

# LUISS



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**The Italian Aerospace, Security and Defence  
Industrial Policy:  
Sistema Paese and International Cooperation**

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*"Volat agile,  
rapide observat"*  
*(ai miei Nonni, alla mia Famiglia)*

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## Introduction

The aim of a good research is to provide the readers an answer and in order to provide it, firstly, we must pose a question. Therefore, I am starting this introduction by presenting the general question that will take us throughout the entire research: what is the impact of the Aerospace, Security and Defence Industry (ASD) on the Italian *Sistema Paese*? This question, however, must be answered analysing a second relevant topic: International Cooperation. Thus, to really understand its impact, there will be a second general question: how is the ASD compartment affected by International Cooperation?

As 2020 and 2021 will be remembered in history. 2020 will be marked in historian books as the year of the pandemic. In fact, the outbreak of the Covid-19 crisis changed our lives forever and, of course, changed our economies with important consequences to the compartment I will analyse. Differently to 2020, we will write 2021, a year that started positively, with the first vaccinations and the aim of recovering and, if possible, to create even better conditions as we have to consider that Coronavirus hit all actors.

Moreover, apart from the pandemic and the consequent recovery, 2021 is already providing important features to consider for this research, firstly, Italy's new Government led by Professor Mario Draghi, secondly, the Italian Ministry of Defence gained more independence for its budget than in the past.

During his speeches in the Senate and in the Chamber of Deputies, Prime Minister Draghi reminded and highlighted the two main pillars of the Italian foreign policy:

*"Questo governo nasce nel solco dell'appartenenza del nostro Paese, come socio fondatore, all'Unione europea, e come protagonista dell'Alleanza Atlantica."*

(This Government was born in the wake of our Country's belonging, as founder of the European Union and as a protagonist of the North Atlantic Treaty Organisation)

By highlighting this passage, I am not questioning previous Italian's policies or claiming a lack of the Italian membership to the European Union and to the North Atlantic Treaty Organisation (NATO), but this sentence remarks the Italian centrality in international cooperation, a role that is essential in this research.

Secondly, from 2017 to 2020, Ministry of Defence (MoD) budget was assigned as “*a fattore legislativo*”<sup>1</sup> which meant the Parliament agreed on the amount at the disposal of the Ministry and how those funds had to be invested, limiting the Ministry’s autonomy. The introduction of the “*Legge di Bilancio 2021*” led to an essential change. The funds of the MoD are assigned depending on the “*Fabbisogno*”, this means the Government allocates funds to the Ministry, which has full control over them. From a certain point of view, we can argue that this gives more autonomy to the Ministry, but those funds are assigned for a given time. In addition, we have to take into account that not all the funds are given to the Ministry of Defence, as, to a certain extent, they are shared with the Ministry of Investments and Economic Development, therefore both Ministries participate in the Defence programs, that are the most important ASD Industrial investments.

After this brief introduction to the scenario in which this analysis must be contextualised, I am going to explain my research question. One of the Italian Industrial Policy pillars is the “Sistema Paese”, which is a national concept that aims to assist national industries and the national economy, especially when dealing with exports and foreign investments. This is partly in contrast with the idea of International Cooperation (on which Draghi’s government is based), and more specifically of free competition in Industrial Policies and with all the international instruments and international programs in which Italy participates.

To answer the two core questions, the research is divided into 4 chapters before reaching a conclusion. Firstly, I will give a background of the Italian budget of Defence, I analyse how it is divided, its impact on the GDP, and why industrial policy is so relevant in the budget. In addition, I write about the current impact of the Italian Industrial Policy in Defence for what concerns the “*Piano Nazionale Ripresa e Resilienza*” (that is the Italian National Plan for the recovery after the pandemic. The Italian Ministry of Defence is currently playing a fundamental role in the fight against coronavirus, firstly giving at the disposal of the National Health System military doctors and structures, secondly thanks to “*Operazione EOS*” that is the national operation for the transportation of vaccines and thirdly, it will play a key role in industry and investments. Finally, I focus on cybersecurity, a central topic in nowadays discussions about Security and Defence. In fact, part of the

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<sup>1</sup> Ministero delle Finanze “*Glossario per tavole e database spese bilancio dello Stato*” (2013) <https://www.rgs.mef.gov.it/Documenti/VERSIONE-I/Pubblicazioni/Studi-e-do/La-spesa-d/Glossario-2013.pdf>

Recovery Fund will be dedicated to reinforcing the current Italian Cyber structures and platforms, for example, with the creation of a specialised National Agency for Cybersecurity, a topic that is currently under discussions following the nomination of Elisabetta Belloni as Director of the *Dipartimento Informazioni per la Sicurezza* (Department Information for Security).

In the second Chapter, I will provide an analysis of the “*Sistema Paese*” policy. What are its benefits? Can it be improved? To conduct this part of the research, I will investigate on both the Public and the Private Sectors. For the public sector, I will focus on the Ministries that are relevant to the Sistema Paese, while for the private sector, I will provide two case studies: Leonardo and Fincantieri. They are leaders in their specific sector and are the most important partners for the Italian Government in this field. As Italian industries, they are the actors that benefit the most from the Sistema Paese policy, but does Italy and the Italian Ministry of Defence benefit from it? In addition, I will focus on governmental powers relevant to international commerce such as the Government-to-Government Agreements and the Golden Power, finally, I will conclude the Chapter analysing the weaknesses the Defence and Security Industries have impacting Sistema Paese.

In the third Chapter, I am going to analyse the Italian Industrial international cooperation and its relationship with the European Union and NATO, in this Chapter I will highlight the strategic relevance of the European Defence Fund, of the European Defence Agency, and the 2% of the National GDP request by the Atlantic Organisation. The Italian role in the international context has been highlighted several times and on several occasions by both the Prime Minister and the Minister of Defence Lorenzo Guerini, but what the implications in the national industry? The European Commission has recently created the Directorate General for Defence Industry and Space (DEFIS) and the European Defence Fund has been implemented. Moreover, the European Union took several other steps to harmonise the 27 Member States industries, while NATO still lacks an efficient power in terms of Industrial development.



The fourth and final Chapter will be dedicated to the analysis of the work and policy recommendations. After the analysis of the two main systems for the industry of Security: International Cooperation vs Sistema Paese, based on the researches conducted in the second and third Chapters I will try to assess which are their benefits and limits to the national economy and how they should interact. Can we improve the efforts of the national industries? Are the new European initiatives enough? Those are the kinds of questions I will answer in this Chapter.

### **Methodological note**

In conclusion, this research aims to provide an analysis of the Italian ASD industrial policy, its current characteristics, an analysis of the main actors, and the possible future scenarios. I will focus on two main frameworks: the ASD Industrial impact on Sistema Paese and international cooperation, particularly analysing the current characteristics of the European framework and the North Atlantic Treaty Organisation.

In order to conduct this research, I based my research on governmental (including European Union Institutions and Agencies) official documents, think tanks research, academics and treaties. In addition, the fourth and final Chapter will be integrated with two important interviews: one to Brigadier General Fortunato di Marzio, who is currently the Director of the Third Department of the Italian Secretariat General of Defence/ National Armament Directorate (SGD/DNA) and as US ASD Industry representative, who is currently in charge of the industries investments in Italy. In fact, the general idea is to provide different points of view from both the military and industrial ones to have a research that analyses the possible complementarities and differences.

# **Chapter 1:**

## **The Italian Industrial Policy in the field of Defence and Security**

In this chapter, I will try to analyse the Italian military expenditure. Firstly, I will focus on the context in which the Italian Defence operates. Secondly, I will give a general introduction about the Security Industry's importance in the national economy. Thirdly, I will analyse the military expenditure in frequent year compared to previous the previous ones and its importance in the context of the *Piano Nazionale Resilienza e Ripresa* – PNRR (Resilience and Recovery National Plan).

### **1.1 In which context does the Italian Defence operate?**

As I wrote in the introduction, Mario Draghi's Government was born with strong Atlantic and European roots. Even if International cooperation will be analysed in the third chapter of this research, I think it is useful in this first chapter to have a background of the Italian Defence context. Italy operates in 3 different spheres:

- Homeland: the protection of the national territory is the most important aim of the Italian Defence.
- Euro-Atlantic: the Euro-Atlantic region is a cornerstone of the Italian Defence policy as it represents our bilateral and multilateral interests. Let me use an extreme example like NATO Article 5:

*“The Parties agree that an armed attack against one or more of them in Europe or North America shall be considered an attack against them all and consequently they agree that, if such an armed attack occurs, each of them, in exercise of the*

*right of individual or collective self-defence recognised by Article 51 of the Charter of the United Nations, will assist the Party or Parties so attacked by taking forthwith, individually and in concert with the other Parties, such action as it deems necessary, including the use of armed force, to restore and maintain the security of the North Atlantic area. Any such armed attack and all measures taken as a result thereof shall immediately be reported to the Security Council. Such measures shall be terminated when the Security Council has taken the measures necessary to restore and maintain international peace and security.”*<sup>2</sup>

This Article, even if it has been invoked only once (by the United States of America after the terrorist attacks on 11<sup>th</sup> September)<sup>3</sup>, perfectly represents the importance of strategic alliances and why the defence of the Euro-Atlantic region is one of the 3 pillars of the Italian Defence policy.

- Euro-Mediterranean region: the “Mare Nostrum” is the third pillar of the Italian policy, all our hotspots are in this region, Italy has strong interests in the protection of this area from historical, economic and political perspectives.<sup>4</sup> In fact, even if the Mediterranean Sea represents only 1% of the global water sphere, 20% of the Maritime Traffic takes places in this sea and about 65% of the energetic resources of Europe pass through those waters.<sup>5</sup>

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<sup>2</sup> [https://www.nato.int/cps/en/natolive/official\\_texts\\_17120.htm](https://www.nato.int/cps/en/natolive/official_texts_17120.htm)

<sup>3</sup> The North Atlantic Treaty Washington D.C. - 4 April 1949

[https://www.nato.int/cps/en/natohq/topics\\_110496.htm](https://www.nato.int/cps/en/natohq/topics_110496.htm) (consulted on 20/02/2021)

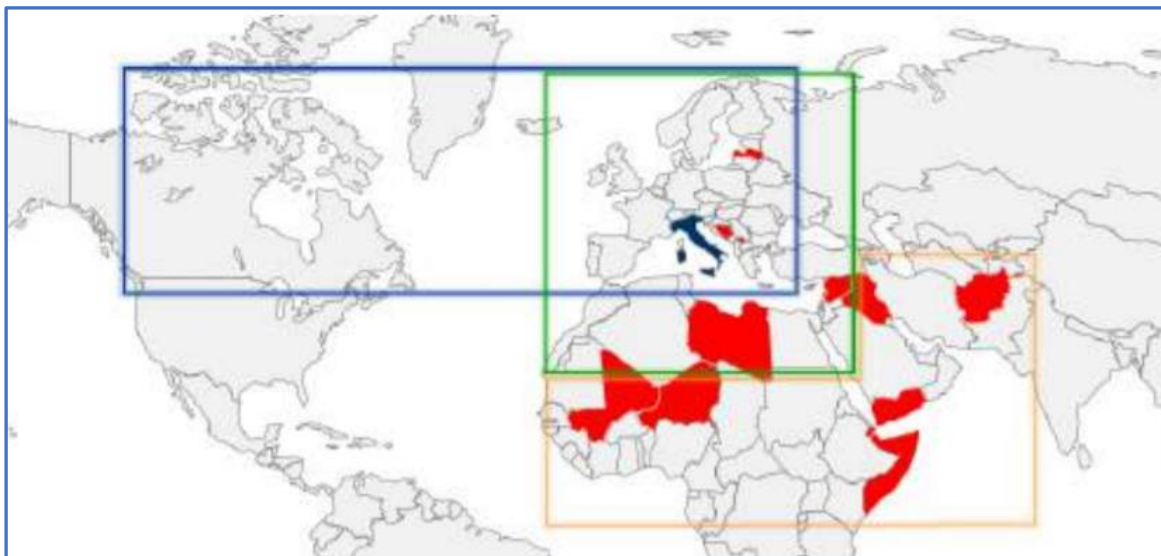
<sup>4</sup> The Ministry of Defence – White Paper for international security and defence (2015)

[https://www.difesa.it/Primo\\_Piano/Documents/2015/07\\_Luglio/White%20book.pdf](https://www.difesa.it/Primo_Piano/Documents/2015/07_Luglio/White%20book.pdf)

<sup>5</sup> Ministero della Difesa – Atto di Indirizzo per l’avvio del ciclo integrato di programmazione della performance e di formazione del bilancio di previsione per l’E.F. 2021 e la programmazione pluriennale 2022-2023 (2020)

[https://www.difesa.it/Content/Documents/AI%202021\\_15042020%20rev.%20CdG\\_firmato%20MoD%20x%20pubblicazione.pdf](https://www.difesa.it/Content/Documents/AI%202021_15042020%20rev.%20CdG_firmato%20MoD%20x%20pubblicazione.pdf) (consulted on 28/02/2021)

**Figure 1:** *the three dimensions of the Italian Defence*



**Source:** *General Loria class during the course of Security Studies*<sup>6</sup>

The Italian operational area is so extended as it is the result of a more globalised world, globalisation, in the context of Security has its pros and cons. While it is true that Italy benefits from international cooperation from several perspectives such as geopolitics, economy, international relations, and status, we have to consider that international cooperation was born mainly to face threats that are more and more: Non-State, hybrid and/or global.

For example, as described in a document from the Italian Ministry of Economy (MEF), in which the *Legge di Bilancio* is presented, Italy can face the following threats:

- In the southern border, the “*Mediterraneo Allargato*” (enlarged Mediterranean)<sup>7</sup> is the primary focus. It is vital for the “Sistema Paese” from a geopolitical perspective, but this region is still facing instability due to crises and conflicts. Those factors lead to illegal migration and illegal trade of people and goods. Migration, in particular, is very important from a political

<sup>6</sup>[https://learn.luiss.it/pluginfile.php/1058059/mod\\_resource/content/1/Italian%20Army%20FOE%202035%20%28LUISS%20-%20LORIA%29\\_compressed.pdf](https://learn.luiss.it/pluginfile.php/1058059/mod_resource/content/1/Italian%20Army%20FOE%202035%20%28LUISS%20-%20LORIA%29_compressed.pdf) (consulted on 20/02/2021)

<sup>7</sup> <https://www.analisidifesa.it/2020/11/quali-sono-i-confini-del-mediterraneo-allargato/> (consulted on 20/02/2021)

perspective, often used in the public debate; even if we see a trend of stabilisation in the last years, the crisis is not over yet and we might face it again.

- From the east, the main threat are the Balkans, the Russian border (i.e., Ukraine) and the outcome on the energetic revenue, Russia is still one of the main sources for European countries of natural gas.<sup>8</sup> The Italian approach is described as “Dual track” as it is opened to dialogue, but it is at the same time firmness.
- We must include also global threats, such as organised crime (that has repercussions on decision making nationally and internationally, industrial outcome etc.), climate change (on which the Italian Defence has projects too) and international terrorism. A new threat comes from the Information and Communication Technology (ICT). The Italian government started recently creating programs capable of facing cyber threats, those programs, as are part of the “*Piano Nazionale Ripresa e Resilienza*” will be explored later in this chapter.<sup>9</sup>

As mentioned in the introduction of this research, one of the key events we have to consider is the Italian political crisis that led to Mario Draghi's appointment as Prime Minister. I have already mentioned his speeches in the Senate and in the Chamber of Deputies about his Atlantic and European vision. However, political instability undermines credibility and trustworthiness to the eyes of our allies.<sup>10</sup> Draghi first manoeuvre to avoid this problem was confirming Minister Luigi Di Maio (Ministry of Foreign Affairs and International Cooperation) and Minister Lorenzo Guerini (Ministry of Defence) plus, not as Minister but as Undersecretary to the Presidency of the Council of Minister designated to European Affairs Vincenzo Amendola. Apart from political reasons, Mario Draghi's government is a mix government that includes politicians and technicians, confirming Ministers in the areas of Foreign Affairs and International Cooperation, Defence and European Union shows the continuity of the previous governments that should be in contrast with possible problems of instability and unreliability.

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<sup>8</sup> Simone Tagliapietra “Dis-Jointed European Energy”, The Eastwest European Institute (2016)

<sup>9</sup> Ministero dell'Economia e delle Finanze – Nota integrative al disegno di legge di bilancio per l'anno 2020 e per il triennio 2020 – 2022/ Ministero della Difesa (2019)

[https://www.rgs.mef.gov.it/Documenti/VERSIONE-I/attivita\\_istituzionali/formazione\\_e\\_gestione\\_del\\_bilancio/bilancio\\_di\\_previsione/bilancio\\_finanziario/2020-2022/allegato-tecnico-per-capitoli/DLB\\_2020\\_DLB-04-AT-120-Difesa.pdf](https://www.rgs.mef.gov.it/Documenti/VERSIONE-I/attivita_istituzionali/formazione_e_gestione_del_bilancio/bilancio_di_previsione/bilancio_finanziario/2020-2022/allegato-tecnico-per-capitoli/DLB_2020_DLB-04-AT-120-Difesa.pdf)

<sup>10</sup> <https://ecfr.eu/article/italy-and-defence-under-draghi-a-to-do-list/> (consulted on 24/02/2021)

I will now analyse briefly the document “*Concetto Scenari Futuri: tendenze ed implicazioni per la Sicurezza e la Difesa*” (Future Scenarios Concept: tendencies and implications for Security and Defence), published in 2021 that I think it is useful to understand several reasons of investments by the MoD.

From a geopolitical perspective, the main threats come from the South and the East, as I previously mentioned, the document particularly refers to China and Russia and “Revisionist Powers” and highlights the importance of Europe and its transatlantic alliances for economic and strategic purposes. In particular, it focuses on the Chinese threat from a technological and economic point of view while Russia will keep its status of superpower even if it will face several internal problems; the partnership between those two countries is described as opportunistic. One of the main points about China that I think is very relevant for this research is about innovation. The Chinese government will modernise the People’s Liberation Army by 2035, including the cyber and space domains.

Later in this chapter, I will analyse the importance of the cyber domain, this field is highlighted several times in the document in both terms of Security and Defence.

The main point of the document is: in a context of geopolitical fragmentation, we should favour the development of National instruments for defence in a multidomain context; increasing the Security Force Assistance and the Stability Policing. To implement the “Culture of Security” to create a better relationship between the citizen and the Defence. To increase investments in new technologies and Artificial Intelligence and at the same time, modernise the current Military instruments. In addition, about technological development, the MoD highlights the importance of Research and Development in this particular field.<sup>11</sup>

## **1.2 Why is the Security Industrial Policy so important?**

Several studies demonstrated the importance of the Security Industrial Policy in two main areas: firstly, the correlation between military spending and economic growth and secondly on industrial policy as a vector of technological development. According to

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<sup>11</sup> <https://www.piattaforma-issmi.it/> (consulted on 24/02/2021)

Hartley and Sanders there is a positive correlation between Military spending and economic development thanks to the following reasons:<sup>12</sup>

- Military spending creates an economic stimulus during periods of unemployment.
- Technological development boots economy when applied to civil sector.
- It can increase economic growth when used for civil infrastructures such as bridges, airports, highways, rails etc.
- Promotes growth as it provides training and education to part of the population.
- A protected nation/environment can help in the promotion of investments and in terms of exports and imports as it increases the status of the country.

Defence budget is defended by even classic liberal economists, a great example is Adam Smith, one of the founders of the liberal doctrine who highlighted the importance of the free market. In his opinion, it is essential that the State has the monopoly over force, according to him, Defence is the public good by definition.<sup>13</sup> In Smith's mind, defence relevance in public sector come from two main justifications: it is one of the best examples of Pareto's optimum (all citizens benefit without the danger of free-riding and secondly, *only public ownership will ensure the sovereignty of supply remains with stakeholders*.<sup>14</sup>

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<sup>12</sup> Hartley, Keith, and Todd Sandler. 1995. "*Handbook of Defense Economics*". Amsterdam: North Holland.

<sup>13</sup> Ambros. 2017. Brazilian Journal of Strategy and International Relations. "*Defence and Development industry: theoretical controversies and implications in industrial policy*" p. 134

<sup>14</sup> Matthews, Ron, and Curie Maharani. "*The Defense Iron Triangle Revisited*". In "*Modern Defense Industry: political, economic and Technological issues*". Santa Barbara: Praeger Security International. Pag.9

From a neoclassic point of view, by analysing the industry of security and defence using the Solow Model<sup>15</sup> and reviewing studies from Knight et al.<sup>16</sup> we reach the conclusion that the main effect military spending has on economy is the technological progress. One of the limits of this research was that it focused only on the supply side from a pure economic point of view. Indicators such as the relevance and the services provided by the Armed Forces were not taken into account. In general, neoclassicists suggest a positive effect of the military spending on national economy, apart from technological progress, for some countries like Italy, the defence industry represents one of the key stones in terms of exports.<sup>17</sup>

From an economic point of view, we must make a distinction among the different expenditures we have in military spending, for this research, I will use Duma's categorization of costs. He argues that we can divide them in two main categories, the first being "Operations & Maintenance" and the second "Acquisition". In the first category we include costs comprehending national and international operations (costs of personnel, costs of maintenance of the military logistical apparatus etc.); while the second category will be the one that is more specifically the subject of this thesis. In fact, investment includes costs of Research and Development and the purchase domestically and internationally of the military systems. This category has a greater effect on the allocation of assets.<sup>18</sup>

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<sup>15</sup> The Solow Model is one of the major structuring studies of the Neoclassical school. In it, besides perfect competition, the factors of production are homogeneous, divisible and perfectly interchangeable (i.e. one of the main Neoclassical presuppositions). The model seeks to relate savings, capital accumulation, and population growth (which automatically becomes the labor market) to explain the long-run per capita product variation. The deepening of capital, that is, its accumulation (in a Marxist language), is financed by per capita savings, which must be sufficient to supply capital to the growing population at a certain rate and to depreciate existing capital. According to Souza (2011, 264), "the conclusion of the model is that the increase in the saving rate expands the K/L ratio and per capita income until the economy reaches a stable long-term equilibrium, when the rate growth per capita will remain constant and equal to the rate of population growth". However, once the equilibrium is reached, the increase in saving will no longer impact the growth rate of the product to the point of raising it above the rate of population growth. That is, the explanation of long-term growth is exogenous to the Solow model, which introduces technological progress as an exogenous variable explaining long-term sustainable growth, since it is the increase of the technique that will provide higher labor productivity and higher rates of capital deepening. Finally, Souza (ibid., 265) concludes that "the important conclusion of the Neoclassical model is that the pace of technical progress determines the growth of per capita income in the stable long-term equilibrium".

<sup>16</sup> Knight, M., Loayza, N. and Villanueva, D. 1996. *"The peace dividend: Military spending cuts and economic growth"*. IMF Staff Papers, 43: 1-44.

<sup>17</sup> Dreze, Jean. 2006. *"Military Expenditure and Economic Growth"*. In The Elgar Companion to Development Studies. Cheltenham: Edward Elgar.

<sup>18</sup> Dumas, L J (2004) *"Do Offsets Mitigate or Magnify the Military Burden?"* chapter 1 in J Brauer and J P Dunne (eds) *"Arms Trade and Economic Development: Theory Policy and Cases in Arms trade Offsets"*. London: Routledge.



When we talk about the industry in the fields of security and defense, the public opinion is relatively negative; the general thought is, "*why to invest in the production of weapons and military vehicles rather than health and education*". This claim is significantly spread in times of economic crisis, like the one we have faced in the last decade, and due to coronavirus, we are facing again. What the public does not understand is: this type of industry is legal; several norms regulate this market nationally and internationally, they, as I will explain in few lines, create a positive effect for the economy and for Small and Medium Businesses (this will be analyzed in the second chapter), finally, the defense industry is the pillar of technological progress, take as an example the invention of the internet.

According to Buzan and Haring, military and civilian technology have always been close. As example they mainly use the XIX century in terms of industrial revolution and chemistry in general (production of explosives, pharmaceuticals etc.).<sup>19</sup> The concept of an overlapping military and civilian technological development is essential to understand why the military investment create a positive impact on national economy. This claim is particular important in the field of digitalisation, especially if we consider the digital world as the 6<sup>th</sup> revolution. Firstly, the presence of dual technologies in civilian and military equipment, technologies in the field of scanning, that is particularly true in terms of space technologies such as satellites and thirdly, State's legitimacy to act as promoter for the development of this field of the industry.<sup>20</sup> Martins states that:

*"Digitization today is equivalent to the national strategy, which, in due course, was the acquisition of the decision-making center for steel, fine chemicals and nuclear energy. In short, the recovery of the operational capacity of the armed forces matters for all socioeconomic development. Digitization entails a growing instability in the international system which, by creating local war threats, engenders as a systemic response to military investments. If, instead of acquiring military equipment abroad, opting for native production, these investments can endow the regional powers with the decision center (semiconductors and superconductors) that are the nucleus of the contemporary economy"*<sup>21</sup>

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<sup>19</sup> Buzan, Barry, and Eric Herring. 1998. "*The Arms Dynamics in World Politics*". Boulder: Lynne Rienner.

<sup>20</sup> Ambros, pag. 144.

<sup>21</sup> Martins, José Miguel Quedi. 2008. "*Digitalização e guerra local: fatores do equilíbrio internacional*". PhD thesis, Federal University of Rio Grande do Sul.

While we can easily claim that technological development was military-driven during the XX century, this statement might be no longer true nowadays. Let me compare the budget in research and development of Volkswagen and the OECD countries.

**Figure 2:** *Research and Development Budget in OECD Countries*

Country	R&D
United States	\$55,441.0
South Korea	3,377.3
United Kingdom	2,379.4
Germany	1,530.2
France	1,431.1
Turkey	1,350.9
Japan	1,199.1
Poland	379.2
Australia	358.7
Canada	183.1 <sup>a</sup>
Other OECD Countries	675.5
<b>Total, OECD</b>	<b>\$68,305.5</b>

**Source:** *OECD*<sup>22</sup>

While Volkswagen invests 14,3€ billion in Research and Development. What does that mean? In few words, a single enterprise invests more than all the OECD countries combined except the United States.<sup>23</sup>

According to several studies, the public opinion on the industry of defence might be changed in a positive way if it takes place on an international context.<sup>24</sup> In fact, as it will be later analysed in the third chapter of this research, if we take as example the European Union, it does not have a proper army, however, more integration among the 27 Member States is under achievement thanks to initiatives like the European Defence Fund, the European Defence Agency and the Permanent Structured Cooperation. Personally, I believe that the general public favours international cooperation, especially in the context

<sup>22</sup>Congressional Research Service – “Government Expenditures on Defense Research and Development by the United States and Other OECD Countries: Fact Sheet” (2020)  
<https://fas.org/sgp/crs/natsec/R45441.pdf>

<sup>23</sup> <https://www.statista.com/statistics/566234/volkswagen-automotive-division-research-development-spending/#:~:text=At%2014.3%20billion%20euros%2C%20Volkswagen's,on%20its%20behalf%20in%202019>. (consulted on 23/02/2021)

<sup>24</sup> IAI and Università di Siena– “Gli italiani e la politica estera 2020” (2020)  
[https://www.iai.it/sites/default/files/laps-iai\\_2020.pdf](https://www.iai.it/sites/default/files/laps-iai_2020.pdf)

of the European Union as the EU works more in the economic fields rather than “on the field”. In addition, in my opinion a good communication campaign would help the public opinion, let me take as examples the operations conducted by the Defence during the Covid-19 crisis: Operation IGEA which consisted in the testing for the virus (about 30k tests per day) and Operation EOS that is the transportation of the vaccines.<sup>25 26</sup>

Why investing in the security industry? There are both political and economic reasons to invest in this sector. From the political perspective, investments produce more security for Italy and abroad (let us remember the Italian role in the international scene), creating new infrastructures and new jobs. It is a geopolitical instrument that promotes the national image abroad, favouring international agreements and favours international cooperation, especially in the European Union and NATO. Those are just the most important reasons for investing in this field, in fact, Italy is in 11th place for the percentage of investments in defence among the European Member States.

From an economic point of view, this sector is essential because: in the Italian context, it is one of the main actors in terms of exports, as mentioned before, Research and Development is vital for technological progress and security industry is one of the pillars of RD, it covers an appropriate amount of business, from high-tech industries to small and medium business, products are essential also for civilian use (for example GPS).<sup>27</sup>

In the Italian industrial context, the industry of Aerospace, Security, and Defence (ASD) corresponds to 25% of the total Italian revenue, and in the field of Research and Development, this percentage is significantly important, as it is 23% of the total investment; 3 of the top 10 Italian industries invest in this particular field. In terms of GDP multiplier, the ASD industries take 3% of the production, a substantial amount considering the funds Italy invests. How does the ASD produce the 3%? In the second chapter of the thesis, I will investigate this process by analysing two case studies; for the moment, we consider not only the direct revenue we get from those industries in terms of products (goods, employment and services) and taxes, but also the amount of work they create for

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<sup>25</sup> [https://www.difesa.it/Primo\\_Piano/Pagine/operazione\\_Igea\\_Difesa.aspx](https://www.difesa.it/Primo_Piano/Pagine/operazione_Igea_Difesa.aspx) (consulted on 24/02/2021)

<sup>26</sup> [https://www.difesa.it/Primo\\_Piano/Pagine/Al-via-operazione-EOS-della-Difesa-per-trasporto-vaccini.aspx](https://www.difesa.it/Primo_Piano/Pagine/Al-via-operazione-EOS-della-Difesa-per-trasporto-vaccini.aspx) (consulted on 24/02/2021)

<sup>27</sup> Maria Grazia Caccamo: “*Per Ripartire. Alcune considerazioni sul modello di sviluppo e la prospettiva dell’Industria della Difesa*”, (2020). IAI. Pag 9-10

mid-term industries and consequently, more employment, more workers pay taxes, more investment etc.<sup>28</sup>

The Italian Industrial Sector in ASD corresponds to about 13.5€ billion, an important amount if we think that it is 15% of the European Market and 70% of the Italian ASD Industry is exported worldwide making it an excellence of the Made in Italy. The following graph represents the Italian Exports of ASD in terms of € (blue bars) and number of countries to which Italy trades (the red line). Italy stands 7<sup>th</sup> worldwide as producer of complex armaments and the ASD industry provides about 45000 jobs directly plus 73000 indirectly and addition 41000 of induced occupation, for a total of 150000 workers.<sup>29</sup>

**Figure 3:** *Authorised Italian Defence exports (number of countries and economic values)*



**Sources:** *Italian Senate (2019)*<sup>30</sup>

The Italian export is favoured by International Agreement and the credibility of its national players. The Italian Government and the MoD are aware of the importance of this sector in the international context as an excellence in terms of competition. Italy provides several important actors (that will be analysed in the second chapter) and knows the

<sup>28</sup> Caccamo. Pag.12

<sup>29</sup> Paolo Crippa and Alberto Guidi “Investire nell’Industria della Difesa Italiana: una garanzia per il mondo post-covid” (2020), Centro Studi Internazionali <https://www.cesi-italia.org/contents/Analisi/Industria%20Difesa%20post-Covid.pdf>

<sup>30</sup> Ibid

importance of newcomers. The Italian ASD industry should be supported by the Italian Government with the creation of Government-to-Government agreements as I will explain in the second Chapter.<sup>31</sup>

### 1.3 The Italian Military Expenditure

After a brief analysis of the importance of the investment in the ASD industry, I will assess the strategy of the most important actor and primary investor: the Ministry of Defence. As we know, the available funds are assigned to the Ministries every year with the “*Legge di Bilancio*” (LB), as written in the introduction, last year’s LB was particularly relevant for the Ministry of Defence (MoD) as the funds it received switched from “*a fattore legislativo*” to “*Fabbisogno*”.<sup>32</sup> According to several Officials I had the chance to talk, this change will give full autonomy to the Ministry, but at the same time, those funds are given for a limited period; which means that to a certain extent they are more difficult to use.

At the same time, we must consider the funds from the Italian Ministry of Investment and Economic Development (MISE), those funds, as I will later explain in this chapter are essential for the financing of the industrial projects, especially in the military field.

Italy is currently investing 24.5€ billion in military expenditures in 2021; about 1,6 billion more than 2020.<sup>33</sup> In 2020, the military budget impacted about 1,43% of the Gross Domestic Product, it is a significant amount, but still not enough if we think about the 2% threshold set up historically by NATO. Since 2015, the Italian Government increased the military budget slightly, but this increase could not be compared to the cuts in 2014 (in 2014 Italy used about 1,46% of the GDP in Defence, in 2015, this amount was reduced to 1,39%).

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<sup>31</sup>

[https://www.difesa.it/Content/Documents/AI%202021\\_15042020%20rev.%20CdG\\_firmato%20MoD%20x%20pubblicazione.pdf](https://www.difesa.it/Content/Documents/AI%202021_15042020%20rev.%20CdG_firmato%20MoD%20x%20pubblicazione.pdf)

<sup>32</sup> Gazzetta ufficiale – tabella n.12 – Ministero della Difesa / Legge di Bilancio 2021 (2020)  
[https://www.gazzettaufficiale.it/do/atto/serie\\_generale/caricaPdf?cdimg=20A0734000100120110001&dgu=2020-12-31&art.dataPubblicazioneGazzetta=2020-12-31&art.codiceRedazionale=20A07340&art.num=12&art.tiposerie=SG](https://www.gazzettaufficiale.it/do/atto/serie_generale/caricaPdf?cdimg=20A0734000100120110001&dgu=2020-12-31&art.dataPubblicazioneGazzetta=2020-12-31&art.codiceRedazionale=20A07340&art.num=12&art.tiposerie=SG)

<sup>33</sup> [https://www.portaledifesa.it/index~phppag,3\\_id,3921.html](https://www.portaledifesa.it/index~phppag,3_id,3921.html) (Consulted on 21/02/2021)

The 24.5€ billion have to be divided into 4 main categories:

- *Funzione Difesa* (Defence Function) that is the most relevant and the one we are going to focus as almost all the industrial investments are under this voice, and it counts for 16.8€ billion.
- *Funzione Sicurezza del territorio* (Territory security): 7.2€ billion.
- *Funzioni Esterne* (External Functions): 156€ million
- *Funzioni Pensioni Provvisorie Personale Riserva* (Pension schemes and Reserve personnel): 408€ million.<sup>34</sup>

However, if we take into account only real increases, as several categories of the budget can be controversial (an example is the "*Arma dei Carabinieri*" that has both military and public order functions which, depend on the Ministry of Interior), only in 2020 and 2021 are positive years for the Ministry of Defence. In particular, 2020 saw an increase in investment of about 50% compared to 2019; from 1.867M€ to 2.810M€. Considering the importance of this part of the Military budget for this research, I would like to highlight those data: "Modernization and Renovation" increased from 1.821M€ to 2.761M€ while "Research and Development" increased by only 0.7M€. With the introduction of the LB 2021, the amount dedicated to investment rose from 2.810M€ to 4.036M€ another important increase for this particular field that is also the research topic of the thesis.

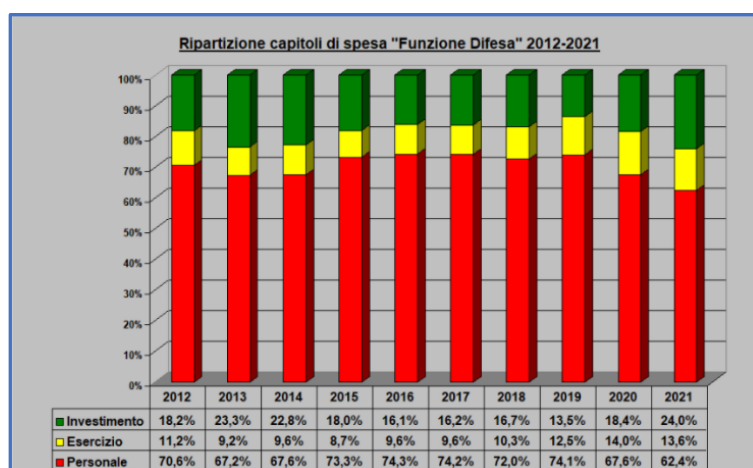
The following table represents the percentage of the costs of the balance of the defence (in red personnel, in yellow the exercise of Defence and in green investment)<sup>35</sup>

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<sup>34</sup> Ministero della Difesa – Ufficio Centrale del Bilancio e degli Affari Finanziari "*Legge 30 dicembre 2020, n.178 (legge di bilancio) ripartizione degli stanziamenti per funzioni di programmazione*" (2020) [https://www.difesa.it/Amministrazionetrasparente/bilandife/Documents/Bilancio\\_prev\\_2021/Rappresentazioni\\_grafica\\_del\\_bilancio\\_della\\_Difesa\\_E.F.\\_2021.pdf](https://www.difesa.it/Amministrazionetrasparente/bilandife/Documents/Bilancio_prev_2021/Rappresentazioni_grafica_del_bilancio_della_Difesa_E.F._2021.pdf)

<sup>35</sup> <https://www.analisedifesa.it/2021/03/il-bilancio-della-difesa-2021/> (consulted on 9/03/2021)

**Figure 4:** *How the Italian Defence budget in the field of Funzione Difesa is divided*

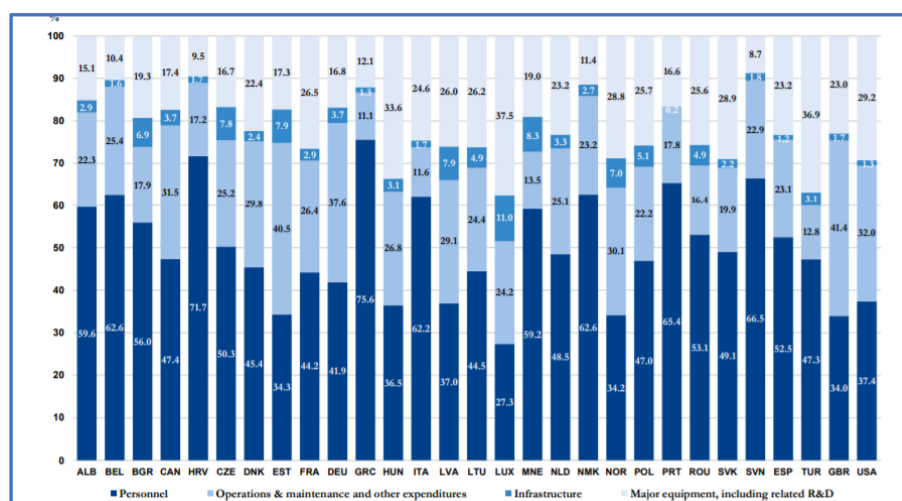


**Source:** *Ministry of Defence*<sup>36</sup>

Another figure set up by the Transatlantic Treaty that is less known by the public is the 20% of the military expenditure that the Member States have to dedicate to equipment and Italy is totally respecting this amount, it invests about 24.6%.

The following table is a summary of how NATO Countries invest their military expenditure:

**Figure 5:** *2020 Defence Funds allocation in NATO Member States*



**Source:** *NATO Public Diplomacy Division*<sup>37</sup>

<sup>36</sup>[https://www.difesa.it/Amministrazionetrasparente/bilandife/Documents/Bilancio\\_prev\\_2021/Rappresentazione\\_grafica\\_del\\_bilancio\\_della\\_Difesa\\_E.F.\\_2021.pdf](https://www.difesa.it/Amministrazionetrasparente/bilandife/Documents/Bilancio_prev_2021/Rappresentazione_grafica_del_bilancio_della_Difesa_E.F._2021.pdf)

<sup>37</sup> NATO Public Diplomacy Division "Defence Expenditure of NATO Countries (2013-2020)" (2020)

Compared to the other MS, we can see the importance dedicated by the Italian Government to personnel and equipment and starting from 2021, the Italian Ministry of Defence will have additional funds for infrastructures and equipment. Italy does not invest many resources in this field; only 1.7% of the total budget is reserved for infrastructure.

To solve this problematic, the Italian Government, under the lead of Prime Minister Renzi, created a new national fund in 2017: "*Fondo per il finanziamento degli investimenti e lo sviluppo infrastrutturale del Paese*" (National Fund for the financing of the investments and infrastructural development). This national fund consists in 47€ billion to be dedicated to national infrastructure that can become national asset in several categories.<sup>38</sup>

It is particularly relevant for the MoD, as it receives 22% of the total funds (9.7€ billion). During the first 3 years of the funds, the amount was not very significant (from 2017 to 2019 the Defence received about 7.1% of the funds at disposal). Starting from 2020, the percentage available rose to 24% of the fund, which should last until 2032. In those twelve years, the Defence would have had 9.5€ billion to use for infrastructural development, according to the art.1 of the Law 232/2016, in which the Italian Government highlighted 10 categories in which to invest those funds.

The MoD will have to invest them in the following areas:

- Infrastructures with the aim of national security and advanced technology.
- Research in space and health.
- Construction and modernisation of buildings, and military structures and schools.
- Furnishment of advanced technological and military goods.<sup>39 40</sup>

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[https://www.nato.int/nato\\_static\\_fl2014/assets/pdf/2020/10/pdf/pr-2020-104-en.pdf](https://www.nato.int/nato_static_fl2014/assets/pdf/2020/10/pdf/pr-2020-104-en.pdf)

<sup>38</sup> Camera dei Deputati "*Il Fondo per il finanziamento degli investimenti e lo sviluppo infrastrutturale del Paese*" (2021) <https://www.camera.it/temiap/documentazione/temi/pdf/1105119.pdf>

<sup>39</sup> Confindustria "*Assegnazioni del Fondo per il Finanziamento degli Investimenti e lo Sviluppo Infrastrutturale del Paese (Schema di DPCM – Atto del Governo n. 421/2017)*" (2021) [https://www.confindustria.it/wcm/connect/8f533cc2-a163-45c7-9395-8fc9a4143165/Programmazione+opere+strategiche.pdf?MOD=AJPERES&CONVERT\\_TO=url&CACHEID=ROOTWORKSPACE-8f533cc2-a163-45c7-9395-8fc9a4143165-mnS8Ko3](https://www.confindustria.it/wcm/connect/8f533cc2-a163-45c7-9395-8fc9a4143165/Programmazione+opere+strategiche.pdf?MOD=AJPERES&CONVERT_TO=url&CACHEID=ROOTWORKSPACE-8f533cc2-a163-45c7-9395-8fc9a4143165-mnS8Ko3)

<sup>40</sup> Gazzetta Ufficiale "*LEGGE 11 dicembre 2016, n. 232*" (2016) <https://www.gazzettaufficiale.it/eli/id/2016/12/21/16G00242/sg>



With the introduction of the LB 2018, the infrastructural fund received in addition 36.1€ billion and the MoD has and will have about 5.8€ billion (which is 16% of the extra fund), still a relevant percentage. If combined with the funds at disposal of the MISE, we reach 9.3€ billion, that is more than a quarter of the fund. The areas in which the MoD will invest this fund are the same I previously mentioned.<sup>41</sup>

An addition fund we have to take into account is “*Il Fondo per gli investimenti delle Amministrazioni Centrali dello Stato*” (Fund for the investments of National Central Administrations). This fund was introduced with the LB 2019 and consisted in 43.6€ billion to be used in green economy (decarbonisation, circular economy, reduction of emissions etc.). the fund was then reduced to 20.8€ billion in the LB 2020.<sup>42</sup> The MoD will receive about 2,4€ billion that corresponds to 12% of the total fund.;<sup>43</sup> which should be invested in the remediation of shooting ranges and military areas according to Article 1, paragraph 622 of the LB 2020.<sup>44/45</sup> Those tables are a summary of the funds the MoD received and will receive until 2033. The first two lines refer to the infrastructural funds (the ones introduced in 2017 and 2018) the third and the fourth one to the funds for administrations (introduced in 2019 and 2020).

**Figure 6 and 7: Additional funds of the Ministry of Defence until 2033**

Art.1 Co. 140	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	TOT
M€	202	313	281	88	113	147	181	226	319	585	1.035	1.459	1.547	1.722	1.953	2.068	-	12.239
Art.1 Co. 1072	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	TOT
M€	-	124	347	544	685	719	759	849	986	764	634	519	582	444	505	421	423	9.305
Art.1 Co. 95	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	TOT
M€	-	-	69	105	481	1338	1195	1206	1038	907	838	509	487	417	378	370	278	9.617

E.F.	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Total
Assegnazione Difesa	0	43,7	49,5	65,5	81	183,1	246,8	271,6	217,4	196,7	173,1	160,3	174,7	262	277,7	2.403

Source Chamber of Deputies<sup>46</sup>

<sup>41</sup>[https://temi.camera.it/leg17/temi/il\\_fondo\\_per\\_il\\_finanziamento\\_degli\\_investimenti\\_e\\_lo\\_sviluppo\\_infrastrutturale\\_del\\_paese](https://temi.camera.it/leg17/temi/il_fondo_per_il_finanziamento_degli_investimenti_e_lo_sviluppo_infrastrutturale_del_paese) (consulted on 22/02/2021)

<sup>42</sup><https://temi.camera.it/leg18/temi/il-fondo-per-gli-investimenti-delle-amministrazioni-centrali-dello-stato.html> (consulted on 22/02/2021)

<sup>43</sup> Camera dei Deputati “*I Fondi per il rilancio degli investimenti nell'ambito della Difesa*” (2020) <http://documenti.camera.it/leg18/dossier/pdf/DI0303.pdf>

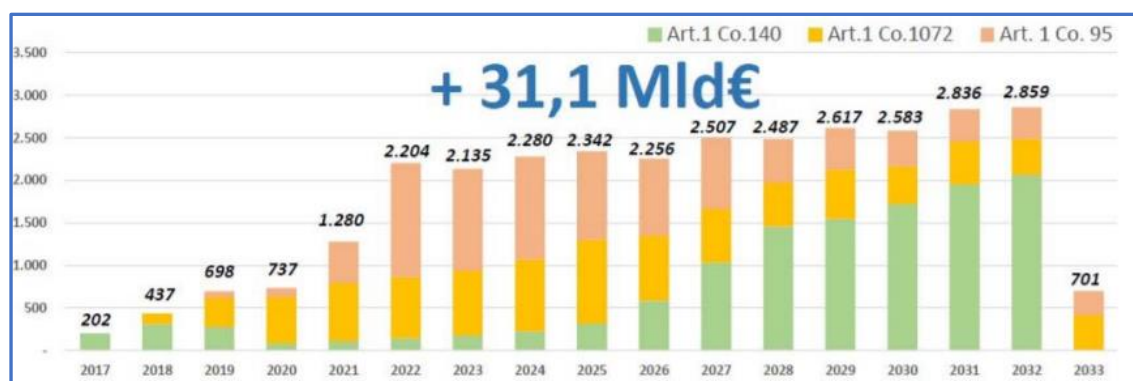
<sup>44</sup> Camera dei Deputati “*I Fondi per gli investimenti delle Amministrazioni centrali dello Stato*” (2020) [https://www.camera.it/temiap/documentazione/temi/pdf/1185418.pdf?\\_1614206539610](https://www.camera.it/temiap/documentazione/temi/pdf/1185418.pdf?_1614206539610)

<sup>45</sup> <https://www.gazzettaufficiale.it/eli/gu/2019/12/30/304/so/45/sg/pdf>

<sup>46</sup> <http://documenti.camera.it/leg18/dossier/pdf/DI0303.pdf> pag. 5

Those funds will allow the Ministry of Defence to benefit an extra 31€ billion until 2034, in the next graph we can see how the resources will be allocated over the years (the fourth fund is not present as its revision is still under review).

**Figure 8:** Allocation of the funds until 2033



**Source:** Chamber of Deputies<sup>47</sup>

The LB 2021 introduced another fund at disposal of the MoD: “*Fondo Relativo all’attuazione dei programmi di investimento pluriennale per le esigenze di difesa nazionale*” (Fund for the investment in multiannual programs for National Defence needs), it is taken from the Article 615<sup>48</sup> of the “*Codice dell’Ordinamento Militare*”. In economic terms, this fund represents an important step forward military investment, for 2021 and 2022 it will give further 450M per year that will rise to 750M in 2023, in total, the disposable amount will be about 10,35€ billion. As we can read in the integrative note, this fund is not what Minister Guerini asked for, as the entire budget will be under the control

<sup>47</sup> Ibid 7

<sup>48</sup> Ministero della Difesa “Decreto Legislativo 15 marzo 2010, n. 66 Codice dell’ordinamento militare” (2010) [https://www.difesa.it/Content/Documents/Codice\\_aggiornato\\_con\\_DLgs\\_24febbraio2012.pdf](https://www.difesa.it/Content/Documents/Codice_aggiornato_con_DLgs_24febbraio2012.pdf)

Art. 615 Fondo per esigenze di difesa nazionale 1. Per il finanziamento degli interventi a sostegno dell’economia nel settore dell’industria nazionale a elevato contenuto tecnologico è istituito un apposito fondo iscritto nello stato di previsione del Ministero della difesa, con una dotazione di euro 1.017 milioni per l’anno 2009, per la realizzazione di programmi di investimento pluriennale per esigenze di difesa nazionale, derivanti anche da accordi internazionali. Dall’anno 2010, per la dotazione del fondo si provvede ai sensi dell’ articolo 11, comma 3, lettera e), della legge 31 dicembre 2009, n. 196. Con uno o più decreti del Ministro della difesa, da comunicare al Ministero dell’economia e delle finanze, tramite l’Ufficio centrale del bilancio, e alla Corte dei conti, sono individuati, nell’ambito della predetta pianificazione, i programmi in esecuzione o da avviare con le disponibilità del fondo, disponendo le conseguenti variazioni di bilancio. Con decreti del Ministro della difesa, di concerto con il Ministro dell’economia e delle finanze, sono individuate le modalità e le procedure di assunzione di spesa anche a carattere pluriennale per i programmi derivati da accordi internazionali.

of the Legislative power, making it a fund “*a fattore legislativo*”; however, it is the result of the need in investing in the security industry.<sup>49</sup>

In addition, there is a key element we must consider, those funds are planned in a range of time that is over 10 years. This is particularly important because the MoD has the opportunity to plan its investments over a longer period of time. The plans of investment of the Defence are characterised by long term programs, that are usually composed by a first phase of research and development, which, if it is positive leads to acquisition and we cannot forget about maintenance that will last for years. Also considering the velocity of technological progress, we are in constant need of upgrades. Therefore, such programs need a planification over longer periods of time.<sup>50</sup>

In this graph, that represents the needs of the MoD compared to the disposable funds from the 10<sup>th</sup> year.<sup>51</sup> As pointed out by General Antonio Conserva, who is in charge of the Economic Planification Office of the Italian Defence General Staff during an informal audition in the Parliament, the funds at disposal are not located properly. In fact, the costs increase until acquisition, then, once a first phase of maintenance is done (year 10+2) the costs will reduce. He does not mean that the Defence receives too many funds (the entire green area that is not covered in yellow), but a better distribution of the funds would be very helpful, and they should be focused on Research and Development and Acquisition.<sup>52</sup> In addition, I would say using Draghi’s terms, funds invested in RD and Acquisition can be considered a “good debt” as they will produce investments, while maintenance is a “bad debt” because it is mainly a cost that does not produce more investment.

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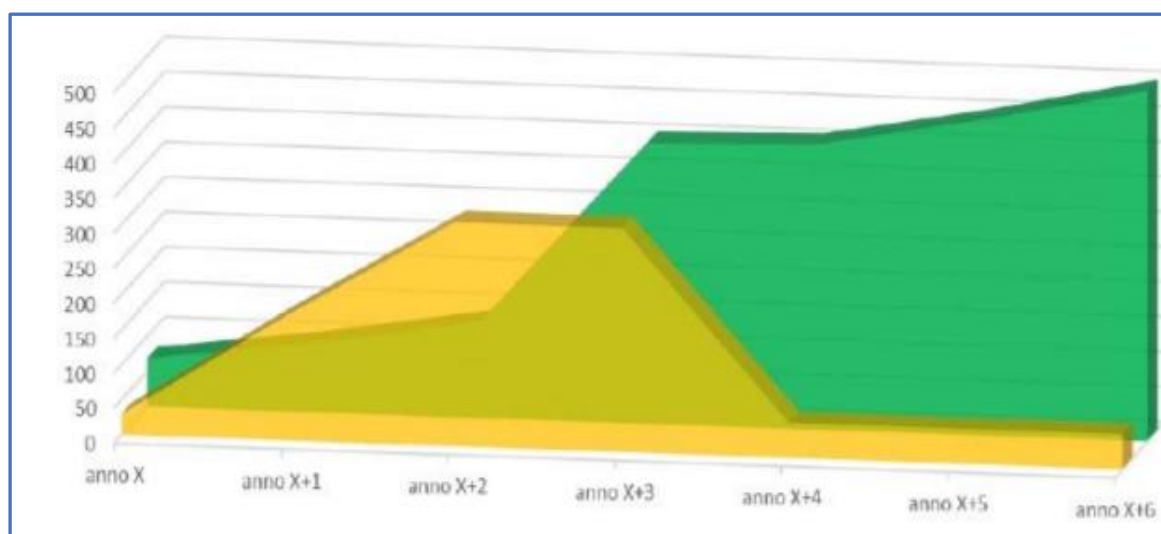
<sup>49</sup> <https://www.analisi Difesa.it/2021/03/il-bilancio-della-difesa-2021/> (consulted on 9/03/2021)

<sup>50</sup> Ministero della Difesa, “*Documento Programmatico Pluriennale 2020-2022*”, <https://www.difesa.it/Content/Documents/DPP/DPP%202020-2022.pdf>

<sup>51</sup> <http://documenti.camera.it/leg18/dossier/pdf/DI0303.pdf> pag. 2

<sup>52</sup> [https://www.camera.it/leg18/1132?shadow\\_primapagina=11097](https://www.camera.it/leg18/1132?shadow_primapagina=11097) from min. 4:10 (consulted on 23/02/2021).

**Figure 9:** *Funds at disposal vs. Current needs*



**Source** General Antonio Conserva Audition in the Chamber of Deputies<sup>53</sup>

Thanks to those, the MoD was capable to develop several important projects that favour the economies of scale and a smooth growth of the national industry (Sistema Paese), in particular in terms of competition and employment, with specific reference to new technologies.<sup>54</sup>

After having analysed the sources of the funds of the Italian Ministry of Defence, we must consider what are the most important areas. To conduct this research, I will use the Document sent to the Ministry of Economics and Finance and the “*Documento Programmatico Pluriennale*” (Multiannual Programmatic Document) that is a document produced once per year in which the MoD set ups the guidelines for the next two years.

In the document sent to the MEF, we can identify 3 areas that have been highlighted as Political Priorities (PP).

<sup>53</sup> Ibid.

<sup>54</sup> Ministero dell’Economia e delle Finanze “*NOTA INTEGRATIVA AL DISEGNO DI LEGGE DI BILANCIO per l’anno 2020 e per il triennio 2020 – 2022*” (2019)  
[https://www.rgs.mef.gov.it/Documenti/VERSIONE-I/attivita\\_istituzionali/formazione\\_e\\_gestione\\_del\\_bilancio/bilancio\\_di\\_previsione/note\\_integrative/2021-2023/ni\\_dlb/DLBNOTIC\\_120.pdf](https://www.rgs.mef.gov.it/Documenti/VERSIONE-I/attivita_istituzionali/formazione_e_gestione_del_bilancio/bilancio_di_previsione/note_integrative/2021-2023/ni_dlb/DLBNOTIC_120.pdf)

- PP1 – the first political priority concerns “*Operatività dello Strumento*” (Operability of the Military forces). It is focused on the use of the military personnel in the International Context (international operations, cooperation with NATO, UE and United Nations), of the Strategic Communication (STRATCOM), of training standards according to the procedures of “best practice” and the organisation of new units depending on the opportunity and the needs of the State.
- PP2 – the second political priority concerns “*Ammodernamento dello Strumento*” (Renewing and modernising the Military forces). One of the main points is the promotion with the collaboration of the Government and the Parliament to set up the “*Livello di Ambizione del Paese*” (National Ambition Level) to have a better allocation of the resources, the integration of national projects in European and international scenarios to have access to the European Defence Fund, modernising the Armed Forces and the development of ICT infrastructures with the purpose of improving in the cyber context.
- PP3 – the third political priority concerns “*Revisione della governance, razionalizzazione dell’organizzazione, miglioramento dei processi e gestione delle risorse umane*” (revision of the governance, rationalisation of the organization, improvement of the management of the human resources). The main points of this political priority concern the improving of the wealth of the Armed Forces, the efficiency of the administration and the prevention from corruption and the promoting of the transparency. Other points focus on the developing of communication and another point that is very interesting for this thesis is the enforcement of the role of the “*Agenzia Industrie Difesa*” (Defence Industries Agency), which will be analysed later in this chapter.<sup>55</sup>

In the Multiannual Programmatic Document (DPP), in the section reserved to investment, the guideline suggested by the MoD concerns the renewal of the Italian Armed Forces, especially in terms of vehicles and digitalisation. This is reflected by the increase in the budget of investment previously analysed also to contrast the future scenarios I wrote about in the first section. In fact, while cybersecurity is a new domain, the Italian Armed

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<sup>55</sup> [https://www.rgs.mef.gov.it/Documenti/VERSIONE-I/attivita\\_istituzionali/formazione\\_e\\_gestione\\_del\\_bilancio/bilancio\\_di\\_previsione/bilancio\\_finanziario/2020-2022/allegato-tecnico-per-capitoli/DLB\\_2020\\_DLB-04-AT-120-Difesa.pdf](https://www.rgs.mef.gov.it/Documenti/VERSIONE-I/attivita_istituzionali/formazione_e_gestione_del_bilancio/bilancio_di_previsione/bilancio_finanziario/2020-2022/allegato-tecnico-per-capitoli/DLB_2020_DLB-04-AT-120-Difesa.pdf)

Forces are in need of new vehicles (i.e. the ones they currently own cannot be updated anymore), therefore an important investment is needed.

In compliance with what I wrote previously in terms of political continuity, those political priorities presented in the document of 2020 have been confirmed in the document of 2021. The only difference we find among the two documents that will be analysed in the next section concerns the importance of digitalisation and Information and Communication technologies (ICT).<sup>56</sup>

#### **1.4 A new challenge: digitalisation and ICT**

Technological development and digitalisation represent the new challenges the Italian Defence has to face. In fact, if we consider the acceleration in the development of new technology, we must make a reference to new cyber threats. The cyber world is more and more relevant in terms of geopolitics and geostrategy, especially if we consider its transversal nature. The cyber dimension can provoke damages such as informatic and informational destabilisation (for example the use of social media), or, even worse, the loss of important data that should be reserved.<sup>57</sup>

This new dimension of security is very important as they must be included in hybrid threats. By hybrid threat we mean:

*“Hybrid threats combine military and non-military as well as covert and overt means, including disinformation, cyberattacks, economic pressure, deployment of irregular armed groups and use of regular forces. Hybrid methods are used to blur the lines between war and peace, and attempt to sow doubt in the minds of target populations.”<sup>58</sup>*

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<sup>56</sup> [https://www.rgs.mef.gov.it/Documenti/VERSIONE-I/attivita\\_istituzionali/formazione\\_e\\_gestione\\_del\\_bilancio/bilancio\\_di\\_previsione/note\\_integrative/2021-2023/ni\\_dlb/DLBNOTIC\\_120.pdf](https://www.rgs.mef.gov.it/Documenti/VERSIONE-I/attivita_istituzionali/formazione_e_gestione_del_bilancio/bilancio_di_previsione/note_integrative/2021-2023/ni_dlb/DLBNOTIC_120.pdf)

<sup>57</sup> Ibid.

<sup>58</sup> [https://www.nato.int/cps/en/natohq/topics\\_156338.htm](https://www.nato.int/cps/en/natohq/topics_156338.htm) (consulted on 27/02/2021)

*“using multiple instruments of power and influence, with an emphasis on nonmilitary tools, to pursue its national interests outside its borders.”*<sup>59</sup>

After this introduction to the importance of cyber security and their importance in hybrid threats I will analyse the Italian current situation.

In the report “National Cyber Power Index” (NCPI) published in September 2020 by the “Harvard Kennedy School – Belfer Center for Science and International Affairs” Italy is ranked 29<sup>th</sup>, after countries such as Ukraine, Saudi Arabia and Lithuania, with a score below 10 (in a scale to 50) while other European Countries such as France and Germany have a score higher than 20. The two top countries in Cyber security are the United States of America (50) and China (42). A deeper analysis reveals that Italy is underperforming in both terms of cyber intent and cyber capability, this means that Italy is not actively developing capabilities and intent to design their power in cyberspace which indicates that there is not enough information regarding cyber strategy, attributed attacks or other capabilities that have been considered in the index.<sup>60</sup>

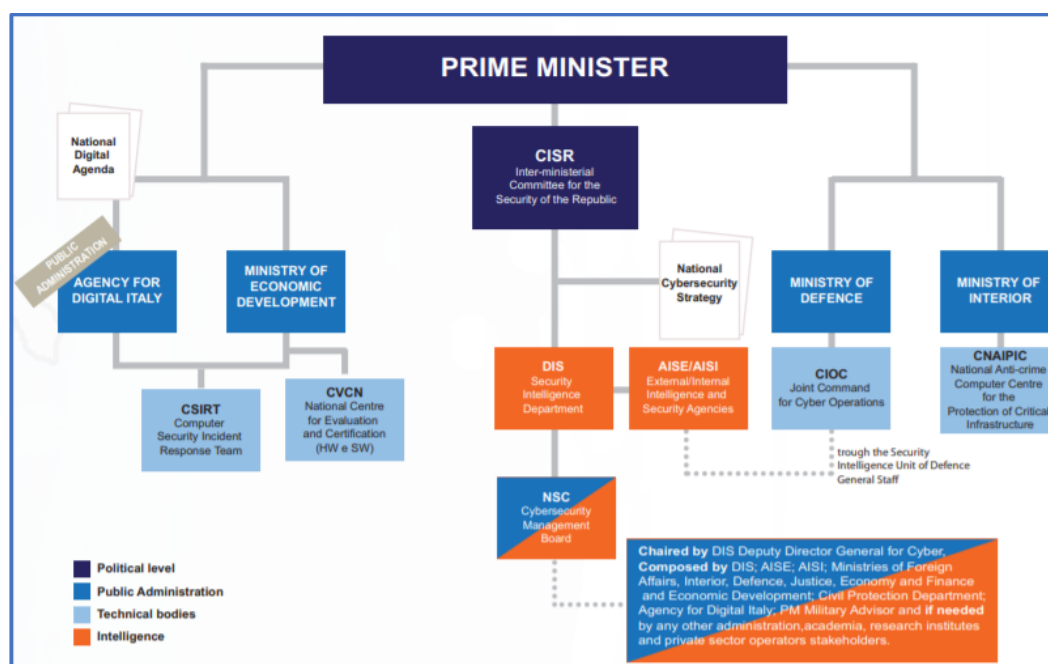
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<sup>59</sup> Treverton, G. F., Thvedt, A., Chen, A. R., Lee, K., & McCue, M. (2018). “Addressing hybrid threats”. Taken from Christopher S. Chivvis, “Understanding Russian ‘Hybrid Warfare’ And What Can Be Done About it,” RAND, March 22, 2017, 1, available at [https://www.rand.org/content/dam/rand/pubs/testimonies/CT400/CT468/RAND\\_CT468.pdf](https://www.rand.org/content/dam/rand/pubs/testimonies/CT400/CT468/RAND_CT468.pdf). The Center of Excellence definition is: “Hybrid threats can be characterized as coordinated and synchronized action that deliberately targets democratic states’ and institutions systemic vulnerabilities, through a wide range of means. Activities exploit the thresholds of detection and attribution as well as the border between war and peace. The aim is to influence different forms of decision making at the local (regional), state, or institutional level to favor and/or gain the agent’s strategic goals while undermining and/or hurting the target.

<sup>60</sup>J. Voo, I. Hermani, S. Jones, D. Cassidy and A. Schwarzenbach “National Cyber Power Index 2020 – Methodology and Analytical Considerations” (2020), Harvard Kennedy School – Belfer Center for Science and International Affairs [https://www.belfercenter.org/sites/default/files/2020-09/NCPI\\_2020.pdf](https://www.belfercenter.org/sites/default/files/2020-09/NCPI_2020.pdf)



**Figure 10:** Italian Structure in cyber security.



**Source:** Ministry of Foreign Affairs and International Cooperation <sup>61</sup>

The main actor for the Italian cybersecurity is the “Security Intelligence Department” that works as supporting body of the PM and the Inter-Ministerial Committee for the Security of the Republic. The legal basis of the Italian strategy on cybersecurity is the DPCM 30 July 2020, n. 131<sup>62</sup>. However, I will give a brief summary of the current situation to understand the importance of the cyber domain the industrial policies in the fields of security and defence. The Italian guidelines suggest the collaboration between the Private and the Public stakeholders, the main target is to strengthen the National Cyber infrastructures; the Italian Ministry of Foreign Affairs and International Cooperation suggest also the importance of cyber diplomacy. International cooperation is a key element in the Italian strategy, our primary allies (NATO and EU) play an important role; NATO

<sup>61</sup> Ministero degli Affari Esteri e della Cooperazione Internazionale “Cybersecurity in Italy – New opportunities for business” (2019)

[https://www.esteri.it/mae/resource/doc/2019/09/esteri\\_cibersecurity\\_web.pdf](https://www.esteri.it/mae/resource/doc/2019/09/esteri_cibersecurity_web.pdf)

<sup>62</sup> Gazzetta Ufficiale “DECRETO DEL PRESIDENTE DEL CONSIGLIO DEI MINISTRI 30 luglio 2020, n. 131” (2020) <https://www.gazzettaufficiale.it/eli/id/2020/10/21/20G00150/sg>



has been adding cybersecurity in its policy for more than 10 years, while the EU implemented the Cybersecurity Act<sup>63</sup> in 2019.<sup>64</sup>

According to the DPP, cybersecurity is considered as the fifth domain of Defence and the leader in the fields of innovation and for importance in terms of national industry. In fact, as explained before, the cyber sphere is essential in a multi-domain warfare. The MoD highlighted the importance of its evolution in terms of Integration, Interoperability and Connectivity, the importance will result in massive investments according to the DPP and the PNRR. A first analysis of the documents would result in the following programs: Program on the military technology program (69.5M€), Control and Command Capacity and Multidomain Army Connectivity (501€M from 2020 to 2031) plus other programs for a total of 100€M from 2020 to 2033.<sup>65</sup>

I will include the impact of the PNRR in this section as most of programs related to Defence are developed in the cyber domain. Of the 209€ billion, about 5 are reserved for security programs, the most important fields of investments are connected to cyber security, communication, space and Artificial Intelligence (AI). Among those, the most relevant program is the one about Cyber security: “Digitalisation and Increase in Cyber Defence Capability” that will be about 2€ billion in 5 years.<sup>66</sup> In June 2021, Draghi’s Government will propose the “Agenzia per la Cyber-Sicurezza Nazionale” (National Cyber Security Agency - ACN) that will become the main Italian actor in this domain. Its Director will be chosen by the Government.

For what concerns directly the Ministry of Defence, as explained by Minister Guerini in an audition about the Planning of the MoD to the Defence Commission of the Chamber of Deputies and the Senate, the Ministry has 3 main points:

- Military Health Service: the main target is to strengthen the resilience of the personnel working in this area by the development of specific synergies with other Ministries, with particular relevance to research and productive capacity;

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<sup>63</sup> *REGULATION (EU) 2019/881 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 17 April 2019 on ENISA (the European Union Agency for Cybersecurity) and on information and communications technology cybersecurity certification and repealing Regulation (EU) No 526/2013 (Cybersecurity Act)*” <https://eur-lex.europa.eu/eli/reg/2019/881/oj>

<sup>64</sup> [https://www.esteri.it/mae/resource/doc/2019/09/esteri\\_cibersecurity\\_web.pdf](https://www.esteri.it/mae/resource/doc/2019/09/esteri_cibersecurity_web.pdf)

<sup>65</sup> <https://www.agendadigitale.eu/sicurezza/la-difesa-italiana-si-rafforza-nel-cyberspazio-obiettivi-e-strategia/> (consulted on 8/03/2021)

<sup>66</sup> <https://www.startmag.it/mondo/recovery-fund-tutti-i-progetti-per-la-difesa/> (consulted on 8/03/2021)

- Digitalisation, as previously explained; therefore, the innovation in the sectors of emerging technologies (including green technologies), and Artificial Intelligence. Those are strategic sectors that will speed up the exchange of information and consequently the decision making process, they are already privileged by the MoD in as part of the *Piano Nazionale di Ricerca Militare* (Military Research National Plan) that cooperate with the industries, the academic world, and public and private experimental centres;
- Cybersecurity.

After those 3 main categories, particular relevance is given to Space, in which the MoD cooperated with the Italian Space Agency as they develop dual programs.

## 1.5 Conclusion

In this first chapter of the dissertation, I provided a general background of the Italian Defence and its main actor: the Italian Ministry of Defence. Firstly, I analysed the context in which the Italian Armed Forces operate, as it is essential to understand why we need international cooperation in all fields, from industry to operations. Secondly, I provided several reasons to understand the importance of the industry of security in national economy as it is to a certain extent the main subject of this thesis. Thirdly, I investigated about the Italian budget of defence from several perspectives, from the economic point of view I explained what the funds at disposal of the MoD are, while from a political point of view, I talked about the priorities in which those funds have to be invested. Finally, I opened a brief parenthesis on cybersecurity, this field is particularly relevant for the analysis of this research as: new technologies are one of the main outcomes of the investment in the industries of defence (as analysed in the second point), it is a new domain of security studies and for what concerns the Italian Defence, part of the recovery fund will be invested in this field as portion of the PNRR.

To conduct this first chapter, I mainly used institutional sources for what concerns data, this has been done mainly thanks to “*Amministrazione Trasparente*”, while for the thoric part about the importance of security industry, several academic researchers have been analysed.

In conclusion, I think this chapter is essential to understand the general background of this analysis, in the next chapter I will analyse the “*Sistema Paese*”, that is the root of the current Italian industrial policy.

## Chapter 2

### ***Sistema Paese*: the implications of the Italian Industrial ASD Policy**

In this chapter I will analyse the Italian “*Sistema Paese*” and its implications on the Italian industrial policy. Additionally, I will focus on the most important industrial actors: Leonardo SPA and Fincantieri.

#### **2.1 Sistema Paese and Government-to-Government Agreements**

I will start this second chapter by giving the definition of *Sistema Paese* (SP) which can be translated as “National Economy System”. By SP we mean all infrastructures from the Public and Private Sector that cooperate to support the international activities, from commerce to production, of a Nation with the aim of guaranteeing the competitiveness of a country in the World. The Nation gets advantages from SP when all the sectors and all the actors cooperate among them by defining national strategies for the national and the international market.<sup>67</sup>

Considering its international relevance, one of the main actors of SP in Italy is the Italian Ministry of Foreign Affairs and International Cooperation, especially after the reform of the Ministry in 2011 which led to the creation of the Directorate General (DG) “*Sistema Paese*”. In particular, this DG concerns the promotion of all the components of the SP, economy, science and culture. Why was it needed? Firstly, for a national response to the new challenges of a globalised world and market. Secondly, to increase cooperation among all the national actors and thirdly, for the relationship between economy, culture and science. With the creation of the DG, one of the targets of the reform was to increase the amount of the Italian exports, and, furthermore, the imports of primary resources, energy and investments. I will not consider the targets about culture and science as they are not relevant for this research. In particular, the reform led to the creation of a National

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<sup>67</sup> <https://argomenti.ilsole24ore.com/parolechiave/sistema-paese.html> (consulted on 15/03/2021)

Authority “UAMA” (*Unità per le autorizzazioni dei materiali di armament* – Unit for the authorisation of armament materials), this Unit is inter-ministerial and regulates the imports and the exports of the armaments.<sup>68</sup>

As we can understand, in the framework of the SP, we have three main actors: the Military Forces, the industry and the Policy Maker, the interconnections among them create the market that I am analysing. In the first chapter I deeply analysed the first actor and the third, by focusing on the LB and the needs of the Italian Defence, the main actors of the Italian Industry will be analysed later in this chapter.

Firstly, I will start from the legal background that is of interest for this research. From the Italian framework, the fundamental Law that is supervised by the UAMA is “*Legge 9 Luglio 1990, n.185*”. according to this law, the Italian Ministry of Foreign Affairs, as it is in charge of the committee that has control over armaments exports, must prepare each year a report to present to the Parliament, moreover, Italian industries cannot sell weapons to countries that are in war and that are not respecting human rights.<sup>69</sup> From a European perspective, this market enjoys a special treatment as we can understand from Directives 2009/81<sup>70</sup> and 2009/43.<sup>71</sup> Additionally, I would like to put to your attention Article 346<sup>72</sup> of the Treaty of the Functioning of the European Union (TFEU):

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<sup>68</sup> Ministero degli Affari Esteri e della Cooperazione Internazionale “*La nuova Farnesina per il Sistema Paese*” (2011)

[https://www.esteri.it/mae/ministero/pubblicazioni/allegati/20110615\\_farnesina\\_sistema\\_paese.pdf](https://www.esteri.it/mae/ministero/pubblicazioni/allegati/20110615_farnesina_sistema_paese.pdf)

<sup>69</sup> Presidenza del Consiglio dei Ministri Legge 9 luglio 1990, n. 185, “*Nuove norme sul controllo dell'esportazione, importazione e transito dei materiali di armamento*”

[http://presidenza.governo.it/UCPMA/doc/legge185\\_90.pdf](http://presidenza.governo.it/UCPMA/doc/legge185_90.pdf)

<sup>70</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32009L0081&from=IT> (consulted on 16/31/2021)

<sup>71</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32009L0043&from=IT> (consulted on 16/03/2021)

<sup>72</sup> [https://eur-lex.europa.eu/resource.html?uri=cellar:2bf140bf-a3f8-4ab2-b506-fd71826e6da6.0023.02/DOC\\_2&format=PDF](https://eur-lex.europa.eu/resource.html?uri=cellar:2bf140bf-a3f8-4ab2-b506-fd71826e6da6.0023.02/DOC_2&format=PDF) (consulted on 16/03/2021)

Article 346  
(ex Article 296 TEC)

1. The provisions of the Treaties shall not preclude the application of the following rules:
  - (a) no Member State shall be obliged to supply information the disclosure of which it considers contrary to the essential interests of its security;
  - (b) any Member State may take such measures as it considers necessary for the protection of the essential interests of its security which are connected with the production of or trade in arms, munitions and war material; such measures shall not adversely affect the conditions of competition in the internal market regarding products which are not intended for specifically military purposes.
2. The Council may, acting unanimously on a proposal from the Commission, make changes to the list, which it drew up on 15 April 1958, of the products to which the provisions of paragraph 1(b) apply.

Considering the lack of supranationally of the European Union in terms of Defence, we can understand why this market is left to the sovereignty of the Member States, even if more cooperation is under building as I will analyse in the third chapter.

After a brief analysis of Sistema Paese and the legal basis of the industry I am examining, I will explain how the Italian Government supports the investment in the international market.

In June 2020, the Italian Ministry of Foreign Affairs and International Cooperation presented “*Patto per l’Export*” (Pact for Export). Considering the difficult situation faced by the Italian economy and consequently by its industries, the target of the ministry was to set up guidelines to use for Italian commerce. The Pact has 3 main principles: a unitary institutional reference as service to Sistema Paese, coordination of the actions and a transparent monitoring.<sup>73</sup>

Moreover, the Pact is based on 6 main pillars:

- Communication: creation of strategic communication to promote the “made in Italy” as products of quality and reliability and implementing digital communication.
- Integrated Promotion: combine the excellences of the Made in Italy in the different fields: scientific, cultural, economic and technological.

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<sup>73</sup> Ministero degli Affari Esteri e della Cooperazione Internazionale “*Il Patto per l’Export, l’Italia a fianco delle imprese*”(2020) [https://www.esteri.it/mae/resource/doc/2020/06/newsletter\\_3-2020.pdf](https://www.esteri.it/mae/resource/doc/2020/06/newsletter_3-2020.pdf)

- Formation and Information: to make an easier access also to SME to public funding for more internalisation. To incentive the collaboration with Italian Universities.
- E-commerce: e-commerce is becoming more and more relevant in a globalised world; the Italian Industry must invest more in this sector.
- Fair system: the access of SME to international fairs and exhibitions should be made easier in order to guarantee B2B agreements.
- Finance: to strengthen the public resources to give to the entrepreneurs system, in order to increase youth employment and start-ups and to increase international investment in Italy.

The total funds destined for this plan correspond to 1.3€ billion.<sup>74</sup>

Furthermore, as introduced in the first chapter, the Italian Government is currently signing several Government-to-Government Agreements (G2G); those agreements are the result of the interconnections among the levels that are essential in this research: the military-political one and the industrial-technological. This kind of agreements is essential for a sector such security and defence as it is a prerogative of the State. Therefore, agreements signed by a State and the industries that have the support of the exporting State are more secure. Furthermore, thanks to the support of the Government, depending on their credibility, it is easier to sign long-term agreements that can have positive outcomes for both the importing State and the Industry.

From the military-political level point of view there are mainly three elements we must consider, especially for the selling country. Firstly, G2G agreements are used to increase the acquiring State's capacities to respond to common threat and to increase bilateral relations, for example the US selling military assets to Poland (in anti-Russia context) or South Korea (in anti-North Korea context). Secondly, thanks to new technologies and the development of Intelligence, Surveillance and Reconnaissance (ISR) systems, another element of the G2G agreements is to strengthen local capacities to control their territories and to prevent and to respond to international threats such as terrorism, illegal markets and/or migration. An example is the Italian strategy used in Libya before the 2011 Spring Revolts. Thirdly, selling military assets can result in the construction of deeper relations among the two national armies in terms of training, logistics and

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<sup>74</sup> *ibid*

maintenance, this aspect is becoming relevant as new technologies need more updates and exist in several versions.

However, this is not a zero-sum game, the client country has benefits too. Firstly, it receives military assets and technologies that otherwise it would be difficult to own. G2G agreements are also a sign of stability of bilateral relations between two States.<sup>75</sup>

The second level we must take into account is the industrial-technological one. Firstly, it is essential to say that not all Defence and Security exports have a G2G agreement. Why? Because if any export in this field could benefit of a G2G agreement, the agreement and the selling State would lose value. Those agreements are signed when products concern long-term programs that also represent new technologies and innovation in the field. G2G agreements are not part of agreements among States for the development of new weapons and programs which are planned more specifically in the international cooperation context. G2G can include several types of agreements that are from a simple help of the selling State in terms of training to the entire contract management by the two States.<sup>76</sup>

Consequently, the market of Security and Defence is a particular market, as its legal clients are only States which have control over industries operating in this industry by owning part of their shares or thanks to the mechanism of Golden Power. Taking those elements in consideration, we can understand how this market cannot be defined as an open market rather there are other dynamics than competition that play a key role. Such strategic-political approach is the outcome of bilateral and multilateral relations of the State and the context of security in the region, in the State and its borders.<sup>77</sup>

In this section I will briefly explain the importance of the Secretariat General of Defence – National Armaments Directorate (SGD/DNA), that, as I will illustrate later in this Chapter plays a key role in the field of Industrial investment in Security and Defence. The role of the SGD/DNA is established by Article 5 of the law n.27 of 1997<sup>78</sup>, in

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<sup>75</sup> Alessandro Marrone, Michele Nones and Ester Sabatino, “*La regolamentazione italiana degli accordi G2G nel settore della Difesa*”, IAI 2020. Pag. 12-13

<sup>76</sup> Ibid 14

<sup>77</sup> Ibid 7

<sup>78</sup> 1. Il Segretario generale della difesa, scelto nell'ambito del personale militare o civile dell'Amministrazione pubblica, ovvero anche estraneo alla stessa, in relazione alle specifiche esperienze e qualifiche professionali, e' posto alle dipendenze del Ministro della difesa per le attribuzioni amministrative e del Capo di stato maggiore della difesa per le attribuzioni tecnico-operative.



particular, he is in charge of the general planning in the technological-industrial and technical-administrative areas. This means that the SGD/DNA is in charge of the entire process, introduction phase (studying the needs of Defence), research and development, acquisition, production and maintenance. His aim is to provide to the Armed Forces the most suitable means for their activities and, at the same time, in the context of Sistema Paese, to provide to the State security and development of the productive means of the country.

What's Italy position in G2G agreements? Italy compared to its European and Atlantic Partners still lacks a tradition in this kind of agreements. The direction taken by this and Previous Governments appears to be positive<sup>79</sup> that is easy to understand if we think about the importance that the Italian industries in Security and Defence have in terms of exports.

The legal basis of the Italian G2G agreements is Article 537 COM<sup>80</sup>. Currently, due to this article, the Ministry of Defence, and in particular the General Secretary of Defence,

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2. Il Segretario generale della difesa:

- a) ha alle sue dipendenze i direttori generali del Ministero ed e' responsabile dell'indirizzo e del coordinamento delle loro attivita' nonche' dell'attuazione delle direttive di alta amministrazione impartite dal Ministro;
- b) predisporre, d'intesa con il Capo di stato maggiore della difesa, le proposte di pianificazione annuale e pluriennale generale finanziaria relative all'area industriale, pubblica e privata, di interesse della Difesa;
- c) e' responsabile, nel quadro della pianificazione generale dello strumento militare, dell'organizzazione e del funzionamento dell'area tecnico-industriale e tecnico-amministrativa della Difesa;
- d) esercita le funzioni di direttore nazionale degli armamenti ed e' responsabile delle attivita' di ricerca e sviluppo, produzione e approvvigionamento dei sistemi d'arma;
- e) si avvale, per l'esercizio delle sue attribuzioni, di due vice segretari generali, di cui almeno uno civile, scelto nell'ambito del personale dell'Amministrazione pubblica;
- f) puo' delegare competenze nell'area tecnico-amministrativa e nell'area tecnico-industriale in materia di armamenti ad un funzionario civile della Difesa oppure ad un dirigente proveniente dal settore privato, assunto con contratto a tempo determinato, e nominato ai sensi dell'articolo 21 del decreto legislativo 3 febbraio 1993, n. 29, e successive modificazioni, previa designazione del segretario generale medesimo.

<https://www.camera.it/parlam/leggi/970251.htm>

<sup>79</sup> Presidenza del Consiglio dei Ministri “DPR – Regolamento per la disciplina delle attività del Ministero della Difesa in materia di cooperazione con gli altri Stati per i materiali di armamento prodotti dall'Industria Nazionale” <http://www.governo.it/sites/governo.it/files/78376-10193.pdf>

<sup>80</sup> 1. Il Ministero della difesa, nel rispetto dei principi, delle norme e delle procedure in materia di esportazione di materiali d'armamento di cui alla legge 9 luglio 1990, n. 185, d'intesa con il Ministero degli affari esteri e con il Ministero dell'economia e delle finanze, al fine di soddisfare esigenze di approvvigionamento di altri Stati esteri con i quali sussistono accordi di cooperazione o di reciproca assistenza tecnico-militare, puo' svolgere ((,)) tramite proprie articolazioni e senza assunzione di garanzie di natura finanziaria, attivita' contrattuale e di supporto tecnico-amministrativo per l'acquisizione di materiali di armamento prodotti dall'industria nazionale anche in uso alle Forze armate e per le correlate esigenze di sostegno logistico e assistenza tecnica, richiesti dai citati Stati, nei limiti e secondo le modalita' disciplinati nei predetti accordi. 2. Con regolamento adottato, ai sensi dell'articolo 17, comma 1, della legge 23 agosto 1988, n. 400, su proposta del Ministro della difesa di concerto con il Ministro degli affari esteri e il Ministro dell'economia e delle finanze, previo parere delle Commissioni parlamentari competenti, e'

can operate in terms of support for the consumer Country, which results in an exclusion of the Ministry in the role of contractor of the Government. Several steps have been done in the direction of improving the Italian G2G agreements, but still, the role of the Ministry of Defence is excluded from the position as contractor, that in this kind of agreements is essential. For example, it is now possible to sell abroad products that are not in dotation of the Italian Armed Forces; however, we also have to say that is more difficult to sell a product that your forces do not use (why should a country buy a product that you do not give to you own forces?). A new distinction has been made between “*Accordi Internazionali*” (International Agreements) and “*Intese Internazionali*” (International Entente) to separate the documents under the Italian government from those that are more technical-administrative signed by the MoD.

Italy and its *Sistema Paese* would benefit from those agreements, especially if we consider the importance that Security and Defence in terms of export. Italy currently is at the 10<sup>th</sup> place in the world as army exporter, still a relevant position if we consider that due to Covid-19, the amount of export decreased by 22%.<sup>81</sup> In addition, 70% of the Italian production in ASD is reserved to export<sup>82</sup>, this means that there is a need of more support by Sistema Paese.

While Government-to-Government agreements are essential in terms of export, for what concerns imports and foreign investment, for strategic assets such as the ASD Industry, the Italian Government can use special powers also known as “Golden Power” (GP) to prevent foreign investors from acquiring Italian Industry. With the define special Powers – Golden Power the ability of the Italian Government to insert specific conditions for the acquisition of shares, the veto power of certain decisions of the Company and also to oppose the purchase of them, at European level, this power is related to the English “Golden Share” and the French “Action spécifique”.<sup>83</sup>

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definita la disciplina esecutiva e attuativa delle disposizioni di cui al presente articolo. 3. Le somme percepite per il rimborso dei costi sostenuti per le attività di cui al comma 1 sono versate all'entrata del bilancio dello Stato per essere integralmente riassegnate ai fondi di cui all'articolo 619.

<sup>81</sup> <https://formiche.net/2021/03/export-difesa-sipri-report/> (Consulted on 18/03/2021)

<sup>82</sup> Gianluca Di Cicco and Francesco Legrottagnie “Sfide e Opportunità per il settore Aerospace and Defense”, Deloitte (2020) [https://www2.deloitte.com/content/dam/Deloitte/it/Documents/consumer-business/From\\_now\\_on\\_aerospace\\_defence\\_Deloitte.pdf](https://www2.deloitte.com/content/dam/Deloitte/it/Documents/consumer-business/From_now_on_aerospace_defence_Deloitte.pdf)

<sup>83</sup> [https://temi.camera.it/leg17/post/la\\_disciplina\\_del\\_golden\\_power\\_quadro\\_normativo.html#:~:text=Per%20poteri%20speciali%20\(golden%20power,opporsi%20all'acquisto%20di%20partecipazioni.](https://temi.camera.it/leg17/post/la_disciplina_del_golden_power_quadro_normativo.html#:~:text=Per%20poteri%20speciali%20(golden%20power,opporsi%20all'acquisto%20di%20partecipazioni.) (Consulted on 18/03/2021)

The legal framework of the Golden Power, compared to G2G agreements is more exhaustive and started in 2012 with the introduction of the *Decreto Legge (DL) 15/03 2011, n.21* in which special powers for the protection of national security were introduced. Then, the DL 21/09, n.105 introduction GP in the field of cybersecurity; the *Decreto Presidente Consiglio dei Ministri (DPCM) 6/06 2014, n.108* is used to identify the activities that are strategically relevant to the National Defence System. The *Decreto Presidente della Repubblica (DPR) of 19/02 2014, n.35* is used to identify the procedures for the use of the GP in the strategic sectors.<sup>84</sup>

Among the different interpretations of the Golden Power, two are very relevant for this research. A negative comment of the GP is for example that due to this law enforcement, we represent the Italian industries as weak and not able to compete at international level without the help of the Italian government, therefore the GP is a kind of “weapon” against international investment. It is suggested to make Italian buy shares of Italian industries to protect them. Another interpretation of the GP is more positive, due to economic crisis, the protection of the national asset is essential and special times need special measures, like the one we are living. Furthermore, this instrument would be used against external threats (i.e. China) as it would appear strange for European governments to try to acquire more power in fields of Italian national interest (i.e. would France take ENI?).

Personally, I think this kind of power is needed in difficult times like the one we are living as attention is essential for our strategic asset in a long-term vision that currently is missing. Also our European Partners tried to take advantage of Italian weaknesses, like in the case of French Credit Agricole increasing investment up to becoming the primary owner in Italian companies. Or, from strategic assets such as the energy market, in a talk with Professor Caracciolo (President of Limes, the Italian Geopolitical Magazine), talked about French intentions to bombard Italian energy fields during their bombardments in Libya in 2012.

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<sup>84</sup> <http://www.governo.it/it/dipartimenti/dip-il-coordinamento-amministrativo/dica-norm-goldenpower/9299>  
(Consulted on 18/03/2021)

I am not saying that our European Allies are a threat, but the protection of our strategic assets is fundamental nowadays. Especially as we are living a time which the US is losing its role as hegemony and China is more and more economically powerful.

For example, in the first weeks of April 2021, the Italian President of the Council of Ministers Mario Draghi and the Minister of Economic Development Giancarlo Giorgetti used the Golden Power to block the acquisition of the Italian Company Lpe (a worldwide excellence in the construction of semi-conductors) by the Chinese investment group Shenzen Invenland Holdings. The Golden Power has been used as according to the Presidency of the Council of Ministers and the Ministry of Economic Development, of Defence and of Foreign Affairs and International Cooperation, this company represents an essential asset in the Italian economy and in cyber development, especially as the semiconductors they produce are used in strategic areas such as: 5g, Artificial Intelligence etc.<sup>85</sup>

A similar case, more related to ASD Industry is the one it is currently taking place between IVECO (Industrial Vehicles Corporation) and the Chinese Faw, as they are trying to acquire part of their shares. Even if the acquisition should not involve the Military section of the Company, Minister Giorgetti did not exclude the use of the Golden Power by the Italian Government.<sup>86</sup> The main question about the use of the Golden Power is, as the Military Division is not part of the possible agreement between IVECO and Faw, can it be considered as a matter of national security? Is it possible to use the GP? Personally, considering the importance IVECO's military division has for the Italian Armed Forces, the use of the Golden Power would be justified as selling IVECO to a Chinese investment fund would consequently change the entire strategy of the Company.

Secondly, in the framework of the industries of security and defence, the most important Italian actors are: Leonardo Spa and Fincantieri. Both of them have an important participation of the State, corresponding to 30.2% for Leonardo<sup>87</sup> and 71.3% for Fincantieri.

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<sup>85</sup> [https://www.corriere.it/economia/aziende/21\\_aprile\\_09/draghi-ferma-cinesi-il-golden-power-cos-e-perche-l-italiana-lpe-stata-protetta-ec7b7088-98fa-11eb-9898-68a50e5b3d06.shtml](https://www.corriere.it/economia/aziende/21_aprile_09/draghi-ferma-cinesi-il-golden-power-cos-e-perche-l-italiana-lpe-stata-protetta-ec7b7088-98fa-11eb-9898-68a50e5b3d06.shtml) (consulted on 15/04/2021)

<sup>86</sup> <https://formiche.net/2021/03/giorgetti-iveco-faw-golden-power/> (consulted on 15/04/2021)

<sup>87</sup> <https://www.leonardocompany.com/it/investors/stock-info/shareholders-base> (consulted on 20/03/2021)

I decided to use those two firms because I think they are the most important cases in the Italian Industrial framework for Security and Defence; therefore, in this section I will describe them and their projects in this context and their support to *Sistema Paese*.

## 2.2 Leonardo SPA

When we talk about Italian companies in Security and Defence the most known and important is Leonardo, for history, its products and its importance. Leonardo, previously Finmeccanica was created on March 18<sup>th</sup>, 1948, by the *Istituto per la Ricostruzione Industriale* (IRI). Its primary task was to manage the shares owned by the IRI in mechanics and shipbuilding industries, but, let's remember the critic Italian situation after the end of the Second World War and how damaged/destroyed its industrial sector was. "Since 1945 no significant orders for new constructions have been received from the Italian merchant navy"<sup>88</sup>, this led to the need of finding new markets and firms to make profits.

Even if Leonardo's history is very interesting, it would be worth to talk to the situation we have nowadays and its relevance in Sistema Paese. Leonardo SPA is the result of the policies adopted by Finmeccanica to face the economic crisis of the end of the 2000's; thanks to new partnership worldwide and the revision of several businesses and no core sectors, in 2016 Finmeccanica absorbed those companies of which they owned shares such as: AgustaWestland, Alenia Aermacchi, Selex ES, OTO Melara and Wass and becoming the One Company known as Leonardo SPA.<sup>89</sup> Today, the Companies has about 50000 employees, has deep roots in 4 countries: Italy, United Kingdom, Poland and United States of America and its technologies are used in more than 150 countries, and it is divided in 5 main Divisions: Helicopters, Vehicles, Aerostructures, Electronics and Cyber Security.<sup>90</sup> The Covid-19 crisis did not hit very harshly Leonardo, especially if compared to the Italian National Economy that lost about 8.8% of the GDP. Compared to 2019 those are some figures that are very useful for this analysis (figure are expressed in Millions of €).

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<sup>88</sup> <https://www.leonardocompany.com/it/about-us/history> (consulted on 20/03/2021)

<sup>89</sup> Ibid. "La crisi nei mercati e il cammino verso la nuova Leonardo"

<sup>90</sup> <https://www.leonardocompany.com/it/about-us/profile> (consulted on 21/03/2021)

**Table 1: Key Performance Indicators**

	2019	2020
Orders	14.105	13.754
Order Book	36.513	35.516
Revenue	13.784	13.410

**Source:** *Leonardo SPA*<sup>91</sup>

If Leonardo SPA has obtained those results and the Covid 19 did not hit the Company too severely, it's mainly thanks to Military programs. As explained in the first chapter, military programs are long-term programs that are suffer less also in extreme conditions such as the Pandemic, this explains the reasons why only 2.5% of the orders were lost in 2020. The same factor can explain the revenue; while it is true that Civil Aviation has been harshly impacted by Covid-19, Leonardo SPA registered an important increase in its military contracts (in particular EFA Kuwait<sup>92</sup>). Military demand, especially in a uncertain geopolitical context like the one in which we live, in the medium term will not decrease, however, this could happen in the long term process and it is more likely if National Governments will not have the resources needed.<sup>93</sup> Therefore, the Covid-19 might impact Leonardo in the long term as it is reducing national resources worldwide and we have to take into account that 84% of Leonardo SPA's revenue comes from non-Italian consumers.<sup>94</sup>

To understand the importance of Leonardo SPA in terms of Sistema Paese, I will use the "4 Capitals" proposed by "The European House – Ambrosetti": Economic, Environment, Social and Cognitive. Leonardo SPA is considered to be among the top 10 Companies in the field of ASD in the world and top 5 in Europe, this a strategic asset for

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<sup>91</sup> [https://www.leonardocompany.com/documents/20142/13473565/ComLDO\\_FY2020+Results\\_9\\_03\\_2020\\_ITA.pdf/5795cd8f-aabb-7f2f-6384-4160d03f88ed?t=1615311457489](https://www.leonardocompany.com/documents/20142/13473565/ComLDO_FY2020+Results_9_03_2020_ITA.pdf/5795cd8f-aabb-7f2f-6384-4160d03f88ed?t=1615311457489) (consulted on 22/03/2021)

<sup>92</sup> <https://www.leonardocompany.com/en/news-and-stories-detail/-/detail/kuwait-eurofighter-is-coming> (consulted on 22/03/2021)

<sup>93</sup> [https://www2.deloitte.com/content/dam/Deloitte/it/Documents/consumer-business/From\\_now\\_on\\_aerospace\\_defence\\_Deloitte.pdf](https://www2.deloitte.com/content/dam/Deloitte/it/Documents/consumer-business/From_now_on_aerospace_defence_Deloitte.pdf)

<sup>94</sup> <https://formiche.net/2020/11/export-difesa-di-bartolomeo-leonardo/> (consulted on 23/03/2021)

the Italian economy as the company is recognised worldwide. This create a strategic position for the Italian economy as it can be considered a big player in the world of the ASD industry. Furthermore, the relationship between Private and Public sector is essential in terms of Geopolitics, as it can be used to strengthen bilateral relationship and to create new ones, let us remember that the Italian Government can intervene to prevent the export of armaments. Apart from international relations, this Company plays a key role in national security and in the development of new technologies thanks to important investments in Research and Development (about 1.6€ Billion in 2020<sup>95</sup>).

From the environmental point of view, Leonardo SPA is one of the 8 Italian companies listed in the Dow Jones Sustainability Indices<sup>96</sup> (DSIJ) and, as we can read in the 2018-2022 Strategy<sup>97</sup>, the impact on the environment is one of the key points of the development of the Company. Leonardo SPA was one of the first Italian companies to have joined the Task force on Climate-related Financial Disclosures created by the Financial Stability board. The Company's impact on the environment can be divided into 4 main categories: consumption of energetic resources, emission of CO<sub>2</sub>, production of wastes and use of hydric resources. Recent data show a decrease in energy consumption and an increase in the use of renewable resources.<sup>98</sup> This energy management has positively impacted the economy too, thanks to the reduction of CO<sub>2</sub> emissions, the Company avoided from 1 to 5.8€ millions of damages causes by emissions.

From an economic point of view, Leonardo is the top ten Italian Company in terms of revenue, and of course is the first in the ASD industry at national level.<sup>99</sup> As underlined before, the most important element for Leonardo SPA is export, in terms of National economy, in 2017, the Company's exports represented about 1,3% of the total national export. In terms of the internal market, the production chain corresponds to about 4€ billion and it composed by about 4000 companies, 70% of those companies are Small and Medium

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<sup>95</sup> <https://www.statista.com/statistics/640948/finmeccanica-r-and-d-costs/> (consulted on 23/03/2021)

<sup>96</sup> The Dow Jones Sustainability Indices (DJSI) are float-adjusted market capitalization weighted indices that measure the performance of companies selected with ESG (Environmental, Social, Governance) criteria using a best-in-class approach.

<https://www.spglobal.com/spdji/en/documents/methodologies/methodology-dj-sustainability-indices.pdf>

<sup>97</sup> <https://www.leonardocompany.com/en/press-release-detail/-/detail/piano-industriale-2018-2022#:~:text=Continuous%20improvement%20in%20EBITA%2C%20with,growth%20and%20increase%20in%20profitability>

<sup>98</sup> <https://www.leonardocompany.com/en/press-release-detail/-/detail/16-11-20-leonardo-included-in-the-dow-jones-sustainability-indices-for-the-11th-consecutive-year-confirmed-industry-leader-in-aerospace-defence-for-th> (consulted on 25/03/2021)

<sup>99</sup> <https://www.borsamagazine.it/analisi-statistiche/le-10-aziende-con-fatturato-piu-alto-in-italia-2020/>



Enterprises. This means that Leonardo SPA represents a fundamental asset in the National enterprise network. In terms of Research and Development, in 2017 Leonardo was the fourth company worldwide for investment in this sector and the first at national level, representing the 16.8% in Italy in the field of high-technology and the 10.9% of the entire Italian RD investment by companies.

In social terms, of the total employees, about 64% work in Italy (about 29000), that make Leonardo SPA the second manufacturing company in terms of national occupation. In Italy, the occupation multiplier of the ASD industry is about 3.6%<sup>100</sup>, which means that Leonardo creates a total of more than 100000 places of employment (29000 are the direct employees, 48000 are indirect and 27000 are the induced ones). In addition, the Company has better statistics in female occupation than the national mean for companies in the manufacturing sector (33% vs the 30.6% that is the national mean and the 25.3%, that is the European mean); in terms of gender pay gap, Leonardo scores an average value of 8%, that is worse than the national one (5.3%) while the European one is 16.3%.

Another impact of the Company in terms of social revenue is their ability to provide services thanks to their products, mainly in three fields: security of the citizens and control of the territory, prevention and management of emergencies and security of critical infrastructures. As also mentioned in the introduction, one of the most important values of the ASD Industry is the capacity to transform in dual use the technologies developed for both the military and the civilians.

Concrete examples of dual use and applications for civilians and defence concern: radars, first developed to counter enemy vehicles and currently used for civilian purposes, development of new vehicles, for examples cargos that are used by both the military and civilians for logistic purposes, communication and in particular those that pass through satellites and space. In fact, the first satellites were developed thanks to the technology created for rockets during the second world war and the cold war. Another field of dual use is nuclear energy, which can be used for both nuclear weapons and civilian's purposes.

For what concerns the Cognitive capital, the main impact provided by Leonardo SPA is its contribution to Research and Development in all its fields, from agreements with

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<sup>100</sup> Ministero della Difesa “*Il sistema industriale della difesa per il sistema Paese Risultati 2015*” (2015) [https://www.difesa.it/Primo\\_Piano/Documents/2016/07\\_Luglio/Executive\\_AIAD\\_2015.pdf](https://www.difesa.it/Primo_Piano/Documents/2016/07_Luglio/Executive_AIAD_2015.pdf)



Universities, to economic investment. The RD Unit in Leonardo counts for 9000 employees and 6200 are based in Italy representing the 7% of the national employees in RD in manufacturing companies and about 10% of those employed in high-technologies industries. Furthermore, the Company is particularly relevant in terms of brevets, with assets for a total of 6.5€ billion. According to the European Union Intellectual Property Office and the European Patent Office, more than 42% of the total economic activities of the EU was generated by industries that have a high intensity of intellectual property as they are more resilient and were not hit harshly by the economic crisis in 2008.<sup>101</sup>

## 2.3 Fincantieri

The second case study I use for this research is Fincantieri, it represents the Italian excellence in Naval construction with important relations with the Italian defence also in international context which makes it the second most important Italian company in the ASD sector. Compared to Leonardo, the Italian State own a higher percentage of shares, that is 71.3% possessed by *Cassa Depositi e Prestiti* (CDP).

The Company was created on December 29<sup>th</sup> 1959 by the IRI, with similar goals that led to the creation of Finmeccanica/ Leonardo, focusing on the shares of the naval manufacturing companies in order to coordinate and support them from a technical and financial point. In total, 80% of the Italian naval industries were under Fincantieri.<sup>102</sup> The company currently has about 19000 employees<sup>103</sup> and its programme dedicated to Defence, as it is the main partner of the Italian Navy, builds from aircrafts to submarines. Apart from the Italian Navy, it is also partner of the US Navy and it is part of several international and European programs such as the European FREMM Frigates program. In 2018 Fincantieri produced and delivered to the Italian NAVY the new Frigate “*Federico Martinengo*”<sup>104</sup>,

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<sup>101</sup> European Union Intellectual Property Office (EUIPO) – European Patent Office (EPO), “*Intellectual Property Rights - Intensive Industries and Economic Performance in the European Union*”, 2016

<sup>102</sup> Roberto Tolaini “*Fincantieri- Storia*”, Centro online storie e cultura dell’Industria – Il Nord ovest dal 1850 (2010)  
[http://www.storiaindustria.it/repository/fonti\\_documenti/biblioteca/testi/Testo\\_Fincantieri\\_Storia.pdf](http://www.storiaindustria.it/repository/fonti_documenti/biblioteca/testi/Testo_Fincantieri_Storia.pdf)

<sup>103</sup> Fincantieri “*Seven seas – One company*” (2020)  
[https://www.fincantieri.com/globalassets/gruppo/fincantieri\\_cp\\_01\\_19\\_web.pdf](https://www.fincantieri.com/globalassets/gruppo/fincantieri_cp_01_19_web.pdf)

<sup>104</sup> Federico Martinengo was an Italian flying ace, credited with five aerial victories, during World War I, and an Italian admiral during World War II and awarded the Gold Medal of Military Valour (this is a case of homonymy with the author). <https://www.marina.difesa.it/noi-siamo-la-marina/storia/la-nostra-storia/medaglie/Pagine/MartinengoFederico.aspx>

produced in the context of the European FREMM, the Frigate is a perfect example of international cooperation and technological development.<sup>105</sup>

Compared to Leonardo, Covid-19 crisis hit harshly the Company that in 2020 had a total revenue of 5,1€ billion, that correspond to a loss of 11% compared to 2019 that is the result of a loss of 20% in production terms. The difference with Leonardo can be explained the relevance the Civilian sector has for Fincantieri compared to Leonardo as we must remember that the Civilian sector was hit harsher than the military one. In fact, Leonardo currently lacks a division specialised in airlines vehicles, that was the most hit category by coronavirus.

However, not everything is negative in Fincantieri financial statement. Firstly, all future orders have been confirmed that can guarantee a continuity for the Company. In fact, for 2021 statement, it is previewed an increase in the outcome of the 25-30% that should compensate the covid-19 crisis and would be in line with the growth previewed before the pandemic.<sup>106</sup> Secondly, I mentioned the *Federico Martinengo* Frigate as an important example because the Company is a worldwide example of excellence in this field. This statement is confirmed by the victory of the tender in 2020 of the US Navy for the creation of the new fast frigates. The value of the projection and the production of the first frigate is about 800\$ million, while the total contract can arrive up to 5.6\$ billion. In fact, the winning project proposed by Fincantieri was an adaptation of the European FREMM; the company was able to win against important rivals such as Huntington Ingalls Industries, General Dynamics Bath Iron Works, Navantia and Austral USA.<sup>107</sup> This project will then lead to the construction of the New US Frigate of type FFG(X), that will be renamed FFG-62 Constellation.<sup>108</sup>

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<sup>105</sup> <https://www.marina.difesa.it/noi-siamo-la-marina/mezzi/forze-navali/Pagine/Martinengo.aspx> (consulted on 26/03/2021)

<sup>106</sup> <https://www.startmag.it/smartcity/come-vanno-i-conti-di-fincantieri/> (consulted on 26/03/2021)

<sup>107</sup> <https://www.ilsole24ore.com/art/fincantieri-vince-gara-usa-le-nuove-fregate-ffgx-ADQEwsN> (consulted on 27/03/2021)

<sup>108</sup> The Constellation (FFG-62) class frigate program, previously known as the FFG(X) program, is a Navy program to build a class of 20 guided-missile frigates (FFGs). Congress funded the procurement of the first FFG-62 class ship in FY2020 at a cost of \$1,281.2 million (i.e., about \$1.3 billion), and the second FFG-62 class ship in FY2021 at a cost of \$1,053.1 million (i.e., about \$1.1 billion). The Navy's FY2021 budget submission estimated that subsequent ships in the class will cost roughly \$940 million each in then-year dollars. Four industry teams competed for the FFG-62 program. On April 30, 2020, the Navy announced that it had awarded the FFG-62 contract to the team led by Fincantieri/Marinette Marine (F/MM) of Marinette, WI. F/MM was awarded a fixed-price incentive (firm target) contract for Detail Design and Construction (DD&C) for up to 10 ships in the program—the lead ship plus nine option ships. The other three industry teams reportedly competing for the program were led by Austal USA of Mobile, AL;

To understand the importance of Fincantieri in the context of Sistema Paese, we must put it in the context of the economy of the Sea, which is still essential in national economy as the maritime cluster, in total, counts to 2% of the Italian GDP (34.3€ billion, of which, 29.5 from the industrial cluster while 4.7 from the institutional one).<sup>109</sup> The economic multiplier of the Maritime cluster is 2.26, which means that any 100€ invested in this sector, it generates a revenue of 226€. In terms of occupation, the total number of workers (including those from maritime tourism) is about 467000, of which, 46000 come from the Naval Industry.<sup>110</sup>

Following the structure used to analyse the impact on Sistema Paese by Leonardo SPA, from an environmental perspective, in 2017 we registered a positive trend in reduction of emissions that corresponds to 1 million tons of CO2. This is the result of an increase in intermobility by 13% that had a positive impact on the environment and also on safety to. In the last 10 years, maritime incidents decrease by 49%.

From an economic point of view, considering Italian geopolitical position in the Mediterranean Sea, we can simply get the reasons for which the Sea economy is so relevant. 26.5% of the Italian export in the European Union and 93% of the export in non-European countries in 2018 passed by sea, those figures are similar in terms of imports, as they are respectively the 30.5% and the 89%.<sup>111</sup> Fincantieri represents then, a worldwide excellence in both the Civilian and the Military sector, 54% of the orders they receive are for exports, especially thanks to their excellence in the production of cruising ships.<sup>112</sup>

An important case study to use for Fincantieri was the introduction of the “*Legge Navale 2014*” (Naval Law) that was essentially a legislative act granting 7.2€ billion in ten years to the Italian Navy that was external to the Balance of the Defence.<sup>113</sup> Thanks to those fund, Fincantieri could developed a better long-term plan and more investments, this is the

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General Dynamics/Bath Iron Works (GD/BIW) of Bath, ME and Huntington Ingalls Industries/Ingalls Shipbuilding (HII/Ingalls) of Pascagoula, MS. Congressional Research Service “*Navy Constellation (FFG-62) Class Frigate (Previously FFG(X)) Program: Background and Issues for Congress*” (2021) <https://fas.org/sgp/crs/weapons/R44972.pdf>

<sup>109</sup> Federazione del Mare “*Cluster marittimo in Italia, Europa e Mediterraneo*”, the sixth Maritime economy report (2019) [https://www.federazionedelmare.it/images/pubblicazioni/VI\\_Rapporto\\_sulleconomia\\_del\\_mare\\_dic\\_2019/VI\\_Rapporto\\_su\\_Economia\\_del\\_Mare\\_FedMARE\\_2019.pdf](https://www.federazionedelmare.it/images/pubblicazioni/VI_Rapporto_sulleconomia_del_mare_dic_2019/VI_Rapporto_su_Economia_del_Mare_FedMARE_2019.pdf) pag 22.

<sup>110</sup> Ibid 41

<sup>111</sup> Ibid 51

<sup>112</sup> Ibid 65

<sup>113</sup> [Gazzetta Ufficiale](#)

reasons for which Fincantieri is particularly important in terms of export for example in Egypt or the US as previously analysed.

## **2.4 The implications of the ASD Industry on Sistema Paese**

As we can understand from those two case studies, the ASD industry plays an essential role in Sistema Paese. The ASD Industry offers direct work to more than 160000 peoples and it is a strategic asset for the National economy as shown above. In addition, we must always take into account the percentage of both companies under the State control (31% for Leonardo and 72% for Fincantieri) which implies the need of an important return for Sistema Paese. In order to keep this industry so relevant, there are 3 conditions to be created according to Minister Guerini that presented them during a question time in the Italian Parliament.<sup>114</sup> Moreover, companies such as Leonardo and Fincantieri have an important impact on Sistema Paese thanks to their cooperation with Italian Small and Medium Enterprises such as: Avio Aero and Magnaghi that produce some components in the Aviation Field, Umbra Group that is specialised in Space and cooperates with national and international industries or to give other examples: OVS Vilella, ABL, AIG, Abete etc.

Firstly, to keep the technological advantages Italy has in this sector and improve it thanks to international cooperation. As we have seen before, Italian companies are worldwide recognised as excellences in this field, but as I will analyse in the third Chapter, international cooperation can be an advantage for them and for Italy. This is the reason why Minister Guerini favourably welcomed European initiatives such as the European Defence Fund and the Permanent Structured Cooperation.

Secondly, it is essential to keep the shares the Italian Government has on those Companies and if possible, to improve mechanism like the Government-to-Government agreements to support them, and still, in terms of financial support, increase the guarantees of SACE.<sup>115</sup>

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<sup>114</sup> This QnA was done in May 2020, while Italian industries were facing covid-19

<sup>115</sup> SACE is the Italian Export Credit Agency specialized in supporting the growth and development of businesses and the national economy through a wide range of tools and solutions to improve competitiveness in Italy and worldwide. <https://www.sace.it/en/about-us/the-companies> (consulted on 2/04/2021)

Thirdly, as presented in the Programmatic Plan of the Ministry of Defence to invest in new and renewal programs to have a double positive effect on both the Companies and the Armed Forces.<sup>116</sup>

Considering the importance of both Companies analysed, their collaboration is welcomed. Like in the case of the Joint Venture “*Orizzonte Sistemi Navali*” as both companies collaborate to maximise the Italian Made in Italy in the field of Naval industry. Fincantieri has 51% of the shares while Leonardo SPA 49%, the aim is to make *Orizzonte Sistemi Navali* the worldwide excellence in combat systems and Control and Command Systems. In particular, Fincantieri will be the main contractor considering its worldwide reputation while Leonardo will furnish its technological systems. This collaboration started in 2014, when the first guidelines were set up and the main target is to make this collaboration to maximise the know-how of both Companies, their resources and more importantly the commercial opportunities they have.<sup>117</sup>

To understand the impact of the ASD Industry in Sistema Paese, we have to contextualise the difference operability Italian Armed Forces have after the end of the Cold War. Since the 1990's the Italian Armed Forces have been deployed all over the world to face new and different threats compared to USSR during the cold war. Also the kind of mission was different which makes the needs of the industry wider than the protection of the Nation (which, however, is still the primary target as analysed in the first Chapter).<sup>118</sup> Considering Italian deployment and the creation of international mission, this was a new challenge also for the Italian industry, that for the first time not only had to compete with possible Eastern Threats but also had to use the Italian Army as sponsor of its own products.

We also have to mention that the different Armed Forces require different levels of technologies, and it is easy to imagine that the most developed ones are the NAVY and the Aviation (the New Frigates, F-35 Fighters, NH-90 etc.)<sup>119</sup>. This is to say that to have an efficient Sistema Paese in the field of ASD Industry we need the most developed

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<sup>116</sup>

[https://www.difesa.it/Primo\\_Piano/Pagine/Sostegno\\_al\\_comparto\\_industriale\\_della\\_Difesa\\_per\\_rilancio\\_Paese.aspx](https://www.difesa.it/Primo_Piano/Pagine/Sostegno_al_comparto_industriale_della_Difesa_per_rilancio_Paese.aspx) (consulted on 3/04/2021)

<sup>117</sup> <https://www.industriaitaliana.it/fincantieri-e-leonardo-insieme-per-il-sistema-paese/> (consulted on 04/04/2021)

<sup>118</sup> Alessandro Marrone “*Il mantenimento e l’ammodernamento dello Strumento Militare come motore del Sistema Paese: evoluzione del modello di interazione tra la Difesa e l’Industria Nazionale*” Centro Militare di Studi Strategici (2020)

<sup>119</sup> <https://www.difesa.it/Content/Documents/DPP/DPP%202020-2022.pdf>

cooperation between the Italian Companies and the Italian armed forces. However, at the same time, Italian Companies should not take advantage of their position.

To a certain extent, we can say that *Sistema Paese* prevents international competition in the field of Security and Defence; firstly for ethical reasons, but not always economy goes hand to hand with ethics. Secondly, for the reason mentioned above, considering the international use of Italian Armed Forces, giving at their disposal the best technologies available can attract more international investments that would create a double positive effect for Armed Forces (as they have the best equipment) and the Companies too, as they can get more international clients. For this particular point, the work of the General Secretariat of Defence, and more importantly, the 3<sup>rd</sup> Department (Industrial Policy and International Relations) which plays an essential role in *Sistema Paese*, for example, by signing several Memorandum of Understanding between the Secretariat and their international Counterparts.<sup>120</sup> Thirdly, our Companies should take advantage of international programs, as I will analyse in the third Chapter.

Thanks to the cooperation among the Italian Companies, the Ministry of Defence, the Presidency of the Council of Ministers and the Ministry of Foreign Affairs and International Cooperation, Italy reached great results in international export.

As we can understand, exports of the ASD Industry represent an important part of the Italian *Sistema Paese*. Since the activation of the Law 185/90, Italian companies sold armaments for a total value of about 100€ billion, of which 44€ billion in the last 5 years. Of those 44€ billion, about 24.8€ billion have been sold to extra UE and extra NATO countries, especially in the Middle East.<sup>121</sup> For example, Leonardo SPA in 2016 signed an agreement with Kuwait Government about the selling of 28 Eurofighters<sup>122</sup>, or another agreement about the furnishment and management of new radar systems.<sup>123</sup> Fincantieri, event after the recent victory in the USA, uses a similar policy. For example, they signed a Memorandum of Understanding with the Qatar Government for the planning,

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<sup>120</sup> An example is the MoU between the Italian Ministry of Defence and the US Department of Defence [untitled \(difesa.it\)](https://www.difesa.it)

<sup>121</sup> <https://www.repubblica.it/solidarieta/diritti-umani/2020/07/09/news/armi-261423378/> (consulted on 6/04/2021)

<sup>122</sup> <https://www.startmag.it/innovazione/dossier-kuwait-per-leonardo-dopo-lipo-sfumata-di-drs/> (consulted on 6/04/2021)












<sup>123</sup> <https://it.insideover.com/economia/il-nuovo-fronte-di-leonardo.html> (consulted on 6/04/2021)

construction and management of a Naval Base. This followed a 2016 agreement of 4€ billion for the construction of 7 ships.<sup>124</sup>

Another point which I must mention is the so called “*Cultura dell’Inventiva*” (Culture of Inventiveness - CoI). By CoI we mean the Italian tendency to find original, innovative and more importantly, functional solutions to the structural problems. It represents both a weakness and a strength of the Italian Society as while it is positive in finding alternatives which usually results in successes, it prevents the Italian System from facing its major weaknesses and not always it will be possible to find a solution. As we will see in the third Chapter, the CoI has been very positive in international cooperation, especially in European Initiatives.

In the LB 2020, the MoD asked for a total budget of 2.403€ billion to destinate to Defence Programmes, and, as we can imagine, most of them involve Italian Companies. While the MISE will finance Defence project for 1900€ billion.






**Figure 11: Ministry of Defence**

COF	FFAA.	Programma.	Volume Finanziario
	Interforze	New Generation Identification Friend or Foe (NGIFF)	63,0 M€
	Interforze	C2 Multidominio dei Comandi Operativi*	214,9 M€
	Esercito	Sistema Individuale di Combattimento (SIC)	100,0 M€
	Esercito	Light Utility Helicopter (LUH)	108,0 M€
	Esercito	VTMM - “ORSO”	348,0 M€
	Esercito	VTLM - “LINCE” 2	110,0 M€
	Marina	Nuova Logistic Support Ship (LSS)	411,0 M€
	Marina	Veicolo Blindato Anfibio (VBA)	206,0 M€
	Marina	DDX - 1 (incluso armamento)	620,3 M€
	Aeronautica	Capacità SHORAD - AM	127,9 M€
	Carabinieri	Light Utility Helicopter (LUH)	94,0 M€

<sup>124</sup> [https://www.ansa.it/mare/notizie/rubriche/shippingecantieri/2020/01/24/fincantieri-intesa-qatar-per-gestire-flotta-navale\\_a17c4e86-5082-489a-8321-6af15dadd197.html](https://www.ansa.it/mare/notizie/rubriche/shippingecantieri/2020/01/24/fincantieri-intesa-qatar-per-gestire-flotta-navale_a17c4e86-5082-489a-8321-6af15dadd197.html) (consulted on 7/04/2021)



**Figure 12: Ministry of Economic Development**

COF	FFAA	Programma	Volume Finanziario
	Aeronautica	Programma F-2000	600,5 M€
	Esercito Marina	B1-NT evoluzione Radar per FSAF / PAMS e KIT MLU	852,2 M€
	Aeronautica	HH-101 - C-SAR	62,5 M€
	Marina	U-212 Near Future Submarine (NFS)	163,4 M€
	Esercito	Nuova BLINDO - "CENTAURO" 2	221,4 M€

**Source:** Multiannual planning document 2020-2022<sup>125</sup>

For example, Leonardo SPA is currently providing the helicopters to the Italian Armed Forces in the context of the Project of the “Light Utility Helicopter” even if some critics emerged.<sup>126</sup> <sup>127</sup> This program, will end in 2033 and will receive in total 2.200€ billion.<sup>128</sup> Or to give another case that is more known to public opinion, we can use the F-35 Program, which is reserved to the Italian Aviation and NAVY.<sup>129</sup> Leonardo SPA, even if is not the primary producer of the Fighter, is currently the company enrolled for the assemblage and for the production of several cyber components.<sup>130</sup> The CoI has been an important aspect for this program as, even if the public opinion was against the financing of the F-35 Project, the Italian Armed Forces and the Italian Government decided to continue it, with a positive impact on Italian economy and strategic position too.

<sup>125</sup> <https://www.difesa.it/Content/Documents/DPP/DPP%202020-2022.pdf>

<sup>126</sup> <https://theaviationist.com/2020/12/31/first-aw169-in-new-advanced-light-utility-helicopter-configuration-begins-flight-testing/> (consulted on 6/04/2021)

<sup>127</sup> <https://www.leonardocompany.com/it/press-release-detail/-/detail/10-07-2020-leonardo-delivers-its-first-aw169-basic-training-helicopter-to-the-italian-army> (consulted on 6/04/2021)

<sup>128</sup> <https://www.aviation-report.com/nuovo-light-utility-helicopter-multiruolo-avanzato-dell-aviazione-esercito-italiano/> (consulted on 7/04/2021)

<sup>129</sup> The F-35 Lightning II is an American supersonic, single-seat, single-engine fighter bomber which will equip Western air forces from the next decade onwards. The F-35 sports the advanced features typical of 5th generation combat aircraft. It is a platform equipped with advanced sensor integration and processing in a net-centric perspective and very low observability (stealth) characteristics that set it apart from advanced fourth-generation aircraft (such as Eurofighter and Rafale). The new integrated logistics system for platform and fleet, aimed at increasing aircraft availability and cut operating costs, together with its high survivability and interoperability, make it suitable for redeployment tasks in distant operating theaters, for deep ground attack missions and to support surface operations. Designed and built by the US company Lockheed Martin, the Lightning II stems from the Pentagon requirement for a Joint Strike Fighter (JSF), a common type of attack aircraft with which to replace the current Air Force, Marines and Navy types. Michele Nones, Giovanni Gasperini, Alessandro Marrone “Europe and the F-35 Joint Strike Fighter (JSF) Program”, IAI (2009) [http://www.iai.it/sites/default/files/quaderni\\_e\\_16.pdf](http://www.iai.it/sites/default/files/quaderni_e_16.pdf)

<sup>130</sup> <https://www.leonardocompany.com/it/products/f-35-jsf> (consulted on 8/04/2021)



## 2.5 The weaknesses of the Italian Sistema Paese and the ASD Industry

Until now I talked about the positive interactions between the different actors in the context of Sistema Paese, but as we all know, nothing is perfect. Therefore, in this section I will present the several weaknesses the current Sistema Paese has in the field of ASD Industry.

One of the main weaknesses of the Italian Sistema Paese is the strong Individualism that characterises the Italian actors in this context. Very few programs are strongly based on inter-forces organisation as, it is also true to say, any Armed Force has its own special requirements and needs. Until now, the CoI has compensated this weakness, but it might not be enough in the long term process the Armed Forces need to rely on. Is it only Armed forces' fault? Of course not, all the three actors play their role in this weakness, let me use as example politics, the Italian political scenario is highly fragmentated with continuous change of Governments. This has a negative impact on the planning of industrial policies.

The lack of a long-term vision quoted above is another essential weakness Italy has, especially if compared to its European Allies. An optimal interaction between the ASD Industry and the Defence needs a long-term vision that is missing, a vision that is fundamental to give the guidelines to follow in order to plan efficiently the economic resources. Let me use as an example the publication of a White book of Defence. Italy published 2 total books, one in 1985 and the second in 2015 under Former Minister Pinotti.<sup>131</sup> Firstly, the Second Italian White book was not followed by a Green Book or other types of document, which meant that there were only general guidelines that are not enough for a specific sector such as Defence. Secondly, Italian Allies such as France, Germany or United Kingdom that are also the most important countries in terms of European Defence (of course before Brexit) published more than 3 important documents on this theme. To understand the reasons that led to this weakness, we can use history. As mentioned before, during the Cold War, the needs of the Armed Forces were different and consequently the relationship between them and the Industrial sector. With the end of the Cold War, supposedly, a new kind of relationship that took international competition and international market as basis should have developed.

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<sup>131</sup> [https://www.difesa.it/Primo\\_Piano/Documents/2015/04\\_Aprile/LB\\_2015.pdf](https://www.difesa.it/Primo_Piano/Documents/2015/04_Aprile/LB_2015.pdf)

From an economic perspective, the lack of economic resources is another relevant weakness. Italian investment in Defence in terms of GDP counted as much as 1.43%, a percentage that is still far from NATO objective 2024 of 2% and appears impossible to achieve especially after Covid-19 crisis and its economic consequences. As economic resources are missing, Italy cannot plan long term programs, or it is forced to plan over a longer period of time that companies might miss resources for more investments. This also leads to incertitude of greater costs and risks for companies. As seen in the first chapter, the amount reserved to Research and Development is not enough (this is a European problem, not only a National one) and European Funds are too limited to make the situation any better; even if a positive thinker might say that they are a first step. Of course, the Italian Companies have their faults too. Considering their experiences as public Companies (IRI and the still relevant participation of the State owning their shares), this factor led to a lack of motivation in renewing and compete that are the most important characteristics of the private Companies.

One of the possible solutions found to increase cooperation among Armed Forces and the development of more Joint forces was the creation, under the General Secretariat of Defence, of the National Directions of Armaments based on the French experience of the “Direction Générale de l’Armement”. However, the Secretariat does not have the necessary power to have the role it was designed to. It does not have proper resources, the strong relationship between Politics and Industry has limited its role in the decision making of Defence and the inabilities of the Armed Forces to cooperate narrowed its position. If to these reasons we add a complex process for the decision making we understand that the role of the Secretariat is too limited. A clear example is in the Cybersecurity field, as all Armed Forces have their own specialised unites, and only recently a joint unit has been created.<sup>132</sup>

Additionally, the dialogue between ASD Industry and the Defence is even worse than among the Armed Forces. In the 2015 White book, it was proposed to create a more structured format:

*“The cornerstone of the national strategy for Security and Defence, even within the perspective of a process of European integration in the Defence Sector, is the close*

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<sup>132</sup> [senato.it - Senato della Repubblica](https://www.senato.it) (consulted on 8/04/2021)

*collaboration between industry and the Ministry of Defence. The term “extended” operational needs and the resulting technical requirements are key elements in a policy of security and integrated defence. Operational needs and technical-military requirements for creating priority capability, in fact, are derived from the tasks and missions assigned to the Military. They must also keep in mind the possibility that the same technical requirements and associated technologies have a wide utility also for other national needs. This can only be guaranteed by a strong interrelationship between Defence, industry and other ministries responsible for the various sectors. In particular: - at the national level, it is necessary to adapt existing technical and administrative regulations, both to allow acquisitions over long periods, and in terms of contractual conditions and, more generally, arrangements governing the acquisition process and acceptance of the supplies for the Ministry of Defence. The goal is simplification and speeding up of procedures. - at the European level, considering development, the acquisition process will be able to become more and more joint and multinational, allowing financial savings in terms of economies of scale, better interoperability, and operational integration. This objective can be achieved by stimulating the strengthening of the skills and capabilities of existing European agencies, such as EDA and OCCAR, with the contribution of nationally qualified staff.”<sup>133</sup>*

*“for the development of future projects, it is appropriate that platforms and open and possibly modular architectural systems are used to allow long term autonomous and cost-effective management, ensuring maintenance over time and necessary updating, according to technological advancement, in simpler and more economical ways”<sup>134</sup>*

As we know, the guidelines set up in 2015 were not followed by more structured papers, while the intentions were good, the outcome was not the one the Defence hoped. For example, one the weakness of this dialogue is the Defence fearing a possible influence by the Industry in the setting up the operational and strategic guidelines. While from the industrial point of view, there is reluctance in exposing a more long-term process due to mainly competitive and economic reasons. This lack of dialogue among the two sectors can result in highly costly failures like the one P-180 Piaggio.<sup>135</sup>

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<sup>133</sup> [https://www.difesa.it/Primo\\_Piano/Documents/2015/04\\_Aprile/LB\\_2015.pdf](https://www.difesa.it/Primo_Piano/Documents/2015/04_Aprile/LB_2015.pdf)

<sup>134</sup> Ibid 114

<sup>135</sup> <https://www.camera.it/leg18/682?atto=127&tipoAtto=Atto&idLegislatura=18&tab=1#inizio> (consulted on 9/04/2021)

Another weakness of the Italian Sistema Paese and the difficulties of interactions between the Defence and the Industrial sector is the low Italian budget on Research and Development. In 2019, the Italian expenditure in RD was 59€ million. Nothing compared to our European Allies if we think that the total amount of RD Budget among the 26 countries that are members of the European Defence Agency is 1.7€ billion.<sup>136</sup> In fact, while the Italian budget on Defence has increased in recent years, most of the budget cover personnel costs as seen in the first Chapter. On the other hand, Italian Companies hardly take advantage of international cooperation, preferring a sure short-term gain rather than a riskier one in the long-term.

## **2.6 Conclusion**

In this Chapter I analysed the Italian Sistema Paese and how the Italian Government can support it in the international scenario by analysing two important tools such as the Government-to-Government agreements and the Golden Power. Secondly, I presented the two most important actors in the Italian ASD Industry: Leonardo SPA and Fincantieri, their implications on the Sistema Paese and their importance and relevance in the international scene. As we have seen, those two companies represent a worldwide excellence of the “Made in Italy”, but more can be achieved. This is the reason why I finished this Chapter by furnishing the current weaknesses of the Sistema Paese in the ASD Industry; some policy recommendations will be given in the Fourth and final Chapter.

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<sup>136</sup> Camera dei Deputati “La spesa per la difesa in ambito europeo” (2021)  
<http://documenti.camera.it/leg18/dossier/pdf/DI0341.pdf>

## **Chapter 3**

### **International Cooperation in the ASD Industry and Italy**

In this Chapter, I will analyse the Italian role in international cooperation in the ASD Industry. As explained in the first chapter, in the international context, the most important organisations in which Italy is included are: the European Union and the North Atlantic Treaty Organisation. The aim of this Chapter is to present the Italian impact on the international scenes by focusing on EU and NATO Initiatives.

#### **3.1. The European Union Foreign Policy**

To understand the Italian impact on EU Initiatives we must have a clear understanding of the European Union Foreign Policy. In terms of Defence and Security Policy, the European Union is a weak actor; in fact, its decision making in this field is based on intergovernmentalism which means that unanimity is necessary to take any action. As we can imagine, unanimity is the most relevant weakness in the Foreign Policy Decision making as technically, all the 27 Member States, should have a common purpose. This means that 27 Countries and governments, that can have different national interests over different geopolitical areas, are supposed to come up with the same decision, this process leads the EU to having a very weak effectiveness in the matters of security. For example, this weakness was shown in 2011 during the Libyan crisis, when the High Representative decisions were overpassed by France leading to the bombing over Libya and under a political point of view, the minority parliamentary representation of a country such as Belgium (that is composed by 3 states) can veto the EU process.

To comprehend the current EU industrial policy in security, it is very important to understand the evolution of the European Defence. It started in 1950's under the Pleven Plan which was supposed to create a common army for European countries, initially under the control of NATO and more importantly, linked to the European Coal and Steel Community. However, for several reasons such as: the death of Stalin in 1953 (which helped in reducing the pression of the cold war), the question of re-armament of Germany

(to which France strongly opposed, especially during NATO meetings) and political reasons like the French General Assembly refusing the plan proposed by a French Minister, this first step of European army was rejected. This was just an initial failure in the long process of integration that led to the formation of the European Union in 1992 thanks to the Maastricht Treaty. This treaty is important for the pillarization of the Union, in which the Common Foreign and Security Policy stood as the second pillar, characterised by a strong intergovernmentalism as MS did not want to give up their sovereignty in matters of foreign affairs and consequently in security. However, in the field of competition, the European Union got the exclusive competence over the MS. In 2007, when the Lisbon treaty came into force, few changes were made that are relevant for the topic of this part of the research. Firstly, the double-hat rule, in which the High Representative was appointed also as Vice-President of the Commission, secondly, they created the European External Action Service (that is the diplomatic body of the EU). However, decisions over Defence were still taken under unanimous vote.

### **The Maastricht Treaty**

The Maastricht treaty represent a first boost to the EU foreign policy as it became one of the three fundamental pillars of the Union. In particular, it was intergovernmental pillar which meant that actions could take place under the unanimity of the Member States.<sup>137</sup>

The creation of a second supranational pillar was deemed a necessity to contain the EU as an actor in foreign policy and leave to the MS a full control over it. The EC was increasing its control over it and the CFSP had to take the role of a filter to prevent the substance of foreign policy entering the under the Commission. At the same time, after the failure of the EU foreign policy in the Balkans, it had to improve the image of the Union's identity as also referred in article 2 TEU "to assert its identity on the international scene, in particular through the implementation of a common foreign and security policy". At the same time it had to be part of the process of integration of the European Union, the 90's could become a turning point for the EU considering the new geopolitical equilibrium

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<sup>137</sup> Amadio Vicere', Maria Giulia (2018). *"The High Representative and EU foreign policy integration. A comparative study of Kosovo and Ukraine"*. Palgrave Macmillan

created after the end of the cold war and the union of the two Germany, moreover, there was the question of the Eastern states too. However, since its beginning, for some MS the CFSP could be a key stone in the EU foreign policy, creating a credible and effective action, as the end of the East – West cleavage made imperative to the Union to become stronger and more coherent. For other MS, the failure in the Balkans had to be interpreted as a reminder for the EU to not aim in tackling such events considering also the importance of NATO and US.<sup>138</sup>

### **The Amsterdam Treaty**

The Amsterdam treaty, introduced in 1999, tried to face the weaknesses of the CFSP, which had a shared and good idea at the basis, but did not have any significant practical use. For example, it introduced the High Representative of the CFSP, and the European Security Defensive Policy (ESDP, that under the LT became the CSDP). The role of the HR was to assist the Council and the Presidency in the making-process of the EU foreign policy, finally the EU had a physical actor to which attribute the international relations. While some MS though that the HR would have been a low-level figure, the European Council indicated Javier Solana, who had recently been leading the NATO operations in Serbia. Thanks to his abilities, the CFSP was successful in mediation in Macedonia and Ukraine (2001 and 2004), but his skills were not enough to give to the EU Foreign policy its real importance.

The second change adopted by the Amsterdam Treaty was the introduction of a common strategy instrument in the theatres of Russia, Ukraine and Mediterranean, however, it did not led to any improvement compared to the partnership and strategies adopted by the Union since the beginning of the 90's.

The real change brought by the Amsterdam Treaty was the European Security and Defence Policy, as a strengthening of Europe's military capacity were needed to rebalance in the transatlantic equilibrium and cooperation between EU MS and NATO and setting up the Unions' military objectives through the Heading Goal (European Council 1999b). In December 2003, the militarization process speeded up thanks to the European Security

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<sup>138</sup> Keukeleire, Stephan, and Tom Delreux. *"The foreign policy of the European Union"*. Macmillan International Higher Education, 2014.

Strategy and in 2004, France and the UK launched the project of creation an EU collective reaction force, based on a six months rotating basis. The idea of the battlegroups increased the importance of the MS in the EU Foreign policy, as shown by the role played by the MS leaders.<sup>139</sup>

## **The Lisbon Treaty**

With the introduction of the LT, the three pillars-based system of the EU was formally abolished, leading to a multiple separation of power at both horizontal and vertical level<sup>140</sup>. The horizontal level for what concerns the decision between EC, Council and EP, while the vertical axis is between EU and MS. For what concerns the EU foreign policy, it is still composed by supranational and intergovernmental policies, the LT distinguishes the CFSP from other areas of the EU external policy as they are now legally referred in Part V TFEU.<sup>141</sup>

Under the Lisbon Treaty, the EU has successfully faced one of its most important challenges, the integration of the Eastern European Countries which is part of the foreign policy. This changed the geopolitical role of the EU too, as thanks to the integration process, the EU borders started to be closer to Russia and Ukraine, making a unitary foreign policy more important. Another change introduced by the LT was the creation of the function of High Representative of the Union for Foreign Affairs and Security Policy which became also one of the vice-presidents of the EC, another innovation for the creation of the European External Action Service. Initially, it was thought that the EU leaders would have appointed some important figure as HR, like it happened in the Amsterdam Treaty with Solana, but this was not the case, showing already a limited hope by the EU actors in major changes in the EU foreign Policy. In addition, the role of the ESDP (that became the Common Security and Defence Policy – CSDP) changed, as it was formalised becoming part of the treaties. This last change, however, was less supported by one of its primary sponsors: France; under Sarkozy, it became less interested in the CSDP as it returned the country in the NATO structure.<sup>142</sup> The LT, while changing some internal mechanism

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<sup>139</sup> Ibid

<sup>140</sup> Fabbrini, Sergio. “*Which European Union?: Europe after the Euro Crisis.*” (2015).

<sup>141</sup> Amadio Vicerè, Maria Giulia 2018

<sup>142</sup> Keukeleire S. & Delreux T. 2014



concerning foreign policy, has not been able in significantly improving it, for example by giving more flexibility to in the decision making process by making the system of vote in the Council by qualified majority in 4 scenarios: adopting a decision concerning a Union Action on the basis of the European Council, decision of the HR, implementing a decision defining a Union Action or position, when appointing a special representative under Article 33 TEU.<sup>143</sup> Additionally, the LT created the “Double hat” rule, making the High Representative of the Union for Foreign Affairs also one of the Vice-Presidents of the European Commission, moreover, the European External Action Service was created. It is the diplomatic body of the Union with, which has delegation all over the world and in the most important international organisations. Finally, thanks to Article 39, the European Union acquired the legal capability of signing international agreements.

### 3.2 The European Initiatives for the ASD Compartment

More recently, under Juncker’s Commission (2014-2019), the European Commission started to focus on the EU security industrial policy, the key steps towards the Europeanisation of this sector were:

- In 2015, they set up a high level of personalities (think tanks, politicians, military personnel, CEO from Security Industry etc.) to get advised on how the Commission could support this sector;
- In 2016, the EC launched the European Defence Action Plan which aimed in supporting the competition in the field of security industry;
- 2017 was a turning point as the above-mentioned steps led to the creation of the European Defence Fund. It consists in the planning of industrial expenditure among MS

In terms of Institutions and Agencies, the European most important actors in the field of Security and Defence are: the European Commission (EC) (which, however, compared to other fields plays a more marginal role), the European Council as the Head of States can set up the guidelines that the EU has to follow, the Council of the European Union as

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<sup>143</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:12012M/TXT&from=EN>

unanimity is necessary in Defence and finally, the related agencies such as the European Defence Agency that is in charge of the Permanent Structured Cooperation (PESCO) initiatives.

Starting from the most important institution in the EU Framework that is the European Commission, in January 2021 established the new Directorate General Defence Industry and Space (DEFIS).

The Directorate-General for Defence Industry and Space (DEFIS) is the main actor in the framework of the European Commission in the fields of Defence Industry and Space.

In the first area, the Directorate General is in charge of supporting the competition and the innovation among the European ASD industries with the aim of evolving the European defence technological and industrial base.

In the second area, the DG's role is to implement the EU Space Programme in which there projects such as: the European Earth Observation Programme<sup>144</sup> (Copernicus), the European Global Navigation Satellite System<sup>145</sup> (Galileo) and the European Geostationary Navigation Overlay Service (EGNOS).<sup>146</sup>

*“Some key actions and priorities for the year ahead:*

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<sup>144</sup> Copernicus is the European system for monitoring the Earth and is coordinated and managed by the European Commission. The development of the observation infrastructure is performed under the aegis of the European Space Agency for the space component and by the European Environment Agency and EU countries for the in-situ component. It consists of a complex set of systems which collect data from multiple sources: earth observation [satellites](#) and [in situ sensors](#) such as ground stations, airborne sensors, and sea-borne sensors. It processes this data and provides users with reliable and up-to-date information through a set of services related to environmental and security issues. [https://ec.europa.eu/growth/sectors/space/copernicus\\_en#:~:text=Copernicus%20is%20the%20European%20system,managed%20by%20the%20European%20Commission.&text=It%20consists%20of%20a%20complex,%2C%20and%20sea%2Dborne%20sensors](https://ec.europa.eu/growth/sectors/space/copernicus_en#:~:text=Copernicus%20is%20the%20European%20system,managed%20by%20the%20European%20Commission.&text=It%20consists%20of%20a%20complex,%2C%20and%20sea%2Dborne%20sensors). (consulted on 15/04/2021)

<sup>145</sup> Galileo is Europe's own global navigation satellite system, providing a highly accurate, guaranteed global positioning service under civilian control. Currently providing Initial Services, Galileo is interoperable with GPS and Glonass, the US and Russian global satellite navigation systems. By offering dual frequencies as standard, Galileo is set to deliver real-time positioning accuracy down to the metre range. [https://www.esa.int/Applications/Navigation/Galileo/What\\_is\\_Galileo](https://www.esa.int/Applications/Navigation/Galileo/What_is_Galileo) (consulted on 18/04/2021)

<sup>146</sup> The European Geostationary Navigation Overlay Service (EGNOS) is Europe's regional satellite-based augmentation system (SBAS) that is used to improve the performance of global navigation satellite systems (GNSSs), such as GPS and Galileo. It has been deployed to provide safety of life navigation services to aviation, maritime and land-based users over most of Europe. The services will be progressively extended to the European Neighbourhood countries. Funding has already been allocated by the European Commission through the European Neighbourhood Instrument for infrastructure and technology development. <https://www.euspa.europa.eu/european-space/what-egn> (consulted on 19/04/2021)

- *implementation and oversight of the European Defence Fund*
- *building an open and competitive European defence equipment market and enforcing EU procurement rules on defence;*
- *leading on the implementation of the Action Plan on Military Mobility*
- *fostering a strong and innovative space industry, maintaining the EU's autonomous, reliable and cost-effective access to space;*
- *implementing the future Space Programme, covering Galileo, EGNOS and Copernicus;*
- *exploring ways in which we can make the most of our assets to deliver on climate objective, improving the crucial link between space and defence and security.*<sup>147</sup>

Thierry Breton is the Commissioner appointed for this Directorate General as he was already in charge of the Internal Market. The main documents proposed by the EC in matter of Defence and Space are dated to 2016 and are: the European Defence Action Plan<sup>148</sup> and the Space Strategy for Europe<sup>149</sup> which finally, led to the creation of the EU Global Strategy 2016<sup>150</sup>. Taking into account EU's weaknesses in foreign policy, the creation of a Directorate General for Defence Industry represents a turning point in EU Security. In fact, the European Union is mostly known for its economic power rather than a strategic one, this is the main reasons for which implementing a more efficient market is the best solution for the EU. As I will later show in this research, one of the weaknesses of the European Industrial framework in Security and Defence is the fragmentation among the different industries and the different types of weapons, especially if compared to the United State of America. It is impossible to make a comparison between the US and the EU in terms of security and defence capabilities, but one of the points I would like to highlight is the fragmentation in the European industries leads to an important waste of resources. This

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<sup>147</sup> [https://ec.europa.eu/info/departments/defence-industry-and-space\\_en](https://ec.europa.eu/info/departments/defence-industry-and-space_en) (accessed on 28th april 2021)

<sup>148</sup> European Commission “*European Defence Action Plan*” (2016) <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52016DC0950&from=en>

<sup>149</sup> European Commission “*Space Strategy for Europe*” (2016) <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52016DC0705&from=EN>

<sup>150</sup> European External Action Service “*Shared Vision, Common Action: A Stronger Europe – A Global Strategy for the European Union's Foreign And Security Policy*” (2016) [https://eeas.europa.eu/archives/docs/top\\_stories/pdf/eugs\\_review\\_web.pdf](https://eeas.europa.eu/archives/docs/top_stories/pdf/eugs_review_web.pdf)

might sound contradictory as one of the features of the European Union is competition, but the security industry has to respect different guidelines.

I will now analyse the most important EU Agency in matters of Security and Defence: the European Defence Agency (EDA). As any other agency, it does not have any specific legal basis on the Treaty of the European Union<sup>151</sup> (except the ones related to Foreign Policy, in particular Article 42 TEU) and it is under the control of the High Representative. The EDA was formally created on July 12<sup>th</sup>, 2004 after a long process that included the creation of the European Constitution (that did not come into force) and the need as previously explained of a stronger EU in matters of Foreign Policy. The initial role of the EDA was the set up of institutional meetings among Member States Officials in matters of Defence, the Member States ASD Industries and the EU Institutions.

The main objectives of the EDA are:

- to support the progress of defence and security capabilities and of the military cooperation among the Member States of the European Union;
- encouraging Research and Technology (R&T) in the fields of Security and Defence and to strengthen the ASD industry across Europe;
- to act as a military interface to EU policies.”<sup>152</sup>

After the review of the Agency carried out in 2016/17, the framework of the EDA increased and included:

- *“EDA as the major intergovernmental prioritisation instrument at EU level in support of capability development, coordinating with the EEAS (incl. EUMS) and EUMC in their respective areas of responsibility.*
- *EDA as the preferred cooperation forum and management support structure at EU level for participating Member States to engage in technology and capability development activities.*

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<sup>151</sup> there is no general legal basis to create EU agencies. The current prevailing view in legal literature and case law of the European Court of Justice is that EU agencies may be created on the relevant Treaty article that provides the legal basis in a specific policy area. European Parliament Research Service “*EU Agencies, Common Approach and Parliamentary Scrutiny*” (2018)

[https://www.europarl.europa.eu/RegData/etudes/STUD/2018/627131/EPRS\\_STU\(2018\)627131\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2018/627131/EPRS_STU(2018)627131_EN.pdf)

<sup>152</sup> <https://eda.europa.eu/who-we-are/Missionandfunctions> (consulted on 28/04/2021)

- *EDA as facilitator towards the European Commission and EU Agencies, and as the interface upon Member States' request, exploiting wider EU policies to the benefit of Defence and acting as a central operator with regard to EU funded defence-related activities.*<sup>153</sup>

In 2017, the European Union launched an important initiative for the development of the Industrial Sector in the fields of Security and Defence, that is: the European Defence Fund. This fund is strictly correlated to Research and Development, and in April 2021 has been officially launched for the time framework 2021-2027. This budget will consist in 7.9€ billions to be used by European Countries that are member of the European Defence Agency as launched in April 2021 by the European Commission.

Margrethe Vestager, Executive Vice-President for a Europe Fit for the Digital Age, said: *"This is an important step for a stronger Europe. The Fund will play a key role to enable SMEs to participate in defence supply chains and widen cross-border industrial cooperation. Providing opportunities to companies all sizes helps achieving more innovative solutions, to foster an open internal market. So besides a stronger defence cooperation it contributes to our competitiveness."*<sup>154</sup>

Thierry Breton, Commissioner for Internal Market, said: *"Today marks a historic day for Europe. The idea of working together for promoting our Defence Union and for the security of EU citizens is now a tangible reality. In a global context where Europe needs to be stronger, more resilient and more autonomous in strategic areas, the European Defence Fund is a milestone and will significantly contribute to the security of EU citizens."*<sup>155</sup>

The European Defence Fund can be considered the most important achievement in this field for Juncker's Commission; we have to take into account the fact that it operates only at level of production as one of the most important victories of the EU is competition law over MS. However, the EDF cannot be related to the exports of weapons of EU MS.<sup>156</sup>

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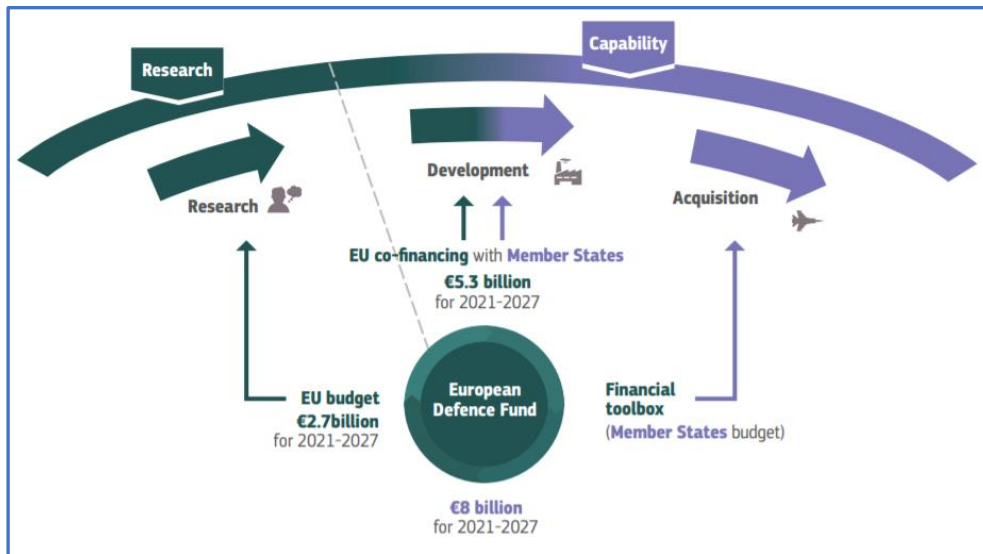
<sup>153</sup> Ibid.

<sup>154</sup> [https://ec.europa.eu/commission/presscorner/detail/en/IP\\_21\\_2007](https://ec.europa.eu/commission/presscorner/detail/en/IP_21_2007) (consulted on 30/04/2021)

<sup>155</sup> Ibid.

<sup>156</sup> Please note, the following table represents the first draft of the EDF, the final amount consisted in 7.9€ billion compared to the 13 presented initially.

**Figure 13:** the European Defence Fund



**Source:** European Commission<sup>157</sup>

The EDF's initial draft consisted in 13€ billion, but the final version approved for security industry in the years 2021-2027 is 7.9, they will cover the costs of research and development, while acquisition will be left to MS budgets. Of those €7.9 billion, 2.6 will be allocated for Defence Research while 5.3 will co-finance capability development project. An extra 4-8% will be allocated to the development or research for disruptive technologies.<sup>158</sup> After the launch of the Fund, a the Programme Committee that is chaired by the EC, in which the EDA will participate as observer and the European External Action Service will assist, will discuss the priorities of the Fund from a legal and economic point of view. A vital point that must be highlighted is the Capability branch of the European Defence fund, in fact, not only it represents the more funded compartment of the EDF, but it is a co-financing with the European Member States, which implies that EU MS invests in the European Initiatives from their national budgets.

- *“Only collaborative projects are eligible. Any project should have at least 3 participants from at least 3 different Member States or associated countries;*

<sup>157</sup> [https://ec.europa.eu/defence-industry-space/european-defence-fund-edf\\_en](https://ec.europa.eu/defence-industry-space/european-defence-fund-edf_en)

<sup>158</sup> “i.e. technologies that have the potential to create game-changing innovations). This budget represents an unprecedented opportunity to contribute to the development of a competitive and innovative European defence industry.” [https://ec.europa.eu/commission/presscorner/detail/en/IP\\_21\\_2007](https://ec.europa.eu/commission/presscorner/detail/en/IP_21_2007) (Consulted on 29/04/2021)

- *Projects will be defined along priorities set with Member States aiming at contributing to the security and defence interests of the Union, in line with defence capability priorities agreed by Member States within the framework of the Common Security and Defence Policy and particularly in the context of the Capability Development Plan, and taking into account, where appropriate, priorities from other regional and international organisations (NATO);*
- *The Fund will incentivise the cross-border participation of SMEs by providing higher financing rates and favouring projects by consortia which include SMEs.;*
- *4-8% of the budget will be set aside to support innovative disruptive technologies for defence that will boost Europe's long-term technological leadership and defence autonomy.*
- *To ensure that EU resources are put to good use, the Fund will only co-finance development of common prototypes where Member States intend to buying the final product. No capability will be owned by the EU;*
- *If eligible, activities developed in the context of Permanent Structured Cooperation (PESCO) may receive a higher EU co-financing rate (co-funding bonus of additional 10%), but contribution by the Fund is not automatic.”<sup>159</sup>*

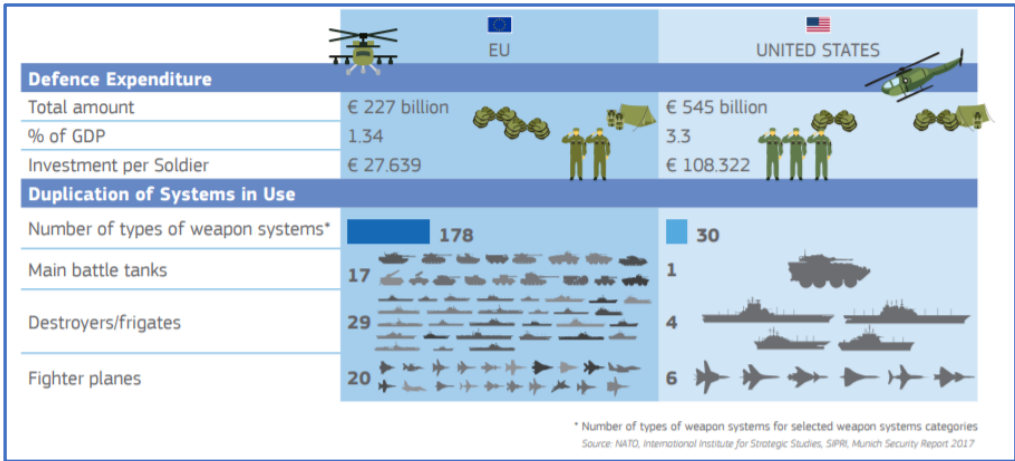
The main target of the EDF is to overcome the inefficiencies of the European Union in this particular industrial sector, it aims to reduce the fragmentation which lead to an increases in costs. For example, this table shows the inequalities between EU MS armies and the US.

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<sup>159</sup> European Commission “The European Defence Fund” (2021) [https://ec.europa.eu/defence-industry-space/european-defence-fund-edf\\_en](https://ec.europa.eu/defence-industry-space/european-defence-fund-edf_en)



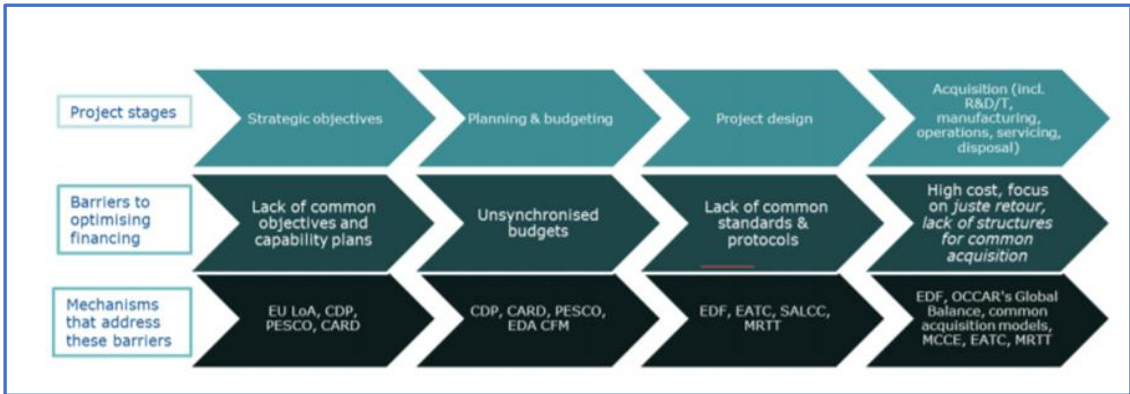
**Figure 14:** the differences between EU and US



**Source:** European Commission<sup>160</sup>

As we can clearly see, the EU adopt a consistent amount of types of weapons compared to the US, even if the investment cannot be compared (EU invests less than half of the US in security and defence). A large number of types of weapons implies an increase in costs of production and indirect costs such as training. As the EDF is an instrument of European Integration, it favours projects that are presented under PESCO, as 25 States are part of it, even if most of the States only share some of PESCO projects. The EDF is supposed to finance also project led by NATO or that are under the European Defence and Technological and Industrial Base (EDTIB). The process is briefly summarised in the following diagram.

**Figure 15:** European Defence Fund Process



**Source:** European Commission<sup>161</sup>

<sup>160</sup> Ibid.

<sup>161</sup> [https://ec.europa.eu/commission/presscorner/detail/en/IP\\_21\\_2007](https://ec.europa.eu/commission/presscorner/detail/en/IP_21_2007)



As we can understand, the idea behind the EDF is to strengthen the importance of the Permanent Structured Cooperation (PESCO) by financing with an extra 10% the project under it. The Permanent Structured Cooperation legal basis are Article 42.6 and article 46 of the TEU.<sup>162</sup> PESCO has to be considered as a framework in which 25 of the 27 EU MS (the two countries non participating are Malta and Denmark) in which the primary target is the enforce more cooperation among European Defences by proposing projects in which different MS are involved. Currently there are 46 PESCO Projects which are divided into the following categories:

- Training facilities;
- Maritime;

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<sup>162</sup> Art. 42.6 Those Member States whose military capabilities fulfil higher criteria and which have made more binding commitments to one another in this area with a view to the most demanding missions shall establish permanent structured cooperation within the Union framework. Such cooperation shall be governed by Article 46. It shall not affect the provisions of Article 43.

Art. 46

1. Those Member States which wish to participate in the permanent structured cooperation referred to in Article 42(6), which fulfil the criteria and have made the commitments on military capabilities set out in the Protocol on permanent structured cooperation, shall notify their intention to the Council and to the High Representative of the Union for Foreign Affairs and Security Policy.

2. Within three months following the notification referred to in paragraph 1 the Council shall adopt a decision establishing permanent structured cooperation and determining the list of participating Member States. The Council shall act by a qualified majority after consulting the High Representative.

3. Any Member State which, at a later stage, wishes to participate in the permanent structured cooperation shall notify its intention to the Council and to the High Representative. The Council shall adopt a decision confirming the participation of the Member State concerned which fulfils the criteria and makes the commitments referred to in Articles 1 and 2 of the Protocol on permanent structured cooperation. The Council shall act by a qualified majority after consulting the High Representative. Only members of the Council representing the participating Member States shall take part in the vote.

A qualified majority shall be defined in accordance with Article 238(3)(a) of the Treaty on the Functioning of the European Union.

4. If a participating Member State no longer fulfils the criteria or is no longer able to meet the commitments referred to in Articles 1 and 2 of the Protocol on permanent structured cooperation, the Council may adopt a decision suspending the participation of the Member State concerned. The Council shall act by a qualified majority. Only members of the Council representing the participating Member States, with the exception of the Member State in question, shall take part in the vote.

A qualified majority shall be defined in accordance with Article 238(3)(a) of the Treaty on the Functioning of the European Union.

5. Any participating Member State which wishes to withdraw from permanent structured cooperation shall notify its intention to the Council, which shall take note that the Member State in question has ceased to participate.

6. The decisions and recommendations of the Council within the framework of permanent structured cooperation, other than those provided for in paragraphs 2 to 5, shall be adopted by unanimity. For the purposes of this paragraph, unanimity shall be constituted by the votes of the representatives of the participating Member States only.

- Cyber, C4ISR;
- Land, Formations, Systems;
- Air, Systems;
- Enabling, Joints;
- Space.<sup>163</sup>

PESCO is particularly relevant for the Italian Defence as it participates to 27 out of the 47 PESCO projects and it is the coordinator of 9 of them, making it the second most involved country after France.<sup>164</sup>

It is quite easy to understand why Italy plays such role in the European Defence, unlike France, if we take into account the Italian expenditure in Research and Development, it corresponds to about €50 million, therefore, being part of coordinating several PESCO Projects could guarantee an extra 10% of the European Defence Fund. This fund will play an extraordinary role in the future of the Italian investment in Research and Development. On the contrary, as explained by Dottor Giuseppe Tortora in an interview, France is currently investing €1.5 billion in Defence Research and Development, therefore, their strong participation to the European Defence Fund is more a participation with the aim of a more strategic European Defence, especially keeping in mind that France is the only European Member State that has the atomic power in their arsenal. French President Macron never hide the dream of a stronger role of the EU in defence, but most of the EU Countries might not agree as the strong alliance with the US (under the NATO umbrella) is essential for them.

Going back to the Italian case, Italy is mainly involved in project that concern capability development, which confirms as previously written and another project in which Italy is highly involved is the next EU tank, a project mainly developed by France and Germany. Additionally, from an industrial point of view thanks to PESCO Project, the Italian industrial framework, in cooperation with the Italian government has the possibility of not only achieving economies of scale, but also, thanks to the partnership with other European Member State, the export in third countries.

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<sup>163</sup> <https://pesco.europa.eu/> (consulted on 1/05/2021)

<sup>164</sup> The Council of the European Union “*Amending and updating Decision (CFSP) 2018/340 establishing the list of projects to be developed under PESCO*” (2020) <https://pesco.europa.eu/wp-content/uploads/2020/12/2020-11-23-Council-Decision-PESCO-projects-list-2020.pdf>

Another instrument proposed by the European Defence Agency is the Coordinated Annual Review on Defence (CARD). The main target of the CARD is to “*provide a picture of the existing defence capability landscape in Europe and to identify potential cooperation areas.*”<sup>165</sup> in order to obtain a better consistency among the planning of the Member States’ Defences.

In 2019 – 2020 the first cycle of Card review took place and the European Defence Agency identified 6 main topics on which to implement EU strategies.<sup>166</sup>

- Main Ground Combat System;
  - In 2017, Germany and France started the “Main Ground Combat System” (MGCS) Project with the aim of providing the next generation of Tanks to the European Armies. The two States, did not include any other Member State.<sup>167</sup> In fact, 22 of the 27 EU Member States do have MBT in their arsenals and there are 14 different models<sup>168</sup> (this data represent the fragmentation of EU MS in types of Weapons). The bilateral agreement between France and Germany does not include only the new European Tank but also the 6<sup>th</sup> generation of Fighters. Currently, the Italian Army has always kept in their Arsenal the Tank ARIETE, but sources from the Ministry of Defence confirm the willingness of the Italian Army to acquire new MGCS, Leonardo might enter in the agreement between the French and German industries, or, find a new agreement with the US.<sup>169 170</sup>
- Soldier Systems;
  - The Generic Open Soldier System Reference Architecture (GOSSRA), the main idea is to standardise to soldier systems within their context of operation in order to: promote interoperability and interchangeability, support different soldier’s equipment configurations as required by EU

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<sup>165</sup> [https://eda.europa.eu/what-we-do/EU-defence-initiatives/coordinated-annual-review-on-defence-\(card\)](https://eda.europa.eu/what-we-do/EU-defence-initiatives/coordinated-annual-review-on-defence-(card)) (consulted on 3/05/2021)

<sup>166</sup> Ibid.

<sup>167</sup> <https://formiche.net/2020/10/carro-armato-futuro-tofalo/> (consulted on 4/05/2021)

<sup>168</sup> Alessandro Marrone and Ester Sabatino: “*L’Europa, l’Italia e i carri armati di nuova generazione: Executive Summary*” (2020) <https://www.iai.it/sites/default/files/iai2008.pdf>

<sup>169</sup> <https://formiche.net/2021/04/difesa-italia-germania-rheinmetall-ercolani/>

<sup>170</sup> Ester Sabatino “*Per l’Italia quale carro armato dopo l’Ariete?*” <https://www.iai.it/sites/default/files/iai2012.pdf>

Member States, allow for interface robots and/or UAVs.<sup>171</sup> The agreement for this development was signed in April 2018 and is lead by Rheinmetall (Germany) cooperating with 8 other Industries from 6 member States: GMV (Spain), iTTi (Poland), Tekever-ASDS (Portugal), Larimart (Italy), Leonardo (Italy), SAAB (Sweden), Indra (Spain) and TNO (the Netherlands).<sup>172</sup>

- Patrol Class Surface Ships;
  - o The European Patrol Corvette is a project developed in 2019 by the Mediterranean countries: Italy (that coordinates the project), Spain, Greece and France with the target of developing them for 2026-2027; *“The EPC is envisaged as a common platform, a shared baseline, which can be modified as needed by participating Member States according to their national needs and specifications. The overall displacement is expected to be no more than 3,000 tonnes, which will allow the ship to operate from minor harbours (draft less than 5.5 meters).”*<sup>173174</sup>
- Counter Unmanned Aerial Systems (Counter-UAS)
  - o Another project coordinated by Italy in the PESCO framework is the Counter- UAS) that is developed with the Czech Republic. *“The target is the development of an advanced and efficient system of systems with C2<sup>175</sup> dedicated architecture, modular, integrated and interoperable with C2 infrastructure, able to counter the threat posed by mini and micro Unmanned*

<sup>171</sup> Aerospace and Defence Industries Association of Europe “Advanced Soldier System based on Common European Standard architectures” (2017) [https://www.asd-europe.org/sites/default/files/atoms/files/6ASD%20food%20for%20thought%20paper\\_advanced%20soldier%20systems%20January%202017.pdf](https://www.asd-europe.org/sites/default/files/atoms/files/6ASD%20food%20for%20thought%20paper_advanced%20soldier%20systems%20January%202017.pdf)

<sup>172</sup> European Defence Agency “Generic Open Soldier System Reference Architecture (GOSSRA)” [https://eda.europa.eu/docs/default-source/projects/padr-gossra-projectweb\\_v2.pdf](https://eda.europa.eu/docs/default-source/projects/padr-gossra-projectweb_v2.pdf)

<sup>173</sup> <https://eda.europa.eu/news-and-events/news/2021/01/04/eda-to-support-european-patrol-corvette-pesco-project> (consulted on 7/05/2021)

<sup>174</sup> <https://www.edrmagazine.eu/early-italys-epc-design-concept-revealed> (consulted on 7/05/2021)

<sup>175</sup> “The Ballistic Missile Defense System (BMDS) is a system-of-systems made up of an amalgam of sensor networks, track databases, weapons systems, and command and control (C2) systems. The command and control/battle management of the BMDS is a core element of the system-of-systems; this element is called the Command and Control, Battle Management, and Communications (C2BMC) system. The C2BMC system is a globally distributed, real-time, software-intensive battle-management system that must exhibit highly predictable systemsoftware behavior, in which the system receives sensor information from land, sea, air, and space, and commits land-, sea-, air-, and space-based weapons to fire at identified targets.” From “Comparative Analysis of C2 Structures for Global Ballistic Missile Defense” <https://calhoun.nps.edu/handle/10945/37898>

*Aerial Systems. This is supposed to be swift to deploy and reach operational status, to ensure protection to the troops in operational theatres, as well as employed for homeland defence, security and dual use tasks. The project will fulfil applicable certification and regulatory requirements, to allow homeland employment.”*<sup>176</sup>

- Defence applications in Space;

- Started in 2016 with the publication of the EU Global Strategy, the European Union privileges a coordinated approach to Space considering its new dimension in terms of Defence and Security. In the same year, previous to the Global Strategy. *“CARD recommends developing a European approach to defence in space to improve access to space services and protection of assets in space. As an emerging operational domain, more collaboration would contribute to a greater involvement of Ministries of Defence and recognition of military requirements in wider space programmes conducted at EU level.”*<sup>177</sup> The European Defence Agency has developed 4 main sub-programs in terms of Defence Applications<sup>178</sup>:

- Satellite Communications (SatCom)
- Space-Based Earth Observation (SBEO)
- Positioning, Navigation and Timing (PNT)
- Space Situational Awareness (SSA).

In the field of Space, the European Defence Agency cooperates with the European Space Agency.<sup>179</sup>

- Military Mobility;

- Military mobility has been one of the main target of the European Defence Agency especially considering the funds reserved to the Trans-European Network Transportations (TEN-T). *“CARD recommends more active participation of all Member States in military mobility programmes, notably*

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<sup>176</sup> <https://pesco.europa.eu/project/counter-unmanned-aerial-system-c-uas/> (consulted on 8/05/2021)

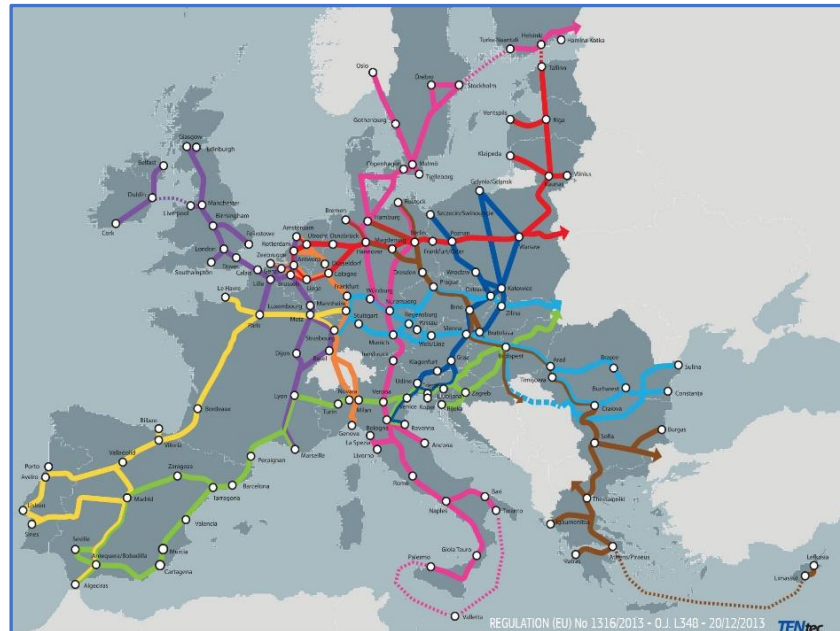
<sup>177</sup> <https://eda.europa.eu/news-and-events/news/2020/11/20/ministers-presented-with-new-opportunities-for-joint-military-capabilities-to-overcome-fragmented-european-defence-landscape> (consulted on 8/05/2021)

<sup>178</sup> <https://eda.europa.eu/what-we-do/capability-development/space> (consulted on 10/05/2021)

<sup>179</sup> The European Space Agency (ESA) is Europe's gateway to space. Its mission is to shape the development of Europe's space capability and ensure that investment in space continues to deliver benefits to the citizens of Europe and the world. <http://www.esa.int/> (consulted on 10/05/2021)

*air and sea lift transportation, logistic facilities and increased resilience of related IT systems and processes under hybrid warfare conditions, by the mid-2020s.”*

**Figure 16:** The Trans European Network Transports Corridors



**Source:** European Commission<sup>180</sup>

- In Fact, in a relationship of the European Commission in matters of Military Mobility of September 2019, it was highlighted how 94% of the TEN-T corridors would fit the Military requirements<sup>181</sup> for transportations and logistics. As shown in the first chapter, and the case of Covid-19 and the Italian Defence operations for Vaccines under General Figliuolo, the Military Logistics is the only one present on the State that can offer such efficiency and effectiveness. In addition, the Military Mobility was one of

<sup>180</sup> [https://ec.europa.eu/transport/themes/infrastructure/ten-t\\_en](https://ec.europa.eu/transport/themes/infrastructure/ten-t_en) this map represents the current and projected corridors of the TEN-T. (consulted on 11/05/2021)

<sup>181</sup> “The present Annexes to the Military Requirements for Military Mobility Within and Beyond the EU provide the military input to the next steps foreseen in the Action Plan on Military 13674/18 JF/mag 2 RELEX.2.B LIMITE EN Mobility of March 2018, without prejudging decisions to be taken further in the process. In this regard, following a comprehensive examination by the Commission and competent Member States authorities, the military requirements will help to identify transport infrastructure gaps, taking into account the TEN-T requirements. In the process of identifying the gaps, comprehensive examination, including feasibility, will be undertaken duly taking into account the existing equipment and technical viability, financial and engineering considerations as well as geographic realities. Any decisions on infrastructure investments remain national sovereign decisions and will be taken on a case-by-case basis.” Council of the European Union “*Military Requirements for Military Mobility within and beyond the EU*” (2020) <https://data.consilium.europa.eu/doc/document/ST-13674-2018-INIT/en/pdf> Annexes: <https://data.consilium.europa.eu/doc/document/ST-11373-2019-INIT/en/pdf>

the points presented in the EU Global Strategy 2016 and is a key in the cooperation between NATO and the European Union:

- *“The multiple and evolving security challenges that our Member States and Allies face from the East and the South make our continued cooperation essential, including in responding to hybrid and cyber threats, in operations, and by helping our common partners. We are committed to deepen it further within the existing common proposals. It is now important to focus on implementation. In this context, we will aim for swift and demonstrable progress in particular in: military mobility; counter-terrorism; strengthening resilience to chemical, biological, radiological and nuclear-related risks; promoting the women peace and security agenda.”*<sup>182</sup>

In fact, military mobility will have an extra €1.5 billion or budget allocated.

The first CARD Report (2020), in the context of PESCO reported the following points:

- *“to overcome the fragmentation of the European defence landscape through coordinated and continuous efforts among pMS over a long period of time in three major areas which are interlinked: defence spending, defence planning and defence cooperation, including by implementing the agreed EU Capability Development Priorities*<sup>183</sup> *and the dedicated recommendations proposed for each of these areas;*
- *to further make use of the EU defence initiatives and benefit from increased cooperation;*

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<sup>182</sup> Joint Declaration on EU-NATO Cooperation by the President of the European Council, the President of the European Commission, and the Secretary General of the North Atlantic Treaty Organization, [https://www.consilium.europa.eu/media/36096/nato\\_eu\\_final\\_eng.pdf](https://www.consilium.europa.eu/media/36096/nato_eu_final_eng.pdf)

<sup>183</sup> The priorities are implemented in an output-oriented way to facilitate the generation of cooperative projects aimed at closing identified capability shortfalls. To this end, the CDP implementation process is supported by the elaboration of so-called ‘Strategic Context Cases’ (SCC). For each of the 11 priorities, these SCCs will present an overview of the capability landscape and the reference for generating collaborative capability development projects. They will also deliver the necessary roadmaps with dedicated objectives and milestones, for those areas where Member States task EDA to be involved. The SCC are prepared by EDA with the support of a wide network of experts from Member States, EU, NATO, other relevant multinational stakeholders, as well as defence industry representatives. European Defence Agency “2018 CDP Revision – The EU Capability Development Priorities” (2019) <https://eda.europa.eu/docs/default-source/eda-publications/eda-brochure-cdp>



- *to inform the development of the Strategic Compass<sup>184</sup> through which the Council will provide policy orientations and specific goals and objectives, including in the field of capabilities, to guide the implementation of the EU level of ambition of November 2016. It will build also on a 360 degrees threat analysis of the full range of threats and challenges and could further contribute to develop the common European security and defence culture and address differing threat perceptions;*
- *to address the major shortfalls (by implementing the High Impact Capability Goals<sup>185</sup>) and properly deliver the pool of capabilities declared to the EU to fulfil the EU CSDP Military Level of Ambition;*
- *to gradually increase the availability of forces for operational engagement;*
- *to focus capability development efforts on next generation capabilities, including at system and subsystem level, in an open and inclusive manner for all pMS, and prepare the future together within the six focus areas: Main Battle Tank, Soldier Systems, European Patrol Class Surface Ship, Counter-UAS – Anti-Access/Area-Denial, Defence in Space, Enhanced Military Mobility;*

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<sup>184</sup> The Strategic Compass offers the EU and its Member States a window of opportunity to reflect on its security and defence, even though in reality threats will not wait for the Union to get its act together. Looking ahead to 2021, there is a need for the EU to show clarity in and ambition for its security and defence. This is also an opportunity for the EU to signal to the world in general and to its partners in particular that the Union has the ability and willingness to adapt to and thrive in a geopolitically contested environment. With the development of the Strategic Compass come difficult but unavoidable questions about the nature of the EU's global ambitions. This is not just a question of what capabilities or resources the Union needs, but rather a deeper reflection on whether the Union can forge a common strategic culture over time and whether it has the wherewithal to deal with a post-Covid world, strengthen multilateralism and partnerships, check the rise of authoritarian regimes, manage rapid and uncertain technological shifts, deal with strategic competitors and the added stresses caused by climate change.  
<https://www.iss.europa.eu/sites/default/files/EUISSFiles/Event%20Report%20-%20Strategic%20Compass.pdf>

<sup>185</sup> The High Impact Capability Goals and the strategic enablers prioritised in the CDP must be priority number one, both enhancing the availability of existing capacity by pooling it, and creating new capacity. If member states were to settle on the size of the force package that PESCO should aim at, that would be the basis to quantify the need for enablers.

Sven Biscop, "European Defence and PESCO: Don't Waste the Chance", EU Integration and Differentiation for Effectiveness and Accountability Policy papers no. 1 (2020) [https://euidea.eu/wp-content/uploads/2020/05/euidea\\_pp\\_1.pdf](https://euidea.eu/wp-content/uploads/2020/05/euidea_pp_1.pdf)



- *to pursue the following priority areas for operational collaborative opportunities: Power Projection, Non-Kinetic Engagement Capabilities and Force Protection.*”<sup>186</sup>

What are the main suggestion for pMS to achieve? Firstly, as previously analysed, the main obstacle to European Integration in Defence is the fragmentation among the Member States. Therefore, the creation of common projects and common targets should set up the right guidelines towards the right direction. However, as we can imagine, while the theoretical background has been set up, what has been done in practice? The European Defence Fund is limited to Research and Development and even if can represent an important budget for countries like Italy, they do not cover the acquisition and maintenance framework that is the most important expense in defence. Another question rises when we talk about the industrial players, the previous example of the European Tank represents perfectly the current European Scenario, we cannot ask to European Countries to cooperate while their national industrial players do not want others to join (i.e. France and Germany vs. Italy and Poland). To solve this problem, we might take as an example Airbus, that was created thanks to the cooperation between France and Germany to compete with worldwide players such as Boeing etc. but this is not enough.

Secondly, considering all the economic reasons remarked in the first Chapter, it is important to not decrease the European Member States budget over defence, also taking into account that 21 European States are part of the North Atlantic Alliance and the European economic contribution to the Alliance should be increased. Later in the chapter I will analyse the cooperation between NATO and the European Union.

The 2018 Capability Development Priorities, produced by the European Defence Agency, aimed to provide a framework to the decision-maker for the investment in Defence capabilities. It was the result of the 2016 EU Global Strategy in coordination with the CARD. This report presented 11 priorities developed together with MS and divided in short, mid, long term capabilities analyses.

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<sup>186</sup> European Defence Agency and European External Action Service “2020 Card Report – Executive Summary” (2020) <https://eda.europa.eu/docs/default-source/reports/card-2020-executive-summary-report.pdf>

- *Short term Perspective is composed by the general shortfalls and associated risks in the CDP context and lessons learned from operations;*
- *Mid term perspective is composed by the identification of planned capabilities and the identification of collaborative opportunities;*
- *The long term perspective is the assessment of future trends (2025-2040 timeframe) taking into account technology innovation and RT development.<sup>187</sup>*

The aim of those 11 priorities is to face the current EU shortfalls, by referring to governments' planning and will be the bases of the CARD, PESCO and EDF initiatives and available to the EU member States for national and multilateral missions and operations in the contexts of NATO and United Nations too. In fact, the European Union Global Strategy of 2016 stressed the idea of a “full spectrum” defence: land, air, space and maritime capabilities and, considering the relevance they have nowadays, I would add from hybrid-threats too, especially in the field of cybersecurity. The projects proposed by the European Union should be coordinated with the NATO Defence Planning Process in order to not waste resources.

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<sup>187</sup> <https://eda.europa.eu/docs/default-source/eda-publications/eda-brochure-cdp>

Finally, the EU Capabilities development Priorities are:

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| <ul style="list-style-type: none"> <li>- <b>Cyber Responsive Operations</b> <ul style="list-style-type: none"> <li>○ Cyber cooperation and synergies;</li> <li>○ Cyber R&amp;T;</li> <li>○ Systems engineering framework for cyber operations;</li> <li>○ Cyber education and training;</li> <li>○ Specific cyber defence challenges in the air, space, maritime and land domain.</li> </ul> </li> <li>- <b>Ground Combat Capabilities</b> <ul style="list-style-type: none"> <li>○ Upgrade, modernise and develop land platforms;</li> <li>○ Enhance protection of forces. (individual soldier equipment).</li> </ul> </li> <li>- <b>Space-Based information and Communication Services</b> <ul style="list-style-type: none"> <li>○ Earth observation;</li> <li>○ Positioning, navigation and timing;</li> <li>○ Space situational awareness;</li> <li>○ Satellite communication.</li> </ul> </li> <li>- <b>Enhanced logistic and medical supporting capabilities</b> <ul style="list-style-type: none"> <li>○ Military mobility;</li> <li>○ Enhanced logistics;</li> <li>○ Medical support.</li> </ul> </li> <li>- <b>Information Superiority</b> <ul style="list-style-type: none"> <li>○ Radio spectrum management;</li> <li>○ Tactical CIS;</li> <li>○ Information management;</li> <li>○ Intelligence, Surveillance and Reconnaissance (ISR) capabilities.</li> </ul> </li> <li>- <b>Naval Manoeuvrability</b> <ul style="list-style-type: none"> <li>○ Maritime situational awareness;</li> <li>○ Surface superiority;</li> <li>○ Power projection.</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>- <b>Underwater control contributing to resilience at sea</b> <ul style="list-style-type: none"> <li>○ Mine warfare;</li> <li>○ Anti-submarine warfare;</li> <li>○ Harbour protection.</li> </ul> </li> <li>- <b>Air superiority</b> <ul style="list-style-type: none"> <li>○ Air combat capability;</li> <li>○ Air ISR platforms;</li> <li>○ Anti-Access Area Denial capability;</li> <li>○ Air-to-air refuelling;</li> <li>○ Ballistic Missile Defence (BMD).</li> </ul> </li> <li>- <b>Air mobility</b> <ul style="list-style-type: none"> <li>○ Strategic air transport;</li> <li>○ Tactical air transport including air medical evacuation.</li> </ul> </li> <li>- <b>Integration of military air capabilities in a changing aviation sector</b> <ul style="list-style-type: none"> <li>○ Military access to airspace;</li> <li>○ Ability to protect confidentiality of mission critical information;</li> <li>○ Coordination with civilian aviation authorities;</li> <li>○ Adaptation of military air/space C2 capability.</li> </ul> </li> <li>- <b>Cross-domain capabilities contributing to achieve EU's level of ambition</b> <ul style="list-style-type: none"> <li>○ Innovative technologies for enhanced future military capabilities;</li> <li>○ Autonomous EU capacity to test and to qualify EU developed capabilities;</li> <li>○ Enabling capabilities to operate autonomously within EU's LoA.<sup>188</sup></li> </ul> </li> </ul> |
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<sup>188</sup> Data elaborated from: <https://eda.europa.eu/docs/default-source/eda-publications/eda-brochure-cdp>

After the 2018 presentation of the CDP, it was decided that they had to be supported by the “Strategic Context Cases” (SCC) prepared by the EDA together with experts from MS, the EU institutions, the Defence Industries representatives and other relevant multinational stakeholders. The main objective of the SCC is to provide the guidelines to SMS for the implementation of the 11 CDP to increase the coherence and the cooperation among the MS, the SCC’s function is to describe in practical terms what the current capability situation is in order to address the shortfalls. In terms of multilateral contexts, to avoid the waste of resources the priorities are coordinated with the NATO Defence Planning Process in the context of the Framework Nations Concept<sup>189</sup> (FNC). The SCC also contains the activities found in the Overarching Strategic Research Agenda<sup>190</sup> (OSRA) and the Key Strategic Activities<sup>191</sup> (KSA) that are considered relevant for the introduction of the priorities in the fields of technologies, skills and industrial manufacturing capacities. The main objective of the OSRA is the establishment of a framework that is supposed to lead to the reduction of efforts of the EDA and the participating Member States in keeping updated the Strategic Research Agenda, the development of the agenda to increase effectiveness at European level and increase the synergy.<sup>192 193</sup> In the 2020 EDA Report, the OSRA translated with into technology roadmaps with more than 95 detailed agendas, while the KSA that are the critical skills and industrial manufacturing capacities were identified.<sup>194</sup>

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<sup>189</sup> “The Framework Nations Concept initiative, launched by NATO in 2014, aims to promote cooperation between European countries, through the willingness of groups of nations to establish a common work platform that will allow them to improve current military capabilities and develop new ones.” <https://www.nsfacoe.org/the-framework-nations-concept-italian-led-group-fnc-ita-visits-the-nato-sfa-coe/> (consulted on 18/05/2021)

<sup>190</sup> “The OSRA is a new approach for aligning strategic research agendas with Member States’ operational needs and requirements. This will provide a systematic and clear mechanism for collaborative European Defence Research for the future, such as the upcoming EU framework programme and Preparatory Action. In addition to the bottomup process of identifying common areas of R&T interests, the so-called technology push process, a top-down capability-pull process is foreseen that links operational requirements directly to technologies in a systematic and traceable manner, and moreover leads towards the development of an European overarching strategic research agenda.” European Defence Agency “*OSRA – Overarching Strategic Research Agenda and CapTech SRAs Harmonisation, Connecting R&T and Capability Development*” <https://eda.europa.eu/docs/default-source/brochures/eda-osra-brochure1a09af3fa4d264cfa776ff000087ef0f.pdf>

<sup>191</sup> the objective of KSA is to analyse defence industrial and technological capacities within the European Union, and to identify crucial areas with a view to strengthening the EU’s strategic autonomy. This approach is also in line with the broader aspiration of the EU to address and mitigate dependencies from external markets and to reinforce the security of European supply chains. <https://eda.europa.eu/what-we-do/EU-defence-initiatives/priority-setting/key-strategic-activities> (Consulted on 19/05/2021)

<sup>192</sup> <https://eda.europa.eu/docs/default-source/brochures/eda-osra-brochure1a09af3fa4d264cfa776ff000087ef0f.pdf>

<sup>193</sup> European Defence Agency “*Capability Development Plan*” (2018) [https://eda.europa.eu/docs/default-source/eda-factsheets/2018-06-28-factsheet\\_cdpb020b03fa4d264cfa776ff000087ef0f](https://eda.europa.eu/docs/default-source/eda-factsheets/2018-06-28-factsheet_cdpb020b03fa4d264cfa776ff000087ef0f)

<sup>194</sup> European Defence Agency “EDA Annual Report 2020” (2021) <https://eda.europa.eu/docs/default-source/eda-annual-reports/eda-annual-report-2020.pdf>

Additionally, the SCC are divided in two main parts (part one with 4 chapters and part two with 2 chapters). Part 1 consists of “*Chapter 1 contains the political background for each module of the respective Capability Development Priority and scope dealt with in the SCC. Chapter 2 maps the European capability landscape for each module of the respective Capability Development Priority, including the state of play of ongoing and planned activities Chapter 3 describes the major challenges to the coherence of the European capability landscape for each module of the respective Capability Development Priority within the short, medium and long term. Chapter 4 defines avenues of approach across all planning horizons to contribute to both the closing of the identified capability gaps and providing more coherence of the European capability landscape*”. While part 2 contains: “*Chapter 5 will outline the objectives of the proposed activities. Chapter 6 will contain the proposed activities in general terms, again within the short, medium and long term (these activities will be fully in line with the avenues of approach contained in Part One, chapter 4). The activities consist of those currently being undertaken within EDA as well as new activities that could be undertaken by the Agency in the future, subject to decision of the Steering Board*”.<sup>195</sup>

As I presented the European Development Capabilities of 2018, it is important to analyse what has been done by reviewing the European Defence Agency of 2020 taking also into account the Coordinated Annual Review on Defence previously analysed in terms of future projects but which will be used in this section to compare the achievements of the Union. The first finding is that 3 years after the presentation of the priorities and 5 years after setting up the Global Strategy, the European Union capabilities in Defence are still too fragmented and lack coherence, in fact, only few Ministries of Defence do take multinationalism as basis for their national planning. The main achievement of the Agency was the increasing number of MoD participating in PESCO projects and the more developed role of the Agency in PESCO project. 14 out of 47 projects launched since 2018, are benefitting from the Agency.

The 2020 EDA Report highlighted the importance of the Agency in the PESCO projects, as part of its Secretariat (together with the EU Military Staff) in assisting participating member States. The role of the EDA is to provide assistance such as administrative support, consultancy and expertise in the development and implementation of PESCO Projects. In particular, in 2020 the EDA assisted in the implementation of those projects: the CBRN Surveillance and as a

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<sup>195</sup> European Defence Agency “*Strategic Context Cases*” (2019) <https://eda.europa.eu/docs/default-source/eda-factsheets/2019-10-25-factsheet-scc>

Service, the Deployable Modular Underwater Intervention Capability Package, the European Secure Software Defined Radio, the European Patrol Corvette and the Material and Components for Technological EU Competitiveness. The EDA will also assist in the implementation phase of the PESCO Projects in the period (2021-2025). The Agency also supports the implementation of the European Defence Industrial Development Programme<sup>196</sup>:

*“The Programme shall have the following objectives:*

- (a) to foster the competitiveness, efficiency and innovation capacity of the defence industry throughout the Union, which contributes to the Union's strategic autonomy, by supporting actions in their development phase;*
- (b) to support and leverage cooperation, including across borders, between undertakings, including SMEs and mid-caps, throughout the Union, and collaboration between Member States, in the development of defence products or technologies, while strengthening and improving the agility of defence supply and value chains, and fostering the standardisation of defence systems and their interoperability.*

*Such cooperation shall take place in line with defence capability priorities agreed by Member States within the framework of the Common Foreign and Security Policy and particularly in the context of the Capability Development Plan.*

*In that context, regional and international priorities, when they serve the Union's security and defence interests as determined under the Common Foreign and Security Policy, and taking into account the need to avoid unnecessary duplication, may also be taken into account, where appropriate, wherever they do not exclude the possibility of participation of any Member State;*

- (c) to foster better exploitation of the results of defence research and contribute to development after the research phase, thereby supporting the competitiveness of the European defence industry on the internal market and the global marketplace, including by consolidation, where appropriate.”*

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<sup>196</sup> The EDIDP is an industrial development programme, established by Regulation (EU) 2018/10921 (hereafter EDIDP Regulation), which is implemented through annual calls for proposals in 2019 and 2020. The calls are based on a two-year work programme defined in close cooperation with Member States and adopted by the Commission on 19 March 2019.

## Article 4

### **Budget**

*The financial envelope for the implementation of the Programme for the period from 1 January 2019 to 31 December 2020 shall be EUR 500 million in current prices.*

*The annual appropriations shall be authorised by the European Parliament and the Council within the limits of the multiannual financial framework.*”<sup>197</sup>

In 2020, the EDA pursued among its projects the European Strategic Tanker Capability which reached the achievement of delivery of the first two Multi-Role Tanker Transport aircraft, the Remote Piloted Aircraft Systems Air Traffic Integration in Single European Sky<sup>198</sup> and Space<sup>199, 200</sup>. In addition, the EDA set up the European Defence Standardisation Committee (EDSC) which target is the coordination and “*define practical and tangible deliverables that will support collaborative defence capability development, enhancing standardisation processes towards ensuring an up-to-date Defence Standardisation policy. One of the novel approaches of the new committee is to interact with a wider range of standardisation stakeholders, bringing together participating Member States with high-level representatives from various EU institutions, international organisations, industry associations and even relevant non-EU stakeholders of the defence standardisation community.*”<sup>201</sup> It overlook the

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<sup>197</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32018R1092> this refers to the EDIDP 2019-2020 which ended on December 31<sup>st</sup> 2020.

<sup>198</sup> “EDA continued its support to the full integration of Medium Altitude Long Endurance Remotely Piloted Aircraft Systems (MALE RPAS) into European airspace between 2025 and 2030, including by completing the joint MALE RPAS Training Technology Demonstrator (RTTD) project with 10 Member States and the European Air Group. Regarding the development of technical enablers aiming to facilitate RPAS Air Traffic Integration into the Single European Sky (SES), the Agency successfully completed the Enhanced RPAS Automation (ERA) project aimed at standardising a set of key technical enablers for the operation of both civil and military RPAS in Europe. EDA also initiated the Safe Autonomous Flight Termination (SAFETERM) project aiming to assess different technological and certification approaches to RPAS autonomy. Furthermore, the Agency initiated in 2020 the development of a Counter Unmanned Aerial Systems (C-UAS) capability, with a first focus on the harmonisation of operational requirements.” Ibid.

<sup>199</sup> The Agency pursued its work on the ‘Governmental Satellite Communication Pooling & Sharing Demonstration’ project which supports the 17 contributing Member States as well as the EU’s CSDP missions and operations by providing reliable, secure and cost-effective access to governmental satellite systems capacities and services through available pooled resources. Furthermore, in 2020, the Agency’s REACT project, which aims at improving geo-information and satellite imagery analysis, delivered its prototype capability which was installed in some Member States’ premises (France, Italy, Poland and Spain) and at the European Union Satellite Centre (EU SatCen). Another initiative to exploit Artificial Intelligence (AI) tools in imagery intelligence was launched in cooperation with the EU SatCen. Ibid.

<sup>200</sup> <https://eda.europa.eu/docs/default-source/eda-annual-reports/eda-annual-report-2020.pdf>

<sup>201</sup> <https://eda.europa.eu/news-and-events/news/2020/11/24/new-european-defence-standardisation-committee-launched-aa#:~:text=New%20European%20Defence%20Standardisation%20Committee%20launched%20AA,->



implementation of the European Defence Standardisation Strategy which should lead to the harmonisation among EU Stakeholders and third parties (including NATO), this also led to standardisation in the air domain, making several updates to the European Military Airworthiness Requirements<sup>202</sup>.

Additionally, in 2020, Italy and other States such as Belgium, France, Germany, Netherlands and Spain requested to enter the Cooperative Financial Mechanism (CFM) in which currently the participating MS are Cyprus, Greece, Hungary, Lithuania, Portugal and Romania. The CFM is *“an innovative programme initiated by EDA with a view to facilitating the financing of collaborative defence capability and research projects – for instance if unsynchronised defence budgets in participating Member States hinder or impede the launch of such projects – is now in the starting blocks.”*<sup>203</sup> It will be composed by two main pillars: the first one is based on the bilateral agreements by the European Investment Bank and the Member State, the project has to respect EIB’s policy and each project might obtain different conditions in terms of financial loan. The second pillar consists in State-to-State support facility that is structured as a framework of reimbursable advances and deferred payments. It can be used to support that respects national and European law.<sup>204</sup> <sup>205</sup> Finally, the European Defence Agency in the last

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[The%20first%20meeting&text=The%20EDSC's%20goal%20is%20to,to%2Ddate%20Defence%20Standardisati on%20policy.](#) (Consulted on 19/05/2021)

<sup>202</sup> They define a framework for the consistent approval of organisations, with an embedded philosophy of continuous improvement and an aim to support the safe delivery of approved activity. They are not intended to dictate how work is completed, rather, they establish a framework in which efficient organisations can operate and consistently interface with other stakeholders.

EMAR Project goals

The European Military Airworthiness Authorities Forum (MAWA) has the following stated goals:

- Common regulatory framework, Common certification processes, Common approach to organisational approvals, Common certification/design codes, Common approach to preservation of airworthiness, Arrangements for recognition, Formation of a European Military Joint Airworthiness Authorities Organisation

Benefits of adopting a harmonised & standardised approach

There are many benefits attached to adopting a standardised approach. EMARs have been based on European civil aviation best-practice and are designed to: Bring efficiencies to aircraft procurement and certification, Effectively manage and improve aircraft safety, reducing aircraft losses, Increase operational fleet readiness, availability and reliability, Reduce costs through smarter asset management, Increase supply chain competition, Eliminate ineffective maintenance, reducing maintenance costs and costs associated with error, Improve logistical efficiencies through better use of tooling, spare parts, equipment and manpower.

[https://www.bainessimmons.com/regulatory-compliance/emar/#:~:text=European%20Military%20Aviation%20Requirements%20\(EMARs,the%20highest%20levels%20of%20airworthiness.&text=European%20Military%20Aviation%20Requirements%20\(EMARs,the%20highest%20levels%20of%20airworthiness](https://www.bainessimmons.com/regulatory-compliance/emar/#:~:text=European%20Military%20Aviation%20Requirements%20(EMARs,the%20highest%20levels%20of%20airworthiness.&text=European%20Military%20Aviation%20Requirements%20(EMARs,the%20highest%20levels%20of%20airworthiness). (Consulted on 21/05/2021)

<sup>203</sup> [https://eda.europa.eu/news-and-events/news/2019/09/26/cooperative-financial-mechanism-\(cfm\)-ready-for-signing#:~:text=The%20Cooperative%20Financial%20Mechanism%20\(CFM,such%20projects%20%E2%80%93%20is%20now%20in](https://eda.europa.eu/news-and-events/news/2019/09/26/cooperative-financial-mechanism-(cfm)-ready-for-signing#:~:text=The%20Cooperative%20Financial%20Mechanism%20(CFM,such%20projects%20%E2%80%93%20is%20now%20in) (Consulted on 21/05/2021)

<sup>204</sup> Ibid.

<sup>205</sup> <https://eda.europa.eu/news-and-events/news/2018/02/28/european-defence-agency-and-european-investment-bank-sign-cooperation-agreement> (Consulted on 22/05/2021)



year increased its efforts to develop the sharing of information with industry and the increase partnerships, it developed tools such as the “*B2B platform which aims to facilitate cross-border partnerships between European defence industry stakeholders by allowing them to quickly and easily search for potential partners for defence-related projects and programmes.*”<sup>206</sup>.

### **3.3 The North Atlantic Alliance**

The North Atlantic Alliance (NATO) was created on April 4<sup>th</sup>, 1949 with the main targets: to deter Soviet Union expansionism, to prevent the formation of new military nationalism in Europe and to encourage the European integration started by the European Steel and Coal Community; Italy was one of founder countries of both the Alliance and the ESCC.<sup>207</sup> Since its creation, NATO has been more a strategic alliance than an economic partnership among its Member States, for example, NATO does not have a relevant economic power. Industrial engagement has been referred in several NATO Summit.

#### **NATO Chicago Summit Declaration**

*“Maintaining a strong defence industry in Europe and making the fullest possible use of the potential of defence industrial cooperation across the Alliance remain an essential condition for delivering the capabilities needed for 2020 and beyond.”*

#### **NATO Wales Summit Declaration**

*“14. We agree to reverse the trend of declining defence budgets, to make the most effective use of our funds and to further a more balanced sharing of costs and responsibilities. Our overall security and defence depend both on how much we spend and how we spend it. Increased investments should be directed towards meeting our capability priorities, and Allies also need to display the political will to provide required capabilities and deploy forces when they are needed. A strong defence industry across the Alliance, including a stronger defence industry in*

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<sup>206</sup> <https://eda.europa.eu/docs/default-source/eda-annual-reports/eda-annual-report-2020.pdf>

<sup>207</sup> [https://www.nato.int/cps/en/natohq/declassified\\_139339.htm](https://www.nato.int/cps/en/natohq/declassified_139339.htm) (consulted on 22/05/2021)

*Europe and greater defence industrial cooperation within Europe and across the Atlantic, remains essential for delivering the required capabilities. NATO and EU efforts to strengthen defence capabilities are complementary. Taking current commitments into account, we are guided by the following considerations:*

*Allies currently meeting the NATO guideline to spend a minimum of 2% of their Gross Domestic Product (GDP) on defence will aim to continue to do so. Likewise, Allies spending more than 20% of their defence budgets on major equipment, including related Research & Development, will continue to do so. Allies whose current proportion of GDP spent on defence is below this level will: halt any decline in defence expenditure; aim to increase defence expenditure in real terms as GDP grows; aim to move towards the 2% guideline within a decade with a view to meeting their NATO Capability Targets and filling NATO's capability shortfalls.*

*Allies who currently spend less than 20% of their annual defence spending on major new equipment, including related Research & Development, will aim, within a decade, to increase their annual investments to 20% or more of total defence expenditures.*

*All Allies will:*

*ensure that their land, air and maritime forces meet NATO agreed guidelines for deployability and sustainability and other agreed output metrics;*

*ensure that their armed forces can operate together effectively, including through the implementation of agreed NATO standards and doctrines.*

*73. We will therefore continue to engage actively on cyber issues with relevant partner nations on a case-by-case basis and with other international organisations, including the EU, as agreed, and will intensify our cooperation with industry through a NATO Industry Cyber Partnership.*

*74. NATO recognises the importance of inclusive, sustainable, innovative, and globally competitive defence industries, which include small and medium-sized enterprises, to develop and sustain national defence capabilities and the defence technological and industrial base in the whole of Europe and in North America.”*

## **NATO Warsaw Summit**

*“71. ... We will further enhance our partnerships with other international organisations and partner nations, as well as with industry and academia through the NATO Industry Cyber Partnership.*

*136. A stronger defence industry across the Alliance, which includes small- and medium-sized enterprises, greater defence industrial and technological cooperation across the Atlantic and within Europe, and a robust industrial base in the whole of Europe and North America, remain essential for acquiring needed Alliance capabilities. For the Alliance to keep its technological edge, it is of particular importance to support innovation with the aim to identify advanced and emerging technologies, evaluate their applicability in the military domain, and implement them through innovative solutions. In this regard, NATO welcomes initiatives from both sides of the Atlantic to maintain and advance the military and technological advantage of Allied capabilities through innovation and encourages nations to ensure such initiatives will lead to increased cooperation within the Alliance and among Allies.”*

## **NATO Brussels Summit**

*“20. We will further develop our partnership with industry and academia from all Allies to keep pace with technological advances through innovation.”*

As we can understand from the several Communique following NATO Summits, the role of industrial cooperation is considered as vital. NATO economic cooperation is different when Member States are involved in more expensive projects. NATO has a dedicated fund of about €2.5 billion (about 0.3% of the total Allied defence spending), all 30 Member States contribute agree on a cost-share formula based on the National Gross National Income, the major NATO expenses are related to the civil budget, the military budget and the NATO Security Investment Programme (military infrastructure and certain capabilities).

The most important document produced by the Alliance is the Framework for NATO Industry Engagement, produced in 2013, following the Chicago Summit, the main aim of the Framework is to harmonise Member States. The document is based on three main pillars: *“Structure: A framework that describes NATO and Industry roles in both non-procurement and procurement phases, on the basis of existing arrangements and NATO bodies. Rules: A set of*

*principles that clarify the NATO-Industry relationship and modalities for engagement, allowing for enhanced visibility of NATO needs, increasing transparency of NATO processes, improving ways to identify opportunities for industry and identifying methods for industry to demonstrate how to apply their contributions to NATO capabilities. Delivery: An implementation plan that describes actions required, sets out a timetable and assigns responsibilities for execution and for reviewing the results, bearing in mind that NATO has no direct leverage on industry and market regulation.”* In addition, the North Atlantic Council, that is the most important body in the NATO Decision Making process collects the advices on industrial development of the NATO Industrial Advisory group.<sup>208</sup>

NATO might be particular relevant when financing project that can be useful for the entire alliance which usually are very expensive and only one Member State might not want to invest such an amount; a perfect example is the Joint Intelligence, Surveillance and Reconnaissance (JISR) which represents an effective economic cooperation among the Member States.<sup>209</sup>

### 3.4 NATO – EU Cooperation

As the European Union developed its foreign policy only with the introduction of the Maastricht Treaty, the first signs of cooperation between the EU and NATO are to be dated to 2003, with the Berlin Plus Agreement of 2003 which consists in a package of arrangements that

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<sup>208</sup>(NATO Industrial Advisory Group) is a Conference of National Armaments Directors group of voluntary senior industrial representatives coordinating the provision of advice to NATO from subject matter experts on topics related to defence and security capability development. NIAG works in a transparent and open manner so that industry in all NATO nations has equal access to information and equal rights to participate. NIAG conducts studies at the request of NATO bodies to provide pre-procurement technical advice typically on the development of requirements or the development of standards. NIAG also conducts highlevel advice6 studies at the request of NATO bodies to provide strategic advice on industry development, industry strategy or industry insights into new technology developments that might have a significant effect on capability requirements and development. When providing High Level Advice, NIAG positions itself at non-procurement level

<sup>209</sup> Intelligence, Surveillance and Reconnaissance (ISR) provides the foundation for all military operations, and its principles have been used in warfare for centuries. The individual elements of ISR are:

- Intelligence: the final product derived from surveillance and reconnaissance, fused with other information;
- Surveillance: the persistent monitoring of a target; and
- Reconnaissance: information-gathering conducted to answer a specific military question.

Both surveillance and reconnaissance can include visual observation (for example soldiers on the ground covertly watching a target, unmanned aircraft systems (UAS) with cameras), as well as electronic observation.

The difference between surveillance and reconnaissance has to do with time and specificity; surveillance is a more prolonged and deliberate activity, while reconnaissance missions are generally rapid and targeted to retrieve specific information. [https://www.nato.int/cps/en/natohq/topics\\_111830.htm](https://www.nato.int/cps/en/natohq/topics_111830.htm) (Consulted on 22/05/2021)

allows the EU to use NATO assets in the EU-led operations in the field of crisis management.<sup>210</sup> NATO assets are available for EU-led operations, through specific procedures for releasing, monitoring, returning and recalling of these capabilities, as well as NATO-EU consultation<sup>211</sup>. Moreover, there are arrangements for coherent and mutually reinforcing capability requirements, in particular the incorporation within NATO's defence planning of the military needs and capabilities that may be required for EU-led military operations. Under this agreement, the European Union launched two important operations: in North Macedonia (Concordia 2003)<sup>212</sup> and in Bosnia Herzegovina (EUFOR Althea 2004)<sup>213</sup>.

Until 2016, the cooperation between the two remained limited to a certain extent operational level in the countries both actors deployed their respective missions, namely Afghanistan, Kosovo, and the Gulf of Aden where NATO's Ocean Shield and EUNAVFOR Atalanta did successfully counter piracy together between 2008 and 2016<sup>214</sup>, even if both the 2010 NATO Strategic Concept and 2008 European Security Strategy mentioned the cooperation between the two organisations.

In 2016, the Alliance and the European Union produced the 2016 Brussels Joint Declaration. Such a Declaration explicitly aimed to “give new impetus and new substance to the NATO-EU strategic partnership”, and stated that “*A stronger NATO and a stronger EU are mutually reinforcing*”<sup>215</sup>. The document has identified seven priorities for cooperation.

- *“to boost NATO and EU ability to counter hybrid threats, including by working together on analysis, prevention, and early detection, through timely information sharing and, to the extent possible, intelligence sharing between staffs; and cooperating on strategic communication.*
- *to broaden and adapt operational cooperation including at sea, and on migration, through increased sharing of maritime situational awareness as well as better coordination*<sup>216</sup>.

<sup>210</sup> <http://www.eufp.eu/eeas-berlin-plus-agreement> (Consulted on 22/05/2021)

<sup>211</sup> <https://eeas.europa.eu/topics/common-security-and-defence-policy-csdp/5388/shaping-of-a-common-security-and-defence-policy-en> (consulted on 22/05/2021)

<sup>212</sup> [https://ec.europa.eu/neighbourhood-enlargement/policy/eu-and-western-balkans\\_en](https://ec.europa.eu/neighbourhood-enlargement/policy/eu-and-western-balkans_en) (Consulted on 22/05/2021)

<sup>213</sup> <http://www.euforbih.org/index.php/about-eufor/background> (Consulted on 22/05/2021)

<sup>214</sup> While Ocean Shield terminated in 2017, Atalanta continues its activities. <https://mc.nato.int/missions/operation-ocean-shield> (Consulted on 22/05/2021)

<sup>215</sup> [https://www.nato.int/cps/en/natohq/official\\_texts\\_133163.htm](https://www.nato.int/cps/en/natohq/official_texts_133163.htm) (consulted on 22/05/2021)

<sup>216</sup> Ibid

- *to expand coordination on cyber security and defence.*
- *to develop coherent, complementary and interoperable defence capabilities of EU Member States and NATO Allies.*
- *to facilitate a stronger defence industry and greater defence research and industrial cooperation.*
- *to step up our coordination on exercises, with parallel and coordinated exercises in 2017 and 2018 for the first time.*
- *to build the defence and security capacity and foster the resilience of partners in the East and South in a complementary way<sup>217</sup>.”*

From an industrial point of view, the most important cooperation among the two is the EU Project on Military Mobility, previously mentioned. In June 2020, NATO Deputy Secretary General Mircea Geoana wrote: “*With around four in every five people in the European Union also living in a NATO country, the stronger the EU, the stronger the Alliance’.*” Moreover, in the “Fifth Progress report on the implementation of the common set of proposals endorsed by EU and NATO Councils on 6 December 2016 and 5 December 2017”<sup>218</sup> reported that 38 of the 47 PESCO projects were highlighted as NATO Priorities; a concrete example of cooperation between the two is a air-to-air refuelling.<sup>219</sup>

### 3.5 Conclusion

In conclusion, in this Chapter I analysed the importance and the role of international cooperation in the field of the industrial development. EU initiatives such as the new Directorate General on Defence Industry and Space, the European Defence Agency and the European Defence Fund can create a more harmonised base for future industrial development thanks to their initiatives. At the same time, NATO’s role is not particularly relevant, which is an important weakness in this framework as important Allies such as the United States of America or the United Kingdom could contribute in international initiatives. The role of the European

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<sup>217</sup> Ibid.

<sup>218</sup> NATO “Fifth progress report on the implementation of the common set of proposals endorsed by EU and NATO Councils on 6 December 2016 and 5 December 2017” (2020)  
[https://www.nato.int/nato\\_static\\_fl2014/assets/pdf/2020/6/pdf/200615-progress-report-nr5-EU-NATO-eng.pdf](https://www.nato.int/nato_static_fl2014/assets/pdf/2020/6/pdf/200615-progress-report-nr5-EU-NATO-eng.pdf)

<sup>219</sup> Tania Latici “Understand EU- NATO cooperation – Theory and Practice”, European Parliament (2020)  
[https://www.europarl.europa.eu/RegData/etudes/BRIE/2020/659269/EPRS\\_BRI\(2020\)659269\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2020/659269/EPRS_BRI(2020)659269_EN.pdf)

Union in this field has started only recently, and for various reasons which will be analysed in the fourth and final chapter might not follow European logics.

## **Chapter 4**

### **Analysis and Policy Recommendations**

The aim of this Chapter is to provide policy recommendations to ameliorate the role of the ASD industry in the Italian economy. This Chapter will be integrated with two important interviews to General Fortunato di Marzio, current Director of the Third Department of the Italian Secretary General/ Department of National Armaments (SGD/DNA) and a US Aerospace, Security and Defence Industry Representative who is currently representing the industry in Italy; in order to have an overall vision from the Military side and the private.

#### **4.1 An analysis of Sistema Paese and policy recommendation**

In the second Chapter of this research, I presented and analysed the impact of the Italian ASD Players on Sistema Paese, in particular, I referred to the current weaknesses of the Italian ASD industries and their impact on Sistema Paese. The most ambitious challenge to face is the lack of a long-term vision by the three components I focused on: the Italian Institutions, the Military and the industrial sides. While the Institutions, in particular the political ones and the government must take into account the voters and the elections, how do the military and the industries adjust their visions? One possible solution would be to focus on the long-term threats. As stated in the first Chapter of this research, the primary aim of the Defence is the protection of the motherland, by analysing the possible threat the State will face in the next decades, both sides can cooperate to develop strategies and industrial background to make the country ready for new emerging threats, especially in the field of hybrid threats that have been analysed.

In addition, two relevant fields on which the three actors should focus are Cybersecurity and Space. As analysed in the first Chapter, Italy will invest in cybersecurity thanks to the Recovery Fund, but currently, the Italian system lacks a proper framework in this field. The Culture of Innovation in this field might not be enough as Italy currently lacks the basis. Another field in which the Italian actors should invest is Space. Space will be the next global



challenge and field of defence and security<sup>220</sup>, a strong cooperation between the Politics, the Military and the Industry can create an important occasion for the Sistema Paese. Those two fields represent perfectly the shift the ASD industry has been making over the last years. As stated by Gansler and Jacques in *Democracy's Arsenal*, while during the cold war the ASD Industry could be considered more quantitative, even if important technological advances have been made in that period, currently this industry focuses more on the qualitative side, the fields of Cybersecurity and Space do represent that perfectly as it is more a technological race than a strategic one, in other words, this race is technology driven.<sup>221</sup>

In addition, a switch of vision from a short/medium term to a long term should make the actors cooperate among them, therefore, factors such as individualism would be overcome. Especially this would become true in the moment in which the three actors do understand the benefits of a long term analysis.

To provide a more concrete example, we can take into consideration the Italian White book on Defence of 2015, this work was done under former Minister Pinotti and under the supervision of General Pietro Serino.<sup>222</sup> General Serino, after serving as Chief of Cabinet of Ministers Trenta and Guerini, is currently Chief of Staff of the Italian Army, this might be the right occasion to provide a follow up to the White book, especially if we consider that the North Atlantic Treaty Organisation has released in November 2020 the NATO Strategy 2030.<sup>223</sup> The creation of a Blue Book of Defence can provide the guidelines to follow nationally by the industries too, it should contain future threats, future scenarios that are not limited to Cybersecurity and Space, but also Environment, Digitalisation, resource scarcity etc. Compared to the White Book, the Blue Book should be deeper and more accurate.

### **The example of the Naval Law**

Another point I want to stress is the relatively low investments in Research and Development, as we have seen in the first two chapters of this thesis, in 2019, Italy invested €66 million in

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<sup>220</sup> <https://formiche.net/2021/04/spazio-global-trends-intelligence-usa-cina/> (consulted on 27/05/2020)

<sup>221</sup> Gansler, Jacques S. "National Security in the Twenty-First Century." In *Democracy's Arsenal: Creating a Twenty-First-Century Defense Industry*, 79-128. Cambridge, Massachusetts; London, England: MIT Press, 2011.

<sup>222</sup> <https://formiche.net/2021/02/esercito-capo-farina-serino/>

<sup>223</sup> NATO "NATO 2030: United for a New Era – Analysis and Recommendations of the Reflection Group Appointed by the NATO Secretary General" (2020) [https://www.nato.int/nato\\_static\\_fl2014/assets/pdf/2020/12/pdf/201201-Reflection-Group-Final-Report-Uni.pdf](https://www.nato.int/nato_static_fl2014/assets/pdf/2020/12/pdf/201201-Reflection-Group-Final-Report-Uni.pdf)

RD, an insignificant amount compared to its European partners and in addition, Italy is yet to reach the target of the 2% of expenditure over National GDP fixed by NATO. However, the question is not only how much Italy invests, but more on how it invests. A concrete positive example in the Italian history was the first “Legge Navale” (Naval Law).<sup>224</sup> The Naval Law has to be dated to 1975 and it consisted in an important investment of 1000 billion Lire (former Italian Currency) in the Italian Navy. Thanks to this Law, the Italian Navy was able to stipulate several contracts with Italian industries (i.e. Fincantieri) which led to the construction of the Garibaldi Carrier (the first carrier in the Italian arsenal), 6 frigates, 2 submarines, 1 rescue ship and 27 helicopters, with the total costs of 765 billion Lire. The entire fund was not initially used as some programmes did not reach the construction, mainly due to an increase in the prices caused by inflation (15-18%) from the entrance of the law to the signing of the contracts. Some critics emerged due to strategic reasons rather than economic ones.<sup>225</sup> The Naval Law represent a perfect example of the cooperation among the three actors and should be the basis of future agreements. However, we have to take into account some conditions. As analysed in the second Chapter, during the cold war the Italian Government and Defence invested mainly (if not only) on Italian industries, but this might also more difficult nowadays. This condition could be overcoming if the Italian industries increase their research and development divisions to compete with foreign industries. However, from a general economic framework we might compare the 70’s with the 2010’s and 2020’s, both periods are characterised by an important critical economic situation, and the Naval law gave an important economic boost to the Italian industries.

In 2019, the Italian Army presented a general program to reform and modernise itself to both the Italian Chamber and the Italian Senate. This led to the creation of several important programs such as: “Soldato Sicuro” (Safe Soldier) that concerns the individual equipment of the Italian soldiers, this project was led by Leonardo SPA (65%) and Beretta (35%). A relevant case study is the VBM Freccia, (a well-known Italian wheeled Armoured Vehicle) that is another program presented in 2019, produced by IVECO Defence Vehicles. The success of this program, alongside with the widespread international use of IVECO’s VTLM “Lince” is a clear example to understand the strategic relevance IVECO has for the Italian ASD Compartment, this explains the importance of the use of the preventive golden power, which discouraged

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<sup>224</sup> Legge Navale: <https://www.normattiva.it/uri-res/N2Ls?urn:nir:stato:legge:1975-03-22;57@originale>

<sup>225</sup> <https://www.marina.difesa.it/noi-siamo-la-marina/storia/la-nostra-storia/storianavale/Pagine/applicazioneleggenavale.aspx> (Consulted on 28/05/2021)

Chinese investments in this company.. Another project that was confirmed in 2019 was the renewal of the Italian Army Aviation (AVES) concerning the acquisition of new “Light Utility Helicopters” and “New Scouting and Convoy Helicopter” that should replace the current A-109, AB-206, AB-205, AB-212 and AB-412. Leonardo was able in winning the race for the new furnishment thanks to its AW-169 (previously discussed also in terms of weaknesses) and the AH-249 that should replace the AW-129 better known as Mangusta, by 2035 the Italian aviation should have 45 vehicles in its arsenal. However, the investment made in 2019 cannot be compared to the Naval Law of 1974, while it is utopistic to propose a Law which will lead to invest for all Armed Forces simultaneously, considering the current economic weaknesses, I would rather say that a good investment should be done for inter-forces projects and to projects that can be used as platforms by other Armed Forces.

As pointed out in the section concerning the current weaknesses of the Italian Sistema Paese and the lack of economic resources and the distance from the NATO 2024 objective of 2%, there are two other indicators that must be taken into account: firstly, to while it is true that since 2015 the Italian Government has been increasing the budget allocated to Defence (in terms of total resources and not only percentage), but we also cannot forget about inflation. The price of Security and Defence has been constantly increasing (especially for the shift Security and Defence have had in terms of technology development) therefore an increase in the Defence budget does not necessarily represent a consequent increase in the acquisition capabilities. Secondly, especially in years of economic crisis, the GDP can suffer important decreases, therefore, the total amount of GDP dedicated to defence might increase not in terms of general resources but only in percentage as the denominator (i.e. the total GDP) has decreased.

In addition, the role of the Secretariat General of Defence should be strengthen, especially if we take into account the role it has as National Department of Armaments, it should be more involved by both the Ministry of Defence and the Government in the decision making process that leads to the formulation of the Defence Strategy, for example by incentivising its role in the decision tables. About the Government and the political actions that should be taken in the ASD Industry, I would like to stress the attention on the Government-to-Government Agreements and on the Golden Power. Those two actions, one related to the export of the “Made in Italy” and the second about the protection of Italian Industries, can create great benefits to the Italian industries and on internal investments. For example, thanks to G2G agreements, the Italian export would be facilitated and more companies would be able to reach important markets like Fincantieri and its latest successes in the United States analysed in the second

Chapter; therefore, it would be very important to include the ASD industries in this kind of agreements as also SMEs could benefit thanks to the bigger companies, as often SMEs produce small components assembled by the bigger firms.

At the same time, the use of the golden power should be encouraged, while it is true that it might represent a current weakness of the Italian system, it also true that Italy after the disastrous crisis of 2008, in 2020 was one of the most hit countries by coronavirus, both in terms of health and economy. Therefore, in such times, it appears normal to have a weakened system. This does not mean golden power is an instrument to use in any case, however considering particularness of the ASD field (such as, the Security and Defence as monopoly of the State that implies that the main acquirer are the States) the protection of National industries in this field is a national priority.

In the second Chapter of this research, the two case studies analysed (Leonardo and Fincantieri) not only represent the two most important companies in the Italian framework, but, according to several experts from the Italian Military sides, also represent to contrary examples. In fact, while Fincantieri was capable of gaining more space in an important market like the US, Leonardo is signing most of its contracts at national level, and its major exports are concentrated in few countries, while in others such as the US, it is capable of signing minor contracts that concern the constructions of minor parts of projects; an example is the European tank analysed in the third Chapter. Leonardo should invest more on research and development, especially considering its mastering in Cybersecurity that is the new dimension of security, thanks to such investments, this Company will enlarge its business, and will become less dependent from Sistema Paese.

#### **4.2) International Cooperation in integrated Defence and Security**

In the third Chapter of this research, I presented the current means at international level for the development of the ASD industry focusing on the two most important contexts in which Italy operates: the European Union and the North Atlantic Treaty Organisation.

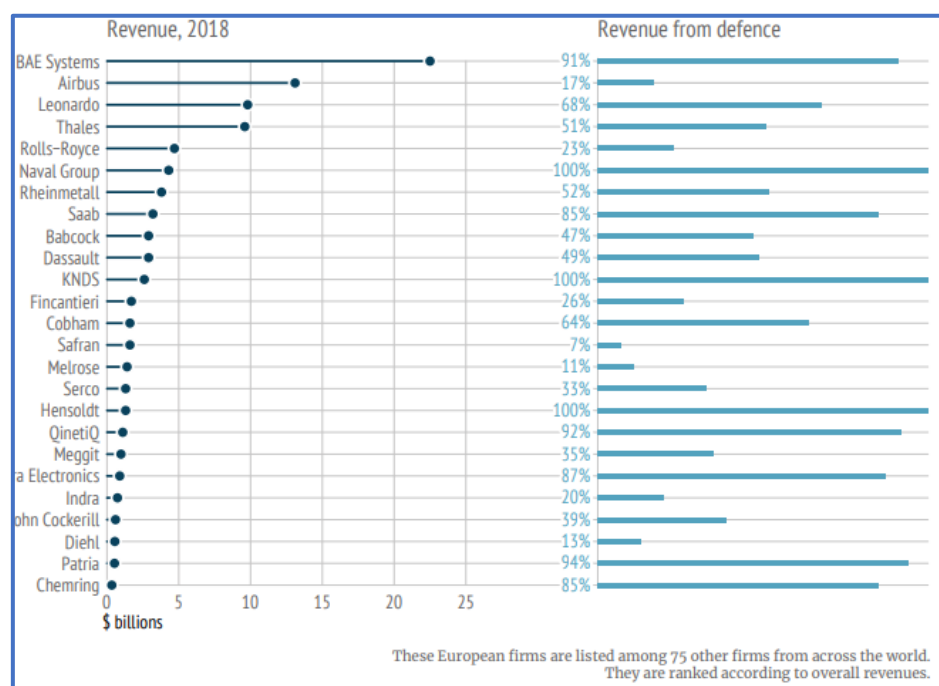
What emerged was that the European Union is currently presenting more initiatives for the development of the European ASD Industry compared to NATO level, but, as I will explain later in this section, more cooperation among the two entities is needed. Focusing on European

level, we can say that the main target of the European Union is to present a more cooperative strategy in order to avoid wastes and compete in the international scene. As analysed in the third Chapter, the current fragmentation of the European Defences and ASD Industries leads to a relevant waste of resources (both economic and technological).

While we can consider the European Defence Fund and the related initiatives an important step towards the harmonisation of the European Industry outcomes, especially thanks to the development of the Directorate General for Defence Industry and Space of the European Commission. To a certain extent might not be enough. In fact, we can clearly see the decreases of resources for this topic, from an initial €13 billion to the current €8 billion and at the same time, an extensive amount of projects to be coordinated and that should receive the funds and the lack of a multi-annual perspective that, as said several times, is essential in the projects dedicated to Defence and Security; this makes unstable the proposal of projects for European Industries. Another relevant point that is lacking in the European framework of the Defence industry is the guidelines concerning exports and its related constraints such as the signing of Memorandum of Understanding that are still a national competence. Therefore, in order to make the European Defence Fund and the related initiatives more efficient, it would be good to focus only on few projects, from which all Member States would benefit: such as the next generation of Fighters and the new European tank or, in addition, to standardise the new military equipment. In fact, considering the little amount of resources at disposal of the European Union, all the projects mentioned in the third Chapter appear like excessive in quantity and limited also in terms of time.

However, it is still relevant to explain the weaknesses and the implications of a lack of coordination and more importantly of cooperation among the European Member States and more importantly, among their industries of Defence. Firstly, it is essential to understand the revenues of the most important European companies and the percentage the sector of Defence plays in their revenue.

**Figure 17: European ASD Industries General and Defence Revenues**



**Source:** “Strategic Investment – Making Geopolitical Sense of the EU’s Defence Industrial policy”<sup>226</sup>

The lack of cooperation and the context of National economy that implies more competition among the different actors leads to an important waste of resources, it would be ideal to create new European Champions in order to compete with international companies, maybe dedicated to defence only as the ASD Industry is a field that follows different trends from the classic economy.

From a strategical point of view, Articles 42.7 (Mutual Defence Clause)<sup>227</sup> of the TEU and Article 222 (Solidarity Clause)<sup>228</sup> of the TFEU should be modified. In fact, these Articles were

<sup>226</sup> Daniel Fiott, “Strategic Investment – Making Geopolitical Sense of the EU’s defence industrial policy”, European Union Institute for Strategic Studies, 2019. Data: DefenseNews, 2019.

<sup>227</sup> If a Member State is the victim of armed aggression on its territory, the other Member States shall have towards it an obligation of aid and assistance by all the means in their power, in accordance with Article 51 of the United Nations Charter. This shall not prejudice the specific character of the security and defence policy of certain Member States.

Commitments and cooperation in this area shall be consistent with commitments under the North Atlantic Treaty Organisation, which, for those States which are members of it, remains the foundation of their collective defence and the forum for its implementation.

<sup>228</sup> 1. The Union and its Member States shall act jointly in a spirit of solidarity if a Member State is the object of a terrorist attack or the victim of a natural or man-made disaster. The Union shall mobilise all the instruments at its disposal, including the military resources made available by the Member States, to:

(a) — prevent the terrorist threat in the territory of the Member States;  
— protect democratic institutions and the civilian population from any terrorist attack;  
— assist a Member State in its territory, at the request of its political authorities, in the event of a terrorist attack;

invoked by France after the terrorist attack of 2015, but did not consist in a help by other Member States from a Defence point of view in terms of deployment of forces, a more united Europe in this kind of circumstances and in EU operations abroad could be the input for more cooperation also from an industrial point of view as it would consist in a request from above.

In the second section of the third Chapter, I analysed the role of NATO in industrial policy, or more importantly, the marginal role it has in industrial policy. In fact, NATO, contrary to the European Union cannot be considered an economic power but, instead, a strategic one. However, it can play a fundamental role in this field too. For example, NATO Countries are combined could be able to acquire expensive systems of Defence and make them under the control of the Alliance and at use of any Member States such as the JISR already mentioned in the third Chapters. it would concern investments in National Capabilities, in Surveillance and Control or in more expensive systems of weapons in the fields of Airborne Early warning control<sup>229</sup> and the Alliance Ground Surveillance<sup>230</sup>. These kinds of technology would be very useful for the Alliance and their Member States and it would be optimal for NATO to have its own systems to deploy rather than basing its missions on Member States engagement. This would strengthen NATO giving a new dimension of sovereignty, at the same time, Member State could benefit in terms of arsenal as they would have the privilege of the

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(b) assist a Member State in its territory, at the request of its political authorities, in the event of a natural or man-made disaster.

2. Should a Member State be the object of a terrorist attack or the victim of a natural or manmade disaster, the other Member States shall assist it at the request of its political authorities. To that end, the Member States shall coordinate between themselves in the Council.

3. The arrangements for the implementation by the Union of the solidarity clause shall be defined by a decision adopted by the Council acting on a joint proposal by the Commission and the High Representative of the Union for Foreign Affairs and Security Policy. The Council shall act in accordance with Article 31(1) of the Treaty on European Union where this decision has defence implications. The European Parliament shall be informed. For the purposes of this paragraph and without prejudice to Article 240, the Council shall be assisted by the Political and Security Committee with the support of the structures developed in the context of the common security and defence policy and by the Committee referred to in Article 71; the two committees shall, if necessary, submit joint opinions.

4. The European Council shall regularly assess the threats facing the Union in order to enable the Union and its Member States to take effective action.

<sup>229</sup> [https://www.nato.int/cps/en/natohq/news\\_171307.htm](https://www.nato.int/cps/en/natohq/news_171307.htm) (Consulted on 29/05/2021)

<sup>230</sup> The AGS system consists of air, ground and support segments, performing all-weather, persistent wide-area terrestrial and maritime surveillance in near real-time.

AGS will provide in-theatre situational awareness to commanders of deployed forces.

AGS will be able to contribute to a range of missions such as protection of ground troops and civilian populations, border control and maritime safety, the fight against terrorism, crisis management and humanitarian assistance in natural disasters.

All five NATO AGS aircraft are located at the AGS Main Operating Base in Sigonella, Italy.

[https://www.nato.int/cps/en/natohq/topics\\_48892.htm](https://www.nato.int/cps/en/natohq/topics_48892.htm) (Consulted on 29/05/2021)

use of NATO systems also for other operations, including operations that are not accomplished under NATO's command.

### 4.3 Strengthening NATO and EU Cooperation

Another dimension that should be strengthened is the cooperation between NATO and the European Union; for the purpose of this research, I will focus only on the cooperation in terms of Industrial engagement and not from a strategic basis. In fact, it should be obvious that a deeper cooperation between the two entities would create several advantages, especially for the 21 Member States that are in both of them: including Italy.

As pointed out in the third Chapter, in the 2016 Brussels Joint Declaration, there were two major points of the 7 relevant for this research: *“To develop coherent, complementary and interoperable defence capabilities of EU Member States and NATO Allies.”* And *“To facilitate a stronger defence industry and greater defence research and industrial cooperation.”*. In practical terms, one of the main idea behind a stronger cooperation between the two organisations is the presence of two major NATO Countries such as the United States of America and the United Kingdom in the context of the European ASD Industry. For the purpose of this research, I think it is good to analyse the possible cooperation between some NATO countries (not part of the EU) and the European Union, before making a general breakdown.

The cooperation between the United Kingdom and EU MS already exist as the UK was a former EU Member, an example is represented by the strong cooperation between Italian and British Industries (i.e. Leonardo and BAE Systems) for the creation of the Sixth generation of fighters: Tempest Project. This project saw its starting point in January 2021 with the Signing of a Memorandum of Understanding among Italian Minister Guerini, British Undersecretary of State Ben Wallace and Swedish Minister of Defence Peter Hultqvist (as Sweden is the third partner for the creation of the fighter), with the name of Future Combat Air System Cooperation MoU.<sup>231</sup> The Tempest Project is the main rival of the Future Combat Air System (FCAS) proposed by France in collaboration with Germany and Spain which aims to provide the sixth generation of fighters too.

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<sup>231</sup> [https://www.difesa.it/Il\\_Ministro/Comunicati/Pagine/DIFESA-PROGETTO-TEMPEST-FIRMATO-MEMORANDUM-OF-UNDERSTANDING-TRA-ITALIA-REGNO-UNITO-E-SVEZIA-IL-PROGRAMMA-ENTRA-NEL-VIVO.aspx](https://www.difesa.it/Il_Ministro/Comunicati/Pagine/DIFESA-PROGETTO-TEMPEST-FIRMATO-MEMORANDUM-OF-UNDERSTANDING-TRA-ITALIA-REGNO-UNITO-E-SVEZIA-IL-PROGRAMMA-ENTRA-NEL-VIVO.aspx) (consulted on 30/05/2021)



Considering Leonardo SPA investment in the United Kingdom, it would appear impossible their withdrawal from the Tempest Project and the consequent entry in the FCAS, in addition we must take into consideration also the long-standing partnership between Germany and France in Defence Industry (i.e. the creation of the new European Tank and their refusal for the entry of Leonardo as a major partner); a situation that might be repeated.

This case represents perfectly the current limits of the European cooperation in the Industrial framework, and at the same time, points out that the United Kingdom is already participating in the European Defence Industry.

As we can imagine, the cooperation between the United States and European Member States is different from the United Kingdom. The first US approach to PESCO and the European Defence Fund was sceptical, mainly due to the reason that a more autonomous Europe in Defence could have a negative impact on US's influence undermining also NATO's role. However, the new Biden's Presidency switched this vision making PESCO and the other European Initiatives an opportunity for the US too.

For example, the United States, Canada and Norway were invited by the European Institutions to attend the European meeting concerning Military mobility (one of the EU Defence Priorities).<sup>232</sup> In fact, the development of the European Military Mobility would also increase platforms and structures that could be used by NATO.

The entry of the US in the framework of the European Union Defence would be an important asset for both of them. The United States Industries would reinforce their presence in an important market such as the European one, while the European Union could include such partnership in its arsenal. However, it is vital to focus on European Member States as not all of them might enjoy from this cooperation, notably France that has been seeking an autonomous and independent Europe in Defence for several reasons (i.e. only European member state that has the nuclear bomb in their arsenal, important investments in Defence for economic reasons, that lead to the cooperation with Germany). Italy, contrary to France, could enjoy a deeper cooperation between the US and the EU, as seen in the case of Fincantieri. Therefore, for Italian ASD Industry it would be vital to fortify their relationship with US industries and their presence in US soil in the case of such cooperation.

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<sup>232</sup> <https://www.eureporter.co/politics/european-council/2021/05/07/pesco-canada-norway-and-the-united-states-will-be-invited-to-participate-in-the-project-military-mobility/> (consulted on 30/05/2021)

Nevertheless, we must take into account the limits to NATO and EU cooperation too, remarkably: Turkey. The Turkish membership to NATO is currently one of the main question point NATO is facing, but it seems easy to understand its strategic value, especially in terms of geopolitics. At the same time, the entry of Turkey in the European Union has been currently stopped, mainly due to the presence of Cyprus in the Union and for several legal reasons and lack of Democracy in the country. Turkey can represent a major stop to the strengthening in cooperation between NATO and the European Union, however, if major Allies such as the US or the United Kingdom enter into the European Defence initiatives, Turkey cannot do anything to stop them.

Finally, the deeper cooperation between NATO and the European Union should pass through the entry into European Defence Initiatives of non-EU NATO Member States, which represent an important occasion for Italian Industries to increase their partnerships, even if some difficulties can be found such as the divergent strategic interests of the countries composing both organisations.

#### **4.4 Interview with US ASD Industry Representative**

During a talk with a US ASD representative , several points emerged concerning both Sistema Paese and International Cooperation. Firstly, concerning cooperation between NATO and EU, the most important step for both organisations is to avoid the duplication of projects in order to avoid the waste of resources, the main target as 21 countries are involved in both organisations is interoperability. A recent example concerns the NATO Next-Generation Rotorcraft Capability<sup>233</sup>, a project started by 5 European Countries: Italy, Greece, United Kingdom, Germany and France that should give to European Armies the next generation of Helicopter replacing the NH-90. This project was started by a Letter of Intention sent to NATO, on which the European Union commented that this project should be done also under the several European Initiatives proposed in the field of Defence. The United States already started this project in 2007 with the Future Vertical Lift<sup>234</sup>, a project that should substitute the current Black Hawk Helicopter and currently the different US Industries are competing for the proposal, while

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<sup>233</sup> <https://www.defensenews.com/global/europe/2020/11/20/five-european-allies-sign-on-to-build-natos-next-medium-lift-helicopter/> (consulted on 31/05/2021)

<sup>234</sup> <https://www.boeing.com/defense/future-vertical-lift/> (consulted on 31/05/2021)

it appears difficult for European Companies to enter into this project, European countries should focus to avoid the double program between NATO and EU.

Talking about the entry of the US in European Initiatives, two different currents emerged: one pro-US headed by Italy and one against its entrance led by France. In fact, in the discussion about the European Defence Fund, Italy supported the entry of the third countries, but we cannot say that the Italian proposal totally passed. While it is true that the US participated in the PESCO Conference about military mobility, representing a first important step toward the strengthening of EU – US Relations, for non-EU States, in order to access to the EDF have to respect several conditions, among which, they have to be partner of the initiative and not leader (in certain extent, dependent of the EU country) and have to respect EU principles (which reduces the list of possible countries to join to few such as: the US, the UK and Norway).

Therefore, while I agree on the need of more US in the EU defence, because their advanced technology, their research and a better know-how compared to European MS, the main question mark concerns on the real necessity of the US companies to be part of the European Initiatives. I personally think that a more suitable soil for US companies should be made in the field of defence.

Another question raised concerns the opposite factor, can European companies, and in particular the can Italian ones compete with the US? The answer, if we take the current situation is no. As analysed, the current European framework is too fragmented, which prevents European companies from competing with the US ones. A possible answer to this problem would be the creation of large European companies (an example might be the fusion between Airbus and Leonardo in fields such as the helicopter's one, or at least the creation of more joint ventures). However, before starting this process, it is clear that the current companies do not have the interests as in the short term it would result in important losses for national industries, moreover, to compete with established realities such as the US ones, it is important for European companies to create a deeper "soil" on which to work.

Considering the current framework, another possibility for European companies is to focus mainly in one domain, for example, taking into account Leonardo and the quantity of profits they make from the field of technology and technological components, it should focus

its work in this field as recently showed by the acquisition of HENSOLDT (a German company that works in this field).<sup>235</sup>

Another weakness analysed during the interview concerned the lack of long-term vision by the Italian industries and their lack of planning. When creating a program, it is important to have a clear vision of the needs of their clients (especially on the needs of the National Armed Forces), then, in order to make profit and have a positive impact on Sistema Paese, it is important to focus on which countries you can export your product, taking into account the New Combat Helicopter proposed by Leonardo that should replace the MANGUSTA, as foreign nations do already have their programs for this helicopter, is the investment worth? This is why we need more cooperation between the industry, the government and the military field. In fact, to have a positive impact on Sistema Paese there is not the strict necessity of investing only in your companies, why? Because when investing in Defence programs from foreign countries you can in return more investment from that company in your country, as showed to a certain extent by the F-35 program and the jobs it created in Italy, such as the industrial compartment in Camari (in Piedmont) where European F35 are assembled, this is the result of important investment by Leonardo and consequently Italy in this project.<sup>236</sup>

The interview concludes with an analysis the importance of cooperation between transatlantic defence industries taking as example the cooperation between Leonardo and Boeing and the acquisition by the US Air Force (USAF) of the AW-139<sup>237</sup>, the bestseller by Leonardo for civilian purposes. In fact, during a call by the USAF for helicopters to deploy in their Intercontinental Missiles Bases. As Boeing did not have a specific helicopter for this project, they contacted Leonardo and militarised the Civilian Helicopter for the purpose of the USAF, and won this contract creating the MH-139<sup>238</sup> and creating an important profit for Leonardo, that, probably, without Boeing would have not participated or won this project.

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<sup>235</sup> <https://www.leonardocompany.com/it/press-release-detail/-/detail/24-04-2021-leonardo-acquista#:~:text=Leonardo%20ha%20stipulato%20un%20accordo,o%20%E2%82%AC%2023%20per%20azione> (consulted on 31/05/2021)

<sup>236</sup> <https://www.leonardocompany.com/it/products/f-35-jsf> (consulted on 31/05/2021)

<sup>237</sup> <https://www.leonardocompany.com/it/products/aw139> (consulted on 31/05/2021)

<sup>238</sup> <https://www.boeing.com/defense/mh-139a/index.page> (consulted on 31/05/2021)

#### **4.5 Interview with Brigadier General Fortunato di Marzio, Director Third Department of the Secretariat General of Defence – Industrial Policies and International Relations**

Q: Question

A: Answer by the General

*Q: how can we improve the dialogue among Institutions, Defence and Industry? What would be the impact on Sistema Paese?*

A: The Italian Industry in Security and Defence, with which the National Directorate for Armaments constantly relates, represents a high-value system for the State with an important impact on national economy.

Taking into account 2019 (as data from 2020 are not reliable as highly influenced by Covid-19) it is important to highlight how the ASD Industry generates, from an annual investment of €4.7 billion by the Ministry of Defence and MISE, an additional value of €11,5 billion, that corresponds to about 0.8% of the National GDP. It concerns high technologies, which production creates directly 50000 employees and more than 160000 for the entire production chain, that is of highly productivity and technological level.

Therefore, the industry of defence represents for Italy one of the most important compartment in the framework of Sistema Paese, that includes the capacity of the national military instrument, the projection of the companies in the international markets, the protection of qualified employment, the constant modernising of the national technological asset, that allows to the Nation an important positioning in the international scene. The result of the entrepreneurial and technological capacities of the single companies, but also of the consistent strategic investments by the State in this industrial field, are key factors for the Italian capability to compete in the international context.

The dialogue with the industrial compartment is already present at every level, of course, each of them in the field of its competence. For example, at inter-ministerial level, there is the “Tavolo Tecnico di Supporto all’Export Difesa-Spazio-Aerospazio” (Technical table of support to the export of Defence, Space and Aerospace) – TaTeSE DSA composed by Institutional Actors (Italian Presidency of the Council of Ministers, Ministry of Foreign Affairs, Ministry of Interior, MOD, MEF, MISE CDP, SACE, SIMEST) and Associations of Category (Confindustria, AIAD, AIPASS, ASAS) and National Companies such as ELETTRONICA,

FINCANTIERI, IVECO DV, LEONARDO, MBDA ITA, AVIO, SITael, SPACE ENGINEERING, TELESPIAZIO, THASI.

But it stands to the SGD/DNA the key role of facilitating the international cooperation, at governmental and industrial level, in order to furnish to the Armed Forces of the involved Governments advanced systems, with regulated prices by the synergy that only cooperation can permit, increasing at the same time the market opportunities that those systems will create for their producing companies.

At intermediate consulting level, in the short time, the Strategic Table “Defence-Industry” could be concrete, instituted by Art.2 DM June 2019 created by pro-tempore Minister Trenta for the shared and coherent updating of the Industrial Strategy and Technological (SIT).

Going even deeper, this Table could become a discussion forum between the Ministry of Defence and the representatives of the ASD Industry to individualise the needed synergies and a more suitable partnership so that the industrial compartment could continue to offer to the Nation the reasonable level of autonomy that is in its competence, furnishing to the Armed Forces the advanced technological means that they need, and working as economic head of the Sistema Paese, especially in the collective challenge for the recovery of the Nation following the Covid-19 crisis.

*Q: Can the lack of national funds in Research and Development be compensated by the EDF and the several EU Initiatives or is it just an initial step?*

A: There is no doubt that in order to have at disposal a modern and updated instrument of Defence it is necessary to invest in research and technological innovation, to have the competences and productive capacities that will allow the development of products and systems that assure a technological advantage that can be efficiently used as deterrent and in real operation.

Therefore research assumes a vital role for Defence, becoming an essential factor of strengthening of the relative capacity, with study programs about innovative scientific sector such as *Cloud Computing*, *Intelligenza Artificiale*, *Big Data*, *Machine Learning* – or still unexplored.

The Defence Administration defines the overall framework of this function with the Piano Nazionale della Ricerca Militare (National Plan of Military Research) (PNRM), that, however, does not have at its disposal the resources to meet all the possible fields of action.

That's why with the national participation to cooperative projects promoted by the European Defence Agency, and more recently by the European Commission, must be considered as an important opportunity to integrate the national financial availability with those given by the EU.

In particular, in the field of Research and Development, the EU launched in 2017 the Preparatory Action on Defence Research (PADR), an pilot financing instrument, with a budget of €90 millions, thanks to which several projects in which Italian companies participated were financed. An example is project "Ocean 2020" for the development of an integrated system for maritime situation awareness that use unmanned systems, this project saw the participation of Leonardo and Fincantieri.

With the start of the European Defence Fund we will pass from the experimental phase of the PADR a more relevant project, that correspond to €2.6 billion for research (on the total of €8 billion) in the period 2021-2027. Given the growing attention to this sector, it is not illogic to confide in the consolidation of the planning system of the incoming European budget of 7 years, in order to assure continuity, if not the expansion of such instrument.

*Q: How can the Defence contribute to the development of long-term programs?*

The modernising and the renewal of technologically advanced means, which can be terrestrial (for example VBM Freccia 8x8, Nuova Blindo Centauro), naval (i.e. LHD – Landing Helicopter Dock, or the European Multi-mission Frigates) or aerial (i.e. Joint Strike Fighter – JSF, next generation fighter Tempest) are done, considering their complexity, over a medium-long term period. The colossal financing required by those programs require, if not impose, producing and investing synergies shared by the other governmental actors, in other words, to favour the international cooperation for research, development, production and logistic support of the future systems of our Armed Forces. Of course, the Ministry of Defence and the Secretariat General are the two main actors for the bilateral and multilateral agreements that allow to meet

the quantitative and more importantly qualitative requirements of the national military instrument.

*Q. Can NATO become an asset at economic level too?*

A. If by asset we mean a resource of material in the field of Defence, NATO already is an asset, in both the field of research and innovation, that is competence of one of the two Strategic Command: the Allied Command Transformation (ACT), for both the acquisition of collective systems of security, such as the entire command chain and control, up to the particular operative assets for surveillance and recognition, and of strategic transportation too.

In the context of the technological innovation, ACT can rely on the intellectual power from a relevant network of industrial experts, academics, military and civilians from NATO Countries, from the several NATO Agencies and Centre of Excellence. In fact, the NATO agencies, in the area of Information and Communication (NCIA), support and procurement (NSPA), Science and technology (STO), play the main role as support to the NATO Headquarter, the intermediate Commands and NATO Operative forces.

If we consider that currently the 30 Nations in NATO and that they directly and indirectly contribute to the costs of the management of the Alliance and related activities, operative and supportive, for a total cost of about €2.5 billion (data from 2020), we can clearly say that NATO can be considered an important economic asset, an element that is alongside the strategical side the Alliance from a political-military perspective.

In fact, in the Alliance it is already present a structure of high importance and international coordination named Conference of national Armament Directors (CNAD), of which the national representative is the SGD/DNA. The CNAD has the responsibility to coordinate among the Member States the research, the development, the production and the acquisition of new technologies, of weaponry systems and equipment.



## Conclusion

In the introduction of this research, I presented the two connected core questions that I tried to answer throughout the entire work: “What is the impact of the Italian Aerospace, Security and Defence on Sistema Paese?” and “How is it affected by International Cooperation?”. This topic became particularly relevant in 2021 for those three main reasons: 1) This compartment can represent one of the leading fields of economic and social recovery from Covid-19 and its effects. 2) President Mario Draghi highlighted the Italian centrality in the European Union and in the North Atlantic Treaty Organisation. 3) The funds assigned to the Ministry of Defence became “*a fabbisogno*” increasing its strategic autonomy, especially for what concerns investments in Defence Programs.

In the first Chapter, I started by analysing the three areas in which the Italian Defence operates: The Nation, the Euro-Atlantic region, and the “*Mediterraneo Allargato*”, as we must understand the needs of the Italian Defence to analyse the Italian ASD Industry as the State represents its primary buyer. Then I provided a more theoretical – academic background which explains not only the economic importance of the ASD Industry (i.e. *in 2019, from an annual investment of €4.7 billion by the Ministry of Defence and MISE, an additional value of €11,5 billion*) but also its strategic role in technological development and the creation of dual-use technologies. Next, I explored the current Italian budget for Defence and how it is divided as the Italian Defence is the main contractor of the most relevant ASD Italian programs, plus all the funds to which the Defence has access, in order to provide the complete framework for industrial and non-industrial investment. Finally, I analysed the Recovery Fund and how it will impact the Italian ASD Industries, with a particular focus on Cybersecurity as it is becoming one of the most critical security fields.

The second chapter of this research focuses on one of the two core questions: *Sistema Paese*. This Italian concept can be defined as the ensemble of “*all infrastructures from the Public and Private Sector that cooperate to support the international activities, from commerce to production, of a Nation to guarantee the competitiveness of a country in the World.*”. In particular, in this Chapter, I firstly focused on how the Government could support international

exports of ASD Industries, with the concrete example of the current lack of regulation of the Government-to-Government Agreements for what concerns Armaments and types of weapons. Then, for a more compacted *Sistema Paese*, the protection of the National Industries is essential, this is the reason for which I analysed the current Italian Golden Power and its use in the ASD Industry. This kind of policies are essential to strengthen the impact on Sistema Paese, but, as later discussed in the fourth chapter, must be coordinated with a long-term vision of the Industry. Then, in this Chapter I focused on the two most important ASD companies: Leonardo and Fincantieri analysing their impacts on Sistema Paese, their international dimension, their strength and weaknesses. In particular, I would like to highlight the increasing dimension of Fincantieri in the worldwide scene, which is the result of a long-term planning by the Company, which created a National Champion that can compete in the US Market too. Finally, it was essential to consider the current weaknesses of the Italian Sistema Paese of the ASD Industry, in which points such as the lack of investments, coordination, and, most importantly, of long-term vision emerged.

In the third chapter, I explored the second core question of this research: International Cooperation and the related ASD initiatives in the European and NATO spheres. In the context of the European Union, after an analysis of the development of its foreign policy throughout the EU fundamental Treaties, I analysed all the European Actors such as the European Commission and its new Directorate-General on Defence Industry and Space and the European Defence Agency. Then, I presented the European Initiatives in Defence such as the new born European Defence Fund, the Permanent Structured Cooperation and the Coordinate Annual Review on Defence. What emerged was that the main European weakness in this field is the fragmentation among its Member States, that those initiatives are trying to overcome. In terms of NATO, its role in Defence Industry is more marginal than the EU, but it should be strengthened to give a new dimension to the Alliance. Finally, those actors vital in the Italian foreign policy and international relations should be complementary, and most importantly, it should be avoided to duplicate projects as it would result in a waste of resources.

The fourth and final Chapter concerned an analysis of the previous Chapters, and to a certain extent, it can be considered as a conclusive one. Moreover, this Chapter contains two important interviews: one to a Representative of a ASD US Industry and the second to Brigadier

General Fortunato di Marzio, the current Director of the Third Department of the SGD/DNA in charge of the Defence Industrial Policies and International Relations. Thanks to their contribute, I had the chance of understating this topic deeply as I was able to have both the point of views of the Industrial Side and the Military one. For example, apart from the importance of the Governmental policies such as the Golden Power and the Government-to-Government Agreements, another essential example was analysed like the Naval Law that represented in 1974 an important Italian investment for its Navy and its Naval Industries. However, this kind of policies is not enough if there is a lack of cooperation among all the actors. Then I analysed the current European Initiatives, such as the European Defence Fund, which can be considered an important first step, but considering EU lack of background in Defence and Security, the reduced funds assigned might be enough considering all the projects proposed. In terms of NATO, the Alliance should play a more decisive role in Industrial policies, especially in collaboration with the European Union.

In conclusion, the ASD Industry represents an essential compartment for the Italian Sistema Paese for three specific reasons: the economic revenue they produce, the length of the Security and Defence Programs and the technological development they create. However, in order to strengthen the Italian Companies, it would be important to invest more in Research and Development, as Italy is currently struggling in this field, especially if compared to other European and OECD Countries. To introduce/reinforce policies aiming at protecting and helping our companies such as the G2G and the Golden Power, as the ASD market is a particular one where the buyer are the States. To improve its impact on Sistema Paese, however, it would be essential to develop a real long-term strategy with an advanced cooperation among the three most important actors: the Government, the Military and the Industry to be able to compete in the international scene. At the same time, international initiatives represent an important occasion for our Industries, they can be used to compensate our lack in Research and Development and can be the right occasion for the creation of new European Champions which could compete in the International Scenes creating an important revenue for the entire European market, particularly, this should contribute to the reduction of fragmentation in the European ASD Context that is currently the main reason of the waste of resources.

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## Summary

The aim of this research is to provide the readers with an analysis of the current impact of the Italian Aerospace, Security and Defence (ASD) Industry on the Italian *Sistema Paese* and to understand the impact of International Cooperation on this compartment.

As highlighted in the Introduction, this research is significant in 2021 for three main reasons: firstly, the ASD Compartment represents Italian excellence, contributing to the recovery from the Covid-19 crisis. Secondly, at the beginning of 2021, the newly born Government under President Mario Draghi remarked on the Italian centrality in the European Union and the North Atlantic Treaty Organisation, representing the two most important spheres of International Cooperation for Italy. Thirdly, for the first time, the funds at the disposal of the Ministry of Defence will be “*a fabbisogno*”, which makes the Ministry independent to a certain extent.

I divided this analysis into four main Chapters, basing my research on institutional and Government sources and documents, think tanks, and academic work and interviews with relevant personalities in this field.

In the first Chapter, I provided a general framework of the Italian ASD Industry; firstly, I analysed the current operational background of the Italian Army, which has three main areas that are: the Nation, the Euro-Atlantic Region and the “*Mediterraneo Allargato*”. This was a necessary element for the research because, as the Italian ASD Industry must respond to the needs of the Italian Army, we cannot understand their needs without comprehending its operational background.

The second topic discussed in the Chapter concerned the academic and theoretical knowledge about the ASD industry's importance. Starting from the implication that the State has the monopoly of force (in both offensive and defensive terms), we do understand that we are currently analysing a particular market where the classic liberal theory might not be applicable. In addition, from the theoretical background, apart from the economic outcomes (*for example, in 2019, from an annual investment of €4.7 billion by the Ministry of Defence and the MISE, an additional value of €11,5 billion*) another factor to take into account is the technological development reached thanks to the investments in the ASD Industry which are important as it can provide a dual-use outcome for both the military and the civilians.

In addition, in this Chapter, I analysed how the current budget of Defence is composed and distributed, we cannot only count the funds attributed to the Ministry of Defence through the *Legge di Bilancio* (€24.5 billion), we must take into consideration also additional funds such as the: *Il Fondo per gli investimenti delle Amministrazioni Centrali dello Stato*. However, it is important to mention that the current Military expenditure, especially under the voice “*Funzione Difesa*” is mainly addressed to the personnel expenditure, leaving a marginal role for industrial investment.

I want to highlight that, while the 2% of GDP target set by NATO is important, I would focus more on how the current budget is used. Moreover, even if the Defence Budget has been increasing since 2015, the armaments' price rose due to inflation, making the budget less efficient.

One of the weaknesses that emerged in this Chapter is Italy's current lack of investment in Research and Development, one of the most critical compartments in the ASD Industry. Currently Italy is investing about €66 million for RD in the field of Defence, resulting among the worst countries in the European and international context.

In conclusion of this Chapter, I analysed the impact the Recovery fund and the *Piano Nazionale Ripresa e Resilienza* will have on the Italian Defence. In particular, I focused on Cybersecurity which is the present and future domain of Security and Defence as Italy currently lacks infrastructures in this field. For example, according to the National Cyber Power Index, published in September 2020 by the “*Harvard Kennedy School – Belfer Center for Science and International Affairs*” Italy is ranked 29th, after countries such as Ukraine, Saudi Arabia and Lithuania, with a score below 10 (in a scale to 50). Other European Countries such as France and Germany have a score higher than 20. The two top countries in Cyber security are the United States of America (50) and China (42). Therefore, it is vital to invest in Cybersecurity thanks to the European Fund. In fact, in June 2021, the Italian President of the Council will present the new “*Agenzia per la Ciber-Sicurezza Nazionale*”, a new structure that will lead the Italian policies in this domain.

The Second Chapter of this dissertation focuses on one of the two pillars of this research: Sistema Paese, which can be defined as “*all infrastructures from the Public and Private Sector that cooperate to support the international activities, from commerce to production, of a Nation to guarantee the competitiveness of a country in the World*”.



At the beginning of this Chapter, I reviewed the current policies at the disposal of the Italian Government that, if implemented, could support the ASD companies and reinforce their impact on Sistema Paese: Government-to-Government Agreements and Golden Power. The first policy should be used to improve the Italian export, as it is not currently regulated for armaments and types of weapons, which means that it is not used, while Italian companies could benefit from it. The Golden Power, on the contrary, concerns the protection of the Italian Companies from foreign investments.

Then, in this Chapter, I analysed the two most crucial Italian ASD Companies: Leonardo and Fincantieri, taking into account their historical background, their international dimension (such as the main contracts signed abroad), their strengths and weaknesses. In particular, I would like to highlight the increasingly international dimension of Fincantieri in the worldwide scene, which is the result of long-term planning by the Company, which created a National Champion that can compete in the US Market too.

As a result, I continued by exploring the ASD industrial impact on Sistema Paese and how the two most important Italian companies are involved, showing which programs they signed with the Italian Ministry of Defence. In fact, both companies have a relevant percentage of ownership by the Italian State through (Leonardo about 30%, Fincantieri about 71%), which implies that a product becomes relevant for Sistema Paese when it is also sold abroad.

In addition, it is crucial to mention the current impact of the ASD Industry on Italian economy. This compartment is currently worth €13.5 billion (0,65% of the GDP) and about 15% of the entire European compartment, 70% of the outcomes is produced for exports. Moreover, the economic multiplier in Italy of the ASD industry is of 2.6, that is higher than 71% of the national mean. This compartment has created 45000 places of employment directly, and if we take into account also the indirect ones, we arrive to about 160000.

Finally, in this Chapter I focused on the current weaknesses of the ASD Industrial impact on Sistema Paese, such as: the lack of investments and of a long-term vision and the lack of coordination among the different actors.

In the third Chapter, I explored the second core question of this research: International Cooperation and the related ASD initiatives in the European and NATO spheres. After an analysis of the development of its foreign policy throughout the EU fundamental Treaties that

are the Maastricht Treaty, the Amsterdam Treaty and the Lisbon Treaty (on which the current EU Legislation is based on). Then, I analysed all the European Actors such as the European Commission and its new Directorate-General on Defence Industry and Space and the European Defence Agency. Those are the main actors in the European framework concerning Defence and Security. In fact, since the Juncker's Commission (2014-2019) and then under Ursula Von Der Layen's Commission (2019 – Present), the European Union Institutions have been trying to increase the role of the EU in matters of Security and Defence.

Then, I presented the European Initiatives in Defence such as the new-born European Defence Fund, the Permanent Structured Cooperation and the Coordinate Annual Review on Defence. The EDF consists of a budget of €8 billion that should be used by the Member States and their companies for Research and Development and Capabilities Development. The main aim of this fund, combined with initiatives such as the PESCO and the CARD, is to contrast what emerged as the main European weakness in this field: the fragmentation of the European ASD Industries in terms of types of weapons and industrial background.

In terms of NATO, its role in Defence Industry is more marginal than the EU, but it should be strengthened to give a new dimension to the Alliance, for example it would be essential for NATO to acquire expensive Defence and Security Capabilities such as the JISR, it would concern investments in National Capabilities, in Surveillance and Control or in more expensive systems of weapons in the fields of Airborne Early warning control and the Alliance Ground Surveillance. Make them usable by the Member States.

Finally, those actors are vital in the Italian foreign policy and international relations should be complementary and most importantly, it should be avoided to duplicate projects as it would result in a waste of resources. In fact, in the conclusion of the Chapter I presented the priorities of the Cooperation between NATO and the European Union, which are: “to boost NATO and EU ability to counter hybrid threats, including by working together on analysis, prevention, and early detection, through timely information sharing and, to the extent possible, intelligence sharing between staffs; and cooperating on strategic communication. To broaden and adapt operational cooperation including at sea, and on migration, through increased sharing of maritime situational awareness as well as better coordination. To expand coordination on cyber security and defence. To develop coherent, complementary and interoperable defence capabilities of EU Member States and NATO Allies. To facilitate a stronger defence industry and greater defence research and industrial cooperation. To step up our coordination on exercises, with parallel and coordinated exercises in 2017 and 2018 for the first time. To build

the defence and security capacity and foster the resilience of partners in the East and South in a complementary way.

The fourth and final Chapter concerns an analysis of the previous Chapters, and to a certain extent, it can be considered as a conclusive one. Moreover, this Chapter contains two important interviews: one to a Representative of an ASD US Industry and the second to Brigadier General Fortunato di Marzio, the current Director of the Third Department of the SGD/DNA in charge of the Defence Industrial Policies and International Relations. Thanks to their contribution, I had the chance to deeply understand this topic as I was able to have both the point of view of the Industrial Side and the Military one.

For example, apart from the importance of the Governmental policies such as the Golden Power and the Government-to-Government Agreements, another essential example was analysed like the Naval Law that represented in 1974 an important Italian investment for its Navy and its Naval Industries of One billion Lire. In 2019, several programs were started by the Minister of Defence, such as “*Soldato Sicuro*” program and the renewal of the Italian Army Aviation with the acquisition of the new light utility helicopter and the new scouting and explorer helicopter.

However, the 2019 investments cannot be compared to the one made in 1974, a good investment in the Italian ASD industry should be made primarily for inter-forces platforms and structures in order to have a positive impact on Sistema Paese. However, this kind of policy is not enough if there is a lack of cooperation among all the actors.

Then I analysed the current European Initiatives, such as the European Defence Fund, which can be considered an important first step, but considering EU lack of background in Defence and Security, the reduced funds assigned might be enough considering all the projects proposed. In terms of NATO, the Alliance should play a more decisive role in Industrial policies, especially in collaboration with the European Union.

During the interviews I had the opportunity to deeply discuss about this topic and the current limits of International Cooperation. For example, it clearly emerged how the different visions about a more strategic autonomy by the European Union create limits to real international cooperation as some Member States would prefer a European centric Strategy, while others, including Italy, do understand the need the presence of the US. Some steps towards a more integrated cooperation have been done as shown by the invitation of US, UK and Norway to

the PESCO conference about Military mobility, but at the same time, there are still several limits to their entrance in the European Defence Fund projects. Another point emerged is the necessity of the creation of European Industries (or at least, of more Joint Ventures) to overcome the problem of fragmentation among European Defences and to compete in the worldwide scene; this scenario, however, is in contrast with the short-term outcome of most of the companies. While with Brigadier General di Marzio I had the opportunity to understand the role of the Secretariat General of Defence and National Armament Directorate, analysing also what role the European Defence Fund will have for Italian Defence and what is the role of NATO. *“If we consider that currently the 30 Nations in NATO and that they directly and indirectly contribute to the costs of the management of the Alliance and related activities, operative and supportive, for a total cost of about €2.5 billion (data from 2020), we can clearly say that NATO can be considered an important economic asset, an element that is alongside the strategical side the Alliance from a political-military perspective. In fact, in the Alliance it is already present a structure of high importance and international coordination named Conference of national Armament Directors (CNAD), of which the national representative is the SGD/DNA. The CNAD has the responsibility to coordinate among the Member States the research, the development, the production and the acquisition of new technologies, of weaponry systems and equipment.”*

In conclusion, to answer the questions proposed in the introduction, the Aerospace Security and Defence Industry represents an essential compartment for the Italian Sistema Paese for three reasons: the economic revenue they produce, the length of the Security and Defence Programs and the technological development they create.

However, it is essential to understand the effects that a strengthening of this compartment would create on the Italian Economy and Geopolitical role. Firstly, in order to strengthen the Italian Companies, it would be important to invest more in Research and Development, as Italy is currently struggling in this field, especially if compared to other European and OECD Countries.

To introduce/reinforce policies aiming in protecting and helping our companies such as the G2G and the Golden Power, as the ASD market is a particular one where the buyer are the States that detain the monopoly of power also according to liberal literature. To improve its impact on Sistema Paese, it would be essential to develop a real long-term strategy with an

advanced cooperation among the three most important actors. In fact, the Government, the Military and the Industry must compete in the international scene and create a return for Sistema Paese; on the contrary, the lack of those two elements would waste resources.

At the same time, international initiatives represent a momentous occasion for our Industries; they can compensate for our lack in Research and Development and can be the right occasion for the creation of new European Champions that could compete in the International Scenes. This would create an important revenue for the entire European Market, particularly, this should contribute to the reduction of fragmentation in the European ASD Context that is currently the main reason for the waste of resources.

If the ASD compartment is reinforced, Italy will not only obtain an important economic return but considering its current leading role in the relationship between the US and the European Union, also its strategic position would benefit.