiser

in relation to law enforcement tasks carried out with the purpose of restoring order.

3. Innovative solutions in the area of sports policing

The word *innovation* means professional improvement, introducing new methods, but the concept itself is in constant development; it is undergoing changes and includes organisational and structural innovation.

Law tends to be conservative and legal traditionalism is important. However, law also reacts to changes in social life. Promptness and reformatory approach are important in law making, too. Efficiency and the widespread use of new technologies, processes and procedures are also natural in law making. A number of tools have been at its disposal for several years. One of the most important, already existing innovative legal solutions is Act CIV of 2011, the so-called "Hooligan Act" on the modification of certain acts in order to take action against sports hooliganism. It modified the Act on the police, the Criminal Code, the Act on administrative offences, the Act on the protection of property and persons and the Sport Act.

A change really worth mentioning is the new system of sanctions introduced by the new Criminal Code, including the banning persons from sports events as a type of punishment, the development of using access control systems capable of the individual identification of spectators and setting up sports policing records [6]. Persons banned from sports events are registered in them by the National Police Headquarters. In order to maintain public order and safety, to prevent violence and disturbance, to fulfil international policing cooperation obligations and to protect citizens' rights, the police can forward data from this set of data to a foreign police organisation. They can also forward data to the organiser or the hosting organisation (if there is one) and to persons appointed by the organiser to sell tickets for the purpose of protecting the security of events, banning somebody from visiting a sports event or refusing selling tickets to them.

We can state that along with the introduction of CCTV systems, the use of access control systems and the consistent application of legal institutions such as exclusion, banning and disqualification as well asthe sports policing records also played an important role in reducing the number of illegal acts in stadiums.

In relation to the technical aspects of innovation, I think it is important to emphasise the fact that in recent decades, IT storage capacities, data processing and data transmission systems, IT tools and technologies have evolved tremendously. We only have to look at the spread and everyday use of IoT, cloud-based solutions, supercomputers and artificial intelligence. In the 21st century our everyday life is shaped by technology and this is true of the world of sport — among other things — and, to a growing extent, of sportpolicing, too. Also, peak performance, similarly to guaranteeing security, requires cutting-edge technology, anyway.

In the Sports Act, too, we can find a lot of innovative provisions. For example, according to the modification effective as of 1 January 2019, the organiser can outsource the tasks related to the organisation of the sports event to a contributor in the capacity of a volunteer, an employee or someone with another type of employment contract. The contributor — as a representative of the organiser — must assist with communicating with and providing information to the spectators and the other participants of the sports event, with getting access to the venue of the sports event and finding the way inside, with supporting the security management of the sports event and with the use services at the venue of the sports event.

Persons over the age of 18 who have no criminal records can be employed as contributors. The detailed provisions related to the employment of a contributor, his duties, training, uniform (different from that of the hosting organisation), and his identifiability are laid down by the federation in the regulations on the secure management of a sports event.

4. Challenges posed by the next UEFA European Football Championship

In the European Football Championship, to be only held in 2021 due to the Covid-19 pandemic, in the matches to be organised

in Hungary, the newly built Puskás Ferenc Stadium[1] opened in 2019 will have an outstanding role. 12 countries will be involved in the organisation of the whole European Football Championship, with 150 000 accredited persons originally estimated to request accreditation. The event will also attract particular attention because of the 60th anniversary of the European Football Championship. In this relation I consider that presenting the operation and collaboration of the new innovative tools, technologies and the legal means introduced and applied in the area of sports policing is of key importance.

The European Championship sets a serious security challenge for the countries that will organise and host this sports event. The civilised and safe running of the matches and the related events will only be realised if all the stakeholders and special areas do professional and coordinated work, through extensive international cooperation, based on partnership. Based on the experiences of the previous world contests we can say that communication and information exchange are crucial for making decisions and are the key to solving security issues [5, p. 4].

Carrying out law enforcement duties must be interpreted in a holistic way; Maintaining general order and public safety, managing the traffic, taking action against terrorism and securing the continuous flow at the border crossings will be essential during the whole event, too. International policing cooperation will also play a prominent role. The Hungarian government has guaranteed the implementation of security tasks.

The first co-ordination concerning the scheduling of security tasks took place in November 2017. By the middle of 2019 the security concept had been developed and coordination and walking through the venues have been going on ever since. The final security plan was compiled in the spring of 2020. Being presently supervised, it includes all the security regulations, considering the strict epidemiological and health rules, too. The standing working group of the Council of Europe on spectator violence also organises regular coordination events and frequently visits Hungary. The UEFA has commissioned the Hungarian Football Federation to do the tasks of the organising committee. Our experts in sports policing have, among other events, attended the UEFA seminar on stadium safety and the International Security Conference. Considering the experience of the European Championship of 2016 we can state that the greatest challenge it faced was posed, apart from the terrorist threat, by crowd management and controlling football hooliganism, access to the venues and ticket control. All the gained experience and the conclusions were built in the working material.

From the aspect of sports policing, the European Championship can be divided into three different periods, such as non-match days, pre-match days and match days. There will be 51 matches during the whole Championship, four of which will be held in Budapest. Obviously, match days are the priority periods, as this is the time when the largest number of police officers will have to be deployed on duty. Preparations for providing security will have to be started already on pre-match days, when deliveries to the stadium premises will be the most intensive and when Explosive Ordinance Disposal (EOD) checks will have to be carried out. On non-match days, staff will need to focus first of all on securing the activities of the national teams and protected leaders, the protection of accommodation and the supervision of public areas.

The process of securing the event and controlling access at the venue on match days will also be highly organised. Within the scope of protection of property and persons, the procedure of providing secure access will need to be carried out, in accordance with territorial, competence and timing aspects. The outermost zone, around the edge of the facility is called traffic perimeter. The traffic closures and the checks and entry of authorised vehicles will be carried out along this boundary. This zone is a public area, which will be of major importance when defining the range of responsibilities; therefore the police will have a decisive role. Along the boundary of this zone, the hosting organisation and/or

[1] Puskas Arena: Hungary // Football-Stadiums. Available from: https://www.football-stadiums.co.uk/grounds/hungary/puskas-ferenc-stadion/ (Accessed 31.01.2019).

the contributors will check drivers' access rights. Traffic closures will be secured by the police, who, by being present, will support the entry and examination of authorised vehicles. If needed, the police will have the powers to subject vehicles and their passengers to thorough checks. The organisers' and the hosting organisation's task will be to mark the entry points and to set up the technical devices (cordons) to secure them. The planned deployment of devices for traffic direction and traffic slowing before entry checkpoints will be the task of the police [5, p. 15].

The outer perimeter is the area surrounding the stadium in a 150 to 200 meter circle. This will be the focal point of security measures. In the case of the Puskás Ferenc Stadium this will involve security searches, preliminary checks of tickets and accreditation checks, to be carried out with the help of the following equipment: 240 metal detecting gates, 300 handheld metal detectors and 60 X-ray machines [5, p. 72].

The area called the outer perimeter might be designated several hundred metres away from the internal venue of the sports event. This way by the time spectators arrive at the immediate vicinity of the stadium they will have been searched. Entry checks will be carried out by the local security service and with the help of volunteers. The police will not take part actively in the process, they will only be present and ready to interfere if needed.

Volunteers and stewards will guide the fans to their entrance, making sure that they do not cause congestion or long queues. Only preliminary, visual ticket inspection will be done here. Containers for storing valuables will be placed in front of the checkpoints; therefore giving precise information to spectators is essential. Ticket validation will take place at the turnstile entry points. Its primary function will be to detect invalid tickets in time. In such cases the guests will need to be directed to the point where problematic tickets will be dealt with.

The Puskás Ferenc Stadium is located in the inner, urban area of Budapest[1] with two underground lines and a high-capacity tram service, but it is embedded in an urban residential area. There will be no parking area adjacent to the stadium. With this in mind, the Mobility Plan builds on public transport links and the key role of pedestrian traffic. Thus, from a safety point of view, the key priorities are:

- protecting pedestrians, completely separating them from road traffic wherever possible, without crossings, and, in order to prevent tripping over, without obstacles;
- the regulation and management of road traffic, including support by traffic police officers at the critical points;
- enhancing road safety measures taken in respect of public transport.

There is a need for close cooperation between border policing authorities during the European Championship, as it is not possible to predict in advance how the various teams will perform, how long they will be in the tournament, how their fan base will grow if they perform well and whether they will need to move from one host country to another.All of these are components that may require intervention in the original system if the current situation requires so. In this respect, special attention needs to be paid to the problem of entry rules (such as e. g. epidemiological documents, vaccination certificates that may be required by then and checking them) and of the transmission, management and storage of data, with special regard to the fact that the United Kingdom is no longer a member of the European Union.

In accordance with the Hungarian legislation, a three-level organisational structure needs to be established regarding the European Championship. By the establishment of a policy and a professional level along with the political level it will be possible to carry out the tasks properly. Responsibility issues are clearly identifiable in accordance with the legislation, Public safety and private security responsibilities can be separated as follows.

The special security protocol in the VIP sector should also be highlighted. As a rule, VIPs and their baggage are not screened. At the European Championship this will be changed at last. For example, nobody will be allowed to bring in a package larger than

[1] Puskas Arena: Hungary // Football-Stadiums. Available from: https://www.football-stadiums.co.uk/grounds/hungary/puskas-ferenc-stadion/ (Accessed 31.01.2019).

a size of A/4, and VIPs will also be subjected to clothes and baggage search when entering the sector. The UEFA thinks that EOD checks should also be conducted in this sector, too, with the help of a magnetic gate.

For the EURO 2021, integrated management will be introduced, with a common integrated control point at the Puskás Ferenc Stadium, equipped with state-of-the-art technology and technical and communication tools. It will carry out its tasks in accordance with the security concept.

The delegates involved in the management will work in a team, including the event organisers, the security manager, the police, the security manager, the disaster management, the health care provider, the specialist responsible facility management and communication and one security officer delegated by each football team.

A temporary mobile video system will be set up to monitor the approach routes to the stadium, the major public transport hubs around it and the fan zone.

Apart from the camera system in the Puskás Ferenc Stadium and the camera systems supporting the tasks related to securing the matches, a temporary camera system, supervised and controlled by one of the police organisations, will be installed along the route of the protected leader, and the equipment will be supplemented by internal network termination points.

The preparedness of the staff of the Hungarian police, their technical supply and the experience gained by securing previous events resulted in the decision that there should be low-profile police presence to secure the EURO 2021 matches. The police have applied this progressive European security model with success not only at football matches, but also at political, economic and other sports events.

The police officers working according to the low-profile concept will assist those attending the event. Plain-clothes police officers in vests with "Partner Group" on them will also be present. This will also reflect the new approach, as the sight of the police force may provoke aggression in the crowd. Dialogue-based crowd management is also used at sports events posing a security risk, laying strong emphasis on communication and mitigating tense situations. Low-profile, low-intensity security is an innovative measure. The presence of the police force in the stadium is not manifest, the units are not clustered in blocks in order to demonstrate force, but are distributed by colleagues near the neuralgic points, ready to be deployed any time.

There are combat-ready units with an adequate number of well-trained staff in readiness, in body armour under the grandstands, not to be seen by fans. Police officers are deployed in smaller groups, they are more accessible than large, close formations, and may thus contact and communicate with protesters and spectators of sports events in a proactive way. Low-profile police presence, i. e. demonstrating force to call forth the least dislike from the fans has proven to be a method that works, of course, only with a sufficient number of qualified, well-equipped police force, experienced in securing sports events, on standby. We can say that low-profile security has brought the expected results, as it has become a principle that the police should refrain from over-securing matches. Therefore, preliminary data collection is extremely important, which, of course does not completely exclude the possibility of fan disorder happening, but it can minimize it [4, p. 50–51].

5. Technological innovation I: Drone detection

As I have shown above, the organization and execution of the safe running of a major international sports event is an extremely complex law enforcement task, which requires state-of-the-art technology and equipment, such as drone detection.

Drones will pose a growing threat as, according to professional forecasts, within seven years there will be nearly 30,000 self-driving drones even in Hungary. Their regulation, control and monitoring will pose a major professional and security challenge. In this context, I find it important to remind the reader of Yuval Noah Harari's ideas, according to which mankind is developing efficient new technologies that might destroy humanity or might as well bring it to

perfection. The question is, what we can use these technologies for[1].

A few years ago, at a Serbian-Albanian football European Championship qualifier in Belgrade a drone pilot started a brawling in the crowd by showing a provocative flag. The drone carried a flag presenting Greater Albania into the stadium, enraging the home fans and thus triggering a riot within the crowd[2]. A Serbian player pulled the flag off the drone, after which he was surrounded by Albanian footballers and a scuffle broke out. The referee stopped the match but some Albanian players began to argue with him. There were firecrackers thrown in and a few fans ran into the pitch. The referee told the players to retire to the changing rooms. Meanwhile, a few fans ran after the Albanians and attacked them. The image of a non-existing Greater Albania was well suited to annoy the Serbs, as it depicted Kosovo, too, as part of it, although this province, where the majority are Albanian, has historically been a part of Serbia.

The biggest risk in developing drones is that this technology might end up in wrong hands. In extreme cases, it can even be turned into a terrorist device. There is a growing need for procedures and solutions that help with detecting drones[3]. The risk is always there whether eventually a development or a new invention is used for good or malicious purposes. Therefore, if technology gets into unauthorised hands, it can pose a major danger, which we have to reckon with.

Drones are useful for humanity, but it is only a matter of time before they are used as a tool for terrorist purposes. Drones can be equipped with explosives or biological weapons, which they can easily carry anywhere. In Hungary alone, hundreds of licensed civilian drones are used predominantly in the field of infrastructure control — aerial photography. Obviously, worldwide, especially in highly developed societies, we are experiencing a revolution in the development of drone technology. Civilian drones can also be obtained legally and can be transformed and equipped to carry out malicious intents, to meet these needs at a relatively low cost[4].

In many cases, drones are used at sports events to make illegal recordings, but one of them almost caused a tragedy once. In a match in the second round of the US Open Tennis Championship, in the Louis Armstrong Stadium a drone suddenly crashed on the terraces. Fortunately, no one was nearby, so no personal injury occurred. The game was stopped and was only resumed after the police and the firefighters established that the device was not dangerous. The drone went to pieces because of the crash, but surprisingly no camera was found in the wreck. It is frightening that, despite the strict security rules, a drone was able to fly so easily over the court, as it could even have carried a bomb.

Drone technology has the inherent problem that it is incredibly difficult to determine the exact position of drones. However, there is already a device that cansignal when they are hovering nearby. The production of devices that will alert you when a drone is detected has started. They include drone identification with the help of acoustic sensors and radio frequency analysers.

The most developed devices with audio and conventional microphones can detect the presence of drones from as far as 15 to 30 meters. In complete silence this distance can be extended to 60 to 90 meters, but they are also working on developing microphone techniques with an even wider range. In the case of radiofrequency detection, the range is 400 meters, but in testing it has also reached 600 meters[5].

In Hungary, in the Puskás Ferenc Arena the detection system in use will be able to

[1] Yuval Noah Harari idezetek // Citatum. Available from: https://www.citatum.hu/szerzo/Yuval_Noah_Harari (Accessed 22. 01. 2020).

[2] Elokerult a szerb-alban meccset kaoszba donto provokator // ORIGO sport. Available from: https://www.origo.hu/sport/futball/20150716-foci-eb-selejtezo-szerbia-albania-elokerult-a-provokator.html (Accessed 22. 01. 2020).

[3] URL: https://www.securinfo.hu/termekek/letesitmenybiztonsag/1334-novekvo-igeny-a-dronok-detektalasara.html (Accessed 21.01.2020).

[4] URL: https://www.securinfo.hu/termekek/letesitmenybiztonsag/1334-novekvo-igeny-a-dronok-detektalasara.html (Accessed 21.01.2020).

[5] URL: https://www.securinfo.hu/termekek/letesitmenybiztonsag/1334-novekvo-igeny-a-dronok-detektalasara.html (Accessed 21.01.2020).

find the source of the drone signal, which will enable the police to take measures against the operator. During the matches, the airspace will be closed. According to the current views, even the representatives of the media will not be able to use the airspace as no one will be issued the permit to fly. The UEFA has issued a detailed guide on anti-drone activities. Drone detection is also an important element of the detailed requirements regarding the organisational tasks of the European Championship.

6. Technological innovation II: Face recognition system

Security threats are a growing concern both internationally and nationally, as well as regarding the commercial activities. As threats to international borders increase, governments are introducing new regulations at airports, seaports, and public transport hubs. One of the main tasks of the law enforcement agencies is to identify the wanted persons and to detect and arrest them as soon as possible. Also, security companies and facility managers should be alert to persons unwanted in the premises or unknown ones gaining access to, or staying in the premises or offices of the facility. On the other hand, they should also be able to identify dignitaries and VIP persons who may enter the facility legally, with permission.

The role of information in society and in the economy is becoming increasingly important. We are living in an era of the fourth industrial revolution of Western civilization; digitalisation, when rapid technological development and globalisation pose new challenges to the protection of personal data and to the right to knowledge based on being given appropriate information. The exercise of state power is essentially inconceivable without data or information, and, from the aspect of information, public administration in fact is nothing more than "uninterrupted data management" [8], with respect to both the management of the citizens' personal data and the information and data of public interest produced while exercising public authority [See 9].

In Hungary the act on informational self-determination sets the purpose that everybody should be able to dispose of their own personal data and to have access to data of public interest[1].

The right to information self-determination is fundamental in the provisions of the *universal international human rights* instruments such as the Universal Declaration of Human Rights[2], the European Convention on Human Rights[3] and the International Covenant on Civil and Political Rights[4]. The general provisions of the Charter of Fundamental Rights, which have the same binding force as the EU Treaties, should also be mentioned among the general instruments of fundamental rights[5].

The regulation of the handling of biometric data is within the competence of the Member States, therefore the conditions for the use of facial recognition technologies are different in each country. Consequently, the EU's regulatory role may be enhanced in the future, as the aim should be to achieve uniformity in this field[6].

The human face, conveying people's identity, plays an important role in our social interaction. Using the human face as a "key to security", biometric face recognition technology has gained significant and prominent attention in identification in recent years, as it has a lot of application potentials in law enforcement as well as in other areas of civilian life.

[1] Act CXII of 2011 on the Right of Informational Self-Determination and on Freedom of Information // Roskomnadzor. Available from: https://pd.rkn.gov.ru/docs/Act-CXII-of-2011_on_the_Right_of_Informational_Self-Determination_and_on_Freedom_of_Information.pdf (Accessed 21.03.2021).

[2] Article 12: No one shall be subjected to arbitrary interference with his privacy, family, home or correspondence, nor to attacks upon his honour and reputation. Everyone has the right to the protection of the law against such interference or attacks.

[3] Article 8: Right to respect for private and family life.

[4] Article 17, 1.

[5] Article 7 Respect for private and family life; Article 8 Protection of personal data.

[6] Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation) Article 9 (4) // Official Journal of the European Union. 2016 May;(L 119/1). Available from: http://data.europa.eu/eli/reg/2016/679/oj (Accessed 21.03.2021).

Compared to other biometric systems using fingerprint/palm print and iris diagnostics, face recognition has special advantages, as it is a process without a "physical" contact. Facial images can also be captured remotely, without getting to know the person to be identified and this does not require interaction with the person. Also, face recognition serves the purpose of "deterring" people from crimes, too, as captured and archived images can later help with high accuracy identification of a person.

The latest application is capable of "extracting" faces in real-time from existing video surveillance systems and instantly comparing them to individuals' watch list and database. When the system identifies an unauthorised person appearing on the watch list, it issues an instant alert so that appropriate measures can be taken quickly to reduce the risk to public safety threats.

In Hungary, the operation of the moving face recognition system (Mozgó Arcfelismerő Rendszer) and the stationary face recognition system (Álló Arcfelismerő Rendszer), too, is the responsibility of the organisations of the Ministry of the Interior.

Clearly, moving image analysis can be used to screen various suspicious persons at the events in particular, while the stationary face analysis system is more likely to assist in the subsequent investigation of a committed crime. The Sport Law provides details as to what photographs are included in the register that can be compared with the wanted persons, and regarding the bodies authorised to use it. Obviously, they must always indicate the purpose of its application.

One of the main elements of the strict epidemiological measures taken in all the countries because of the pandemic is the requirement of face masks. Of course, this also affects the process of face recognition, as it can be questionable or extremely difficult, in many cases impossible (see, for example, the unlocking of smartphones in masks in everyday life).

Although we should note that this issue is not new from a policing point of view. Law enforcement organisations often face situations in their work when the offender's face cannot be seen entirely during the criminal act. Therefore the developers of this technology have taken this into account earlier, too, and systems have also been accelerated and improved over the past year in combination with other biometric identification procedures. The U.S. Department of Commerce's National Institute of Standards and Technology published a related study in July 2020, which discusses in detail how to use pre-COVID-19 face recognition algorithms with people wearing masks[1].

In Hungary, analyst support for identity verification and identification of an unknown person may only be requested electronically from the organisation performing the facial analysis activity[2].

The organisation performing the facial image analysis activity and the organisation entitled to use it should conclude a cooperation agreement regarding the technical and IT security conditions for the provision and use of the facial image analysis activity [10].

The organisation entitled to use the facial image analysis activity may forward to the organisation performing the facial analysis activity only a portrait of the face at its disposal for the purpose of carrying out the facial analysis activity which the organisation entitled to use the facial image analysis activity can legally manage in accordance with the law [12].

Ensuring security is especially important when storing recordings. The security measures applied should also be reviewed from time to time, also in the light of technological developments and changes in data management conditions. Training the people who use the cameras is also an important tool for guaranteeing data security[3].

In Hungary, the Act on the Police has been modified recently. As of 1 May 2020, anyone who refuses to prove their identity

[1] Ongoing Face Recognition Vendor. Test (FRVT) Part 6A: Face recognition accuracy with masks using pre-COVID-19 algorithms // National Institute of Standards and Technology. URL: https://nvlpubs.nist.gov/nistpubs/ir/2020/NIST.IR.8311.pdf (Accessed 21.01.2019).

[2] Decree of the Minister of the Interior 78/2015 (XII. 23.) on the detailed rules of the operation of the facial image analysis system, Paragraph 2 (1).

[3] Testkamerak es adatvedelem // GDPR. Available from: https://gdpr.blog.hu/2020/01/13/testkamerak_es_adatvedelem (Accessed 20.04.2019).

can be arrested by the police. If their identity cannot be proven otherwise, the police may take a photograph of the person, which can be run through an image analysis system and compared in an automated procedure with the data in the personal data and address register (e. g. the facial image recorded when the ID card was made). After this, using the results, the police can use a dedicated tool to retrieve personal identifiable information and photographs from the register to identify the recipient [11].

We can consider an innovative legal measure that, as of January 1, 2019, the Sports Act allows the registration of facial images in the sports policing system. This provides that the legal authority should include the images in the sports policing registry in the database that the face recognition system will work with.

The organiser shall forward the name, place and date of birth, facial image, duration of the exclusion, the name of the sports facility and the range of sporting events covered by the exclusion to the sports policing registry within three days, and also to the visiting sports organisation. If, on the basis of the transmitted data, the visiting sports organisation does not decide on the exclusion of the person from attending the sporting event, it should delete the transmitted data within eight days of receipt. During the exclusion term the organiser should treat the exclusion decisions and the personal data contained in them in accordance with the data protection rules.

The sports policing registry must include the following data of persons excluded from attending the sports event or banned from sports events or sports facilities by the organising or the visiting sports organisation, the administrative offences authority or court and of persons with a restraining order abroad: first and last name, place and date of birth, mother's first and last name and facial image. The most recent amendment to the law has already entered into force. According to it, the data of a foreign court decision of similar content may also be included in the register. This makes it possible to request data from countries playing matches during the run-up to the EURO 2021 Championship and to manage them. In this connection, the UEFA data management regulations, which are guidelines for all organising countries, must be observed in every respect1. The system will operate at the football matches of the 2021 European Championship in Hungary, as part of the activities of the police to secure the events.

The creation of two regulations in 2015 can be considered an innovative legal solution: Act CLXXXVIII of 2015 on the facial image analysis register and on the facial image analysis system and the Decree of the Minister of the Interior 78/2015 (XII. 23.) on the detailed rules of the operation of the facial image analysis system.

In accordance with these regulations, a personal image processing system is an IT application that is capable of creating and comparing profiles to facilitate personal identification. The purpose of keeping a facial image profile register is to prevent, counteract, detect and interrupt crimes, and to arrest and prosecute offenders.

Another major innovative technological solution will help thework of the police during the 2021 European Football Championship: an in-house navigation system, a mobile application developed and tested by the Riot Police, which will also help finding one's way within the stadium.

7. Summary and conclusions

In conclusion, we can state that everything Lord Chief Justice Peter Taylor, influenced by the stadium disasters, established in his detailed analysis in 1989 is valid guidance even today. His proposals radically changed the image of modern British and eventually of European football. Even back then he argued for and urged the creation of new, innovative legal institutions to speed up sentencing and increase punishment rates, which would help keep offenders and hooligans away from the pitches. His ideas of that time have been fully realized, as shown by the examples of the innovative legal and technological measures presented in my study. Order is a fundamental value in every society. With the help of these tools and trained sports policing professionals,

[1] UEFA Privacy Policy // UEFA.com. Available from: https://www.uefa.com/privacypolicy/ (Accessed 21.03.2019).

safety will be guaranteed at the 2021 European Football Championship, too.

According to the currently effective decisions, the postponed European Football Championship will be held in 2021 but, due to the effects of the coronavirus pandemic, it will most probably be conducted in front of a limited number of spectators. After all, the COVID-19 situation is changing dynamically and often in an unpredictable way, both in terms of epidemiology and of countermeasures taken by national governments. Although it is not yet possible to create a completely risk-free environment due to the low level of vaccination coverage, the goal is to reduce the risk as much as possible by following current health advice, standards and best practices. At the European Football Championship, minimizing the risk of COVID-19 depends on thorough preparation and on-the-spot organisation, but it also highly depends on the cooperation, behaviour and understanding attitude of the teams, players, officials, technical staff and UEFA referees, UEFA stadium staff and all the target groups involved in the matches. The UEFA expects all stakeholders to apply best hygiene practices, both in controlled matches and in their own daily lives. It is therefore essential that the entire range of stakeholders strictly adhere to the precautions and general hygiene rules. Violators of the rules, however, should be subject to the most severe sanctions.

So far there are no related finalised data, information or regulations available. During the period when epidemiological restrictions were eased, in Hungary championship and international football matches were held with a limited number of spectators and the experience so far clearly shows that itis not a simple task to make even a smaller number of football fans obey health and hygiene rules and regulations. When I have the opportunity to summarise the available experience and the new regulations are accessible, I wish to elaborate on and give a detailed presentation of them in another study.

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