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SZERKESZTŐI KÖSZÖNTŐ

Tisztelt Olvasó!


Mező Ferenc (PhD)
főszerkesztő

Köszöntjük a *Lélektan és hadviselés* interdiszciplináris e-folyóirat VII. évfolyam 2025/1. számának megjelenése alkalmából!

A 2025/1. lapszám megújult magyar/angol nyelvű honlapon, megújult cikk előzékekkel köszönti Olvasóit.

Az elméleti és empirikus tanulmányokat közlő rovatban öt tanulmány olvasható. Az első szerzője Kovács Írisz, a spanyol aragóniai kisebbség nyelveiről értekezik nyelvpolitikai aspektusokat feltárva.

A lapszám második tanulmányában Dr. Königsberger Krisztián Magyar Honvédség vezetőfejlesztési alapjairól nyújt áttekintést.

Ezt követően Malokhat Sultanova a marketing társadalmi vállalkozásokban betöltött szerepéről ír, a hatás és a jövedelem egyensúlyára való fókuszálással.

Majd Rezsneki Zsombor két tanulmánya olvasható. Az első tanulmány egy két részes cikksorozat első elemeként nyújt bepillantást az űrtevékenység történetébe. A tanulmány a világűr kutatásához szükséges műszaki fejlettség elemzésével foglalkozik az űrképes országok esetében. A második tanulmány az űrszövetségek és fenyegetések történeti feltárására törekszik.

A „Műhely, rendezvény" rovatban egy konferencia beszámolót és három meghívót olvashatunk. A konferenciabeszámoló a 2025.04.24-26.-án a Debreceni Egyetemen megvalósult X. Különleges Bánásmód című konferencia három napján megvalósult eseményeknek a bemutatásáról szól. A konferencia számos, különleges lehetőséget nyújtott a résztvevők számára.

A meghívók közül az első az Eszterházy Károly Katolikus Egyetem 2025.10.03-05. között megrendezésre kerülő „Tanulás és Társadalom (2025)" című nemzetközi interdiszciplináris konferenciájára invitálja Olvasóit.

A második meghívó interdiszciplináris junior kutatócsoportba történő bekapcsolódási lehetőséget kínál fel.

S végül – hogy ne feledkezzünk el a zene háborúban és békében betöltött szerepéről – a harmadik meghívó a Gyöngyös városában 2025.07.24-27 között megrendezésre kerülő Gitárfesztiválra invitálja az Olvasókat!

Gondolatébresztő kalandozást kívánok
a hadak útján, a pszichológia ösvényein,
a történelem útvesztőiben:

Dr. Mező Ferenc
alapító főszerkesztő

ELMÉLETI ÉS EMPIRIKUS TANULMÁNYOK

THE MAZE OF LANGUAGE POLICY: A STUDY OF MINORITY LANGUAGES IN ARAGÓN

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Abstract

Aragón is an autonomous community located in the north-eastern part of Spain. Like many other Spanish regions, it possesses its own linguistic identity, with Aragonese and Catalan traditionally spoken in certain areas. In recent years, the situation of Aragón's minority languages has become the focus of significant legal and political debate. In 2023, legal reforms introduced by the coalition of the People's Party (PP) and Vox dramatically altered the region's approach to minority languages. These reforms eliminated the explicit recognition of Catalan and

Aragonese as part of the region's cultural heritage, replacing them with generic labels referring to "eastern" and "Pyrenean" language varieties. This move marked a return to the policies of 2013, which had significantly restricted the legal protection and cultural recognition of the Catalan and Aragonese languages. The reforms have sparked considerable social and political opposition. Supporters argue that the law recognises Aragón's linguistic diversity without imposing a rigid framework that privileges Catalan or Aragonese over other regional dialects. However, civil organisations and cultural movements accuse the government of undermining the protection and use of minority languages, in contradiction with the commitments made under the Spanish Constitution and the European Charter for Regional or Minority Languages.

Keywords: minority protection, language rights, language policy, Aragón, Spain

Disciplines: linguistics, legal studies, sociology

Absztrakt

A NYELVPOLITIKA ÚTVESZTŐJE: TANULMÁNY ARAGÓNIA KISEBBSÉGI NYELVEIRŐL

Más spanyol régiókhoz hasonlóan Aragónia is sajátos nyelvi identitással rendelkezik: bizonyos területein hagyományosan az aragón és a katalán nyelvet beszélik. Az utóbbi években Aragónia kisebbségi nyelveinek helyzete jelentős jogi és politikai viták középpontjába került. 2023-ban a Néppárt (PP) és a VOX párt koalíciója által bevezetett jogszabályi reformok alapjaiban változtatták meg a régió kisebbségi nyelvekhez való hozzáállását. E reformok megszüntették a katalán és az aragón nyelv kifejezett elismerését, mint a régió kulturális örökségének részét, helyettük általános, „keleti" és „pireneusi" nyelvi változatokra utaló megnevezéseket vezettek be. Ez a lépés visszatérést jelentett a 2013-as nyelvpolitikához, amely már korábban is jelentősen korlátozta a katalán és az aragón nyelv jogi védelmét és kulturális elismerését. A reformok jelentős társadalmi és politikai ellenállást váltottak ki. Támogatóik azzal érvelnek, hogy a törvény elismeri Aragónia nyelvi sokszínűségét anélkül, hogy merev keretet kényszerítene rá, amely előnyben részesítené a katalánt vagy az aragónt más regionális nyelvváltozatokkal szemben. Ugyanakkor civil szervezetek és kulturális mozgalmak azzal vádolják a kormányt, hogy aláássa a kisebbségi nyelvek védelmét és használatát, szembe helyezkedve az Alkotmányban és a Regionális vagy Kisebbségi Nyelvek Európai Chartájában foglalt kötelezettségvállalásokkal.

Kulcsszavak: kisebbségvédelem, nyelvi jogok, nyelvpolitika, Aragónia, Spanyolország

Diszciplínák: nyelvtudomány, jogtudomány, szociológia

The present study examines the situation of minority languages in Aragón, especially Aragón and Catalan, within the language policy framework of Spain. It focuses on the development of language rights, the possibilities for language protection and revitalisation, and the challenges involved. Linguistic diversity and the promotion of minority languages is not only a cultural issue, but also a fundamental human rights and social policy issue. In the first part of the paper, the linguistic system of Spain is reviewed, with particular reference to the situation in Aragón. It then focuses on the 2013 language law and its consequences. In the third part, the international and domestic legal framework for language rights is examined, followed by specific policy proposals reflecting on the shortcomings of language policy in Aragón. Finally, the paper concludes with a summary and recommendations.

The language situation in Spain

The protection of minority languages is a complex and challenging area, especially in Spain, where linguistic diversity is very rich. During Franco's dictatorship (1939-1975), languages spoken alongside Spanish (Castilian) suffered severe discrimination and repression, and their use was severely restricted. The adoption of the Constitution of 1978 brought a more favourable period for minority languages, although there are still significant differences between the autonomous communities in this respect. The constitution leaves the official recognition of minority languages to the autonomous regions, which can decide whether or not to grant minority language users the right to use their language in the public sphere.

Spain recognises five co-official languages - Catalan, Basque, Galician, Valencian and Aranese - all of which have the same status as Spanish in the region where they are spoken. While some languages have official status in their respective areas, others, including the most vulnerable, are not protected and their use is increasingly marginalised. From a legal perspective, the treatment of minority languages is therefore not uniform. The case of Aragón clearly shows how the lack of official recognition affects the social perception and use of certain languages.

Minority languages in Aragón

In Aragón, the most widespread is undoubtedly Spanish (Castilian), which is almost entirely dominant in the province of Teruel, the province of Zaragoza and the southern parts of the province of Huesca. Catalan, on the other hand, is found in the eastern part of the community, bordering Catalonia. Finally, there is the Aragonese language and its Benascan dialect, which are present in the northern part of the province of Huesca and, in the north-western corner of the province of Zaragoza (Villanueva, 2012).

The number of minority speakers in Aragón is given differently by different sources. According to the Ethnologue, one of the most

complete linguistic sources, 11 000 people speak Aragón as their mother tongue and another 20 000 as a second language. A similar figure is given by the Atlas of Endangered Languages developed by UNESCO, which classifies 10 000 native speakers as Aragonese and classifies them as 'endangered' (UNESCO, 2011). Article 7 of the Statute of Autonomy of Aragón refers to the territory's own languages and linguistic varieties. The Statute states that „Aragón's own languages and linguistic varieties are one of the most outstanding expressions of its historical and cultural heritage and represent a social value of respect, coexistence and understanding." (Statute of Autonomy of Aragón, 2007)

Language laws

In 2009, the Spanish Socialist Workers' Party won the elections and Marcelino Iglesias became president for the third time with the support of the Aragón Party (PAR). The first Aragonese language law, Law 10/2009, de uso, protección y promoción de las lenguas propias de Aragón (Law 10/2009, on the use, protection and promotion of the Aragonese languages), was adopted at this time. This law aimed to normalise the use of Aragonese and Catalan in relations between citizens and the administration (López, Ignacio, 2011).

Article 2 of Law 10/2009 recognises Aragón as the historical and original language of Aragón. Paragraph 2.3 further stipulates that Catalan and Aragonese „shall be protected and their teaching shall be guaranteed and promoted" (Law 10/2009, emphasis mine).

In the 2013 elections, the Spanish Socialist Workers' Party (PSOE) lost almost 30% of the vote compared to 2007, and the Popular Party (PP) won the most votes in Aragón since 1999. As a result, Luisa Fernanda Rudi (PP) became president. Law 10/2009 was then repealed and Law 3/2013 was adopted. The latter amended the previous one and, unlike the former, only mentions minority languages once and does not take into account in any way the sociolinguistic situation or linguistic vitality of the regional languages. Both historical languages lose their designation in this legal document. In many respects, the 2013 law was „a regulation without content, and perhaps its only purpose was to abolish the previous regulation and maintain the legal appearance"(Susin, Ignacio, 2021). The law does not mention Aragón by name, but uses the term 'languages specific to Aragón'. This move reduced the official status of Aragonese and restricted its use in education and administration.

The adoption of the 2013 law is seen by many as a politically motivated, symbolic response to Catalan independence aspirations. However, political decisions that ignore the scientific consensus have mostly affected local language users, contributing to the gradual disappearance of languages (Franc, 2015).

Appeal against the law

In the Spanish parliament, 63 MPs, including the Spanish Socialist Workers' Party, the United Left, Convergence and Union, and the Catalan Republican Left, filed a constitutionality complaint against the law,

arguing that it violated the Spanish Constitution, the Statute of Autonomy of Aragón and international conventions on the protection of minority languages, such as the European Charter for Regional or Minority Languages (Europa Press, 2013).

In addition, a number of linguistic and cultural organisations in Aragón and the Huesca departmental council have spoken out against the law, stressing that it does not recognise the trilingual reality of Aragón and threatens the survival of minority languages. The complaint was accepted by the Spanish Constitutional Court in September 2013, and in March 2016 it issued a decision rejecting the complaint and declaring the law constitutional (El País, 2013).

Several organisations (Rolde de Estudios Aragoneses, Consello d'a Fabla Aragonesa, Institut d'Estudis del Baix Cinca and Associació Cultural del Matarranya) have complained to the Ombudsman. The complaint stated that the government was failing to fulfil its obligations under the Statute of Autonomy of Aragón, the Spanish Constitution and the European Charter for Regional or Minority Languages. They also complained that it had abolished the Directorate General for Language Policy and programmes for the promotion and dissemination of Aragón and Catalan.

The Ombudsman, who has power in language matters under the existing language law, has accepted the complaint and recommends that the government should launch language protection policies with adequate budgetary support (El Periodico, 2024).

Questions to the European Commission

According to information from the European Parliament's written questions of February 2024, in December 2023 the Aragonese Government presented the 2024 budget, which, in addition to confirming the abolition of the Directorate-General for Language Policy, the only authority responsible for promoting the use of the Aragonese language, also eliminated the only remaining funding for the Aragon Language Academy through amendments by the far-right VOX party, after excluding it from the state budget. In addition to the cuts affecting languages deemed endangered by UNESCO, the PP-VOX government has announced its intention to amend the Heritage Law, part of Aragón's Statute of Autonomy, which provides protection for Aragonese and Catalan, removing this recognition, from June. In addition, the abolition of the Aragonese Language and Catalan Language Institute has been announced. In the light of this, the first question to the Commission was: Is the Commission aware of this change, which affects the two indigenous languages of Aragón? Is there an EU fund which could provide support for the Aragonese Language Academy in the event of its exclusion from the budget? Are there any measures to penalise governments that abolish departments for the protection of endangered

languages? (Question to the European Commission, 2024)

The reply states that the Commission is monitoring the changes in Aragón and underlines that multilingualism is a key European value and that regional and minority languages are a fundamental part of the EU's cultural heritage. However, the EU has no competence in relation to national or regional minorities or the recognition or use of languages, either in education or in other areas within Member States.

Although the Commission has no power to develop European policy in this area, it works with Member States and stakeholders to support projects to preserve regional and minority languages. The Erasmus+ and Creative Europe programmes support all languages, including regional and minority languages. The Aragon Language Academy may seek partnerships to apply for a project (European Commission, 2024).

The Constitutional Court's position on the new language law

The Constitutional Court upholds the restoration of the name of the Aragonese languages, but rejects the appeal against Law 3/2013 (Fernández, 2016). The appellants' claims and the legal basis of the judgment are presented below.

According to the appellants, the constitutional recognition of the right to use the mother tongue is not merely a proclamation of linguistic rights linked to certain fundamental rights; it also implies an institutional guarantee that languages are recognisable and can be used to their full extent. In contrast, Law 3/2013, ignoring the terminology of several Aragonese laws that refer to Aragonese and Catalan, omits their mention and instead consistently refers to them as „the Aragonese language in the Pyrenees and pre-Pyrenees areas" and „the Aragonese language in the Eastern areas".

The Constitutional Court stresses that Article 4.1 of Law 3/1999 of 10 March 1999 on the cultural heritage of Aragón was amended by Article 35 of Law 2/2016 of 28 January 2016 on fiscal and administrative measures of the Autonomous Community of Aragón. According to the Court, „this amendment is relevant" and the appeal is moot on this issue, since „the restoration of the designation of the Aragonese and Catalan languages to their respective linguistic forms has been carried out, so that the designation adopted at the time has been repealed."

With regard to the challenge to the creation of a single academy, the Constitutional Court considers that its possible unconstitutionality has not been adequately demonstrated, since the action only expresses a fear or a presumption and does not go into the substance of the matter.

The principle of non-retrogression has appeared in the appeal. The appellants recall that the international texts contain the principle of maintaining the legal status of the language, which constitutes a safeguard and prevents the rules from being reverted,

ensuring the irreversibility of the minimum rights acquired.

It is argued that the preservation of Europe's linguistic heritage and its diversity is increasingly accepted as an international principle, and that it should be assumed that, except in cases clearly justified by linguistic changes, no language should have its legal status reduced and that legal amendments should always increase its protection, with the aim of recognising its official status or extending its territorial or material scope (Lopez, Susin, 2021).

The appellants also argue that the prohibition of retroactivity of provisions restricting individual rights (Article 9.3 of the Constitution) has crystallised into a principle of irreversibility of the fundamental status of rights, especially when their essential content is enshrined in an international law that has been fully accepted by the Spanish State. The principle not only applies to the protection of fundamental rights in the legal system, but has also allowed the principle of irreversibility to be consolidated in other areas, such as environmental legislation. This principle does not preclude the amendment of environmental laws, but requires a 'balance' to be struck between economic development and environmental protection, where minimum standards must always be maintained and monitored. According to the appellants, if this principle is applied in cases involving the designation of areas for special environmental protection, it should be applied even more so to the use of the vernacular. They recall that the principle of the protection of legitimate expectations, which derives from the principle of legal certainty, according to the Constitutional Court's judgment 222/2003 (4th legal principle), must prevent the free elimination of the minimum guarantees that guarantee the exercise of the rights of certain social groups, preserving the balance between the hardening of the legal system and the violation of the legitimate expectations of the groups affected by retrogressive legislation (Lopez, Susin, 2021).

In this case, the appellants consider that there has been a retrograde step both in terms of the overall rights of Aragonese and Catalan speakers and in terms of legal certainty, since a rule has been abolished which guaranteed minimum individual rights and determined the minimum legal status of the native and minority languages in Aragón. However, the Constitutional Court considers that „although the principle of legal certainty requires that the succession of laws in any State governed by the rule of law must be subject to certain conditions, these do not include the prohibition of unfavourable reform" (Lopez, Susin, 2021).

Citizens' initiative for the protection of Aragonese languages

A petition campaign was launched at the initiative of Rolde de Estudios Aragoneses, which collected around 2 500 signatures in 48 hours. The campaign stresses that more than 150,000 people use or know Aragonese and Catalan, which are protected under the

Constitution of Spain, the European Charter for Regional or Minority Languages, the Statute of Autonomy of Aragon and local laws (Tricas, Izagirre, 2024).

According to the initiative, the PP-Vox-PAR coalition government of the Aragón region is planning to amend legislation that would abolish the recognition of these languages, preventing their teaching, dissemination and promotion of the related culture. The aim of the petition is to maintain the current linguistic protection and ensure the survival of these languages. However, Jorge Azcón and his government see the Aragonese language as the problem, not its rescue (Tricas, Izagirre, 2024). According to the Council of Europe, „the protection and strengthening of minority languages contributes to the building of Europe, which cannot be based on principles other than democracy and the right to diversity", which are among the fundamental values of the Member States. Nothing is known of Azcón's views on this, but in the drift of his populist views he may have become Eurosceptic (Tricas, Izagirre, 2024).

Council of Europe's action

On 17 January 2024, the Council organised a hearing in Madrid, where it met representatives of local organisations interested in the defence of Aragonese languages, including experts from the Rolde de Estudios Aragoneses, the Consello d'a Fabla Aragonesa and the Johan Ferrández d'Heredia Cathedral of the University of Zaragoza. The government's position will be heard later, after which the committee of experts will prepare a report for the Committee of Ministers. The latter will make recommendations which the authorities responsible for the area, in this case the Government of Aragón, will be obliged to take into account.

The Council of Europe's intention is to ensure that minority languages are adequately protected and promoted, with particular reference to the situation of the Aragonese and Catalan languages. The implementation of their recommendations is not only a legal obligation, but also a cultural and social one. The Seminar presented a detailed report on the institutional situation of the Aragonese and Catalan languages. It was highlighted that the progress made in language policy between 2015 and 2023 was sharply interrupted by the change of government. These measures included the abolition of the Directorate-General for Language Policy, which was responsible for the promotion and teaching of the Aragonese and Catalan languages between 2015 and 2023. The financial impossibility of the Aragonese Language Academy, which is responsible for ensuring the correct use of the Aragonese languages. The amount allocated to the promotion and development of languages was €385,500 in 2023, while it fell to €0 in 2024, despite having the largest budget in history (Arainfo, 2024).

Council of Europe representatives expressed their concern about the data presented and indicated that they would take it into

account in their periodic report on the situation of minority languages in the European Union. They stressed that the protection of the Aragonese and Catalan languages is an international and legal obligation.

Consequences

The budget cuts are having an impact in many areas, such as media content. Aragón Television's programmes „Charrín Charrán" and „A Escampar la Boira" have been discontinued. Subsidies to local municipalities and associations have ceased. The development of digital tools related to the language, such as translators and online dictionaries, has been discontinued. In the educational sector, there has been no progress in the development of materials related to Aragonese languages.

The Aragonese Sociolinguistic Seminar recalled that the language policy of the Aragonese Government is contrary to European, Spanish and Aragonese legislation, which guarantees the protection and right to use minority languages. They pointed out that the creation of the Aragonese Language Academy in 2021 was the result of an agreement between the Government, the Aragonese Parliament and the University of Zaragoza, and that it is therefore also illegal to prevent it from being established. The meeting highlighted the need to protect minority languages and urged that international recommendations be taken into account.

In relation to the protection and promotion of the minority languages of Aragón, the following changes have occurred during the evaluation, which give cause for concern: funding for organisations aimed at the protection and promotion of the Aragonese language has been drastically reduced, programmes at regional level have been stopped, cross-border initiatives such as the LINGUATEC project have been suspended. The reorganisation of the government structure and of the competences of the Directorate-General for Language Policy is hampering the use of Aragón in public life. The teaching of Aragonese to adults in official language schools has been discontinued.Aragonese speakers are not consulted by the regional authorities about their needs and requirements. Funding for the Aragón Language Academy has been significantly reduced (Arainfo, 2024).

Conclusions

Immediate and decisive action is needed to protect the Aragonese language and culture, in cooperation with the speakers of the language. The inclusion of the name of the Aragón language in the Statute of Autonomy is also important. In the long term, a detailed plan for the protection, use and promotion of the Aragonese language needs to be drawn up in cooperation with its speakers. Ensure effective coordination of Aragón language policy. Provide targeted funding for Aragón language support organisations. Promote the use and presence of Aragón in television, radio, print

and online media. Restore the teaching of Aragón to adults in official language schools. Strengthen the role of the Aragonese Language Academy as an advisory body to the public authorities on matters relating to the Aragonese language. These measures are essential for the preservation and development of the Aragonese language and culture.

Supporter/ Támogató

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ÁTTEKINTÉS A VEZETŐFEJLESZTÉS ELMÉLETI ALAPJAIRÓL A MAGYAR HONVÉDSÉGBEN

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Absztrakt

A modern biztonságpolitikai és szervezeti kihívások a Magyar Honvédség személyi állománya számára is fokozódó terhelést jelentenek, amely egyre indokoltabbá teszi a belső vezetőfejlesztés elméleti és módszertani megalapozását. Jelen tanulmány vizsgálja a kompetenciaelemzés és a munkakörelemzés pszichológiai és szervezetfejlesztési hátterét, különös tekintettel ezek katonai szervezetben történő integrálhatóságára. A két megközelítés illesztésén keresztül körvonalazódnak azok a szervezetpszichológiai

alapfogalmak és rendszerszintű összefüggések, amelyek a parancsnoki és főtiszti pozíciók betöltéséhez szükséges kompetenciák feltárását segítik. A tanulmány kitekintést nyújt a fejlesztő értékelő központok (Development Center), mentorprogramok és ösztönző rendszerek szakirodalmi hátterére is, melyek a vezetői utánpótláspszichológia korszerű megközelítéseiben releváns elemekként jelennek meg.

Kulcsszavak: katonai vezetőfejlesztés; kompetenciaelemzés; munkakörelemzés; munkapszichológia; fejlesztő központ

Diszciplína: pszichológia

Abstract:

OVERVIEW OF THE THEORETICAL FOUNDATIONS OF LEADERSHIP DEVELOPMENT IN THE HUNGARIAN DEFENCE FORCES

Modern security policy and organizational challenges place increasing demands on the personnel of the Hungarian Defence Forces, making the theoretical and methodological foundations of internal leadership development increasingly justified. This study examines the psychological and organizational development background of competency analysis and job analysis, with particular emphasis on their integration into a military organization. Through the alignment of these two approaches, key organizational psychology concepts and systemic interrelations are outlined, which support the identification of competencies required for command and senior officer positions. The study also provides an overview of the literature on development centers, mentoring programs, and incentive systems, which appear as relevant elements in contemporary approaches to leadership succession psychology.

Keywords: military leadership development; competency analysis; job analysis; occupational psychology; development center

Discipline: psychology

Bevezetés

A katonai vezetőfejlesztés kérdésköre a 21. század első negyedében új megvilágításba került, mivel a globális biztonságpolitikai instabilitás, a hibrid hadviselés térnyerése és a szervezeti rugalmasság szükségessége fokozott pszichológiai terhet ró a haderők személyi állományára. A Magyar Honvédség (MH) humánerőforrás-menedzsmentje (HR) napjainkban jelentős kihívásokkal néz szembe, amelyek mögött elsősorban demográfiai, munkaerőpiaci és generációs változások állnak (Wirges & Neyer, 2023). Magyarország népességének hosszú távú csökkenése, valamint az aktív korú lakosság arányának visszaesése következtében szűkül a potenciális munkavállalói bázis, amely megnehezíti az MH

számára az utánpótlás biztosítását (Balla, 2023; Ferkelt & Sándorné Kriszt, 2023). A toborzás és megtartás terén fokozott verseny alakult ki a civil szféra nagyvállalatai és a hivatásos állományt alkalmazó fegyveres testületek között, különösen a fiatal, pályakezdő korosztály esetében. Mindezt tovább erősíti a munkaerőpiacon zajló generációváltás, amely új attitűdök, motivációs mintázatok és munkahelyi elvárások megjelenésével jár (Johnson & Rivera, 2007). A jelenlegi fiatal generáció tagjai, az Y és Z generáció, egyre kevésbé az élethosszig tartó munkaviszony keretei között értelmezik szakmai pályájukat, inkább ciklikus, rugalmas karrierutakban gondolkodnak. Ennek következtében a munkahelyi elköteleződés időtartama jelentősen lerövidült: a tapasztalatok szerint akár 2–3 évente is sor kerülhet munkahelyváltásra, amennyiben egy másik szervezet vonzóbb munkakörnyezetet, javadalmazást vagy fejlődési lehetőséget kínál (Benítez-Márquez és mtsai., 2022).

A fenti trendek a Magyar Honvédség számára is új szervezeti válaszokat tesznek szükségessé a hosszú távon stabil és elkötelezett vezetői utánpótlás biztosításának érdekében. A probléma egyik lehetséges megoldása a szervezeti szintű vezetőfejlesztés megalapozása. Bár e megközelítés a civil szférában széles körben alkalmazott (Black & Earnest, 2009; Frich és mtsai., 2015; Holt és mtsai., 2018), a katonai szervezetekre vonatkozó adaptációra vonatkozóan korlátozott számú feldolgozás érhető el a hazai szakirodalomban. A megoldás alapját képezheti a kompetencia- és munkakörelemzés integrált alkalmazása, amely a munkapszichológia szemszögéből lehetővé teszi a vezetői szerepekhez illeszkedő profilok objektív azonosítását.

Jelen tanulmány célja, hogy feltérképezze a kompetenciaelemzés és a munkakörelemzés munkapszichológiai és szervezetfejlesztési hátterét, tekintettel ezek katonai környezetben való alkalmazhatóságára. A vizsgálat célkitűzése nem gyakorlati programjavaslat kidolgozása, hanem elméleti alapvetés biztosítása egy lehetséges fejlesztési irány előkészítéséhez, amelyet az MH pszichológus szakállománya is támogathat. A tanulmány az elméleti háttér bemutatásával indul, amely a kompetencia- és munkakörelemzés módszertani áttekintését tartalmazza. A továbbiakban a két megközelítés integrációs lehetőségei kerülnek kifejtésre, majd kitekintést nyerünk a fejlesztő értékelő központokra, a mentorprogramokra és az ösztönző rendszerekre, mint a vezetőfejlesztés bővítésének további lehetséges eszközeire.

Kompetenciaelemzés

Definíció szerint a kompetencia azon ismeretek, készségek, képességek, magatartás és viselkedési jegyek összessége, amelyek által az egyén képes egy meghatározott feladat eredményes elvégzésére (Wong, 2020). Egy személy kompetenciája felépül az attitűdből, a tudásból és a készségekből (Tumbas és mtsai., 2019). A

munkáltató szempontjából vizsgálva a kompetens munkavállaló a versenyképesség záloga. Kompetens az a személy, aki az élete során elsajátított tulajdonságai és képességei révén képes megfelelni a munka világa kihívásainak (Kim & Jung, 2022). Az Európai Unió (EU) által bevezetett kategóriák mentén tovább rendszerezhetők a kompetenciák:(1) alapkompetenciák, (2) kulcskompetenciák, (3) generikus kompetenciák,(4) specifikus kompetenciák (Fabulya és mtsai., 2017; Mező és Mező, 2024)

Alapkompetenciák

Az alapkompetenciák, más néven bázis-kompetenciák olyan általánosan fontos személyiségjellemzők és képességek összességét jelentik, amelyek gyakori előfordulásuk révén az élet számos területén alkalmazhatók. Ezek a kompetenciák alapot képeznek a kulcskompetenciák, valamint a generikus és funkcionális kompetenciák kialakításához, mint például az írás, olvasás, számolás vagy a szövegértés képessége. Emellett a társadalmi és közösségi élet működését is megalapozó tényezőkként értelmezhetők. Az alapkészségek fejlesztése jellemzően a különböző képző intézmények feladata és felelőssége (Bácsi, 2015).

Kulcskompetenciák

A kulcskompetenciák olyan alapvető készségek és képességek, amelyek nem kizárólag egyetlen szakmához kapcsolódnak, hanem szinte minden foglalkozási területen nélkülözhetetlenek. Jelentőségük túlmutat az egyes munkakörökön, mivel hozzájárulnak ahhoz, hogy az egyén sikeresen helytálljon a munkaerőpiac változó elvárásaival szemben. Ezek a kompetenciák szervesen épülnek az alapkompetenciákra, és támogatják a szakmai mobilitást, a rugalmas alkalmazkodást, valamint az élethosszig tartó tanulás megvalósulását a munkavégzés során (Sári, 2019; Wiek és mtsai., 2011).

Generikus kompetenciák

A generikus kompetenciák általános, a munkavégzéshez és az adott szervezet működéséhez kapcsolódó képességek és viselkedési mintázatok, amelyek nem köthetők egyetlen szakterülethez, ugyanakkor meghatározó jelentőséggel bírnak a szervezeti hatékonyság szempontjából. Ezek a kompetenciák jellemzően egy adott szervezeten belül több munkakörre, illetve munkaköri csoportokra egyaránt érvényesek, és hozzájárulnak a strukturált, kiszámítható és eredményes munkavégzéshez (Chan és mtsai., 2017; Hughes & Barrie, 2010).

A legfontosabb generikus kompetenciák közé tartozik a munkafolyamatok racionális megszervezésének képessége, valamint az idővel, energiával és erőforrásokkal való hatékony gazdálkodás. Ugyancsak kiemelt jelentőségű a problémaérzékenység, a kreatív problémamegoldás, illetve az alternatív megoldási lehetőségek mérlegelésére való képesség. A lényeglátás és a döntésképesség az

információk hatékony feldolgozását és a gyors, megalapozott döntéshozatalt támogatják. Munkapszichológiai nézőpontból a generikus kompetenciák a szervezeti adaptáció, a munkahatékonyság és a kollektív teljesítmény előfeltételei, amelyek célzott fejlesztése hozzájárulhat a munkavállalók hosszú távú beválásához és elégedettségéhez (Galanis & Sottilare, 2017).

Specifikus kompetenciák

A speciális, másnéven funkcionális kompetenciák a munkakör-specifikus készségek, képességek és viselkedésminták összességét jelentik, így az adott munkakör eredményes és hatékony ellátásához elengedhetetlenek. E kompetenciák magukban foglalják mindazt a szakmai tudást és viselkedésrepertoárt, amely a kimagasló munkahelyi teljesítmény alapját képezi, és lehetővé teszi a munkavállaló számára, hogy a munkaköri elvárásoknak magas szinten megfeleljen (Hein, 2010).

A szakmaspecifikus kompetenciarendszerek kialakításakor a generikus és a funkcionális kompetenciák egyaránt meghatározó szerepet kapnak, mivel ezek adják a különböző munkakörökre szabott követelményprofilok alapját. Munkapszichológiai megközelítésben a funkcionális kompetenciák feltérképezése különösen fontos a munkakörelemzés, a teljesítményértékelés és a kiválasztás szempontjából, hiszen ezek révén azonosíthatók azok az egyéni jellemzők, amelyek közvetlen kapcsolatban állnak a munkavégzés minőségével és eredményességével (Rimskaya és mtsai., 2022; Zsolnai, 2021). A kompetencia kategóriák rendszerszintű meghatározása megalapozza a szervezet HR folyamatainak hatékony működését, amelynek következő lépése a felállított kategóriák mentén a munkakör betöltéséhez szükséges kompetenciák azonosítása és elemzése.

A kompetenciaelemzés előnyei

A kompetenciaelemzés jelentős előnyt biztosít a munkáltató számára a humánerőforrás-gazdálkodás több területén is. Mindenekelőtt lehetőséget nyújt a pozícióhoz szükséges kompetenciák előzetes azonosítására, amely révén célzottabbá és hatékonyabbá válik a kiválasztási folyamat. Ennek eredményeként növekszik az új belépők beválási aránya és csökkenhet a fluktuáció (Karimi és mtsai., 2019; Spychała és mtsai., 2019). Emellett a kompetenciaelemzés segíti a fejlődési szükségletek pontos feltárását is, lehetővé téve annak meghatározását, hogy mely munkavállalóknál van szükség fejlesztésre. Ez támogatja a képzések tudatos tervezését, és hozzájárul a fejlesztési források költséghatékony felhasználásához (O'Toole & Talbot, 2011). Végezetül, az egyéni kompetenciák strukturált feltérképezése megalapozza a szervezeten belüli utánpótlástervezést, elősegíti a karrierutak átlátható kialakítását, valamint támogatja a belső mobilitást és a vezetői utánpótlás biztosítását (Sári, 2019).

A kompetenciaelemzés lehetséges hátrányai

A kompetenciaelemzés jelentős idő- és erőforrásigénnyel járhat, különösen akkor, ha az elemzés célja egy részletes, empirikusan megalapozott, több szintű kompetenciamodell kialakítása. A strukturált interjúk, kérdőívek, munkakörelemzések és fókuszcsoportos egyeztetések lebonyolítása nemcsak időigényes, hanem a humán kapacitásokat is leköti. Ezt tovább nehezítheti, hogy a létrehozott kompetenciarendszerek gyakorlati alkalmazása sokszor rugalmatlannak bizonyulhat, különösen dinamikusan változó munkaköri elvárások vagy szervezeti átalakulások idején. A túlságosan merev, sablonszerű modellek nehezen követik a valós munkavégzés során fellépő új kihívásokat, ami aláásható a rendszer gyakorlati hasznosságát és a vezetői döntések mozgásterét is (Marrelli és mtsai., 2005; Radi Afsouran és mtsai., 2022).

A kompetenciaelemzés hátrányait enyhítő stratégiák

A kompetenciaelemzés bevezetésének egyik hatékony módja a fokozatosság elvének alkalmazása, amely lehetővé teszi a módszertani finomhangolást és a gyakorlati tapasztalatok beépítését. Célszerű a folyamatot egy kisebb szervezeti egységben vagy kulcspozíciókban indítani pilotprogramként, ezáltal csökkenthető a rendszer bevezetéséből fakadó kezdeti túlterheltség, és biztosítható a szervezeti adaptáció (Tinoco-Giraldo és mtsai., 2022). A hosszú távú alkalmazhatóság érdekében javasolt a kompetenciarendszer moduláris, skálázható struktúrában történő kialakítása, amely lehetővé teszi az egyes munkaköri csoportokra szabott adaptációt, valamint az új kompetenciák dinamikus integrálását. Ez a megközelítés növeli a rendszer rugalmasságát, és támogatja annak fenntartható működését a változó szervezeti környezetben (May, 1999; Oertwig és mtsai., 2016). Továbbá, a rendszer érvényessége csak akkor tartható fenn, ha az nem statikus konstrukcióként működik, hanem ciklikusan felülvizsgált és frissített eszköztárként. Ennek részeként kiemelt jelentőségű a felhasználók, a vezetők és munkavállalók, bevonása a visszacsatolási folyamatba, mivel ez növeli az elfogadottságot, erősíti az elköteleződést, és biztosítja a kompetenciaelemzés gyakorlati relevanciáját (Baker és mtsai., 2013).

Munkakörelemzés

A munkakör a szervezeti elem egysége, szűkebb értelemben azon feladatok összessége, amelyeket egy személynek kell elvégeznie, míg tágabb értelemben a szervezet azon szabályozási egysége, amelyhez nem csak a feladatot, de a munkavégzés helyét, a munkavégzés rendjét és a felelősségi kört is hozzárendeljük (Schneider & Konz, 1989). A munkakörelemzés szisztematikus elemzési és információgyűjtési folyamat egy adott munkakör keretében elvégzendő feladatokról és tevékenységekről, betöltőjének az

előzőekhez kapcsolódó felelősségeiről, a munkakör szervezeti kontextusáról (lásd: Harvey, 1991). A munkakörelemzés írásban is rögzített eredménye lehet a munkaköri leírás.

A munkakörelemzés szervezeti szinten alapvető eszköze a strukturált és hatékony humánerőforrás-gazdálkodásnak, mivel hozzájárul a felelősségi körök egyértelmű meghatározásához, és ezáltal csökkenti a szerepkonfliktusok és teljesítménybeli átfedések kockázatát (Landau & Rohmert, 2017). A világos munkaköri leírások elősegítik a vállalati tudásmegosztást, mivel az egyes feladatkörök transzparens dokumentálása lehetővé teszi a kritikus tudáselemek azonosítását és átadását (Kluge, 2014). A teljesítményértékelés szempontjából is kiemelt jelentőségű, hiszen csak pontosan körülhatárolt elvárások mentén valósítható meg objektív és motiváló visszajelzési rendszer (Strah és mtsai., 2022). A munkakörelemzés továbbá összhangot teremt a munkavállalói feladatok és a szervezet stratégiai céljai között, biztosítva ezzel a humán erőforrások célirányos mozgósítását. Támogatja a szervezeti hierarchia és felépítés logikus kialakítását, és rugalmas alkalmazkodást tesz lehetővé a környezeti változásokhoz, legyen szó technológiai fejlődésről, jogszabályi módosulásokról vagy piaci-geopolitikai átrendeződésről (Harvey, 1991). Ezen túlmenően a munkakörelemzés megalapozza a pozícióhoz illeszkedő, igazságos bérezési struktúrák kialakítását, valamint segít az optimális fizikai munkakörnyezet és eszközhasználat meghatározásában is. Munkapszichológiai szempontból mindez nemcsak a szervezeti hatékonyságot növeli, hanem hozzájárul a munkavállalói elégedettséghez, szereptisztasághoz és a pszichológiai biztonság élményéhez is (Breaugh, 2017).

A munkakörelemzés lehetséges hátrányai

A munkakörelemzés lehetséges hátrányai azonosak a kompetenciaelemzés hátrányaival. A munkakörelemzés lefolytatása jelentős idő- és humánkapacitást igényel, különösen nagyobb szervezetekben vagy komplex munkaköri struktúrák esetén. A vezetők és munkavállalók bevonása leterhelheti a működést, miközben a megtérülés nem azonnal érzékelhető. A túl részletes vagy mereven értelmezett munkaköri leírások akadályozhatják a munkavállalók rugalmasságát és a feladatkörök közötti átjárhatóságot. Ez különösen dinamikusan változó környezetben lehet hátrányos, mivel lassítja a szervezeti alkalmazkodóképességet. A munkaköri struktúrák gyakori változása (pl. technológiai átalakulások, szervezeti átstrukturálások) miatt az egyszeri munkakörelemzés gyorsan elavulhat (Voskuijl, 2017).

A munkakörelemzés hátrányait enyhítő stratégiák

A munkakörelemzést szakaszosan, prioritási sorrendben érdemes bevezetni. Először a kritikus vagy gyakran betöltendő munkakörökre célszerű koncentrálni.

Megfelelő ütemezéssel csökkenthető a túlterhelés. A rugalmatlanság kiküszöböléséhez ajánlott a munkaköri leírásokat *kompetenciaalapú és funkcionális keretrendszerbe* foglalni, amely meghagyja az egyéni mozgásteret és a feladatok dinamikus átcsoportosításának lehetőségét. Célravezető lehet, ha felelőst jelöl ki a szervezet, akinek feladata a munkaköri leírások frissen és aktuálisan tartása (Voskuijl, 2017).

Kompetencialapú vezetőképzés

A kompetenciaalapú humánerőforrás-gazdálkodás fontos összetevő a rendvédelmi típusú, hierarchikus szervezetek vezetőfejlesztési folyamataiban, ahol a belső utánpótlás biztosítása stratégiai jelentőségű lehet (Ogle és mtsai., 2019). A megfelelően felmért kompetenciákra és munkakörelemzésre épülő rendszer nem csupán a meglévő feladatkörökhöz rendel hozzá pontos követelményprofilokat, hanem lehetővé teszi a vezetői kompetenciák fokozatos fejlesztését is (Kirchner & Akdere, 2019). A kompetenciaszótárak és munkaköri elvárások alapján a szervezet képes azonosítani azokat a munkavállalókat, akik rendelkeznek a potenciállal a vezetői szerepek betöltésére, még akkor is, ha kezdetben nem áll rendelkezésükre minden szükséges kompetencia (Baron és mtsai., 2019). Ez a megközelítés szakít azzal a statikus szemlélettel, amely kizárólag a fejlesztést nem igénylő, munkára kész vezetőket tekinti alkalmasnak, és helyette a fejleszthetőség elvét hangsúlyozza. A fejlesztő értékelő központok (development centerek) célzott alkalmazása ebben a modellben kulcsszerepet játszik: lehetőséget nyújtanak a meglévő kompetenciák gyakorlatorientált megfigyelésére, a fejlődési potenciál feltérképezésére, valamint személyre szabott fejlesztési utak kijelölésére (Radi Afsouran és mtsai., 2022). Így válik lehetővé, hogy az MH, mint szervezet, hosszú távon saját maga nevelje ki a vezetőit anélkül, hogy belső működési zavar vagy humánerőforrás-hiány lépne fel.

Munkapszichológiai szempontból ez a rendszer egyszerre szolgálja a szakmai beválást, az egyéni fejlődési lehetőségek biztosítását, valamint a fluktuáció csökkentését. Az egyértelmű, kompetenciaalapú fejlődési útvonalak és az objektív visszajelzések növelik a munkavállalók elköteleződését, és lehetővé teszik, hogy az egyén ne pusztán betöltsön egy pozíciót, hanem fokozatosan belenőjön a vezetői szerepbe (Abbasi & Ruf, 2020).

Magasvári és Szakács (2021) tanulmányában az empirikus adatok azt mutatják, hogy a közszolgálati szervezetek részéről a legfontosabb kompetenciaelvárások között szerepel a szabálykövetés, a hatékony munkavégzés, a pszichés terhelhetőség és a kommunikációs készség. Ezzel szemben a pályakezdők leginkább az együttműködés, a szabálykövetés és az önfejlesztés terén mutatnak elfogadható szintet, a legtöbb elvárt kompetenciában azonban szignifikáns elmaradás tapasztalható. A legmarkánsabb deficitet a problémamegoldás, az önállóság, valamint a konfliktuskezelés dimenzióiban észlelték a válaszadók.

Az ágazati összehasonlítás során megállapítható, hogy a rendvédelemhez tartozó pályakezdők egyes kompetenciákban, így például a pszichés terhelhetőség és a határozottság terén, még inkább elmaradnak a szervezeti elvárásoktól. A kompetenciaelvárások és a tényleges kompetenciák közötti eltérés strukturálisan és szervezetpszichológiai szempontból is releváns következményekkel jár: akadályozza a pályakezdők beilleszkedését, rontja a megtartás esélyét, és veszélyezteti a közszolgálat hosszú távú versenyképességét (Magasvári & Szakács, 2021; Varga és mtsai., 2017). Ezek az eredmények összhangban állnak azzal a modellel, miszerint a munkáltatói szervezet ne a munkakörökbe teljesmértékben passzoló kompetenciájú személyeket keressen, hanem fordítson erőforrásaiból a képzésükre, és a belső fejlesztői programon keresztül képezze ki munkavállalóit a megfelelő szintű munkavégzésre.

Vezetőfejlesztés katonai szervezetekben

A katonai vezetőfejlesztés elméleti megalapozása során elengedhetetlen a vezetői szerepek sajátosságainak és azok pszichológiai megközelítésének vizsgálata. A katonai vezetők komplex szervezeti és személyközi interakciókban vesznek részt, amelyek során döntéseik közvetlen hatással bírnak a beosztottak motivációjára, moráljára és a szervezet működésére (Britt és mtsai., 2004). A vezetői szerepek kognitív, affektív és viselkedéses dimenzióinak felismerése és fejlesztése fontos a katonai környezetben, ahol a döntések gyakran dinamikusan változó és stresszes helyzetekben születnek (Urbán, 2023). A modern katonai vezetőképzésben fontos szerepet játszanak a stratégiai gondolkodást és döntéshozatalt fejlesztő módszerek.

A vezetői szerepek pszichológiai sajátosságainak feltárása szorosan összefügg a kompetencia- és munkakörelemzésen alapuló rendszerek alkalmazásával, különösen a katonai szervezetek esetében, ahol a vezetői tevékenység nemcsak operatív, hanem pszichológiai nyomással is jár (Urbán, 2023). A katonai vezetők komplex és magas kockázatú helyzetekben működnek, ezért kiválasztásuk és fejlesztésük ajánlott a tapasztalati- és rendfokozati alapon túl, strukturált, kompetenciaalapú módszertan által (Urbán & Kovács, 2016). A Magyar Honvédség vezetőfejlesztő programja e megközelítésre építve képes lehet olyan rendszerszintű megoldásokat kínálni, amelyek elősegítik a tiszti, főtiszti és tábornoki pozíciókba kerülő személyek tudatos és célzott kiválasztását.

A magas színvonalon kidolgozott kompetenciaszótárak és munkaköri profilok segítségével világosan meghatározhatók azok a kognitív, affektív és viselkedéses kompetenciák, amelyek a különböző szintű katonai vezetői szerepek betöltéséhez elengedhetetlenek (Meerits & Kivipõld, 2020). Ezzel megalapozható egy olyan fejlesztési rendszer, amely már a belépéskor képes felismerni a vezetői potenciált,

ugyanakkor lehetőséget biztosít annak célzott fejlesztésére is. A fejlesztő értékelő központok integrálása ebbe a rendszerbe lehetővé teszi, hogy ne csupán a meglévő kompetenciákat mérje a szervezet, hanem az előre mutató készségek és fejlődési irányok mentén történjen a kiválasztás és az utánpótlás tervezés. Ezáltal a Magyar Honvédség lépéseket tenne a modern munkaerőpiaci változásokhoz való alkalmazkodásban és elősegítené a szervezeti rugalmasságot a 21. századi kihívások követelményeivel szemben.

Kitekintés

A belső vezetőfejlesztési programok hatékonyságát növelhetik a strukturált mentorprogramok, amelyek a személyes tapasztalatátadást és a vezetői szocializáció támogatását szolgálják (Bonica & Bewley, 2019). A katonai szervezetekben a mentorálás lehetőséget teremt a formális vezetői képzésen túlmutató, informális tanulási folyamatok működtetésére is. A tapasztalt vezetők által nyújtott egyéni támogatás segíti a fiatalabb tisztek értékrendjének, döntési stílusának és helyzetmegoldó képességeinek alakulását, miközben előmozdítja a szervezeti normák és attitűdök hatékony belsővé válását (Johnson & Andersen, 2010). A mentorprogramok különösen fontos szerepet tölthetnek be az újonnan kinevezett vagy vezetői szerepre kijelölt állomány tagjainál, mivel támogatják a szereptisztázást, növelik a pszichológiai biztonságot és csökkentik a beilleszkedésből fakadó stresszterhelést (Aman, 2018).

E programok továbbá hozzájárulnak a tudásmenedzsment és szervezeti memória fenntartásához is, amely a honvédelmi környezetben stratégiai jelentőséggel bír. A mentorálás során keletkező kétirányú tanulás (mentor és mentorált között) elősegítheti a generációs különbségek áthidalását, valamint a felsővezetői elvárásokhoz való gyorsabb alkalmazkodást (Warraich, 2018). A fejlesztő értékelő központokkal integrált mentorprogramok lehetőséget nyújtanak a fejlesztési visszajelzések követésére, a fejlődési ívek megerősítésére, és hosszú távon a vezetői karrierutak kiszámíthatóbbá tételére (Kupfer és mtsai., 2016).

A vezetői fejlődéshez kapcsolódó motiváció fenntartása szempontjából kulcsfontosságúak a célzott ösztönző rendszerek is (Fehrenbacher, 2013). A Magyar Honvédség esetében az ösztönzési struktúra tudatos megtervezése és nyílt kommunikálása hozzájárulhat a vezetői szerepek vonzóbbá tételéhez, különösen a fiatalabb generációk számára, akik számára a pszichológiai és erkölcsi elismerés legalább olyan fontos, mint a pénzügyi javadalmazás (lásd: Benkó & Kopcsóné Németh, 2021). A transzparens előmeneteli lehetőségek, a vezetői szerepvállaláshoz kötött kompetenciaalapú bónuszrendszerek, illetve a fejlesztési célokhoz rendelt ösztönzők elősegíthetik az elköteleződést, a teljesítményorientált munka-

végzést és a vezetői ambíciók megerősödését (Fehrenbacher, 2013; Granick, 1979).

Fontos, hogy az ösztönző rendszerek igazodjanak a fejlesztési folyamatokhoz és a kompetenciaalapú értékelés eredményeihez. A vezetőfejlesztés során elért mérföldkövekhez kapcsolt elismerések, ösztöndíjak, illetve a vezetői felelősségvállaláshoz kötött szakmai kiválósági címek képesek lehetnek a szervezeti lojalitás és a teljesítményorientált szervezeti kultúra megerősítésére. Munkapszichológiai szempontból az ilyen komplex rendszerek nem csupán a vezetői pozíciók feltöltését segítik elő, hanem hosszú távon hozzájárulhatnak a motivációs klíma javításához, a fluktuáció mérsékléséhez és a vezetői utánpótlás stratégiai stabilitásához (Meng, 2016).

Összegzés

A tanulmány áttekintést nyújtott a katonai vezetőfejlesztés pszichológiai és szervezetfejlesztési elméleti alapjairól, különös tekintettel a kompetencia- és munkakörelemzés integrált alkalmazhatóságára a Magyar Honvédség keretében. Bemutatásra kerültek a különböző kompetenciakategóriák, valamint ezek szerepe a munkaköri profilalkotásban, teljesítményértékelésben és utánpótlástervezésben. A tanulmány hangsúlyozza, hogy a vezetői kiválasztásnak és fejlesztésnek nemcsak a meglévő kompetenciákra, hanem a fejlődési potenciál felismerésére is épülnie kell. A fejlesztő értékelő központok, a mentorprogramok és az ösztönző rendszerek együttes alkalmazása lehetőséget teremt egy rugalmas, ugyanakkor következetes vezetői utánpótlásrendszer működtetésére. A belső erőforrásokra építő vezetőképzés hozzájárul a munkavállaló pszichológiai biztonságához, a szervezeti lojalitás megerősítéséhez, valamint a fluktuáció mérsékléséhez. Mindez hosszú távon támogatja a Magyar Honvédség működési stabilitását és a 21. század biztonságpolitikai kihívásaihoz való adaptív alkalmazkodását.

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BALANCING IMPACT AND INCOME: A COMPARATIVE STUDY OF MARKETING IN SOCIAL ENTERPRISES

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Abstract

Social enterprises operate where commercial objectives and social impact overlap with each other requiring innovative marketing strategies to manage these dual priorities effectively. This paper demonstrates a comparative case study of two renowned social enterprises TOMS Shoes and Warby Parker that analyzes their marketing approach to retrieve key insights and offer practical recommendations. Based on the secondary sources and desktop research, the study examines how these companies utilize purpose-

driven storytelling, social media marketing and impact models such as "buy one, give one" enhancing brand recognition and visibility as well as strengthening loyal community. The analysis illustrates that effective marketing in the social enterprise goes beyond conventional sales approaches concentrating instead on stakeholder engagement, transparency and alignment with mission. Yet, challenges such as limited resources and public skepticism regarding marketing underline the need for internal capacity development and digital innovation. The study concludes with strategic guidance on incorporating marketing as a vital function supporting both financial resilience and social impact. Furthermore, the study deepens the understanding of the significant role of marketing in social entrepreneurship and suggest the marketing tactics for the enterprises that aim to enhance their influence and outreach.

Keywords: Marketing, Social enterprise, One-for-One model, Marketing strategy, Sustainability

Disciplines: Sociology, Economics

Absztrakt

HATÁS ÉS JÖVEDELEM EGYENSÚLYA: A MARKETING SZEREPÉNEK ÖSSZEHASONLÍTÓ VIZSGÁLATA A TÁRSADALMI VÁLLALKOZÁSOKBAN

A társadalmi vállalkozások működése a kereskedelmi célkitűzések és a társadalmi hatás metszéspontjában történik, amely innovatív marketingstratégiákat tesz szükségessé e kettős prioritás hatékony összehangolására. Jelen tanulmány két elismert társadalmi vállalkozás – a TOMS Shoes és a Warby Parker – összehasonlító esettanulmányán keresztül vizsgálja marketingmegközelítéseiket, feltárva kulcsfontosságú tanulságokat és gyakorlati ajánlásokat fogalmazva meg. Másodlagos forrásokra és irodalomkutatásra (desktop research) támaszkodva a tanulmány azt elemzi, hogy e vállalatok miként alkalmazzák a célorientált történetmesélést (purpose-driven storytelling), a közösségi média alapú marketinget, valamint az olyan hatásmodelleket, mint a „vegyél egyet, adj egyet" (buy one, give one) elv. Ezek a módszerek hozzájárulnak a márkaismertség és láthatóság növeléséhez, valamint az elkötelezett közösség megerősítéséhez. Az elemzés rámutat arra, hogy a társadalmi vállalkozások marketingje túlmutat a hagyományos értékesítési megközelítéseken, és elsősorban a szereplők bevonására, az átláthatóságra és a küldetéssel való összehangolásra koncentrál. Ugyanakkor a korlátozott erőforrások és a marketinggel szembeni nyilvános szkepticizmus kihívásokat jelentenek, amelyek indokolttá teszik a belső kapacitásfejlesztést és a digitális innovációk alkalmazását. A tanulmány végkövetkeztetése stratégiai iránymutatást kínál arra vonatkozóan, miként integrálható a marketing mint kulcsfontosságú funkció, amely egyaránt támogatja a pénzügyi fenntarthatóságot és a társadalmi hatást. Ezen túlmenően a kutatás hozzájárul

a marketing társadalmi vállalkozásokban betöltött szerepének mélyebb megértéséhez, és ajánlásokat fogalmaz meg azon vállalkozások számára, amelyek célja befolyásuk és elérésük növelése.

Kulcsszavak: marketing, társadalmi vállalkozás, „egyért egyet" modell, marketingstratégia, fenntarthatóság

Diszciplinák: szociológia, közgazdaságtan

Introduction

Social Enterprise is a type of business that aims to achieve positive impacts addressing social and environmental issues, simultaneously, generating revenue to sustain its operation through commercial activities. As a result, in the operation of social enterprises the profit is reinvested into social programs rather than distributed to shareholders (Investopedia, 2024).

Social enterprises have emerged as a response to the inability of the governments to meet the needs of the disadvantaged and financially vulnerable groups of societies (Satar et al., 2016; Zemtseva, 2021). In order to reach the social and business goals, it is suggested to develop the implementation of the marketing in social entrepreneurship allowing to balance the opportunities and risks. Marketing helps to identify the needs of the target audience of a business and justify what exactly and why it will be demanded through conveying the idea of social entrepreneurship (Zemtseva, 2021). Along the same lines, marketing is an effective means of promotion and communication that creates trustful relationships and drives meaningful impacts for the organizations and the communities through educating the public, raising brand awareness, engaging donors and investors (Impactful Marketing for Social Enterprises, n.d.).

Owing to the current digital innovations and trends, social media has become a common platform for communication and engagement resulting in its usage in marketing purposes. Social media marketing also referred to as digital marketing and e-marketing entails utilizing social media platforms enabling its users to create networks and exchange information to enhance brand awareness, increase sales and generate website traffic. Moreover, it offers advanced analytics tools that enable marketers to evaluate campaign effectiveness and explore new strategies for engagement (Hayes, 2025).

The intersection of social enterprises and marketing is obtaining its significance as they aim to broaden their influence, create supportive communities and engage larger audiences ("How Can Social Enterprises Use Digital Marketing to Grow Their Impact? – fundsforNGOs – Grants and

Resources for Sustainability," 2025). As social enterprises face several constraints, they attempt to use cost-effective marketing strategies to engage with their audience through utilizing the resources that they possess. Moreover, these constraints may influence the primary goal of social enterprise by addressing how social enterprises can balance their dual (or triple) objectives of generating social impact as well as sustaining financial viability through effective marketing.

Thus, this papers enclose the following research questions to answer:

- What are the primary marketing strategies that aim to enhance the visibility of social enterprises?
- What challenges do social enterprises encounter in their marketing implementation?
- How does marketing influence the visibility and growth of social enterprises?

Furthermore, this study is conducted through a comparative case study of two well-known social enterprises, TOMS Shoes and Warby Parker aiming to analyze and identify effective marketing strategies enhancing the visibility and brand awareness of social enterprises. Along the same lines, the study aims to examine the challenges social enterprises face to raise brand recognition and make recommendations for social enterprises to optimize their marketing presence for better visibility and engagement.

Literature review

As social enterprises are a blend of public service goals with efficient and innovative business approaches, these organizations operate with a primary focus on social impact that reinvest their profits into the enterprise and the communities they serve (Lougheed & Donkervoort, n.d.). When proponents of social enterprises emphasize their ability to create blended value entailing economic, environmental and social outcomes (Emerson, 2023), the increased risk of mission bias or internal conflict between these goals are underlined (Edwards, 2008; Fritsch et al., 2013). There are arguments when business goals may conflict with social goals, which can lead to inevitable tension as social enterprises seek to balance double and in some instances triple lines. Notwithstanding the importance of this task, scientific research overlooks the internal complexities associated with solving numerous tasks. Nonetheless, existing research highlights that performing both financial and social tasks generates an extremely complex operating environment for social enterprises (Moiser and Tracy, 2010; Mish and Scammon, 2010).

The case study by Lougheed and Donkervoort (n.d.) illustrated the organization prioritizing its promotional campaign in its social mission assuming to drive customer interest. Yet, the customer feedback showcased that product quality, professionalism and reliability were the primary concerns. It has been identified that the social impact

was appreciated as an additional value not as a substitute for quality resulting in the assumption that the organizations should change their approach by developing marketing strategies addressing real customer needs and concerns and ensuring brand visibility, message clarity and audience targeting. Eventually, the authors suggested that the understanding of marketing should be embedded as a strategic function within social enterprises to balance their mission with market expectations and ensure long-term sustainability.

As marketing plays a crucial role in the operation of social enterprises. The study by Liu et al. (2013) suggested that social enterprises that have strong marketing capacities are more likely to be better equipped to manage complex processes effectively and promptly. In comparison with those lacking in such skills, these social enterprises are more susceptible to meet customer needs more efficiently and gain a competitive edge over their rivals. Furthermore, the findings by Liu et al. (2013) indicate that not all forms of marketing capability constantly enhance social enterprise performance. Drawn upon the context, certain capabilities may possess a greater impact than others. Along the same lines, some types of marketing capability may positively impact one aspect of performance when having little or no effect on others. Moreover, the influence of marketing capabilities differs based upon the performance measures being regarded. Consequently, social enterprise managers should comprehend the distinct effects of each type of marketing capability and strategically develop the ones aligning best with their performance goals.

The studies performed in not-for-profit organizations indicate that, notwithstanding, marketing is generally regarded positively by many organizations in different sectors (Pope et al., 2009), a skepticism towards its usefulness still exists. The researchers Andreasen and Kotler (2003) underlined three main stigmas hindering the broader adoption of marketing practices in their operation. Marketing is perceived as a financial waste, specifically, in organizations relying on public funding. The concern highlighting marketing as an unnecessary expense was raised that may distract from the organization's primary mission. The following is intrusiveness, as market research often entails collecting information from consumers to better comprehend their needs, this approach was commonly criticized and viewed as an invasive process and a violation of personal privacy. Furthermore, marketing was stigmatized as manipulation and was perceived as deceptive and coerced when not carefully and ethically managed. As a result, these negative perceptions can lead not-for-profit organizations to adopt marketing strategies that are overly concentrated on internal organizational priorities rather than truly understanding and addressing the needs and preferences of their target audiences.

Within a study conducted by Mitchell et al. (2015), participants identified limited financial resources are the primary barrier to their marketing efforts. The study illustrates that social enterprises generally are in a deficiency of sufficient funding to support reliable marketing strategies. As a result, most organizations heavily relied on low-cost promotional methods, for instance, word-of-mouth, to reach their audiences. In this study, 10 out of 15 participants referred to word-of-mouth as a currently effective and widely used marketing strategy. Furthermore, this approach was recognized not only for attracting new consumers and boosting sales but also for fostering relationships with key stakeholders, including employees. Along the same lines, when examining the specific marketing tools used recently, a transparent trend emerged in an increasing adoption of social media platforms.

In this study, 9 out of 15 organizations were actively using platforms such as Facebook, Twitter, while 12 illustrated their intentions to expand the usage of social media platforms. Furthermore, the participants regarded social media as a means of communication to inform and engage stakeholders involving customers, volunteers and members of the broader community by updating them in the organization's activities.

Zemtseva (2021) highlighted that marketing in social entrepreneurship is applied as an only tool for improving and promoting the product of social enterprises. Yet the significance of the marketing can be viewed from a broader perspective. Specifically, the key focus can shift from the product to social entrepreneurship itself. From this regard, marketing can operate in several directions:

- funding, when marketing helps to create a positive image of social entrepreneurship in the business environment and attract additional funding. Furthermore, it helps to reach the target audience, such as investors interested in the social mission. As a tool, marketing can assist in promoting ideas as well as involvement in solving social challenges as a way to engage and illustrate the value of collaboration.
- human resources, when marketing can contribute to forming a strong brand and value system, which is significant for attracting a motivated team and volunteers. When a company's values align with those of its staff and target audience, it helps to simplify promotion and attract committed employees concentrated on achieving social impact.
- consumers, when marketing assists not only to promote the product, but also to identify the needs of consumers resulting in improving the products and services. Furthermore, marketing campaigns can draw attention to social issues, create communities and improve the social impact of the organization.

- competitors, when marketing enables organizations to position themselves in the market, analyze competitors and identify unmet consumer needs. Along the same routes, social entrepreneurs can become trendsetters by joining forces with other companies to drive social change. Additionally, marketing analysis strengths market positioning and helps discover new niches.

According to Zemtseva (2021), the concept of social marketing is recently one of the most widespread, as it compliments a company's set of actions regarding corporate social responsibility, which is regarded as significant for long-term business sustainability. Moreover, an essential tool in an organization's marketing efforts is its marketing strategy, which is a particle of a company's overall strategy, a way of achieving its goals, concentrated on the development, production and delivery of goods and services that best meet consumer needs. Furthermore, it is suggested that to improve the organization's performance, a social entrepreneur must analyze the elements of the marketing strategy contributing to the final result and which ones need to be refined. Thus, the study highlights the significance of the key performance indicators of the marketing strategy to making management decisions.

The findings by Mitchell et al. (2016) illustrate that social marketing experts operating within the context of social enterprises are prone to experience both challenges and opportunities. Though managers in the social enterprises may lack formal training and direct experience in social marketing, the study showcases they often have practical knowledge of commercial marketing, which they apply to pursue profit-driven goals within their enterprises. The study suggests that such managers can contribute valuable expertise to the development of social marketing strategies. Andreasen (2002) noted that one barrier to the adoption of social marketing is a lack of awareness among top decision-makers. Meanwhile, the research didn't particularly investigate social marketing knowledge among practitioners in social enterprises, it did reveal that participants generally illustrated a strong understanding of core marketing principles. Mitchell et al. (2016) assumed that there is a transparent need to enhance expertise in both commercial and social marketing strategies, acknowledging the unique dynamics of social enterprise contexts. As governments and traditional providers of social marketing programs encounter increasing economic constraints, it becomes significantly important to strengthen institutional understanding of social enterprises as viable and innovative actors in driving social change and addressing societal challenges.

In the study by Powell and Osborne (2015), the interviewed leaders of the social enterprises primarily considered marketing as a selling tool, without

acknowledging the value of directing marketing efforts toward specific stakeholder groups and bridging relationships with them.

Powell and Osborne concluded that many social enterprises (SEs) often mistake marketing for the commercialization of public services, perceiving it as contradictory to their social values. As a result, these organizations fail to exploit marketing as a valuable strategic tool. It was mentioned that social enterprises are prone to associate marketing solely with sales hindering its ability to support their social mission and long-term sustainability. The organizations are prone to overlook service-based marketing approaches, for instance, relationship marketing, which are highly recommended to public service delivery. This misconception leads to undermining the effectiveness of their marketing efforts and their ability to sustain services over time. Furthermore, the study highlights that some social enterprises do engage in basic marketing activities without formally recognizing them. Yet, owing to a lack of proper training and understanding of service marketing, these marketing efforts are often ineffective. Therefore, the authors suggested that social enterprise managers are required to gain relevant experience and receive training aligning with their values and operational needs. Along the same lines, social enterprises can strengthen their long-term sustainability by integrating a structured relationship marketing strategy drawn upon public service values rather than traditional commercial sales methods enabling the organizations to create and sustain valuable stakeholder connections. However, the application of relationship marketing concepts in social enterprises still needs additional research and confirmation.

Through analysis of 47 research papers, Bandyopadhyay and Ray (2019) summarized a model exemplifying drivers, barriers and nature of social enterprise marketing. They identified that the social enterprises mostly focus on promoting their products and services when overlooking other crucial marketing activities such as market research, brand development and customer relationship management. Along the same lines, they have mentioned that social enterprises mostly adopt a low-cost marketing approach through relying on personal contacts, networks and grassroots effort to strengthen their brand awareness instead of investing heavily in traditional advertising. Furthermore, many social enterprises are prone to prioritize the business side of their organizational operations occasionally at the expense of their social mission as they recognize that customers seek high-quality products and services. Yet, overconcentration on business goals can lead to mission shifts since the organizations start neglecting their social objectives and pursuing commercial success. Along the same routes, social entrepreneurs with a non-profit background

frequently possess a charity-driven mindset when running their organizations.

They may regard marketing as overly commercial, unnecessary and incompatible with their values of social welfare. Some social entrepreneurs have dreads that spending too much on marketing can lead to distrust among stakeholders entailing employees, volunteers and donors, who may perceive the organization as financially secure, which can result in reducing their support. The literature review highlights that a major challenge for SEs is their limited capacity to apply comprehensive marketing activities owing to a deficiency of skilled personnel, insufficient financial resources and absence of dedicated marketing departments. It is suggested that a carefully designed marketing strategy is vital for SEs to boost awareness about their initiatives and to distribute innovative solutions among their target audience. Moreover, managing relationships with a wide range of stakeholders varying each with social and business expectations can be challenging and demands a thoughtful understanding of their diverse needs. The analysis suggested to balance social and business mission social enterprises should apply differentiated marketing strategies customized to each stakeholder group, example given as offering tiered pricing structure aligning with consumer's purchasing power. Furthermore, the review elaborates that instead of aggressively promoting their products and services, social enterprises make priorities to be visible and easily found by potential customers. In order to achieve this, social enterprises rely on personal networks and social media platforms to remain engaged and maintain visibility.

This organic bottom-up marketing approach mirrors similar strategies utilized by small businesses with constrained marketing resources.

The study by Atanasova (2021) highlights how social enterprises, specifically those concentrated on solving environmental and social problems, initiated using social media marketing accelerated by the COVID-19 pandemic for communication, adaptation and education. As a result, it has increased the reliance on online tools to help environmental movements and social entrepreneurs to sustain their activities and increase audience engagement due to social restrictions and uncertainties. Furthermore, the study explores the need for research into how environmental and social entrepreneurs utilized SMM during the self-isolation period, since there is no comparable research. The author underlined that online content creation, eco-education and virtual events have become essential adaptation strategies, which helps to promote more sustainable behavior among people during the pandemic.

The study states that the effectiveness of social media as a promotional channel lies in the organization's popularity and efficiency, particularly, in promoting services. Social networks serve as accessible tools for communication with the audience and

for positioning brand values. Through this tool, organizations can boost their influence on their social projects that attract more participants and partners. Moreover, each social network is identified by the type of content it delivers and the audience it attracts. Thus, it is important to analyze promotion channels in terms of how often they are visited by the target audience. (Zemtseva, 2021). The role of marketing in social entrepreneurship does not differ considerably from its role in traditional business, where marketing helps to smooth out some of the difficulties that are absent in conventional business models. Meanwhile, the role of marketing in social entrepreneurship is primarily targeted at facilitating the search for optimal ways to combine commercial and non-commercial elements. As social entrepreneurship does not always generate high profits and it is often operated at a break-even level illustrating that the targeting funding streams are not always suitable resources for long-term development. As a result, social enterprises mostly rely on using low-budget channels for creating sales and increasing demand for the services of social enterprises through implementation of marketing strategies for service promotion (Zemtseva, 2021).

Luzhnova and Fedorov (2022) assumed that SMM can help to effectively boost the commercial success of the businesses irrespective of their size and structure. They highlighted the significance of a well-designed publicly accessed page of the organizations leading their users to make a purchase. Furthermore, the study highlighted the following core components of social media marketing: creating valuable, convincing and engaging content, stimulating user interaction and driving traffic to their page using tools like targeted advertising and retargeting to succeed in reaching its objective to convert casual visitors into buyers resulting in brand promoters in the long-term.

The importance of clear content strategy was underlined by Luzhnova & Fedorov (2022) enabling the organizations to inform, engage and convince the audience. In order to reach this objective, the following practical ways of content creation such as customer reviews, behind-the-scenes content, event reports, FAQ (Frequently Asked Questions), case studies, news and updates, using a sense of humor in handling objections are advised by the researchers.

In the study by Shafigullina and Palyakin (2016), social media was defined as a cost-effective promotional tool enabling social entrepreneurs to interact with their target audience as well as to accomplish in the business projects the following tasks:

- attracting potential customers by generating social engagement and raising visibility, which is measured by the number of group members and attention from users outside the network;
- identifying and reaching the main audience on social media platforms

when monitoring user activity through internal analytics tools;

- fostering consumer engagement with the product or service through active social interaction;
- launching promotional campaigns of products and services through utilizing available advertising features and collaborating with other online communities.

The study by Baretta (2022) highlights that social media platforms enable organizations to reach and create relationships with a huge number of users through more customized and confidential ways in comparison with traditional methods. Furthermore, this digital interaction encourages to build trust, which is significant for long-term collaboration and the success of mission-driven projects. Furthermore, the author mentions that trust-building is even more important than financial incentives within these ecosystems. Along the same lines, the organizations can enhance their social media activities through demonstrating prominent acts of cooperation that strengthens the belief that collaboration is reliable, simultaneously, fosters a stronger sense of community. Moreover, the authors assume that the organizations should not only earn the trust of stakeholders, but also they should trust their stakeholders enough through allowing them to be involved in significant decision-making processes. As social media platforms have foster new types of relationships, where users can selectively follow others without expecting mutual connection, it can lead to a more hierarchical structure where highly influential users gain more visibility, while mutual, peer-to-peer relationships (e.g. Facebook connections) are less dominant. Additionally, the organizations can strategically use social recognition metrics, such as "likes" and "shares" to encourage users to share valuable content, similar to how individuals seek validation on personal platforms such as Facebook and Instagram.

Social media marketing (SMM) has become an essential aspect of digital marketing that offers businesses powerful tools to engage audiences, boost brand awareness and enhance sales through platforms, such as Facebook, Instagram, LinkedIn and Twitter (Anshu & Sharma, 2024).

Marketers utilize AI (Artificial Intelligence) and Machine Learning to receive predictive analytics allowing to anticipate the outcomes of promotional campaigns, consumer behavior as well as market shifts using historical data, to approach customer segmentation helping to spot patterns in enormous datasets, grouping consumers drawing upon behavior, preferences and demographics, to personalize delivering customized content and ads to users based upon real-time data analysis, which helps to improve engagement and conversion rates (Anshu & Sharma, 2024).

As the world is changing rapidly from manual to digital, AI (Artificial Intelli-

gence) is taking a fundamental role in how today's social media operates. AI is defined as the capacity of machines, such as computers and robots, to perform tasks requiring human intelligence typically. It can be seen that AI is utilized by marketers to better analyse brand performance over time. AI and machine learning assist with content regulation and creation as well as determination of how the advertisements by marketers are delivered to users on social media platforms. Furthermore, AI can develop its own algorithm and lead the way for more advanced marketing strategies, simultaneously, helping to make automatic decisions. Along the same lines, when AI is integrated with customer data platforms, programmatic demand-side platforms use extensive targeting signals to personalize both audience selection and advertisements drawn upon behavioral and lifestyle data (Anandvardhan, 2021). Anandvardhan (2021) suggested that utilizing AI in social media marketing (SMM) significantly diminishes the time and costs related to tasks, such as analyzing data, generating performance reports, crafting posts and developing promotional strategies as well as mentioned that marketers who utilize AI in their SMM efforts can obtain a strong and sustainable competitive edge.

Methodology

In order to understand interrelationship between marketing and social enterprises, secondary data are analyzed from the existing literature, including international and national articles, journals, books and websites in the English and Russian languages. Moreover, the methodology to conduct this research paper entails a desktop research and comparative case study.

A desktop research is known as a secondary research that involves using already existing literature and data enabling a researcher to gain an initial understanding of the areas of interest without conducting field research. Furthermore, the research process entails the use of already published materials such as articles, reports and similar documents.

Meanwhile, a comparative case study methodology is applied to explore and contrast the characteristics, approaches and impacts of the following social enterprises such as TOMS Shoes and Warby Parker aiming to identify common themes and unique marketing strategies implemented in their operations. Afterwards, a Venn diagram was depicted as a visual tool to illustrate the overlapping and divergent aspects of the marketing approach of both cases.

Case study

TOMS

TOMS was founded in 2006 with a focus in the footwear industry and mission to enhance lives through its business. The brand became renowned for its pioneering One for One model, which illustrates the process of a new pair being donated to a child in need for every pair of shoes sold,

simultaneously, of support of education, broader health and community development initiatives through partnerships. TOMS has shifted from an one-for-one strategic approach into donating one-third of its profits to grassroots organizations concentrated on building equity at the local level, with a specific emphasis on funding access to mental health resources for millions of people. The company's symbolic product is the Alpargata, a classic slip-on shoe influenced by traditional Spanish and Argentine footwear, designed for both style and comfort. Since the company's foundation, TOMS and its partners have made a positive impact on the lives of over 105 million lives and the organization continues to concentrate on encouraging growth and supporting communities at the grassroots level. TOMS specifically targets socially conscious individuals, students, young professionals, fashion- and charity-oriented individuals, middle-class men and women at the age range between 13 and 30 mainly in North America and over in 30+ countries worldwide through offering Alpargata slip-ons, other casual footwear styles for all ages (TOMS, n.d.).

In 2006, Toms was founded by Blake Mycoskie with a mission "One for One", reflecting that for every pair of shoes sold, another pair is donated to a child in need. The first batch consisted of 250 pairs, over the time, the numbers have reached at 60 million shoes being donated globally, gradually, the company has expanded its operation into bags, socks, eyewear and coffee, all of which are tied to different social causes.

The name of the company stems from "Tomorrow" reflecting how the company represents modern social entrepreneurship by combining business success with philanthropic efforts. The company approach has transformed consumer perception of ordinary products such as shoes while presenting them as means for social impact.

Blake Mycoskie, the founder of TOMS, got inspired from his visit to Argentina where he experienced how children were shoeless. His personal experience shared through public speeches and his book named Making Something That Matters assisted to build a powerful brand awareness attracting loyal consumers, specifically, the TOMS tribe entailing socially conscious young customers eager to bolster a positive impact through their purchases. In order to reach its audience, TOMS utilizes social media platforms entailing Facebook, Instagram and Snapchat through campaigns such as "A Day Without Shoes" by encouraging fans to share their experience online by amplifying the brands' message. Although in 2014, Mycoskie sold 50% of TOMS to Bain Capital, simultaneously, stepped down as CEO, the company's mission "One for One" continues to drive the company's growth and impact (Ramsenthaler, 2023)

Marketing strategy

In 2011, the launch of eyewear collection transformed the marketing approach of

TOMS Shoes significantly. The launch of the new product line offered stylish glasses as well as bolstered the company's broader mission through assisting to provide vision care to the individuals in need. Beyond expanding shoes, TOMS continues to align its business with social impact efforts. In order to reach its objectives, TOMS uses its social media tools playing a vital role in its marketing strategy. Therefore, the organization actively utilizes such platforms as Facebook, Twitter, Instagram, YouTube, Pinterest and Google Plus to share its story, communicate with consumers and promote its philanthropic initiatives. TOMS has created a loyal online community, deliberately maintaining its Facebook following around two million to engage audiences and offer a customized service. Along the same lines, TOMS'visibility is endorsed by celebrities such as Keira Knightle, Scarlett Johansson, Liv Tyler, Anne Hathaway, Tom Felton and Julia Roberts who supported the brand through their social media presence by helping to spread awareness of its mission and values. Simultaneously, the company utilizes the marketing approach through storytelling and social media campaigns such as "One Day Without Shoes" to create brand loyalty and engage consumers.

Since 2006 TOMS has positioned itself as a leader in social entrepreneurship with its signature "One for One" model which encourages over 35 million pairs of shoes in 60 countries. Moreover, the company inspired other companies such as Warby Parker and Roma Boots to integrate similar socially responsible business models. Along the same routes, TOMS has received an investment of 300 million USD for a 50% stake highlighting the commercial success and appeal of TOMS' socially driven marketing. Yet, the company was criticized for dependency of the consumers and local markets causing disruptions, as a response to this, TOMS integrated its business model to coffee sales through bolstering clean water and local shoe manufacturing in Haiti. Furthermore, the company collaborates with brands such as Marvel and interactive retail displays improving the outreach and customer connection. Notwithstanding ownership changes, TOMS continues to prioritize social responsibility and sustainability through donating millions of shoes worldwide (TOMS Shoes Marketing Strategy 2025: A Case Study – Latterly.org, n.d.).

Social impact

Along with donating products, TOMS attempts to empower global communities through collaborations with over 100 Giving Partners globally making contributions to the societies mostly in need. As a result, these partnerships assist to enhance local communities and bolster sustainable development through encouragement of sustainable progress and self-reliance. Although TOMS's mission has been widely encouraged, it has also been

criticized by the statement of the giving away products stimulating dependency and failing to tackle the underlying causes of poverty. Along the same lines, concerns have been raised about the impact of free goods on local markets, therefore, TOMS has shifted its approach to include programs promoting local job creation and economic growth to aim to provide both short-term support and sustainable solutions (Sahu, 2024).

TOMS has increasingly made a priority of sustainability and ethical standards. The company started concentrating on utilizing environmentally responsible materials and minimizing its ecological impact throughout the manufacturing process. For instance, the company launched the TOMS Animal Initiative ensuring that their footwear and eyewear are without any animal products, aligning with consumer expectations for ethical and eco-friendly choices. As a leading example, TOMS illustrates how social purposes can be adapted into business strategy, simultaneously, allowing the businesses to expand. The pioneering model of TOMS "One for One" has inspired many other brands to follow suit, illustrating that making a profit and difference can go hand in hand (Sahu, 2024).

With an initiation of "One for One" shoe donation model, TOMS has expanded its diversity of products entailing eyewear, bags, books and coffee. Each categorized product is tied to a distinct social cause, for instance, every pair of eyewear purchases resulted in funding vision restoration, when book sales bolstered promotion of literacy in underserved communities. These initiatives mirror the brand's comprehensive commitment aiming to solve social causes and engage with more socially conscious consumers. Along the same routes, TOMS offers eco-friendly bags and coffee to bolster the communities with clean water supplies and encourage sustainability projects where each product line addresses a specific social and environmental issue.

Since 2011 TOMS Eyewear has started offering sight-saving surgery, glasses and medical treatment for every pair sold. This approach has helped to restore sight to nearly a million people and led to the creation of 55 vision centers in countries, such as Bangladesh, India and Nepal.

TOMS effectively utilizes social media to share its image stories through engagement of customers and enforcement of a sense of belonging. Campaigns such as "One Day Without Shoes" and user-generated content help create a loyal community through meeting the brand's mission, specifically, among millennials who are eager to purchase commodities with a social purpose. TOMS' ongoing impact and strategy is reflected where the company has donated over 75 million pairs of shoes and restored sight to nearly a million people. For the time being, the brand donated one-third of its profits to mental health, opportunity access and ending gun violence illustrating a shift

from product-based giving to broader social impact.

Toms differentiates itself in the market through its concentration on social entrepreneurship and corporate social responsibility, which serves as a model influencing other companies to adopt similar approaches. Although TOMS encounters criticism and obstacles, the company remains committed to ethical conduct, environmental sustainability and making a positive global impact.

Warby Parker

The Warby Parker Impact Foundation is a nonprofit organization committed to solving barriers to quality vision care. The mission of the organization highlights promoting an expanded availability of vision services, increasing awareness about eye health and develiring important care to help individuals live healthier, safer and more fulfilling lives.

In 2010, Warby Parker was founded with the launch of the "Buy a Pair, Give a Pair" initiative through donating a pair of glasses to the individuals in need for every sold pair of glasses. By 2014, over a millionth pair of glasses had been distributed owing to Warby Parker's initiative. Moreover, since 2015 the organization initiated the Pupils Project through providing free eye care to public school students in such cities as New York, Baltimore, Philadelphia, Pennsylvania, Washington D.C. and California. Later in 2019, Warby Parker established the Impact Foundation so that the expansion of the company's philanthropic work would be accelerated (Warby Parker Foundation, n.d.).

Marketing strategy

The initiative "Buy a pair, give a pair" has encouraged Warby Parker to donate a pair of eyewear for each one bought resulting in contribution to over 5 million people around the world. This philanthropic approach gains more consumers valuing corporate responsibility and amplifies both the brand's image and customer loyalty.

Warby Parker utilizes email marketing where the consumers receive personalized emails creating a positive first impression and encouraging user engagement. These emails entail valuable information and incentives that aim to create long-term relationships and increase conversion rates. Along the same routes, the organization utilizes Word-of-Mouth Marketing which encourages consumers to promote Warby Parker to others with discounts and perks. This approach increases the effectiveness of word-of-mouth marketing resulting in higher customer retention and lifetime value in comparison with traditional advertising. Identifying the growth of mobile commerce, Warby Parker offers user-friendly mobile apps with the following features as virtual try-on, Apple Pay integration, SMS shipping updates and telehealth services for renewing prescriptions serving techsavvy consumers and enhancing their convenience.

Furthermore, Warby Parker invests in SEO (Search Engine Optimization) through improving organic search visibility and attracting more targeted traffic through the content, product descriptions and blog articles bolstering long-term, sustainable digital growth. The retail stores of Warby Parker concentrate on exceptional in-person customer services featuring more interactive displays, well-acknowledged staff with tablets, thoughtfully designed interiors prioritizing customer convenience and accessibility since retail expansion contributed considerably to revenue growth (Warby Parker Marketing Strategy 2025: A Case Study – Latterly.org, n.d.).

Social impact

Recently, Warby Parker's social initiatives have distributed over 15 million pairs of glasses globally that reached communities in the U.S. and over 140 countries through partnerships with organizations such as VisionSpring and RestoringVision. Meanwhile, the Pupils Project alone has distributed over 220 000 pairs of glasses to school children through erasing the barriers to learning and participation. Along the same lines, the Warby Parker's Foundation in partnership with other organizations empower local nonprofits, government agencies and funders to deliver sustainable vision care solutions. Moreover, the Warby Parker's Foundation bolsters U.S.-based tax-exempt organizations working in vision care through a grantmaking program and concentrates on sustainability, community partnerships and improving technology to enhance access and outcomes (Warby Parker Foundation, n.d.). Through offering consumers its products, Warby Parker has transformed the eyewear industry aiming to eliminate the need for traditional intermediaries, which enables the organization to provide stylish, highquality glasses at more affordable prices. Along the same lines, Warby Parker attempts to manage the full customer experience through offering a more convenient and customized shopping service highlighting the features such as its Home Try-On program and virtual try-on technology.

The company applies social media channels such as Instagram and Facebook to engage its consumers and encourage brand loyalty. Furthermore, partnerships with designers, influencers, celebrities such as Oprah and Reese Witherspoon and other brands enable the organization to broaden its outreach and encourage its presence in the market. Furthermore, the brand tries to increase its authenticity and benefits from organic word-of-mouth marketing encouraging user-generated content and active community involvement (Warby Parker Marketing Strategy 2025: A Case Study – Latterly.org, n.d.).

Venn diagram

Although social enterprises TOMS and Warby Parker operate in two diverse industries, the comparison illustrates that

the both organizations aim to raise a strong marketing approach when it comes to engaging with consumers. It can be highlighted that these organizations share similar business model approach highlighting their social mission "Buy One, Give One" demonstrating of how for every product sold, a product is donated to the communities in need. Along the same lines, it can be seen that a social media marketing presence enables the organizations to create trustworthy relationships through engaging consumers and encouraging word-of-mouth. Furthermore, in order to increase brand awareness, these social enterprises cooperate with influencers and partner with other brands encouraging co-branded campaigns.

Additionally, their marketing approach underlines brand story, mission and impact by enhancing referral programs and consumer advocacy to grow organically (Figure1).

Moreover, these social enterprises attempt to gain attention through earned media and positive press highlighting their social mission. Meanwhile, both social enterprises focus on sustainable practices in their supply chain and packaging to attract more socially conscious consumers.

Yet, these social enterprises differ in their business models where Warby Parker directly sells directly through online and branded retail stores, simultaneously, bypassing traditional retail intermediaries. Moreover, it implements home try-one and virtual try-on innovative programs enabling consumers to try glasses remotely and promoting mobile apps for shopping and telehealth services.

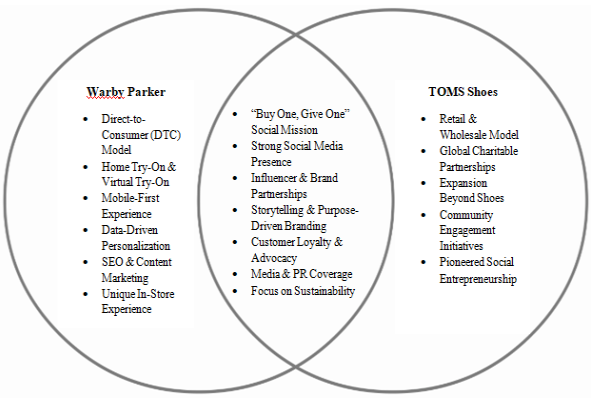

Figure 1. Comparison of Warby Parker and TOMS Shoes (TOMS, n.d.; Ramsenthaler, 2023; Sahu, 2024; Latterly, n.d; Entrepreneur Story, n.d.; MARMIND, n.d.; Ho, 2023; Warby Parker Foundation, n.d.; Latterly, n.d.; Latterly, 2025; Franklin, 2024; Extole, n.d.; Voy Media, n.d.; Emily Talks, 2025; Impact with Natalie, n.d.; Warby Parker, n.d.)

Along the same lines, Warby Parker útilizes customer data for customized marketing and experience, while focusing on organic search and blog content to generate more user traffic, which enables more personalized service and design.

Meanwhile, TOMS Shoes initially concentrated on wholesale and third-party retail partnerships before expanding to Direct-To-Consumer business approach. Simultaneously, the organization partners with charity organizations globally for shoe distribution and impact. Moreover, TOMS Shoes has expanded its one-for-one model to eyewear, water and books to increase its social impacts. Along the same lines, in order to raise its brand awareness the organization encourages marketing campaigns such as "One Day Without Shoes" reaching its target audience. It should be mentioned that TOMS Shoes is a pioneering social enterprise promoting „business for good" social approach and inspiring other companies to integrate similar approaches differentiating itself with more experience in social driven business models.

Recommendations

In order to reach greater brand awareness, customer engagement and social impact, the following recommendations are suggested drawn upon the comparative case study and literature review.

The case study of TOMS and Warby Parker effectively demonstrates how compelling storytelling may encourage brand loyalty and trust. It can be suggested that social enterprises should adopt storytelling purposefully through creating sincere and focused narratives connecting their mission to tangible results, which can result in where customer and beneficiary stories are encouraged to make the stories more relatable.

Furthermore, well-structured storytelling can not differentiate the brand, but also encourage customers to become more passionate advocates promoting the mission of the organization naturally (Kasia, 2025).

Furthermore, being open and transparent about an organization's activities, financial practices and impacts is significant for maintaining and earning trust of the stakeholders. Social enterprises should consistently publish impact reports, maintain open lines of communication and provide insights into their internal organizational processes. This level of openness validates the effectiveness of their work as well as disseminates doubts about the authenticity of the mission and intentions of the organizations (Kasia, 2025; Social Enterprise Case Study: Marketing Strategies for Social Enterprise Success: A Case Study Analysis - FasterCapital, n.d.).

Along the same routes, using digital marketing and social media platforms can be suggested as a budget friendly means of promotion of social enterprises helping to expand their target audience and engage with their consumers. The following platforms such as Instagram, Facebook and

Linkedin can be used for illustrating their impact, encouraging consumer participation and sharing organization's updates.

Investment in targeted advertisements can assist to engage with audiences aligned with their mission. Moreover, video content testing, specifically shorts and behind-the-scenes footage can increase engagement, as these formats are often prioritized by social media algorithms (10 Proven Digital Marketing Strategies for Social Enterprises', n.d.; Innovative Marketing: 7 Strategies and What To Learn from Them. (2025).

Strategic partnerships with NGOs, organizations and micro-influencer can considerably improve the visibility and trustworthiness of social enterprises. Thus, it is crucial to cooperate with partners sharing common values and mission that can result in gaining new, relevant audiences. Joint campaigns, collaborative events and shared content can help to expand outreach, increase their impact and amplify a sense of community (Kasia, 2025; 10 Proven Digital Marketing Strategies for Social Enterprises', n.d.).

Through creating meaningful content entailing blog articles, case studies, educational videos and infographics, which align with the mission of social enterprises and the interests of audiences, can increase trust among stakeholders. Social enterprises can demonstrate tangible and share key insights and lessons inspiring, informing and organically attracting more audience through SEO (search engine optimization) (Kasia, 2025; Social Enterprise Case Study: Marketing Strategies for Social Enterprise Success: A Case Study Analysis - FasterCapital, n.d.).

Monitoring analytics tools of marketing performance of social enterprises can assist to identify what content and strategies are most effective. Monitoring key metrics such as audience engagement, social impact indicators and conversion rates can help to optimize resource use and showcase value to stakeholders and funders (10 Proven Digital Marketing Strategies for Social Enterprises', n.d.; Social Enterprise Case Study: Marketing Strategies for Social Enterprise Success: A Case Study Analysis - FasterCapital, n.d.).

Moreover, social enterprises can search for alternative funding opportunities, such as Google Ad Grants for non-profit organizations, simultaneously, offering free advertising to generate donations and increase brand visibility.

Furthermore, crowdfunding initiatives and membership-based models can also assist to diversify income sources when strengthening relationships with supporters (10 Proven Digital Marketing Strategies for Social Enterprises', n.d.).

Along the same routes, the social enterprises are encouraged to invest in marketing training for staff and leadership to overcome misconceptions highlighting marketing as sole manipulation and sales. Simultaneously, it is suggested to encourage an organizational culture where marketing is viewed as a strategic tool for

mission fulfillment and long-term sustainability (Kasia, 2025; 10 Proven Digital Marketing Strategies for Social Enterprises', n.d.; Social Enterprise Case Study: Marketing Strategies for Social Enterprise Success: A Case Study Analysis FasterCapital, n.d.; Social Marketing, n.d.).

Conclusion

Marketing is not only a promotional but also a strategic tool for social enterprises to assess needs, strengthen trust, sustain impact and mobilize communities. The comparative case demonstrates how TOMS Shoes and Warby Parker balance their social impacts and commercial goals smoothly. The success of these social enterprises are incorporated in their mission-driven strategies through storytelling, social media engagement and transparent "Buy one, give one" models helping to sustain loyal consumers and community trust. Yet, to align social and financial objectives is complex since it requires social enterprises to transform sales-centric tactics toward relationship-building and stakeholder collaboration (Powell and Osborne, 2015). As social enterprises are facing challenges such as limited resources and skepticism toward marketing requires new solution approaches such as using digital tools for customized engagement (Franklin, 2024) and advocacy campaigns (Ramsenthaler, 2023). Marketing is a driver of meaningful, systematic change highlighting transparency, sincere storytelling and cooperations with other brands to expand its sustainable impact. Thus, with the help of marketing, social enterprises can remain competitive, simultaneously, advancing their transformative goals.

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THE STORY OF SPACE ACTIVITIES I.

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Abstract

For all countries, achieving technical excellence is a fundamental condition of space exploration. At the beginning of the space era, this was only a rivalry between the US and the Soviet Union. Today, many countries have the technical maturity to be able to develop an independent space programme. Until the end of the 20th century, only a very small number of countries, and mostly alongside the major space powers, developed their own space policies. In this consisting of two parts paper, I focus on examining the main stages that enabled main country's space capabilities. My primary analysis will focus on the geopolitical theories that have provided the theoretical basis for the great power plans, as well as on the rocket capabilities of the main space-capable countries, satellite capabilities and, of course, the path to the Moon landing. Space exploration became feasible in the last decades of the 19th century and the first decades of the 20th century.

The earlier eras provided a solid foundation for putting a man on the Moon today and for the continuing human interest in space over the centuries.
Keywords: Moon landing, rockets, satellites, outer space capability, geopolitics
Disciplines: military sciences, social sciences, engineering sciences

Absztrakt

AZ ŰRTEVÉKENYSÉGEK TÖRTÉNETE I.

Minden ország számára a világűr kutatásának alapvető feltétele a műszaki fejlettség elérése. Az űrkorszak kezdetekor ez még csak az US és a Szovjetunió versengésében jelent meg. Számos ország rendelkezik ma olyan műszaki fejlettséggel, amely arra mutat, hogy önálló űrprogramot képesek létrehozni, de az egyes országok a 20. század végéig csak nagyon kis számban és leginkább a fő űrhatalmak mellett alakították az űrpolitikájukat. Jelen, 2 részből álló publikációmban arra helyezem a hangsúlyt, hogy megvizsgáljam az egyes országok űrképességeit lehetővé tevő főbb állomásokat. Elsődlegesen elemzés alá veszem azokat a geopolitikai elméleteket, amelyek az elméleti alapját is szolgáltatták a nagyhatalmi terveknek, valamint elemzem a főbb űrképes országok rakétaképességét, a műholdképességeket és természetesen a Holdraszálláshoz vezető utat. Az űrkutatás a 19. század utolsó és a 20. század első évtizedeiben vált megvalósíthatóvá. A korábbi korok szilárd alapot adtak arra, hogy ma embert juttassunk a Holdra és az elmúlt évszázadok során az ember folyamatosan érdeklődjön a világűr iránt.
Kulcsszavak: Holdraszállás. rakéták, műholdak, űrképesség, geopolitika,
Diszciplinák: hadtudomány, társadalomtudomány, műszaki tudomány

„*No one has been more alone in the world since Adam than Michael Collins...*"
– NASA (I1)

Preface

I have based the contents of the present publication on my thesis entitled The Influence of Outer Space in 21st Century Geopolitics, defended in 2024. I have evaluated the materials revealed in the course of my research independently and in context together.

My research methodology is unique, with the specificity of a systematic geopolitical analysis developed by Ioannis Mazis, in addition to qualitative and quantitative methods (Mazis, 2014). I combined the systematic geopolitical analysis with quantitative, qualitative and comparative methodologies, and used a sub-chapter by sub-chapter induction method to arrive at the conclusions. The central element is a comparison of the US, Europe, Russia and China. I have used the systematic geopolitical analysis method to delineate the systems and subsystems through which I have examined space as a supra-system. The systems are remarked

by countries or, as in the case of Europe, by regions based on territorial size or fragmentation. I have used the designation Europe or EU (including EFTA) or European Space Agency (hereinafter referred to as ESA) throughout the study, but for space activities they overlap and I mean the same region. The systems are linked by the subsystems where the specific space activity is carried out, such as launch stations, professional organisations or orbiting space stations.

The specificity of the systemic geopolitical analysis is given by the final element of the methodology, the „Suprasystem". The difference of the „Suprasystem" can be found in its name, which is separated from the „Super-system" by a faint line. The designation „super" means something on top of something and also gives a physical expression to the word association with it. The term „supra", however, refers more of a phenomenal term. This suggests a method of analysis that is more pervasive and more penetrating to the point. Thus, the main element of systemic geopolitical analysis is space activity, which permeates and embraces the specific activities of the countries of the world at a given place and time, which are related to the domain nature of space. I have also identified geopolitical factors (military, economic, political, social), which I have analysed in terms of space activities through a number of indicators such as the size of the military, the political establishment, Gross Domestic Product (hereinafter referred to as GDP), legal regulation, economic line, mineral resources, technology, social preparedness, etc.

Classical geopolitical theories

Before stepping into a historical analysis of the space age, I will analyse the classical geopolitical theories that were associated with technological developments that overcame humanity's spatial barriers prior to the Cold War. In the present study, I have examined the social geopolitical factor, using as indicators the historical foundations that preceded and followed space exploration and the space activities that resulted from the conquest of the Moon and the achievements of rocket and satellite capabilities.

The creator of German geopolitics was Friedrich Ratzel (1844-1904), who defined a state as a living organism and studied the environmental factors affecting populations in the context of migration (Churchill, 1911). He later combined this element of Socialdarwinism with the theory of naval power, as promoted by the American Alfred Thayer Mahan, and advocated the development of German naval power (Cohen, 2015). Friedrich Ratzel's main guiding principle was one state one land, according to which each state was regarded as a small group of mankind and he believed that man could not be imagined without land, nor could the living state. Man lives in a constant desire to acquire land, which he can only pursue at the expense of other living organisms (Fifield & Pearcy, 1997). In his view, the acquisition and maintenance of colonies is essential for a great power

(Ashworth, 2014). His most influential theory is the Lebensraum theory, according to which the state, as a living organism, is constantly shaping its internal and external appearance. According to this theory, states are moving closer and closer together as the surface of the land is no longer sufficient due to the spread of the seas. This foreshadows the way in which a state behaves today in order to own space (Szilágyi, 2013). In 1976, in the Bogota Declaration (signatory states: Colombia, Ecuador, Uganda, Brazil, Indonesia, Kenya, Republic of the Congo, Democratic Republic of the Congo) extended their territorial boundaries beyond the atmosphere, including the mineral resources of outer space (I2). At the same time, the territorial expansion in compliance with the outer space of each state were already included in the Outer Space Treaty and the Moon Agreement.

The word geopolitics was coined by the Swedish scientist Rudolf Kjellén (1864-1922) at the turn of the 19th and 20th centuries. He also placed the concept of the state at the centre, but separated the group of people who make up a nation from the state, which is well defined geographically (Cohen, 2015). In his theory, the state is the rational consequence of a group of people living together as a geographical organism and spatial phenomenon, acting autonomously to acquire resources (Ashworth, 2014). In Kjellén's case, the state already appears as an unit of power and econom. In his view, a country can only be a great power if it has all the necessary resources (Szilágyi, 2013). To this end, he considered expansion and self-sufficiency to be the main objectives of great power status. In his view, a clash of great powers was inevitable (Ashworth, 2014). In the case of space exploration, such an expansionist ambition could be based on space mining, which would ensure that the state carrying out the extraction would be independent of other states, thereby creating its own economy, political system and geopolitical influence on other countries at will.

Alfred Thayer Mahan (1840-1914), an American naval scientist, was more of a realist than the above-mentioned scientists. Despite his naval background, he still maintained the primacy of land power. In his view, sea power must have a land base on which to rely, but he believed that an island nation surrounded by sea could defend itself much better than a power bordered by sea on even one side. On the basis of his principles, he successfully influenced US foreign policy, arguing clearly in favour of securing a naval position and prioritising a policy of openness over isolation (Szilágyi, 2013). The position of the US as a world power was of fundamental interest. Since the expansion of other countries (e.g. Russia) into the seas would sooner or later have threatened its interests as a great power or even its economic interests (Cohen, 2015). At the same time, sea power has many advantages over land power. In terms of maritime routes, alliances, economics, the larger the area a country controls, the greater the extent to which it can access certain resources and obtain any

information (Ashworth, 2014). With the help of satellites launched into space, this information acquisition has become deeper and more widespread.

According to Sir Halford John Mackinder (1861-1947), the Anglo-Saxon geopolitician, the world is in constant motion and is a closed system based on equilibrium. In his view, the status of power could be achieved by any state or empire with the characteristics of a state organisation, provided the necessary economic and geographical conditions, i.e. that it had the right size of territory, population and resources. Mackinder feared the decline of the British system and a German-Russian alliance, which he saw as something to be avoided at all costs (Dugin, 1997). However, he did not count on the US, which he saw as an Eastern power. He continued to see the position of great power as a land power, preferring the expansion of Russia on land to the colonialist British sea power conquering the coastlines of the continents (Szilágyi, 2013). Mackinder had a keen insight into the basic conditions for the growth of states and the conditions necessary to sustain imperial ambitions, but his theories were disproved by the second half of the 20th century and by space activity. Achieving imperial status is still considered in a similar way today, but great power status means something different. It takes an ever deeper knowledge of the foundations and context of human knowledge to be taken seriously. Today, space exploration is essential to retain the status of a great power, and ignoring it implies only strong military or economic influence, and supposing 'only' a strong regional power.

Mackinder's most influential work is the Heartland Theory (Ashworth, 2014). He envisaged a pivot area, corresponding to Eurasia - led by modern Russia as the largest territorial state - and a non-cresent area, consisting of an outer crescent (UK, South Africa, Australia, Canada, Japan and the US) and an inner crescent (Germany, Austria, Turkey, India and China). He later added to this by naming the Eurasian part and Central and Eastern Europe together as the core area, while the Eurasian and African continents were referred to as the World Island (Cohen, 2015). His famous sentence (from which he later dropped the first part, referring to Eastern Europe): „He who rules the Heartland rules the World Island, He who rules the World Island, rules the World"(Fifield & Pearcy, 1944. p.14).

Karl Ernst Haushofer (1869-1946) was the founder of the German school of geopolitics. He embraces the concept of the organic state and the theory of Lebensraum. In his theory of pan-regionalism, he recognises the conquest of large states and studies the concept of maritime and land powers. He advocates the need to build both along the lines of the Mahan principles. His theory is clearly in favour of the expansion of the German Lebensraum, according to which Germany and other countries of similar size and population density will only become great powers if they have a larger territory, population and seaport (Szilágyi, 2013). This requires territorial conquest. He believes that four major pan-regions

should be created (PanEurAfrica, Pan-America, Pan-Russia, Pan-Asia)(Cohen, 2015).

Nicholas J. Spykman (1893-1943) was an American scientist and a champion of the policy of containment in the US. His theory was that alliances should be formed by all states. However, not to support each other, but to maintain a balance of power against other groups. He did not consider winning a war as the end of the struggle for power, as the defeated would constantly rebel against the victor. He feared European integration and favoured maintaining the Russian-European balance (Szilágyi, 2013). Spykman foresaw the geopolitical theory later used by Henry Kissinger to keep the Soviet Union and China apart, in the framework of triangular diplomacy (Kissinger, 1994). Like Mackinder, he divided the world into a Heartland, a Rimland and Offshore Islands and Continents. Here the power of the Rimland, that the US has the same power as the Core Area, is already apparent (Cohen, 2015). In concept, the periphery becomes the key zone (Ashworth, 2014).

At the dawn of aviation, during the First World War, the concept of the airforce supremacy was born. The italian General Giulio Douhet developed the tools for a strategic approach to air transport, laying the foundations for the new rules of future warfare (I3: Top War, 2023). At the same time, he introduced the concept of „strategic bombing", in which a powerful bombing raid is carried out against strategic targets located deep behind enemy lines. Douhet believed that increasing air supremacy provided the opportunity to decisively determine the outcome of a war by attacking the enemy's state and economic centres. In his view, land forces and navies could achieve military success independently of each other, since land forces could have naval assets and navies could have land troops. On this basis, he considered that both land forces and the navy could have their own airforces, but that there was still a case for the creation of a separate air force capable of carrying out military operations on its own (Douhet, 1998). Subsequently, the use of air power reached the level envisaged by Douhet in the Second World War, at the same time as Douhet's theses were confirmed. In 1941, the aircraft was already seen as a potential means of attack against which no effective defence could be expected in the foreseeable future and which could break the enemy's social morale by bombing population centres (Warner, 1973).

An announcement of the primacy of the airforce was also published on the Russian side in the person of Alexander de Seversky, a Georgian-Russian-born aeronautical engineer. Despite his heroic participation in the First World War, he settled in the US after the Bolshevik Revolution of 1917. As an outside expert, he argued that war supremacy - without the participation of warships - could be achieved by aerial bombardment alone (I4). He opened his american aircraft factory in the 1920s and lived in the US for the rest of his life, during which time he became the author of many books and a

prominent figure on television (I5). He began his engineering work during the First World War, during which time he registered several patents, such as a device for guiding bombs and a ski for landing aircraft on ice. But his work was completed in the US with the development of the gyroscopic bomb guide and the ability to transfer fuel from one aircraft to another in the air (Meilinger, 1997).

The missile systems

The development of rocket systems can certainly be seen as the beginning of modern space activities. Although the fact of space activities dates back to antiquity, they only became accessible to mankind at a certain stage of technological development, during the development of rocket science. It has come a long way from the emergence of religious theories of sky-gazing in antiquity, through Chinese fireworks, to the development of today's rocket systems. In ancient times, the planets Mercury, Venus, Mars, Jupiter and Saturn were known from the Babylonians, through Greek and Roman beliefs, to Japanese and Chinese cultures. The most widely known mention of outer space is certainly found in passages of the Bible, such as Job 26:7 „He stretched out the north over the wilderness, He spreads out the northern skies over empty space; he suspends the earth over nothing." or Isaiah 40:22. It is he that sitteth upon the globe of the earth, and the inhabitants thereof are as locusts: he that stretcheth out the heavens as nothing, and spreadeth them out as a tent to dwell in or „Ephesians 1:10 to be put into effect when the times reach their fulfillment—to bring unity to all things in heaven and on earth under Christ" (I6). Nearly 2,500 years ago, the ancient Greek atomistic philosopher Democritus (460-370 BC) made a connection that remains an eternal truth: „man is a universe in little microcosmos" (Sipos, 2021, p. 429).

Although the ring of Saturn was only identified in 1655 by the Dutch mathematician Christian Huygens - using his 79 mm diameter telescope - the planets were already recognised by the naked eye in ancient times (I7). Despite the round shape of the celestial bodies, many scientific debates in antiquity were sparked by the flatness of the Earth and its central role in the world. Aristotle, the greatest scientist of the age, already claimed that the Earth was round. It took more than 2,000 years before the calculations and evidence of Galileo Galilei, Giordano Bruno or Johannes Kepler also proved that the Earth was round, moving and not at the centre of the world.

According to Sir Isaac Newton's third law (of motion), described in his Principia - based on the theoretical research of the italian astronomer Galileo Galilei and the French philosopher René Descartes at the turn of the 16th and 17th centuries (I8) - the obstacle to scientific realisation was removed, thus enabling the rocket to be used as a new technical achievement (Newton, 1946).

First developed by British Colonel William Congreve during the Indian colonial wars against the British, the Indian

(rocket) device was successfully used in 1812 (I9). An essential ingredient in rocket technology is black powder, which was discovered in China in the 7th century BC. It was fought with by the Arabs in the 1200s and introduced to Europe in the 13th century (Lukács, 2008). Among other experiments by many European inventors, the Hungarian-born Lajos Martin developed a new invention of the spinning war rocket in 1856 (Tulogdy, 1941). In the second half of the 19th century, French publishers published Jules Verne's lifelike space travels, which were later similarly realised, but finally, on the Russian side, decades ahead of his time, the aeronautical engineer Konstantin Eduardovich Tsiolkovsky wrote his work on rocket science in 1903, in which he imagined interplanetary travel by rocket means (I10).

The theory only became a reality in the 1920s, following the work of American scientists Robbert H. Goddard and German scientist Hermann Oberth (Deborah, 2008). Then, in the late 1920s, in the world's first rocket programme, the german Fritz von Opel and the austrian Max Valier, in the framework of OPEL-RAK, produced in Germany the first rocket-powered man-driven cars and aeroplanes, based on earlier plans (I11). It was also on the basis of these plans and after consultation with the above scientists that the aeronautical engineer Wernher von Braun, a dedicated member of the National Socialist German Workers' Party and its military and defence organisation, the SS, began to develop his new rocket system. The research reached its climax in 1944, when the V-2 rocket was used by the Nazis against the Allies. In Paris on 6 September 1944 and against the United Kingdom from 8 September 1944 to 27 March 1945 (I12). Even the new engineering miracle could not turn the tide of Second World War and the Nazi Party's developments were implemented in the US and the Soviet Union after the lost war, together with the Nazi scientists they had taken over. Events followed in quick succession. Having obtained the designs of the V-2 missiles that the Nazis were experimenting with, development began in the US and the Soviet Union (I11). In fact, it was the competition between these two great powers that led to the perfection of the missile system. It is difficult to say which of these two states started the race to explore space, and whether the political objective was really to explore space or whether it was seen as a more sophisticated solution to the millennia-old struggle of mankind. In sum, the role of the German V-2 missile and the sound-speed-above-range capability of the US Air Force X-1 aircraft in 1947 (Benett & Cribb, 2008) made it clear that air defenses and missiles capable of destroying each other could be used indirectly to weaken, observe and launch a specific attack on the other.

The second half of the 1940s and the first half of the 1950s were mostly about building nuclear power, and the breakthrough in rocket science came in 1957. Although the first man-made object, the V2 rocket, was launched by the Germans on 20 June 1944, after two

attempts, and sent into space at an altitude of 175 km (I12). The first man-made object specifically for space travel was launched by the US on 24 February 1949, the Bumper-Wac two-stage rocket system under the Hermes Programme (I13). In 1955, the US announced that it would launch a satellite into space during the newly formed and convened International Geophysical Year (1957-1958). Four days later the Soviets announced the same (I14). On 4 October 1957, following the development of the Intercontinental Ballistic Missile (hereinafter referred to as ICBM), the Soviets launched Sputnik 1, the world's first artificial moon (Mező, 20239. Less than a month later, the first living creature - Lajka the dog - had already walked through space aboard Sputnik-2. The Soviets had not planned a re-entry module for the satellite, and unfortunately „man's best friend" did not survive the experiment (I15). Belka and Strelka, however, are the first living beings to have survived a space voyage aboard the Soviet Sputnik-2 on 19 August 1960 (I16).

After that, the Soviets and the Americans came up with new missions in parallel, but the Soviets were first in almost everything. It was the Soviets who took the prestigious steps towards society. The first satellite and the first living creature were followed by the first space shuttle, which left the Earth's gravitational field on 2 January 1959. The first aircraft on the lunar surface was Luna-2 on 14 September 1959. The first man in space was Yuri Gagarin on board Vostok-1 on 12 April 1961. The first woman in space, Valentina Vladimirovna Tyereskova, on board Vostok-6 on 16 June 1963. The first spacewalk was carried out by the Soviets on 18 March 1965.

Naturally, the above would have been important for the US from a media point of view, since there was not only an arms race between the US and the Soviet Union, but the two camps would have tried to convince their allies whether capitalist or communist ideology was the long-term solution for all of humanity. In the meantime, however, the Americans were also making steady progress in space science thanks to their rockets. On 31 January 1958, Explorer-1 was the first satellite to make scientific measurements, followed by Vanguard-1 on 17 March 1958, making the first measurements of the Earth's shape and magnetic field. Vanguard-2 as the first camera in space on 17 February 1959. Then, on 1 April 1960, the US launches the first weather satellite and two weeks later the first navigation satellite.

However, the Soviet successes not only filled the population on the Western side with fear, but also worried the US political leadership, which saw the continued development of the Soviet forces and the huge sacrifice of its own military budget. By the mid-1960s, the Soviet missile system exceeded US capacity, with some 1,400 intercontinental ballistic missiles compared to 1,000 in the US. Moreover, the Soviet SS-18, the most advanced missile of the time, had twice the range of the US Titan-II, and was also highly accurate, and the arsenal included the entire SS series,

such as the SS-11, SS-13, SS-19, etc (Phal, 1987). Later, in the 1970s, the US technical design system became increasingly dominant, and the Cold War competition ended with the economic and then political collapse of the Soviet Union.

Countries with missile systems

One of the biggest challenges in engineering is to get a rocket beyond the atmosphere. By overcoming the physical forces of nature, space travel could begin in Earth orbit. Any country that can do this can autonomously launch spacecraft into orbit around the Earth and autonomously carry out interplanetary space travel. A launch vehicle is typically a rocket-powered unit that transports the desired payload from the Earth's surface into space. The rocket system consists of two or three stages. The first stage, the most powerful stage, lifts the rocket system from the Earth's surface, the second stage carries the payload into space and the final stage is used to place it into orbit around the Earth. The rocket system runs on propellant, which can be liquid, solid or hybrid, a chemical mixture of fuel and oxidizer. This mixture provides enough propulsion to power the system (I17).

Currently, 10 countries and one intergovernmental organisation, ESA, are capable of independently implementing this technology and crossing the outermost layer of the atmosphere (Table1), while placing the spacecraft in orbit around the Earth (2022) (I18):

Table 1: GDP of countries with a rocket system in 2022, population and year of first space orbit. Source: I19.

	GDP (billion dollar)(I20)	Population in 1 000)	First orbital position (I21)
US	26 850	339 996	1958
Russian Federation	2 060	144 444	1957 (Soviet Union)
France (ESA) Italy (ESA) United Kingdom (ESA)	2 920 2 170 3 160	64 756 58 870 67 736	1965 1971
Japan	4 410	123 294	1970
China	19 370	1 425 671	1970
India	3 740	1 428 627	1980
Israel	539	9 174	1988
Ukraine	148,7	36 744	1991
Iran	367	89 172	2009
North–Korea(I22)	app. 30 (2021)	26 160	2012
South–Korea	1 720	51 784	2022

Table 2: Countries' most powerful missile systems, with maximum payload capability in Earth orbit. Source: I24

	Launching system (I25, I26)	Payload to LEO -Low Earth Orbit(in kg)
US	SLS Falcon Heavy	95 000 63 800
Russian Federation	Proton	23 700
France (ESA)	Ariane–5	16 000
China	Long March 5B	25 000
India	LVM3	10 000
Italy (ESA)	Vega C	1 430
North–Korea	Unha	200
South–Korea	KSLV–2 (Nuri)	3 300
Israel	Shavit 2	800
Ukraine	Zenit	13 700
Japan	H3	4 – 8 000
Iran	Qaem 100	80

Of the countries in Table 1, however, only seven countries or regions have the capacity to launch satellites over 1 tonne (I23). Many countries are developing rocket systems, but currently only these countries have the capability to launch their own space assets into space. Dozens of countries have various types of space launchers which, with further development, could reach the threshold of space activities. The development of these sounding rockets will give each of these emerging countries a wealth of experience in the use of operators, launch stations and other scientific advances for a future space mission (Table2). From Table 2, it is clear that countries have varying rocket capabilities. At the same time, several developments are underway that will likely increase the number of rocket systems suitable for space travel. For understanding this chapter, it is important to highlight that the three space superpowers (US, Russia, and China) are continuously developing and testing their super-heavy launch systems, which are capable of sending payloads over 100 tons into space. Until today, only the US has successfully operated a super-heavy rocket system into space, with which it also accomplished the Moon landing. The SATURN-V, as part of the Apollo/Skylab project, was capable of sending 140 tons of payload into space. The Soviet Union's Energia rocket system was able to transport 100 tons of payload into space; however, it is currently out of service and only experienced two successful launches.

Table 3: Super-heavy rocket systems under test with country of origin and maximum payload in orbit around the Earth. Source: composed by the author

Countries	Super–heavy rocket system	Payload to LEO (kg)
US	SLS Starship (two types)	130 000 150 000 és 250 000
Russian Federation	Don	130 000
China	Long March 9	150 000

Among the countries listed in Table 3, the US is still continuously experimenting with the launch of the Starship, while Russia and China are promising that their rocket systems will be ready by the end of this decade. At the same time, alongside their super-heavy rockets, these countries are also constantly developing smaller, yet more advanced rocket systems than the current ones available today. Russia is working on the Yenisei rocket, which, at 103 tons of payload capacity, is smaller than the Don, while China is developing the Long March 10 rocket, which has a payload capacity of "only" 70 tons. In addition to the currently tested super-heavy rocket systems, the US is also testing significant new tools. The Space Launch System (hereinafter referred to as SLS) will develop two additional rockets by the end of the decade, capable of sending 105 tons and 130 tons of payload beyond the atmosphere.

US and Russia (Soviet Union) Masterizing the Moon

The most powerful rocket system of all time was the SATURN-V, which assisted the American Moon landing on July 20, 1969 (I26). The Soviet Union began its Luna program in 1959, which aimed to accomplish several tasks, such as flybys of the Moon, tracking its orbit, and performing a landing. The first man-made object to touch (impact) the surface of the Moon was the Soviet Luna-2, on 13 September 1959. In parallel with the Luna program, the Soviet Zond program was initiated, though it had fewer launches and was quickly terminated. Its primary goal was to take photographic images of the Moon's surface in preparation for a later crewed landing. The Luna program continued until 1976, terminating with the Luna-24 mission. The first satellite to orbit the Moon was deployed during the Luna-10 mission in 1966. At this point, the US

had already started the Pioneer program in 1958, but despite seven attempts, it could not succeed with its Moon goals (I27). In the Soviet Luna-9 program, the first successful landing on the celestial body occurred in February 1966 (I28). The US, however, successfully completed its Moon landing in June of the same year, and between then and 1968, it made five more successful landings under the Surveyor program (I29). For a time, it seemed that the Soviet Union might compete with the US in the Moon race. On November 17, 1970, as part of the Luna-21 program, the Soviet Union became the first to build and successfully deploy a lunar rover (Lunokhod). However, due to a lack of funds and rocket systems, the entire Moon program was abandoned in 1977 (I30). Demonstrating its technological prowess by then, the Soviet Union successfully returned lunar rocks to Earth three times under the Luna program, bringing back about 300 grams of lunar samples between 1970 and 1976 (I31). However, when comparing the overall achievements, this was far less than the American performance, as the US returned approximately 380 kg of lunar rocks between 1969 and 1972 as part of the six successful crewed Apollo missions (I32). During these missions, a dozen Americans walked on the Moon.

The most symbolic difference in the competition and technological demonstration between the two countries occurred on the day of the Moon landing. On 21 July 1969, as American astronauts Neil Armstrong and Buzz Aldrin completed the first human walk on the Moon, the Soviet spacecraft from the Luna-15 program crashed into the Moon's surface, thus burying and covering the Soviet Union's dream of being the first to bring back lunar samples (I33). The US was left without a competitor, and after 1972, there were no further attempts at crewed Moon landings. However, political initiatives were made on several occasions. In the early 1980s, many scientists focused on repeating the Moon landing, but the preference increasingly shifted towards establishing a Moon base and crewed missions to Mars. In 1989, US President George H. W. Bush's Space Exploration Initiative was canceled during his successor Bill Clinton's administration, primarily due to budgetary concerns (the 1969 landing cost $25 billion) (I34). Meanwhile, the parallel construction of a space station also faced significant political opposition. The return to the Moon was announced in 2004 by US President George W. Bush under the Vision for Space Exploration program, but it was canceled in 2010 during the Obama administration (I35). Today, the stance on returning to the Moon appears more unified, and the technological challenge is expanding with the involvement of several countries.

Why the Moon? In 1865 and 1870, the french writer Jules Verne published two works (From the Earth to the Moon and Round the Moon) that dealt with the theme of lunar travel. The books explore the possibility of creating a cannon capable of sending a cannonball to the Moon's surface. A bit later, but still of similar

significance, came H. G. Wells' novel *The First Men in the Moon* (1901), which also captured public interest (I36). Of course, one can trace the history back even further — on scientific grounds — to the time of Galileo Galilei, when the italian physicist used his telescope to study the lunar surface. It can even be traced to the 2nd century AD, with Claudius Ptolemy's *Almagest*, in which he attempted to define the movement and position of the planets and other celestial bodies, including the Moon, through spherical trigonometry (sine, cosine, tangent, cotangent formulas), which was based on Aristotelian and Platonic principles that emerged in the Hellenistic period. The Ptolemaic model of the universe remained influential until the 17th century. Before this, the roots of celestial studies can be traced to ancient Egypt and Babylon, as well as to prehistory, with monuments like Stonehenge, where the positions of the Moon and stars were analyzed (I37). Overall, we can say that the phenomenon of celestial bodies has always fascinated certain members of humanity, even if, in the beginning, society saw religious elements in them. In the early 20th century, lunar travel became a popular topic in some Western countries, inspired by Jules Verne's aforementioned works. Verne influenced American rocket scientist Robert H. Goddard as well. In Russia, Konstantin Eduardovich Tsiolkovsky, also inspired by Verne and the shape of the Eiffel Tower being built at the time, developed the flight formula in 1898 for sending a rocket into space (I38). Later, in 1903, he established the technical formula for modern spacecraft and the multistage rocket powered by liquid oxygen and liquid hydrogen fuel (I39). Tsiolkovsky is still regarded as one of the fathers of rocket science, alongside German scientists Hermann Oberth and Fritz von Opel, American Robert H. Goddard, and Frenchman Robert Esnault-Pelterie. Afterward, rocket science took different paths in various countries, with Germany making significant strides with the development of the V-2 rocket during Second World War.

Returning to the Moon, the 1920s were mainly focused on rocket experiments. However, parallel to that, various civil organizations dealing with interplanetary travel were established (russian-soviet, german, american, british), whose primary goal was to connect rocket science with space travel. Between 1937 and 1939, from a scientific perspective, the British Interplanetary Society (BIS) — led by science fiction writers Arthur C. Clarke and H. G. Wells — was the first to explore the possibility of making lunar travel a reality (I40).

In 1919, Robert H. Goddard presented the idea to the public, attracting both confusion and ridicule. However, in theory, every rocket scientist had asked the question of whether lunar travel was possible. His presentations were publicly discredited, and even the *New York Times* harshly criticized him, claiming that his theory demonstrated his ignorance of basic physics learned in elementary school (I41). The BIS, however, advanced much further. They began studying the materials

science of space vehicles and proposed concrete suggestions for designing spacesuits to be worn on the Moon. They also analyzed atmospheric obstacles from a physical standpoint, creating a technical committee for this purpose (I42). This all took place before the Second World War. Therefore, the idea of lunar travel goes back much earlier than its realization in 1969. However, from the mid-1950s onward, the two superpowers, the US and the Soviet Union, deliberately began preparing for a crewed lunar landing through their rocket programs. Based on the above, in the beginning, only distant study of the Moon was feasible, but the launch of *Sputnik-1* in 1957 was followed by other satellites and tests.

undeniable central figure of the Soviet space program was rocket engineer Sergey Pavlovich Korolev. In the 1930s, he began his work with liquid-fuel rocket systems. However, due to disagreements with his superiors and despite Stalin's recommendation to pursue solid propellant research he focused on liquid fuel, he fell victim to the Great Purge of 1937-1938, along with many other brilliant engineers (I43). He was imprisoned in various Soviet prisons, where thousands died daily from inadequate food, clothing, or brutal treatment. After a few years of captivity, during the early years of Second World War, he was transferred to a special prison for engineers and scientists, where he could continue his work. After the war, following the Soviet acquisition of the German V-2 rocket type, Korolev joined the Soviet Experimental and Design Bureau (опытно–конструкторское бюро, Opytno Konstruktorskoye Byuro, OKB). His talents were recognized, and he was appointed head of the Soviet rocket program (I44). Under his leadership, the R-7 rocket family was developed, as well as the N-1 rocket — the foundation for the later Proton rocket — which was left unfinished due to Korolev's death but was likely intended to be used for a lunar landing (I45).

The R-7 rocket helped the Soviet Union to send the first satellite, the first living creature, and the first human into space as part of the Vostok spacecraft and program (I46). This was followed in 1964 by the Voskhod spacecraft and program, where in 1965, Aleksei Arkhipovich Leonov performed the first spacewalk. Around this time, the development of the Soyuz spacecraft began, alongside the aforementioned N-1 rocket, which was planned to be used for the lunar landing as well. Unfortunately, Korolev's health was severely affected by his years in prison, and he passed away in 1966.

Soviet engineer Yuriy Vasilyevich Kondratyuk also explored the possibility of lunar travel as part of the Lunar Orbit Rendezvous (LOR) program (I47). However, like many others, he was imprisoned. Learning from Korolev's example, he did not push for recognition of his scientific work. Later, the United States—later acknowledged by Neil Armstrong—used his findings in the Apollo program (I48). Kondratyuk disappeared during Second World War in 1942. Many scientists focused on economics faced a similar fate. Vasily

Vasilyevich Leontyev, a Russian-born economist who would later win the Nobel Prize, studied the interaction between different economic sectors (industries) in the US based on the Soviet planned economy. However, for his stand on behalf of freedom and the scientific community (against scientific censorship) (Gardfield & Leintif, 1986), the Stalinist regime „rewarded" him with either starve or imprisonment (I49).

To this day, the US is the only country that has put a man on the Moon. Founded in 1958, NASA - whose main mission is to make space flight a reality - carried out several successful moon landings between 1968 and 1972 as part of the Apollo programme. In the early 1960s, the Mercury programme was completed and the transition was made to a multi-person spacecraft (Mercury carried US astronaut Alan B. Shepard into Earth orbit on 5 May 1961) (I50).

The Apollo programme was designed for three astronauts and was tested from the 1960s onwards under the Gemini programme, with the two-crew type (I51). The Apollo programme was more than just a landing on the moon. Instruments were designed and developed that later contributed to other space activities. These included Skylab, which created the hardware for an Earth-orbiting space station in 1973-1974 (I52), and the Apollo-Soyuz programme in 1975, when the joint US-Soviet space programme began as the Cold War eased.

Europe

After Second World War, Europe was weakened. However, the American-Soviet confrontation analyzed above was based on European technological achievements. This is the strange rise of the US and the USSR as great powers, resting on scientific research that was founded by Germany, which had started Second World War and then suffered a complete defeat.

Germany, the United Kingdom and France were busy balancing each other's power, while receiving security guarantees from the US and the USSR. At the same time, Europe's intellectual potential gained new strength like a phoenix. In 1957, it created the European Economic Community and then turned to space activities, among many other areas.

European space activity began with the establishment of two main organisations: the European Launcher Development Organisation (ELDO) and the European Space Research Organisation (ESRO). ELDO operated between 1960 and 1974 and was intended to develop European missile capabilities to replace the British Blue Streak medium-range ballistic missile system. ESRO was established in 1964 and was tasked with ensuring scientific research in outer space. The two organisations merged in 1975 to form ESA (I53). Today, it has 22 members: Austria, Belgium, the Czech Republic, Denmark, Estonia, Finland, Germany, France, Italy, Greece, Ireland, Hungary, Luxembourg, the Netherlands, Norway, Poland, Switzerland, Portugal, Spain, Romania, Sweden

and the United Kingdom. The organization has an associate member Canada and cooperating partners Bulgaria, Cyprus, Latvia, Lithuania, Malta and Slovakia. It has strategic partnership agreements with the US, Russia and China, and maintains relations with organizations in Japan, India, Argentina, Brazil, Israel, South Korea and Australia.

Before the formation of ESA, ELDO was already working on a three-stage rocket system capable of placing satellites into orbit around the Earth. The British government had already felt the need to develop similar rocket systems in the 1950s, similar to those developed by the US and the Soviet Union. However, the cost burden forced the United Kingdom to continue the development together with other European countries. As a result of the division of labor, the British built the first stage, the French the second and the Germans the third stage (I54). The telemetry equipment was developed by the Netherlands and Belgium. The project did not achieve the desired effect due to internal problems within ELDO and mixed success. In 1973, France, in consultation with the United Kingdom and Germany, who had lost interest in continuing the project, decided to carry out the development of the rocket system alone (I55). France carried out the task with Airbus and Arianespace and established the European launch base in its overseas department of French Guiana. The result was one of the most important rocket families in the world (Ariane), which made ESA a leader in commercial space launches in the 1990s. Europe became independent in carrying out space activities (I56). Ariane-5 retired in 2023 and one of its last tasks was to put the world's most advanced James Webb Space Telescope (JWST) - a joint venture between the US and ESA - into orbit (I57). The new Ariane-6 heavy launcher is still being tested today, with its first launch tests taking place in 2023 and 2024.

Based on the GDP data in Table 1, Russia cannot compete with much smaller and less well-off countries today, but its role in space exploration continues to place it among the developed countries. In terms of its economic strength, we can further compare Russia's GDP with the GDP of the BENELUX (Belgium, Netherlands, Luxembourg, Belgium, Netherlands, Luxembourg, hereinafter referred to as BENELUX) countries (in 2022 Belgium 578 billion 604 million dollars, Netherlands 991 billion 114 million dollars, Luxembourg 82 billion 274 million dollars), which totals approximately 1,650 billion dollars, or with the GDP of the Northern European countries (in 2022 Sweden 585 billion 939 million dollars, Norway 579 billion 267 million dollars, Finland 280 billion 825 million dollars, Iceland 27 billion 841 million dollars, Denmark 395 billion 403 million dollars), which totals approximately 1,900 billion dollars. The GDP of Great Britain and France is 50% larger than Russia's GDP, and Italy also exceeds it. Japan and Germany have GDPs that are almost 2-2.5 times larger than Russia's. Furthermore, the economies of the countries that form

the basis of European space exploration exceed the size of China's economy. At the same time, the Soviet Union was the second largest economy – after the US and in close competition with Japan – when it collapsed in 1990, and yet it was unable to complete its space program (I58).

China

The second and third steps of China's space activities are directly linked to the Soviet Union. It launched its first satellite in 1970 with its own rocket system. Soviet-Chinese relations were strong before the border dispute in 1969, but after that there was only minimal cooperation until the end of the Cold War. Following the competition between the major space powers, China decided to send a man into space by 1973, under the Project-714 program (I59). However, the program was canceled in 1972 for political and economic reasons and was revived again in the 1990s under the Project-921 program - together with plans for a space station (I60). The Soviet Union not only made the ballistic missile system available to China, but also undertook the training of astronauts and provided the necessary technical conditions (spacesuits)(I61). China sent a man into space in 2003 with the Shenzhou-5 spacecraft, which is a structural copy of the Russian Soyuz (I62).

In 2014, Russia and China strengthened their former space alliance under Western sanctions, and Russia provided significant assistance to the development of the Chinese satellite system BeiDou. The cooperation between the Russian GLONASS satellite system and the BeiDou satellite system created a much more accurate positioning system, and data sharing between the two countries became continuous (I63). In 2018, Russia authorized the sale of the RD-180 rocket, which was the basis of Russia's space activities, to China. The US also purchased the RD-180 rocket for its Atlas missile system in the early 2000s, but after the annexation of Crimea in 2014, the US withdrew it as a political decision and did not purchase any more (I64).

Russia grew closer to China in the 1990s after the end of the Cold War, but after China's manned spaceflight, it decided to reduce its support for China, fearing the primacy of the US-Russia alliance in space activities. In 2006, Russia believed that China was 30 years behind it, but realizing this reality, it banned the transfer of space equipment, including the RD-180 rocket (Qisong & Nishan, 2021), (I65), Today, cooperation is closer, based on the freer flow of Russian high-tech and Chinese chips between the two countries.

However, if we go back in time and examine China's first steps in space from the time before space activities, we come to the direction of the US. After the suppression of the Boxer Rebellion in China in the late 19th century, China had to pay reparations. However, the US established a Boxer Indemnity Scholarship (hereinafter referred to as the Boxer Indemnity Scholarship) program, in which the Chinese reparations were recycled and Chinese students were given the opportunity to study at American

universities (I66). Many Chinese scientists graduated in the US and returned to China to do scientific work. Qian Xuesen, known as the father of Chinese space exploration, earned a scientific degree and taught at the Massachusetts Institute of Technology (hereinafter referred to as MIT) and the California Institute of Technology (hereinafter referred to as CalTech) in the 1930s, after studying at Peking University, also working under the supervision of Hungarian-born physicist Tódor Kármán (I67). After years of house arrest in the 1950s for his support for communist China, he returned to China (I68). He became a member of Chinese academia and played a pioneering role in the development of ballistic missiles, based on experience gained at NASA's JPL (I69). Communist China then found a new partner in the Soviet Union.

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SPACE ALLIANCES AND THREATS IN EXPLORATION

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Abstract

In this paper, I have sought to answer the question of under what conditions the current alliance systems will change, and in what direction the major rivals will have to rethink their strategies. The role of space activities is now a condition of being a great power, but China and Russia are lagging far behind in this respect. At the same time, we need to work together to tackle natural disasters and threats from space. The threats are becoming more and more imminent with the use of space and the advent of space mining and counterspace weapons is not making the situation any easier. Yet everything comes together to form a strategy for planetary defence.

Keywords: counterspace capabilities, Artemis Accord, Planetary defense, new alliances, sustainability, threats and hazards

Disciplines: military sciences, social sciences, engineering sciences

Absztrakt

ŰRSZÖVETSÉGEK ÉS FENYEGETÉSEK A FELFEDEZÉSBEN

A jelen tanulmány megírása során arra a kérdésre kerestem a választ, hogy milyen feltételek mellett módosulnak a jelenleg fennálló szövetségi rendszerek, a nagy riválisok milyen irányban kell, hogy átgondolják stratégiájukat. Az űrtevékenységek szerepe ma már nagyhatalmi feltétel, azonban erre vonatkozóan Kina és Oroszország jelentős lemaradásban van. A Földünket veszélyeztető természeti katasztrófák és a világűrből érkező fenyegetések leküzdéséhez ugyanakkor összefogásra van szükség. A veszélyek a világűr használatával egyre fenyegetőbbé válnak és az előttünk álló űrbányászat és counterspace fegyverek megjelenése sem könnyiti meg a helyzetet. Ugyanakkor a bolygóvédelem stratégiájának kialakitásában mégis minden együttesen kap szerepet.

Kulcsszavak: counterspace capabilities, Artemis Accord, Bolygóvédelem, új szövetségek,-fenntarthatóság, veszélyek és fenyegetések

Diszciplinák: hadtudomány, társadalomtudomány, műszaki tudomány

I have based the contents of the present publication on my thesis entitled The Influence of Outer Space in 21st Century Geopolitics, defended in 2024. I have evaluated the materials revealed in the course of my research independently and in context together. My research methodology is unique, with the specificity of a systematic geopolitical analysis developed by Ioannis Mazis, in addition to qualitative and quantitative methods (NET1). I combined the systematic geopolitical analysis with quantitative, qualitative and comparative methodologies, and used a sub-chapter by sub-chapter induction method to arrive at the conclusions. The central element is a comparison of the US, Europe, Russian Federation (thereafter Russia) and China. I have used the systematic geopolitical analysis method to delineate the systems and subsystems through which I have examined space as a supra-system. The systems are remarked by countries or, as in the case of Europe, by regions based on territorial size or fragmentation. I have used the designation Europe or EU (including EFTA) or European Space Agency (hereinafter referred to as ESA) throughout the study, but for space activities they overlap and I mean the same region. The systems are linked by the subsystems where the

specific space activity is carried out, such as launch stations, professional organisations or orbiting space stations.

The specificity of the systemic geopolitical analysis is given by the final element of the methodology, the "Supra-system". The difference of the "Supra-system" can be found in its name, which is separated from the "Super-system" by a faint line. The designation "super" means something on top of something and also gives a physical expression to the word association with it. The term "supra", however, refers more of a phenomenal term. This suggests a method of analysis that is more pervasive and more penetrating to the point. Thus, the main element of systemic geopolitical analysis is space activity, which permeates and embraces the specific activities of the countries of the world at a given place and time, which are related to the domain nature of space. I have also identified geopolitical factors (military, economic, political, social), which I have analysed in terms of space activities through a number of indicators such as the size of the military, the political establishment, Gross Domestic Product (hereinafter referred to as GDP), legal regulation, economic line, mineral resources, technology, social preparedness, etc.

New allied systems

The start of space exploration coincided with the beginning of the Cold War, after which weakened European countries and others suffering the trauma of world war had accepted the leadership of the US and the Soviet Union. It was as much an ideological struggle as an economic or military one, but it was also, by virtue of these, rife with geopolitical conflict. After the collapse of the Soviet Union, countries became more economically and politically stable, and thus more independent to participate in the various alliance systems in their own right. In this publication, I will focus on the political and social geopolitical factors and within them, as geopolitical indicators, I will examine the allied system and international cooperation of countries with regard to space activities.

I will list some alliances in order to situate the countries of the world according to their interests. I will not give examples of alliance systems on the basis of their military or economic nature, but as a form of cooperation between countries. During the Cold War, the Warsaw Pact, which brought together the countries of Central and Eastern Europe under the leadership of the Soviet Union, was established in 1955, alongside NATO, which was founded in 1949. During the Cold War, the UN was the highest level international meeting place for the leaders of countries, particularly US and Soviet diplomats, but its internal organisation and policing have long been subject to increasing criticism, earning it the title of 'the sick man of international organisations' (Mruwat; United Nations: Critiques and Reforms, 1998, p. 235). However, this comment seems to be more a criticism of the UN's overall activity in addressing a particular problem than an appropriate

assessment of an organisation with such a wide and multifaceted remit. The European Economic Community, known as the predecessor of the EU (1994), was founded in 1957 and was soon followed by the Union of South American Nations (2008), which was formed from the Andean Community (1968) and MERCOSUR (1986).

The Eurasian Economic Union was founded in 2014 and the Pacific Forum in 1971. The African Union was established in 2002 as the successor to the Organisation of African Unity, which was created in 1963. A similar organisation was the Council for Mutual Economic Assistance (Сове́т Экономи́ческой Взаимопо́мощи, СЭВ), which operated from 1949 to 1991, but which itself ceased to exist with the break-up of the Soviet Union. The oldest surviving form of cooperation, apart from the EU, is the OECD, which was founded in 1961. Like these institutions, but mainly to preserve cultural and geographical unity, the League of Arab States was created in Egypt in 1945. The list is not exhaustive, but it does illustrate the alliance systems of the various countries and regions and shows that nations are not only willing to cooperate with the countries of their choice, or to seek alliances that are favourable to them, but also to participate in organisations that bring together all the countries of the world, showing that they do not want to be left out of the overarching affairs of the planet.

Next, let's look more specifically at the main international alliances, which I have analysed in Table 1 according to where the spacefaring countries or regions under study (US, Europe, Russia, China) belong – again without separating military and economic alliances - as a form of social cooperation (NET2). I considered EU countries and ESA member states as a common alliance system and labelled them as "EU and ESA".

As Table 1 shows, Russia's influence continues to be concentrated in the successor states of the former Soviet Union. China is a member of the G20 and G33 group of developing countries, but South Africa and India are now also members of these groups, as 'more or less' Western allies in other areas. Russia and China can act separately without the US, EU and ESA in these areas and in the BRICS group. At the same time, all four space powers are members of international organisations in which they must necessarily cooperate and jointly shape the world geopolitical map. It should be noted that the mosaic of BRICS countries was created by the US financial advisory firm Goldman Sachs, based on an investment strategy – not for governments but for companies and other organisations (NET3). In 2003, a specific academic study was carried out, followed in 2005 by a study on the 11 developing countries that follow the BRICS, designated as the N-11, which were then designated as future allies, and then, in 2009, the BRICS was formed (NET4, NET5). On 23 August 2023, membership expansion was announced,

Table 1: Main international alliances. Source: NET2

n	Alliances	Country (db)	Involved
1.	Asian Development Bank, ADB	68	China, US, EU & ESA
2.	African Union	55	
3.	Arab League	22	
4.	BRICS countries	5	China, Russia
5.	Community of Latin American and Caribbean States, CELAC	33	
6.	Commonwealth of Independent States, CIS	10	Russia
7.	Commonwealth of Nations	52	US, EU & ESA
8.	European Union	27	EU & ESA
9.	G20 – Developing Nations	23	Kína
10.	G20 – Group of Twenty	19	China, US, EU & ESA, Russia
11.	G33 – Forum for developing countries	44	China
12.	G7 plus – Group of Fragile States	20	
13.	G8 –Group of Eight	8	US, EU & ESA, Russia
14.	GCC – Gulf Cooperation Council	6	
15.	Latin Union	38	EU & ESA
16.	Magreb	6	
17.	Mashrek	7	
18.	NATO – North Atlantic Treaty Organization	311	US, EU & ESA
19.	Non–Aligned Movement	120	
20.	Organization of American States, OAS	34	EU & ESA
21.	OECD	36	US, EU & ESA
22.	Organization of Islamic Cooperation, OIC	56	
23.	OSCE	57	US, EU & ESA, Russia
24.	Central American Integration System, SICA	8	
25.	Schengen Countries	27	EU & ESA
26.	Turkic Council	5	
27.	United Nations, UN	193	China, US, EU & ESA, Russia
28.	UNESCO	195	China, US, EU & ESA, Russia
29.	Union of South American Nations, USAN	12	
30.	Visegrad countries, V4	4	EU & ESA
31.	World Trade Organization, WTO	159	China, US, EU & ESA, Russia

following the example of the 2005 study. (NET6) What makes it difficult to understand how the organisation works is that of the 6 new members, Saudi Arabia, Argentina and the United Arab Emirates have signed the Artemis Agreement, the basic document of the US-led moon landing programme, and Saudi Arabia is planning to send its first female astronaut into space soon, in partnership with the US company Axiom Space. (NET7) In 2025, the BRICS+ countries became only by 5 countries as follows: Iran, UAE, Egypt, Ethiopia and Indonesia.

International cooperation can be greatly helped by a common, vibrant space programme for all countries. The three countries mentioned above want to develop their space capabilities within the framework of the US and its alliance system, despite the fact that China and Russia are both space-faring nations and capable of putting a manned program into space. Similarly, India, as a US space ally or as a beneficiary of the new US economic expansion. At the same time, at the BRICS meeting of 23 August 2023 mentioned above, Indian Prime Minister Modi put

forward a five-point proposal for BRICS countries to cooperate. These included space exploration, spares for traditional medicines, education development, digital infrastructure sharing and protection of big cats in all five countries. (NET8)

ARTEMIS, new alliance

The moon voyage seems to be repeating itself today. However, countries are no longer undertaking them independently, but have agreed to cooperate in international agreements. At the same time, the world is once again divided into two parts. One part is attempting to travel to the moon under the US-led Artemis agreement (2020), while the other part is attempting to travel to the moon under the Chinese Lunar Exploration Program (2021), a coalition led by the chineese International Lunar Research Station (ILRS).

The first moon landing was 55 years ago, so there is no particular reason to believe that the stakes of this race are high enough to change the status quo. Almost 60 years ago, the US went it alone with the Apollo programme, using much simpler IT tools than today, and sent twelve astronauts to the surface of the Moon by 1972. The dates and the order of the (sub)missions of the Artemis agreement and the ILRS are constantly changing, so I have used the names and dates that emerged in my first analysis, together with presenting the unsucceful dates shown up in the plans of parties.

NASA's original declared goal was to prepare the first woman and the first astronaut in colour for the lunar landing, as part of the Artemis-2 programme, in 2024. (NET9) They will also pave the way for the exploration of Mars. (NET10) Under Article 1 of the Agreement, the lunar missions will be carried out in the framework of civil space activities, for exclusively peaceful purposes as set out in Article 2, in accordance with international law and the provisions of the Outer Space Treaty. The Artemis Agreement reiterates the basic principle of the Outer Space Treaty for the protection of celestial bodies and, in accordance with Article 2 of the Outer Space Treaty, Article 10 (2) prohibits the expropriation of raw materials found in space by any nation. Article 11 of the agreement provides for the establishment of safety zones on the celestial bodies, in which the participating countries have an obligation to inform each other and to cooperate. They must behave in a special way around the safety zones to prevent possible damage. Article 12 of the agreement regulates the issue of space debris, in line with the previously established legal framework, and emphasises the removal of space debris left over after space activities. Article 4 of the Agreement contains the main general element of international treaties, the obligation to share scientific results between participating countries. Resembling, China similarly refers back to the peaceful uses of outer space and the sharing of results in its White Paper on space activities to be published in 2022 (NET11). The agreement was introduced in 2020 with the signature of 8 countries –

Australia, Canada, Italy, Japan, Italy, Luxembourg, Saudi Arabia, US, UK. As of June 2023, 27 countries – Colombia, Bahrain, Brazil, the Czech Republic, Ecuador, France, Israel, Mexico, New Zealand, Nigeria, Poland, Romania, Rwanda, Singapore, South Korea, Spain, Ukraine, the Man Islands, the United Arab Emirates, the United Kingdom, the United States, the United Kingdom of Great Britain and Northern Ireland, the United States of America, the United States of America, Rwanda, Singapore, Spain, Ukraine and the Isle of Man – have signed. Germany and a number of European countries are not on the list, but ESA has signed a separate contract, as it did when it built the ISS, stipulating that ESA will contribute to NASA's 53 agreement with the Gateway programme, among many other space activities. This includes the construction of a lunar orbiting station with service, communication and living quarters for astronauts. In addition, a number of ESA astronauts will of course participate in the programme. (NET12) As of 23 June 2023, one of the consequences of US President Joe Biden's visit to India is that India has joined the Artemis agreement. Argentina signed it on 27 July 2023 as the 28th country in line, followed by Germany on 25 September 2023 (NET13, NET14). It is important to note that the acceding countries do not necessarily have to take a role in the Moon landing, but they can benefit from the results and, by signing, they are expressing political will. As of april 2025, 54 countries have signed the Agreement.

The basic tool of the Artemis agreement is the Orion space instrument, developed by NASA and ESA with the involvement of private companies. The project was launched in 2012 and this spacecraft will play the main role in transporting astronauts to the Moon and also in creating the astronaut habitat (NET15). As part of the Artemis-1 programme, a test flight of the Orion spacecraft was carried out on 16 November 2022 by NASA's SLS super-heavy rocket (NET16). Prior to the launch, NASA's Jim Bridenstine proposed the use of commercial rockets instead of the SLS, such as SpaceX's Falcon Heavy or United Launch Alliance's Delta IV Heavy, to provide more options for the future lunar landing planned for 2024-2025 (NET17). However, it is already certain that SpaceX's Starship will carry astronauts to the southern hemisphere in 2025 as part of the Artemis-3 programme (NET18). The dates are likely to keep changing. During the writing of this publication, there have been various changes from both the US and China on the progress of lunar programmes.

After nearly a year of negotiations, in 2021, Russia's Roscosmos and China's National Space Agency agreed to establish a lunar base. A few years earlier, China had already carried out exploratory research and carried out a non-manned landing on the far side of the Moon as part of the Chang'e 4 programme. Further plans for the construction of a lunar base are still in the planning stages, but the Chang'e mission series will continue in 2021-2025, and Roscosmos will continue its Luna

programme (50 years after the completion of Luna-24, continuing with Luna-25, due in 2023). These exploration programmes will be used as a basis for lunar rock collection, cargo shipments and other joint exploration programmes until 2035. Only then will the first astronauts be able to land on the surface of the Moon and scientific research and the expansion of the research station can take place (NET19). In addition to Russia and China, the United Arab Emirates and the Asia-Pacific Space Cooperation Organization (APSCO, its members are: Turkey, Pakistan, China, Thailand, Mongolia, Peru, Iran, and Bangladesh) have joined the initiative, but negotiations are ongoing with a number of countries. The UAE was now facing the problem that the US has found it in breach of the International Traffic in Arms Regulations (ITAR) and has banned the supply of accessories for the Emirati lunar module Rashid 2 (NET20). The Rashid lunar module was developed by the United Arab Emirates in cooperation with ESA and landed on the Moon in the Hakuto-R spacecraft of the private Japanese company Ispace. Unfortunately, the spacecraft and the rover on board crashed into the lunar surface on 25 April 2023 (NET21). As of 2025 the members are China, Russia, Venezuela, South Africa, Azerbaijan, Pakistan, Belarus, Egypt, Thailand, Nicaragua, Serbia, Kazakhstan and Senegal.

From the above agreements, we can infer that China still intends to develop a counter-pole to the US and its allies, but looking at the timeframe, it is almost a decade behind the Artemis agreement. Unfortunately, it is hampered in this by Russia's war against Ukraine.

International cooperation on sattelites

Cooperation in space exploration can be illustrated in a similar way today through satellites. Artificial moons are the basis of all countries' space activities, i.e. each country is striving to launch its own satellite and thus introduce technological innovations and ensure a certain degree of independence for its country. However, not all countries have the technological capabilities to develop and manufacture their own satellite and then launch it into orbit. This of course also includes the ongoing operation of the satellite, which also requires specific expertise. In the following table I have collected the world's top ten companies exporting the most artificial satellites, in order from largest to largest (NET22).

Table 2: Satellite export by country in 2021. Source: NET22

Company	Head-quarter
Airbus	Netherlands
Boeing	US
Lockheed Martin Corporation	US
Northrop Grumman	US
Thales Group	France
SpaceX	US
Maxar	US
Mitsubishi	Japan
Ball Aerospace and Technologies	US
India Space Research Organizations	India

Of course, Table 2 does not mean that only these companies are capable of producing satellites. Many countries can produce satellites themselves, as can Hungary. However, the report by the French-based analytical firm ASD Eurospace on satellite exports over the last two decades is noteworthy, with the main figures summarised below (NET23):

1. Since the 1990s, the export market for satellites has been developing, with many countries being the first to have access to space technology. Telecommunications satellites account for 95% of the value of satellite exports ($28 billion). With the US being the largest exporter, followed by Europe, which accounts for 90% of the world's exports.

2. Between 2009 and 2019, the US exported $14 billion worth of telecommunications satellites to the rest of the world, Europe $10 billion, China $2 billion and Japan $1 billion.

- Europe and the US on a bilateral basis: Europe exported $3.83 billion worth of telecommunications satellites to the US and the US exported $5.92 billion worth of telecommunications satellites to Europe.
- The US exported $2 billion worth of telecommunications satellites to China, one-way exports only.

3. In the field of remote sensing satellites, prior to 2008, Europe and the US exported 98% of remote sensing satellites and Russia the remaining 2% (total: $7-800 million), of which 50% was accounted for by US exports to Japan and 8-9% each by Europe and equal parts of US exports to South Korea and Taiwan. European exports to Canada accounted for 15%, Singapore and Thailand for 5-6% each and Turkey, China, US, Nigeria, Malaysia for 1-3% each. Russia exported in equal shares of its remote sensing satellites to Egypt and Iran.

4. However, between 2009 and 2019 (total: USD 1.3-1.4 billion), Russia and China took a larger share of exports, alongside Europe and the US. China exported 30% of its remote sensing satellites, mainly to Brazil, Venezuela and Pakistan. Russia exported 9-10% of its remote sensing satellites, mainly to Egypt and South Africa. The US exported a negligible amount of satellites, less than 1% of the total, and only Kazakhstan. The remaining 55-60% was exported from Europe, mainly to Algeria, Kazakhstan, Morocco, Nigeria, Peru, Singapore, South Korea, Turkey, the US and Vietnam.

The impact of the changes in the world and the COVID-19 situation, as well as the economic problems that have affected the space industry since then, cannot yet be analysed in a trend analysis, but the last two decades provide a more reliable picture for analysing the phenomena that will influence the formation of future alliances.

International cooperation in launching activity

As few countries have the capability to launch beyond the atmosphere, it is of the utmost importance for all countries to launch their space assets into space with

the help of a capable country. However, not all countries that do have missile capabilities are able to make their missiles continuously and safely available to others. Many countries, as well as private companies and universities, want to carry out research and experiments in space, so finding the right service provider is essential to achieve their results. In my dissertation, I have analysed the spacecraft deployments for the years 2022- 2023, with a monthly breakdown by launching and commissioning country(ies), by spacecraft and by purpose of the space-craft (Rezsneki, A világűr jelentősége a 21. századi geopolitikában, 2024, 147-150).

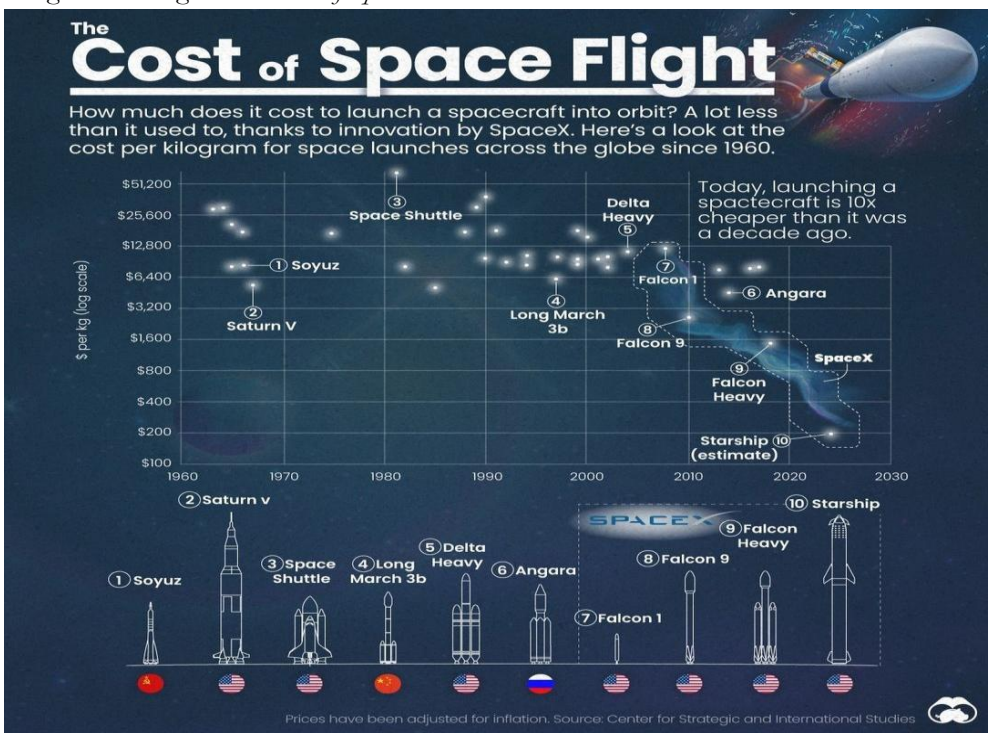
I found that the US holds the lead in both number of launches and number of space assets. While the US helps dozens of countries launch their space assets, this is negligible for China, with Egypt and Singapore (August 2022) having a few launches. Russia has assisted Iran (August 2022) and Angola (October 2022), also on a few occasions. India, on the other hand, receives orders from Switzerland (November 2022) and Singapore and the United Kingdom.

It is not possible to calculate the exact quantities of storage involved, but it is possible to conclude relatively that the US alone is putting several times as many space assets into space as the other countries combined. Nowadays, more and more countries are developing their capabilities in the field of rocket systems and more and more European countries are producing smaller rockets that can be used to launch payloads. So we can conclude that not only China and Russia, but also the US will face strong competition in the near future.

It is important to note that the launches indicated in this sub-chapter do not imply that China or Russia do not provide similar services or assistance to individual countries. China has launched the first spacecraft of Ecuador (NET24), Bolivia (NET25), Sudan (NET26), Etiopia (NET27), Laos (NET28), Venezuela (NET29), Pakistan (NET30), Hong Kong (NET31), and Russia, together with the Soviet Union, has launched spacecraft of India (NET32), Bulgaria (NET33), Nigeria (NET34), Iran (NET35), Algeria (NET36), Uruguay (NET37), Tunisia (NET38) not exhaustively listed. At the same time, Egypt's first satellite was sent beyond the atmosphere by France (NET39).

In fact, in order for all countries to offer similar starting conditions or for other countries to buy the service from them, they have to offer either cheaper and better or other discounts to the customer. Russia has lost many of its orders due to the current Russian-Ukrainian war, which have been in decline since 2010 due to the US independence. The expansion of the 'missile market' is more likely to bring economic competition in the near future, while political choices – e.g. communist, dictatorship sympathies – may also be involved in the selection process. The emergence of US commercial missiles has helped to make the world a much more affordable place to buy missiles today than even ten years ago. Costs are ten times less than they were a decade ago (NET40).

Figure 1: Changes in the Cost of Space Travel. Source: NET40



In addition to the above, Figure 1 shows that the reduction in costs not only brings economic benefits to the customer or service provider, but also gives countries the chance to launch their own space exploration, which they would not have been able to do on their own due to the high costs. Many countries can now devote their resources to space assets or other scientific research and can buy launch services, possibly from several providers, which require a higher level of capability. As shown in Figure 1, launch costs have fallen to the one hundredth part of a century between the 2000s and today.

Planetary defence

The most important, yet least analysed area is the protection of our planet Earth. The only event that can actually destroy humans is if the Earth or its eternal companion, the Moon, becomes a victim of a space disaster. The likelihood of this destructive event occurring is a given, since the lapse and birth of individual planets is a natural consequence of the processes that take place in space. The significance of the occurrence of a catastrophe is not the force of the catastrophe itself, but its relatively rapid occurrence. The impact of an asteroid or the physical activity of the Sun can happen

relatively quickly, so the reaction time of humanity is necessarily delayed. The only solution is to prepare for the coming of a catastrophe, however small or remote. In this chapter of the publication I will discuss alliances, but there can be no doubt that a new approach to comprehensive alliance would be born if a destructive celestial body were heading towards Earth. The same can be said even in the case of a threat to the Moon, since the Earth's natural phenomena and the living conditions of mankind are completely exposed to the Moon's movements. Meanwhile, the threat is low, but the knowledge of the asteroid field between Mars and Jupiter could lead to a number of research results in the preparation for the event, which could be used in other areas of space activities.

In the Vienna Declaration (1999), the United Nations drew attention to the need for international cooperation in the field of near-Earth object detection and the need for concrete international cooperation in Part I./1.c/i-iii. (NET41) In year 2001, UN Action Team 14 made a proposal to address the threat of near-Earth object impacts, but a real response had to wait until 2013 (NET42), when the UN General Assembly, in its resolution 68/75, made provision for the obligation to observe space objects, exchange information, cooperate and reduce the threat (NET43). The real forerunner of planetary defense was the US. For the first time, Congress, under Article 321 of its 2005 Authorities Act, authorised NASA to carry out mandatory identification and tracking of Near Earth Objects (NEOs – NET44). The aim was clearly to avoid meteorite disasters and to eliminate safety concerns. In fact, this is a security risk for all countries, as a space disaster can leave any country vulnerable and defenceless against other countries.

The primary goal was to catalogue at least 90% of objects 140 metres or more by 2020. This was not achieved and the new target is 2028. The Planetary Defense Coordination Office (PDCO), established by NASA in 2016, expanded the range of celestial objects to be studied and now aims to track space objects (asteroids, comets) of 30 metres or more (NET45). In 2014, the UN Space Agency created two separate bodies, the International Asteroid Warning Network (IAWN – NET46) and the Space Mission Planning Advisory Group (SMPAG – NET47) which, according to their database, had detected a total of 31 414 asteroids in March 2023, of which 10 401 were above 140 metres and 853 were above 1 km. These include Potentially Hazardous Asteroids (PHAs) and a further 120 near-Earth comets (NET48). Despite numerous conflicts, these organisations bring together the major space-faring nations and other space-related organisations. This includes the US, Russia, China and ESA, which ensures that all major powers are equally involved and act together in planetary defence.

Russia and China are not yet directly involved in planetary defense, but both countries have plans for a possible emergency. Russia is considering its RS-28

Sarmat intercontinental ballistic missile, which can carry a nuclear warhead, as a solution (NET49). China's plan has long been similar, but they want to protect the planet without nuclear power, using around 20 missiles (NET50).

To date, mankind's only mission that involves action has been launched under the Double Asteroid Redirection Test (DART) programme, a collaboration between NASA, ESA, the Italian Space Agency (ASI) and the Japan Space Agency (JAXA). The aim of the experiment was to use kinetic energy to deflect the moon of the asteroid Dimorphos, named Didymos. The programme started on 24 November 2021 and was broadcast live on several news channels. I watched the impact on 26 September 2022 live as humanity's first deliberate intervention to change the orbit of a celestial body. megváltoztatására (NET51). Prior to that, in 2005, NASA's Deep Impact programme had collided a nearly 400 kg space object with the comet Tempel-1. At the time, the programme was only designed to study the structure of the celestial body. The possibility of deflection was first investigated in 2013 by NASA and ESA's Asteroid Impact and Deflection Assessment (AIDA) programme. The current DART programme is a 600 kg spacecraft that ended up crashing into the Dimorphos celestial body, interfering with the motion of the celestial body. It is planned that the consequences of the impact will be studied and observed at close range by the ESA-developed Hera spacecraft, to be launched in 2024 (NET52).

China has already announced in the first half of 2022 that it will launch a planetary defence experiment similar to the DART programme in 2025. The Chinese mission will differ from the DART programme in that the space assets to monitor the impact and its consequences will be delivered simultaneously (NET53). However, this experiment is not yet fully developed and the target itself has changed from the original plans. China – or any spacefaring country – has an interest in developing planetary defense capabilities so that it can protect its space station from possible orbital interference from celestial bodies.

Mining in Space

The acquisition and availability of mineral resources in a country is based on the mineral resources of many other countries. However, the discovery of space allows any country that is capable of space travel on its own to have access to a mineral surplus that gives it independence. Space is rich in metals, water and all known chemical elements, including rare earth elements. Helium-3, the future source of energy, is a rare element on Earth and is estimated to be found in quantities of 1 million tonnes on the Moon. Unlike nuclear fusion, helium-3 does not emit radioactive contamination despite the enormous energy released (Sipos, 2017, p. 75). Metals are needed to build spacecraft and other devices, and water is an essential additive to fuel our rockets (Wooten, 2018, p. 16).

Some minerals occur on the Moon's surface in greater quantities than on Earth. The Moon has significant metal reserves, and Helium-3 is also much more abundant than on Earth. Although rare earths are easier to extract on the Moon, the amount that would make it worthwhile to mine them has not yet been fully explored (NET54). As long as there is enough available and mineable material on Earth, mining on the Moon is not worth-while (McLeod & Krekeler, 2017, p. 19). However, asteroid mining is already promising. Among the mapped asteroids, there are 15,000 celestial bodies that are worth exploring and mining. NASA is currently monitoring 6,000 asteroids, and the 10 most economically mineable asteroids contain mineral resources worth a total of $1.5 trillion (NET55). Depending on the type, the asteroid contains a lot of rare earth metals and other metals, the amount of which on Earth is decreasing due to continuous extraction. However, asteroid mining will have to wait, as experts do not expect serious results until after 2045 (NET56). At the same time, the asteroid Psyche-16, located in the asteroid belt between Mars and Jupiter – NASA mission at the end of 2023 – alone contains so much gold, platinum and other mineral resources that it far exceeds the value of today's global economy (GDP 100,000 billion dollars – NET57). The asteroid Davida-511 – larger than 99% of asteroids (270 km in diameter) – is even several times this much, also located in the asteroid belt between Mars and Jupiter (NET58).

It is also noteworthy that private companies in the US and UK are currently conducting experiments to produce semiconductors in space. The basis of this is that microgravity and high-pressure vacuum allow for the production of much higher-level semiconductors. For now, the technical planning for transporting the materials there is still underway (NET59).

Space mining has not yet been implemented, but some countries have already responded to potential needs. The US, Luxembourg, Japan and the United Arab Emirates have already created the legal environment in which private companies can start (NET60). However, it is still a state option for now, since even the first steps would require too large a financial investment from a private company. The US, Russia, India, China and the ESA have so far declared their intention to achieve specific goals, but for now, NASA and the signatories of the Artemis Accord are closest to the implementation of real space mining. According to the agreement, they will adhere to previously established space agreements and principles, but the main goal is to ensure a human presence on the Moon, and to maintain a space station in orbit around the Moon and to establish a lunar base.(Deplano; The Artemis Accord: Evolution or Revolution in International Space Law, 2021, p. 799) Russia and China have also decided to establish a lunar base, similar to the Artemis agreement mentioned earlier, called the International Lunar Research Station (ILRS), and are currently trying to convince other countries to join (NET61). These programs aim to survey

and extract the Moon's mineral reserves, among other goals, and involve both private and public actors. The implementation of lunar bases will allow for more detailed studies of celestial bodies in outer space and could serve as a new starting point for space exploration.

Space mining is not subject to separate uniform legal regulations in international practice. The above-mentioned countries regulate space mining within their national competence and the Artemis agreement and the ILRS are "only" intergovernmental agreements of the participating countries. At the same time, all parties are signatories to the 1967 Outer Space Treaty, which concerns the rules of activities in outer space. The 1979 Moon Treaty regulates the exploration of celestial bodies more specifically. While the former includes all space-capable countries (the launch of own vehicles into space), the latter is only attended by France and India among the space-capable countries. Article 1 of the Outer Space Treaty states that the exploration and use of outer space, including the Moon and other celestial bodies, shall be pursued for the benefit and interest of all countries, regardless of their level of economic or scientific development, and shall be considered a common undertaking of all mankind (NET62). Article 4 of the Moon Treaty uses the same wording with respect to the Moon (NET63). The two treaties also have similarities in that Article 2 of the Outer Space Treaty stipulates that no nation shall appropriate outer space, including the Moon and other celestial bodies, either by claim to sovereignty, by use or occupation, or by any other means. Article 11, paragraph 2, of the Moon Treaty uses the same wording with respect to the Moon. The Outer Space Treaty does not provide any further guidance on space mining, but the Moon Treaty does. The decision of countries not to be bound by the Moon Treaty was motivated by the fact that Article 11 of the Moon Treaty specifically states that the natural resources of the Moon are the common heritage of mankind and requires the establishment of an international system for the equitable distribution of mineral resources.

Safety in Outer Space and counterspace weapons

The world is dangerous and the behaviour of the countries in it is sometimes threatening. For nearly a century, humanity has been putting this danger and constant threat into space through space exploration. I have examined the military and social geopolitical factor and used as indicators the weapons that can be used in space and the environmental impact on space activities.

The formula "peaceful uses of outer space" used in Article 4 of the Outer Space Treaty, was put to the test before its entry into force in 1967. Following the launch and orbiting of Sputnik-1 (USSR) in 1957 and Explorer-1 (US) in 1958, only a few months of peace in space were granted. In May 1958, at the same time as the first results of space exploration, the US had already launched the Anti-Satellite Weapon (ASAT) tests, aimed at destroying

threatening space assets of hostile countries (NET64).

ASAT weapons can be divided into two groups. On the one hand, kinetic energy weapons, which specifically destroy the target physically and for which any space-based device – whether a missile, drone or satellite – can be used as a weapon. On the other hand, non-kinetic energy weapons, such as cyber-attack, jamming or laser blinding devices (NET65). Such attacks can be launched from space, from the air or from ground-based devices.

US ASAT tests ended in success on 13 October 1959 when the Explorer-6 satellite was destroyed. Other countries have been working to develop a similar capability. Soviet Union succeeding in 1968, China in 2007 and India in 2019 (NET66). These countries have successfully destroyed their own satellites in low Earth orbit. Of course, many similar attempts have been made over the years and a treaty banning ASAT tests has still not been adopted. A resolution drafted by an UN working group and published on 1 November 2022 called on countries to ban all ASAT tests, but it is not legally binding (NET67).

Before proceeding with the analysis of space activity, we need to distinguish between danger and threat. By danger, I mean the severity of a given circumstance, while by threat, I mean the possibility of a given hazard occurring. The application of the Space Security Index (SSI) was developed by the Simons Foundation Canada and several universities – McGill University, George Wahsington University and the University of Adelaide – contributed to its compilation (West; Space Security, 2019, p. X-XVIII). On this basis, I have summarised the sources of risk in Table 3. The application and analysis of the index is thus a guide to making space safer, which can be achieved through continuous monitoring, thus reducing the risk of hazards.

In Table 3, the SSI index provides an answer to how to avoid in the future a threatening situation that could inevitably arise between countries based on the sharing of space. On this basis, continuous communication and transparency in the deployment of space assets, as well as clear rules from all countries, are essential to reduce the threats. Today the US clearly leads in this area as well, but its lead is in jeopardy (NET68).

In Table 4, I have analysed (with reference to the asset) the countries that are able to apply space technology in a more sophisticated way. These capabilities are called counter-space weapons, weapons capable of disrupting, weakening or destroying another's space technology in space or posing a high risk of another country freely using its own space technology in space. Such weapons include kinetic physical, non-kinetic physical, electronic and cyber technology weapons (Bingen et al., 2023, p. 3-32). The data in Table 4 show that the development of the countries' counter-space capabilities is ongoing. All the countries in Table 4 have set themselves the goal of having an anti-space weapon in the short term, but no progress has been made in the last two

Table 3: Danger in Outer Space. Source: NET82

Source of danger	Areas to be tracked
Knowledge and study of the space environment	Space junk. Allocation of radio frequencies and satellite orbits between countries. Natural disasters from space. Space situational awareness.
The use of space by global actors	Space assets deployed in space. Supporting the private space sector and assessing its needs. International cooperation and capacity coordination. Linking private and public space activities. Developing private and public cooperation. Monitoring of military space systems (dual used satellites).
Security of space systems	Electromagnetic and cyber security vulnerabilities. Increasing the resilience of space assets. Preference for developing ground capabilities rather than deploying in space. Oppose the deployment of ASAT systems in space.
Regulation and governance of space exploration	Establish national rules and strategies. UN to regulate space security.

Table 4: Counterspace weapons by country. Source: Space Threat Assessment 2023 – CSIS (Center for Strategic and International Studies; Bingen et al., 2023). Where there is no reliable data on the development of the capability or the weapon is under development, "not known or under development" is used, i.e. "n.k. or u.d."

Country	Kinetic energy	Non–kinetic energy	Electronic technology	Cyber technology	Orbital altiude (NET69)
US	NOTSNIK	CCS	CCS	Blue Skies	GEO
China	SC–19 ASAT	n.k. or u.d.	n.k. or u.d.	n.k. or u.d.	GEO
Russia	PL–19/Nudol	Sokol–Echelon	Tirada–2	SolarWinds	GEO
Iran	n.k. or u.d.	n.k. or u.d.	n.k. or u.d.	Pay2Key	Ground
North–Korea	n.k. or u.d.	n.k. or u.d.	Known	Bureau 121	Ground
India	Known	n.k. or u.d.	Samyukta	n.k. or u.d.	LEO
France	n.k. or u.d.	n.k. or u.d.	n.k. or u.d.	Known	Ground
Israel	n.k. or u.d.	Iron Beam	n.k. or u.d.	n.k. or u.d.	Ground
Japan	SM–3 rendszer	n.k. or u.d.	n.k. or u.d.	Known	Ground
South–Korea	n.k. or u.d.	n.k. or u.d.	n.k. or u.d.	Known	Ground
UK	n.k. or u.d.	n.k. or u.d.	n.k. or u.d.	n.k. or u.d.	X
Australia	n.k. or u.d.	n.k. or u.d.	n.k. or u.d.	Known	Ground
Germany	n.k. or u.d.	n.k. or u.d.	n.k. or u.d.	n.k. or u.d.	X
New Zealand	n.k. or u.d.	n.k. or u.d.	n.k. or u.d.	n.k. or u.d.	X
Canada	n.k. or u.d.	n.k. or u.d.	n.k. or u.d.	n.k. or u.d.	X

years. Most of all, the US and its allies must confront the threats from Iran, Russia, China and North Korea. Only Russia currently poses a real threat and danger to the US. (Harrison, Jophnson, Young, Wood, Goesler, 2022, pg. IV) However, the existence of these four types of anti-space weapons does not necessarily mean their military application, but they can be used to disturb the economic systems of other countries. This has been the case with North Korea and Iran, which have successfully launched electronic and cyber attacks against the state and civilian systems of other countries (Harrison, Jophnson, Young, Wood, Goesler, 2022, pg. 17 - 19).

Recognition of the threats in space is also demonstrated by the signing of the Combined Space Operations Vision 2031 by the US and its allies (UK, Germany, France, Canada, New Zealand and Australia) in 2022 (NET70). The document contains the main principles of previous international treaties, such as freedom of use of space, cooperation and the adoption of international rules. It mentions conflict prevention, sustainability and joint action as its objectives, while stressing the obligation to respect international treaties in the event of armed conflict. The document clearly foresees the development of capabilities that participating countries should have in order to counter a potential threat (NET71). The countries identified in Table 4 will necessarily have to take serious steps to develop the four anti-space weapons. At the same time, in UN Resolution A/RES/77/41, adopted in 2022, the UN called for an end to direct-to-target anti-satellite missile tests that would destroy the target and urged the adoption of preventive measures in the space environment and the extension of such measures in the future to prevent space weaponisation (NET72).

Global risks and the role of space activities in their reduction

In addition to analysing the threats and dangers in space, it is also necessary to analyse global risks. The World Economic Forum's survey takes stock of all the threats facing the world and just indirectly mentions the role of space. Let's look at the world's threats, in order of threat intensity, as collected by the World Economic Forum and looking ahead 10 years (NET73).

Table 5 shows that natural hazards are the most feared in the world. The space-related area is directly related to point 8 under "Cross-border cybercrime and cyber insecurity". As noted by Philippe Rosius (EUSPA, EU Agency for the Space Programme, Head of Galileo Security Monitoring Centre, EU Space Programme Agency, Galileo Security Monitoring System) at the 15th EU Space Forum Conference, 23-25 January 2023, in its Working Group 17, 95% of space security is cyber-security. Of course, we encounter space indirectly through the other threats.

If we look at the indirect side of the last sentence, the role of space activity for hu-

Table 5: Dangers of our world in 2023. Source NET73

n	Short term (1–3 years)	Long term (10 years)
1.	The cost of living	Failure to mitigate the impacts of climate change
2.	Natural disasters and extreme weather	Adapting to climate change
3.	Global economic conflicts	Natural disasters and extreme weather
4.	Failure to mitigate the impacts of climate change	Collapse of the environment and biodiversity
5.	Social decline and fragmentation	High migration pressures
6.	Large-scale environmental disasters	Lack of natural resources
7.	Adapting to climate change	Social decline and fragmentation
8.	Cross-border cybercrime and cyber insecurity	Cross-border cybercrime and cyber insecurity
9.	Lack of natural resources	World economic conflicts
10.	Large-scale migratory pressures	Large-scale environmental disasters
11.	Debt crisis	Misinformation and lack of information
12.	Lack of stable exchange rate levels	Ineffectiveness of international institutions and international cooperation
13.	Continued economic decline	International conflicts
14.	International conflicts	Debt crisis
15.	Ineffectiveness of international institutions and international cooperation	Cost of living
16.	False information or lack of information	Destruction of critical infrastructure
17.	Systemic industrial Collapse of key industrial centers and supply chains	Concentration of digital power
18:	Collapse of the environment and biodiversity	Adverse outcome of frontier technologies
19.	Unemployment crisis	Lack of stable exchange rate levels
20.	Infectious diseases	Chronic diseases and health problems
21.	Use of weapons of mass destruction	Continued economic decline
22.	Bursting of economic bubbles	State collapse or severe instability
23.	Severe mental disorders	Unemployment crisis
24.	Shutdown of critical infrastructure	Collapse of systemic industrial and supply chains
25.	State collapse or severe instability	Severe mental health crisis
26.	Chronic diseases and health problems	Lack or collapse of community infrastructures and services
27.	Lack or collapse of community infrastructures and services	Communicable diseases
28.	Rise of illicit economic activities	Use of weapons of mass destruction
29.	Concentration of digital power	Rise in illicit economic activities
30.	Terrorist attacks	Digital inequality and lack of access to digital services
31.	Digital inequality and lack of access to digital services	Bursting of economic bubbles
32.	Adverse outcomes of frontier technologies	Terrorist attack

manity changes and the focus is on protecting the environment of nature on Earth. By analysing global risks, we identify natural and social problems that require the coordinated international application of space technology to solve them.

120 years have passed since Nils Gustaf Ekholm coined the term "greenhouse effect"(NET74 – Vitruvius, in his ancient writings, analysed climatic data to select the land needed to build civil houses) but it was only in the first half of the 20th century that mankind reached the technological level of studying the atmosphere and it was only thanks to the rocket technology developed during World War II that it was possible to take photographs

of the atmosphere around the Earth. In the course of decades, (space) technology has reached the stage where it is capable of causing major damage to the environment and breaking the integrity of nature.

The tools developed in space activities can protect or even harm nature – and through it society – directly or indirectly. Rocket systems and satellite systems can help in the exploration of space, but they can also pose a threat to space objects and the Earth. Their regulation and international coordination are essential.

The rocket systems created and deployed in space activities are needed to place space assets in orbit around the Earth, where we can observe our planet more closely. Only in this way will humanity be able to study ecological processes, the atmosphere, oceans and continents in greater scientific detail. Preventing or mitigating the main threats listed above, and in particular taking climate protection measures, is inconceivable without the effective use of space assets. At the same time, these space assets are themselves a source of environmental hazards. The Outer Space Treaty recognises the principle that space is 'in the common interest of mankind' and prohibits in its Article 4 the deployment or testing of nuclear or similar weapons in outer space. At the same time, also in Article 4 and in the Preamble to the Moon Agreement, the prohibition of the militarisation of the Moon and other celestial bodies is also laid down, i.e. the establishment of military bases or other military installations on the Moon or on spacecraft in orbit around the Earth (NET75).

Articles 1 and 21 of the Liability Convention take into account the link between the space asset and the damage it causes, should also be highlighted. Since the entry into force of the Convention in 1972, a number of space objects have returned to Earth and posed a threat to the environment or human health. However, the application of the provisions of the Convention has so far only arisen in one case. Cosmos 954 entered Earth's atmosphere on 24 January 1978 and crashed into Canadian territory, contaminating the area and causing hundreds of kilometres of damage over a distance of several hundred kilometres. The Soviet and Canadian governments agreed to pay for the damage, and the case was closed (NET76).

The solution lies in the sustainability and continuous development of space activities. Sustainability as sustainable development rests on three pillars: environmental, economic and social. (F. Ekardt, 2020, pg. 27–28) The concept of sustainability was first used by Hans Carl von Carlowitz in the field of forestry.(F. Ekardt, 2020, pp. 27-28 – Sustainable development implies development where the needs of the present meet the needs of future generations without compromising). Although the most threatening of the dangers listed in Table 5 are climate change and other natural disasters, there is a lack of international regulation. Nowadays developed and emerging countries do not want to lose the benefits of space capabilities, necessarily even at the cost of environmental damage. Countries are clearly

struggling to come to terms with the issue of space exploration, which is a transnational issue that is unlikely to be resolved bilaterally. There is therefore a need to find an organisation that brings together the interests of individual countries while representing environmental values. At present, this can only be done within the UN framework, but the lack of binding compliance with its resolutions does not make it a complete intergovernmental organisation to play a supranational role.

In 1997, the UN General Assembly, in its resolution A/RES/51/122, established the Declaration on International Cooperation in the Exploration and Exploitation of Outer Space in the Interest of All Countries, Particularly Developing Countries' Needs. (NET77) The Declaration underlines that outer space is a peaceful area of common interest and value, and that access should be freely granted to all and national and international governmental and non-governmental bodies should be established, in accordance, of course, with the international law in force at the time.
The next milestone was also adopted by the UN General Assembly in 2013. Resolution A/RES/68/74 set out the recommendations to the National Legislatures for the Peaceful Exploration and Exploitation of Outer Space. (NET78) On this basis, the instrument gives a prominent role to States in the exploration of outer space and encourages countries to enact legislation within national competence in accordance with domestic interests. The resolution mentions the responsibility of countries in legislation, which imposes rights and obligations on all members, whether they participate in space activities individually or jointly with other countries, in whole or in part.

This was followed in 2015 by the Paris Agreement on Climate Change. (NET79) The Convention sets out a number of commitments in the text to reduce greenhouse gases. In Article 9, it highlights the obligation for countries to cooperate and to share the information they obtain. Article 2 expects the strengthening of communication between developed and emerging countries, and Article 10 and Article 20 state that technological and economic development should be used to improve cooperation between countries. Reducing greenhouse gases requires an adequate and comprehensive response and a high level of cooperation.

Prior to the adoption of the Paris Agreement, but also in 2015, the UN General Assembly adopted the 2030 Agenda for Sustainable Development, which is based on a set of 17 Sustainable Development Goals (SDGs). (NET80) Subsequently, in 2021, the UN General Assembly adopted the 'Space2030 Agenda', entitled 'Space as a driver of sustainable developement', by resolution A/RES/76/3. The basic idea behind the wording is that space assets are essential to achieve the commitments made in the Paris Agreement. The Assembly has clearly set out a path where sustainability and climate protection will be inseparable in the future. Throughout, the resolution consistently refers to 'long-term' sustainability, a term used to further enhance the

emphasis on sustainability. The international cooperation and the development of bilateral and multilateral relations, which have been recognised in previous legislation, are essential foundations for this. Of course, cooperation requires mutual recognition of institutions by each country and the collection and sharing of information on space activities.

The previously defined definition of sustainability is now complemented and defines the definition of long-term sustainability in space. The concept was presented at the World Space Forum, organised by the United Nations Office for Outer Space Affairs on 13-15 December 2022.

"…the long term sustainability of space activities (on ground an in orbit) is defined as the ability to maintain and improve the conduct of space activities indefinitely into the future in a manner that ensures continued access to the benefits of the exploration and use of space for peaceful purposes, in order to meet the needs of the present generations while preserving both the Earth and the outer space environment for future generations. Space sustainability also req uires the promotion of the use and environmental benefits of space data and recognizing the need for launch and in orbit activities to be carried out in responsible and sustainable manner."

It would perhaps be simpler – and shorter – to use the concept established centuries ago in general terms, from Immanuel Kant, who said 'Let us create institutions that can serve our successors ', or Friedrich Nietsche, who said 'We do not only desire things themselves, but also their recurrence'.

The long-term sustainability formula, like the Paris Agreement, is also at the heart of the definition of space sustainability, based on a study published by the UN Committee on the Peaceful Uses of Outer Space (thereafter COPUOS) in 2021. However, the Guidelines for long-term sustainability of outer space activities of the committee on the peaceful uses of outer space (hereinafter 'the Guidelines' – NET81) issued by the COPUOS, are not legally binding and countries can decide voluntarily to apply them. The intention of the body is clearly to facilitate legal harmonisation between countries, once all Member States have completed the process of creating their own domestic legislation. The Guidelines are the latest and most comprehensive UN document in the field of space. At the same time, the compilation of the areas covered by the Guidelines started in the 2010s and continued until 2018. 21 Guidelines have been identified, divided into four areas: (1) defining a space framework of rules and regulations, (2) ensuring safety and security in space activities, (3) international cooperation, resource building and awareness, (4) scientific and technological research and development. An analysis of the areas covered by the Guidelines shows that the aim of the legislation is to promote the long-term sustainability of the environment and society, as is clearly stated in its name.

Findings

As discussed in this paper, it can also be concluded that alliance systems have a strong influence on the development of future alliances in the field of space activities, while many countries may reconsider their alliance strategy depending on the desired outcomes in space. If individual countries wish to make progress in space, they can choose from only a few countries to help them, which can strengthen the main alliances and reduce their absolute number. This choice must be accompanied by competition and political choices.

Given that the technology involved is advanced, the maintenance and operation of the equipment requires a complex approach on the part of both the customer and the country providing it. This leads me to the conclusion that cooperation in bilateral relations between countries can depend to a large extent on the quality of space activities. If a country is capable of development, it is worth establishing relations with the country that can deliver the best quality, regardless of the influence of the state system. At the same time, only the US and its federal system have the autonomous capacity to offer the highest quality to other countries. China and Russia have weaker alliance systems in space activities, which could result in a lagging space policy or potentially in serious geopolitical conflicts. Many countries are covertly seeking to use space achievements to maintain the threat of other countries. Thus, steps taken in space exploration cannot be so peaceful as to be seen solely as scientific progress. The role of the anti-space weapons under analysis is creating competition between countries in a similar way to that seen between the Soviet Union and the USA in the development of the atomic bomb in the 20th century.

Russia and China are trying to act as a counter-pole, but the major space-capable countries have already pledged their allegiance to the Artemis Accord and are trying to build their own alliance through a new treaty. The implementation of the two agreements will probably bring the most exciting competition in the coming decades

In analysing the main threats and risks, I have concluded that without space activities, these areas cannot be properly developed and applied today. The overall functioning of the United Nations suggests that it has been possible to bring countries together and to move a slice of space activity towards climate protection and, through this, to maintain the international community's respect for each other, in cooperation.

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MŰHELY, RENDEZVÉNY

BESZÁMOLÓ A X. KÜLÖNLEGES BÁNÁSMÓD NEMZETKÖZI INTERDISZCIPLINÁRIS KONFERENCIÁRÓL

Mező Katalin (PhD)
a konferencia főszervezője

2025 április 24-25-26-án került megrendezésre a 10. Különleges Bánásmód Nemzetközi Interdiszciplináris Konferencia (helyszín: DE GYGYK, Hajdúböszörmény, Désány u. 1-9) a Debreceni Egyetem Gyermeknevelési és Gyógypedagógiai Kar, valamint a Különleges Bánásmód Folyóirat Szerkesztőségének Szervezésében.

A 3 napos Jubileumi Rendezvény A MEC-SZ-24 számú projekt a Kulturális és Innovációs Minisztérium Nemzeti Kutatási Fejlesztési és Innovációs Alapból nyújtott támogatásával, a MEC-SZ-24-149060 pályázati program finanszírozásában valósult meg.

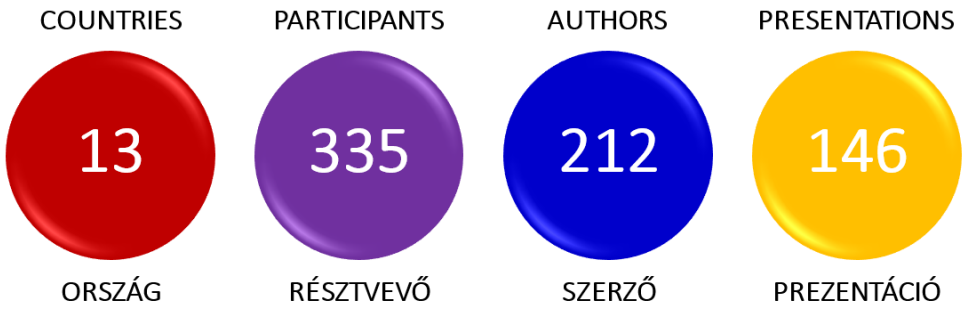
NEMZETI KUTATÁSI, FEJLESZTÉSI ÉS INNOVÁCIÓS HIVATAL

AZ NKFI ALAPBÓL MEGVALÓSULÓ PROJEKT

A jubileumi rendezvény immár egy évtizede nyújt teret a kiemelt figyelmet, a különleges bánásmódot igénylő személyek (pl. sajátos nevelési igényűek; fogyatékossággal élők; beilleszkedési, tanulási és magatartási nehézséggel élők; tehetségek; hátrányos helyzetűek stb.) helyzetével, ellátásával, fejlesztésével, a problémáik megoldásával foglalkozó hazai és külföldi tudományos kutatóknak és szakembereknek a tudományos eredményeik megjelentetéséhez.

A konferencia történetében először, három napos rendezvény megvalósítására került sor, mely során 13 országból érkeztek előadók, hogy megosszák a tapasztalataikat, kutatási eredményeiket a témával kap-csolatban.

A X. Különleges Bánásmód Nemzetközi Interdiszciplináris Konferenciára 13 országból érkezett 335 résztvevő (köztük 49 külföldi intézményi affiliációval rendelkező és 12 külföldi, de magyarországi ntézményi affiliációval rendelkező résztvevő). A konferencia 3 napja alatt 146 prezentáció (4 nyilvános plenáris előadás, 135 szekcióelőadás, 7 poszter) előadására került sor.



A rendezvény kiemelten támogatta az olyan, a Neumann János Program által is fókuszba állított témák felszínre kerülését, mint a) az egészséges élet megőrzését szolgáló megelőző, gyógyító és ellátó fejlesztések/rendszerek kiépülése, fejlődése a kora gyermekkortól kezdve az időskorig; b) környezettudatos és fenntartható fejlődésre épülő, klímasemlegességet hangsúlyozó új technológiák alkalmazása; c) a mesterséges intelligencia, a digitális eszközpark és digitális átállás fellendülése, a magas szintű digitális készségek fejlesztését lehetővé tevő megoldások, készségfejlesztő oktatási metódusok bevezetése az érintettek oktatásában, nevelésében, fejlesztésében és teljes körű ellátásában.

A konferencia inter- és multidiszciplináris jellege miatt nemcsak a pedagógia és pszichológia területéről szóló témák számára biztosít helyet, hanem lehetőséget ad más tudományágak – mint például orvostudomány, jog, antropológia, szociológia, mérnöki tudományok stb. – tudományos képviselőinek is az eredményeik prezentálására, kapcsolatok építésre.

A konferencia különlegessége volt, hogy sor került négy olyan nyílt, bárki számára elérhető előadás megrendezésére, mely a tudomány népszerűsítését szolgálta. Valamint az első napon sor került a 'Special Treatment' International Research Network elnevezésű nemzetközi kutatóhálózat megalapítására is.

A konferencia első napja

A rendezvény megnyitásaként egy meglepetés műsorral léptek fel a DE GYGYK gyógypedagógus hallgatói és a Gyakorló Óvoda óvodásai. Jelnyelvi előadás keretében adták elő Dés és Gesztesi: A dzsungel könyvének Szavakat keresek című betétdalát.

Ezt követően a konferencia nyitóbeszédei következtek, melyet Prof. Dr. Bács Zoltánt, a Debreceni Egyetem Kancellárja, Dr. Gortka-Rákó Erzsébet, a DE GYGYK dékánja, valamint a Dr. Mező Ferenc, a Különleges Bánásmód Folyóirat főszerkesztője adott elő

Az első nap nyílt, plenáris előadásait, egy hazai és a nemzetközi kutató jóvoltából

volt lehetősége meghallgatnia a konferencia résztvevőinek.

Első előadó, Dr. Helin Puksand (PhD) volt, az észtországi Tallini Egyetem írás-olvasás készség és a gyógypedagógia professzora volt. Fő kutatási területei: 1) kultúra és társadalom; 2) oktatás, 4) filológia és nyelvészet; 5) gyógypedagógia. Jelenlegi kutatási projektjének középpontjában olyan, nyelvi szempontból érzékeny módszertan kidolgozása áll, amely az észt nyelvet, mint második nyelvet beszélő sajátos nevelési igényű tanulók számára kerül kidolgozásra az általános iskola felső tagozatában. Emellett számos olyan nemzetközi kutatás fűződik a nevéhez, melyek középpontjában az inkluzív nevelés tananyagainak minőségfejlesztése és javítása; az oktatási szókincs, az oktatási termilógiai szótár frissítése és fejlesztése; valamint az írás természetességének modellezése és értékelése áll. Munkássága alatt többször kapott kitüntetést a legjobb európai iskolai könyv megalkotásáért. Vizsgálatai az óvodáskortól a felsőoktatásig átfogó képet mutatnak. Dr. Helin Puksand tagja az ELINET Egyesület európai hálózatának, melynek víziója, hogy Európában mindenki legyen írástudó. Az előadásának témája, az "*Enyhe értelmi fogyatékossággal élő tanulók papír és képernyő alapú olvasása" volt.*

A második előadó Dr. habil. Vekerdy-Nagy Zsuzsanna a Debreceni Egyetem Klinikai Központ Orvosi Rehabilitáció és Fizikális Medicina Tanszék első vezetője volt. A rehabilitációs medicinában felnőttekkel és gyermekekkel egyaránt van több évtizedes tapasztalata, elsősorban idegrendszeri betegségekből fakadó rehabilitációs szükségletek ellátásban.

1990-ben szerzett mozgásszervi rehabilitációból szakvizsgát, közel 20 éven át a Gyermekrehabilitációs Központ vezető főorvosa volt Debrecenben, majd az országos Orvosi Rehabilitációs Intézet Mozgásszervi Gyermek Rehabilitációs Osztályát vezette Budapesten, ezt követően pedig a Debreceni Egyetem Orvostudományi és Egészségügyi Centrum – illetve jogutódja a Klinikai Központ Orvosi Rehabilitáció és Fizikális Medicina Tanszékének megalapításakor annak első tanszékvezetője volt. A rehabilitáció terén a szakmai társaság elnöke volt 9 évig, a Rehabilitációs Szakmai Kollégium tagja több mint 20 éve, majd 2011 óta az ESzK Fizikális Medicina, Rehabilitáció és Gyógyászati segédeszköz Tanács elnöke, jelenleg az azonos nevű Tagozat titkára. Munkásságának elismeréseként 2000-ben Batthyiány-Strattmann László miniszteri kitüntetéssel, 2011-ben Vas Imre emlékéremmel, 2013-ban Pro Facultate egyetemi kitüntetéssel díjazták. Tudományos érdeklődési köre a neuro-rehabilitációhoz kötődik legfőképpen, de más, a mozgató rendszert érintő rehabilitációs területeken is jártas. Előadását "*A gyermekrehabilitáció fejlődése az utóbbi öt évtizedben Magyarországon"* címmel tartotta.

A nyílt plenáris előadások után szekciók keretében folytak a munkák, valamint számos kísérő rendezvényen vehettek részt a konferencialátogatók. A kísérő rendezvé-

nyek keretében a résztvevők 1) kiállítást tekinthettek meg Prém Vanda, DE GYGYK művésztanár műveiből, 2) Betekithettek a kétszeresen kivételes tehetségek életébe, a Debreceni DSC Építech., a Dr. Molnár István Általános Iskola (Hajdúböszörmény) és a hajdúszoboszlói Éltes Mátyás Általános Iskola munkásságába. 3) Irodalomterápiás/Biblioterápiás foglalkozáson, valamint Szociopoly-n vehettek részt Godó Irén vezetésével. 4) Megtartották az éves Szociálpedagógiai Bizottsági ülést. 5) Sor került *Prof. Dr. Biczó Gábor és Dr. Szabó Henriett: Én és Imola Zsuzsa filmje* a dokumentumfilm bemutató premiérjére és szakmai előadás megtartására. 6) Az életmentés elemi technikáit is megismerhették a résztvevők a Magyar Vöröskereszt képviselőjének jóvoltából.

Emellett ezen a délutánon került sor a 'Special Treatment' International Research Network elnevezésű nemzetközi kutatóhálózat megalapítására is, melynek fő célja a témában nemeztközi kutatások végzése.

Az izgalmas élményekkel és előadásokkal teli nap megkoronázásaként egy Gála Vacsora keretében a Bocskai Néptánc-együttes vidám, táncos programján vehettek részt a konferencia látogatói. A rendezvény megvalósulását a Coca-Cola HBC Magyarország termékszponzorációval támogatta, mely támogatást ezúton is hálásan köszönünk!

Második nap

A második nap is nyílt előadással kezdődött, Prof. Dr. Gregorz Godawa előadásában. Prof. Dr. Gregorz Godawa, 2009 óta a II. János Pál Pápai Egyetem oktatója, egyetemi tanár. A Társadalomtudományi Kar dékánja pedagógiai szakvezető, a pedagógiai tudományágvezetője, szociálpedagógiai tanszékvezető, valamint a posztgraduális képzések kidolgozója. Részt vett a pedagógia szak elindítására pályázatot előkészítő bizottságokban, valamint számos, az UPJPII fejlesztését és nemzetközivé tételét szolgáló kezdeményezésben. Gregorz Godawa több mint száz tudományos publikáció szerzője a társadalmi pedagógia, a családpedagógia, a nevelés és didaktika alapjai, az axiológia, a vallás-pedagógia, a thanatopedagógia, az ifjúsági munka és a pedeutológia területén. Legújabb könyve, *„A személyes közelség pedagógiája"(Pedagogy of interpersonal closeness)* címmel jelent meg 2024-ben. Tudományos és oktatási tevékenységet folytat. Dolgozott a Gyermekhospice Otthonban, jelenleg pedig egészségügyi szakemberek lelkipásztori gondozásában vesz részt. Előadásának címe „A társas kötelékek fontossága nehéz élethelyzetekben a hospice-ellátás kontextusa" volt.

Ezt követően a konferencia szekció előadásokkal, valamint kísérő rendezvényekkel folytatódott.

A résztvevők részt vehettek 1) állatasszisztált pedagógiai bemutatón Dr. Orbán Réka vezetésével, 2) Színpadi előadásokon Dr. Kis Gábor által felkészített hallgatók jóvoltából. 3) Megtekinthették a világhírű Vojtina Bábszínház előadását. 4) A jelenlévők meghallgathatták Péter Csaba

gitárművész előadását. Lehetőség volt angol, magyar nyelvű vezetett templomlátogatáson való részvételre. Záró programként pedig a Debreceni Citera zenekar előadására került sor.

Harmadik nap

Az utolsó napon, nyílt plenáris előadás formájában Dr. Mező Ferencet hallgathatták meg az érdeklődők. Dr. Mező Ferenc, pszichológus, pszichológia tanár, egyetemi docens. Több mint 300 tudományos publikáció, önálló és társszerzős könyv, monográfia, hazai és nemzetközi folyóiratban megjelent közlemény megalkotója. Az OxIPO modellen alapuló tanulásfejlesztés kidolgozója, a Különleges Bánásmód folyóirat, az OxIPO folyóirat, a Mesterséges Intelligencia folyóirat és a Lélektan és Hadviselés folyóirat alapítófőszerkesztője. A Nemzetközi Tanuláskutató Hálózat (ILEARN) megalapítója. Jelen kutatásainak középpontjában az OxIPO projekt, mint az emberi információfeldolgozás hatékonyságának növelését szolgáló program kiterjesztése áll. A projekt kiterjed a neurobiológia, a tanulási elmélet és modell, a tanulási módszerek és képességek, a személyiségfejlesztés és egyéb interdiszciplináris témák (például mesterséges intelligencia) irányába.

Előadásának címe „A mesterséges pszichológia oktatási vonatkozásai" volt.

Ezt követően a konferencia a hat szekcióban folyatódott, s zárásként a sor került a szekcióvezetők rövid beszámolójára, a konferencia zárására.

A rendezvény nagy érdeklődés mellett, sikeresen zárult. A konferenciáról készült részletes leírások, fényképek és kisfilm megtekinthetők a konferencia honlapján: https://konferencia.unideb.hu/hu/konferencia-dokumentumok-x-kulonleges-banasmod-nemzetkozi-interdiszciplinaris-konferencia).

NEMZETI KUTATÁSI, FEJLESZTÉSI ÉS INNOVÁCIÓS HIVATAL

AZ NKFI ALAPBÓL
MEGVALÓSULÓ PROJEKT

A konferencia *„A MEC_SZ_24_149060 számú projekt a Kulturális és Innovációs Minisztérium Nemzeti Kutatási Fejlesztési és Innovációs Alapból nyújtott támogatásával, a MEC_SZ_24 pályázati program finanszírozásában valósul meg."* Ezúton is köszönjük a támogatást!

TéT-2025/LandS-2025 KONFERENCIA FELHÍVÁS

Mező Ferenc (PHD)

„Tanulás és Társadalom" Nemzetközi Interdiszciplináris Konferencia (2025) a pedagógia, pszichológia, szociológia, gazdaságtudomány, informatika, jogtudomány, s általában véve a társa-dalom- és természettudományok felől közelít az alábbi szekciók témájaként szolgáló kérdésekhez:

1. „Óvodai nevelés, tanuláshoz szükséges részképességek" szekció

E szekció olyan kérdésekre keresi a választ, mint: Miért fontos társadalmi és a későbbi életkorok tanulmányai szempontjából az óvodai nevelés? Milyen diagnosztika, prevenciós és intervenciós lehetőségek állnak az óvodapedagógusok és tanítók rendelkezésére az óvoda-iskola átmenet időszakában?

2. „Tanulás, kognitív képességek, tanulásfejlesztés" szekció

A közismereti tárgyak tanulását nagy mértékben befolyásolják a tanuló rendelkezésére álló kognitív képességek, amelyek fejlesztésére szükség esetén törekednünk is kell. A tanulásfejlesztésbe a képességfejlesztés mellett azonban a tanulási módszerek átadása és ezzel együtt a tanulás motiválása is beletartozik.

The "Learning and Society" Interna-tional Interdisciplinary Conference (2025) focuses on pedagogy, psyc-hology, sociology, economics, IT, law, and the social sciences and natural sciences in general in the following sections:

Section 1: "Kindergarten education, Learning abilities" section

This section seeks to answer questions such as Why is preschool education important for social and later-age studies? What kind of diagnostics, prevention, and intervention options are available to preschool educators and teachers during the transition period from preschool to school?

Section 2: "Learning, Cognitive Abilities, Learning Development" section

The learning of general knowledge subjects is greatly influenced by the cognitive abilities available to the student, which we must strive to develop if necessary. In addition to skill development, learning development also includes the transfer of learning methods and the motivation for learning.

3. „Digitális és MI pedagógia" szekció

A mesterséges intelligencia olyan társadalmi változásokat okoz, amelyek a tanulás/tanítás mód-szertanára is hatással vannak. Vajon kialakultak-e jó gyakorlatok? Milyen hiányosságok kerültek felszínre? Milyen lesz a közeljövő digitális társadalma, iskolája, tanulása? E szekciókban ezekre a kérdésekre keresünk választ.

Section 3: "Digital and AI Pedagogy" section

Artificial intelligence has caused social changes that have also affected learning/teaching methodologies. Have good practices developed? What shortcomings/difficulties have surfa-ced? What will the digital society, school, and learning of the near future look like? This section focuses on these questions.

4. "Különleges bánásmód az oktatásban (a gyógypedagógiától a tehetséggondozásig)" szekció

A magyar Nemzeti Köznevelésről szóló 2011. évi CXC. törvény a Különleges bánásmód fogalmába sorolja a sajátosnevelési igényű, a beilleszkedési, tanulási és magatartási nehézséggel küzdő és a tehetséges tanulókat is. Milyen mikro-/makrotársdalmi hatá-sokkal jár a törvénynek ez a passzusa?

Section 4: "Children with special needs in education (from special education to the development/ management of talent)" section

The CXC Law of 2011 on Hungarian National Public Education defines special treatment for students including students with special educational needs, difficulties in integration, learning, and behavior, and talented students. What are the micro- / macrosocial implica-tions of this act of law?

5. Interdiszciplináris szekció

Az interdiszciplináris szekcióban olyan előadásokat várunk, amelyek a ta-nulás és társadalom témához két vagy több tudományág szempont-jából is közelítenek.

Section 5: Interdisciplinary section

In the interdisciplinary section, we invite lectures that approach the topic of learning and society from the perspective of two or more disciplines.

6. „Problémák és megoldások (környezetvédelem; pszichés jólét; kiégés; hátrányos helyzet stb.)" szekció

Az általános társadalmi problémák össztársadalmi szempontból, s az egyes tanulók egyéni szemléletformálásából adódóan is lényeges, komplex tantárgyi témák tárgyalásának adnak lehetőséget. Sőt: projektek keretében kutatások, és a megoldásukra irányuló kísérletek is teret kaphatnak a tanulás/tanítás folyamatában. Léteznek-ilyen kezdeményezések? Milyen témakörök merülhetnek fel a nevelés-oktatás során?

Section 6: „Problems and Solutions (Environmental protection; Mental Well-Being; Burnout; Disadvantage, etc.) " Section

The general social problems provide an opportunity to discuss complex subject topics from the point of view of society as a whole, as well as from the formation of individual attitudes of individual students. Moreover, projects can inclu-de researches and trials to find solutions in the process of learning/teaching. Are there any such initiatives? What topics may arise during education?

7. „Fókuszban a felsőoktatás" szekció

Napjainkban (is) aktuális kérdés a felsőoktatási intézmények társadalmi missziója, helye és szerepe az oktatási kínálatban, a felsőoktatási rendszert érintő változások, a munkaerőpiachoz való kapcsolódás, a hallgatók elégedettsége, minőségbiztosítás, finanszírozási lehetőségek. Értelemszerűen ebbe a szekcióba olyan előadásokat várunk, amelyek a felsőoktatás érintő kérdések tudo-mányos vizsgálatával foglalkoznak, ennek tükrében pedig mind a tartalmi-módszertani, mind pedig a szervezési, oktatáspolitikai szemléletű elemzések helyet kapnak majd.

Section 7: "Focus on Higher Education" section

Nowadays, the social mission, place and role of higher education institutions in the educational offer, changes affecting the higher education system, connection to the labor market, student satisfaction, quality assurance, and financing options are (also) topical issues. Obviously,we invite lectures in this section, which deal with the scientific examination of issues affecting higher education; in this respect, both the content-methodology and organiza-tional as well as educational policy-oriented analyses can be included.

A Szervező Bizottság (a jelentkezések függvényében) a változtatás jogát fenntartja.

The Organizing Committee/Organizers (subject to applications) reserves the right to make changes.

A konferencián való részvétel: **INGYENES**

Conference participation: **FREE** of charge

Regisztáció: **Registration form:**
https://forms.gle/oGJ21qJmHYGaT65Y9

A konferencia weblapja: **Conference website:**
https://uni-eszterhazy.hu/tanulas-konferencia

NEMZETI KUTATÁSI, FEJLESZTÉSI ÉS INNOVÁCIÓS HIVATAL
AZ NKFI ALAPBÓL MEGVALÓSULÓ PROJEKT

NATIONAL RESEARCH, DEVELOPMENT AND INNOVATION OFFICE HUNGARY
PROGRAM FINANCED FROM THE NRDI FUND

FELHÍVÁS
INTERDISZCIPLINÁRIS JUNIOR KUTATÓCSOPORTBA TÖRTÉNŐ BEKAPCSOLÓDÁSRA

A bekapcsolódással járó haszon

A részvétel a bekapcsolódók számára azért hasznos, mert:

a) ösztöndíjak, pályázatok során érvényesíthető teljesítményei (publikáció, konferenciaelőadás) lesznek,
b) saját témájában kutathat és azt gazdagíthatja kutatótársai szaktudását is felhasználva,
c) életrajzában is jól mutató bejegyzést kap,
d) szakmai kapcsolatrendszere bővül,
e) ingyen vehet részt nemzetközi konferenciákon,
f) ingyen publikálhat Open Access (nyílt hozzáférésű) kiadványokban.

Feladatok

A résztvevő feladata a következő lesz:

1) Jelentkezés a csoportba (a felhívás végén látható linken keresztül)

2) A csoport alakuló ülésén (személyes vagy online) részvétel a közös kutatási téma kialakításában. Például: korábbi hasonló csoportban pszichológia, jogtudomány, gazdaságtudomány és orvostudomány szakos hallgatók fordultak saját szak-

juk felől közös érdeklődésbe vágó kérdésekhez.

3) 10 perces prezentációval ingyenes részvétel a minden év decemberében megrendezésre kerülő „Kreativitás – Elmélet és Gyakorlat Nemzetközi Interdiszciplináris Konferencia" című rendezvényen. Magyar vagy angol nyelvű előadásokat lehet majd tartani, amiről kétnyelvű igazolást állítanak ki a Szervezők. Az előadások témáját Ön választhatja meg.

4) Min. 1 tanulmány megírása. A megjelentetést megegyezés szerint folyóiratban vagy szöveggyűjteményben tervezzük.

Kiket várunk a programba?

A jelentkezést azoknak a középiskolásoknak, hallgatóknak, doktoranduszoknak ajánljuk, akik:

a) sokoldalúak, s kíváncsiak arra, hogyan tudnak együttműködni különböző tudományágak képviselőivel;

b) teljesítmény-centrikusak: a részvétel publikációkkal, konferenciákon történő előadásokkal is jár;

c) tudományos karrierjüket, s széleskörű kapcsolatrendszerüket már hallgatóként igyekeznek megalapozni;

d) a hétköznapi hallgatói létet kellemes és hasznos időtöltéssel igyekeznek kiegészíteni;

e) kedvelik a jó társaságot.

Részvételi díj

A programban való részvétel díj: 0 Ft.

A program keretében megrendezésre kerülő nemzetközi online konferenciákon történő részvételi díj: 0 Ft.

A programban történő folyóiratokban, tanulmánykötetben történő tanulmány megjelentetésének díja: 0 Ft.

A program egyéb költséget nem tartalmaz, de a résztvevők a saját kutatási munkájukkal kapcsolatban esetlegesen felmerülő költségeket önnállóan fedezik.

Időigény

A program időigénye: kb. 2 óra/alakuló megbeszélés + saját ütemű kutatás és publikáció írás + konferenciákon való részvétel.

Amit lehet, elektronikusan oldunk meg, ezzel csökkentve az időigényt.

Jelentkezési határidő:

2026. március 11.

Jelentkezés módja: bejelentkező e-mail küldése erre az e-mail címre:

ferenc.mezo1@gmail.com

Szervező és támogatók

KOCKA KÖR
www.kockakor.hu

ILEARN
INTERNATIONAL LEARNING RESEARCH NETWORK

E tehetséggondozó program a Kocka Kör Tehetséggondozó Kulturális Egyesület

és a Nemzetközi Tanuláskutató Hálózat (ILEARN) együttműködése keretében valósul meg.

Kapcsolat, további információ

Szakmai vezető: Dr. Mező Ferenc
E-mail: ferenc.mezo1@gmail.com
Mobil: 06 30 656 1 565

MEGHÍVÓ A GYÖNGYÖSI GITÁRFESZTIVÁLRA