



Special aspects of guarding and protecting sports facilities

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Abstract

Aim: The arrangement and organisation of sports events is a coordinated activity involving several organisations. The purpose of the research is to examine and reveal the special guarding and protection requirements of sports facilities and sports event venues.

Methodology: After collecting and processing the reference literature, the Authors applied a qualitative method and focused on the methods and means of providing sports facilities, and looked for specifics from their own point of view. During the research, they used both empirical and logical methods. In order for the earned knowledge to contribute to the solution of practical problems, they chose the activity of practice-oriented research.

Findings: Starting from the 1960s, and mainly from the 1980s, the arrangement and organisation of sports events is not just a professional sports issue. The capital injected by economic actors was aimed at organising family, cultural and entertainment events. As a result, unlike before, the sports facilities initially became multi-functional, and then the modern facilities became multi-functional venues. Due to its multi-functionality, special requirements for the security and protection of the venues and the facilities created in their surroundings, with different sports and economic purposes, have developed.

Value: The basis of the security technology of sports facilities and the commercial, economic, entertainment, cultural and service units located in them is the security of objects, as well as personal and property security. Guarding and

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protecting the proper operation of the facilities is an organised and coordinated activity in the same way as in the case of sports events held in the facilities, but the method of implementation is not the same.

Keywords: sports facilities, security, object security, complex protection

Thesis

Our own research and previous results also allow us to conclude that sports events in the XX. from the second half of the century, it is not exclusively characterised by sports activities. From the 1960s, the sports life is greatly influenced by the interwoven political environment, economic interests and invested capital. Especially since the 2000s, due to economic and commercial interests coming to the fore, sports events have clearly become family, cultural and entertainment events. The operation of the sports organisations was taken over by economic companies, whose aim, in addition to the sporting goals, was to meet the needs of visitors and spectators as fully as possible, not secretly, for the purpose of making a profit. In addition to sporting events, sports facilities have also become home to concerts, exhibitions, museums, family and corporate events, trainings, and restaurants. The object protection of modern, multi-functional facilities that meet all needs has thereby become more critical, which has also brought with it the reform of the guarding and protection of the facilities. In the pre-establishment planning phase, the dangers and risks that endanger or may endanger the safety of those performing permanent work or sports activities in the facility, those involved in service tasks, spectators/visitors and those staying within the scope must be taken into account.

Object security

Security is a complex concept both in everyday and scientific terms. Even if we just want to formulate it simply, a complicated ‘formula’ emerges. Looking for a connection between them, however, it can be established that we are talking about concepts that give the following definition: *‘Security is the state of persons and organisations, which is determined by the interaction of intentional illegal behaviours that threaten their existence and their intended operation and the defence resources used against them.’* (Berek, Berek & Berek, 2016).

Security, inferred from the wording published by the authors in the publication *Személy és vagyonbiztonság* (Person and property security), highlights that the response to a threat from some/any source is determined by the manpower and technical devices used in the protection of persons and property, as well as their ratio.

One of the main, diversified areas of personal and property security, which covers a wide spectrum: object security. Considering our research area, in our case the object as a concept means a sports facility in a narrower sense.

In a broader sense, however, it is important to emphasise that the vast majority of sports facilities nowadays are no longer exclusively ‘only’ sports venues, but also the ‘home’ of countless other events, and they include commercial, entertainment, and cultural units due to their multifunctionality. In stadiums, sports halls, ice rinks, swimming pools and countless sports facilities, it is difficult to maintain safety when holding events that attract a large number of participants and visitors. In each of the sports facilities, the maintenance of safety practically works according to two ‘scenarios’, since the normal operation and the insurance during the events are different. It is logical and clearly understandable that the ‘weekdays’ of a football stadium are not the same as match days.

From a different approach, in the case of the actual application (deployment) of the resources used for the implementation of custody and protection, two ‘scenarios’ can be distinguished: the state without an illegal act and the state after the illegal act has occurred. Furthermore, it is important to point out the fact that the equivalent of object security for sports facilities covers the immediate environment of the facilities, the objects and structures belonging to them in terms of infrastructure, regardless of function.

Guarding

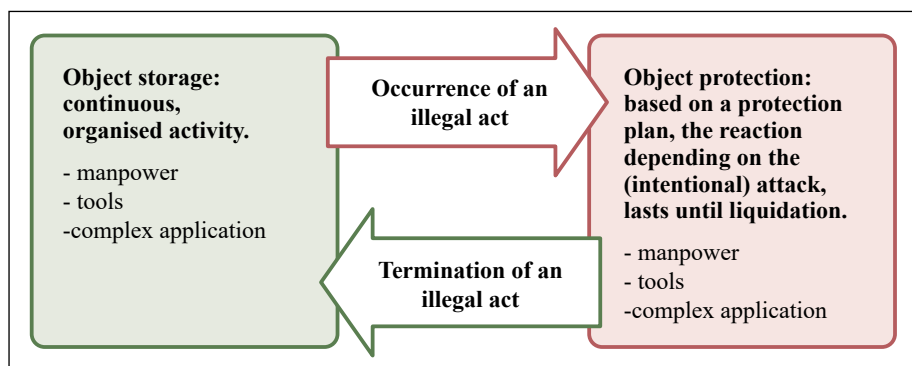
The two basic concepts of the object protection of sports facilities are guarding and protection. The two basic concepts of security technology and personal and property protection are interrelated, one could say they are built on each other, but in practice they represent two activities that are definitely different in time.

If we examine the sports facility from the point of view of guarding, then we can state that guarding the facility is an activity against some external, intentional, illegal act, during which the chance of the danger or threat occurring is taken to be <0 and constant over time, i.e. the facility is treated as threatened, until an illegal act occurs. However, the time of occurrence is unknown, it depends on the perpetrator, however, it is independent of the method of committing the

crime and whether it is carried out with or without a tool. The purpose of the approach from the point of view of protection is how the guarding, as the ‘resting’ state of the object free of illegal activity, changes when events occur, people or property are attacked or a deliberate illegal act. However, the duration of the defensive activity is known, and depends to a great extent on the type of attack, the force and tools used by the perpetrator(s), and the ratio of their individual or combined use. The protection aims to prevent the situation and the further spread of the attack, to identify and highlight the perpetrator(s) and, in practice, to terminate and liquidate the illegal act. Both in theory and in practice, at the venue of the sports events, the guarding activity exists until the illegal event occurs, the illegal act activates the protection activity, and then, after the act is liquidated, the guarding activity resumes. The protection aims to prevent the situation and the further spread of the attack, to identify and highlight the perpetrator(s) and, in practice, to terminate and liquidate the illegal act. Both in theory and in practice, at the venue of the sports events, the guarding activity exists until the illegal event occurs, the illegal act activates the protection activity, and then, after the act is liquidated, the guarding activity resumes (Berek, Berek & Berek, 2016).

Professor Lajos Berek puts it this way in his note entitled Security Technology: *‘So from the point of view of personal and property protection, security is the combination of intentional illegal behavior that endangers the existence of someone or the proper functioning of something and the protection resources used against them.’* (Berek, 2014). The explanation and difference of the concepts can be illustrated and interpreted on the basis of the figure below.

Figure 1
Flow diagram of object guarding and protection



Note. The Authors’ own drawing.

Guarding and protection of sports facilities

In the case of sports facilities, both mechanical protection elements and electronic signalling elements are used during guarding and personal and property protection activities. The analysis of the special protection elements of the sports facilities was carried out in the following safety technical subjects, apropos of the fact that these protection elements are (may) occur most often:

- mechanical protection,
- penetration detection system,
- organised guard, manpower,
- access control systems,
- person and package screening system,
- door and gate opening system,
- video surveillance system,
- goods protection system,
- fire alarm system,
- event insurance, and
- personal protection.

Mechanical protection

The purpose of mechanical protection is to make it difficult or prevent access to the object from the external environment at the site of the sports events, either in the case of basic operation or the organisation of a sports event. In the case of sports facilities, the mechanical protection elements are spectacular, in many places, especially in the case of football stadiums, they are monumental elements. A good example of this is the Puskás Arena in Budapest, where the primary protection of the modern facility built on the site of the former Népstadion is based on 38 pylons, each are 40 meters high, which correspond to staircases. The outdoor protection elements are also represented by gates, in today's designs, (water) ditches are no longer built. Building protection is provided by reinforced concrete walls, roof structure, doors and windows. In the case of handball halls, huge glass surfaces often appear on the facade, as an outer covering. The mechanical elements are therefore fixed, static elements from their construction to their demolition, which, due to their size and structure, have a deterrent effect for the perpetrator(s). The chance of getting in on these elements without the use of device(s) is almost zero. In the case of external fences, the idea of climbing over or cutting the fence elements, for example,

may arise, but in this case the perpetrator(s) must seriously consider the use of other elements of complex protection, as well as the use of data stored on image recording devices as evidence. In the case of sports facilities, the enforcement of today's safety technical requirements is not a negligible aspect, during the design of the mechanical elements, the safety technical risks of the given location are analysed, and during construction, they are built in/out depending on the results of the risk analysis. The internal mechanical elements of the facilities, the fences, tunnels, roundabouts, and gates separating the sectors are suitable for separating the fan camps of the sports event, taking into account the occurrence of unexpected events, when the requirements of escape and evacuation must also apply. The opening of the sectors and exits must occur automatically or as a result of human intervention, the throughput must be determined in such a way that, in the event of an unexpected event, even in a panic situation, the safety of those fleeing independently is guaranteed, and their escape is maximally facilitated. They are suitable for separating the fan camps of the sports event, also taking into account the occurrence of unexpected events, when the requirements of escape and evacuation must also apply (Tóth & Tóth, 2014).

Based on practical experience, it can be said that there are huge differences in evacuation between countries and facilities, and in our example no extraordinary, unexpected event occurred. When the Sóstó stadium in Székesfehérvár was evacuated, it took 20–25 minutes for the exit to take place at the gate of the facility after the match, despite the fact that the spectators were not far from the exit. The evacuation was not very fortunate and even less rational, so that people could only get out one by one at the gate, blocking very long lines.

The same evacuation was carried out in the Santiago Bernabéu stadium, after El Clásico(!), from the top 5th floor of the stadium after the match, in roughly 5 minutes, and the entire stadium was completely empty in about 15 minutes. The gates were opened, which allowed the 90,000 spectators to be evacuated extremely quickly.

System of penetration detection

The intrusion alarm system is intended to strengthen the organised, manpower protection and make its work easier. The primary goal is to prevent and signal unauthorised access to facilities. In the event of an action by an offender attempting to enter a guarded sports facility, the alarm system is activated immediately, the offender can be caught in the act, and the activity can be liquidated. In practice, however, this type of violation is not typical, in relation to the facility

itself, if we mean the sports field. In case of sports clubs, even the domestic facilities, the newly built ones, definitely already have gift shops, ticket offices, restaurants, buffets, and bars. Regarding these commercial units, there may be a greater risk of an illegal act, since they are most often placed in the facility that they are accessible from the outside, their entrances open onto the street front. The system of penetration detection is unquestionable, they greatly facilitate the work of companies responsible for guarding, since the automatic detection system warns of sabotage, there is not needed to organise a permanent guard, and the number of manpower can be reduced.

Organised guard, manpower

Most of the sports facilities had live security even before the modernisation of the stadium. At the time, however, this was not clear even from its name, because it functioned as a ‘receptionist’ service. Asset protection companies still provide services for sports facilities in Hungary. Their service activities are regulated by instructions. Task execution covers guarding and protection, for alarm tasks, porter service and reception tasks, camera system management, patrol service activities. In the case of Puskás Aréna, one of the largest stadiums in Central Europe and the largest in Hungary, for example, 12 people are responsible for performing the classic security tasks every day. In the case of our National Stadium, it should be pointed out that the facility’s infrastructure is not only the centre field with stands capable of accommodating almost 68,000 spectators, but also the 100,000 square meter outdoor sports and leisure establishment, named Puskás Aréna Park. The only remaining building of the old Népstadion, the Tower, currently serves as a museum and in the Western and Eastern parts of the Park, there are tracks of run and a park of equipment for countless sports and leisure activities. Thanks to the features and equipment of the Park, it is an open area suitable for hosting countless sports events, concerts, and festivals, which is available to anyone. From a security point of view, a surveillance camera system has been installed for the sake of the order and security of the Park, and park guards are also active ([URL1](#)).

Access control systems

The basic purpose of access control systems is to check the access rights of those intending to enter the object. The authorisation can be in several ways, so

we can distinguish between users of the sports facility (players, professional staff, background workers), employees of service units and service providers, as well as visitors, spectators and fans. The basis of the system's operation is the entry of those who have access rights and come to a sports event in accordance with their rights.

In the case of football matches, the aim is to separate the fan camps, highlight those who intend to enter illegally and those involved in disorder based on the recorded images, it does not matter whether we are talking about a manual turnstile with a counter or a turnstile solution with a bar code reader. The latter is a complex access control system, which differentiates the fans based on coding and is also capable of sector identification. In smaller halls, the Interticket PDA card reader solution is more common. In the case of systems using biometric identification data, the contactless version is not yet widespread in Hungary, only one stadium has a vein scanner solution.

In terms of its effectiveness and popularity, the contactless method would be suitable, for example a facial recognition system, to obtain information. The most modern access control system is used for the Puskás Arena. The barcode scanning system is capable of reading electric tickets and scanning QR codes (Tóth & Tóth, 2014).

Person and package screening system

The purpose of the person and package inspection is to ensure that the Government decree 175/2003¹ certain objects dangerous to public safety (for example, stabbing, cutting tools, firearms) may not enter the area of sports events. In this regard, unfortunately, Hungarian practice does not apply the most modern solutions. In the domestic environment, we rarely find detector gates, however, the director's entry staff manually searches the persons and the clothing they wear. The effectiveness of this solution is highly questionable, the percentage of errors is high, and the entry of illegal devices can't be tracked. The use of a body scanner is much more typical, but this solution also occurs more often at international sporting events in Hungary.

1 Government Decree 175/2003 (X. 28.) on devices particularly dangerous to public safety. Act I of 2004 on Sports.

Door and gate opening system

In the field of sports facilities, in addition to the professional sports regulations, the safety regulations of other areas of safety technology must also be enforced. The work-, fire- and compliance with environmental protection rules is of the same importance as in the case of other employer areas. Based on the risk assessment, in the event of unforeseen and unexpected events, such as a fire, a terrorist act, or even an accident, the devices and equipment that help to evacuate the sports facility, to escape and escape must be operational. If we operate an automatic opening system, the error percentage of the human resources has to be reckoned with less, which means that the gates open with 100% safety after the occurrence of the event.

Video surveillance system

In the case of sports facilities, it is extremely important that the organiser has constant and 'real time' information about the location of the sports events, the exterior and interior spaces and the immediate surroundings of the facility, including the roads, parking lots and public areas leading there. Furthermore, it is also necessary to have as much information as possible about the number of visitors and their movements. During the establishment, the sports associations formulate specific expectations regarding the camera system and video surveillance system to be installed. In the Insurance Plan of the events, the type of cameras, the methods of their placement and the traceability and retrievability must be specifically defined. The photographs and video recordings taken by the cameras must be able to identify the perpetrators of illegal acts accurately and without doubt. Whether we are talking about fixed or mobile devices, the goal is that those who are illegally present at the sports event or those who commit illegal acts are identified, singled out or, if necessary, sanctioned by banning them from visiting the sports facility. The surveillance system also protects the interior spaces of the service units in the facility area. Continuously provided personnel to analyse the information collected by the camera system and a specially designed observation room for this purpose.

Goods protection system

Team museums and gift shops are now indispensable parts of modern sports facilities, presenting security specialists with a considerable task. In the case of

museums, the stock of these business-based units mainly has an ideological value, and in the case of gift shops, they do not exactly have the cheapest products.

In both cases, in order to protect valuables, a surveillance system is installed in the interior spaces. However, the installed camera system alone is not a 100% guarantee of product protection. In the case of museums, the objects on display, and in the case of gift shops, virtually every piece of the store's inventory is equipped with a unique product protection device.

The transmitter in the form of a tag or label is an accepted product protection device, its importance lies in the fact that they are removed when paying at the cash register, because if this is not done, a signal is generated at the product protection (detector) gate and the task of the security service is to respond to the signal (Tóth & Tóth, 2014).

Fire alarm system

For those types of sports facilities that are not open or semi-open versions, the importance of a fire alarm system is unquestionable. In the case of handball and basketball halls, it is important to know the fire resistance index of the traditional parquet or modern covering, especially regarding the covering materials used. In Hungary, we often find smaller halls, the interior of which, the stands, are also traditionally made of wood. When organising events with a large number of people, it is necessary to have accurate numbers of people, in the event of a possible fire alarm, it is necessary to avoid panic and get the visitors and fans out into the protected space.

Event security

One of the largest areas of event insurance is the insurance of sports events. These events usually attract large audiences. Ágnes Nikolett Tóth, in her study *Innovatív sportrendészeti eszközök* (Innovative sports law enforcement tools), describes sports events as follows: *'The many events of elite sports move tens of thousands of people not only during the sports event, but also before and after the event. Sports events increasingly have show elements, and all of this imposes new safety requirements. Security is in follow-up mode, because extraordinary events and acts of terrorism result in a continuous rethinking of the definition of security, so both theoretical and practical experts have a great responsibility.'* (Tóth, 2020). The pursuit of safety is determined by the legal background and

the coordinated work of the organisations involved in the planning and organisation, in addition to maximum compliance with the requirements of personal and property protection. Sports events are preceded by a safety inspection before the sports events are held, to which Act I of 2004 on Sports² Organisations designated in § 63 nominate members.

The basic document for the events is the Insurance Plan, which contains the most important information for insurance participants. The task of the manager responsible for insurance is complex, he coordinates the coordinated activities of the insurance participants, including knowledge of the event data, the number of executive staff, continuous maintenance of the connection, analysis of the collected data, and the introduction of necessary tightening measures. Based on the personnel data and the risk assessment, the director, the organiser and, at their request, the Police staff will be involved in the security of the event classified as a security level by the Committee appointed by the Sports Associations. For the planning, organisation and implementation of the insurance, the data collected by the electronic signalling devices are mainly used.

Similar to sports events, in the case of concerts and festivals held in sports facilities, the need for event insurance and the method of implementation are also determined by the large number of interested people. Similar to sports events, insurance planning is preceded by a preliminary risk analysis. Irrespective of the composition of the audience of concerts and festivals, by purchasing the right of entry, we accept the event's security regulations and house rules in advance, i.e. from the time of entry, during the clothing and luggage inspection, identity verification, sound and image recording, until leaving the event site, we cooperate with the organising bodies. The peculiarity of concerts is that the audience wants to get in close proximity to the performers, intends to make brief physical contact, would like to request an autograph for their souvenirs or signature card. Securing these events relies on information generated from crowd observation. Impromptu public meetings, which are mostly believed to be harmless, can turn into sudden events that require action. It is very important to develop a three-round protection in these insurance tasks (Cserny & Christián, 2020).

After the outbreak of the COVID-19 epidemic, in order to protect the health of visitors and fans in sports facilities, it was necessary to find a solution that quickly and effectively detected the presence of the virus.

Considering that our country also provided venues for the UEFA 2020 European Football Championship, as a co-organiser, in 2021, a solution had to be found for non-contact screening of fans for COVID-19. After a long search and

2 Act I of 2004 on Sports.

testing, the work of the medical staff present in the stadium was supplemented with the D-Link 9500T thermal camera system, which measured body temperature. Fans entering matches through the thermal camera system were subjected to the test before entry at the venue where they were authorised to enter. This activity was not carried out randomly, but continuously, so the drop in the number of spectators at the matches did not cause any problems. Thanks to the efficiency, our country was able to hold full house matches ([URL2](#)).

Personal protection

During the organisation of sports events, the appearance of domestic or international protected persons connected to the sports or belonging to the life of the sport occurs several times. In this respect, state leaders, dignitaries under public law, representatives of international sports organisations, representatives of sports, members of referee boards, judges, reviewers, and inspectors may be protected persons.

The appearance of protected persons at sports events presupposes and imposes a requirement on the organiser to guarantee the integrity of the protected person by securing the venue and its surroundings. The protection of these persons and objects is regulated by Government decree 160/1996,³ referring to Hungarian and international protected persons and facilities to be protected. In facilities, protection must be organised in accordance with the protection circles and with the safety of the protected person in mind, regardless of whether they are in a fixed place or on the move. For the person staying in the VIP or SKYBOX of the stadiums, the protection must be provided from the time of entry to the exit, at the place of residence, with the complex application of the surveillance system and manpower.

Summary

Modern football as a sport has gone through a huge change since the 1960s. The decisive role of politics was taken over by the inflow of capital. With unprecedented support and the development of facilities and service facilities, the sport has become an area and a player in economic life in addition to sports. Since

3 Government Decree 160/1996 (XI. 5.) on the protection of protected persons and designated establishments.

the 1980s, football has become a major entertainment and family event in society thanks to the influx of money. Added to this in the 2000s was the stadium reconstruction program and the construction of as many facilities as possible, as a result of which the venues for football matches are no longer exclusively home to sporting events, but have become venues for light musical, cultural and corporate events, with gift shops, restaurants, and cafes located in the facilities.

As a result, special requirements for guarding and protection have also developed. From now on, business objects and functions are also included in the order of standard operation. Thanks to the design, parks, museums, various sports fields, playgrounds, field of dog runs, and many other locations that can serve the visitors' entertainment, cultural, family and sports needs are located in the venues of the spectacle sports, thanks to the design. From a security and guarding point of view, it increases the tasks of the companies responsible for securing the facilities, as well as the amount of human resources and protective equipment required for securing them. A permanent 24-hour guard must be organised on demand and at locations that are important from a property protection point of view. The product protection of museums, gift shops and commercial units must be taken into account. Access control systems must be operated for visitors to check their access rights. Automatic or manual door and gate opening systems must be installed. From the point of view of object security, the most important information gathering sources are cameras and video surveillance systems, which also require a specialist and a built-up observation room.

In addition to the basic purpose of sports facilities, the biggest challenge is the provision of events, regardless of the type of event. Providing sports and cultural events is completely different.

However, they are the same in that sports and cultural events also attract large crowds, about which sufficient and continuous information is needed in order to implement the insurance effectively and in accordance with the crowd present. The development of the safety equipment of the sports facilities and the use of complex protection elements is constantly necessary, so that the tools that meet the challenges of the age and are necessary for the elimination of illegal acts are available and that their operation facilitates the work of the safety executors.

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Laws and Regulation

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