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WHAT SCOPE FOR EU-US DEFENCE INDUSTRIAL COOPERATION IN THE 2020s?

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ABSTRACT

The election of Joseph Biden as President of the United States has led to talk of a reset in the transatlantic relationship. This is the dawn of a new era where the US are more involved in NATO, the Europeans are more involved in their security with projects such as PeSCo or the European Defence Fund which aim to develop their military capacity in a collective manner. At the same time, the European Union is starting to show signs of openness such as allowing third countries to join PeSCo, or the perspective of an agreement between the European Defence Agency and the US.

The question was thus to figure how the US and the EU countries could improve their defence cooperation in a climate favourable to transatlantic rapprochement.

This policy paper will first make an assessment of the transatlantic cooperation since the early 1960s. From the F-16 to the F-35, including the MLRS or the MIDS-LVT, these projects teach us valuable lessons, especially as the regulatory and economic political frameworks in which they took place have barely changed since the early 60's. Technology however made a leap forward. It has become an integration factor, because of digitalisation, but an increased integration of arms systems can be restrained by an inappropriate regulatory framework.

At this level, several factors appear which interfere with the cooperation between the US and the EU: no reciprocity in the opening of the American market and of the European markets, the fragmentation of the European DTIB and of the European markets whereas the American market is unified, the American legislation on export control based on the principle of the extraterritoriality of the American law which prevents any level playing field for technology transfer and arms export.

Efforts will have to be made to lift those barriers so as to favour a renewed transatlantic cooperation wanted by everyone on both sides of the Atlantic, but it will also be important to consider the lessons learned from the past telling us which projects can be set in a transatlantic framework as well as those that should be avoided because of the lack of interest towards them from both sides.

Keywords: transatlantic defence industrial cooperation, ITAR, defence market, export control regulation, foreign defence investment regulation, EDF, PeSCo, NATO, Joe Biden, EDTIB, F-35

TRANSATLANTIC CONTEXT

The election of Joseph Biden as President of the United States (US) has led to talk of a reset in the transatlantic relationship. The urgency for such a reset comes on the back of four years of the Trump Presidency, which saw a novel approach to transatlantic burden sharing: Europeans should increase their defence spending or else the US would rethink its participation in the North Atlantic Treaty Organisation (NATO). When European Union (EU) member states responded to these threats by creating Permanent Structured Cooperation (PESCO) and the European Defence Fund (EDF), however, the Trump administration took aim at the EU with accusations of protectionism. What followed was a harsh letter exchange between the US and EU in which Washington accused the EU of damaging the transatlantic relationship and US defence commercial interests. There has not been in recent living memory such a blatant attempt by the US government, its firms, lobbyists and some close allies to influence EU defence initiatives. There has also perhaps not been a better recent example of the schizophrenia of American approaches to European defence: pleas for more investment in defence and capabilities, but not at the expense of US defence industrial interests.

The situation today is clearly different. For a start, both PESCO and the EDF are open to third countries such as the US. The EU and US have also initiated a dialogue on defence under the umbrella of their overall enhanced cooperation on climate change, trade and digitalisation. The Biden administration has also sent rather positive signals about the role of the EU in defence, and during the G7 Summit in mid-June President Biden even referred to the EU as an 'incredibly strong and vibrant entity, that has a lot to do with the ability of pushing Europe to handle its economic issues but to provide the backbone and support for NATO'[1]. Clearly, the political atmosphere has evolved but there are core challenges in transatlantic relations that remain unresolved: how to best advance EU-NATO relations, position NATO in the context of the rise of China and deliver on greater European responsibility for its own security.

In this respect, a growing number of European governments understand that while the US is a more cooperative partner today under President Biden, this is not a time for

[1] Associated Press, "US Pres Biden meets French Pres at G7", 12 June 2021, https://www.youtube.com/watch?v=x6MvVppnEto.

complacency by Europe. There is always a risk that another populist leader could be elected in the US in the future, and one who could view Europe with even greater suspicion than former President Trump. There is also the risk, even if it seems a more remote one, that elections in Germany and in France during the coming year could alter the transatlantic relationship too. In this sense, the period up to 2024 is seen as an ideal opportunity to create a more balanced transatlantic relationship, encourage the EU to do more in security and defence and ensure close EU-NATO relations. A central question, however, is whether this can be achieved in a relatively short period of time. In this paper we seek to understand the conditions under which transatlantic armaments cooperation occurs. The paper asks, if closer EU-US cooperation in armaments is to occur, under what conditions and with what means? To this end, this paper is divided into two main parts: the first looks at transatlantic armaments cooperation to date, and the second part focuses on the regulatory and strategic conditions under which transatlantic armaments cooperation occurs.

THE RATIONALE FOR A RENEWED TRANSATLANTIC RELATIONSHIP IN THE FIELD OF ARMAMENTS AND THE DEFENCE INDUSTRY

When we talk about transatlantic armaments cooperation, we need to take into consideration both the usual problems of armaments cooperation and the specific features of transatlantic cooperation. The benefits to be gained through armaments cooperation have long been known and there is an abundant literature on the subject[2]. In essence, cooperation allows partners the possibility to share Research and Development (R&D) costs and enjoy better interoperability in military operations. However, there are also well-known pitfalls: the risk of overruns and cost inflation due to irrational technological work share between the cooperating partners, risks of delay due to the addition of financial constraints in each country, and the risk of creating industrial overcapacity because of a non-rational distribution of tasks.

[2] Jean-Pierre Darnis, Giovanni Gasparini, Christoph Grams, Daniel Keohane, Fabio Liberti, Jean-Pierre Maulny and May-Britt Stumbaum, Lessons learned from European defence equipment programmes, Occasional Paper No. 69, EUISS, 2007

The remedies to these pitfalls are also known and include centralised project ownership, project management entrusted to a prime contractor, the necessity for users to adequately define a common operational requirement and performance specifications that are common to all users. On top of this, we should add that the interests of the companies involved in the cooperation should be convergent. States should also feel that they are adequately defending their interests, whether in terms of the military capacity developed or control over the technologies and industrial work sharing essential to their sovereignty and economies. Therefore, armaments cooperation is only beneficial if its architecture - which includes all of the above-mentioned factors - results in a positive cost-benefit analysis for all of the parties involved: States (as investors), armies (as end users) and industrial stakeholders (as producers and innovators)[3].

Drivers for transatlantic defence industrial cooperation: lessons learned from past transatlantic defence cooperation

Historically, armaments cooperation took off in the 1960s and 1970s. At that time, the main cooperative programmes were European. Such cooperation took place within a bilateral framework between France and Germany (e.g. the Transall transport aircraft, the MILAN and HOT missile systems) or between France and Great Britain (e.g. the Puma, Gazelle and Lynx helicopters, the Jaguar combat aircraft and a variable-geometry combat aircraft that was never built[4]). However, the first large-scale multilateral cooperation effort concerned the Tornado combat aircraft that was launched in 1970. It involved Germany, Italy and the United Kingdom (UK). The aircraft that was developed was intended to replace a US combat aircraft, the F-104 Starfighter.

Following these initial cooperative programmes, the Europeans decided to systematise this type of initiative. This required them to set up a body in which they could meet to consider the areas for potential cooperation. While the Western European Union (WEU) had only a minor role in the 1970s, 12 European countries decided to join forces by creating the Independent European Programme Group (IEPG) within NATO in 1976. After

[3] GUIDE TO THE CONDUCT OF A PROGRAMME PREPARATION PHASE (REVIEW 2012), EDA, 2012, https://eda.europa.eu/docs/default-source/procurement-library/14-cat-op-051-annex-a---guide-to-the-conduct-of-a-programme-preparation-phase.pdf

[4] R. Lafond, *Aéronautique* - Coopération aéronautique : l'accord franco-britannique du 16 janvier 1967, Revue Défense Nationale, March 1967

the signature of the Maastricht Treaty, however, the IEPG migrated to within European structures and became the West European Armament Group (WEAG) in 1992. Furthermore, in 1996 France, Germany, Italy and the UK decided to establish a more integrated and rationalised management of armaments cooperation by creating the Organisation for Joint Armament Cooperation (OCCAR). In 1998, France, Germany, Italy, Spain, Sweden and the UK signed a Letter of Intent (LoI) with a view to creating a cooperative framework for the restructuring of the European defence industry. While still alive, the LoI has taken on less prominence over the past decade.

The failures of transatlantic cooperation for major systems programmes

The US seldom took part in European armaments cooperation, save for a few specific projects. For example, it was involved in the Harrier vertical take-off and landing (VTOL) combat aircraft. It should be pointed out, though, that the first version of this aircraft - the AV-8A, which was purchased by the US Marines in 1971 - was developed by the British in the late 1960s after an attempt to develop a programme directly within NATO had failed. It should be noted that NATO did not have a common budget at that time for developing such a programme[5]. In 1981, the US and the UK would effectively cooperate, but only on the updated version of the AV-8A aircraft, namely the AV-8B or Harrier II[6].

The main transatlantic cooperation projects would only really be launched in the late 1980s and early 1990s. A plan for an air defence frigate was formed in the 1980s within NATO. Eight countries were involved in the NFR-90 project: the US, Germany, France, UK, Italy, Spain, the Netherlands and Canada. However, the programme was abandoned in the late 1980s due to a lack of agreement on operational requirements, but also because of differing industrial interests, in particular with regard to the air defence system[7]. France subsequently cooperated with Italy and UK on the Horizon-class frigate. The British withdrew from this programme in 1999, even if it maintained the Principal Anti Air Missile System (PAAMS), which shares a common architecture with the British T-45 frigate. The Netherlands, Germany and Spain also developed a trilateral project that failed,

[5] The RAF Harrier Story, Royal Air Force Historical Society, 2006, https://www.rafmuseum.org.uk/documents/research/RAF-Historical-Society-Journals/Journal-35A-Seminar-the-RAF-Harrier-Story.pdf
[6] Wilson, Stewart *BAe/McDonnell Douglas Harrier*. Airlife Publishing, 2000
Joel L. Goza, The AV-8B Decision, June 1982, https://apps.dtic.mil/dtic/tr/fulltext/u2/a119765.pdf
[7] Marineschepen.nl, https://marineschepen.nl/dossiers/het-nato-fregat-nfr-90.html

even though the Germans and the Dutch cooperated on an air defence system that would eventually equip their frigates.

In the missiles field, a NATO seven-nation Modular Stand-Off Weapon (MSOW) programme was initiated in 1987. The MSOW partner nations included the USA, UK, Spain, Canada, France, West Germany and Italy. The USA withdraw from the programme in 1989, reportedly over differences on the concept of operations with the RAF[8]. France had already withdrawn, persuaded that the US had initiated the programme for the sole purpose of capturing European technology[9].

In the 1990s, another cooperative arrangement was formed for a Medium Extended Air Defence System (MEADS) to replace the Patriot missile system. The project originally involved four countries: the US, France, Germany and Italy. The project was launched in 1995 but France withdrew in May 1996 for budgetary reasons and also to focus on the Aster Project. The other three countries continued to develop the project, but the US stopped financing it in 2013, while continuing to support the project, even though its contribution had amounted to 58%. Italy, for its part, stopped its financing from 2016 onwards and the programme, which had been named *Taktisches Luftverteidigungssystem* (TLVS, or tactical air and missile defence system) in Germany, was shelved in early 2021.[10]

In 1998, the US and the UK decided to cooperate on developing an Armoured Scout and Reconnaissance Vehicle (ASRV), which was a merger of a British project, the Tracer, and a US project, the Future Scout Cavalry System (FSCS). The cooperation lasted four years, but ceased after the assessment phase in July 2002. The British continued with the Future Rapid Effects System (FRES) project and the Americans with the Future Combat System (FCS)[11].

[8] Storm Shadow Conventionally-Armed Stand-Off Missile (CASOM), thinkdefence.co.uk
[9] Interview conducted with a company representative in 2000.
[10] Germany shelves new anti-missile weapon and turns to drone defense, DefenseNews, 23 March 2021, https://www.defensenews.com/global/europe/2021/03/23/germany-shelves-new-anti-missile-weapon-and-turns-to-drone-defense/
[11] TRACER, MRAV and Project Bushranger, thinkdefence.co.uk, https://www.thinkdefence.co.uk/british-army-medium-weight-capability/tracer-mrav-and-project-bushranger/

More convincing results on smaller-scale programmes

While the main transatlantic cooperative programmes seem to be failures or semi-failures, smaller-scale programmes are proving to be more successful. For example, the Multiple Launch Rocket System (MLRS) was initially a US programme launched in 1976, which France, Germany and the UK subsequently joined in 1979, followed by Italy in 1982. The MLRS was a success, although the Europeans' financial contribution was limited: only Germany made a significant contribution to the development costs. As the programme was exempted from the International Traffic in Arms Regulations (ITAR), which enabled the transfer of technical information, and as the European partner countries had a production line on their own soil, the cooperation was seen as a success by all of the cooperating partners[12].

The cooperation on the MLRS was followed up by the Guided Multiple Launch Rocket System (GMLRS). This cooperation, begun in 1998, set out to double the range of the MLRS. The GLMRS was also a success, though with certain limitations. European companies contributed only as subcontractors and in a very limited manner, because this time restrictions were imposed on information transfers under the ITAR legislation[13].

While cooperation on the MLRS and the GLMRS had been successful, the same could not be said for the munitions used by these weapon systems, namely the Terminally Guided Warhead (TGW). The cooperation was difficult to establish due to limited technology transfers and disagreement about the industrial work share among the US, British, German and French stakeholders in the programme. In the end, the TGW failed because the US withdrew from a programme that was no longer deemed a priority.

The NATO Seasparrow Surface Missile System (NSSMS) programme, which was initiated by the US in 1966, was also considered a success. Italy, Denmark and Norway decided to join the US in 1968 under a provision laid down by NATO. They were later joined by another nine NATO countries, namely Belgium, Canada, Germany, Greece, the Netherlands, Portugal, Spain and Turkey. The programme was a success, but there were only limited technology transfers to the other cooperating partners and the latter had no

[12] Lieutenant Colonel Richard C. Catington, USAF Lieutenant Colonel Ole A. Knudson, USA, Transatlantic armaments cooperation, Report of the Military Research Fellows DSMC 1999-2000, August 2000, https://apps.dtic.mil/sti/pdfs/ADA380590.pdf
[13] Transatlantic armaments cooperation, ibid.

say in the matter should the US decide to export. The cooperating partners' rights were not equal, but reflect the pre-eminence of the US. Moreover, we note that neither France nor the UK, which had the largest DTIBs in Europe in this sector, took part in this programme[14].

There were other successful transatlantic cooperative programmes. One concerned the Multifunctional Information Distribution System Low Volume Terminal (MIDS-LVT) and involved four other countries: France, Germany, Italy and Spain. The second was the F-16 Mid-Life Update (MLU) programme, a cooperative programme initiated in 1989 with the European countries that had purchased the F-16 in the 1970s, namely Belgium, the Netherlands, Denmark and Norway. Lastly, there was a successful bilateral cooperation between the US and Germany, namely the Rolling Airframe Missile (RAM), a missile designed to intercept sea-to-sea missiles. This cooperation, on an equal footing, began in the early 1970s. A production MOU signed in 1987 was considered a success by the Germans.

Current state of play of defence industrial links between EU and US DTIBs

The F-35: a model for major transatlantic cooperative programmes?

The F-35 is the latest major transatlantic cooperative programme. It began in the 2000s and the first aircraft have just entered service now. The F-35 programme was initiated by the US Department of Defense (DoD), which first defined the operational requirements and managed the programme from the development phase through to the production phase. However, certain countries were invited to participate in the programme in the form of a financial contribution. Such a contribution was seen as a way to share the costs of the R&D phase, but there were also workshare arrangements either during the combat aircraft's production phase or throughout its life cycle.

However, there is no joint development of military equipment as such. While none of the EU countries (Italy, the Netherlands, Denmark, Belgium) nor the UK or Norway disputed the reality of the industrial benefits in terms of workload and jobs, it is undeniable that

[14] Transatlantic armaments cooperation, ibid.

the technology transfers were limited, if not totally excluded[15]. The programme's cooperative nature was also limited, since the success or failure of the management of the F-35 were the sole responsibility of the US DoD.

This is certainly quite typical of what could be the contemporary form of transatlantic cooperation for large-scale armaments programmes. This cooperation appears to be biased in the US' favour, but that is simply the outcome of a number of conditions laid down by the US for the programme's management. For example, technology transfers are virtually impossible because of the ITAR legislation and the programme could only be conducted under the DoD's responsibility, since the latter excluded cooperating countries from programme management. This may seem reasonable given that the US sunk most of the development costs into the F-35. The number of F-35s ordered (or to be ordered) by the US stands at about 2,470 aircraft[16], whereas the number of F-35s ordered (or to be ordered) by the European countries cooperating in the programme is 344[17]. Likewise, if we take into consideration the development costs of the programme, the US contributed $65 billion[18], while the five European partner countries contributed slightly over $4 billion. Under these conditions, it is not hard to see why many European countries are now seeking to develop their own sovereign air systems together.

Indeed, the Eurofighter model or the model devised for the Future Combat Air System (FCAS) or Tempest were and will be cooperative programmes that are covered by inter-governmental MoUs. These MoUs will include a financing scale and a breakdown of the industrial workload that is, on the whole, consistent with the financing scale, while trying to avoid the excesses of the “juste retour” rule. Furthermore, these European models will likely see a distribution of the intellectual property rights (IPRs) to ensure that all of the countries have access to the technologies developed. All of this appears impossible, therefore, in the case of a major transatlantic cooperative system: as has been seen by the F-35 programme.

[15] Jean BELIN, Keith HARTLEY, Sophie LEFEEZ, Hilmar LINNENKAMP, Martin LUNDMARK, Hélène MASSON, Jean-Pierre MAULNY, Alessandro R. UNGARO, Defence Industrial Links between the EU and the US, ARES No. 20, Report, September 2017

[16] WEAPON SYSTEMS ANNUAL ASSESSMENT, Report to Congressional Committees, GAO, April 2018, https://www.gao.gov/assets/gao-18-360sp.pdf

[17] The programme's partner countries are Denmark, Italy, Norway, the Netherlands and the United Kingdom.

[18] WEAPON SYSTEMS ANNUAL ASSESSMENT, Report to Congressional Committees, GAO, April 2018, https://www.gao.gov/assets/gao-18-360sp.pdf

Based on the experience of the F-35 programme and past transatlantic programmes, it is possible to make some general observations. First, transatlantic armaments cooperation is usually confined to the assessment phase, in which the partners explore the technology concepts. This was the case with the MSOW missile and the Tracer armoured vehicle. Second, transatlantic cooperation is stacked to the advantage of the US, but this is not really surprising given the limited development of the European partners' DTIB in critical industrial sectors of cooperation (e.g. NSSMS). Finally, the collaborative programme is limited to a subsystem required for the armed forces' interoperability, such as the MIDS-LVT.

It appears that a transatlantic collaborative programme based on the rules that apply to European armaments cooperation - i.e. an intergovernmental MoU, a shared workload, even partial technology transfers and shared IPRs -, has a greater chance of success if it concerns equipment that is neither complex nor the main system or platform. This explains why the field of ammunition or missiles is more propitious for successful cooperation.

Of course, this does not preclude the existence of other ties between US and European DTIBs, but they do not take the form of cooperation on armaments programmes as such, but rather a collaboration between companies to offer a product on either the European or the US markets. One example of cooperation between US and European companies is that of Lockheed Martin and Alenia Aeronautica, now part of the Leonardo group, on the C-27 Spartan transport aircraft in the late 1990s. It was an offset of Italy's purchase of the C-130J transport aircraft manufactured by Lockheed Martin. A more recent example is the German company Rheinmetall, which has joined forces with the US companies L3 Harris and Raytheon on the programme of Optionally Manned Fighting Vehicles (OMFV) to replace the M-2 Bradley vehicles currently in service in the US Army[19].

The other scenario involves transatlantic industrial partnership or when European countries buy US-made equipment. A variety of solutions can be considered in this case. The European company awarded the partnership procurement agreement may be transferred part of the workload: an example of this is the acquisition of KC-767 aerial refuelling aircraft made by Boeing, which Alenia Aeronautica was tasked with assembling

[19] The Army's Optionally Manned Fighting Vehicle (OMFV) Program: Background and Issues for Congress, CRS Report, 19 April 2021, https://crsreports.congress.gov/product/pdf/R/R45519/17

in Italy[20]. The cooperating European company may also be involved in developing US equipment. This was the case for the German company Rheinmetall, tasked with upgrading the Patriot medium-range aerial defence system made by the US company Raytheon, after the two companies signed an agreement in 2018. Cooperation can even take the form of licenced manufacturing of the equipment in Europe: this was the case of the US F-104 S combat aircraft produced under licence in Italy in the 1960s.

Identification of areas and/or projects for such a renewed cooperation

We must first identify programmes that lend themselves to transatlantic cooperation. As things stand, the NATO Defence Planning Process (NDPP) is geared towards defining NATO member countries' scenario-based capacity requirements. The NDPP does not include determining the capacities that could be assigned to future industrial collaboration. The Smart Defence initiative set up in the aftermath of the 2008 economic crisis was actually intended to accomplish this, but the initiative was not pursued. Today, the tools for developing collaborative programmes on future capacities are to be found instead within the recent EU initiatives, through the Coordinated Annual Review on Defence (CARD), PESCO and the EDF, to which should be added the Strategic Compass. We can therefore suppose that, within the framework of the EU-NATO partnership, there could be a dialogue on this issue, striving for consistency between the two organisations' planning processes.

There remains the question of which equipment could be the object of cooperation. Based on previous experiences, it is clear that we are faced with a dilemma in transatlantic armaments cooperation. It would be logical for countries to cooperate on programmes that presented the greatest technological challenges and whose development costs are difficult for a state to bear on its own. However, past experience shows that these collaborative initiatives have all been failures except for the F-35, which was not really a cooperative programme given that it is really a US programme where the development costs were co-financed by a number of European countries. On the other hand, smaller-scale projects, from both a financial and technological viewpoint, have been successes. However, there is less to be gained - or sometimes even nothing at all - by cooperating on

[20] Alessandro Marrone and Alessandro R. Ungaro, Relations between the United States of America and Italy in the post-Cold War period: a defense industrial perspective, June 2014, https://journals.openedition.org/cdlm/7542

a smaller-scale project, since the projects can be assumed by a single state and without the contingencies of cooperation, in particular the infrastructure costs entailed.

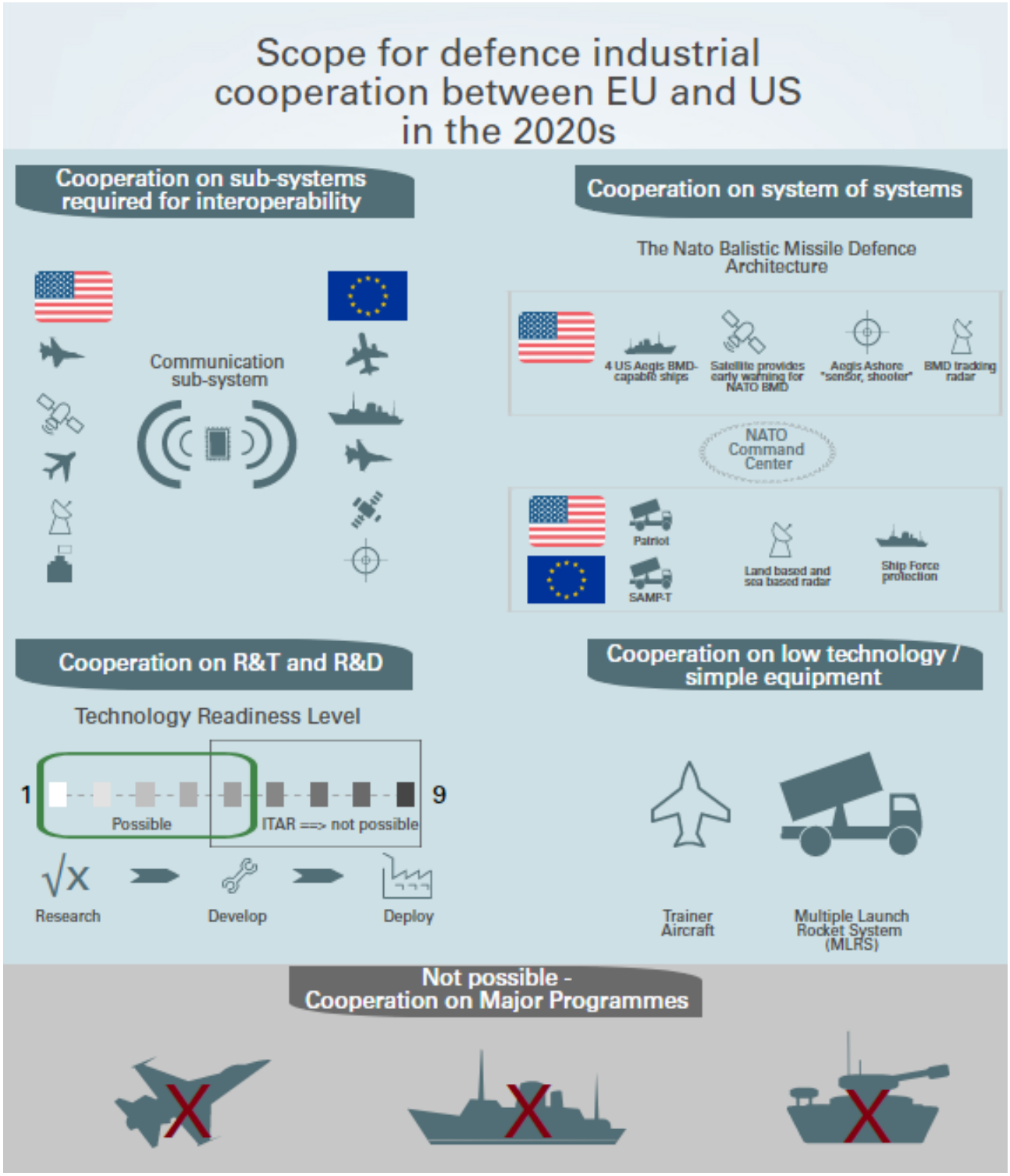
From past examples, we can conclude that transatlantic cooperative programmes are possible in four scenarios:

1/ cooperation concerns the development of technologies in the R&T phase or the assessment of a future armament concept. The cooperation stops before the actual development phase of the equipment, but all of the cooperating countries can make free use of the outcomes of the jointly-financed developments;

2/ cooperation concerns a subsystem that is key to the forces' interoperability. This was the case for cooperation on the MIDS-LVT. MIDS-LVT is being developed for employment in a wide variety of US and Allied tactical aircraft, maritime, and ground applications using the "Link-16" networked communication system. Platforms planned for MIDS-LVT installation include the F/A-18, F-16, EA-6B, Airborne Laser, Rafale, Eurofighter Typhoon, aircraft carriers and cruisers;

3/ cooperation concerns a complex and costly project that can be subdivided into several subsystems. This is the case in anti-missile defence, where the US can develop high-layer components or components designed to intercept long-range missiles, and where the Europeans could develop low-layer systems. In that case, only the C2 components, in the event that all of the layers were connected, would be jointly developed. With this type of cooperation programme, we avoid the difficulties associated to the ITAR regulation and the sharing of IPRs, workshare and workload for the common product developed, and;

4/ An F-35 type cooperation is also possible, but only if the European countries accept both a technological reliance on the US and the reduced competitiveness of their DTIB due to limited and/or non-existent technology transfer. However, both the Tempest and the Future Combat Air System (FCAS) programmes seem to demonstrate that the European countries with defence aerospace DTIBs are not ready to accept such an unbalanced arrangement in the future.


Scope for defence industrial cooperation between EU and US in the 2020s
Cooperation on sub-systems required for interoperability
Communication sub-system
Cooperation on system of systems
The Nato Balistic Missile Defence Architecture
4 US Aegis BMD-capable ships
Satellite provides early warning for NATO BMD
Aegis Ashore "sensor, shooter"
BMD tracking radar
NATO Command Center
Patriot
SAMP-T
Land based and sea based radar
Ship Force protection
Cooperation on R&T and R&D
Technology Readiness Level
1
9
Possible
ITAR ==> not possible
Research
Develop
Deploy
Cooperation on low technology / simple equipment
Trainer Aircraft
Multiple Launch Rocket System (MLRS)
Not possible - Cooperation on Major Programmes

A TRANSATLANTIC COOPERATION IN THE FIELD OF ARMAMENT AND DEFENCE INDUSTRY: UNDER WHICH CONDITIONS?

At the heart of any discussion about transatlantic cooperation on armaments and industrial issues are three inter-related factors: 1) market access; 2) technology control and 3) strategy. As far as the first of these three factors is concerned, the data shows that the US has far more access to the European defence market than Europeans do to the American defence market. The available data is clear on this point. For example, from 2007-2017 the US Department of State calculates that the US exported a mean average of $143.2 billion in arms (goods and services) to the world. This compares with a mean average over the same period of $5.4 billion worth of arms imports (goods and services).[21] In addition, the state department also shows that from 2015-2017 the US transferred arms worth $33.5 billion to the EU27 and $23.3 billion to the UK. Over the same period, the EU27 transferred arms worth $4.7 billion to the US and the UK transferred arms worth $2.8 billion.[22]

The second of the three factors concerns the ability of American and European regulators to manage the transfer and use of defence technologies. Although we deal in more depth with the regulatory aspects of transatlantic relations in the next section, it should be considered that the US has protected its defence sector with a web of regulatory measures. A comparison between the US and EU shows that America has a far more protected defence market than Europe – in fact, this regulatory imbalance is a contributing factor to the import/export disparities highlighted in the last paragraph. As we shall see in the next section, however, a key future challenge will be how regulation is moulded to respond to growing geo-technological competition where the technological cross-over from defence and other industrial sectors – and vice-versa – is a reality.

The last factor refers to the delicate and sensitive balance between security and economic concerns. The European defence market is economically and strategically fragmented. This means that for those European nations with sizeable DTIBs, any relationship with the US for armaments acquisition has to balance the needs of national industry with

[21] US Department of State, "World Military Expenditures and Arms Transfers 2019", https://2017-2021.state.gov/world-military-expenditures-and-arms-transfers-2019/index.html.
[22] US Department of State, "World Military Expenditures and Arms Transfers 2019", https://2017-2021.state.gov/world-military-expenditures-and-arms-transfers-2019/index.html.

military requirements. European nations with relatively large DTIBs do still buy defence equipment and systems from the US of course, especially when there is a production gap in national DTIBs. On the whole, however, national industry is preferred for economic and strategic reasons (e.g. the production of nuclear weapons systems, naval vessels or fighter aircraft). Those European nations with smaller DTIBs, but with a strong need for US security assurances, may not consider the competitiveness of their national DTIBs to be more important than procuring high-tech American products and services. In fact, buying American products is seen in several European countries as a way to political and strategically lock-in the US while securing access to high-end defence systems and technologies. The overriding concern for these states is not their national DTIB.

US and EU regulatory and economic landscapes: framework(s) for industrial cooperation

The regulatory aspects of the transatlantic defence industrial relationship should not be overlooked, especially given its role in technology control and market access. This is by no means an easy discussion because the regulatory environment on the US side combines an ability to block or enable access to the American defence market and to control technology on an extraterritorial basis. The EU has a far more fragmented regulatory environment that depends on a hybrid system involving EU and Member State competences and a mixture of soft and hard law. Defence is seen as a strategic sector in the US and this means that the American regulatory environment responds to the needs of US industrial competitiveness and its strategic interests with regard to proliferation and military-technological supremacy.

Understanding the US regulatory environment is difficult, as a range of political and legal instruments are employed to maintain America's military-technological dominance. The 'Buy American Act' (BAA) is a major piece of legislation designed to ensure that American producers are given preference for US defence contracts. In 2017, then President Trump strengthened the BAA on the back of his "America First" election promise[23], but even President Biden took steps in his early days in office to reinforce the Act based on his own

[23] Presidential Executive Order, "Buy American and Hire American: Putting American Workers First", 18 April 2017, https://www.uscis.gov/archive/buy-american-and-hire-american-putting-american-workers-first.

electoral promise to protect the interests of the American middle class.[24] It should not be forgotten that the US House of Representatives attempted - and failed - to strengthen the BAA even further by calling for all components of major defence programmes to be manufactured in the US by 2026.[25] At the core of such impulses and the Act itself is a desire to protect American industry, but it is also a means of mitigating a reliance on US rivals such as China. In this respect, European producers could be considered collateral damage as the Act greatly reduces their ability to penetrate the US defence market.

Additionally, legislative tools like the "Berry Amendment" also ensure that the US Department of Defense (DoD) purchase certain goods such as clothing, food and tools only from US suppliers. Furthermore, other regulations such as successive defence authorisation acts impose restrictions on the imports of speciality metals and the acquisition of forgings, photovoltaic devices, ballistic missile defence, supercomputers, ball and roller bearings.[26] The defence authorisation act also ensures that items on the US Munitions List (USML) are prohibited from being sold to the Chinese military and there remain stringent restrictions on exports and imports from Cuba, Iran, North Korea, Myanmar and Sudan. Furthermore, the US also maintains other, perhaps lesser known, regulations that are designed to restrict the exchange and proliferation of intellectual property: consider that the US Patent Code gives the federal government discretionary powers to issue secrecy orders for patents it believes are in the national security interest.

Most notable, however, are the US' regulations for controlling the exportation and use of technology. The International Traffic in Arms Regulations (ITAR) allows a cross-governmental approach to restricting technology, data and knowledge transfers out of the US. Any items listed on the USML are subject to ITAR and violations are punishable by hefty fines and imprisonment – interestingly, ITAR has a global application in US eyes. This gives the US government a huge amount of control over technologies that it produces, but it can also be used to restrict the arms exports of European partners. Indeed, any European built defence platform or system that integrates ITAR-relevant technologies

[24] Presidential Executive Order, "Ensuring the Future is Made in All of America by All of America's Workers", 25 January 2021, https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/25/executive-order-on-ensuring-the-future-is-made-in-all-of-america-by-all-of-americas-workers/.
[25] Doubleday, J. and Katz, K., "House Advances Legislations to Ramp Up 'Buy American' Requirements on Pentagon", Inside Defence, 13 July 2020, https://insidedefense.com/daily-news/house-advances-legislation-ramp-buy-american-requirements-pentagon.
[26] US Department of Defense, "Domestic Preference Restrictions Affecting Purchases by, or on Behalf of, DoD", 22 September 2020, https://www.acq.osd.mil/dpap/cpic/ic/docs/Restrictions_on_Domestic_Purchasing_Sep_2020.pdf.

could full under the control of the US government (e.g. the US could ban the exportation of European armaments). ITAR also serves as a disincentive for European firms to collaborate with American counterparts.

Furthermore, the Export Administration Regulations (EAR) can apply to critical defence technologies such as nuclear materials, computers, telecommunications, sensors and lasers, aerospace and propulsion and more. The EARs are designed to stop the export from US soil of sensitive items but the regulations also apply to re-exports, which gives the US federal government an additional means of stopping European firms and governments from exporting products and systems that happen to integrate US technologies or components. We should also keep in mind that both the EAR and ITAR are subjected to regular revisions of the USML and the Commerce Control List (CCL), which allows federal agencies to add or subtract items that fall under each regulation as it sees fit. This gives the US the opportunity to continuously update control lists as technologies develop, but this ability to rapidly - and sometimes arbitrarily – amend the lists is not a stable basis for cooperation between partners.

Finally, the US has a powerful political body in the form of the interagency Committee on Foreign Investment in the United States (CFIUS), which can prevent foreign entities such as European firms from acquiring US industries and, when they do merge or acquire US firms, it can enforce board partitions between European and US nationals on security grounds.[27] The CFIUS and other regulatory bodies in the US are, however, becoming even more sensitive to technology exports/imports and control. This has been principally motivated by China's growing technological prowess. The issue, however, is that US regulatory controls that are designed to contain China could have a negative effect on European producers.

Consider that of the 52 Executive Orders already published by President Biden, a number directly impact the functioning of the US defence market. For example, on 9 July President Biden signed the 'Promoting Competition in the American Economy' (Order 14036) order which recognises the harm caused to the American economy by consolidation and monopolies. The President used this order to call on the Secretary of Defence to report on

[27] Fiott, D., "The Poison Pill: EU Defence on US Terms?", EUISS Brief, no. 7, June 2019, p. 5, https://www.iss.europa.eu/sites/default/files/EUISSFiles/7%20US-EU%20defence%20industries.pdf.

the state of competition in the US defence market. However, we should also recall that the same President has signed Executive Orders to ensure that the 'Future is Made in All of America by All of America's Workers' (Order 14005 of 25 January 2021) and to protect 'America's Supply Chains' (Order 14017 of 24 February 2021). The US has also enacted a Chip Act in 2021 to safeguard its domestic semiconductor manufacturing and research.

Such measures should be seen in the wider context of a greater reliance by Presidents Trump and Biden to invoke the Defense Production Act (DPA) to ensure that the US can secure medical supplies and vaccination production. The DPA is a legal mechanism that was developed during the Korean War to empower the US President to enforce control over national security and defence supplies and production. Europeans should expect greater use of the DPA by the Department of Defense to ensure the protection of defence supply chains in the future.[28] While designed to protect legitimate US national security interests, there is a danger that European firms will face even greater hurdles accessing the US market.

When compared with this raft of US regulation, the EU represents a rather fragmented regulatory environment that gives US firms ample access to the European defence market. The two EU directives on defence procurement (2009/81/EC) and defence transfers (2009/43/EC), which are designed to lower discriminatory barriers between EU member states for defence procurement, do not *de jure* exclude US suppliers. In fact, data taken from the evaluation of the defence procurement directive shows that US firms are still awarded defence contracts in the EU.[29] Even more recent initiatives by the EU do not amount to the same type of regulation seen in the US. For example, the EU Industrial Strategy indeed sees aerospace and defence as key sectors but the emphasis is still placed on needed investments in those sectors rather than the regulatory protection of them. It is also unlikely that the relatively new EU foreign investment screening mechanism or the planned legislation on foreign subsidies will drastically alter US firms' privileged position in the EU defence market. Lastly, when it comes to arms exports the EU has no competence *per se* and so member state governments still craft arms exports policies domestically.

[28] House Armed Services Committee, "Report of the Defense Critical Supply Chain Task Force", 22 July 2021, p. 19, https://armedservices.house.gov/_cache/files/e/5/e5b9a98f-9923-47f6-a5b5-ccf77ebbb441/7E26814EA08F7F701B16D4C5FA37F043.defense-critical-supply-chain-task-force-report.pdf.
[29] European Commission, "Commission Staff Working Document: Evaluation of Directive 2009/81/EC on Public Procurement in the Fields of Defence and Security", *SWD(2016) 407 final*, Brussels, November 30, 2016, p. 59.

Of course, the EDF and PESCO have been the object of intense lobbying by US government officials and industry. During the Trump presidency, the US government took hostile steps to ward off the EU from pursuing its own defence investment initiatives. Despite the hypocrisy of insinuating that the EU was being protectionist through the EDF and PESCO, the US wanted to open up both EU defence mechanisms to US firms. Washington's major fear was that PESCO and the EDF would lead to a *de facto* 'Buy European' framework that would damage the US' ability to sell to the European market. In one respect this lobbying campaign was successful and PESCO has been remoulded to let non-EU states participate in defence projects so long as certain criteria are met. Even under the preparatory phases of the EDF, such as the EDIDP, third-state entities from Canada, Japan and the US have been able to participate in defence capability projects – e.g. US-owned John Cockerill Defense will participate in the "LynkEUs" project for missile firing capabilities[30]. Again, third-state participation here occurs under conditions that safeguard EU IPRs and the interests of EU taxpayers.

US and EU political landscapes: appetite for US/EU defence industrial cooperation and integration in the 2020's

Clearly then, the US defence market is far more protected than the EU defence market. In addition to the difficulties of initiating major transatlantic armaments programmes, the regulatory dimension of US defence industrial strategy creates a market distortion and lowers the possibility for genuine transatlantic cooperation on defence. Looking at the history of US defence regulations shows that the federal government places much more importance on US industrial competitiveness and technology control than it does of creating a fair and competitive transatlantic defence market. Of course, the US government has not been completely blind to the effects of its national regulations on partners. Past administrations have, for example, attempted to introduce BAA waivers for key allies, even though US data shows that BAA waivers have been in decline since 2008.[31] It is true that European defence firms such as BAE Systems (UK) and Leonardo (Italy) also

[30] See: https://johncockerill.com/app/uploads/2020/08/PR_2020807_BLOS_EN.pdf.
[31] Fiott, D., "The Poison Pill: EU Defence on US Terms?", EUISS Brief, no. 7, June 2019, p. 3, https://www.iss.europa.eu/sites/default/files/EUISSFiles/7%20US-EU%20defence%20industries.pdf.

own subsidiaries in the US market, although these are popular exceptions to the rule and they are still tightly controlled by America regulatory authorities.

Despite the new administration in Washington, it is prudent not expect a major shift in transatlantic defence industrial cooperation. Although some analysts have identified some of the inherent problems associated with US defence protectionism[32], there will continue to be market competition between American and European armaments producers, even though the growing competitiveness of Chinese arms exports should worry both the EU and the US. No lasting change to transatlantic defence relations can be made without major regulatory changes on the US - rather than EU - side. The problem for Washington is that its commercial and alliance interests can be at odds with each other. Given the US' dominant military and industrial position, one wonders what incentive America has for such reform when many European nations are still dependent on its security guarantees. Keep in mind that domestic politics in the US also favours a more protectionist agenda overall since the Trump presidency.

Many European countries pursue what can be described as 'active dependence' on the US. The harsh reality for European armaments producers is that several European governments are not sold on the idea that their defence-industrial relationship with the US poses a risk of dependence. Reliance on US armaments may provide, at the fringes at least, access to certain work share contracts but Washington retains ultimate control of core technologies and systems. In any case, for those states that have a heavy security reliance on the US being able to buy American armaments also serves the interests of interoperability with US armed forces, even if this means being dependent on US strategic rationales for designing and developing certain equipment and systems in the first place.

Politically, however, there is a certain amount of pressure on the EU and US to make progress on defence, commercial and technology cooperation more broadly. Not least because there is no guarantee how long a relatively pro-European president will inhabit the White House. In this regard, it is interesting to note that the EU and US agreed on a new Security and Defence Dialogue during the 15 June 2020 EU-US Summit. This dialogue appears to have been made possible because of the US' inclusion in the PESCO project on

[32] See, for example, Hasik, J., "The Security of Defense Trade with Allies: Enhancing Contact, Contracts, and Control in Supply Chains", Brief, Atlantic Council, July 2021, https://www.atlanticcouncil.org/wp-content/uploads/2021/07/Security-of-Defense-Trade-IB-v5.pdf.

military mobility and the promise of an Administrative Arrangement for the US to cooperate within the European Defence Agency. The dialogue still has no clear objectives and there is no sense of the topics that could be discussed between the EU and US. Nevertheless, the dialogue is interesting for at least two main reasons: first, it sets a completely different tone for cooperation (i.e. no harsh letters, but dialogue); and second, because it directly involves the US and EU without drawing in NATO's bureaucracy.

Based on the conclusions of the analysis so far, it hardly seems plausible that the EU and US will use the dialogue to discuss mutually developing a major weapons system. What could prove useful, however, is an exchange of views on the capability and technological priorities of the Union. This could help make clear what capability and technological domains the EU wants to achieve strategic autonomy or non-dependence on. The dialogue could broach the frictions involved in defence market access, but here it seems unlikely to think that the US will change their domestic regulatory framework to benefit EU industry. More generally, the idea for an EU-US Trade and Technology Council could be an ideal venue to discuss regulatory matters. HR/VP Borrell has already indicated that a discussion is required on ITAR restrictions as they are applied to Europe.[33] What seems most likely, therefore, is to use the dialogue to discuss operational matters, to plan potential exercises and to keep communication channels open for conflict prevention and horizon scanning efforts.

The EU-US security and defence dialogue could also be an effective way of side-stepping the usual frictions within NATO to address common transatlantic interests. NATO appears interested in traditional EU matters such as resilience, cyber, critical infrastructure protection and climate change. There is scope to use the EU-US dialogue to avoid any duplication and to ensure that the full range of the EU's tools can address common security challenges comprehensively. NATO seems to hint at this in the Brussels Summit Communiqué of 14 June 2021. Dialogue will also be required now that NATO has stated its intention to develop a Defence Innovation Accelerator for the North Atlantic (DIANA) and a NATO Innovation Fund (NIF). It will take the NATO secretariat time to develop each new tool, and investment levels appear to be low for now (e.g. €70 million per year for

[33] Gros-Verheyde, N., "Défense européenne. On doit discuter avec les Américains des limites (ITAR) à l'exportation de nos produits (Borrell)", *Bruxelles2*, 20 juin 2021, https://club.bruxelles2.eu/2021/06/on-doit-discuter-des-conditions-dexportabilite-avec-les-americains-borrell/

the NIF)[34]. Either way, such initiatives appear as though they are designed to expand transatlantic technology access without amending the present regulatory framework for technology control or IPR protection.

CONCLUSION: TRANSATLANTIC ARMAMENTS COOPERATION TO 2024

In this paper we have sought to better understand the conditions under which transatlantic armaments cooperation occurs. Accordingly, the paper provided an account of transatlantic armaments cooperation to date and it assessed the regulatory and strategic conditions under which transatlantic armaments cooperation occurs at present. The analysis has shown that there appears to be little room to seriously address long-standing issues in transatlantic armaments cooperation over the next four years. It has been shown that the history of transatlantic armaments programmes have not yielded convincing results, and projects such as the F-35 represent a specific cooperative model that is not that attractive to European countries. Likewise, on the regulatory and strategic dimensions the paper has outlined that the US has a domestic and extra-territorial regulatory framework that effectively hampers mutual market access. The transatlantic defence market today is not a level playing field.

These perhaps bleak reading of the present situation should be seen more of a realistic assessment of the state of play, and it does not exclude close EU-US cooperation in areas such as military operations, security assistance, military exercises, information exchange, counter-terrorism strategies and more. The thaw in transatlantic relations should certainly be leveraged for a genuine and serious EU-US defence dialogue, not least because more is expected from the EU in its neighbourhood as Washington turns its attention to China. In this respect, EU member states should get used to the US calling for more EU action in defence. However, a key test for the transatlantic relationship will be whether the US can give greater weight to its strategic rather than commercial interests in Europe.■

[34] Machi, V., "NATO hopes to launch new defense tech accelerator by 2023", DefenseNews, 22 June 2021, https://www.defensenews.com/global/europe/2021/06/22/nato-hopes-to-launch-new-defense-tech-accelerator-by-2023/.

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Policy Paper

WHAT SCOPE FOR EU-US DEFENCE INDUSTRIAL COOPERATION IN THE 2020s?

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ARES GROUP

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.

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