NÉMETH, ÁGOTA – ROTTLER, VIOLETTA

The role of artificial intelligence in securing popular music festivals[1]

Introduction

The Government Decree 23/2011 (III.8.) on making the operation of music and dance events safer was created to ensure the successful organisation of events. It applies to occasional or regular music and dance events that are held in a building for mass accommodation, as defined in Government Decree 253/1997 (XII. 20.) on national settlement planning and building requirements, or that are held outdoors and are expected to be attended by more than 1,000 people at any time during the event. A music and dance event is defined in the Government Decree as an event held regularly or on a specific occasion or date, which is open to the public, not a private event, providing a musical service as a main service by means of a selected record release or live performance, and where it is not necessary to have a reserved seat to attend.[2]

Organising, running and securing public events, including various festivals and concerts, is a complex task that can be successfully achieved through the joint cooperation of several bodies and authorities. From a legal point of view, the provision of events is based on detailed regulations, on the basis of which the bodies involved have developed their own professional protocols.

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[1] This study is the English version of the presentation delivered at the conference 'The Science and Practice of Law Enforcement' held in Pécs 27.06.2024.

[2] The Biggest and Best Music Festivals from Across the World, Source: https://www.slingo.com/blog/lifestyle/biggest-and-best-music-festivals-2024/ Accessed: 04.08.2024

In order to ensure the smooth running of festivals, law enforcement agencies and private security providers have separate responsibilities, and effective cooperation is essential.

Event security is perhaps the most complex of the private security activities. It covers personal security, perimeter security, and sometimes property protection, but can also include disaster prevention. Its complexity is characterised by the diversity of its content. It requires great care in organising cooperation between the various law enforcement agencies, organisers, and security organisations. The main objective of event security is to protect the safety of the persons and property of the people gathered.

Nowadays, artificial intelligence (hereinafter: AI) is increasingly present in our lives. Law enforcement and complementary law enforcement actors are constantly examining how and to what extent they can utilize the opportunities provided by AI in their work. In this study, we would like to show how AI can help the work of bodies involved in the organization and smooth running of festivals, and what dilemmas may arise during its application.

The actors involved in securing the festival

In order to ensure the successful organization of the events, Decree 23/2011 (III.8.) on making the operation of music and dance events safer was created. Its scope extends to occasional or regular music and dance events that are held in a building intended for mass residence, as defined in Government Decree 253/1997 (XII.20.) on national town planning and building requirements, or an open-air event, i.e., held outdoors, and during the event, there is expected to be a date when the number of participants exceeds 1,000 people.[3] According to the Government Decree, a music and dance event is defined as an event providing music services as a main service held regularly or on a specific occasion or time, provided by public, non-private,

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[3] 23/2011. (III.8.) Government Decree on Making Music and Dance Events Safer § 1

selected album release, or live performance, in which you do not need to have a purchased seat to participate.

Based on the norm, it is the organizer's duty to make the necessary announcements to the competent authority according to the nature of the event, to obtain permits, to conclude the contract with the appropriate property protection company to perform the organizing tasks, to organize the site tour with the police, the organizer, the representatives of the competent authority, and other contributors, to specify the subtasks of the organization of the event, the responsible persons, to determine the number of contributors and directors, and the tasks, and to provide the infrastructural needs of the contributors and the necessary technical tools.[4]

The provision of these events requires special attention, as the large number of participants, open spaces, and various hazards pose an increased risk.[5]

AI is present in almost every aspect of life today. Just as law enforcement agencies and private security providers seek to explore the potential of AI in their daily work, this intention also applies to securing mass gathering events.

Music and dance events are growing in popularity worldwide, adding to the number and complexity of security challenges.

The combination of law enforcement agencies, the private security sector, and artificial intelligence (AI) technologies can also bring significant progress in addressing these challenges.

Here is an overview of how these tools can help keep events safe.

It is obvious from the text of the above norm that two segments play a key role in event securing: the police and private security (property protection) companies, which are responsible for the internal security of events.

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[4] 23/2011. (III.8.) Government Decree Ibid, § 8
[5] Christián, L. (2019): Rendezvénybiztosítási gyakorlat.[Exercise in securing public events] In:– Dr. Szalay, F. – Kutsera, P. – Miklós, I: Szakmai módszertani ismeretek a közszolgálati pályaorientációs képzés oktatói számára III. MAGÁNBIZTONSÁG Nemzeti Közszolgálati Egyetem, Budapest,18

In the following, through the provision of the previously mentioned Sziget Festival, we will show what tasks law enforcement agencies and private security service providers perform during the festival, and in which activities AI can support them.

Participant bodies in the securing of a festival

Preparations for securing the Sziget Festival begin months in advance. The police coordinate with the main organizer, the organizer, and the property protection companies. As state actors, the police, secret services, and disaster management, and as non-state actors, in addition to organizing and private security service providers, the ambulance service, civil guards, public utility providers, the public safety office, and municipal policing units also participate in the collaboration.

Before the start of the festival, the securing task also includes a preliminary site visit, which, in addition to determining and installing the necessary personal and material conditions of operation, also includes the search for items previously brought into and hidden (e.g. buried) on the site, e.g. drugs.

Since 2013, we can talk about internal and external securing at Sziget. The police primarily carry out external securing for the Island. During the day, a smaller number of people are on duty in various electric vehicles and patrolling the Island on foot or even in golf carts. They are responsible for external securing. They are uniformed, supervise the large number of festival attendees and the traffic to minimize restrictions on crowds entering the festival grounds via Bridge K. To this end, partial or total closures of traffic are carried out if necessary. In addition to traffic policing tasks, they also perform crime prevention tasks so that no crime is committed against visitors in the vicinity of the festival and in the surrounding housing estate.[6]

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[6] Wieszt Ferenc r. ezredes a Sziget fesztivál biztosításáról, 2024. augusztus 1. [Ferenc Wieszt pol. colonel on securing the Sziget festival, August 1, 2024]. Budapesti Zsaruk Podcast. Source:
https://www.youtube.com/watch?v=-RuDJ8l2k2c Accessed: 04.08.2024

On the festival grounds, the colleagues of the criminal service wear plain clothes, mingling with festival-goers, watching and trying to detect and prevent various violations. If action is necessary, they themselves take action or report it to law enforcement personnel. Secret service staff also work undercover, in plain clothes, and in the case of a protected person, special units of the Rapid Response and Special Police Service are also present.

The police operate an outpost outside the festival grounds to provide security outside. This is where the various signals come in, from which the police take over the action from the security service staff.

Private security providers are responsible for (internal) securing of the festival area. In-Kal Zrt. and Valton-Sec Zrt. have been performing securing tasks at the Sziget Festival for several years. Valton is responsible for securing the surroundings of the stages, while In-Kal is responsible for access control. They control entry and exit to the Island, check the safety of persons and objects entering, and react quickly to any incidents. When an incident or act is detected where a security guard can take action, the first measures are taken, but police forces are also notified at the same time. They don't have any weapons, but they can use a gas spray or physical force if there is a fight or disorder. Members of the security service patrol the Island both in plain clothes and uniform, which plays an indispensable role in crime prevention. They have a task force. They are also entitled to take action, but it is mostly carried out jointly with the police, who act on their signal.

On the territory of the Island, the security services operate the complaint office. If any incident happens inside and the person concerned wants to file a report, the security service will escort him out of the territory of the Island and hand him over to the police, who will inform him where he can file a report (Budapest, 3rd District Police Station).

It is our common interest that festivals end smoothly, i.e., without negative events. Securing preparation is impossible without joint analysis and evaluation of the data of the organizational elements involved in its implementation, as well as previous and other similar events.

At a joint command point with the participation of the bodies involved in the smooth running of the event, the data received are analyzed and evaluated, decisions on the movement of response units are made, and measures are taken based on this.

Technological equipment in securing

According to Act CXXXIII of 2005 on the Rules of Personal and Property Protection and Private Investigator Activities, organizers must record the personal data and facial image of participants of musical events with more than 25,000 people requiring the purchase of an entrance ticket.[7] The purpose of the provision is to help prevent and detect criminal offences and terrorist acts, and to help identify and apprehend wanted persons. This also applies to popular music festivals, i.e. Sziget. Information can be obtained by request from the police, the Counter-Terrorism Centre, the National Tax and Customs Administration, the prosecutor's office and the court.

Metal detector gates are also used for entry, as it is forbidden to bring various dangerous objects into the festival area.

The work of festival operators is also supported by the installation of surveillance and other property protection camera systems providing fixed surveillance. The cameras are installed for live and recorded surveillance of major nodes, access control sites, and cash desks. Footage taken in day and night lighting conditions of sufficient quality can greatly help to map the movements, activities, and relationships of offenders.[8] In the case of minor-offence or criminal proceedings, camera recordings are forwarded to the authorities and courts conducting them.

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[7] Act CXXXIII of 2005 on the rules for the protection of persons and assets, as well as private detective activities. § 72/C.

[8] Tóth, L. (2016): Limitation in the Application of High Resolution Image Sensors. National Security Review. 2016 (2) 110

Source: https://www.knbsz.gov.hu/hu/letoltes/szsz/2016_2_NSR.pdf

Accessed: 30.07.2024

These days Hungarian police forces also use drones, primarily in the field of traffic policing, traffic management, and accident prevention. When used around the festival, they can play a prominent role in traffic and parking management.

The drones are capable of providing a bird's-eye view of the festival grounds, allowing security personnel to monitor crowd movements in real time, quickly identifying crowded areas that may require intervention. The drones can also be equipped with infrared cameras, which allow effective surveillance even at night. This is especially important on festival nights when darkness makes it more difficult to observe the area using traditional methods. Drones are also useful in the field of communication; with their help, instant information can be transmitted to participants, for example, through digital displays on the festival grounds. This can help guide and inform the audience.

The role of artificial intelligence

Automated license plate readers make it possible to identify a vehicle by automating license plate runs, whether the vehicle is associated with various alarms, wanted persons, stolen vehicles, or other signs. This also enables the police to take action in real time based on license plate recognition if the system predicts where the vehicle is going or where it is parked.[9]

AI systems can be integrated with existing security infrastructure, such as CCTV cameras and access control systems. Based on the analysis of videos and images taken with AI of people attending events, festivals, and concerts that attract crowds, it is possible to analyse the movement of the crowd and detect objects dangerous to public safety. AI can be a huge help from the moment an individual enters the festival area, as AI-based facial recognition systems can easily identify the identity of those entering the

[9] Roberts, D. J., – Casanova, M. (2012): Automated License Plate Recognition (ALPR) Use by Law Enforcement: Policy and Operational Guide, Summary. 239605. Alexandria, VA: International Association of Chiefs of Police, 3.
Source: https://www.ojp.gov/pdffiles1/nij/grants/239605.pdf Accessed: 08.12.2023

events and allow or restrict access to certain areas based on biometric data. Images taken with the drone can also be fed into the facial recognition app. During behavioural analysis, they can identify suspicious behavioural patterns, such as unusual movements or even signs of panic, but they can also quickly filter out potential threats. In the event of an emergency, AI can help plan the most effective evacuation routes and minimize panic.

Integrated systems improve coordination and communication between different security teams. AI-enabled communication platforms can share information and coordinate team activity in real time. This enables the central collection and analysis of data and a rapid and efficient response. AI-based systems can share data with security personnel in real time, enabling quick decision-making and intervention.

Drones can be quickly sent to the site if any incident is reported. With real-time images, they help security personnel control the crowd, minimizing panic and ensuring the evacuation of the event venue quickly and safely. The information they collect from drones can be transmitted in real time to a central control system, where security managers can make decisions immediately.

The use of drones can also help in GIS, as the data generated during the processing of the images taken by them, as well as the representation of measurement data from sensors on a map, can help to understand the information. The simplest solution is to overlay the images taken by drones with the map and depict them "on top of each other."[10]

The various applications of AI in predictive analytics and risk assessment are outstanding. AI algorithms are able to analyse large amounts of data, including those available at the driving point and incoming data, and predict potential safety risks. This data may include, in addition to the above data, social media activity, data on previous incidents, and local crime statistics.

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[10] Déri, A. (2022): Drónok alkalmazhatóságának lehetőségei a rendőrségen [Possible applications of drones in the police], Rendvédelem 2022(2) 26. Source: https://bm-tt.hu/wp-content/uploads/2022/12/2022_2_teljes-szam3.pdf Accessed: 04.08.2024

AI language models may be able to understand and communicate with foreigners speaking different languages, since most of the visitors are foreigners, either when informing individual persons or even the masses.[11]

Summary

Securing music, and dance events is a complex and challenging task that involves physical presence, proactive measures, and the use of advanced technological tools. The integrated use of the private security sector and artificial intelligence technologies can significantly increase the effectiveness of security measures. Predictive analytics, real-time monitoring, and access control provided by AI systems offer significant benefits that enable you to effectively address security challenges and conduct events safely. Such integrated solutions not only increase the safety of participants but also contribute to the smooth and successful running of events.

The involvement of AI in the provision of events attracting large crowds, including pop music festivals, can be useful not only in the work of law enforcement agencies and private security services but also in the work of all relevant bodies. If we only think about the various sources and types of information received at the centre, each unit can formulate forecasts or even take action if necessary. It is suitable for accelerating work processes and increasing their efficiency. It can also replace human power in some cases.

Based on the above, can almost certainly be said that in the case of securing large-scale events, the automated application of AI is not possible; it can only be used under the control of human power. Guarantees must be

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[11] Bezerédi, I. (2024): Komplex rendvédelmi MI politikai stratégiai és technológiai javaslatok a ChatGPT és más LLM-ek szempontjából [Complex law enforcement AI policy strategy and technology proposals for ChatGPT and other LLMs]. RENDVÉDELEM TUDOMÁNYOS FOLYÓIRAT (ON-LINE) 2024(1) 51.
Source: https://bm-tt.hu/wp-content/uploads/2024/04/2024_1_Bezeredi-Imre-cikk.pdf
Accessed: 04.08.2024

put in place that in areas where AI is successfully applied in decision-making situations, the final decision is always made by human power, i.e. humans.

The above could be significantly influenced by the AI Regulation adopted by the European Parliament on 21 May 2024. The primary purpose of the norm is to protect fundamental rights and the rule of law against high-risk AI. The Regulation lays down obligations for AI based on potential risks and their magnitude. It prohibits the use of AI in certain areas where there may be an unacceptably high risk. An example of such a segment is certain types of predictive police control. Another prohibited application is facial scanning in public by the police using remote biometric identification systems with AI, except for more serious crimes.[12]

Based on this, it is necessary to develop a methodology for the application of AI in the field of law enforcement and private security and to adapt its elements to the implementation of the tasks of event securing based on the description of this study.

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[12] Source: https://eur-lex.europa.eu/legal-content/HU/TXT/HTML/?uri=CELEX:52-021PC0206&from=EN
Accessed: 30.07.2024