

WHAT FUTURE EUROPEAN DEFENCE AND TECHNOLOGICAL INDUSTRIAL BASIS (EDTIB) DO WE WANT/NEED?

The Hungarian Case

Maj. Balázs Taksás, PhD / Associate professor, Ludovika University of Public Service, Faculty of Military Science and Officer Training

October 2024

The views expressed here are solely those of the authors. They do not reflect the views of any organisation.

ABOUT THE AUTHOR



Maj. Balázs Taksás, PhD / Associate professor, Ludovika University of Public Service and the Faculty of Military Science and Officer Training

Balázs Taksás is a military officer, economist and associate professor of the University of Public Service. His main research interests are economic security and competitiveness, transformation of the defense industry in the 21st century and economics of peacebuilding.

.....



The Armament Industry European Research Group (Ares Group) was created in 2016 by The French Institute for International and Strategic Affairs (IRIS), who coordinates the Group. The aim of the Ares Group, a high-level network of security and defence specialists across Europe, is to provide a forum to the European armament community, bringing together top defence industrial policy specialists, to encourage fresh strategic thinking in the field, develop innovative policy proposals and conduct studies for public and private actors.

CONTACT Edited by Gaspard Schnitzler, Senior Research Fellow, IRIS ares@iris-france.org +33 (0)1 53 27 60 60

iris-france.org/ares #ARESGroup



@AresGroup_EU



ARES Group - EU



ABSTRACT

The 2022 Russian aggression war has exposed several serious weaknesses in the European Defence Technological and Industrial Base (EDTIB) that experts were already aware of, but which have only now become known to a wider public. Severe capacity and supply chain problems, fragmentation, lagging behind in the application of civilian technologies in defence, low level of cooperation and consequently poor technological absorption, etc. Given the historical and cultural context and the nature of the European welfare model, it will be difficult to respond to these challenges and to strengthen all three components of the defence industrial trilemma simultaneously. Hungary started from a much weaker base in defence industrial capabilities than the EU average, as it had not had a relevant defence industry before the "Zrínyi Defence and Military Development Program" implemented in 2016. However, the Defence Industrial Strategy, which was born as part of this programme, is a complex industrial development strategy aimed at creating a new and modern economic sector. And because there is a strong government commitment behind the strategy, it has mobilised the capital, labour, technological and innovation resources of the national economy. Therefore, although the road to creating a truly competitive industry with long value chains is long and risky, if the strategy is successfully implemented, the Hungarian defence industrial ecosystem will be able to provide real added value to the European Defence Technological and Industrial Base.

Keywords: Defence industry | EDTIB | Hungary | Strategy

N.B. This article reflects the author's own professional opinion and cannot be considered as the official position of the Hungarian Defence Forces or the Ludovika University of Public Service.



INTRODUCTION

"But I am certainly questioning my original premise of the fundamental nature of war that does not change. [...]

You have got to question that now. I just don't have the answer."

James Mattis

The Russian invasion of Ukraine has changed a lot of things about the way we think about fighting and art of warfare (Barno & Bensahel, 2022; Cheung & Mahnken, 2022; Hoffman, 2023), which would take a long time to list, but the three pillars of the requirements for the defence industry, which we could call the trilemma of the sector, have not changed. Technological excellence, competitiveness and security of supply are the three main characteristics that we continue to expect from a good defence industry. This study presents how the development strategy of the Hungarian defence industry. To this end, it describes the framework of the Hungarian defence industrial strategy, with its positive and negative effects, in relation to joint European defence industrial projects.

HUNGARY'S DEFENCE INDUSTRIAL STRATEGY

Looking back in time, even during the Cold War, the Hungarian defence industry was one of the least important in the communist bloc, and the decades after the fall of communism have seen a further decline, as in other countries in the region. (Pernica et al., 2023) As part of this process, when the country was severely hit by the 2008 global financial and economic crisis, the defence sector was one of the major victims of the economic recovery, with a significant drain of resources.

After repeated forceless and unsuccessful attempts to reverse this trend¹, the "Zrínyi Defence and Military Development Program" announced in 2016 brought a definitive turnaround. Not only was the first real and comprehensive Defence Industrial Strategy (DIS)² (as the second pillar of the National Security Strategy alongside the National Military Strategy) born in connection with this programme, but there is also a heavy government commitment to support the rearmament of the Hungarian armed forces for the 21st century. This commitment ensures that, although the strategy has been updated perhaps unduly many

¹ For example HADIK Plan in 2012.

² The strategy itself is a restricted document.



times since then, and the supervising ministry has changed frequently (first the Ministry of Industry and Technology, then the Ministry of Defence and now the Ministry of National Economy), the development of the defence industrial ecosystem is proceeding quite according to plan. Another contributor to this development is that the DIS is essentially a complex industrial policy strategy. Its comprehensive approach is demonstrated by the fact that it addresses through its sub-strategies the entire resource base for the creation of defence industry (technology, know-how, capital, manpower, management and governance, innovation and R&D capabilities, supply chains, etc.) (Taksás & Hegedűs, 2022)

The original version of the DIS included the creation of six defence industry clusters: a combat vehicle cluster, an ammunition and explosives cluster, a radio and satellite communications systems and space cluster, a locator systems cluster, a small arms and mortar cluster, and an aviation cluster. As regards the acquisition of the technology and know-how needed to create clusters, the strategy's authors correctly understood that there is no scope for organic development due to the high entry barriers on defence products' market. Therefore, already established foreign brands were envisaged as the flagship of these clusters. That is why joint ventures were set up with Rheinmetall, Airbus, Saab and Dynamit Nobel Defence, why Austrian Hirtenberger Defence Systems, Czech Aero Vodochody and Israeli Spacecom were bought by Hungarian firms, while domestic companies bought licences from Česka zbrojovka (CZ), Nurol Makina and Unique Alpine.

The demand generated by the complete rearmament of the Hungarian Defence Forces and the favourable investment conditions provided by strong government will (e.g., public funding for building both manufacturing and R&D infrastructure), together offering significant potential for profit growth, have both played a role in the creation of these deals. In addition, in the case of technologies or companies bought from abroad, the Hungarian buyers (in some cases state companies, other cases designated or newly established private companies) were willing to pay the asked price to the owners. Moreover, in the case of the German companies that play a key role in the process, the motivation - in addition to the excellent German industrial contacts of the state leaders (László Palkovics³, Gáspár Maróth⁴) who played a leading role from the Hungarian side in the initial phase - could also be that they feared a further tightening of the already very strict German arms export regulations around 2021. (Palkovics László miniszter tájékoztatója az Országgyűlés Honvédelmi és Rendészeti Bizottsága felé, 2021). Another root of the over-representation of German companies can be found in

³ László Palkovics had worked in and collaborated with the German automotive industry for more than 20 years before his different government positions.

⁴ After leaving his governmental position, Gáspár Maróth became Head of Eastern Europe Coordination in Rheinmetall AG company.



the 2018 Angela Merkel-Viktor Orbán meeting, where the German chancellor proposed a "positive agenda" that includes cooperation between the two countries in the fields of innovation, digitalisation and the defence industry⁵. In summary, all of this indicates that, on the one hand, the German players in the defence industry were offered very favourable conditions in Hungary, and that, on the other hand, the Hungarian cabinet was able to score good points not only in German politics, but also in German industry, whose lobbying power is known to be quite strong in the European Union.

The above technology collaborations and acquisitions require a lot of capital, which can be provided by several different forms of sources. The Hungarian state budget provides the funds for setting up joint ventures and building the manufacturing and research infrastructure. A special industry opportunity to improve the capital position of non-state-owned companies in defence industrial supply chains is the exemption of defence companies from the EU ban on direct state aid. (Gombos & Szűcs, 2019) For firms with a mixed profile or operating in the civil sector, the traditional options are available: investment, R&D, and export subsidies, loans or grants, state venture capital funds, strengthening the firm's capital position and increasing its profitability through public procurement, etc. The use of these tools is only a matter of (economic) policy preferences and budgetary room for manoeuvre, although the latter has now been significantly reduced by the rise in capital market interest rates. In addition, because of its considerable economic influence, the Hungarian political leadership also has the power to mobilise the successful domestic private capital accumulation of the past decades for the goal of developing the defence industry. In the longer term, the aim is that Hungarian companies will increasingly participate - and even lead - EU-funded defence projects.

The issue of industrial labour shortages in the defence sector is also addressed. It is estimated that the renewed industry will need up to 3,000 people with related qualifications (Hegedűs & Rudity-Széchenyi, 2020), which could be a bottleneck to development for a long time. The magnitude of the challenge is well understood by the fact that at the beginning of the implementation of the DIS in the late 2010s, a total of approximately 2,000 people were working in defence industry positions throughout the country. (Budavári, 2020) Therefore, in the secondary and tertiary education portfolio, the state has created a system of specific courses, specialisations and dual trainings closely linked to the defence industry, with content and geographic links to the clusters. However, the labour market impact of these programs is

⁵ Hungary's Prime Minister's Office (February 10, 2020). *The Opportunity to Reach Agreement on the EU Budget Will Certainly Be Found.* https://2015-2022.miniszterelnok.hu/the-opportunity-to-reach-agreement-on-the-eu-budget-will-certainly-be-found/



slower than the ramp-up of manufacturing capacity, so in the short-term firms have to rely heavily on their own internal training systems to retrain available workers.

To address the management skills gap in the defence industry, the governance of partly or wholly state-owned companies has been brought under a common holding company (N7 Holding Zrt.), from which some companies have since been already spun off and returned to the control of the former owner, the Ministry of Defence. Even though, the strategy is to privatise these companies in the long term. In addition, the state provides mentoring to SMEs that want to join the supply chain of any clusters.

Apart from creating the financing and labour market framework, perhaps the biggest risk to the strategy is the weak innovation ecosystem in Hungary. (Budavári et al., 2022) Even with strong government will and significant capital investment, this raises questions about the long-term feasibility of developing complete defence industrial value chains in the country, rather than simple assembly plants. This is perhaps the most difficult task for the strategy's implementers to tackle. It goes well beyond the already blurred boundaries of the defence industry.

Finally, as shown in the figures below, following the implementation of the DIS, the budget of the Ministry of Defence has increased by 1.5 within a few years, while the structure of the expenses has changed. Investment expenditures have increased due to acquisitions, which has also led to an increase in material expenditures, as the material and technical support for these new platforms is much higher than for former Soviet equipment.



Figure 1. Nominal and real value of the budget of the Hungarian Ministry of Defence

Source: (Kenessei & Pap, 2019) and calculations of Colonel Andrea Pap





Figure 2. Structure of the budget of the Hungarian Ministry of Defence

HUNGARY'S POSSIBLE CONTRIBUTION TO THE DEVELOPMENT OF THE EUROPEAN DEFENCE INDUSTRIAL ECOSYSTEM

At this stage, it is difficult to see how the emerging Hungarian defence industry can help reduce the challenges faced by the EDTIB. The development of the sector is absolutely driven by national priorities. As is the case, whether stated or not, with all the other European countries, since there is no common European defence industrial policy, which is mandatory for the member countries. Nevertheless, there are some possible linkages through which the Hungarian defence industrial ecosystem can provide real added value to the EU.

The first and most important link is that the rearmament of the Hungarian Defence Forces and the import of knowledge by the Hungarian defence industry - in contrast to several other countries in the region (e.g., Poland, Romania) - is based almost exclusively on European technology (outside Europe, Israel plays a more significant role). The flagship companies of the defence industrial clusters listed above are all European firms. This benefits the EDTIB in several ways. On the one hand, it can somewhat alleviate the serious shortage of capacity, the severity of which is particularly striking when compared with U.S. or Russian capabilities. Moreover, the cost of this is borne by Hungarian taxpayers, not Western Europeans, where this has been a contentious and sensitive issue for some time. On the other hand, incoming European firms will have the opportunity to identify new suppliers within the clusters, which could help to unblock or at least reduce bottlenecks in the supply chains of the European defence industry. Hungary has developed significant automotive and electronics clusters in recent decades (and new ones are emerging in the field of electric cars), so there is certainly

Source: (Kenessei & Pap, 2019) and calculations of Colonel Andrea Pap



a wealth of knowledge and capacity that European defence industry companies can use in their value chains. In addition, the mobilisation of this potential is greatly facilitated by strong government will and support (e.g., the mentor program mentioned earlier.) To summarise, under the defence industry trilemma, Hungary's key contribution to the EDTIB may be divided into two parts: strengthening supply security with additional capacities and boosting competitiveness through reduced manufacturing costs (by lower wages and redistribution costs).

The strong government commitment can also help attracting the R&D capabilities of the Hungarian economy, which can contribute to the technological part of the trilemma too. By this is meant both intellectual and physical R&D capacities. This is because, on the one hand, there is a strong will (backed up by a stimulus from the DIS) to ensure that both government, higher education and business R&D capabilities work closely with the defence sector to achieve new innovations. This will bring internationally renowned universities and research institutes into the defence innovation ecosystem, with positive returns for all actors involved. This can also help to advance the cause of the European Military-Civil Fusion (Evron & Bitzinger, 2023), even if the Hungarian innovation capacity is dwarfed by that of the leading EU Member States (Csath, 2023). On the other hand, in recent years, Hungary has built up outstanding R&D infrastructure centres, partly for defence industrial purposes, which could contribute to raising the research activities of the European defence industrial companies based in Hungary to an even higher level. (Taksás & Hegedűs, 2022) Examples include the laser centre in Szeged and the ZalaZone centre in Zalaegerszeg with its drone and unmanned vehicle test facilities.

Related to the above, the Hungarian defence industry wants to be part of the EU and NATO defence projects. Hungary has been participating in the PESCO programme from the very beginning, and NATO DIANA has nine institutions (including eight accredited test centres) in Hungary. The success of Hungarian companies in EDF tenders has not really grown yet, and the level of activity and the awarded funds are still very low comparing the size of the country. Hungarian actors - most of them SMEs, and a smaller part of state-owned companies - won support in the amount of approximately 5 million euros in 2021, which increased to 8.5 million euros in 2022 (but with fewer participators). This is not even 10% compared to the amount won by the biggest players. During the last 3 years, Hungarian actors have participated in projects such as EUROGUARD (naval category), iMEDCAP (medical response and CBRN), EUCINF (cyber), FEDERATES (simulation and training), FACT (cyber), TRAVISMOS (open for SMEs), 5G COMPAD (information superiority), Ifurther (disruptive technologies), EuroHAPS (information superiority), NOMAD (energy and environment), ALTISS (open for SMEs),



FaRADAI (digital transformation), CALIPSO (innovative propulsion systems), RESILIENCE-R-2023 (medical countermeasures). (Masson, 2024) So far, no program has a Hungarian coordinator. In 2024, Budapest was one of the locations for the Annual EDF Defence Hackathon & Mentoring.

A strong constraint to increasing participation in EDF is that the above-mentioned flagship companies of the clusters tend to participate in these programs with their parent companies. This can be a barrier for their Hungarian suppliers too, and therefore it is certain that strong governmental incentives and mentorship are undoubtedly required to promote the engagement of local SME companies. This governmental commitment is evident for the time being, among other things, in the addition of new departments specifically tasked with the defence industry to the Ministry of Defence's most recent organisational structure.

Certainly, Hungary itself would not be able to answer the question that often arises is whether the European defence industry should cover the entire field of warfare with its products or whether it should rather engage more deeply in global cooperative projects, developing its comparative advantages in specific areas. The latter would provide an opportunity to export high added-value components in return for cheaper access to technology and complete platforms for the European defence sector. (Jan, 2007) This is generally the proposed development path for defence industries in smaller countries (Petkovics, 2016), and understandably the US partners prefer to propose it for the overall EDTIB. (Burton, 2023) From a purely economic point of view, this would probably bring a higher return on taxpayers' euros spent, but the war in Ukraine has re-prioritised this aspect too. This war highlights the need for Europe to have a self-defence capability, but this would require the widest possible spectrum of defence industrial products. In any case, rebuilding Hungarian defence industry can help the EDTIB more in the expansion of production capacities than in the development of new niche capabilities, at least in the short term.

CONCLUSION

Although one of the elements of the Hungarian EU Presidency program is the reinforcement of the European Defence Policy (HU24EU, 2024), it is currently unclear to what extent Hungary supports closer integration and a more supranational approach in relation to the European defence industry. No official announcement or statement has been made about the country's position on the recently adopted European Defence Industrial Strategy (EDIS). The only publicly available document on the subject is an analysis of the EDIS-EDIP concept by the Századvég Foundation, a think tank close to the government. (Kiss & Holovács, 2024a) The findings of this analysis were adopted by media close to the government, which



emphasised the most controversial and questionable points. (Kiss & Holovács, 2024b; Origo, 2024) Nonetheless, it is not possible to draw long-term conclusions about Hungary's future plans based solely on these analyses, even if the Hungarian government generally prefers national sovereignty over supranational solutions and occasionally uses the European Peace Facility (EPF) to block its payments to achieve national interests such as removing the OTP Bank from the Ukrainian sanctions list, or allowing the transport of crude oil of the Russian company Lukoil through the Ukrainian pipeline system.

REFERENCES

Ákos Kiss, Gabriella Holovács (2024, June 7a). A védelmi ipari fejlesztések európai víziói. Századvég Konjunktúrakutató Zrt. <u>https://szazadveg.hu/wp-</u> <u>content/uploads/2024/06/Tanulmany-Szazadveg-Konjunkturakutato-A-vedelmi-ipari-</u> <u>fejlesztesek-europai-vizioi 20240607.pdf</u>

Ákos Kiss, Gabriella Holovács (2024, June 25). A védelmi ipari fejlesztések európai víziói – jövőkép az uniós stratégiák tükrében. Világgazdaság. <u>https://www.vg.hu/szazadveg-</u> blog/2024/06/a-vedelmi-ipari-fejlesztesek-europai-vizioi-jovokep-az-unios-strategiak-<u>tukreben</u>

Balázs Taksás, Ernő Hegedűs (2022). A magyar védelmi ipar jövőképe—The Vision of the Hungarian Defense Industry. KÖZ-GAZDASÁG, 17(2022/1), 9–26. https://doi.org/10.14267/RETP2022.01.02

Bohuslav Pernica, Jaroslav Dvorak, Zsolt Lazar, Balázs Taksás, Alex Maskalík (2023). *Defense industrial bases (DIB) in six small NATO post-communist countries*. The Economics of Peace and Security Journal, 18(1), Article 1. <u>https://doi.org/10.15355/epsj.18.1.53</u>

Brian Burton (2023, May 18). *Europe Should Not Try to Go It Alone on Defense*. War on the rocks. <u>https://warontherocks.com/2023/05/europe-should-not-try-to-go-it-alone-on-defense/</u>

Chiou-Guey Jan (2007). *Taiwan as a Business Model of Defense Technology Development for Newly Industrialized Countries in East Asia*. Korean Journal of Defense Analysis, 19(1), Article 1. https://doi.org/10.1080/10163270709464129

David W. Barno, Nora Bensahel (2022, June 27). *The Other Big Lessons That the U.S. Army Should Learn from Ukraine*. War on the Rocks. <u>https://warontherocks.com/2022/06/the-other-big-lessons-that-the-u-s-army-should-learn-from-ukraine/</u>



Defense & Aerospace Daily Podcast ([2022, April 21, 2022)]*CNAS' Chris Dougherty on Lesson from Russia-Ukraine Conflict.* (2022, April 21). Defense & Aerospace Report.

https://defaeroreport.com/2022/04/21/defense-aerospace-daily-podcast-apr-21-2022cnaschris-dougherty-on-lesson-from-russia-ukraine-conflict/

Ernő Hegedűs, L. Rudity-Széchenyi (2020). *Az MTA LOÁB konferenciája a magyar hadiiparról*. Katonai Logisztika, 28 (3), 278–289.

Frank Hoffman (2023, January 2). *American Defense Priorities After Ukraine*. War on the Rocks. <u>https://warontherocks.com/2023/01/american-defense-priorities-after-ukraine/</u>

Hélène Masson (January 2024). European Defence Fund, Beneficiary Profile After Two Calls For Proposals (2021-2022). Fondation pour la recherche stratégique (FRS).

https://www.researchgate.net/publication/377665653 European Defence Fund beneficiar y profile after two calls for proposals 2021-2022

HU24EU. (2024). Programme of the Hungarian Presidency of the Council of the European Union in the Second Half of 2024. <u>https://hungarian-</u>

presidency.consilium.europa.eu/media/32nhoe0p/programme-and-priorities-of-thehungarian-presidency.pdf

Hungary's Prime Minister's Office (February 10, 2020). *The Opportunity to Reach Agreement on the EU Budget Will Certainly Be Found*. <u>https://2015-2022.miniszterelnok.hu/the-</u><u>opportunity-to-reach-agreement-on-the-eu-budget-will-certainly-be-found/</u>

Katalin Gombos, & Aniko Edit Szűcs (2019). *Review of the European Union's Regulation Regarding Defence Procurement*. ECONOMICS AND MANAGEMENT, 1, Article 1.

Krisztina Budavári (2020). A magyar védelmi ipar helyzete és fejlődési lehetőségei. Magyar Hadtudományi Társaság.

https://www.mhtt.eu/hadtudomany/Tud%C3%A1st%C3%A1r/2020/Budav%C3%A1ri%20Kris ztina%20A%20magyar%20v%C3%A9delmi ipar%20helyzete%20%C3%A9s%20fejl%C5%91d% C3%A9si%20lehet%C5%91s%C3%A9gei.%20MHTT%202021.%20(PDF%20k%C3%B6nyv).pdf

Krisztina Budavári, Balázs Taksás, Ernő Hegedűs (2022). A magyar védelmi ipar innovációs környezetének vizsgálata, = An Examination of the Innovation Environment of the Hungarian Defence Industry. Hadtudomány, 32(1), Article 1.

Magdolna Csath (2023, July 14). *Kiderül, hogy áll Magyarország az európai innovációs rangsorban*. Növekedés.Hu. <u>https://novekedes.hu/mag/kiderul-hogy-all-most-magyarorszag-az-europai-innovacios-rangsorban</u>



Minister László Palkovics' briefing to the National Defense and Law Enforcement Committee of the Parliament (2021), Hearing on HOB-41/33-5/2021. before the Országgyűlés Honvédelmi és Rendészeti

Bizottság. <u>https://www.parlament.hu/documents/static/biz41/bizjkv41/HOB/2106081.pdf</u> Palkovics László miniszter tájékoztatója az Országgyűlés Honvédelmi és Rendészeti Bizottsága felé (Minister László Palkovics' briefing to the National Defense and Law Enforcement Committee of the Parliament): Hearing on HOB-41/33-5/2021. before the Országgyűlés Honvédelmi és Rendészeti Bizottság (2021).

https://www.parlament.hu/documents/static/biz41/bizjkv41/HOB/2106081.pdf

Origo. (2024, June 7). A védelmi ipari fejlesztések európai víziói—Jövőkép az uniós stratégiák tükrében. Origo. <u>https://www.origo.hu/nagyvilag/2024/06/vedelmi-ipari-fejlesztesek-eu-szazadveg#google_vignette</u>

Tai Ming Cheung, Thomas G. Mahnken (2022, August 31). *The Grand Race for Techno-Security Leadership*. War on the Rocks. <u>https://warontherocks.com/2022/08/the-grand-racefor-techno-security-leadership/</u>

Tamás Petkovics (2016). *A hadiipar fejlesztési lehetőségei Magyarországon*. Katonai Logisztika, 24(1), Article 1.

Tamás Petkovics (January 2016n.d.). *A hadiipar fejlesztési lehetőségei Magyarországon*. Katonai Logisztika, 24(2016/1), Article 2016/1.

Yoram Evron, Richard A. Bitzinger (June 2023). *The Fourth Industrial Revolution and Military-Civil Fusion: A New Paradigm for Military Innovation?* Cambridge University Press. <u>https://doi.org/10.1017/9781009333290</u>

Zsolt Kenessei, Andrea Pap (2019). A XIII. *Honvédelmi Minisztérium fejezet személyi juttatásainak és reálkereseteinek alakulása a 2005-2017*. Közötti időszakban. Hadmérnök, 14(2), Article 2. <u>https://doi.org/10.32567/hm.2019.2.19</u>

The Armament Industry European Research Group



2 bis, rue Mercœur - 75011 PARIS / France + 33 (0) 1 53 27 60 60 ares@iris-france.org

iris-france.org/ares

The Armament Industry European Research Group (Ares Group) is a high-level network of security and defence specialists across Europe. Its aim is to provide a forum to the European armament community, bringing together top defence industrial policy specialists, to encourage fresh strategic thinking in the field, develop innovative policy proposals and conduct studies for public and private actors.

