CENTRE FOR STUDIES ON FEDERALISM

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THE COSTS OF NON-EUROPE

IN THE DEFENCE FIELD

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EXECUTIVE SUMMARY

This report, sponsored by the Centro Studi sul Federalismo (CSF) and the Istituto Affari Internazionali (IAI), aims to provide a clear and concise assessment of the costs incurred by Europe because of the lack of integration in the defence sector, and to show how maintaining purely national defence structures is strategically damaging and economically unsustainable. Our goal is to provide policy makers and the general public with a useful tool for decoding the complex realm of European defence thus contributing, as far as we can, to the process of integration in the sector.

The costs created by the lack of an integrated continental defence or, in other words, the costs of "non-Europe" in the defence field, can be traced back to two large categories of factors. The first category is related to the lack of integration of EU Member States' military structures. European military forces abroad operate almost exclusively within multinational contingents, but continue to be structured and managed on a national basis. Even the costs of EU missions are split mostly on a national basis just as soldiers are trained and organized nationally: similarly, weapons systems and platforms are developed, purchased and maintained at the national level. This leads to a multiplication of the costs for creating, maintaining and operating European military formations.

The second category is related to the lack of a truly integrated continental defence market. The defence sector has always been informally excluded from the European common market. The existance of twenty-seven national defence markets, divided by regulations and bureaucracies, hinders industry development by depressing competitiveness and preventing the exploitation of economies of scale. The lack of a European defence market is therefore stifling the growth of the very industry which underpins EU military capabilities and, ultimately, the European defence policy itself.

It is hard to provide a total figure for all these factors, since they are highly ramified into a multitude of interdependent factors. Furthermore, the economic value of many of these factors is either confidential, unknown or incalculable, while other factors simply have no monetary value. However, some estimates indicate that total cost of non-Europe in the defence field may be up to €120 billion a year. Strategic and political costs, however, may be even higher, posing a serious threat to the effectiveness of a future EU foreign policy.

A key event to advance the European agenda on these issues is the European Defence Council of December 2013. With this report CSF and IAI aim to contribute to an informed and proactive debate, in Italy and the EU, to better prepare for that time of decision.

CONTENTS

Introduction

Every crisis comes with an opportunity. The political, economic and financial crisis currently shaking Europe could be a formidable stimulus for a deeper integration of European defence, which would provide substantial cost savings and a greater range of military capabilities. The stated goal of the European Defence Council in December 2013 is to revive this process. Its success could mean a turning point: a failure would inevitably mark a continuation of the current stagnation for an indefinite period. This opportunity should not be wasted.

The purpose of this report is to support the integration process by illustrating clearly and concisely which are the costs of non-Europe in the field of defence, and how maintaining purely national defence structures is strategically damaging and, in the long term, economically unsustainable. Our hope is to provide policy makers and the general public with a useful tool to decode the complex reality of European defence thus contributing, as far as we can, to build a broader consensus on the process of integration of the continent.

We will therefore present the different factors which form the cost of non-European defence, explaining how they affect the quality of expenditure and, where possible, providing estimates of their economic costs. We will provide an account of what is being done to overcome them, and what are the challenges of this process.

With the expression “non-Europe in the defence field” we mean the lack of an integrated European defence, which would essentially consist of two elements. The first would be a joint military structure, i.e. integrated land, sea and air EU forces. The second element would be an EU-wide defence market, i.e. the technological and industrial infrastructure needed for the production and distribution of the goods and services which enable the operation of the military system. These elements currently exist only at national level, with limited examples of partial integration (such as multinational military units, or pan-European industrial groups). The absence of these two elements or, at most, their merely embryonic form, results in the unnecessary duplication of products, industrial and organisational structures, loss of economies of scale, and market inefficiencies.

Figure 1 shows the structure of the costs of non-European defence. These revolve around the two macro factors, the absence of an integrated military structure and the lack of a common defence market. However, the causal relation between the single individual factors and the two macro-categories is not only different but opposite in nature. Not having an “European army” was in fact a conscious political choice by European decision-makers. Since the failure of the European Defence Community in 1954, the nation-states sought to preserve the core of their independence and sovereignty by explicitly excluding defence from the remit of the Community. This political choice resulted in the duplication of military facilities, development and acquisition programmes and different sets of standards and national requirements, which are major multipliers of costs. These issues, as well as communitarian initiatives and bilateral or multilateral agreements tending to overcome them, are discussed in chapter 1.

The failure to build a proper European defence market, on the contrary, was primarily the result of the Member States’ tendency to circumvent the rules of the common market for undue advantages, while formally accepting to comply with them. Technically, in fact, the defence sector is a full part of the European common market. However,

Member States regularly promote their domestic industries at the expense of European competition thanks to some gaps and ambiguities in the Community regulations on the production and sale of defence products and equipment, to the point that it could be argued that there is not a single European market but 27 different national markets. The industrial “offsets” are shown in the figure in a circular box because they represent more of a market distortion than a proper cost factor. All issues related to the lack of the common market are analyzed in Chapter 2.

The relationships between all these factors are naturally much more complex than the simple cause-effect relationships shown in the figure, and the links between the various factors are certainly more widespread: we merely indicated the most important ones. Nonetheless, the figure provides a useful graphic representation of the structure of costs of non-European defence.

The costs of non-European defence as a graph

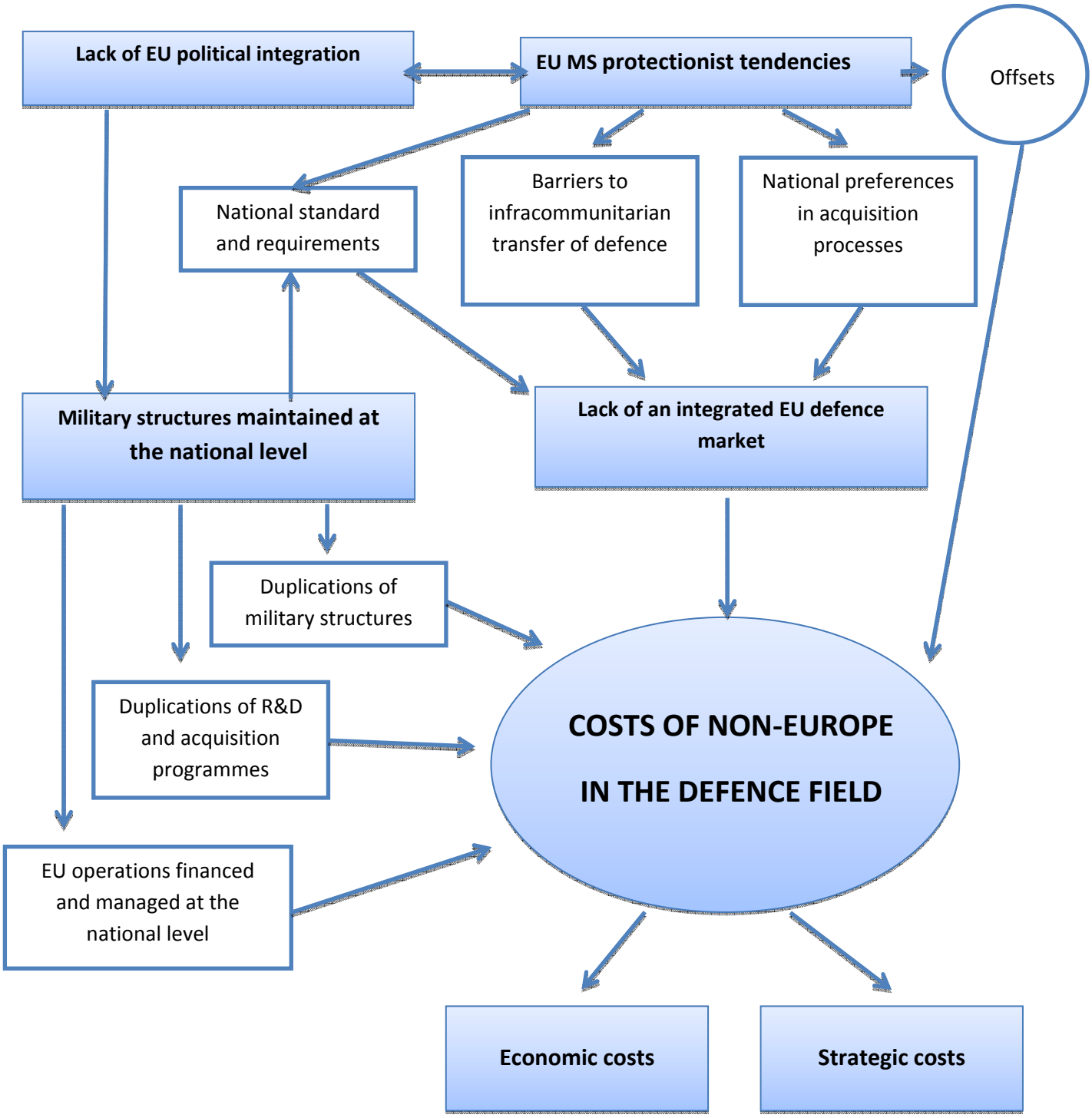


Figure 1

Chapter 1 – Maintaining national military structures

EU Member States' military forces are mostly deployed in multinational contingents. However, they are trained, equipped and managed strictly on a national basis. Even the cost of common European missions are divided on an almost exclusively national basis, and in the same way weapons and systems are developed and purchased. This results in a multiplication of costs for creating, maintaining and operating European military formations which, although not calculable, are certainly very high.

European forces regularly and almost exclusively operate within multinational contingents. Over the last thirty years, examples of European military forces deploying abroad outside of an international contingents - whether UN, NATO or EU or ad hoc coalitions - are very rare. The only significant exceptions were the British involvement in the war in the Falklands/Malvinas and in the evacuation mission of British nationals from Sierra Leone, plus two French missions in Côte d'Ivoire and the recent Operation Serval in Mali, but these operations are the proverbial exception to the rule. In almost every scenario, European military personnel work side by side with colleagues from the continent. The emergence of an European Security and Defence Policy, now Common Security and Defence Policy (CSDP), favored the gradual development of a specific European military culture, a sort of "European way of defence" characterized by a less intensive inclination to the use of force and a significant emphasis on establishing relations with the local population, and on the complementariness with development cooperation. An European military ethos seems to be emerging, under which the European military "*is not merely supposed to fight, but also to manage a variety of complex situations as part of a larger, multinational, civil-military machinery*"[1] .

However, despite this *de facto* integration when performing their main task, European military forces continue to be organized on a strictly national basis. In this chapter we will explore how the lack of integration of national military structures imposes economic and strategic costs. In the first section we will consider the issue of the financing of European military missions. We will then go on to discuss some of the most important initiatives for establishing multinational units and the sharing of military institutions. Finally, we will provide an overview of the duplication of development and acquisition programmes, and their costs for the European taxpayer.

1.1 Funding the missions

Military missions abroad are the most visible demonstration of the potential of the European Union and the most tangible instrument of the Common Security and Defence Policy. There are currently twelve CSDP missions[2] in progress, four in the Balkans, Caucasus and Eastern Europe, three in the Middle East, one in Central Asia and four in Africa. Three other missions in Africa will be launched in the coming months. If we include the sixteen missions already completed, we now have a total of twenty-eight CSDP missions undertaken since 2003[3].

[1] Koivula, T., From warrior to manager: EU crisis management as a force for change in the European militaries, paper presented at the ISA Annual Convention, February 2009.
[2] September 2012
[3] ISIS, CSDP and EU missions update, CSDP Note no. 4, July 2012

However, only a small minority of them are military missions. Military missions cannot be financed by the Communitarian budget, except for a minimum part. The costs of the first military missions, the 2003 Concordia and Artemis, were covered by an *ad-hoc* funding mechanisms, established immediately prior to the beginning of the mission itself. This mechanism created problems in managing the funds, and the experience of Concordia and Artemis revealed the need to agree on a permanent mechanism to finance at least the preparatory phase of the missions and some common costs.

This led to the creation of the "Athena" mechanism in February 2004 [4], subsequently revised in 2008 after four years of experience[5]. Through Athena, EU missions receive funds issued by Member States in proportion to their GDP to finance a series of predetermined expenditure items. The 2008 revision launched by the French Presidency of the EU Council aimed to expand the list of jointly-financed expenditures, but it succeeded only up to a certain point. Many proposed changes were dropped owing to the inflexible opposition of some countries, particularly Germany, which didn't accept the likelihood of contributing to fund missions in which it did not intend to participate[6]. The list of operating expenses funded by Athena was extended nonetheless, although the final document is closer to the original Athena mechanism of 2004 that to the one the French Presidency would have liked to achieve[7].

At the moment, Athena funds a list of fixed expenses plus an additional number of items at the Council's discretion to be decided case by case. The expenses are contained in Annex III to the Council decision that created Athena[8]. The fixed expenses financed by Athena are:

- Expenses for the creation and management of the headquarters. This includes the headquarters itself, the *Operation HQ* and the *Force HQ*. They also include expenses for transportation in the theatre of operations, expenditures for administration and communication, recruitment of local administrative staff, and housing.

- Expenses for the forces. These include the necessary expenses for maintaining infrastructures such as ports, airports, main roads and railways. Also included are the costs for supplies of water and energy, protection of the bases and the storage and conservation of materials. Very important are medical services and the evacuation of the seriously injured (Medevac). Lastly, the acquisition of intelligence in the form of satellite images if these cannot be included in the budget of the European Satellite Centre in Torrejon.

- Reimbursements to/from NATO or other international organizations (such as the UN).

The expenses that can be funded at the Council's discretion mainly amount to transport and accommodation in the site of operations for the forces and the Headquarters below the *Force HQ*.

Lastly, there is a third category of costs that can be funded by Athena at the request of the Commander of the operation, having received approval from the Special Committee that consists of representatives of the lending countries. This third category of costs includes essential expenses related to needs specific to that mission, such as additional intelligence activities, costs for infrastructure and accommodation, additional medical services, mine clearing, etc.

However, the Athena mechanism covers a very small part of the actual costs of a mission, up to a maximum of around 10% but generally less. For instance the EUFOR Chad/CAR and EUNAVFOR Atalanta missions,

[4] Based on the Council decision 2004/197/CSFP, 24 February 2004

[5] Council decision 2008/975/CSFP, 18 December 2008

[6] Gros-Verheyde, N., Minor changes to Athena financing mechanism, Europolitics, 9 January 2009, http://www.europolitics.info/minor-changes-to-athena-financing-mechanism-artr146395-10.html

[7] *Ibid*.

[8] Refer to http://www.consilium.europa.eu/media/1381208/at3.pdf

which received funding from Athena of €120m and €8.4m respectively, have a total estimated cost of €1.4 billion[9] (Atalanta figures relate to the first 12 months of the mission).

	Joint costs (in millions of Euro)	Staff
Concordia	6.2	350
Althea	71.7	7000 until 2004, 2200 at 2009
Chad/CAR	120	3700
Artemis	7	2000
RD Congo	24	2400
Atalanta	8.4 (first 12 months)	2000

Source: Grevi, G., Helly, D. and Kehoane, D., ESDP: the first ten years, EU ISS, Condé-sur-Noireau, 2009

1.2 Lack of integration of the military structures and initiatives for sharing

European armed forces achieved a high level of integration in operational terms, and have a long experience of cooperation at all levels: from planning and conducting joint operations to standardization of materials. This cooperation developed from decades of activities within the NATO framework, which established an Euro-American command and control structure, and also proceeded with the gradual establishment of common standards and procedures in order to generate interoperability between different military cultures.

However, EU forces remain completely separated from the structural point of view. They are controlled by 27 national command structures, supported by services (logistical, infrastructure of all kinds, stores and medical centres) that are also strictly owned and managed by their own commands. European forces are also trained independently from one another, applying national doctrines in domestic training grounds and academies, the exception being joint exercises to ensure a minimum of acceptable NATO and EU interoperability. EU forces are also equipped mainly with weapons and goods which are produced domestically if possible. The equipment is also maintained in national structures.

This duplication – or, in fact, a multiplying by 27 – obviously does not allow the economies of scale enjoyed by US armed forces. Because of the magnitude of these costs, the duplication of national structures should certainly be considered as one of the main costs of non-European defence. Although obviously impossible to estimate in purely monetary terms, its size is hard to overestimate.

In order to mitigate the economic impact of duplication, European armed forces are increasingly resorting to various initiatives that fall under the umbrella expression of "pooling and sharing" arrangements (P&S). More specifically, the expression "*pooling and sharing*" indicates three types of sharing[10]:

1. Joint development and/or purchase and subsequent sharing of products and services. The latest generation of platforms and systems are expensive to build and buy, therefore international development programmes such as *Eurofighter Typhoon* or A400M are becoming more frequent. Purchases from a third country are also possible examples of P&S: in this case the set up of a single purchase group helps to secure a better contract with the supplier.

[9] See the chapters on the two missions in Grevi, G., Helly, D. and Kehoane, D., ESDP: the first ten years, EU ISS, Condé-sur-Noireau, 2009

[10] Valasek, T., Surviving austerity: the case for a new approach to EU military collaboration, Centre for European Reform, London, 2011

2. The integration of military structures. As will be discussed further on, most EU countries set up multinational units with European partners. Other kind of shared structures beside operational units have also been set up, such as common educational and training facilities, or shared maintenance centers.

3. Specialisation. A particular kind of P&S involves European countries, particularly the smaller ones, which concentrate their limited resources on a niche capability – for instance, mine clearing – which is then shared with allies, possibly in exchange for assistance in creating and/or maintaining the capability. The availability of such capability makes it unnecessary to develop the same capability in other nations.

The first kind of pooling and sharing mostly relates to the industrial and market dimension: some examples of this type of sharing, and the institutional players involved, will be discussed in the next section. The integration of the structures already began in the 1970s: examples of these types of cooperation are numerous and appear to be growing in parallel with the increase in budgetary difficulties, although there are still a few countries that operate exclusively on a national basis. Not all P&S agreements, however, had the same success. Historical experience shows that, to be successful, certain preconditions are fundamental. For example, a successful cooperation requires partners who share the same international attitude and the same level of military ambition: they must have some kind of common history, and must have an high level of confidence in each other[11].

The oldest European multinational unit, the UKNLAF (*UK Netherland Amphibious Force*) dates back to 1973, and was set up because of shortage of funds that threatened the very survival of the Dutch Marine Corps. Today UKNLAF is an integrated force consisting of one Dutch and four British Marines battalions, and its elements formed the European Battlegroup on standby in the first half of 2010. The Netherlands also has a strong history of cooperation with the Belgian Navy, which has already been working with the Dutch for fifteen years in fleet maintenance operations, training and maintenance (the two countries operate the same type of frigates and minesweepers)[12].

Also the Italian armed forces, especially the Army, are involved in a variety of multinational initiatives[13]. The *South Eastern European Brigade*, or SEEBRIG, is built on an Italian infantry regiment with additional contributions from Albania, Bulgaria, Greece, FYROM, Romania and Turkey. The Light Infantry Brigade *Multinational Land Force* is a multinational brigade under Italian leadership, established in 1999, to which also Slovenia and Hungary contribute. Lastly, the *European Rapid Operational Force*, or EUROFOR, was a permanent Command with Italian, French, Spanish and Portuguese staff. The Command, which could have led a force of up to divisional size, did not have permanently assigned units since these were to be provided on the basis of need by willing contributors. EUROFOR, however, was dissolved in 2011 without ever having been used.

Until a few years ago, bilateral and multilateral initiatives such as those mentioned above have been the primary mode of sharing arrangements. Over the past five years, however, CSDP and the so-called "regional initiatives" are becoming the main spur for the structural integration of the European military units. On the CSDP side the key development was the concept of *Battlegroup* (BG). The concept was developed by the EU Military Staff on the basis on an Anglo-Franco-German initiative, subsequently included in the *Headline Goal 2010* which aimed to equip the EU with a rapid response corps. A *Battlegroup* is a fast and flexible capability package, the smallest military unit able to act autonomously on the ground, which can also act as an entry force to stem a crisis before the arrival of a larger contingent. It must be able to perform all of the

[11] *Ibid*

[12] Brinkman, M., The Dutch Contribution to the UKNL Amphibious Force: Adapting to Changes in the Global Security Situation, RUSI Defence Systems, summer 2006.

[13] An interesting and complete overview is available in the Rapporto Esercito 2010.

so-called Petersberg tasks listed in Art. 43 (1) TEU, and can be deployed in a few days: it can be maintained in the theatre for at least 30 days, with the ability to stay on-site for 120 days with the appropriate support. The size may vary but normally a BG consists of around 1500 men. It is normally a multinational force, but often one country acts as the main contributor and assumes the responsibility for leading the whole process (the so-called "*framework nation*").

The process for defining the BG concept was completed in late 2006 with the publication of the final concept document: from then until the end of 2012, the EU had two multinational *Battlegroups* available each semester, on stand-by and ready to go (apart from the first half of 2012). The contributions of the Member States are offered during the six-monthly BG Coordination Conference, with forward planning for 5 years: even standing multinational units, such as the aforementioned EUROFOR, can be offered. The following table summarizes the contributions already offered for the coming years: the country in **bold** acts as the *framework nation*.

Year	Semester	Participating countries
2013	1	**Poland**, Germany, France
		-
	2	**United Kingdom**, Sweden, Lithuania, Latvia
		-
2014	1	**Greece**, Bulgaria, Romania, Cyprus
		-
	2	**Belgium**, Germany, the Netherlands, Spain
		Spain, Italy, Greece, Portugal
2015	1	**Sweden**, Finland
		-
	2	**France**, Belgium
		-
2016	1	**Poland**, Hungary, Czech Republic, Slovakia
		-
	2	**United Kingdom**
		-

Source: M. Hatzigeorgopoulos, CSDP Note no. 2: EU Battlegroups rotation, commitment and composition 2005-2017, ISIS, updated to June 2012

The forces that make up the BG must meet certain training standards defined by the concept document, to ensure consistency between the component parts, and must obtain a specific certification under the supervision of a committee assisted by the EU Military Staff. However, there are concerns on how effectively the achievement of operating standards ensures the interoperability of contingents, considering the differences between the national procedures and also the fact that not all standards are easily measurable[14]. All training is in fact carried out under the responsibility of participating countries, which have to shoulder also the costs, as provided by the Athena mechanism discussed in the previous section.

Nonetheless, despite the repeated humanitarian and security crises that have occurred in recent years, no BG has never been deployed in a mission. This is due to a number of issues related to different conceptions of the role of BG, the European policy-making process, the fragmentation of the chain of command, to the lack of capacity, but also simply to the reduced numerical size of the BGs which makes them unsuitable for a whole range of operations[15]. The slots that remained empty in the planning for the next few years testify

[14] Lindstrom, G., Enter the EU Battlegroups, EU ISS Chaillott papers no. 97, February 2007

[15] M. Hatzigeorgopoulos, The role of EU Battlegroups in European defence, European Security Review no. 56, June 2012

a certain loss of interest in an instrument that, like many other Community tools, is far from perfect but whose potential has never been fully exploited.

As for the "regional initiatives", these are cooperation agreements and initiatives built upon small groups of neighbors. For example, the Netherlands recently signed with Belgium and Luxembourg a broad spectrum cooperation agreement, the Benelux Declaration, that includes shared training and exercises, the joint use of military airports, a further reinforcing of the existing naval cooperation, shared national air space protection, etc[16]. The NORDEFCO (Nordic Defence Cooperation) groups was created by the five Nordic countries Denmark, Finland, Iceland, Norway, and Sweden to institutionalize and deepen their already decades old cooperation, especially trough common training facilities and courses but also in the area of armaments cooperation. The Visegrad group, composed by Czech Republic, Hungary, Poland and Slovakia, started cooperating in 1991 as the "Visegrad triangle" in a wide range of economic areas, including energy, but also on military matters. The Visegrads will provide their own Battlegroup in 2016. These kind of agreements are favoured by the close, historical links betwee participating countries, which often also share a common strategic outlook. So far, however, the level of integration reached can be considered limited, except from the historical Dutch-Belgian naval cooperation.

1.3 The duplications of armaments and equipment programmes

The duplication of armament and equipment programmes is the second important factor resulting from the lack of a Europe-wide military instrument. Throughout the Cold War, European states turned almost exclusively to domestic firms to meet their needs in terms of equipment and weapons. If the national industrial base was not able to provide the needed capabilities, European countries would usually turn to US suppliers. The "national preference" for defence procurement, which still exists today, necessarily implies a duplication of platforms and, necessarily, funds for research and development, assembly lines and, in short, of all production factors. Moreover, it generates different products that will need different spare parts, different training for crews and maintenance staff, and will therefore have an impact on operating costs as well as on production costs.

In 1995 Pierre De Vestel published the following table[17] (reproduced here in modified form, without trainer aircrafts and torpedoes) related to major projects in production or at an advanced level of development in what he called "the golden age of weapons development". De Vestel was able to show, for the first time, the costs arising from duplication of materials in Europe: the table in fact highlighted the waste of resources at European level resulting from the development and production of 71 different types of equipment, against the 23 types produced in the USA. On average, EU countries developed three programmes for each major US project, each of which receiving a third of the funds that it could have potentially secured in the case of joint development at continental level.

Systems and platforms	Europe	USA
Land		
Tanks	4	1
AIFV/APC	16	3
155mm sp howitzer	3	1
Air		
Fighter/ground attack	7	5
Attack helicopters	7	5
Anti-ship missiles	9	3

[16] S Biscop et al, The Future of the Benelux Defence Cooperation, Clingendael/Egmont Report, April 2013, http://www.egmontinstitute.be/speechnotes/13/130513-Future-Benelux-Defence-Cooperation.pdf

[17] Reproduced by Unysis, *op. cit.*

Air-to-air missiles	8	4
Sea		
Frigates	11	1
Diesel submarines	7	0
Nuclear submarines	2	1
Total:	**71**	**23**

The multiplication of costs is clear, but given the number of projects and the lack of open data about most of them, it is very difficult to calculate the actual costs of duplication. We can get an idea of the dispersion of funds by looking at the case of the aviation industry for the latest generation combat aircraft, reproduced in the table below.

Aircraft	Research costs (in € billions)	Units envisaged/produced
Eurofighter	19.48	707
Gripen	1.48	204
Rafale	8.61	294
JSF	19.34	3003

Just for the multiplication of the research costs for the three European aircraft (Eurofighter, Gripen and Rafale), we obtain an increase in costs at European level of €10.23 billion compared to the single US product (the JSF which, in any case, also involves several European countries). Duplication also means increased costs in other areas as well: the multiplication of assembly lines and decision-making/administrative burden, poor economies of scale, lack of interoperability, the need for separate logistics in joint missions. In terms of output, the European assembly lines produced 1,798 units fewer than the JSF, and these fewer units are fragmented on three models. Instead of having a single overall output of 1,205 units, three different series of 700, 200 and 300 units each have been produced. It will therefore not be possible to enjoy the benefits deriving from production learning which, in this sector, is estimated to reduce the cost per unit by approximately 10% for each doubling of output.

This problem is becoming more pressing with the exponential increase of development costs that platforms and systems accumulate as their technological content gradually grows. Already by the mid-1990s, the burden of development costs was so high to push the UK, Italy and Germany – and later also Spain and Belgium – to sign a treaty for the joint management of armament development programmes. The resulting *Organisation Conjointe de Coopération en matière d'Armement*, or OCCAR, an intergovernmental organization with legal status, is currently running a limited number of high profile projects, shown in the table below. An example is the Italian-French development programme for the multi-mission frigates FREMM, Europe's most important naval programme, or the A400M for strategic air transport. Other 12 European countries participate in one or more of the projects in addition to the member countries, among these are Finland, Turkey, Poland, and the Netherlands.

Programme	Participating countries
Tiger attack helicopter	Ger, Fra, Spa

Counterbattery Radar COBRA	Ger, Fra, UK, Tu
FSAF – Surface-to-air anti-missile system family	Fra, It
Boxer - armoured multi utility vehicle	Ger, Nl
A400M – strategic airlift	Ger, Bel, Spa, Fra, Tu, UK
ESSOR - European Secure software-defined radio	Fin, Fra, It, Po, Spa, Sve
Musis Federating Activities	Fra, It
FREMM – European multi-mission Frigates	It, Fra

However, cooperative programmes are still the exception rather than the rule: it is a choice that countries are forced to make when there are insufficient funds for independently developing the various projects. We wanted to see how the situation described by De Vestel changed between 1995 and 2012, so we proceeded to update the De Vestel table in order to highlight any improvement of the situation. The complete list of all the platforms and systems considered, for each single segment, is available in the annexes.

Platforms and systems in production	Europe	USA
Land		
Tanks	2	**1**
AIFV/APC	11	**1+MRAPs***
155mm sp howitzer	4	**0**
Air		
Fighter/ground attack	3	**3**
Attack helicopters	2	**1**
Anti-ship missiles	7	**1**
Air-to-air missiles	2	**3**
Sea		
Frigates	2	**0**
Diesel submarines	2	**0**
Nuclear submarines	1	**1**
Total:	**36**	**11**

Source: ISS, The Military Balance, various years

* A large number of different models of Mine Resistant Ambush Protected vehicles, or MRAP, are in production and in use. However, this multiplication took place because of urgent operational requirements in Iraq and Afghanistan. Once the emergency is over, the US forces are now calling for tenders to purchase a single type of MRAP per category. We therefore decided to not consider this item in the table.

The general decline of the number of platforms and system in production is clear and was to be expected, considering the rise of R&D and production costs and a corresponding decline in defence budgets. However, the most significant result of this quantitative assessment is perhaps the ratio between the number of major projects under production in Europe and the USA, which has remained almost unchanged.

Today the ratio is in fact 3.22, compared to 3.08 in 1995. For each major programme developed in the United States, Europeans continue to produce three[18].

The duplication is not only limited to the platforms included in the De Vestel table: an equivalent level of duplication can be observed even in different sectors than those chosen by De Vestel. We checked the progress of development projects of future platforms and systems and even in these areas there are clear duplications. In Europe, for example, five different infantry kits are at an advanced stage of development, compared to just the one system developed in the United States: there are also six different constellations of communications satellites. In both these fields the European Defence Agency (EDA) is carrying out specific projects in order to maximize interoperability - in the case of infantry kit - and to promote joint use - in the case of communication satellites[19]: it is symptomatic, however, that it has not been possible - or there has not been the political will - to ensure interoperability or, better yet, sharing of arrangements right from the pre-production phase.

Programme	Country
Felin - (Fantassin à Équipements et Liaisons Intégrés)	France
FIST - Future Infantry Soldier Technology	United Kingdom
IdZ (Infanterist der Zukunft) Future Soldier System	Germany
Land Warrior Integrated Soldier System	United States
Soldato Futuro	Italy
COMbatiente FUTuro	Spain

Constellation	Country
Syracuse 3	France
Skynet	United Kingdom
Sicral	Italy
COMSAT - B	Germany
Spainsat	Spain
Xtar-Eur	Spain

Also in the field of UCAV, or unmanned combat aircraft, it would seem that European countries are moving in a random order, or rather are building variable geometries. The risk is once again that of dividing resources and competing with each other, allowing US and Israeli competitors to retain their current advantage. While Europeans are preparing to produce three different models of the same UCAV, the US – after having fully developed the Predator family – started to develop just two UCAV model: one of which, the X47-B, is specific to the requirements of the Navy and will be able to land on aircraft carriers.

Programme/demonstrator/prototype	Participants
UCAV-X	France, United Kingdom
Barracuda	Germany, Spain
NEURON	France, Italy, Sweden, Greece, Spain, Switzerland
Predator/Reaper/Avenger	USA
X45-C	USAF
X47-B	USN

[18] For a deeper evaluation of the same data set, see V. Briani,

[19] See EDA Bulletin of 13 February 2010

Chapter 2 – Industry and market

The defence market was always excluded from the wider process of integration of the common European market. Maintaining twenty-seven national defence markets, with different regulations and bureaucracies, does not stimulate competitiveness in defence firms and prevents economies of scale in production. The lack of an integrated European defence market is therefore likely to stifle growth in the very industry on which the EU defence policy depend.

The defence sector did not benefit from the integration into the common European market. Over the decades, the regulatory activities of the European institutions gradually broke down the various regulatory and tariff barriers between European countries, but the defence sector has largely remained insulated from this process.

The main causes for this are quite easy to understand: the high sensitivity of the matter, the reluctance of Member States to give up a strategic industrial base, and the lack of know-how of European institutions in the specific field, which hindered the efforts to propose a regulation adapted to the specificities of the sector. The end result is that it is not currently possible to speak of a European defence market, but of 27 national markets. Three aspects in particular are more clearly linked to economic and strategic inefficiency. The first is the tendency of Member States to give preference to their own national markets in procuring supplies. The second is the presence of barriers to the transfer of defence products within the European Union. Lastly, the third is the widespread use of industrial compensations, or offsets. Each of these factors is discussed in a specific section of this chapter.

2.1 Acquisition of defence equipment on a national basis

The dynamics of defence equipment and armaments procurement are different from those related to the purchase of other goods by the public sector. After all, the security of a country depends on its defence. This creates a range of special needs in defence procurement, particularly in relation to confidentiality of information and security of the supplies. The need to satisfy these needs often push States to procure goods from national industry, thus weakening European competition.

Article 296 of the Treaty which established the European Economic Community was designed to guarantee security in information and supplies in the defence sector. The article passed unscathed through the Treaties of Maastricht, Amsterdam and Nice and was then included, unaltered, in the Lisbon Treaty, becoming article 346. It basically allows Member States an exception from the provisions of the EU single market regulations if they feel it necessary to protect their national security. Specifically, Article 346 states that:

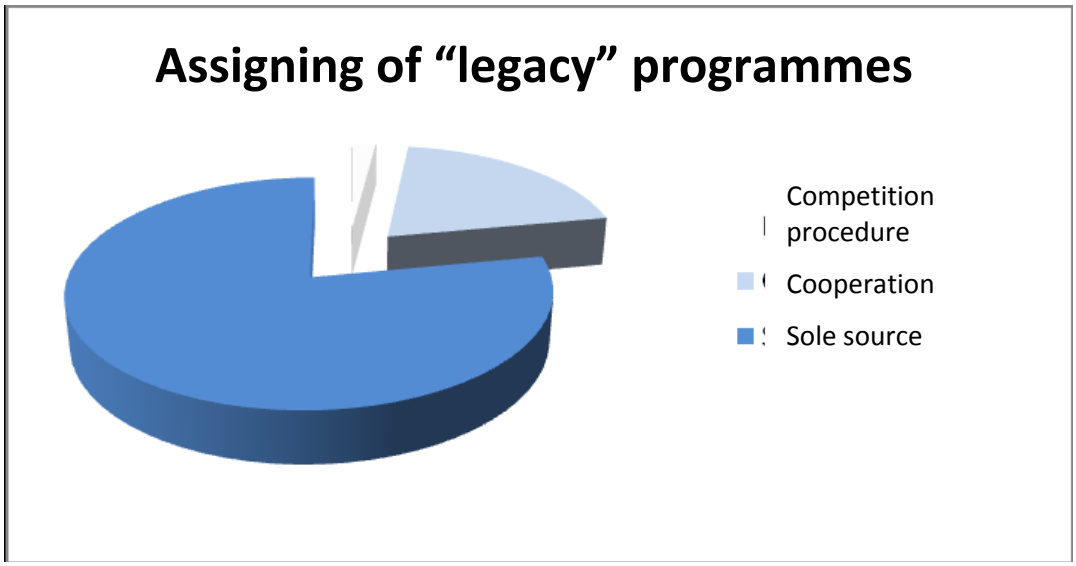
1. No Member States is obliged to supply information if it feels that such disclosure is contrary to its essential security interests

2. Each Member State can take such measures as it considers necessary for protecting its essential security interests which are connected to the production or trading in arms, munitions and war

material; these measures must not alter the competitive conditions of the common market as regards products not specifically for military purposes.

The invocation of an "essential security interest" allows a Member State to avoid an open procedure for the procurement of defence and security equipment, and instead to turn to a trusted company, without therefore disclosing sensitive information. This possibility should in theory only be used for the legitimate protection of confidentiality and security in supplies, but the arbitrary way Article 346 can be used is a strong temptation for those countries that have an interest and the intention to protect their defence industries. By protecting its industrial base a country can strengthen the exceptional technological and strategic value of this sector, which is typically research-intensive and with an high technological level. Protecting the industrial base therefore means retaining a tangible and intangible capital of paramount importance, as well as tens of thousands of jobs that are often highly specialized. The ambiguous wording of Article 346 (ex 296) allowed Member States to turn solely to their own domestic industries for any need, thereby preventing the emergence of a European-wide defence market.

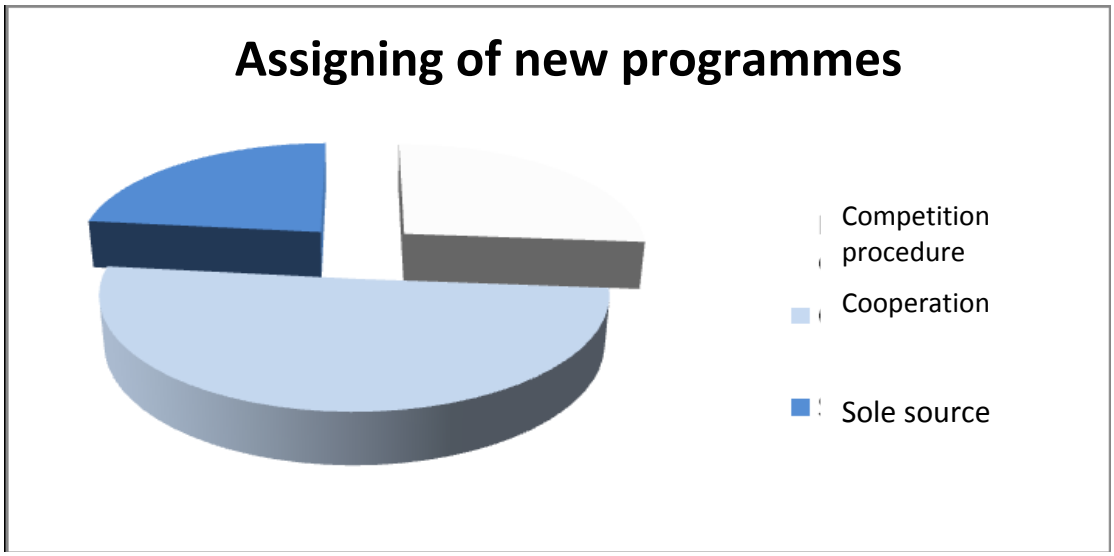
A recent study by the Center for Transatlantic Relations[20], however, seems to indicate that the most recent trend is an increasing level of international competition in the allocation of contracts in the defence sector. The chart below shows the breakdown of the allocation method for what are known as the "*legacy*" programmes in continental Europe from 2006 to 2008. "Legacy" programmes are programmes for the procurement of goods and equipment whose large-scale production is already under way at the time of conclusion of the contract: they thus correspond to acquisition programmes initiated several years ago. According to the study, only 2% of legacy programmes awarded in the past decade or earlier have been assigned on the basis of a truly competitive process. About 20% are the result of a multinational cooperation, while as many as 78% of these programmes are called "sole source" i.e. assigned to a single supplier. "Sole source" contracts are generally awarded on a non-competitive basis to typically national or US suppliers.



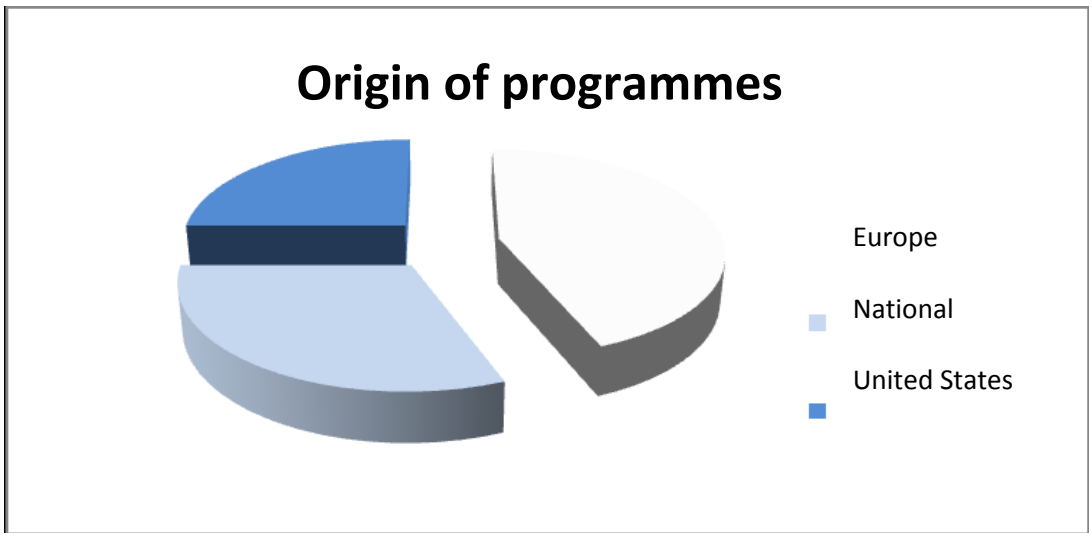
The result of the analysis are very different when applied to "new" procurement contracts, i.e. the acquisition of goods still in development or in the early stages of production (again between 2006 and 2008). In this category, multinational programmes account for about 50%, while those awarded on a competitive basis reach up to 26%, and the percentage of the "sole source" procurement programmes go

[20] Bialos, J., Fisher, C., and Koehl, S., *Fortresses & Icebergs: the Evolution of the Transatlantic Defence Market and the Implications for U.S. National Security Policy*, Center for Transatlantic Relations, Washington D.C., 2009

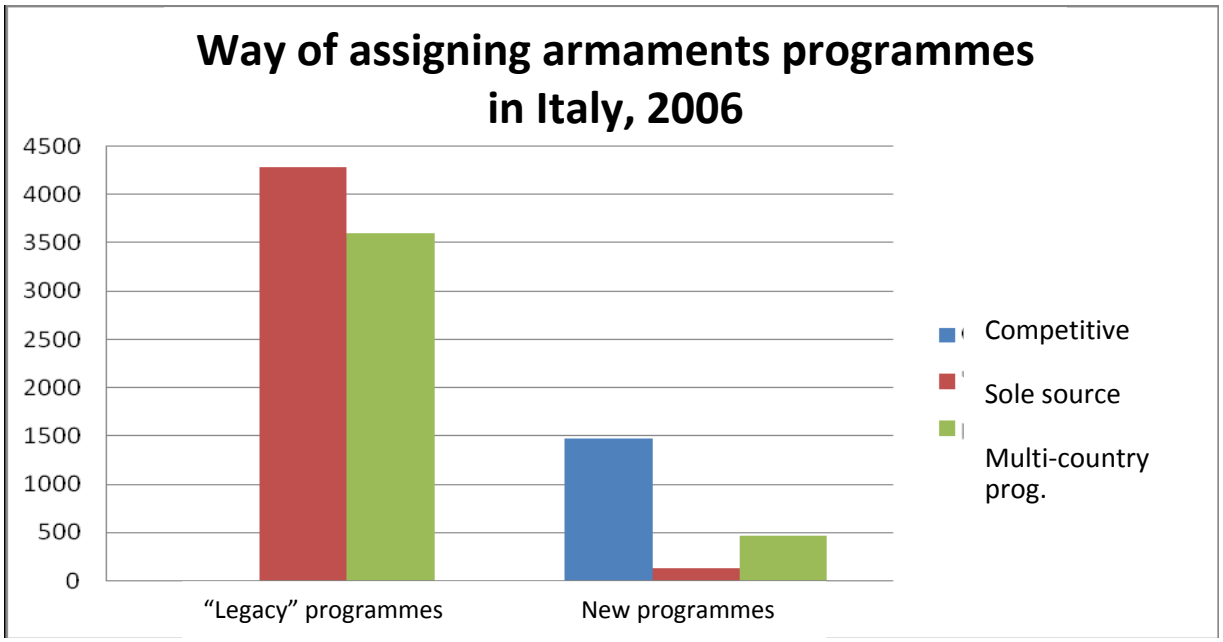
down to 23%. The sharp increase in the percentage of multinational programmes and of those allocated on a competitive basis would demonstrate greater openness and competitiveness of the European market.



A look at the country of origin of the "new" programmes, awarded on a competitive basis, moreover, would also seem to confirm a growing "buy European" tendency rather than national or US products as has been typical in the past. Data from the same research tell us that as many as 44% of competitive programmes were assigned to firms from another European country, while national- and US-origin contracts account respectively for 31% and 25%. It would seem that EU countries are no longer in a condition to finance their own high-profile development projects but are increasingly forced, for financial reasons, to form development consortia or to turn to a more competitive European market.



An example of an even more radical change of attitude in acquisitions is Italy. The graph below shows the distribution of acquisition programmes between "legacy" and new, and the manner of allocation within these two categories (the source is always the CTR research). As for the "legacy" programmes, Italy has awarded all the programmes on a "sole source" or multinational basis, with zero millions of dollars of programmes assigned on a competitive basis. In contrast, about three-quarters of the value of new contracts awarded are distributed on a competitive basis.



This increased competition probably reflects the growing difficulties that Ministries of Defence are having to continue to give priority to domestic products without looking at what is available on the market. During the Cold War, the presence of a real and looming threat legitimized higher defence budgets, while costs for materials were significantly lower than today. After the end of the Cold War governments had to deal with growing demand for smaller defence budgets and exponential increases in the technological level and costs of armaments. Slowly, the idea that maintaining such a fragmented defence market is unfeasible is gaining traction. Member States and European institutions increasingly started to launch initiatives to overcome such fragmentation.

Already in 1998, the governments of France, Germany, Spain, Italy, Sweden and the United Kingdom signed a Letter of Intent (LoI), followed in 2000 by a Framework Agreement (FA) which entered into force in October 2003. The LoI countries aim to establish a shared regime based on the simplification of procedures for the circulation of technologies, goods and people. Six LoI subcommittees are active in the following areas: security of supply; procedure for transfer and export; handling of technical information; research and technology; security of classified information; harmonisation of military requirements.

At the same time the European Commission begun to address the issues of the defence industry and market, aiming to gradually overcome the ambiguities and inadequacies of Communitarian legislation in defence matters and to reduce the range of legal instruments that countries can use to circumvent EU regulations. Defence policy does not fall within the Commission's remit, but the single market does. As early as 1996-97, the Commission published two Communications[21] which recommended a number of initiatives for the integration of the defence market. In 2003, the Commission published a Communication[22] through which it expressed its strong commitment to a more integrated and competitive defence market. This communication was followed in September 2004[23] by a Green Paper on public procurement in the field of defence, which officially launched a public consultation process on how to make the awarding of public contracts more efficient and competitive. In 2006, the Commission published an interpretive Communication[24] which aimed to give a narrower evaluation about the applicability of Article 346. The Commission stressed that the derogation by Article 346 must strictly be motivated by security interests and not economic or industrial interests, and that these interests must be, in fact, "essential". Moreover, the Commission expressed its readiness to carefully consider any recourse to Article 346.

[21] 24/01/1996 COMM (1996) 10 final and 12/01/1997 COMM (1997) 583 final
[22] 11/03/2003 COM(2003) 113 final, http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2003:0113:FIN:en:PDF
[23] 23/09/2004 COM (2004) 608 final, http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2003:0113:FIN:en:PDF
[24] INTERPRETATIVE COMMUNICATION on the application of Article 296 of the Treaty in the field of defence procurement

In December 2007, the European Commission was able present the result of its work, a "defence package" consisting of two highly innovative Directives: a Directive on public procurement in the field of defence and security and a Directive on Intra-Community Transfers of defence goods (analyzed in the following paragraph). Both were approved by the European Parliament at the end of 2007.

The Directive on public procurement of defence and security products aims to introduce a degree of competition in public procurement, while ensuring confidentiality of information and security of supplies. The Directive also applies to materials, goods and services relating to the area of security i.e. those intended primarily for police forces and intelligence services which "imply, require and/or contain classified information". However, the Directive does not apply if a national administration decides to rely on Article 346, nor in the case of contracts awarded on the basis of international agreements or arrangements. The Directive does not therefore have an impact on the division of work quotas in cooperation projects in accordance with the principle of *"juste retour"*, typical of the intergovernmental agreements for multinational programmes, whereby a country participating in a cooperation project is assigned a workload equal to the investment made. Lastly, the Directive does not apply to research and development projects, probably not to discourage Member States from investing in this sector.

In essence, the Directive introduces four possible procedures for the award of a public contracts in the field of defence: restricted procedure, negotiated procedure with publication of a contract notice, competitive dialogue and negotiated procedure without publication of a contract notice. An in-depth analysis of these procedures is out of the scope of the present report[25]: it is sufficient to underline that each of them guarantees an increasing level of privacy and a corresponding lower level of competition in awarding the contract. National procurement administrations can therefore determine the level of sensitivity of the contract and choose an appropriate procedure for the award. If even a negotiated procedure without call for competition does not provide sufficient guarantees, the administration can still recourse to the protection of Article 346. The new procedures will thus allow to introduce competition measures while leaving intact the possibility for Member States to protect their strategic interests in extreme cases.

Besides the activism of the European Commission, the growing contribution by the EDA must also be remembered. According to the Treaty of Lisbon, the European Defence Agency has a mandate to identify and, where appropriate, implement measures to "improve the effectiveness of military expenditure" – a formulation sufficiently vague to leave reasonable room for maneuver by the Agency.

Among the many initiatives conceived and promoted by the EDA it should be mentioned the Intergovernmental Regime on Defence Procurement which was supported by all EDA Member States except Romania, plus Norway. The Regime includes two separate Codes of Conduct, both voluntary and only politically, not legally binding. The first is the Code of Conduct on procurement, according to which the contracting countries undertake to introduce some measure of competition even in the case of recourse to Article 346. It is therefore an instrument complementary to the EC Procurement Directive, which regulates instead instances of non-application of Article 346. A second, similar Code of conduct on best practices is dedicated to subcontractors and thus to small and medium-sized enterprises, which should be able to compete to become suppliers to the prime contractors from all over Europe.

2.2 Barriers to intra-Community transfers of defence products

A second factor that hindered the emergence of a true common market for defence is the presence of regulatory barriers to the transfer of defence products from one EU country to another. Each Member State established national procedures and a legal framework to grant licenses for export, import and transit

[25] A detailed analysis can be found in N. Di Lenna, "La Direttiva europea sul procurement della difesa", Quaderni IAI no. 33, September 2009, http://www.iai.it/pdf/Quaderni/Quaderni_33.pdf

to other European countries, all with different players involved, different procedures, times and costs. In practice, the resulting regulatory barriers to intra-Community transfers are quite similar to those for exports of military products to third countries.

A 2005 study funded by the European Commission[26] describes in detail the complex process required to transfer a product from Spain to Poland. First, the exporter will have to ask the Spanish Ministry of Tourism, Industry and Transport for a permit to export defence products from Spain. This takes about a month. The exporter will then have to apply to the French Ministry of the Interior for a permit to import / export, in order to pass over French soil, which will take about two months. To pass through Germany, the exporter must then ask the Germany Ministry of the Economy for a transit permit, but the documents for the request can only be secured by applying to a specific institution. This process takes a week. Lastly, the Polish importer must apply to the Polish Ministry of the Economy and Labour to issue an ISO 9000 certification and special software, which requires ten days. The total time required just to complete all the paperwork is almost four months.

This over-regulation has slowed, and even prevented, the rationalization of production facilities of large defence transnational groups. These groups began being created in the mid-1990s in response to the collapse of military spending that followed the end of the Cold War, in order to achieve economies of scale to cope with the crisis in the defence budget. However, the concentration of strategic, financial and management directions of new transnational groups could not be followed by a rationalization of their actual production sites on the basis of centers of excellence, the development of which would require greater freedom of movement of materials. Barriers to intra-Community transfer, moreover, seriously harmed the development of small and medium-sized enterprises by limiting their potential access to the larger European market. The administrative burden of regulatory barriers is even more onerous for SMEs, which owing to their reduced size and smaller staff have less time and funds available to fulfill the administrative requirements.

The study commissioned by the European Commission estimated the costs for businesses of all the obstacles of an administrative, legal, technical and economic nature as €3.16 billion per year. This calculation takes into account both direct costs, i.e. those that companies must incur to complete all the paperwork, and indirect costs, i.e. those caused, for example, by the inefficiency of partnerships between companies from different countries, from the loss of economies of scale, etc.

It is important to note that these costs are not a guarantee of security and of greater control over the movement of military equipment within the Union. In 2003, only 15 transit permits from one European country to another were in fact rejected, out of a total of 12,600 applications[27]: just 0.1%. The vast majority of applications are therefore entirely legitimate and routine. This implies that most of the current controls and regulations are, in fact, largely unnecessary, and are more a legacy of bureaucratic inertia than a guarantee of security for the traffic of defence products.

The European Commission also decided to address this issue as part of its efforts to establish a more competitive defence market. The study mentioned above is just part of the preparatory work done by the Commission, which then culminated in the "Defence Package" described in the previous section which included the Directive on intra-EU transfers of defence-related materials[28]. This Directive will put an end to the current system of transfer of defence products or materials, greatly simplifying the procedures and introducing three types of license. Alongside the individual license, which will remain compulsory for single operations involving sensitive products, the Directive adds another two types of licenses: a general one and

[26] Unisys, *op. cit.*

[27] *Ibid*

[28] Directive 2009/43/EC of the European Parliament and the Council of 6 May 2009 simplifying terms and conditions of transfers of defence-related products within the Community, http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:146:0001:0036:EN:PDF

a global one. The general license will allow the automatic transfer of all selected products from one country (especially the less "sensitive" ones) to other European countries, provided that they are used by the Armed Forces or are received from companies "certified" by their own government. The global license, on the other hand, will allow the transfer of a specific list of products between specific companies: for instance, those belonging to the same industrial group or participants in a collaborative programme.

2.3 Offsets

The expression "offset" indicates Industrial compensations designed to alleviate the cost of procurement of armaments or defence products. Offsets are requested as part of the contract and received from the buyer by the supplier in different forms,[29] usually as parallel economic activities which will vary depending on the needs of the buyer and what the supplier is or considers itself able to offer. They generally aim to force a relocation of economic activities from the supplier country to the buyer. Offsets can then take the form of co-production agreements, under which the product is constructed or assembled in part in the recipient country, or a production license, which allows the purchasing country to produce the goods locally, on license. However, offsets are not necessarily related to defence or security industry, and may also be required in the form of Research and Development or technical assistance, including through the creation of joint ventures.

Offsets can be divided into three categories. The offsets directly related to the product or service purchased (direct offsets) amount to 40% of the offset required in Europe, while those not related to the product or service purchased (indirect offsets) count for approximately 35%. Also required are offsets in the civil sector, amounting to 25% of the total value of the European offset[30]. A 2007 EDA study estimated the total value of offset agreements in Europe as between €4 and €6 billion in 2006[31]. Between 1993 and 2006 in Europe, nearly three-quarters of the offset agreements had a value equal to or greater than that of the main contract[32].

The effects of offset policies are controversial. Most economists believe that offsets are a clear source of inefficiency in the defence market, because they lead to a suboptimal allocation of resources, and create a clear distortion of the market. Others see offsets as a legitimate form of industrial policy, also useful for addressing employment problems in times of crisis[33], or to allow industry players to access third country defence markets that are normally closed, benefiting both sides[34]. For example, a British study in 1996[35] found that the obligation to provide industrial offsets had led to the discovery of new industrial partners in six out of eleven case studies, and in all six cases the respondents claimed to want to continue the relationship in the future. Moreover, offsets are a widely common tool of industrial policy useful to develop a weak industrial sector by benefitting from a more developed foreign industrial base's technologies and know-how. Consequently, it is difficult to quantify whether the offset policies effectively have an impact on the European defence market, either in monetary terms or in terms of market efficiency and, if so, what this impact is.

What we do know is that industrial offsets are as much the norm in the European market as they are in the global one. Nonetheless, in this respect, the European Commission's assessment is clear: offsets "can distort and hinder the functioning and integration of European defence markets. Therefore, the ultimate

[29] A detailed analysis of the offset question is beyond the scope of this work. For an excellent overview focused on the specific case, see Ungaro, A., *Le compensazioni industriali nel mercato della difesa e il caso indiano*, IAI Quaderni n. 4, Rome, July 2012

[30] Eriksson, A., *et al*., *Study on the effect of offsets on the Development of a European Defence Industry and Market*, FOI, 2007

[31] *Ibid*

[32] Bitzinger, R., *The modern defence industry: political, economic and technological issues,* Praeger, October 2009

[33] Ungaro, A., *op. cit*.

[34] Ianakiev, G., and Mladenov, N., *Offset Policies in Defence Procurement: Lessons for the European Defence Equipment Market*, in Défense nationale et sécurité collective

[35] Martin, S., and Hartley, K., *Defence Equipment, Exports and Offsets: The UK Experience*, in Defence Analysis, Vol. 11, No. 1, 1995

goal is to create certain market conditions ... where the practice is no longer necessary"[36]. Consensus for this position comes from the United States, whose industrial policy officially considers offsets as economically inefficient - but then requires the involvement of a US company for each supply contract to the US government, which is undoubtedly an offset-like practice. Industrial offsets are also explicitly prohibited by the *Agreement on Government Procurement* of the World Trade Organization, although these regulations are subject to exceptions for cases of security similar to those provided for by Article 346, with similar results of general non-compliance[37]. Therefore, the elimination of offsets can be considered as a long-term goal, not achievable in the short term (official EU position as well).

In 2008 the EDA introduced another voluntary Code of Conduct on industrial offsets, which applies also to contracts under Article 346. The Code of Conduct is only intended to mitigate the negative impact of the offsets, to ensure that it benefits the European defence industrial base, and to introduce transparency measures. Countries signing the Code of Conduct undertake not to claim industrial compensation for a value greater than 100% of the contracts in question, and to ensure that such compensation contributes to the growth of the industrial base and aerospace technology. In addition, the Agency has set up a page on its website in which countries that have signed the Code have published details of their policies regarding industrial compensation, including the compensation rate and the types of compensation accepted, thus introducing a minimum of transparency with regard to this aspect of national industrial policies.

[36] From the European Commission Communication *A strategy for a stronger and more competitive European defence Industry*, 2007
[37] Ianakiev, op. cit.

Chapter 3 – Economic, political and strategic costs

The costs of non-Europe in the defence field are not just economic but also strategic and political. It is not possible to provide a precise figure for the economic costs, since the total sum is composed by a multitude of interdependent and highly ramified factors, whose value is often unknown or incalculable. It is possible to present some estimates which indicate a total value that could reach €120 billion per year. However, the strategic and political costs of non-Europe in the defence field may be even higher, posing a serious threat to the future foreign policy of the European Union.

The analysis performed so far does not allow us to do a simple sum of the costs of non-European defence, as many of these costs are incalculable. In this chapter, therefore, we will adopt a different approach to the problem, presenting some estimates of the total costs on the basis of qualitative and quantitative assessments of European military capabilities. In the second section, we will briefly discuss the issue of costs of non-European defence from the political/strategic point of view, i.e. what impact the lack of a European defence has on the military capabilities of the continent, and how this limits the EU's capacity for external action.

3.1 The economic costs

The cost of non-European defence is nothing more than the difference between what the current 27 national defence systems cost to the European taxpayers, and what a single, integrated European defence apparatus would cost. The cost of non-Europe defence is thus the total cost of the 27 national defence structures less the cost of a single, hypothetical European defence.

The problem is that we do not have any of these numbers, neither the *minuend* nor the *subtrahend*. What are now labelled as "European forces" are relatively small national units (about 70,000 men in total) that are "lent" to the European flag for limited periods and as required, for example for Petersberg operation. These forces could certainly not carry out the many tasks that the armed forces of a country usually perform because that is not what they are designed for: they are intended only for limited interventions abroad. As for a possible future European force, its cost cannot be even approximately calculated. Its role, its posture and its doctrine are difficult to imagine, making impossible any assumptions about its size and its equipment, and therefore also about its cost.

It is not only the minuend that is missing from this calculation, but also the subtrahend i.e. the total sum of defence spending by European countries. Adding together the budgets of the ministries of defence is a very inaccurate indicator of the real expenditures on defence, considering that each ministry of defence uses financial accounting systems so widely different as to make any comparison misleading. There is no common definition of what "defence spending" actually is, and items of expenditure that may be included in the budget of the Ministry of country X are excluded from that of country Y. A relevant example from the economic point of view are the costs of maintaining the gendarmerie corps (such as the Italian Carabinieri, the French Gendarmerie or the Dutch *Maréchaussée*) that some ministries of defence have to include even though the gendarmerie contribute very little to external security i.e. defence. Or the Italian tradition of including in the defence budget the costs of maintaining 590 athletes for Olympic sports, whose activities, while very respectable, cannot be regarded as preparatory to Italian defence.

To demonstrate difficult it is to define what "defence spending" actually is, the table below summarise Italian defence spending in 2009-2010, in millions of Euro, according to various institutions[38].

	2009	2010
Min. of Defence	20,294	20,364
EDA/NATO	21,946	21,637
SIPRI	27,494	27,419
IAI	17,102	17,630

All in all, we do not know and cannot know precisely how much European defence would cost, and in fact we are not even quite sure how much we are currently spending for defence. However, it is conceivable to try to provide some estimates, on the basis of various indicators, on how much European inefficiencies are costing.

A study funded by the European Commission[39] proposed a methodology based on comparing EU military performance with that in the US. The starting point for the study is a comparison made in 2003 by the Belgian *Institut Royal Supérieur de Défense*, and then accepted by the European Parliament and the European Council: European armed forces as a whole would achieve an operational capability equal to 10% of US forces. A similar analysis at the Heritage Institute estimates instead the efficiency of European forces at 15% of those in the US[40].

If we assume that future integrated European defence spending would be as efficient as American spending, it follows that the United States and Europe should have a similar ratio of defence budget to capability. In other words, if European capabilities were 10% of those in the US, then the European integrated defence budget should be equal to 10% of the US budget. In 2003, however, the total European budgets amounted to just under 50% of the US budget: $173 billion against $382. At a cost of half that of the US, the Europeans obtained only a tenth of the capacity.

In monetary terms, still assuming an efficiency of European integrated expenditure equal to the American, European defence spending should amount to 10% of the US budget, i.e. 10% of 382 billion dollars – 38.2 billion. The monetary cost of European inefficiency can be considerated as the difference between what the Europeans actually spent in 2003 ($173 billion), and what they would have spent had they been as efficient as the Americans ($38.2 billion). In this case the cost of the inefficiency of European defence spending would amount to $134.8 billion in 2003.

If, instead, we take the Heritage Institute data which consider the efficiency of European forces at 15% of that found in the United States, and we perform the same calculation, we get $57.3 billion as the optimal expenditure for the European integrated armed forces. In this case the cost of non-European defence is

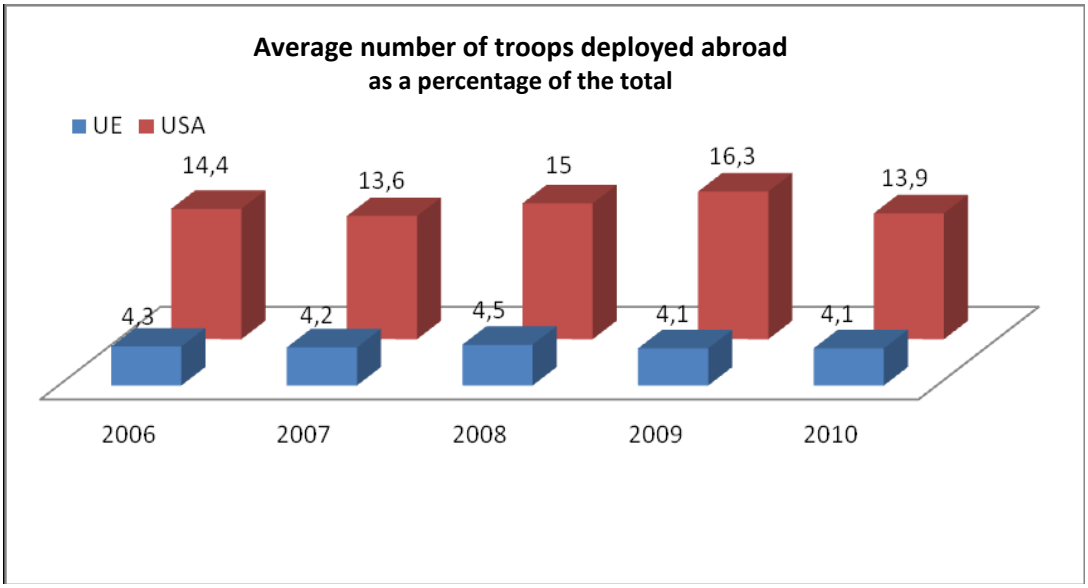
[38] Sources: Additional note of defence 2012 for the Italian Ministry of Defence. EDA Defence Data 2012, SIPRI Yearbook 2012, and for IAI "Economia e industria della difesa: tabelle e grafici" 2009 and 2010. The original figure provided by SIPRI in 2009 was in dollars: the conversion is the work of the author based on the annual average exchange rate of Euro/Dollar for 2009 provided by the European Central Bank, at 1.3931

[39] Unisys, "Intra-Community Transfers of Defence Products", final report of the study "Assessment of Community initiatives related to intra-community transfers of defence products", Brussels 2005.

[40] Ibid

€115.7 billion, or 173 less 57.3. Lastly, using an average between the two estimates for capacity – 12.5% - the cost of the inefficiency in European defence spending would amount to $118 billion in 2003.

An alternative calculation could be made from another indicator relating to the armed forces, which is their ability to deploy troops abroad. Given the relative absence of conventional threats to European countries, and the prevailing doctrine that considers missions abroad as the main task of the armed forces, it could be argued that projection capability is an indicator corresponding to the efficiency of the forces. Moreover, at European level, sending contingents in mission is for now the only way to use the forces required by European defence policy. If this was indeed a decisive indicator, the situation would be really worrying. The table below, made with data provided by the European Defence Agency, shows the average number of troops deployed by the US and EU between 2006 and 2010, as a percentage of the total duty troops. During this time, European countries had an average of personnel deployed abroad equal to 4.2 of the deployed forces, while the US average was 14.6.



Source: EDA, Europe and United States Defence Expenditures 2010

This is the number of troops actually deployed abroad, not those that are potentially deployable, and therefore it is not necessarily equal to the full European potential. However both Europeans and Americans have been engaged in various theatres, and particularly Europeans have repeatedly complained about being at the limits of their capabilities – "*overstretched*" – therefore we can consider these data as an acceptable indicator. This seems to be confirmed by the substantial similarity between the average derived from the table above (4.2) and the average of the projection capabilities of the European countries which can be calculated according to the EDA data of 2010 relating to Europe (5.4%)[41]. This last figure could not be used because it lacked the US comparison. It should also be pointed out that these data are also estimates: according to the prestigious International Institute for Strategic Studies in London, for example, the number of European troops deployed in 2007 would be equal to only 2.7% of total troops available[42].

However, in the absence of definitive data, we can take the EDA data as good. In absolute terms i.e. in terms of the number of men actually sent on mission abroad, the data are the following:

[41] Author's calculation based on the data contained in EDA, National Defence Data 2010, table 39.
[42] Giegerich, B., and Nicoli, A., *European Military Capabilities: Building Armed Forces for Modern Operations*, IISS, London 2008

	2006	2007	2008	2009	2010
USA	198,800	187,600	209,700	230,500	198,813
EU	83,310	77,880	80,177	67,767	66,313

These same EDA data set indicate that European spending on defence in 2010 was €194 billion, with a corresponding American spending of €520 billion. For the US, the cost of sending a single man, obtained by dividing the total cost by the number of men sent, is thus €2,615,000, while the European figure is €2,925,000 i.e. €310,000 more for each soldier. If we multiply this figure by the number of European soldiers sent on a mission we get a total of €20.557 billion, which can be considered the cost of non-European defence.

Obviously all these estimates cannot be considered precise indicators. They are the result of not entirely appropriate comparisons between not fully comparable indicators. However, they are based on an incontrovertible and obvious fact: the difference between the amounts for defence spending and the performance achieved by the armed forces of the United States compared to the European ones. The estimates indicate that the costs of non-European defence could vary between €20 and €120 billion a year. This is a very wide range, but allows us to get an idea of the magnitude of the cost of non-European defence.

3.2 The strategic and political costs

The first chapter of this report discussed how the lack of a common European defence policy results in the dispersion of already scarce resources into a myriad of expenses and programmes on a national basis. Naturally, such dispersion is bound to have a negative impact on the effectiveness of European military systems.

Many European countries are still engaged in the structural conversion of their armed forces from the typical model of the Cold War, designed for static territorial defence, to the new "expeditionary" model based on sending contingents abroad. The national armed forces are laboriously changing their bloated structures, based on conscripts trained for traditional conflict on the borders of national territory, to smaller, professional and more flexible forces designed to carry out military operations of an asymmetric or unconventional type abroad.

At the same time, European forces are also facing the challenge of capability and technological conversion: asymmetrical and Petersberg missions require a strong ability to collect and quickly disseminate information, selective engagement of targets and highly flexible forces and, of course, projection capabilities. This means replacing obsolete equipment with equipment using the most sophisticated technology and therefore much more expensive, which also implies equally expensive and difficult training for its use – all of which in a moment marked by a persistent economic crisis.

The formal acknowledgment of the major European shortcomings in modern warfare occurred following the Kosovo war, which revealed serious deficiencies, for example, in transport and communication, or in precision munitions. These deficiencies had to be made up for by the United States: during Operation Allied Force, US aircraft carried out about 30,000 sorties out a total by NATO of 38,000[43], simply because the Europeans did not possess the necessary capabilities. At the Helsinki European Council in 1999, European leaders agreed that the EU would have to acquire the military capabilities required for autonomous action, and launched the first "Headline Goal" followed by a "Headline Goal 2010" and numerous other plans and initiatives. The goal of all these initiatives, which in other forms still continue today, is to develop

[43] Ball, G., *Operation Allied Force*, Air Force Historical Studies Office, 23 August 2012, http://www.afhso.af.mil/topics/factsheets/factsheet.asp?id=18652

equipment useful for the international crisis management activities expected of European forces, and encourage reforms to the structures inherited from the Cold War. The following table includes the changes in percentage terms of the various categories in the armed forces throughout the European Union between 1999 and 2009. Although it is a rather incomplete because it is based on a strictly quantitative and not qualitative analysis, it is useful in order to get an idea of the general trends.

	Categories	Variation in %, 1999-2009
Personnel	Army	-34
	Navy	-32
	Air force	-36
	Conscripts	-81
Land equipment	Tanks	-45
	Combat vehicles	-25
	Troop transport vehicles	-13
Air	Fighter planes	-37
	Transport aircraft	+47
	Support helicopters	-35
	Utility helicopters (including transport)	+84
Navy	Destroyers	-16
	Frigates	-30
	Patrol and coastal vessels	+56
	Amphibious vehicles	+80

Source: Keohane, D., and Blommestijin, C., Strength in numbers? Comparing EU military capabilities in 2009 with 1999, EU ISS Policy Brief no. 5, December 2009

There is clear trend towards a structure based on force projection. The significant reduction in the number of staff, especially the percentage of conscripts, and also tanks and fighter planes, cuts out the excesses and the expensive "heavy" platforms whose requirement for deployment is generally reduced, at least in comparison to the period of the Cold War. The concomitant increases in utility and transport aircraft and helicopters, amphibious and fast ships are all aimed at improving the expeditionary capability.

Despite everything that has been done so far, there are still weaknesses in some key capabilities. In order to fill these gaps, the EU launched an initiative that seems to have a greater scope than those set so far. First, the shortcomings were analysed in a "Progress Catalogue" produced in 2007 on the basis of the forces made available by the Member States for the CSDP. The catalogue revealed deficiencies in the ability to transport troops to the theatre of operations, to deploy them and protect them, and to acquire critical information about the situation on the ground. On this basis the European Defence Agency, the EU Military Committee and the Member States produced in 2008 a "Capability Development Plan", or CDP. The purpose of the plan is to provide Member States with information to improve their national decision-making processes and develop and stimulate their ability to cooperate, thus facilitating the launch of new joint programmes and overcoming the current lack of capabilities. The ultimate goal is to ensure the convergence of European spending towards common goals.

The EDA is the agency responsible for the CDP, which is currently one of its main priorities. The previous plan for the improvement of capabilities, the European Capabilities Action Plan of 2001, managed to focus attention by the Member States on building key capabilities but it was unable to turn this attention into actual resources because of the lack of an institution specifically dedicated to the task[44]. Similar attempts in NATO had suffered a similar fate. At the end of 2008, therefore, the agency began working on twelve

[44] Quille, G., *The European Security and Defence Policy: from the Helsinki Headline Goal to the EU Battlegroups*, European Parliament Note, September 2006

capability areas considered suitable for immediate action, out of the twenty-four identified in the Progress Catalogue. The areas are listed in the adjacent box.

CDP priority areas

1. Measures to counter man-portable air defence systems
2. Computer network operations
3. Mine counter-measures in littoral sea areas
4. Comprehensive approach - military implications
5. Military human intelligence and cultural/language training
6. Intelligence, surveillance, target acquisition and reconnaissance architecture
7. Medical support
8. Chemical, biological, radiological and nuclear defence
9. Third party logistic support
10. Measures to counter improvised explosive devices
11. Increased availability of helicopters
12. Network-enabled capability (NEC)

Several initiatives related to the CDP have already started to show results. A mobile lab to counter the use of IEDs (improvised explosive devices) was completed and deployed in Afghanistan to work with ISAF in June 2011. The training programme for helicopter crews is also operating, and has already involved 152 crews in three exercises. The *Third Party Logistic Support Platform*, used to identify commercial solutions for logistics support, is currently used to support the naval operation Atalanta, off the coast of Somalia[45]. Many other programmes are in various states of progress, from being in the stage of study to that of advanced development.

However, the work of the EDA is severely limited by its low funding. With a budget of approximately €30 million[46] and with 116 officials, the EDA can allocate only about 8 million for projects and development studies: the 32 projects and programmes currently underway are mainly funded by the participating countries for a meagre total of €312 million. Such a restriction appears to result from the political choice, by some participating countries, not to increase the relevance of a Communitarian institution in the field of defence. Britain, in particular, has repeatedly and explicitly expressed its desire that the EDA remains simply a "*dating agency*" to facilitate cooperation between Member States in the field of defence, and to refrain from any "*unnecessary institution building*"[47]. In the autumn of 2010 the British government had made it known that it would be reconsidering, within two years, the British participation in the Agency. In any case, overcoming most of the problems will require more than ten years of work, during which will be needed a high level of political attention to avoid the CDP to suffer the inglorious fate of previous development plans.

In the meantime, European forces will continue to suffer from many of the same serious shortcomings of today. This was unfortunately confirmed even recently, during the campaign for imposing the no-fly zone over Libya in 2011. During Operation Odyssey Dawn, the US provided 80% of the air refuelling missions, 75% of the aerial surveillance missions, 100% of the electronic warfare missions and 52% of the bombing missions[48]. Without their contribution, the operation could not have taken place. If the EU will consider it necessary, for its own security, to carry out a similar operation in its neighbourhood, it would not be able to do so. The EU would find itself forced to rely on the United States, if only to impose a no-fly zone over a country just a few miles from the borders of a Union, with a deficient and not up to date air defence system. Very few European countries currently have sufficient funds to acquire all-round capabilities, especially given the rising costs of equipment and armaments. From the strategic and operational point of view this means that the European forces, despite having millions of men and a sizeable overall budget, lack certain operational capabilities and that is also an indirect consequence of the costs of non-European defence. A cost impossible to quantify because it amounts to the political cost of missed opportunities, of all the initiatives that could have been undertaken but were not, and also of all the initiatives that have

[45] Report by the Head of the European Defence Agency to the Council, 30 November 2011

[46] All the following data are taken from the EDA Annual Report 2011, which can be downloaded from the Agency's website

[47] See the EU CSDP section in the UK Ministry of Defence's website, http://www.mod.uk/DefenceInternet/AboutDefence/Organisation/KeyFactsAboutDefence/EuropeanDefence.htm

[48] Taylor, C., Military Operations in Libya, House of Commons Standard Notes SN/IA/5909, 24 October 2011

taken place at performance levels lower than that which could have been attained with more appropriate capacities. It is also the political cost of dependence on the American ally. Lastly, it is also an additional economic cost, consisting of all the thousands of man-hours that have doubtless been lost while looking for a way to plug the gaps caused by the lack of capabilities: for instance, negotiating an agreement with Ukraine to use helicopters for the European mission in Chad/CAR.

Conclusions

Towards a more effective and efficient European defence?

The analysis carried out so far provide a more complete picture of the situation, in which it is possible to delineate a clear coexistence of two opposing tendencies. On the one hand, European countries still clearly consider defence as an almost exclusively national domain. This trend, which of course is stronger in some countries than in others, is expressed primarily in a widespread resistance to opening national defence markets to European competition, and a strong desire to continue to maintain an industrial and technological base of defence through para-protectionist policies, such as the invocation of national security exceptions in order to assign contracts to domestic companies or by designating specific standards and requirements to favour domestic producers. Similarly, the path towards the constitution of multinational units and, generally, towards forming a structure of continental defence is slowed – and even prevented - by a series of problems related primarily to the lack of political unity in the continent, failing which it would perhaps be too optimistic to expect substantial strides forward in military integration. It is this failure and its direct consequences, such as the lack of an actually common foreign and security policy, that acts as a disincentive to the use of European instruments and tools that have been created, such as the Battlegroups. It is therefore necessary to be aware of how difficult it will be to mitigate the high economic and political costs of non-European defence, and to accept that these costs will have to paid for the foreseeable future as well.

However, there is also another clear trend which goes in the opposite direction, and which we also underlined. The burden of the costs of non-European defence is pushing European countries and institutions to slowly and gradually move towards integration, with more or less enthusiasm. The European Commission has shown an intense and growing activism in the regulation of the defence market over the last decade, fielding a wide and ramified range of tools bearing on all the main issues related to the subject. Other initiatives of inter-governmental nature, such as OCCAR and the LoI, have been created with similar goals, while the European Defence Agency contributes in this respect with voluntary Codes of conduct, and especially with a growing commitment to cooperation in the field of armaments. The very decision to establish the Agency demonstrates that there indeed is a push towards integration in the field of defence – and yet in the same way, its lack of funding and disagreements about its specific role testify to the challenges of the task. Lastly, important institutional tools, such as permanent enhanced cooperation, have been included in the Lisbon Treaty, even if still not used.

The dynamic interactions between these two trends mean that the European defence often takes two steps forward and one back, or vice versa, depending on the prevalence of either trend. The various initiatives arise as a result of a number of contingent factors and forces, and the resulting framework is therefore uneven, inconsistent and fragmented. The end result, in terms of integration, it is not enough to relieve the weight of the enormous costs of non-European defence. These costs, as we have seen, are such as to prevent the establishment of military capabilities sufficient to meet the challenges to European security that will arise in the uncertain future of a globalized and multi-polar world. The gradual disengagement of the United States from the European continent will make it even more necessary for the European Union to have the capability for autonomous, independent action: otherwise the risk, indeed the certainty, is the marginalization of the continent. The only way to avoid this is therefore a decisive step forward in the integration of European defence.

The pole star to be followed should be the progressive centralization of European forces, of their strategic cultures and planning capabilities, the harmonization of procedures and the development of efficient

equipment and armaments. But we must keep in mind the limitations, especially in terms of time, of this process, and not ignore the preference for an intergovernmental approach expressed more or less explicitly and unequivocally by several Member States. The challenge is therefore to proceed towards making defence a communitarian matter by proposing instruments and initiatives that can be accepted even by the countries which have, so far, shown a clear preference for the national or intergovernative way.

As a precondition to this, it will be crucial for Italy to recover its dynamism in European politics and in that of security and defence. The marginalization that Italy has suffered in recent years is evidenced by Italians not always having an adequate presence in European organizations, and in the exclusion of Italy from some important tables and initiatives in this area. To restore Italy's role, one of the first things to do would be not to fail to transpose EU directives, which in any case can sometimes put Italian firms at a disadvantage compared to European competition. Becoming more dynamic would also involve our ability to be proactive at EU level, an ability which we demonstrated very well recently, for example in the document "*More Europe*" specifically prepared by the Italian MoD and Foreign Ministry for the defence of the European Council in December 2013.

The timely transposition of European legislation will be particularly important to facilitate more extensive and punctual compliance with the European Commission's initiatives in the defence market. As we saw in Chapter 2, the real impact of the "defence package" will depend a lot on how Member States comply with both the letter and the spirit of this initiative. In order to alleviate the cost of the inefficiency of the non-European defence market, it would be in Italy's interest to promote at every occasion an effective implementation of the "defence package". This would be of benefit to Italian companies in the sector, making them confidently able to face European competition. To do this, we should be the first to implement the Directive properly: this will enable us to demand the same from our partners.

In the field of sharing military structures, there are many initiatives that could be considered, especially if taking into account that the economic crisis is forcing countries to cooperate, whether or not willingly. In this respect, consider the Anglo-French Agreement of November 2010 which was established not for purposes of integration but purely for maximization of defence expenditure. We therefore need to identify initiatives that could potentially gather more support, but making sure that these initiatives do not end up forming reasons for slowing down the process of integration or a split in Europe. To this end, each initiative must take into account, and interface with, what is already being done in the same field at the EDA, OCCAR, LoI, and so on. In addition, each initiative must be of a strictly non-exclusive nature, otherwise there is the risk of creating "Directorates" with negative effects for both the community dimension of European defence and for Italy.

An ambitious example might be the proposal of an initiative for the acquisition of shared assets, in the same way that is already being done with the European space programme Galileo or with the NATO Airborne Early Warning and Control Force, which operates a fleet of 17 E-3A AWACS owned and used by the Atlantic Alliance. We are therefore referring to initiatives aimed at providing the EU with its own capabilities. Such initiatives could be inspired by and included in the EDA Capabilities Development Plan. The Italian authorities could begin a process of evaluating which structures it would be useful to have and share at European level, for example a fleet of aircraft for in-flight refueling, already the subject of a recent cooperation initiative, or tactical transport aircraft, another major weakness of European capabilities.

At the same time, it could be possible to facilitate the maintaining of valuable skills at European level, by promoting an initiative of coordinating defence budget cuts throughout the continent. Almost all European countries are downsizing their budgets because of the crisis: the problem is that they are doing so entirely independently of each other, with the risk that important skills are cut from each national force. An initiative of coordination and harmonization, perhaps chaired by the High Representative on Italian encouragement, could ensure that critical capabilities are maintained at least at the EU level.

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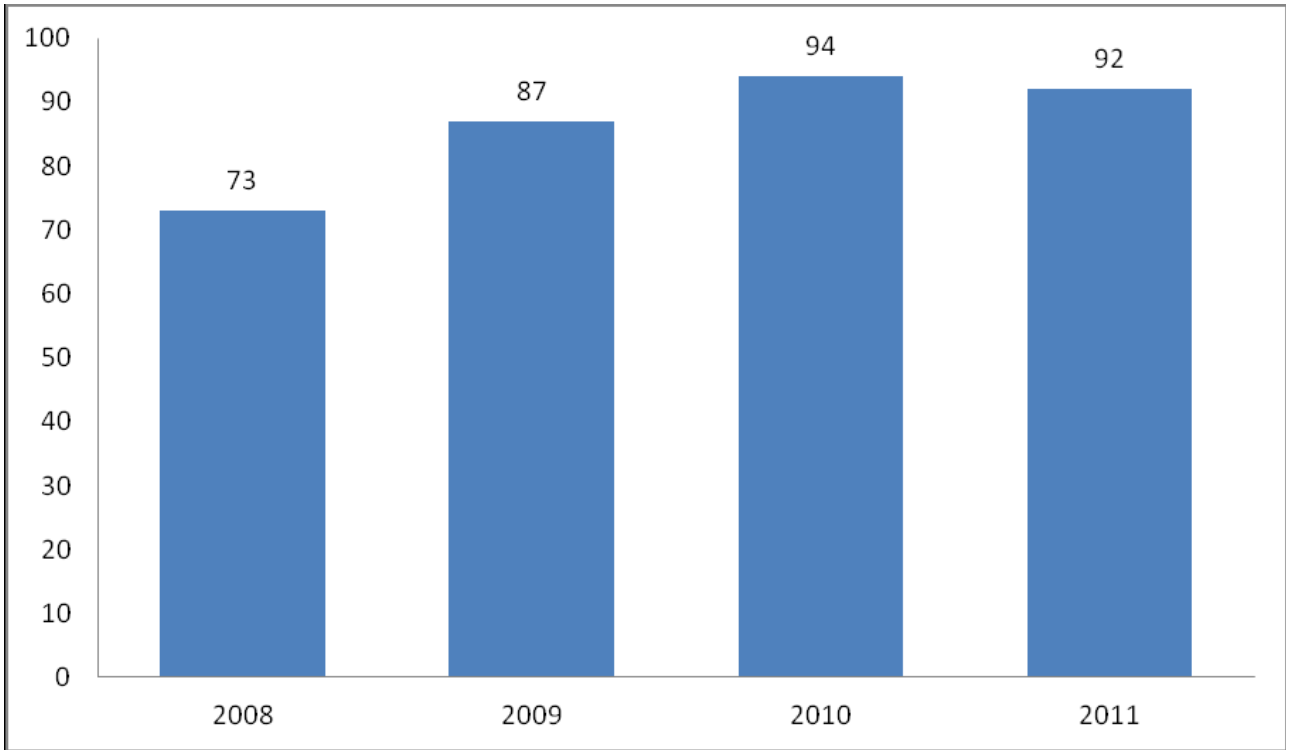
Annex I – The Italian and European defence industry

European defence industry: basic data

Total revenues	**93 billion Euro**
Employment (direct)	**733,757 people**
Investments in Research & Development	**16.3 billion Euro**
Exports (aeronautical sector)	**38.6 billion Euro**

Source: ASD Facts and Figures 2012

Sales volumes in the defence sector, in billions of Euro



Source: ASD Facts and Figures 2012

2012 sales by sector, in billions of Euro

Aeronautical	**42.6**
Land	**30.7**
Sea	**18.6**
Space*	**9.8**

Source: ASD Facts and Figures 2012

Armament exports by the main European producer countries, 2000-2009

Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Austria			49	153	6	154	194	176	307	483
Belgium	894	921	1286	877	767	350	1174	1275	1949	1531
Czech Rep.	100	65	86	109	127	120	124	246	277	243
Denmark	83	127	105	144	120	174	278	238	2607	
Finland	27	43	61	64	59	141	71	106	136	121
France	3144	3433	4973	5653	10044	5211	5383	6429	4631	5175
Germany	781	398	357	1755	1592	2227	1834	1577	2082	1860
Greece	24	55	59	147	21	40	118	46	70	315
Ireland	36	59	40	46	38	41	61	47	45	63
Italy	693	601	547	829	677	1135	1295	1794	2594	3063
Netherlands	479	706	505	1515	880	1605	1502	1238	1836	1958
Poland	50	61	95	241	371	396	367	406	537	1932
Portugal	15	12	7	33	17	10	1		104	22
Romania	47	30	52	80	58	41	106	87	121	136
Slovakia					28	29	53	42	55	61
Spain	158	250	309	504	573	572	1128	1321	1363	1871
Sweden	594	359	421	934	1127	1268	1496	1470	1920	1772
Hungary	21	11	8	14	13	16	21	24	22	24
UK	3244	2674	1684	1889	2893	2778	2659	4286		
Tot. EU	**10307**	**9761**	**10666**	**14948**	**19435**	**16254**	**17761**	**20848**	**18287**	**23237**

Financial value in millions of dollars, prices set at 2009, source: SIPRI

Comparison between exports from EU countries, USA and Russia, 2000-2009

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
EU	10307	9761	10666	14948	19435	16254	17761	20848	18287	23237
USA	16028	11072	11622	12648	13198	12939	13143	12756	11913	14383
Russia	4585	4489	5749	6531	6565	6730	6917	7657	8320	8600

Financial value in millions of dollars, prices set at 2009, source: SIPRI

The main 15 defence companies in the world, 2009

	Company	Nationality	Value of the armaments sector	Value of total sales	Value of armaments sales as a % of the total
1	Lockheed Martin	USA	33,430	45,189	74
2	BAE Systems	UK	33,250	34,914	95
3	Boeing	USA	32,300	68,281	47
4	Northrop Grumman	USA	27,000	33,755	80
5	General Dynamics	USA	25,590	31,981	80
6	Raytheon	USA	23,080	24,881	93
7	EADS	EU	15,930	59,475	27
8	Finmeccanica	Italy	13,280	25,244	53
9	L-3 Communications	USA	13,010	15,615	83
10	United Technologies	USA	11,110	52,920	21
11	Thales	France	10,200	17,890	57
12	SAIC	USA	8,030	10,846	74
13	Honeywell	USA	5,380	30,908	17
14	Safran	France	4,740	14,511	33
15	ITT Corp.	USA	4,730	10,905	43

Source: SIPRI. Values in millions of dollars of 2009. China excluded.

Annex II – Duplications in armaments programmes

De Vestel Table 1995

Systems in production	Europe	USA
Land		
Tanks	4	1
AIFV/APC	16	3
155mm sp howitzer	3	1
Air		
Fighter/ground attack	7	5
Attack helicopters	7	5
Anti-ship missiles	9	3
Air-to-air missiles	8	4
Sea		
Frigates	11	1
Diesel submarines	7	0
Nuclear submarines	2	1
Total:	71	23

Table updated to 2012

Systems in production	Europe	USA
Land		
Tanks	2	1
AIFV/APC	11	1+MRAPs*
155mm sp howitzer	4	0
Air		

Fighter/ground attack	3	3
Attack helicopters	2	1
Anti-ship missiles	7	1
Air-to-air missiles	2	3
Sea		
Frigates	2	0
Diesel submarines	2	0
Nuclear sub marines	1	1
Total:	36	11

* various types of MRAPs (*Mine Resistant Ambush Protected vehicles*) were hurriedly introduced between 2005 and the present date as a result of the developments in the wars of occupation in Afghanistan and, particularly, Iraq. Now that the emergency has passed, the armed forces are assessing which vehicles to develop as a single type. For this reason, we decided not to include in the table the 6 to 7 MRAP models currently in use.

Duplications: tanks

Europe			USA		
In use	In prod.	Origin	In use	In prod.	Origin
Leopard 2	y	KMV (GER)	M1A1 Abrams	y	General Dynamics Land Sys.
AMX 30	n	GIAT (FRA)			
Leclerc	y	Nexel (FRA)			
Ariete	n	Iveco/Oto Melara (IT)			
Challenger 2	n	Vickers (UK)			
TOT	2		TOT	1	
+					
M 60					
M 48					
T 54/55					
T 72					
T 80					

Duplications: IFV/APC

Europe			USA		
In use	In prod.	Origin	In use	In prod.	Origin
VBM Freccia	y	Consortium IVECO FIAT - OTO Melara IT	M2/M3 Bradley	n	BAE Sys (UK)
Dardo	y	OtoBreda (IT)	IAV Stryker	y	General Dynamics Land Sys. (US)
Pandur II	y	Steyr-Daimler-Puch Spezialfahrzeug (AUS)	AAV 7A1	n	US Combat systems (US)
tridsfordon 90	y	BAE Systems (UK)	MRAP (QUESTIONABLE)		various
Pizarro	y	ASCOD (SPA)			
Marder	n	Rheinmetall (GER)			
Pizarro	y	ASCOD (SPA)			
Marder	n	Rheinmetall (GER)			
Puma	n	IVECO / OtoBreda			
Dingo 2	y	KMV (GER)			
Aravis	y	Nexter Systems (FRA)			
Bv 206S	y	Hagglunds (SWE)			
GTK Boxer	y	ARTEC (GER/PB)			
BvS10	y	BAE Systems (UK)			
AMV	y	Patria (FIN)			
FV432 Mk 3 (Bulldog)	n	BAE Systems (UK)			
TOT	11		TOT	1	

Duplications: *15mm self-propelled howitzers*

Europe			USA		
In use	In prod.	Origin	In use	In prod.	Origin
Mk F3	n	Nexter (FRA)	M109 Paladin	n	US
Zuzana	y	SLO			
CAESAR	y	GIAT (FRA)			
GCT 155mm	n	Nexter (FRA)			
PzH 2000	y	KMW/Rheinmetall (GER)			
Archer	y	BAE (UK)			
AS90	n	Vickers (UK)			
+					
M109 Paladin					
TOT	4		TOT	0	

Duplications: fighter/ground attack aircraft

Europe			USA		
In use	In prod.	Origin	In use	In prod.	Origin
Harrier	n	BAE/McDonnell Douglas (UK/US)	F15 Eagle/Strike Eagle	Y (solo per export)	McDonnell Douglas/Boeing
Typhoon	y	Eurofighter GmbH (UK, IT, GER, SPA)	F/A 18 Hornet/Super Hornet	y	McDonnell Douglas/Boeing
Gripen	y	SAAB (SWE)	F16 Fighting Falcon	Y (solo per export)	General Dynamics
Rafale	y	Dassault (FRA)	F22 Raptor	n	Lockheed Martin/Boeing
Mirage F1	n	Dassault (FRA)			
Mirage 2000	n	Dassault (FRA)			
Tornado	n	Panavia (IT, GER, UK)			
AMX Ghibli	n	Aeritalia/Aermacchi/Embraer (IT, BRA)			
L-159 Alca	n	Aero Vodochody (CZ)			
TOT	3		2(4)		
+					
F15 Eagle/Strike Eagle		McDonnell Douglas/Boeing			
F16 Fighting Falcon		General Dynamics			
F4 Phantom II		McDonnell Douglas			
Mig 29 Fulcrum		Mikoyan (RUS)			
SU 22 Fitter		Sukhoi (RUS)			
F5 Freedom fighter		Northrop (US)			

Duplications: attack helicopters

Europe			USA		
In use	In prod.	Origin	In use	In prod.	Origin
EC665 Tigre	y	Eurocopter (FRA, GER, SPA)	AH 1W Cobra	n	Bell (US)
AW129 Mangusta	y	AgustaWestland (IT)	AH 64 Apache	n	Boeing (US)
			AH 1Z Viper	y	Bell
TOT	2		TOT	1	
+					
AH 1W Cobra		Bell (US)			
AH 64 Apache		Boeing (US)			
Mi 24/35 Hind		Mil (RUS)			

Duplications: anti-ship missiles

Europe			USA		
Type	In prod.	Origin	Type	In prod.	Origin
MM38 Exocet	y	Aérospatiale (FRA)	Harpoon	y	Boeing (US)
RBS 15	y	ZM Mesko (SWE)			
Sea Skua	y	MBDA UK (UK)			
Penguin	y	KDA (NOR)			
Otomat Mk2A	y	MBDA (IT)			
Marte mk2	y	Oto Melara			
NSM	y	KDA (NOR)			
TOT	7		TOT	1	

Duplications: air-to-air missiles

Europe			USA		
In use	In prod.	Origin	In use	In prod.	Origin
Iris T (IR SR)	y	Diehl BGT + IT, SWE, GRE	AIM 7M Sparrow MR, (SARH)	y	Raytheon
R-550 Magic (IR SR)	n	Matra	AIM 120C AMRAAM (MR, ARH)	y	Raytheon
Mica (ARH/IR S-MR)	y	MBDA	AIM 9l (SR, IR) Sidewinder	y	Raytheon, Boeing
Super 530	n	Matra			
TOT	2			3	
+					
Python		Rafael (ISR)			
AIM 9l (IR) Sidewinder		Raytheon, Boeing			
AIM 7M Sparrow (SARH)		Raytheon			
AIM 120C AMRAAM (ARH)		Raytheon			

Duplications: frigates

Europe			USA		
In use	In prod.	Origin	In use	In prod.	Origin
FREMM	y	DCNS / Armaris and Fincantieri (FRA, IT)	Perry	n	vari
Karel Doorman	n	Koninklijke Maatschappij De Schede (PB)			
La Fayette	n	DCNS (FRA)			
Sachsen	n	ARGE F124 / Blohm + Voss (GER)			
Fritjof Nansen	n	Navantia			
Alvaro De Bazan	y	Empresa Nacional Bazan (SPA)			
Wielingen	n	Boelwerf Shipyard (BEL)			
Floreal	n	Chantiers de l'Atlantique (FRA)			
Bremen	n	Bremer Vulkan (GER)			
Brandenburg	n	Blohm + Voss (GER)			
Kortenaer	n	De Schelde (PB)			
MEKO 200	n	Blohm + Voss (GER)			
Artigliere	n	Fincantieri (IT)			
Lupo	n	Fincantieri (IT)			
Maestrale	n	Fincantieri (IT)			
Type 23 Duke class	n	Yarrow, Swan (UK)			
TOT	2		TOT	0	

Duplications: submarines

Europe			USA	
In use	In prod.	Origin	In use	Origin
T - 209	n	Howaldtswerke-Deutsche Werft (GER)		
T-212/Todaro	y	Howaldtswerke-Deutsche Werft (GER)		

T-207	n	Nordseewerke (GER)		
T-214	y	Howaldtswerke-Deutsche Werft (GER)		
Pelosi	n	Fincantieri (IT)		
Walrus	n	RDM (PB)		
Ula	n	Kongsberg (NOR)		
Agosta	n	Arsenal de Cherbourg (FRA)		
Gotland	n	Kokhums (SWE)		
Sodermanland	n	Kokhums (SWE)		
TOT	2		TOT	0

Duplications: nuclear submarines

Europe			USA		
In use	In prod.	Origin	In use	In prod.	Origin
Rubis	n	DCNS (FRA)	Ohio	n	General Dynamics Electric Boat
Astute	y	BAE Systems Submarine Solutions (UK)	Los Angeles	n	Newport News, General Dynamics Electric Boat
Trafalgar	n	Vickers (UK)	Virginia	y	Newport News, General Dynamics Electric Boat, Drydock
Le Triomphant	n	DCNS (FRA)	Seawolf	n	General Dynamics Electric Boa
Vanguard	n	Vickers (UK)			
TOT	1		TOT	1	

Future duplications: infantry kit under development

Felin - (Fantassin à Équipements et Liaisons Intégrés) - Future Infantry Soldier System	FRA
FIST - Future Infantry Soldier Technology	UK
IdZ (Infanterist der Zukunft) Future Soldier System	GER
Land Warrior Integrated Soldier System	US
Soldato Futuro	IT
COMbatiente FUTuro	SPA

Future duplications: combat UAV under development

Taranis	UK
UCAVX	FRA, UK
Barracuda	GER, SPA
nEUROn (demo)	FRA, IT, SWE, GRE, SPA, SW
Predator/Reaper/Avenger	US
X45C-Phantom Ray	US (USAF)

Future duplications: satellite communication systems

Constellation	Country
Syracuse 3	FR
Skynet	UK
Sicral	IT
COMSAT-B	GER
Spainsat	SPA
Xtar-Eur	SPA

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