

THE HUNGARIAN PRISON SYSTEM IN THE LIGHT OF AI AND SMART TOOLS*

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Artificial intelligence, or AI, is already present in many areas of our lives, such as medicine, engineering, business, banking, etc., but you only need to reach into your pocket and your phone's virtual assistant is powered by AI. Therefore, we cannot afford to ignore AI, to „ignore it”, because it is part of our everyday lives, even if it goes unnoticed, and it is likely to become more and more prevalent in our world in the future, both in our professional and private lives. Hungary is one of the first countries in the world to build a smart prison in Csenger, which will use several types of artificial intelligence. The smart prison being built is a curiosity in the history of the Hungarian penitentiary system, and perhaps we do not even realise how much this innovative technology will take the burden off the shoulders of the staff working in penitentiary institutions. However, we believe that there are many challenges, even risks, that AI could bring (especially in learning to manage it well and to accept it).

KEYWORDS: prison, artificial intelligence, smart prison, innovative technology.

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Introduction objectives and research methods

About artificial intelligence in general

To understand the impact of AI on the prison system, we must first start from the basics and explain what AI is, what its specific definition is, what types it is and how it has been developed throughout history. In this chapter, an attempt is made, after defining AI, to briefly describe the stages of its development, its advantages, disadvantages and areas of application. Artificial intelligence (AI) is a computing discipline that aims to develop systems capable of performing tasks similar to human intelligence. These tasks may include learning, problem solving, language processing, decision-making, etc.

Artificial intelligence, as a technical factor, therefore makes people's everyday lives easier in many areas. Without being exhaustive, its specific benefits are multiple: AI can analyse and interpret vast amounts of data and extract useful information for business, scientific or other purposes. Also, AI-based systems are able to perform their tasks with high speed and efficiency, enabling high-speed data processing and complex problem solving. Nevertheless, AI allows routine or repetitive tasks to be automated, freeing up human resources to focus on other tasks. Human fatigue and error can also be avoided with the technology, as the machine will not make mistakes if it has been programmed with due care. AI can also be used to provide users with personalised content, offers and experiences, for example when shopping online or through content recommendation algorithms. This can already be seen in our everyday lives, with social media algorithms optimising advertising ads for us based on our search history. In addition, it can help us make better decisions by being able to process and compare large amounts of data and recognise complex patterns. With the support of AI, we are able to predict diseases earlier and diagnose them more accurately, which can improve the efficiency and effectiveness of healthcare. And continuous improvement opens up new areas of innovation that will help technological and societal progress. The use of AI can help to use energy more efficiently, monitor the environment and meet sustainability targets. It is a great advantage for scalability, for the application of small and large problems, or for increasing the number of users or the amount of data. Intelligent virtual assistants (e.g. Siri, Alexa) can help people with everyday activities such as weather reports, calendar management, reminders, etc. AI is also capable of creative tasks (for example: creating music and image noise, participating in painting or writing) that can lead to new forms of artistic expression. It is useful in cybersecurity, helping to predict and identify threats and detect and fix vulnerabilities faster. AI can also be used in areas such as

helping people with disabilities (for example: blind, partially sighted or deaf people) to facilitate their integration into society and increase their independence. Precision agriculture enables farmers to better understand and optimise the production processes of plants and animals, thereby increasing yields and reducing environmental impacts.

In addition to the many advantages of artificial intelligence, there are also disadvantages, which are important to recognise and somehow eliminate in the future. For example, the introduction of automation and AI could lead to job losses or restructuring in some industries. Jobs in which routine tasks are performed may be particularly at risk. AI-based systems often deal with large amounts of sensitive data, which can pose data security risks. This can raise privacy concerns when used in the prison sector. It is important to ensure data security and compliance in such (closed) systems. AI systems may be prone to reproducing certain kinds of social biases or patterns of discrimination that are built into the algorithms used in their development. In addition to these, their application raises a number of ethical and liability issues, including the need for autonomous systems to make decisions or human intervention. The performance and reliability of AI systems can remain a challenge, especially when the system operates in complex and changing environments. Inappropriate programming can lead to chaotic situations, a malfunctioning algorithm or a technical failure can cause significant damage. These incidents can be (for example: data distortion, badly taught models or other technical problems). Also, AI can contribute to increasing social inequalities if certain groups or regions are excluded from the benefits of new technologies, or if AI-based decision-making is discriminatory or unfair. It can change human relationships and social bonds, and increasingly lead to interactions with machines and algorithms rather than human interactions. By using „deepfake” technology in violation of someone’s privacy rights, artificial intelligence can „create” images or videos whose authenticity is difficult to question. The technology can thus be used for manipulation, even blackmail, rather than entertainment, and many countries are trying to legally sanction this phenomenon¹.

Historical overview of the development of AI legislation

The legal regulation of artificial intelligence is a complex and evolving area, which seeks to keep pace with the rapid changes in technology to preserve people’s rights and security. The legal framework needs to take into account a wide range of issues,

¹ What is artificial intelligence? Available at: <https://www.sap.com/hungary/products/artificial-intelligence/what-is-artificial-intelligence.html>, Retrieved 3 August 2024.

including privacy, ethics, liability and regulation. In terms of data protection, as already mentioned above, it is important to ensure that data generated by the use of AI is adequately protected and that people are fully aware of what data is being collected about them and how it is being used by these systems. This description provides the basis for a number of dilemmas in the discourse on AI, including the question of liability (who is liable if such technology makes wrong decisions or causes harm?). Legal clarification of liability issues is necessary to ensure that society is adequately protected. Equal treatment is also an important aspect in the discussions, to avoid extreme decisions. Transparency of algorithms can ensure that they do not reproduce existing prejudices or discriminatory patterns, in line with ethical guidelines. These guidelines can help ensure that AI systems benefit people and society and do not cause undesirable effects. People have a right to know how this technology affects their lives and choices, so it is important to ensure transparency and adequate information about the operation and effects of AI in terms of user rights. Sector-specific regulation is also unavoidable in certain industries (e.g. health or autonomous vehicles). Specific legislation and guidelines on deployment are available to promote respect for social norms and human rights. It should be stressed that the legal framework must be sufficiently dynamic to keep pace with technological developments and societal changes. Regulation must therefore strike a balance between innovation and the protection of human rights.

Regulation of artificial intelligence in the European Union

EU rules on AI must be designed to boost innovation, guarantee social welfare and protect fundamental rights. The European Union (EU) is currently preparing the world's first comprehensive regulation to address the potential and threats of artificial intelligence. The aim is to make the EU a trusted global centre for AI. On 20 October 2020, MEPs adopted three documents aimed at stimulating the development of AI, while strengthening trust in ethical standards and technology. According to MEPs, the rules should be people-centred, and the first recommendation addresses, among other things, how to ensure security, transparency, accountability, respect for fundamental rights and non-discrimination. The second recommendation focuses on liability in the event of damage. The third report focuses on the development of an appropriate IPR regime, with French expert and MEP Stéphane Séjourné saying that one of the most important issues to be addressed is the definition of the ownership of innovations created by artificial intelligence. On 19 May 2021, the EP adopted a report on the use of artificial intelligence in the education, culture and audiovisual sectors. The report called for such technologies to be designed in a way that is free from, inter alia, gender, social or cultural bias and protects diversity. On

6 October 2021, MEPs called for strict safeguards in cases where AI tools are used in law enforcement. They called for a definitive ban on the automatic recognition of people in public places, and called for anti-discrimination and transparency of algorithms. On 14 June 2023, the European Parliament declared its negotiating position on the AI law. The priority for the Parliament is to ensure that AI systems used in the EU are safe, transparent, traceable, non-discriminatory and environmentally friendly². Following the general EU directives, the following is a brief overview of the national regulation of artificial intelligence and a brief description of the framework.

Legal regulation in Hungary

Regarding the Hungarian regulations, from the beginning, the EU has been working towards a coordinated implementation of AI regulations agreed with Member States, which is why EU Member States are creating strategy documents and sector-specific rules to address specific problems (e.g. national rules on medical research). On 9 October 2018, the AI Coalition was established, bringing together state actors, IT companies and universities to implement a comprehensive AI strategy.³ In April 2018, Hungary signed the EU Declaration on Artificial Intelligence, which builds on the cooperation of 24 Member States to increase the EU's global competitiveness in this field. The Hungarian Government has also developed an AI strategy for the period 2021-2030, which aims to transform Hungary into a competitive AI ecosystem. It focuses on health, transport, agriculture and public administration (Stefan, 2020).

A historical overview of artificial intelligence in prisons

The development of security technology started in the 1990s in the national penitentiary system. Reflecting on the evolution of artificial intelligence from a security point of view, it is necessary to briefly touch upon the importance of camera systems, telecommunication devices, metal detectors. The CCTV closed circuit television camera system initially showed only live images, no video recording was possible, but with a little development video recordings could be viewed and saved for documentation purposes. Staff work was greatly facilitated by the replacement of frequent patrols by microwave motion and penetration detectors, and the introduction of gantry and hand-held metal detectors improved the efficiency of clothing

² Artificial intelligence regulation: the EP's position. https://www.europarl.europa.eu/pdfs/news/expert/2020/10/story/20201015STO89417/20201015STO89417_hu.pdf, Retrieved 16 February 2024.

³ Artificial intelligence regulation: the EP's position. https://www.europarl.europa.eu/pdfs/news/expert/2020/10/story/20201015STO89417/20201015STO89417_hu.pdf, Retrieved 16 February 2024.

screening. In telecommunications, initially only analogue systems were available, providing closed, internal communications. However, in the 2000s, mobile phones, EDR radios, computers with Internet connection and, in recent years, SAFE telephones have been introduced. These devices represented a major leap forward in fast and two-way communication, helping to prevent and respond to incidents. They have thus laid the foundations for one of the most important backgrounds for dynamic security. (Czenczer-Sztodola, 2019). There were also developments in software (e.g. digital control logs, remote monitoring systems). By the 2020s, the camera system was no longer only applicable within the closed prison, but the National Prison Service Command had access to the camera images of all the prisons in the country, and could check and monitor their operation at any time. By 2024, the technology had progressed to the point where smart cameras would be installed in the Chisinau Prison. These devices will already be capable of biometric identification as well as behavioural analysis and automatic alarms.

The impact of the evolution of security devices on the performance of personnel duty

Technological innovations are taking the administrative burden off staff over time. In the early days, all records and administration were paper-based and time-consuming, which did not facilitate the smooth running of the institutions. The first software for electronic registration systems was released in 1995, the FAR (Prisoner Subsystem), followed by the FANY (Prisoner Master File) and finally the FŐNIX system (currently in use is FŐNIX3), which not only contains the prisoner register but also facilitates the work of staff with a number of other functions (Horváth, 2022). Although detainee applications and requests for hearings are still paper-based, this is being replaced by the FNIX system, which allows detainees to submit applications, complaints, request a hearing, read their case files and other relevant information electronically. All this is of great help to the prisoners concerned in their administrative procedures. Electronic administration systems can help staff to keep track of prisoners' records, reduce bureaucracy and manage administrative tasks more efficiently. Communication tools allow staff to communicate quickly and efficiently to ensure smooth working, especially in the event of emergencies. (Bogotyán, 2016)

Innovations to support the reintegration of prisoners

At the turn of the century, prisoners were able to communicate with their relatives and lawyers via wall-mounted telephones. At the end of the 2010s, the prisoner mobile phone was introduced, allowing prisoners to be contacted by phone in the cell under certain conditions. In 2020, controlled electronic video calls, commonly

known as SKYPE calls, were introduced as part of the management of the COVID epidemic. Through this, detainees could now receive live pictures of their family members and contacts. This form of communication has become more popular and cost-effective than face-to-face interviews. It is also important to mention the e-learning platforms that have emerged in the field of reintegration, through which prisoners can be trained without the presence of a teacher. Through these programmes, prisoners can participate in online courses and training to support their return to the labour market.

Artificial intelligence and Prison nowadays

Artificial intelligence is by design linked to the security domain in a number of ways. Security systems include sensors and camera systems. AI systems apply analytical algorithms in institutions, analysing detainee behaviour patterns or incident statistics. These analyses help to monitor detainees and prevent incidents. Automated systems perform access control, registration, screening and other security tasks that reduce the workload of staff. Artificial intelligence is not perfect; if it is programmed incorrectly, it can cause adverse aspects in the areas it monitors. AI systems can be vulnerable to security attacks or misuse that can compromise the security and integrity of data. Without being exhaustive, some cardinal tools are described below. (Bogotyán, 2018.)

Use of camera

Camera systems have been one of the most important security tools in the prison system for decades. Cameras provide continuous surveillance in prisons, helping to prevent incidents and ensure safe detention. Surveillance can help detect activities, abuse or other irregularities that threaten prison security. Thanks to camera systems, recorded evidence can help in the investigation of disciplinary or criminal offences and in the identification of offenders. This evidence can help to hold prisoners accountable and increase the effectiveness of law enforcement. Cameras allow for more effective monitoring and management of prisons, provide staff with the ability to monitor wider sectors and help them to respond quickly and effectively. The images recorded by the devices provide detailed documentation of events in the institutions. This documentation can be important in legal and administrative processes (for example: in judicial proceedings or in the follow-up of incidents). Cameras not only record events in the institutions, but can also guarantee staff and detainees the legal handling of possible incidents, attacks, health crises (for example: epidemiological measures, etc.). In the following, we will outline the camera systems present in pri-

sons and the areas in which they can be usefully applied. In most places, general surveillance cameras are installed (e.g. in corridors, cells, workplaces, common areas, outside guard posts, etc.). They allow continuous monitoring, providing live and recorded images for staff. This includes special cameras that provide a 360-degree field of view, which help to ensure full surveillance and recording of events. IR (Infrared) cameras use infrared technology to monitor in dark or low light conditions. IR cameras allow for night-time monitoring and recording without the need for an artificial light source. Similarly, night vision cameras allow surveillance and monitoring of institutions in dark or low light conditions. Pan-Tilt-Zoom (PTZ) cameras are capable of horizontal and vertical movement, as well as zoom function, with remote control. The latter allows the supervisor to flexibly adjust the camera's direction and zoom according to the situation. Network (IP) cameras communicate via a network connection, allowing remote monitoring and access to cloud storage or monitoring centres. Semiconductor cameras are small in size and low in power consumption, making them an ideal solution for discreet surveillance or for locations where the use of traditional cameras is limited. Mobile cameras are portable and easy to move, allowing for flexible deployment, tailoring surveillance to specific circumstances (e.g. external work, emergency response, etc.). License plate recognition applications can identify and record the unique identification of vehicles, with specific privileges assigned. Staff can also wear body cameras or other customised surveillance devices to support the execution of security tasks, documentation of incidents, protection of staff (Schmehl, 2020). The innovations described will provide staff with great assistance and efficiency. Facial recognition software is able to identify biometric features on live or captured images and videos. Facial recognition allows to check detainees and staff in a database, generating automatic alerts in case of anomalies. Behavioural analysis can identify unusual or suspicious activities (e.g. dangerous objects, abnormal behaviour). The detection of unusual activities or objects can trigger automatic alerts, helping to react quickly to possible incidents. Cameras combined with environmental sensors can detect weather parameters (e.g. temperature or air quality) and send alerts via AI in case of related risks or hazards. They can also monitor and record environmental impacts (e.g. air pollution, noise levels, etc.) and send warnings of abnormalities (Schmehl, 2020, pp. 51.). In summary, a number of camera systems are available to the prison service and can be used to support secure detention.

Robot application

Robots already exist in the world, in some museums, hospitals and factories. The use of technology in many areas can make the work of staff and the daily lives of prisoners easier. Security robots are specially designed and equipped to meet the

security needs of prisons. They can assist staff with supervision or even perform guarding and control activities. Automated robots can patrol, monitoring conditions other than normal operation (for example: entry of prohibited objects). Some patrol robots are equipped with cameras or sensors, detecting suspicious activities or abnormal events. Transport and transport robots can assist in the movement and transport of detainees, other persons and goods. Cleaning robots can help to maintain and improve cleanliness, for example in common areas or holding cells. Firefighting robots can help carry out firefighting tasks and deal with potential fires, such as extinguishing fires or removing smoke. Drug-sniffing robots can detect psychoactive substances in institutions, such as lock-ups, detention centres or post offices, using special sensors. Automated food service robots can help the work of food inspectors. Rescue and assistance robots can handle potential emergencies (e.g.: treating injured or endangered persons, first aid). Data collection and analysis robots can improve institutions' data collection and analysis (e.g.: identifying safety trends and patterns or assessing efficiency). Robots can also be useful in training and education, as they can help prisoners in training and education processes and support their reintegration into the labour market - concrete examples of which are given in the chapter on the outlook abroad. It also provides staff with the opportunity to improve their professional skills and monitor their knowledge through training. Virtual assistants and chatbots are digital systems that assist prisoners and staff in communicating and accessing information (for example, by providing automated answers to questions or information on institutional services. (McKay, 2022)

Predictable impacts from the human aspect

Artificial intelligence can significantly assist staff with features such as automated data processing or document management, which indirectly allow staff to devote more time to more relevant tasks (e.g. reintegration of detainees or other security activities). Intelligent monitoring and analysis systems help to identify risk factors and prevent incidents. AI-based training systems allow staff to continuously train and develop themselves. Online courses or simulation tools can help them acquire new skills and develop. AI can also perform administrative tasks with a low error rate. It has also been shown previously that AI can monitor not only inmates but also the work of supervisors, giving management a comprehensive picture of staff work patterns and habits. In addition to the considerable positive impact, AI can also have some negative consequences. Staff, especially older staff, may not easily learn to use these systems or may not necessarily cooperate with them. They may also feel that automated processes can replace their work or create a sense of redundancy. Howe-

ver, these problems can be addressed through sensitivity training to help people to accept, understand, use and love new technologies. It is important to note that people have skills such as creativity, empathy and more sophisticated decision-making abilities that are currently difficult or impossible to replicate. Human presence and interaction can remain key to the rehabilitation of prisoners and the effective functioning of institutions. Artificial intelligence will be present in the daily lives of prisoners, which may raise a number of questions. A significant question is how these systems will be received. To what extent will they be liked and used, or, on the contrary, will they provoke dislike? AI can make life easier for prisoners, helping them in education, training and the labour market. It can make health and psychological care more high-quality, more accessible and easier to organise, and create more new reintegration and leisure activities. Technology can help to motivate prisoners and make communication quicker and easier. The monitoring of persons placed in reintegration custody can be made even more effective, with considerable improvements (e.g. the integration of surveillance drones, etc.). A modern, up-to-date environment can not only make detention more bearable, but also make it possible to reduce the disconnection of the persons concerned from the outside world. By learning about modern education and electronics, the detainee will not feel left behind and unable to keep up with civilian life. Once released, he can become a full member of society again.

Dilemmas related to the use of AI

Some important ethical issues have been briefly discussed above, but will be discussed in more detail below. The cardinal issue - mentioned earlier - is prejudice and discrimination. AI algorithms may be prone to categorisation on the basis of ethnicity or social origin. Reinforce unfair or unequal treatment of detainees. Data protection and privacy is perhaps one of the most important concerns, and the biggest area of scepticism towards AI.

Ethical dilemmas

AI systems often handle large amounts of personal data that need to be protected. Protecting the privacy and rights of detainees in relation to their detention is particularly important and must comply with the standards. AI-based decision making can often be difficult to understand and opaque, which can mean difficulties in establishing responsibility and detecting possible errors or abuses. Moreover, AI systems can be prone to distort self-organising systems, calling into question the objectivity and fairness of decision-making. Automated surveillance and monitoring by AI systems may violate the fundamental rights of staff members and detainees.

While automated decision-making helps to speed up certain processes, the extent to which it infringes human autonomy is questionable. The responsible and ethical use of AI is also inevitable in the field of prisons. The consideration of ethical aspects in its design, development and application is essential to respect the human dignity of staff and prisoners, to uphold legal and ethical standards and to uphold the principles of justice and equality. (Négyesi, 2023)

Feasibility and applicability dilemmas

In our country, AI and its applications in public life and in law enforcement are developing at a rapid pace. The development and operation of systems in this field requires significant technological infrastructure and resources, including computing capacity, expertise and financial resources. Providing an appropriate technological infrastructure and managing costs can be a challenge for prison institutions. The architectural characteristics of most institutions do not allow for the development of these technical solutions, and major adaptations would be required. A simpler solution would be to create new institutions where the focus would be on a design that is already fundamentally adapted to the technology. The science of artificial intelligence and other high-tech elements is not yet fully developed, so it is worthwhile for the time being to use tried and tested tools and, where possible, to introduce innovative mechanisms. The reliability and accuracy of AI-based decision-making is critical for the safety of detainees and staff. Poorly designed or flawed algorithms can have a detrimental impact on the fairness and efficiency of the system. The success and effectiveness of systems depends on user acceptance and appropriate training. Providing staff and other stakeholders with appropriate education and training to understand and use systems effectively may be necessary (Négyesi, 2023).

Summary and proposals

In our study, we have attempted to illustrate the complexity of the systems involved. We believe that many other aspects could be illuminated in addition to those described, as the above exploration is by no means exhaustive, and the subject provides a number of possibilities for analysis and interpretation for researchers. We can see where artificial intelligence has developed from, where it is now and where it still has great potential for the future in many areas of life. It has become clear that the technology can be applied in many areas, not only in civilian life but also in the field of law enforcement, and this list is likely to grow. From a security point of view, camera systems, robots, data collection and analysis software are the most prominent. It can be argued that these tools can help to prevent incidents and

support their lawful eradication. The workload of inspectors is expected to be reduced and therefore more focused in certain areas. In the field of reintegration, it is also possible to see how AI can positively support and boost related professional activities (e.g. employment, education and contact). Thanks to these, prisoners will not feel left behind in their life on the outside and will be just as useful members of society after their release. In the area of education, these innovative systems can offer a range of training opportunities not only for prisoners but also for staff, thus indirectly helping to retain and motivate staff. We believe it is important to integrate and legally regulate AI. Both national and foreign literature reflects on the ethical and feasibility dilemmas of the disadvantages AI may cause to staff and detainees, but it can be said that with proper legal regulation and technical programming, these concerns need not be feared. But ethical dilemmas should always be kept in mind regardless if the aim is to support everyday work with increasingly sophisticated and complex technology. It can be argued that, with due precautions, AI can facilitate progress, make the prison service more efficient, and support the achievement of the desired goals of sentencing, interventions and reintegration processes.

BIBLIOGRAPHY

- A mesterséges intelligencia szabályozása: az EP álláspontja. Available at: https://www.europarl.europa.eu/pdfs/news/expert/2020/10/story/20201015STO89417/20201015STO89417_hu.pdf (Accessed: 2024. February 16)
- Bogotyán, R., Kovács, M. & Somogyvári, M. (2016) 'Kockázatelemzés és -kezelés a horvát büntetés-végrehajtásban', *Börtönügyi Szemle*, 35 (2), 101-112.
- Bogotyán, R. (2018) 'Telekommunikációs eszközök alkalmazása a büntetés-végrehajtásban, az igazságszolgáltatás és a jogérvényesítés hatékonyságának növelése céljából'. *Börtönügyi Szemle*, 37, 15-25.
- Czenczer, O. & Sztodola, T. (2019) *A büntetés-végrehajtási és reintegrációs munka jogi és biztonsági vonatkozásai*. Budapest: Ludovika Egyetemi Kiadó.
- Horváth, M. K. (2022) *Innovatív informatikai megoldások a büntetés-végrehajtásban, avagy a FŐNIX3 program bűnügyi nyilvántartási modulja*. Szakdolgozat: Nemzeti Közszolgálati Egyetem.
- McKay, C. (2022) 'The Carceral Automaton: Digital Prisons and Technologies of Detention', *International Journal for Crime, Justice and Social Democracy*, 11(1), pp. 100-119. doi: 10.5204/ijcsd.2137.
- Mi a mesterséges intelligencia? Available at: <https://www.sap.com/hungary/products/artificial-intelligence/what-is-artificial-intelligence.html> (Accessed: 3. February 2024)
- Négyesi, I. (2023). A mesterséges intelligencia társadalmi és etikai kérdései. *Honvédségi Szemle – Hungarian Defence Review*, 151(4), 6–18. <https://doi.org/10.35926/HSZ.2023.4.1>
- Schmehl, G. D. (2020) SMART eszközök és egyedi alkalmazások a magyar büntetés-végrehajtásban. *Börtönügyi Szemle 2020/4*, 49-67.
- Stefán, I. (2020) A mesterséges intelligencia jogi szabályozásának egyes kérdései. *Miskolci Jogi Szemle*, 15/3, 184-191.

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