modern psychology by exploring new areas of study relevant to contemporary issues.

5. O'Keeffe G., & Clarke-Pearson K. (2011). The Impact of Social Media on Children Mental Health: A Review Of The Evidence . Pediatrics , 127(4), e898–e906 . doi: 10.1542/peds.2010-3557
6. World Health Organization (WHO): The WHO offers global perspectives on mental health issues and provides data-driven insights into emerging challenges facing mental health professionals worldwide

CHALLENGES FOR THE NATIONAL SECURITY OF POLAND ASSOCIATED WITH THE DEVELOPMENT OF MODERN TECHNOLOGIES

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Introduction. Rapid technological developments pose a serious challenge to Poland's national security. They have a direct impact on elementary aspects of national security, such as the fight against terrorism, ensuring the security of state institutions in cyberspace and guaranteeing the continuous military development necessary to counter both conventional and hybrid threats. The functioning of state entities and their citizens requires constant adaptation to the dynamically changing environment on the international arena. Poland, standing up for its national interests, must be in constant readiness to face the above-mentioned challenges. This requires making the best possible use of the opportunities and mitigating the threats associated with the constant multisectoral development of technology. With the problem situation outlined in this way, the main research problem of the article is formulated in the form of the question: Which challenges related to technological development have a significant impact on Poland's national security?

The specific problems were formulated in the form of the following questions:

1. What are the challenges of technological development?
2. What measures is Poland taking to adapt to the rapidly evolving environment in cyberspace?
3. What is the impact of technological development on Poland's military security?
4. How can state institutions use modern technologies to combat international terrorism?

The aim of the article is to identify and diagnose technological development in the context of Poland's national security.

The following research methods were used in the conducted research: literature analysis and criticism, comparison, generalisation.

Impact of technological developments on cybersecurity. Technological development is significantly responsible for the state of international security of states

in the aspect of cyberspace. The cyberspace of the Republic of Poland includes, inter alia, ICT systems, networks and services of particular importance for the internal security of the state, the banking system, as well as systems ensuring the functioning of the country's transport, communications, energy, water and gas infrastructures and health care IT systems [7, p. 11–24]. Cybersecurity is one of the most frequently addressed security topics. It is crucial to make both organisations and state institutions aware that the development of an informed society depends directly on an open and widely accessible, but above all secure, cyberspace. Poland is also subject to cyber-attacks. In order to ensure further uninterrupted development of the state, it is necessary to adapt the national law as well as the organisational changes necessary to ensure an adequate level of security in cyberspace [2, p. 103–128].

The motivation for most cybercriminals is usually profit, an example being so-called 'hacktivists', who, in pursuit of ideological goals, commit acts such as stealing and destroying sensitive data or obstructing access to it. Cyberspace is also used by terrorists as a tool for politically motivated activities [8, p. 2]. Due to the controversy and problems with clearly defining the term cyber-terrorism, it is difficult to clearly qualify specific examples of attacks as the result of terrorist activity in cyberspace. A classic example is the massive cyber attacks on the ICT infrastructure of many countries or institutions, as exemplified by Estonia, where in 2007 cyber attacks led to the paralysis of the state [3]. Some countries have also opted to develop offensive capabilities, creating appropriate structures within the armed forces and researching new types of 'cyber weapons', thus building their own deterrence resources against potential adversaries. In addition to specially dedicated units operating within the armed forces, selected countries also use the services of paid experts who, as mercenaries or members of the 'cyber police', carry out offensive and defensive tasks in cyberspace [11, p. 403–416].

Development of modern technologies and Poland's military security. Poland's military security is significantly dependent on technological developments. An example of this is the use of artificial intelligence in the military sphere. Experiments on the use of artificial intelligence in autonomous weapons systems have been carried out around the world for several years and will soon certainly lead to a new generation of weapons [10]. Kalashnikov plans to include neural network modules in its weapons, based on the principles of the human brain. Systems based on such solutions learn tasks by themselves and it is likely that the Russian company's weapons will be able to make autonomous decisions on the battlefield in a few years' time [4]. Autonomous weapon systems also have strategic implications. In the case of simultaneous use of several weapon systems in a dynamically changing operational environment, sudden interactions between systems could lead to unforeseen consequences. Unwanted political and strategic consequences could also occur if decision-makers fail to keep up with the pace of change on the future battlefield. Under such conditions, and with a high degree of digitised command processes and autonomy of combat systems, open armed conflict could occur rapidly [5, p. 101–113]. Consideration should also be given to the potential use of nanotechnology for

military purposes. Composite materials have high thermal, mechanical and electrical properties. They can be used to produce smart uniforms that, in the event of a soldier being injured and losing consciousness, identify the presence of albumin and automatically send a radio signal for assistance. Composite materials, due to their lightness, flexibility and good energy absorption properties, offer great potential for producing armour that protects the soldier's entire body. The lightweight, porous surfaces of nanofibres offer membrane-like properties that can sense, break down and filter toxins that appear on the battlefield and thus provide effective protection against chemical and biological agents. Admixtures of silver, magnesium, nickel and titanium nanoparticles significantly improve the decontamination properties of nanofibers [1, p. 125–139].

Use of modern technology in the fight against terrorism. Advanced modern technologies can also be used in the fight against terrorism. Crisis situations require sophisticated measures. One such measure is the PROTEUS System, as an integrated mobile system. The PROTEUS project was initiated in 2009 with the aim of improving the operation of uniformed services during rescue and firefighting operations, natural disasters and counter-terrorism activities. The PROTEUS system as a whole creates an improved, integrated crisis management centre. Many years of engineering work have created a system that makes it possible to act in emergency situations whose consequences can be predicted, but also in events that force the use of unconventional methods [9]. For this reason, the PROTEUS System has been provided with a range of technologies to meet the task. The design includes:
- Mobile Command Centre (MCD);
- Mobile Robot Operator Centre;
- Small mobile robot;
- Mobile intervention robot;
- Mobile robot with enhanced functionality;
- Unmanned flying vehicle (BSL).

The combination of all pieces of equipment creates a supplementary system that ensures integration between man and machine. Thanks to this application, anti-terrorist and counter-terrorist operations ensure a high level of elimination of the crisis situation. The main consideration of the designers was the mobility of the systems included in the project. Thanks to such a solution, the action can be coordinated directly at the scene of the incident, which saves time for information transfer and decision-making [9]. Subsequently, the ability to configure subsystems improves, among other things, reconnaissance tasks in hard-to-reach areas, as well as the removal and disarming of explosive charges. The durability and damage resistance of the equipment allows it to perform operations in the most extreme conditions. In turn, the remote control of mobile robots allows a safe distance to be maintained from the threatened area without endangering the machine operators [6, p. 161–175].

Conclusions. The research shows that modern technologies have a significant impact on Poland's national security. Modern information technology brings advanced cyber security tools and capabilities. However, this also increases the potential for

cyber-attacks, which requires continuous improvement and adaptation of cyber security policies. The development of military technology, including artificial intelligence, nanotechnology or cyber weapons, is changing the face of national defence. Poland needs to invest effectively in modern defence technologies to maintain its defence capabilities at an appropriate level. Modern technologies affect the protection of critical infrastructure, against potential terrorist attacks. Integrated IT systems can increase efficiency, but at the same time they increase the risk of cyber-attacks, which can have serious consequences for the functioning of the country. Poland must continue to invest in research and technological development in order to effectively manage new national security challenges. It is also necessary to strengthen international cooperation to share best practices and work together to defend against modern technology threats.

BIBLIOGRAPHY

1. Banasik M. Znaczenie nowoczesnych technologii dla bezpieczeństwa. *Rocznik Bezpieczeństwa Międzynarodowego*. 2019. T. 12. Nr 2. S. 125–139.
2. Chmielewski Z. Polityka publiczna w zakresie ochrony cyberprzestrzeni w UE i państwach członkowskich. *Studia Z Polityki Publicznej*. 2016. T. 3. Nr 2 (10). S. 103–128.
3. Hybrid Threats: 2007 cyber attacks on Estonia. Aday S., Andžāns M., Bērziņa-Čerenkova U., Granelli F., Gravelines J., Hills M., Holmstrom M., Klus A., Martinez-Sanchez I., Mattiisen M., Molder H., Morakabati Y., Pamment J., Sari A., Sazonov V., Simons G., Terra J. *Hybrid Threats. A Strategic Communications Perspective*. Riga : NATO Strategic Communications Centre of Excellence, 2019. P. 52–59.
4. Koncern Kałasznikow umieści w swojej broni sztuczną inteligencję. *geekweek*. 2017. https://geekweek.interia.pl/raport-wojna-przyszlosci/news-koncern-kalasznikow-umiesci-w-swojej-broni-sztuczna-intelige,nId,2414439
5. Kopczewski M., Krawczyk J. M. Wybrane elementy bezpieczeństwa wewnętrznego państwa na podstawie założeń „Strategii bezpieczeństwa narodowego Rzeczypospolitej Polskiej". *Doctrina. Studia społeczno-Polityczne*. 2019. T. 8. Nr 8. S. 101–113. URL: https://czasopisma.uph.edu.pl/doctrina/article/view/1386
6. Pniak S. Wybrane techniki wykorzystywane przez terrorystów. *Studia Bezpieczeństwa Narodowego*. 2016. Vol. 10. Nr 2. S. 161–175.
7. Przestrzelska K. Security In Cyberspace. *National Security Studies*. 2022. Vol. 25. No 3. P. 11–24.
8. Smolski W. Cyberterroryzm jako współczesne zagrożenie bezpieczeństwa państwa. *Rodzinna Europa. Europejska myśl polityczno – prawna u progu XXI wieku*. Wrocław : E-Wydawnictwo. Prawnicza i Ekonomiczna Biblioteka Cyfrowa. Wydział Prawa, Administracji i Ekonomii Uniwersytetu Wrocławskiego, 2015. S. 481–493. URL: https://www.repozytorium.uni.wroc.pl/dlibra/publication/67817

9. System PROTEUS – nowa jakość w działaniach antyterrorystycznych i antykryzysowy. Zabezpieczenia. 2009. URL: https://www.zabezpieczenia.com.pl/produkty-nowo%C5%9Bci-rynkowe/system-proteus-nowa-jako%C5%9B%C4%87-w-dzia%C5%82aniach-antyterrorystycznych-i

10. Sztuczna inteligencja rewolucjonizuje świat. Gwałtowny i obszarowo niekontrolowany rozwój technologiczny w skali globalnej w drugiej dekadzie XXI wieku pozwala zauważyć i sformułować wniosek, że świat wchodzi w kolejną, rewolucję przemysłową. *Wojsko Polskie*. 2024. URL: https://www.wojsko-polskie.pl/articles/tym-zyjemy-v/2024-01-04j-sztuczna-inteligencja-rewolucjonizuje-swiat/

11. Zawisza J. Cyberprzestrzeń jako zagrożenie bezpieczeństwa państwa. *Journal of Modern Science*. 2015. Vol. 27. No 4. P. 403–416.

ПРОБЛЕМА ДІАГНОСТИКИ КОГНІТИВНОЇ СФЕРИ ДІТЕЙ ДОШКІЛЬНОГО ВІКУ З РАС

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Ключові слова: *аутизм, когнітивний розвиток, діагностика, розлади аутистичного спектру (РАС).*

Актуальність. За п'ять останніх років, згідно з офіційними статистичними даними МОЗ України, кількість дітей з розладами аутистичного спектру в нашій країні зросла з 17,0 до 48,2 на 100 тисяч населення [2]. Таке стрімке зростання пояснюють не лише збільшенням кількості носіїв РАС, але і зміною підходів до діагностики, розширенням діагностичних можливостей.

Актуальною на сьогодні є проблема соціалізації дітей з РАС, оскільки основним симптомом вказаного розладу, згідно з МКХ-11, є порушення двосторонньої соціальної взаємодії. Проте, дедалі більше уваги приділяється вивченню особливостей когнітивної сфери дітей з РАС, пошуку шляхів її корекції. В першу чергу такий інтерес обумовлений впровадженням інклюзивного навчання, яке передбачає реалізацію права всіх дітей, незалежно від стану їх психічного та фізичного здоров'я, на отримання загальної освіти. Задля засвоєння програми загальноосвітньої школи розвиток когнітивної сфери дитини має ключове значення, оскільки саме стан пізнавальних процесів великою мірою визначає здатність дитини засвоювати знання і застосовувати їх.

Якісна діагностика когнітивної сфери дозволяє не лише визначити готовність дитини до шкільного навчання, рівень підтримки та зміст навчання, але й розробити відповідний корекційний маршрут, що є важливим для здійснення правильних корекційних заходів.

Проблема діагностики когнітивної сфери досліджувалася вітчизняними і зарубіжними вченими. Так, в Італії ще в 19 ст. П. Піццолі було розроблено програму для експериментального дослідження інтелектуального розвитку