

EU MONITOR

The challenges of the military integration in the EU: an approach to the heterogeneity of weapon system categories

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- **The subject of EU's defence has been treated as a political challenge widely covered in the media in recent years. However, less attention has been paid to the troubles it presents at the military level. The purpose of this paper is to shed light on this issue, specifically, on the challenges that multiplicity of weapon systems in Europe entail, and the potential advantages and challenges pooled public procurement and harmonization of defence entails. To this end, it will briefly review the collaborative projects that have taken place in the last decades to focus later on two initiatives launched at EU level: the PESCO (Permanent Structured Cooperation) and the EDF (European Defence Fund). Hereinafter, it will touch upon the implications this phenomenon has for the defence market and armaments standardization.**



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Since the end of the Cold War, Europe has witnessed several cooperative efforts in the realm of defence. Throughout this period, like-minded states have clustered to cooperate in order to maintain defence capabilities. Often, these groups are composed by countries with political affinity or even links of geographical proximity. Examples are manifold, such as NORDEFECO (Nordic Defence Cooperation) founded in 2009 by Denmark, Norway, Finland, Iceland and Sweden. It was created to boost collaboration in several areas, among them defence. A longstanding instance took place in 1996, when the Belgian and Dutch governments agreed to integrate their respective navies under a joint naval command¹. More recently, the German and Norwegian governments agreed a joint procurement submarine program². Finally, perhaps the most famous case is the Eurofighter Typhoon, developed by a multinational programme between France, Italy, Germany, Spain and the U.K.

However, all of these examples are bilateral or multilateral enterprises pulled off outside the European Union's framework. Instead, European problems should ideally be addressed through a European-wide approach due to efficacy. A notorious EU-level initiative is the European Pooling and Sharing code³ signed in 2012 advocating for major cooperation efforts. It was designed to encourage Member States to pool their resources, seeking a closer cooperation and a smarter defence spending. It included a broad spectrum, from maintenance materials and spare parts to research projects. Nevertheless, its outcome was limited in terms of jointly developed weapon systems. This endeavour lacked further investment

plans to support R&T (research and technology) initiatives. It was not financially backed up by the European institutions and signees had to bear the burden in a context of budget reduction. Furthermore, Dick Zandee outlines in a Clingendael report⁴ that "there was limited follow-up and the new cooperation formats disappeared from the radar screen soon after their launch". He concludes that "decisions at a high political level were not properly implemented at the working level".

In spite of that, in the last three years more progress has been made in defence on the EU level than in the rest of the post-Cold War era. Various initiatives have been undertaken to endow the Union with the tools necessary to become a better security provider and enhance its military capability. Specifically, the launch of the PESCO⁵ is a further more ambitious bid to address the European shortfalls. Its creation has laid the foundations for greater military cooperation through capability harmonization, coordination of training and logistics, bolstering interoperability and deployability of armed forces. The myriad of approved projects cover a wide spectrum of military domains, including cyber, maritime, land and air systems. For instance, the CIDCC (Cyber and Information Domain Coordination Center)⁶ will be developed to establish and operate a coordination center for cyber defence purposes. The EU TMCC (Training Mission Competence Centre)⁷ aims to improve the interoperability and education for military personnel in order to become employed to staff positions within EU Training Missions. Finally, the ECoWAR (EU Collaborative Warfare Capabilities)⁸ seeks to strengthen the

¹ <https://english.defensie.nl/topics/international-cooperation/other-countries/the-belgian-and-netherlands-navies-under-1-command>

² <https://www.defensenews.com/global/europe/2019/04/30/german-norwegian-officials-huddle-over-joint-submarine-program/>

³ <https://www.eda.europa.eu/docs/news/code-of-conduct.pdf>

⁴ PESCO implementation: the next challenge. Clingendael Netherlands Institute of International Relations https://www.clingendael.org/sites/default/files/2018-09/PB_Pesco_Sept2018.pdf

⁵ <https://www.consilium.europa.eu/media/32000/st14866en17.pdf>

⁶ <https://pesco.europa.eu/project/cyber-and-information-domain-coordination-center-cidcc/>

⁷ <https://pesco.europa.eu/project/european-union-training-mission-competence-centre/>

⁸ <https://pesco.europa.eu/project/eu-collaborative-warfare-capabilities-ecowar/>

capacities of armies to tackle threats in scenarios requiring close interactions and interconnections.

Tackling a structural problem

However, those are enabler projects designed to share existing military assets and operational resources and to improve coordination between project members. Despite these initiatives, there is an underlying problem hindering the building up of the European security scheme: the heterogeneity – or lack thereof – of weapon system categories. To facilitate an outlook of this convoluted landscape, these are the number of European systems compared to those of the U.S. While America has one type of battle tank, the EDA member countries have 17. By the same token, there are 20 and 29 types of European fighter planes and destroyers respectively, compared to 6 and 4 from the U.S. Overall, a total of 178 weapon system categories have been counted in Europe compared to 30 in the United States⁹. This splintered landscape is a factor that erodes the deployability of European armies. It hampers cooperation between Members States' armed forces and increases capability gaps. At large, the lack of interoperability slows down the EU's ability to intervene and undermines its deterrence capabilities.

At this regard, the logistics and the supply chain are vastly conditioned by material requirements. Establishing supply lines can be especially challenging if military vehicles have disparate needs. These includes different fuels, hundreds of spare parts and different impacts on local infrastructure. Take, for instance, an armored personnel carrier, whose components can be replaced to a large extent by those of military trucks. Meanwhile a similar

vehicle from another country may need exclusive spare parts. To illustrate, German airborne combat vehicles might require different sand engine filters than Italian ones. The same pitfalls apply to ammunition or personal equipment, among other things. With regards to coordination, the characteristics of different vehicles are key determinants for the type of mission they can perform. For example, when it comes to designing a strategy in which it is necessary to deploy tanks, this has to be compatible with their – in the EU's case - disparate attributes. In the hypothetical case of planning a mission, many more factors should be taken into account if 17 types of vehicles with varied abilities have to be taken into account rather than two. One could be faster than the other but possess more limited mobility range, while a third could be vulnerable to RPG attacks and a fourth is more resilient but maneuver poorly in the targeted terrain of the hypothetical operation.

Those are just a few brief examples of the challenge that entails dealing with multiple weapon systems. To mitigate this situation, there are programmes that aim at developing joint weapon systems. They are ambitious plans which require industrial involvement and a high degree of political will and coordination to set harmonized military requirements. A case in point is EuroArtillery (Indirect Fire Support Capability)¹⁰, which is expected to design a mobile precision artillery platform. The objective of the Tiger Mark III project¹¹ is to upgrade the capabilities of aggression, detection and communication. The MALE RPAS initiative, also known as Eurodrone¹², intends to deliver the next generation of military drones.

This endeavour is complemented by the EDF¹³. Launched some months before the PESCO, it was set in motion to support investment in joint research and development of defence equipment and technologies. It

⁹ A more detailed comparison can be found in Post-Truth, Post-West, Post-Order? Munich Security Report 2017 <https://espas.secure.europarl.europa.eu/orbis/sites/default/files/generated/document/en/MunichSecurityReport2017.pdf>

¹⁰ <https://pesco.europa.eu/project/indirect-fire-support-capability/>

¹¹ <https://pesco.europa.eu/project/european-attack-helicopters-tiger-mark-iii/>

¹² <https://pesco.europa.eu/project/european-medium-altitude-long-endurance-remotely-piloted-aircraft-systems-male-rpas-eurodrone/>

¹³ <https://ec.europa.eu/docsroom/documents/23605>

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currently undergoes a pilot test under the 2014-2020 Multiannual Financial Framework with a budget of €590 million. The Commission has proposed a dedicated budget of €13 billion for the 2021-2027 Multiannual Financial Framework. The EDF supports collaborative projects, with the participation of at least 3 different countries, conceived to meet the defence interests of the Union. Besides, it is expected to incentivize the participation of small and medium-sized companies. The Fund will provide financial support throughout the entire industrial lifecycle, funding 100% of costs for research and design, and up to 20% and 80% of costs for prototype development and certification and testing activities, respectively. In addition, the Commission has proposed a €100 award to support the Eurodrone's development as a flagship initiative¹⁴.

An assessment of the implementation of the PESCO carried out by the International Institute for Strategic Studies¹⁵ revealed some issues that could hamper its proper development. First of all, it is worth noting that some armament programmes had already begun before PESCO was launched, i.e. the Tiger Mark III or the Eurodrone. The report, released in May 2019, found that "times and budgets of most projects remain unclear", with the exception of those that predate the PESCO framework, which are at an advanced stage of development. Besides, the study outlined that almost all projects rely on financial support from the EDF to be feasible. This begs several questions. To what extent do they depend on funding from the EDF? In case of lack of European financial support, will they still be feasible? Should larger projects receive most of the available sum, the smaller ones may be at risk of being abandoned due to a lack of financial support. Moreover, the lack of timelines in many projects casts doubts on political engagement. Some projects are delaying timelines waiting for sources while only those programmes that were already underway have received strong financial commitment. Hence, the

paper concludes, to avoid the risk of PESCO becoming another missed opportunity, and in case the total amount available is not enough to cover all economic needs, only "PESCO projects that are significant enough to receive project Member States and EU financial support should be prioritised, even if this means dropping less ambitious projects"¹⁶.

A feedback loop: the divided european defence market

However, the EDF and the PESCO are still not remedying the issue outlined before. Even if these programmes go ahead successfully, numerous weapon systems will remain in Europe. The higher-end initiatives previously mentioned enjoy a scant multinational participation. Namely, EuroArtillery is promoted only by Slovakia, Italy and Hungary. By the same token, the Tiger Mark III is to be developed by France, Germany and Spain. Similarly, the Eurodrone project count with the participation of France, Italy, Germany and Spain. These are just a few examples, but the same trend is observed in the rest of the armament initiatives.

This phenomenon can be partly explained by the fragmentation of the European defence market. One of its main features is the presence of a multitude of national industries. This is a structural problem, which is due to several reasons. On the one hand, European Administrations tend to protect and shore up national industries through procurement processes. In fact, roughly 80% of European equipment procurement and 90% of defence R&T programmes are implemented at national level¹⁷. In order to do so, governments usually set

¹⁴ <https://ec.europa.eu/growth/content/european-defence-fund-track-%E2%82%AC525-million-eurodrone-and-other-joint-research-and-industrial-de>

¹⁵ Keeping the momentum in European defence collaboration: An early assessment of PESCO implementation. IISS <https://www.iiss.org/blogs/research-paper/2019/05/pesco>

¹⁶ Ibidem

¹⁷ EDA. Defence Data 2016-2017 <https://www.eda.europa.eu/info-hub/defence-data-portal>

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procurement specifications with the purpose to contract national manufacturers and thereby keeping industries from third countries out of the map. Protective measures are often prioritized over cost efficiency and weapon systems interoperability and effectiveness. On the other hand, this is also the result of different strategic cultures and the lack of a common defence policy frame. The assessment of threats and risks to national security differs substantially in Madrid, Dublin or Warsaw. The strategic culture is shaped as well by historical experiences, military doctrines and traditions and even the social perception of the use and expenditure in military affairs.

The division of the defence market is impeding the development of a competitive industry. The multiplicity of weapon system can lead to duplications. This results in different production chains, training methods and logistics. In addition, duplications and non-joint procurement efforts result in failures to achieve economies of scale¹⁸. As a report authored by McKinsey states, this translates into “a multiplicity of national competitors operating at sub-efficient scale”^{19,20}. The few funds available are spent inefficiently and ineffectively. According to a European Parliamentary Research Service report launched in 2013²¹, “savings that could be made from integrating European defence are significant: an estimated €600 million could be saved from the sharing of infantry vehicles and €500 million from having a collective system of certification of ammunition”. These are mere examples of the potential benefits of increased cooperation. In this sense, Michel Barnier claimed “Europe is the world's second largest

military spender. But it is far from being the second largest military power”²².

Therefore, the EU is facing a twofold problem: the fragmentation of both supply and demand sides. Industry consolidation could provide higher efficiencies and reduce unit costs. Addressing this issue requires economic policy measures, among other things, the EDF. This initiative aims to integrate the defence market by incentivizing member states to spend more – and together – on defence. The proposed €13 billion budget would place the EU among the top European investors in this field. Furthermore, joint procurement processes would have an agglomerating effect on defence industries, something that is only doable with a common strategic culture. Additionally, there are voices advocating for a consolidation of the industry, to some extent, through mergers and acquisitions²³. While it is true that the sector experienced a certain consolidation after the Cold War due to mergers and acquisitions, this trend currently remains, albeit at a slower pace and on a smaller scale. Megamergers are absent. The largest one in recent years was to take place in 2012 between EADS (franco-german) and the British BAE Systems, but it was cancelled amid concerns related to political influence²⁴.

Harmonizing military requirements: armament standardization

¹⁸ It refers to the capacity that a company has when it reaches an optimal level of production to produce more at a lower cost. That is to say, as its production grows, its costs per unit produced are reduced

¹⁹ The future of European Defence: tackling the productivity challenge. McKinsey&Company <https://www.mckinsey.com/~media/mckinsey/industries/public%20sector/our%20insights/enlisting%20productivity%20to%20reinforce%20european%20defence/the%20future%20of%20european%20defence.ashx>

²⁰ The same report points out as well that “despite the considerably higher U.S. military government spending, still in more than 40 percent of the defence market segments, the number of competitors in the EU exceeds the respective number in the U.S.”

²¹ European Parliamentary Research Service. The Cost of Non-Europe in Common Security and Defence Policy [http://www.europarl.europa.eu/RegData/etudes/etudes/join/2013/494466/IPOL-JOIN_ET\(2013\)494466_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/etudes/join/2013/494466/IPOL-JOIN_ET(2013)494466_EN.pdf)

²² In Defence of Europe. EPSC Strategic Notes https://ec.europa.eu/epsc/sites/epsc/files/strategic_note_issue_4_en.pdf

²³ The future of European Defence: tackling the productivity challenge. McKinsey&Company

²⁴ <https://www.bbc.com/news/business-19897699>

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As evident throughout the paper, the lack of joint procurement efforts is a phenomenon negatively affecting the European defence setup. Hence, the harmonization of defence materiel standards could constitute a key enabler for interoperability of forces. In this respect, Daniel Fiott asserts that standardization avoids equipment duplication, “improves capability development” and “supports the competitiveness of the defence industry” by reducing costs²⁵.

This is a field that encompasses a wide array of subjects covering any stage of the production process and even technical military procedures and training. It may involve the design of high voltage electrical power systems for ships and submarines, general requirements of ammunition, specifications for camouflages, launcher mechanical interfaces, performance and endurance tests for vehicles batteries or even international technical vocabulary. In the same way, it can refer to the interoperability of weapon systems used by armed forces, or relate to components as well. Thus, it is worth clarifying the differences between both of them. The first allows the control and operation of weapons of a particular kind, i.e. the famous U.S. Patriot missiles are a surface-to-air system. It could also integrate subsequently more systems such as radars or other electronic devices. Components are the elements constituting such system. Therefore, the standardization of systems allows narrowing the odds of duplications. However, this discussion does not apply to components. For example, while the development of two similar models of surface-to-air missiles can lead to overlapping capabilities, they might need a large amount of the same components for their respective radar.

In addition, for a better understanding of the challenge that armament standardization presents, it is

essential to outline the reality of the defense market nowadays. One of its main features is the incorporation of components and technologies from the civil sector. This growing tendency is driven, among other things, by costs and efficiency reasons. Such elements, which receive a dual-use, are also known as hybrids. On the other hand are the components manufactured in the defence industry. Thus, there are elements proceeding from both sectors integrated in weapon systems. When it comes to the defence sector, it is governments and the military that set the standards, but as far as the civil sector is concerned, the situation is more convoluted. In the civil sector, standardization is a consensus building process in which many stakeholders are involved. It ranges from industry representatives or academics to governments and non-governmental organizations. As a result, there is an amalgam of institutions, many of which do not even have official status. However, there are only three European Standardization Organizations recognized by the EU: the CEN (European Committee for Standardization), ETSI (European Telecommunications Standards Institute) and CENELEC (European Committee for Electrotechnical Standardization)²⁶. In 2013, the Commission and the European Defence Agency set in motion a mechanism to develop hybrid standards. This has been done in cooperation with the three aforementioned organizations through the DSCG (Defence Standardization Cooperation Group). It should be noted that the DSCG does not elaborate standards directly, instead, it serves as a meeting point between industry, public authorities and other stakeholders. Since 2015, its scope of action is focused on the following military domains: Defence Shields, Measurement of Impulse Noise from Military Weapons, Explosives and Pyrotechnics, and Selection of Hearing Protection^{27,28}.

²⁵ European Armaments Standardisation. European Parliamentary Research Service <https://www.iss.europa.eu/sites/default/files/EUISSFiles/Defence%20study.pdf>

²⁶ For further information https://ec.europa.eu/growth/single-market/european-standards/key-players_en

²⁷ <https://www.eda.europa.eu/what-we-do/activities/activities-search/materiel-standardisation>

²⁸ On top of that, two further initiatives have been carried out under the EDA framework. These are two web platforms that facilitate information on defence-related standards: the [EDSIS](#) (European Defence Standards Information System) and the [EDSTAR](#) (European Defence Standards Reference System). The former was designed to advertise materiel standards about to be

As previously mentioned, standardization in the military domain is based on national military requirements and allows for a reduction of duplications that can lead to diminished interoperability and increased gaps of capabilities. Yet, there are two opposing streams of thoughts. On the one hand, those who support a lower level of standardization due to an inclination to a greater strategic autonomy even at a possible higher cost. The high specialization in the sector reduces the supply. Some military planners and policy makers are reluctant to a higher level of standardization insofar as it could lead to a greater dependence on a single supplier. Besides, it could be a foreign one. This scenario may imply putting at risk the security of the supply chain. Instead, relying on national suppliers (whether one or more) would ensure the provision of key components and spare parts. Besides, there are other factors, previously mentioned in this paper, involved. These vary from economic policies aiming at protecting national industries to different military doctrines or the structure of the army and the civil framework.

On the other hand, national requirements favour the rise of weapon systems' duplications in Europe. Achieving higher standardization levels requires the ability to set common military requirements. This would provide common capability developments and it would require cross border coordination to ensure the security of supply. As Fiott states, "the identification of common military requirements between states can allow for a degree of national customization while avoiding high degrees of duplication and improving military interoperability". Moreover, he adds that "weapons systems can greatly differ between countries even though the systems bear the same name"²⁹. As an example, the NH90 helicopter. A programme originally designed by France, Germany, Italy and the Netherlands that

ended up with 23 different versions carrying the same label and produced at multiple sites³⁰.

Conclusions

As a whole, the logic of the national-minded approach goes against the need for further European military integration. In a scenario, such a CSDP mission, where it is necessary a joint action, this tendency could hamper its proper development. Hence, as DeVore outlines, "when levels of interoperability are low, joint operations suffer from complex supply arrangements, incompatible communications, and complicated mission planning. Thus, allied states should militarily benefit from armaments collaboration, even in the absence of economic advantages"³¹.

In the end, the key to address the points discussed throughout the paper is the same concerning every integration process: political engagement. It should be a priority for the Member States to reach an overarching consensus on collective military requirements. This can only be accomplished through a common strategic culture adopted by a widespread understanding that the threats the EU faces cannot be tackled from unilateralism and national points of view.

In the last years, the rise of Euroscepticism has put the legitimacy of the European Union at stake. The Union's approach to security and defence policy has left an unfathomable record of bodies and institutions, joint declarations, proposals and failed projects that has resulted in a disengagement of the citizens. The best way to solve this problem is achieving tangible deliverables and this can

developed or modified. The latter is an online database containing a plethora of standards and specifications developed to guide and assist the defence industry and government organizations in the development, production and procurement of defence materiel

²⁹ European Armaments Standardisation. European Parliamentary Research Service

³⁰ The Economic Imperative of Europeanizing Defence Innovation. The Emergence of EU Defence Research Policy

³¹ International Armaments Collaboration and the Limits of Reform. Defence and Peace Economics

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only be accomplished with more political commitment and deeper integration. It cannot be allowed the PESCO and the EDF to become new missed opportunities when there are

low-hanging fruits in terms of strengthening citizens' security in an ever more insecure world through deeper European defence integration.

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