FINCANTIERI IS READY TO CATALYZE THE GROWING OPPORTUNITIES IN THE DEFENSE INDUSTRY

GLOBAL STRATEGY BASED ON M&A

MATTEO DIANA

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Internship Report

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Abstract

This report is focused on the changes incurring in the defense industry across the world, and more specifically in Europe, and on the perspective undertaken by Fincantieri S.p.A. around its own Naval Vessels Division (NVD), in which I am currently working on.

Since the middle of the last century, there has been talk of the possibility to consolidate the European defense industry, but if at the time the Cold War and the fear for a German rearm had blocked these intentions, today the theme is more relevant than ever. Nevertheless, so far, most of the Member States has not put in place further moves other than mere political speeches.

Although extremely dramatical, the Ukraine crisis has been a sort of wake-up call for the European countries, which seem now more motivated in pursuing the goal to further strengthen the defense budgets and to create a stronger cooperation and collaboration in the military sector.

The aim of the report is to present part of the M&A strategy adopted by Fincantieri Group in its military division and to further expand the activities of its Naval Vessels Division, in light of the large investments promised by the Italian government and of the perspective of "common defense" which is starting to be designed by European Union.

The work is divided in three chapters: the first one provides a background of the defense industry across the world and introduces the changes brought by the Ukraine war, the second one is related to the presentation of Fincantieri Group, its Naval Vessels Division and my role within it, and the third is dedicated to the discussion of the main topic, an M&A case study.

The central theme of the paper is the case study of an ongoing M&A transaction, which could lead Fincantieri to become a sort of "one stop shop" for the shipowners.

Indeed, Fincantieri is currently a global leader in the construction and delivery of military platforms but wants to further expand its business in the production of hardware and software facilities.

Attached to the report you can find an internship performance evaluation provided by my direct manager Federico d'Amico and two appreciation letters respectively written by the NVD Deputy General Manager Andrea Viero and the Director Gianluca Zanutto.

Table of Contents

Chapter 1: Defense Industry Market Analysis

"Is there any way of delivering mankind from the menace of war?"

(Albert Einstein, 1932)

This is a line extracted by the letter written by Professor Albert Einstein to the psychologist Sigmund Freud in 1932, in which the former asks if there is a way to direct the psychic evolution of men to let them become capable of resisting their psychoses of hatred and destruction (UNESCO, 2022). This statement is still current as war has always existed and will probably never disappear, even if it seems to be repudiated by everyone.

This is the main reason underlying the existence of the defense industry and its strategical role in a country's economy and positioning across the world (Pagani's interview for Europa Atlantica, 2022).

The defense industry is composed by all the companies involved in the manufacturing and development of goods and services for defense and security of states, territories, citizens and critical infrastructures, and their main clients are the institutions that have the exclusive competence of border defense and national security within their territories. Recently the offer of the sector has been widening as lots of companies are now producing and commercializing important solutions also for the security of the private sector, such as critical infrastructures and cybersecurity (Nones, 2012).

It is a very key industry in the economy of a country as it not only supplies with fundamental defense tools and capabilities of national interest aimed at guaranteeing the safety of its own citizens, but also represents a very precious instrument of geopolitical influence, capable of increasing the weight of a country in the world.

The defense industry has changed a lot over the last decades and in particular, since the end of the Cold War. In the past the industry was characterized by a strictly subdivision among three domains, which were land, sea, and air; today instead, we not only see a larger number of domains with the adding of space and cyberspace, but we also observe the starting of a strong interrelation among them (Carafano J., 2018).

Security and defense have become two sides of the same coin and the notion of border has become the same under a military perspective and a global security one. Therefore the classically called defense industry is now better known as Aerospace, Defense and Security (AD&S).

In a nutshell, AD&S industry is a central sector in all the economies across the world, which catalyzes huge investments and employs a large number of workers due to the constant development of significant technological improvements and discoveries. It is a very transversal industry as it includes high-tech companies operating in the civil and military aerospace, military naval, military land sectors and electronic systems related to previously mentioned fields (Prometeia, 2021). However, it is a challenging sector as it is characterized by very high development of technology, which make frequent to observe fast obsolescence, and it involves huge contracts that are mostly on the hands of domestic companies, implying a very low level of penetration rate.

In general, the defense industry is now seeing a period of announced changes due to the Ukraine crisis that the world is currently experiencing (Garlaschi and Ricciardi, 2022): the worldwide budget was already increasing in the last years, in particular in some developing countries, but the current premises are now requiring a strong shift towards larger investments in this strategical sector.

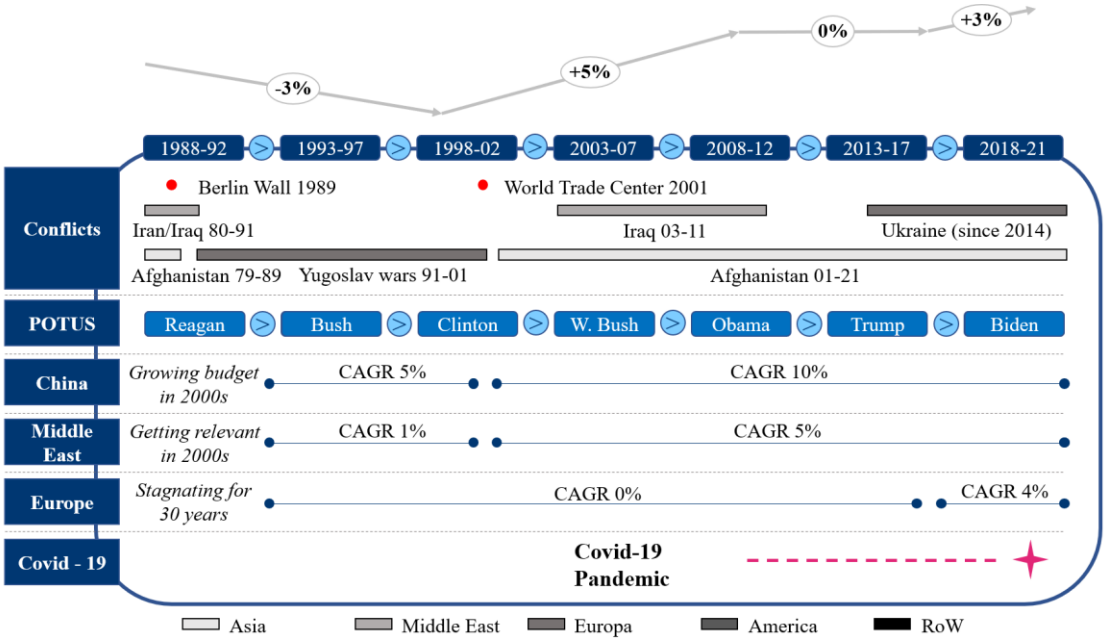
1.1 Key factors determining global defense spending

The defense industry represents a strategical sector in the economy of a country as it offers the opportunity to have a significant weight and power to influence in the context of international decisions, not only on defense matters. Indeed, awareness of having a solid army and technologically advanced instruments could be used by countries as a tool to have greater influence in the decision-making process typical of the main diplomatic and economic tables at international level.

Due to these reasons, the theme of defense budgets is always strongly discussed within the government, and it is evident that there are significant differences among the various countries across the world as there are some that spend heavily more than others (see **Appendix.1: Focus on defense spending by Country**).

In order to provide an analysis of the global defense budget, it is important to understand which are the main factors influencing the level of expenditure in the AD&S industry. The following table is the result of an internal assessment based on SIPRI's database on defense data, which has highlighted that there are six main factors that played a role in the amount of funds intended for defense in the temporal range between 1988 and 2021, and these are: global conflicts, inclinations of the President of the United States (POTUS in Figure.1), expenditure of China, the one of Middle East countries and of Europe, and lastly, Covid-19 pandemic.

Figure.1: Six key factors determining global defense spending.



Source: internal elaboration based on SIPRI's data.

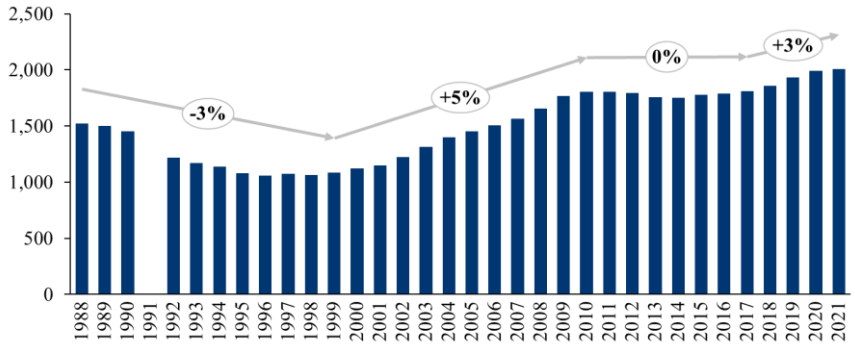
The end of the XX century was characterized by a decrease in defense spending given the end of the Cold War, which led also to a reduced US budget, and the continuation of the solely Yugoslav wars. The 2000s brought instead an increase in the overall spending due to the raising risk of terroristic attacks and the bullish CAGRs reported by both China and Middle East. After quite a long steady period, the military spending has experienced a new increase over the last 5 years, given the bullish European budgets and Covid-19 (see **Appendix.2: Focus on factors influencing global defense budget** for further details).

Overall, even in the face of the alternance of positive and negative trends, the global level of defense expenditure has increased over the last 33 years by a compounded annual growth rate of 1%.

1.2 Worldwide spending

In 2021 global defense spending has picked up again after almost a decade of stagnation, reaching nearby 2.1 trillion $ (SIPRI, 2022) in current prices. Over the last 5 years there has been a slight increase in spending, which grew at a CAGR of around 3%, but the rest of the decade was characterized by a line with no slope.
The graph (Graph.1) below shows the trend reported and explained in Figure.1.

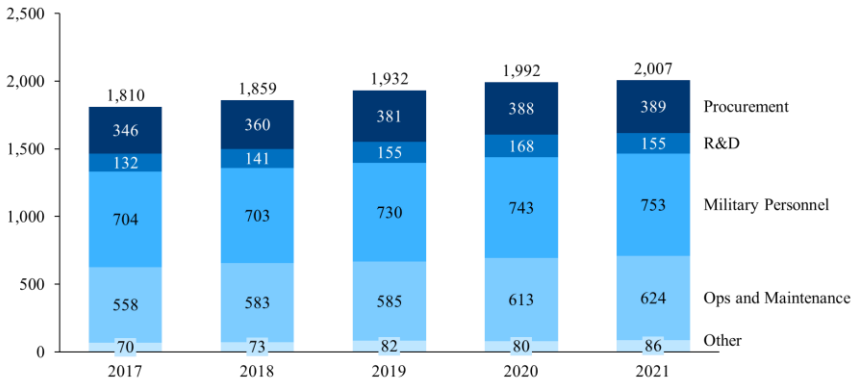
Graph.1: Worldwide defense expenditure (B $).



Source: internal elaboration based on SIPRI's data.

Note that the graph illustrated above shows data from 1988 onwards because it was not possible to have a meaningful world total defense expenditure before that date, due to the lack of data for the Union of Soviet Socialist Republics (USSR). The data for 1991 is unavailable because of the lack of reliability on the spending for Eastern Europe. Not least, note that the values are in US $ referred to the closing of 2020 and already adjusted for inflationary pressures (as it is for all the defense related graphs presented in this report).
To understand which are the activities within the defense budgets provided with the greatest amount of funds, Graph.2 shows the breakdown among the main categories of activities.

Graph.2: Worldwide defense expenditure by Activity (B $).



Source: internal elaboration based on SIPRI and Jane's data.

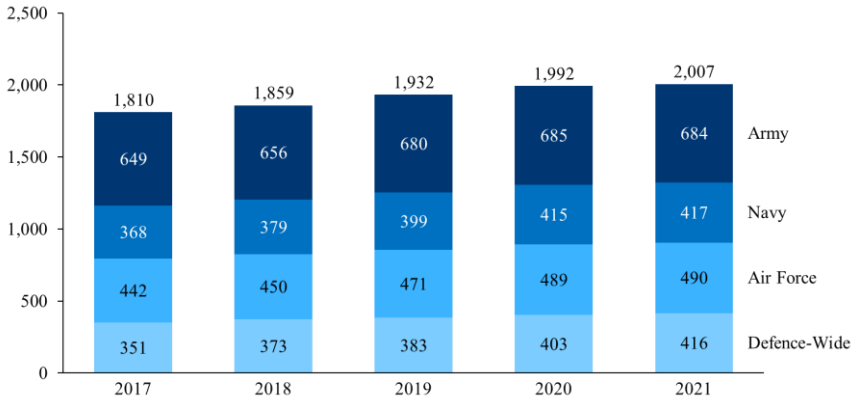
The graph reports data in the range 2017–2021 as the relative percentages are fairly constant over the years.

Graph.2 provides details about the activities in which the global spending is invested: procurement, R&D, military personnel, operations and maintenance and other items (anything that cannot fit into other categories).

There are at least three main considerations that can be made regarding the above representation. First, a greater amount of spending was dedicated to each category of activity along the period considered. Second hint is about the ways in which the budgets are divided among the activities. It comes with no surprise that most of the funds goes to the payment of military personnel, but it is curious to see that a larger part of investments goes to operations and maintenance rather than procurement. Procurement is the activity related to the investments in new products, technologies, programs, and support and services activities needed to achieve national security and to provide support to the army and seems strange that the funds dedicated to it are lower than the amount disposed for maintenance duties. Theoretically, it would be expected that the high obsolescence rate observed in the sector requires huge campaigns for the purchase of new items, however, the high level of investment in refitting and repair is given by the need to constantly update the old armory in the face of new technological developments. Third, another interesting takeaway is the fact that R&D investments are limited to quite a small amount of budget even though there has been an increase of 13.5% in the period between 2017 and 2021.

Furthermore it is provided the plot of the worldwide defense spending divided by force.

Graph.3: Worldwide defense expenditure by Force (B $).



Source: internal elaboration based on SIPRI and Jane's data.

Graph.3 clearly shows that the amount dedicated to Navy is the lowest among all the others (20.8%). The Army is the force receiving the largest amount of funds (34.1%), followed by the Air Force (24.4%).

All the clusters show a constant increase in the period analyzed, and the percentage of increase are pretty equal between one another (nearby +25%).

The main takeaway is that the sea domain is provided with the least amount of funds, implying that Fincantieri needs to proactively act in order to catalyze the most that it can. Indeed, also the Italian defense budget follows a pattern of allocation similar to the worldwide one, with the Italian Navy receiving on average only 15% of total spending (Jane's database, 2022).

1.2.1 Worldwide competitive landscape: a US-centric world

The AD&S sector has always been characterized by the presence of large companies (OEMs[1]), due to the necessity to manage high complexity and to achieve economies of scale, which are needed to support investments as well as R&D activities.

Table.1[2] highlights that in the top places of the global ranking of the major groups operating in the defense industry there are mostly US and Chinese companies.

Lockheed Martin Corporation is the undiscussed leader of the AD&S market as it is at the top of the ladder since 2009 and is still currently selling nearly double the volumes of the second main player, Raytheon Technologies, with one of the highest rates of growth on a year-to-year basis (+7.7%).

The United States not only has the global leader of the ranking, but it also presents 41 companies among the Top100 players in defense industry, accounting for nearby 54% of the Top100 (Marksteiner et al., 2021).

China instead shows its main five actors among the Top20 in the ranking, accounting for 13% of total sales, even though most of them experiencing a negative YtY growth (except for NORINCO). Another peculiarity of the Chinese military market is that nearly the totality of the companies operating in this sector are owned by the government and that they still have the civilian market as their core business.

Europe shows only 3 companies among the leaders, with BAE Systems (UK) in 6th place and Airbus (Trans-European) and Leonardo (Italy) respectively in 11th and 13th place. Fincantieri places itself in the middle of the Top100 but with a jump of seven positions in the ranking from the previous year, with one of the highest rates of growth in terms of defense sales as % of total sales (+7% with respect to what was in 2019).

Table.1: Defense sales of the major 15 players worldwide (B US $ 2020).

Rank		Company	Country	Defense Sales		YtY growth rate	Total sales 2020	Defense sales as % of total sales 2020
2020	2019			2020	2019			
1	1	Lockheed Martin Corp.	United States	58.2	54.0	7.7%	65.4	89.0%
2	–	Raytheon Technologies (1)	United States	36.8	39.0	-5.7%	56.6	65.0%
3	2	Boeing	United States	32.1	34.1	-5.7%	58.2	55.2%
4	3	Northrop Grumman Corp.	United States	30.4	29.7	2.5%	36.8	82.7%
5	5	General Dynamics Corp.	United States	25.8	24.9	3.9%	37.9	68.1%
6	6	BAE Systems	United Kingdom	24.0	22.5	6.6%	24.7	97.2%
7	8	NORINCO	China	17.9	16.0	11.7%	71.0	25.3%
8	7	AVIC	China	17.0	17.2	-1.4%	67.9	25.0%
9	9	CETC (2)	China	14.6	15.5	-6.0%	34.3	42.6%
10	10	L3Harris Technologies	United States	14.2	14.1	0.4%	18.2	78.0%
11	13	Airbus	Trans-European	12.0	11.3	5.7%	56.9	21.1%
12	12	CASIC (2)	China	11.9	12.2	-2.8%	37.7	31.5%
13	14	Leonardo	Italy	11.2	11.3	-1.5%	15.3	73.0%
14	16	Thales	France	9.1	9.6	-5.8%	19.4	46.7%
15	17	Huntington Ingalls Industries	United States	8.2	7.9	4.9%	9.4	88.0%
…	…	…	…	…	…	…	…	
47	54	Fincantieri	Italy	2.7	2.2	2.3%	6.7	39.7%

(1) Raytheon Technologies is the result of a merger between Raytheon Company and United Technologies Corp.

(2) The defense sales figure for CETC and CASIC are estimates with a high degree of uncertainty.

Source: internal elaboration based on SIPRI's data.

[1] Original Equipment Manufacturer.

[2] Data referred to 2020 but can be supposed that no huge changes have incurred in 2021. To have more details related to Top15 major defense groups for 2021, it is needed to wait the publication of the last report by SIPRI, or Prometeia (with AIAD collaboration).

Numerous M&A transactions are concerning the main players in the sector due to the increased importance of the size factor, which is becoming more and more relevant to operate in this industry.

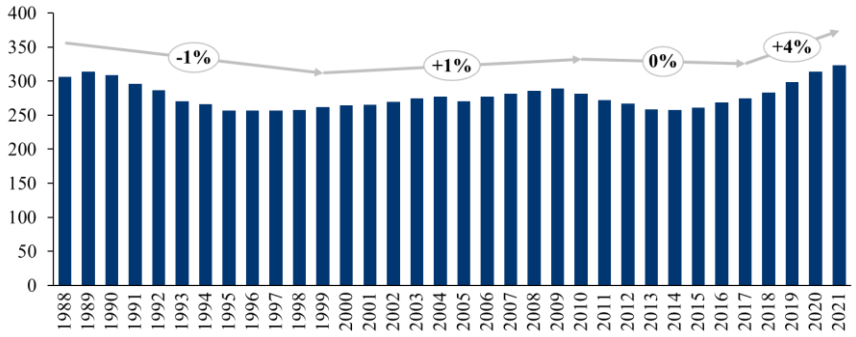
This M&A strategy is pursued especially by US companies, which are targeting a reinforcement of their military competitive advantage, heavily investing in R&D and in procurement of cutting-edge arms systems (Marksteiner et al., 2021). Not least, US is also trying to further consolidate its industry to face the raising competition by Chinese actors, which are forcefully entering the scene (see **Appendix.3: Constellation of M&A in US defense market** for further details).

However, this trend of consolidation is generally seen in the United States when the level of military spending is falling or is expected to be reduced (Aaronson, 2020), so it is expected to shift as companies will start to tap into the new investments guaranteed to the sector following the war in Ukraine.

1.3 European spending

The global defense spending increased over the last 5 years guided by the upturn in European budgets. The overall expenditure raised by 0.7% as compared to 2020, while Europe boosted its own budget by nearly 3% YtY. The European budget reached nearby 323 billion $ in 2021, growing at a 4% CAGR since 2017 (Graph.4[3]).

Graph.4: European defense expenditure (B $).



Source: internal elaboration based on SIPRI and Jane's data.

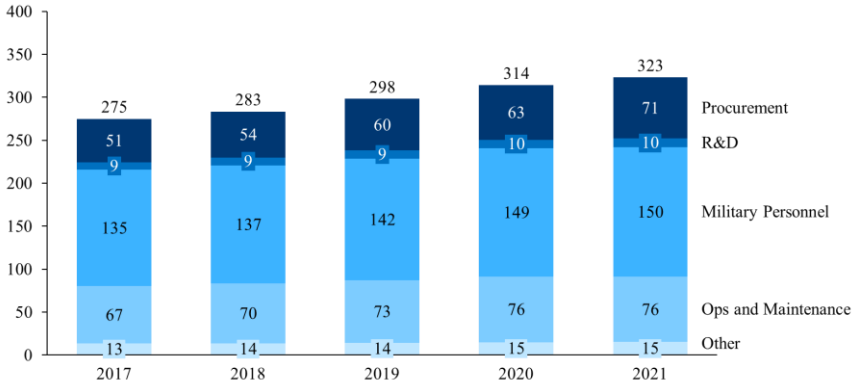
The upward trend shown in the last years has been partially fueled by the perception of the Russian threat after the annexation of Crimea in 2014 (Rolander, 2022).

However, Graph.4 highlights a completely flat line covering a range of 30 years (up to 2017), which is the result of three main reasons. First, a more radicalized concept of disarmament deriving from the direct experience of war, which has strongly affected the European mindset towards the war industry. Second, being part of NATO, most of the European countries did not perceive as a real need the enlargement of their own investments in AD&S industry as covered up by the international organization. Third, an almost buried idea of a possible outbreak of World War III.

[3] Note that the 1991 data is presented as there is just one country included in the Eastern European cluster, Ukraine. The countries included in the computation of the figures presented above are: Bulgaria, Croatia, Czech Republic (ex-Czechoslovakia), Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Serbia, Slovakia (ex-Czechoslovakia), Slovenia, (for what concern **Central Europe**), Ukraine (**Eastern Europe**), Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom (for what concern **Western Europe**).

As for the global spending, it is provided both the European defense spending by activity (Graph.5) and by force (Graph.6).

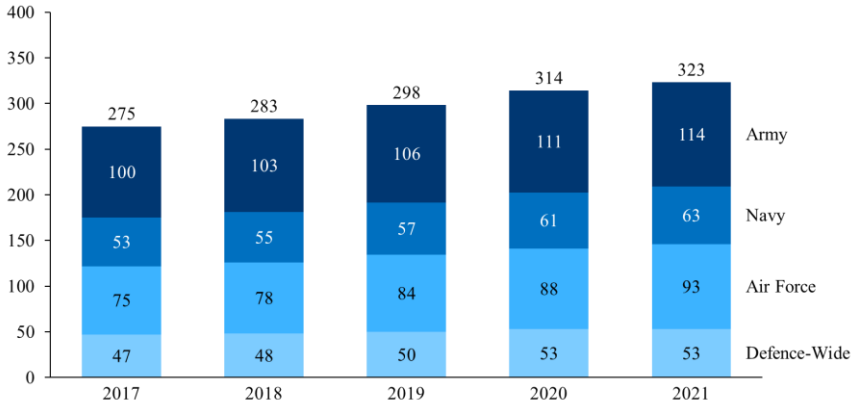
Graph.5: European defense expenditure by Activity (B $).



Source: internal elaboration based on SIPRI and Jane's data.

The graph above reports that the relative percentages for each activity were kept fairly constant over the temporal range shown. The distribution among the various activities follows the same global trend, with prioritization of military personnel. Not least, two further considerations are relatively to procurement and operations and maintenance, as their level is pretty much the same over the course of the 5 years analyzed, and R&D, which is kept at an even lower percentage with respect to the global one.

Graph.6: European defense expenditure by Force (B $).



Source: internal elaboration based on SIPRI and Jane's data.

Also, the subdivision among the forces (Graph.6) is pretty much in line with the one observed in the global allocation. Army receives the largest part of the overall funds (35.3%), followed by Air Force (28.8%), while Navy closes the ranking with just 19.5% of total in 2021.

The European defense industry, which is represented by the AeroSpace and Defence Industries Association of Europe, is characterized by some structural peculiarities.

First of all, UK, France, Germany, Italy and Spain make up nearly 70% of total European defense spending and 80% of Western one, implying a very marginal role for the other countries (Prometeia, 2021).
The European landscape is constellated by a small number of large companies, due to the stringent levels of investments with high degree of risk required to face the competition in such a highly technological and sophisticated sector. These companies act mostly independently in an environment characterized by strong fragmentation. The consequence is the presence of lots of national champions in their own domestic market, which show a lack of critical size as compared to peers across the world, and present capability redundancies in most segments, thus fostering competition on non-domestic markets. The unnecessary duplication of capabilities, organizations and expenditures negatively affects the development of economies of scale and increases the risk of losing critical expertise and autonomy in key areas (European Commission, 2022).

1.3.1 European competitive landscape: fragmentation is still dominant

The first proposals about the importance to build up a European common line of defense in order to gain a strategic autonomy in this key sector date back to 1950, however nothing has changed much since the middle of the past century. Indeed, the first proposal about a European community for defense was already presented by Renè Pleven at the French National Assembly in October 1950 (Filippi, 2015). However, neither his plan nor the subsequent proposal of De Gasperi were able to overcome the issues related to the German rearm.
The initiatives related to this idea started to come back quite recently. Indeed, with Crimea annexation to Russia, and the consequent NATO summit in Gales, the theme further increased its relevancy.
Nevertheless, the European defense market keeps showing an heterogenous framework with a fragmented supply base of local champions, even though with the ambition to operate in international markets.
The table below clearly represents the fragmentation and lack of critical size in the European defense market.

Table.2: Defense sales of the major 15 players in Europe (US B $ 2020).

Rank		Company	Country	Defense Sales		YtY growth rate	Total sales 2020	Defense sales as % of total sales 2020
EU	WW			2020	2019			
1	6	BAE Systems	United Kingdom	24.0	22.5	6.6%	24.7	97.2%
2	11	Airbus	Trans-European	12.0	11.3	5.7%	56.9	21.1%
3	13	Leonardo	Italy	11.2	11.3	-1.5%	15.3	73.0%
4	14	Thales	France	9.1	9.6	-5.8%	19.4	46.7%
5	22	Rolls-Royce	United Kingdom	4.9	4.8	2.1%	15.2	32.1%
6	25	Safran	France	4.5	3.6	24.2%	18.8	24.0%
7	27	Rheinmetall	Germany	4.2	4.0	5.2%	6.7	63.3%
8	30	MBDA	Trans-European	4.1	4.1	-1.7%	4.1	98.9%
9	31	Naval Group	France	3.8	4.2	-10.8%	3.8	99.0%
10	32	Dassault Aviation Group	France	3.7	5.9	-36.9%	6.3	59.5%
11	36	Saab	Sweden	3.4	3.3	2.7%	3.8	88.1%
12	39	Babcock International Group	United Kingdom	3.2	3.3	-4.6%	5.7	56.0%
13	47	Fincantieri	Italy	2.7	2.2	22.5%	6.7	39.7%
14	48	CEA	France	2.5	2.3	10.5%	5.8	43.8%
15	55	ThyssenKrupp	Germany	2.0	2.1	-3.7%	40.4	4.9%

Source: internal elaboration based on SIPRI's data.

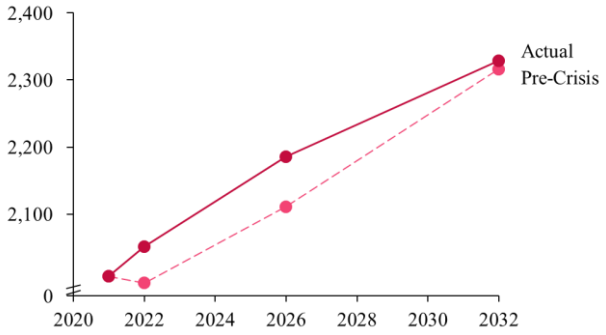
Table.2 provides clear evidence that among the European countries, the leading one is United Kingdom, as it accounts for the largest European contribution not only of the Top15 shown above, but also of the Top100.

BAE Systems is by far the largest player in Europe, with twice as much the revenues of the second European main player, and the only one entering the Top10 list of worldwide defense companies.
Other than English companies, there are two trans-European players, with Airbus with a leading role in this framework, many French companies, with Thales as the main national leader, an Italian defense industry represented by Leonardo, but with Fincantieri showing one of the greatest % increase in defense sales YtY, and lastly, Germany accounting only for 1.3% of Top100 defense sales (Marksteiner et al., 2021).
The size factor is clearly crucial not only in the American defense market, but also in the European one. However, the strategy pursued by the European military producers is mostly centered towards forms of cooperation and collaboration rather than thorough and complex M&A transactions. Indeed, a deep analysis of the main players of the 5 largest European countries reports the presence of more than 100 joint ventures (on average more than 4 per company) and more than 400 product development programs (Prometeia, 2021). French and Italian companies being the most active countries over these forms of cooperation.
An M&A strategy would be probably the most accurate to fulfill the size requirements of the industry, however, the control devices adopted by Member States governments and European institutions, such as proprietary restrictions, golden shares, golden power, control mechanisms on direct investments or national regulations on exports (Prometeia, 2021), constitute very restrictive and stringent limits to such transactions.

1.4 Ukraine crisis influences on defense budget

The Ukraine conflict has raised back the attention towards the actual risk of a possible worldwide conflict and would be strange if no changes in the global defense budget were observed in the years to come. The main consequence is expected to be seen in European budgets, as the return to such a brutal and high-intensity war is causing numerous reactions in Europe.
Note that all the following assessment is based on a comparison between the scenario forecasted by Jane's database on February 28th 2022, when the data were not already adjusted for the Ukraine war, and on March 17th 2022, when the values were already including the conflict's effects. Must also be underlined that these data are in a phase of continuous updating, and even while I am writing they might have changed.
First of all, the global defense spending is forecasted to grow at a faster rate than what was expected before Russia's invasion of Ukraine. At the end of FY2021, worldwide military expenditure was estimated to confirm the 2021 values in 2022 (very little decrease of less than half a percentage point) and subsequently grow with an average annual rate of +1.4% until 2026. This outlook changed greatly after the beginning of Ukraine war, as the world's defense spending should accelerate in 2022, marking +2.2%. This would take the global spending to 2.05 trillion $ (US $ 2020 already adjusted for inflation) a value more than 44.5 billion $ higher than in 2021. This increase will be mostly driven by the upward adjustment of European allocations and should subsequently convert in an average annual rate of +1.6% until 2026 (and +1.6% until 2032). Graph.7 gives an idea of the evolutionary trend in the global defense budget.

Graph.7: Worldwide defense expenditure evolution (B $).



Source: internal elaboration based on SIPRI and Jane's data.

The graph above shows an upward trend in both scenarios, but the difference between the two is probably not what one would expect when such a major factor as a war enters the scene.

However, this limited boosting is the result of a counterbalance of events with contrasting effects: if on the one hand, Europe should undertake a long period of substantial growth, the countries whose war industry was highly dependent on Russian export could experience a steep decline in their defense budgets.

Indeed, Russia's military deployment in its neighboring country from February 24th will almost certainly have an adverse impact on its position in the Asia-Pacific as a leading military supplier. Not only will the invasion prompt a reprioritization of Russia's military-industrial complex, but the multitude of sanctions imposed on Moscow by the United States and its NATO partners will further hamper its ability to meet regional defense opportunities and requirements. Such opportunities include demands for new equipment, while the requirements stem from Asia-Pacific countries' fleets of Russian platforms that need spare parts and support.

The country most at risk from diminished Russian supplies is India. Indeed, the Indian-Russian defense-trade and technology partnership is framed by a long-standing inter-government agreement that was extended out to 2031 just few months ago, further cementing Russia as India's primary military supplier.

Another highly relevant factor in the Asian continent concerns the effects that the Far East area still has to suffer from the Chinese expansion strategy, which has a clear tendency to increase the defense spending of neighboring countries, either to respond and to support Chinese actions.

Overall, this controversial situation in Asia will be completely offset by the European boosting in defense expenditure, even though it will have quite a significative impact on the overall global amount.

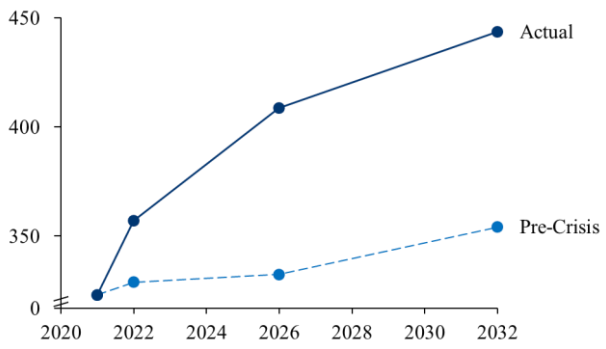
Being the most prominent result of the new scenario prospected for the future, a further assessment of the European new outlook must be provided. This assessment is largely driven by several countries already announcing and even approving significant defense packages that can have a profound effect on European defense trends, starting with some of the biggest players (UK, France, Germany, Italy, and Spain).

At the end of 2021, Jane's database forecast estimated defense spending in Europe increasing by 1.8% in 2022 reaching nearly 329 billion $, followed by a small 1% drop in 2023. Furthermore, from 2025, growth was expected to remain roughly stable between 1% and 1.25%.

Also in this case, the Ukraine war changed the outlook considerably. European spending is indeed now forecasted to grow at a faster pace than expected, reaching 357 billion $ in 2022 (+10.5% year-to-year growth rate) and with a steady increase in spending throughout 2026 (+3,44% YtY). However, as underlined before, data are subject to continuous renewal in such a particular context, indeed an internal analysis based on the measures approved by major European countries and declaration of MSs Prime Ministers shows that the value for CAGR 2022-2026 could raise up again achieving nearly 4%. This even higher rate is mostly driven by the confirmed doubling of German defense budget up to 100 billion €.

Russia's war in Ukraine led to calls for increased European strategic autonomy, both in terms of energy and of defense. Europe has effectively entered a new era when open conflict started taking place at the borders of EU and NATO-Member States. The continent's military expenditure will have to reflect this strategic shift. It is very likely that changes will be seen across the board, with increases in the size of countries' armed forces, additional funds made available for investments, and operational budgets.

Graph.8: European defense expenditure evolution (B $).



Source: internal elaboration based on SIPRI and Jane's data.

Graph.8 shows what is expected to be the shift in the European defense budget in the face of the important political and financial decisions that are being approved on a day-to-day basis, such as the widespread adhesion in many countries (including Italy) to the goal of bringing military spending at 2% of GDP, even 3% in the case of Poland, which has launched a massive rearmament.

In the words of Emanuele Serafini, Lockheed Martin's director for Western Europe and NATO, the packages under approval among Europe are the result, not only of the fear to be effectively attached by a neighbor country, but also because the inventory of resources and capabilities made after the outbreak of the war has shown that most of the European countries would not be able to face this scenario.

Even if the European institutions are starting to debate more consistently the theme of a common defense, pushed by the substantial raises in Member States' military budgets, for someone the war could even be a step backwards towards a consolidating process of European Union defense.

War being a shock that requires short response could lead governments to rely on existing institutions and structures and therefore, by increasing the spending, to amplify the already existing fragmentation and not to proceed with an integration process as it is a medium-long term path with high transaction costs.

Chapter 2: Fincantieri Group at a glance

In this context it falls Fincantieri, a global player operating in the military sector and beyond.
Fincantieri is the world leader in designing and building of cruise ships (40% of global market share), military and offshore vessels, special units, high value-added ferries and mega yachts, it operates also in the oil & gas and wind power sectors, as well as in the production of components for mechanical and electrical systems, in ship furnishing solutions, in infrastructures and in the offer of after-sales services, such as logistical support and assistance (Financial Statement Fincantieri, 2021; Fincantieri's website, 2022).
Even though Fincantieri's portfolio is wide and diversified, the Group operates into three main market segments holding leading positions in all of them (Fincantieri's prospectus for IPO, 2014):

- *Cruise:* the Group is still currently a global leader in designing and producing all types of cruises, from *contemporary*[4] to *extra luxury*, with clients such as Carnival Group, Royal Caribbean Group and MSC. Despite of a decreasing orders trend occurred in the last years, Fincantieri is still showing nearly 59% of its revenues coming from it. Not least, Covid-19 brought the first agreements with shipowners related to the transition to cruises powered by cleaner energy such as hydrogen.

- *Naval:* Fincantieri is also a major player in the construction of high-tech naval vessels. Over the last years, its military business has grown up at a faster pace than the cruise one, allowing the Group to basically have no rivalry over the orders from the Italian Navy, to be one of the main suppliers of the US Navy and US Coast Guard and to have strong positioning also in other foreign markets with low barriers to entry. The military market accounts for about 25.9% of total revenues.

- *Systems, Components and Services:* the Group has filled the gap in terms of innovation and efficiency in electronic systems and components. The electronic division is active in many fields, such as defense systems, maritime automation, digital technology, engineering and lifecycle services and critical infrastructure. In general, Fincantieri generates nearly 1.4 billion € revenues (Financial Statement Fincantieri, 2021) in the electronic compartment, which is approximately 18.7%[5] of the total.

Fincantieri holds a leading position also in the production of logistic support vessels (OSV) for exportation and production of oil and natural gas through its subsidiary Vard Holdings and produces cutting-edge products related to semi-submersible drilling vessels and platforms (Fincantieri's prospectus for IPO, 2014). Not least, it is specialized in after sales support and services, relatively to highly complicated refitting and transformation processes. However, the core business is still related to the three macro segments described above, even though their relative weights might be redesigned in the next years, as the military and electronic systems segments are currently getting more relevance in Fincantieri's business model.

[4] A *contemporary cruise* is a line of cruise aimed at the mass market. The lines of cruise are generally distinguished in at least three macro categories, which are *contemporary* (or *mainstream*), *premium* and *luxury*.
[5] Note that Revenues% of Cruise, Naval and Systems, Components and Services segments do not sum up to 100%, as these percentages do not englobe the negative component of consolidation adjustments.

2.1 Macro-organization and key figures of the Group

Over the years, Fincantieri has become a multinational Group, even though it keeps its neuralgic core in Italy, where it has its headquarters in Trieste and its main production facilities, employing more than 10,000 employees (51% of the total) and activating around 90,000 indirect workers. On a global scale these numbers double, implying more than 20,000 direct workers with 18 production facilities across four continents (Financial Statement Fincantieri, 2021; CEO's hearing at Italian Senate, 2022).

In order to further understand the solidity and consistency of the Group must be highlighted its FY2021 financial performance. The results reported in 2021 are clear manifestation of an efficient corporate strategy implemented to counteract the effects of Covid-19 pandemic, as it allowed to achieve great outcomes in operational, commercial and financial terms.

Revenues were indeed nearly 7 billion €, about which 87% coming from foreign countries and customers. These results were in line with the trend expected by the Group's guidance for 2021, as the increase in revenues (net pass-through revenues) was about 28% with respect to 2020, thus perfectly within the range of growth previously communicated to the market (25%-30%) (Financial Statement Fincantieri, 2021).

Fincantieri was able to recover the losses incurred in 2020 due to the diseconomies generated by Covid-19 pandemic and the accounting and technical choices related to its portfolio orders.

Despite of an upward trend shown by all the segments in which it is active, the Group's results were mostly driven by the growth of Fincantieri S.p.A. which englobes cruise and naval shipbuilding, where it was even able to sign records for economical margins and level of production. The significant weight of Fincantieri S.p.A. result underlines that even if the Group has diversification as one of its main strategies, the profitability is produced by its original core business, which is still accounting for nearly 75% of the total pie.

Table.3: Fincantieri's financial performance (M €).

	FY2021		FY2020	
Economic indicators	**Group**	**Fincantieri S.p.A.**	**Group**	**Fincantieri S.p.A.**
Revenues	6,911	5,328	5,879	4,391
Net pass-through revenues	6,662	4,989	5,191	3,703
EBITDA	495	469	314	281
EBITDA Margin	7.2%	9.0%	5.3%	6.4%
EBITDA Margin on net pass-through revenues	7.4%	9.4%	6.1%	7.6%
Adjusted net income	92	186	(42)	155
Net income	22	125	(245)	1
Financial indicators	**Group**	**Fincantieri S.p.A.**	**Group**	**Fincantieri S.p.A.**
Net invested capital	1,693	2,221	1,839	2,540
Equity	834	1,771	777	1,635
Net debt	(859)	(450)	(1,062)	(905)
Others	**Group**	**Fincantieri S.p.A.**	**Group**	**Fincantieri S.p.A.**
Orders	3,343	940	4,526	2,969
Orders portfolio	36,339	27,427	36,770	30,704
Workload	35,519	25,742	35,681	27,225
Backlog	25,819	19,942	27,781	23,953
Ships in Fincantieri's portfolio	91	49	97	57

Source: internal elaboration based on Fincantieri's Financial Statement, 2021.

Table.3 provides the main financial and economic indicators needed to assess the overall performance of both Fincantieri S.p.A. and the Group.

In terms of economic performance, the table provides clear evidence about the substantial increase in Group's revenues, which was of slightly more than 1 billion € on year-to-year basis, and shows it was mostly given by the raise of nearly 850 million € incurred in the shipbuilding segment.

The same comments could be provided for what concern net pass-through revenues, EBITDA and EBITDA Margin. All these indicators increase, showing a higher growth rate for Fincantieri S.p.A. than for the Group. In particular, these figures benefited from the revision of the design and shipbuilding processes, which allowed to improve production efficiency raising both volumes and marginalities (Financial Statement Fincantieri, 2021), and were not significantly attached by the increase of raw material prices. However, today the prices are increasing way more than a year ago and it seems to be hard that Fincantieri will be able to counteract so effectively their effects also in the current year.

Another key value capturing the attention is net income, which was positive for 22 million € in 2021 and it came after a particularly negative year, strongly penalized by the high level of extraordinary expenses incurred because of Covid-19 outbreak (the net value of extraordinary income and extraordinary expenses was indeed -258 million €). Also here Fincantieri S.p.A. substantially influenced the result as it had a net income of 125 million €, another demonstration of the marginality of the businesses acquired over the years and of their low profitability.

The financial indicator that gets more relevance in such a context is net financial debt which is still very high but significantly improved with respect to 2020.

The strategy of diversification is not paying the hoped results and even worsening the financial positioning of the Group as it involves lot of M&A operations, thus requiring more personnel and more financial resources which both widen the overall financial position.

There has been a substantial increase of the workforce, which on global scale raises of about 3% and in Italy of 8.5% (Financial Statement Fincantieri, 2021). Indeed, the acquisition of INSO (sanitation/hospital infrastructure) and IDS (robotics & unmanned systems) led these increments.

The financial performance is overall an accurate reflection of Fincantieri' strategy: innovation and diversification are its central pillars.

2.2 Naval Vessels Division

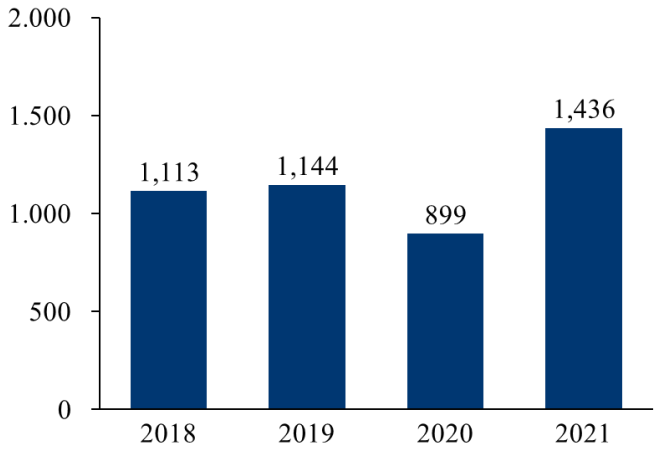
The Naval Vessels Division is the body through which Fincantieri operates in the military sector and through which the Group will try to capitalize the changes incurring in defense industry.

Started with a marginal role and being kept secondly with respect to the cruise business for a while, today the naval segment is slowly acquiring the first place in Fincantieri expansion strategy. This was happening already before the outbreak of Ukraine crisis, but now it is even more taking the lead.

Even if the cruise segment is still characterized by huge volumes and workload, these numbers and this growing trend are inverting as there has been a substantial raise of competition due to new market entrants and

the expansion of Chinese players. Covid-19 has also played a role in getting the market stuck, as lot of orders were deleted or not even made, and many leading cruise operators opted for refitting rather than new purchases.
The Naval Vessels Division is a provider of complete and integrated solutions focusing on the design, construction, sale and after sales services of naval ships both for the Italian and foreign Navies.
It has its headquarters in Genova and its production process is organized with two main shipyards involved into the activities specifically related to the construction of naval vessels, which are Riva Trigoso and Muggiano, and two other Group's shipyards, which are Castellammare di Stabia and Palermo, where logistic vessels can be carried out. Not least, the Division is also organized to support operations abroad.
The Division directly employees 1,824 workers divided among Muggiano, Riva Trigoso and its headquarters in Genova, and activates more than 5,000 persons including subcontractors.
Fincantieri's NVD is experiencing an upward headcount trend, which increased by more than 200 units across the last three years (+15%), presenting a raise in all the production facilities and offices.
NVD is also showing a growing business in terms of financial performance (Graph.9), with revenues recognized to be facing an overall solid upward trend.

Graph.9: NVD financial performance (M €).



Source: internal elaboration.

The Division is also the direct coordinator of three important structures for the Group. First of all, NVD has under its control Fincantieri Marine Group (FMG), a US subsidiary owned by 87.5% (the rest is owned by Lockheed Martin) focused on the shipbuilding of naval vessels for the US Navy and US Coast Guard as well as merchant vessels for Great Lakes customers.
Secondly, NVD directly coordinates Orizzonte Sistemi Navali (OSN), a JV between Fincantieri (51%) and Leonardo (49%) established in 2005 to support the FREMM program between OSN and OCCAR (Organisation Conjointe de Coopération en matière d'Armement). Its mission is to coordinate the relationship with the Italian Navy and manage the activities of the major suppliers of the program (mainly Fincantieri and Leonardo).

The Division is also in charge of the coordination of Naviris, a 50-50 JV between Fincantieri and Naval Group established at the beginning of 2020. Its target is to mutualize activities (such as procurement and R&D, assessing also OCCAR financing) and jointly address export and binational bids and develop common programs on the short term, while to become the leading naval Prime Contractor in Europe and the world's largest exporter in the naval market, while remaining the reference players for their respective domestic market on the medium-long range.

2.2.1 NVD product portfolio

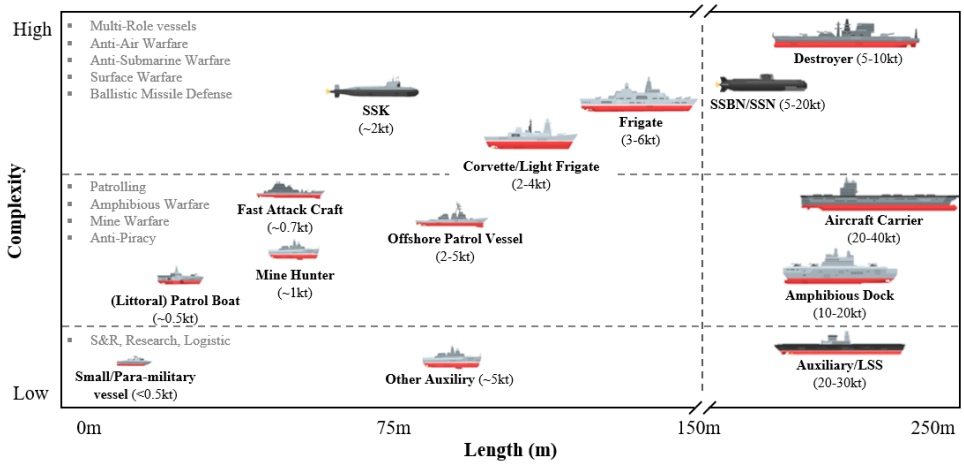
The Naval Vessels Division activities can be divided into two main categories: shipbuilding and customer logistic support (CLS). The first one being the actual process of production of naval vessels and the second one being the set of services related to after-sales and maintenance provisions.

To what concern shipbuilding, Fincantieri has built a solid reputation of excellence upon more than 2,000 naval vessels delivered over the course of its history, offering a wide and diversified product portfolio.

In order to categorize its main products, below is provided the output of a qualitative regression subject to internal analysis (Graph.10) that shows the level of ship complexity for each kind of naval vessel class.

Note also that not all the categories shown are within Fincantieri's naval vessels portfolio as the Group is focused only on large military ships with quite a high value added (Mine Hunter, (Littoral) Patrol Boat and Small/Para-military vessels are indeed excluded), however most of them there are or at least are produced in partnership with some other player through programs of collaboration or consortiums.

Graph.10: Qualitative regression Length – Complexity.



Source: internal elaboration.

The regression output shows that except for aircraft carriers, amphibious docks, and very large auxiliaries, such as LSS, there is a positive correlation between the length of the vessels and their level of complexity (see **Appendix.5: Deep-dive into NVD product portfolio** for further details).

Overall Fincantieri's product portfolio has seen an increasing competition from new market entrants in basically all the categories.

Being a global provider of first-class naval vessels requires to offer also high level of after sales services. These activities are carried out by the NVD with the help of Issel Nord, a subsidiary of Fincantieri specialized on Integrated Logistic Support, assisted by CETENA research center (Fincantieri's website, 2022; Issel Nord's website 2022). In particular, CLS is related to all the services concerning the life cycle of naval vessels (Integrated Logistic Support), where NVD tries to minimize costs and logistic, to the after-sales maintenance programs offered to ensure first in class performances and low breakdown rates (In-Service Support), and to refitting and repair (Fincantieri, Company Profile, 2019; Fincantieri's website, 2022) (see **Appendix.5: Deep-dive into NVD product portfolio** for further details).

2.2.2 NVD global strategy

There are four macro pillars on which NVD is going to build up its strategy:

- *Energy efficiency:* this theme is common to both cruise and naval segment, as both carbon neutrality and energy efficiency are a key target for the Group. This subject is nowadays strongly debated in the defense industry, which requires to fulfill strict environmental standards despite of a quite challenging context. NVD has been already working on reducing its environmental impacts, trying in particular to minimize emissions, to save energy and to develop an efficient waste management process for both solid and liquid wastes. Not least, NVD is currently developing a project to reach complete carbon neutrality in naval ships and another one related to the construction of Zeus, a hydrogen-based vessel launched this year.

- *Digitalization:* key factor as it can allow systems on board to become less heavy and more integrated. Digitalization does not just relate to on board systems but also to shipyards processes. In this sense, Fincantieri is indeed undergoing a process started around 2018 about the realization of a full connected shipyard, with connected sensors on all tools, equipment and materials, with the capacity to produce real-time updated 3D models of yard with infrastructure data (Digital Twin project) able to even make advanced simulation through real time data and historical ones (Advanced Simulation Techniques).

- *Unmanned vessels and systems:* an internal assessment made by the commercial team has shown that is one of the most sensitive themes in customers priorities. Drones and unmanned systems in general are used for various purposes, as they can gather data, help in security and surveillance with high precision strike (Marcus, 2022), search and rescue people lost or hurt in the sea (Karpowicz, 2018) and even be used for warfare scopes. In particular, Fincantieri has understood that the market is asking for drone management systems, for remotely operated and unmanned vessels (Unmanned Patrol Vessel) as well as for carriers of unmanned vehicles (Sciamano – drone carrier).

- *Whole Warship:* Fincantieri is now trying to switch from being a simple ships constructor to become an actual provider of fully integrated vessels and to do so it needs to strengthen the governance of the vessel as a whole (platform and Combat Management System) and to develop technical knowledge

around the current missing part of know-how which is related to the combat system payload. Pursuing the target of Whole Warship, Fincantieri commits itself to better planning and control the economic and financial parameters, working from the order's acquisition to the delivery in order to improve its competitiveness.

Among these four pillars, the most relevant is Whole Warship, especially in light of today global context. Being a naval shipbuilder focused on high value-added vessels, Fincantieri has to analyses the payload's flexibility and adaptability to various purposes and kind of missions. The main topic in the defense industry, and in particular in the maritime military sector, is to have a payload able to differentiate yourself.
This is why most often is not an effective strategy to pursue an organic growth, but rather to undergo a path made by M&A transactions and external partnership: it is better to integrate top tier products in the market rather than try to internally develop combat systems that are already within the industry, tested and verified in their efficiency.
There are at least two reasons why Fincantieri's target is to completely integrate the production process of its naval vessels. First of all, the more integrated the process the better, simply because it would allow Fincantieri, and more specifically its engineering team, to design and develop solutions able to maximize spaces and efficiency and to minimize costs *ex ante*, as the systems to be implemented on board would already be present before the production phase beginning. Secondly, an organic growth path can improve the logic of co-design with potential strategic third parties as with an acquisition they could be enabled to access larger financial resources and higher level of engineering capabilities. Indeed, most of the times the suppliers of payload systems are boutique companies proving first-hand manufactures, but for which would be hard to implement large investments programs in R&D due to their low dimensions.

2.3 My role within Fincantieri and its military division

As anticipated in the *Abstract*, I am currently involved in an internship in Fincantieri, and more precisely I am carrying on activities directly related to its Naval Vessels Division.
In March 2022 I joined an *ad hoc* team, created to carry out projects of strategic relevance at international level, mostly related to business development and M&A transactions involving the naval segment.
I have the opportunity to work in the so-called Corporate department, which is Fincantieri's headquarters where is carried out the administration of the Group in strategical and financial terms.
My team, which is internally called "International Strategic Initiatives" (CO-ISI), directly reports to the CEO and is completely autonomous in its operativity. In my day-to-day activities I have the possibility to access the entire Group's functions and divisions to look for information, values and advice needed for due diligence processes or for valuation purposes.
Working in a team focused on cross-border opportunities and given the strong attitude towards inorganic growth historically undertaken by Fincantieri, my role within the company is that of M&A Analyst, implying that my daily routine recalls that of a figure who mixes the skills of a business analyst and a junior investment banker.

Working in M&A on the corporate side means to have a more complete picture of how an M&A process take place and implies to use a different perspective while dealing with the other parties involved in the deal as a more strategic approach is required.

The first activity that I dealt with when I started the internship was related to the analysis of the defense market, going into further detail for countries presenting a higher number of commercial and partnership opportunities. Afterwards, I was required to deeper scout the market in order to provide pitches of potential targets and to report a first-hand assessment of the potential synergies in case of acquisition, joint venture agreement or for projects of industrial partnership.

Few weeks after the beginning of my internship, a particularly relevant deal started to accelerate, thus allowing me to entirely live both the processes of due diligence and valuation, carried out through the help of management consultancies and investment banks.

In terms of due diligence, I have been focused on the analysis of the historical financial performance showed by the seller and on the figures reported in its business plan.

For what concern the valuation skills acquired, I had the opportunity to work on the three main valuation approaches commonly used in M&A deals, which are DCF, trading comps and transaction comps.

The above-mentioned tasks are always followed by a presentation to the top management of the company; thus I had the opportunity to improve also my communication and presentation skills.

At Fincantieri I had the actual possibility to practice the theory studied over the academic years by applying various concepts and models to real cases. The working world surely presents more complicated challenges than the ones faced at university, but despite of that I found myself ready to deal with the issues needed to be fixed by an M&A Analyst.

I was lucky to enter an amazing team of people, who always try to give me the possibility to learn something new and to further enlarge my knowledge not just to what concern M&A and financial analysis, but also to tax, legal and industrial matters for instance. Indeed, I think that one of the main strengths of the team is based upon the different backgrounds that each teammates have, as it is composed by a navigated general manager, two engineers having experiences in consultancy and IT, a lawyer and a chartered accountant tax specialist, besides me.

This experience has allowed me to develop both soft and technical skills as I had to deal with both situational and analytical challenges. One of the main lessons learned during the internship is that in the working world are often more important the human relations and expertise than technicalities and financial skills.

The choice to join Fincantieri as M&A Analyst has been a confirmation to my strong interest in corporate finance world and in particular in M&A transactions. What attract me the most of M&A is that it is one of the fastest-paced fields in the financial industry, presenting one of the steepest learning curves and requiring strong attitudinal rigor working under pressure for very long hours. Furthermore, M&A is very dynamic and being a front-office activity, it allows to have a daily routine full of relational component, which is a characteristic that I feel I need in my job.

Chapter 3: M&A Case Study

The core theme of this report is an M&A operation that Fincantieri is carrying out under the perspective of vertical integration of the production process of military vessels.

In the course of the following pages, it will be described the analysis of the deal carried out until the moment I am writing.

The actual data, names and actors within the process, such as investment banks and management consulting companies for both the parties involved in the transaction, cannot be disclosed as the deal is under a Non-Disclosure Agreement and eventually will be part of a Clean Team agreement.

The company with which Fincantieri is dealing with will be referred to as the Target (or Vendor); the values concerning the Business Plan elaborated by both the Vendor and Fincantieri will not represent the actual values but will be adjusted to keep consistency in terms of analysis. The aim is to provide details about my activity within Fincantieri and to deepen one of the topics that fascinate me the most in the field of corporate finance, which is valuation.

In particular, this Chapter will start with an assessment of the financial performance claimed by the Target in the horizon 2022-2026 (Vendor Scenario), followed by an evaluation of its order intake and revenues, and as a consequence, an elaboration of two possible alternative scenarios: a Base Scenario and a Bearish Scenario.

With these three alternatives on hands, it will be proposed a valuation exercise in order to determine what a price range for the deal should be.

In the end, a further assessment of other financial technicalities, such as details about the bridge to equity, will be provided.

3.1 Vendor Business Plan 2022-2026 assessment

This paragraph will present the consolidated financials obtained over the last three years (2019-2021) and the business plan 2022-2026 claimed by the Target as provided in a first place by its top management.

As already mentioned, the Target operates at international level through five lines of business (LoBs), which will be referred to respectively as LoB1, LoB2, LoB3, LoB4 and Lob5.

Over the years, the Target has set up consortium companies and joint venture agreements with other players within the reference sector. The transaction perimeter includes the Target along with JVs and any other form of minor investment controlled by it, thus both historical financial statements and business plan provided below are the consolidation of anything beyond the Target itself.

In order to understand the basis upon which is built the BP 2022-2026, below there is a table (Table.4) providing the Target's consolidated income statements for FY2019, FY2020 and FY2021.

As you can see, revenues increases over the period under analysis at a CAGR of 3.4% with a Direct Margin remaining positive throughout all the period, even though showing a slightly decreasing trend, mainly driven by LoB3 and LoB4 (which were presenting a Direct Margin respectively of only 4.7% and 6.7% in FY2021 - Table.4 below), which is however partially offset by the other LoBs, and the better usage of the structure reflected in an improvement of over/under recovery.

Table.4: Target's business overview ($).

Values in $	Consolidated income statement overview			
	2019	2020	2021	CAGR 19-21
Revenues	**231.0**	**244.9**	**247.1**	**3.4%**
Direct costs	(180.2)	(192.6)	(197.6)	
Direct Margin	**50.8**	**52.3**	**49.5**	**-1.3%**
DM Margin %	*22.0%*	*21.4%*	*20.0%*	
Over (+) / under (-) recovery	(2.7)	(1.9)	0.2	
Gross Margin	**48.1**	**50.4**	**49.7**	**1.6%**
Gross Margin %	*20.8%*	*20.6%*	*20.1%*	
Other Costs	(20.0)	(23.4)	(18.4)	
EBIT	**28.1**	**27.0**	**31.3**	**5.5%**
EBIT Margin %	*12.2%*	*11.0%*	*12.7%*	
Added-back D&A	5.8	5.8	9.8	
EBITDA	**33.9**	**32.8**	**41.1**	**10.1%**
EBITDA Margin %	*14.7%*	*13.4%*	*16.6%*	

Source: internal elaboration.

Revenues are recognized on the cost-to-cost method (or % of completion), based on the progress of production. The state of completion is determined on the basis of the ratio between costs incurred up to the measurement date and the total expected costs for the project.

Revenues increases during the period under analysis mainly driven by LoB1 and LoB2 which increases respectively at a CAGR of 11.0% and 2.9% (Table.5). Such trend has been partially offset by the swinging trend registered by: LoB4, which decreases in FY2020 with respect to the previous year by 6.9 $, mainly due to the advancement of a project going to substitute a product in the portfolio of the Target, and LoB3, which after increasing in FY2020 by 18.5% (+6.2 $ on year-to-year basis) registers a downturn in FY2021 (-6.8 $ or -17.2% on year-to-year basis).

Total direct costs follow revenues trend increasing throughout the period and include transformation costs (calculation based on a standard hourly rate which includes personnel costs as well as other indirect production costs, such as travel expenses, marketing, ICT, amortization, …), costs for material handling, actual costs of other external services and the amortization of capitalized development costs referred to specific projects.

As already mentioned, both DM and DM% shows a decreasing trend mainly impacted by the negative performances of LoB4 in FY2020 and LoB3 in FY2021 (see Table.5 below).

The over/under recovery[6] improves over the period analyzed due to the increase in volumes of business which led a better utilization of the structure.

The Other Costs item, which includes R&D costs sustained for projects not yet contracted with customers and structure costs related to various administrative functions (SG&A), remains fairly stable over the period.

Note also that marginalities both in terms of EBIT and EBITDA show a decreasing in FY2020 mainly due to Covid-19 pandemic effects, but raise again in FY2021, reaching respectively a 5.5% and 10.1% of CAGR over the reference period.

Below are provided revenues and DMs per line of business (Table.5). Over the historical period FY2019-FY2021 revenues increase is mainly driven by LoB1 which, other than being the main contributor with 38.1%

[6] Over/under recovery is an extremely important concept in industrial sector. It is calculated on a yearly basis, and it represents the difference between actual costs and standard costs (the budgeted ones) generally for cost categories such as transformation, temporary workers, R&D, marketing costs and material handling.

of the total share, it was also the one presenting the highest CAGR (+11.0%). Overall profitability is instead driven by LoB5 performance which is way above the average of the other LoBs, showing a DM% of 32.5% in FY2021.

Table.5: Target's business overview per LoB ($).

Values in $	Revenues & Margin per LoB					
	2019	2020	2021	CUM 19-21	%	CAGR 19-21
LoB1	81.4	93.4	100.4	275.3	38.1%	11.0%
LoB2	44.3	46.0	46.9	137.2	19.0%	2.9%
LoB3	33.5	39.7	32.9	106.2	14.7%	-1.0%
LoB4	16.1	9.2	12.9	38.2	5.3%	-10.3%
LoB5	56.3	56.2	53.6	166.1	23.0%	-2.4%
Caveat	(0.6)	0.3	0.3	0.1		
Revenues	**231.0**	**244.9**	**247.1**	**722.9**	**100.0%**	**3.4%**
LoB1	15.5	19.2	20.2	54.8	35.9%	14.3%
% margin	*19.0%*	*20.5%*	*20.1%*			
LoB2	9.1	8.7	10.3	28.1	18.4%	6.1%
% margin	*20.6%*	*18.9%*	*21.9%*			
LoB3	4.3	6.0	1.6	11.9	7.8%	-39.7%
% margin	*12.8%*	*15.2%*	*4.7%*			
LoB4	3.0	(0.1)	0.9	3.8	2.5%	-46.6%
% margin	*18.9%*	*-1.3%*	*6.7%*			
LoB5	18.9	18.9	17.4	55.2	36.2%	-3.8%
% margin	*33.5%*	*33.7%*	*32.5%*			
Caveat	0.0	(0.4)	(0.9)	(1.3)		
% margin	*0.0%*	*-141.7%*	*-250.0%*			
Direct Margin	**50.8**	**52.3**	**49.5**	**152.5**	**100.0%**	**-1.3%**

Source: internal elaboration.

LoB1 growth in revenues is mainly explained by the incurred consolidation in its reference market. LoB1 business represent a solid and sustainable segment, which also shows a projected growing over the plan in terms of DM and DM%. LoB2 shows a lower increase respect to LoB1, however it is still the second one in terms of growth as the other three LoBs show negative CAGRs both in terms of revenues and DMs.

The Caveat item represents the adjustments made to sterilize various contingencies as they are not inherent to the ordinary operations of the business.

The following table (Table.6) instead presents the Vendor (VDD) Business Plan for the period 2022-2026.

The first lines present the trends of Backlog and Order Intake (OI). OI is expected to increase over the BP period at a CAGR of 8.1%. The Target's initiatives foresee to generate higher order intake from deeper penetration in already covered markets and new ones. In particular, the OI growth will be guided by LoB1 with two relevant tenders at international level in FY2022, and by LoB3 given another relevant project even if in the domestic market in this case.

Revenues and DMs are projected to steadily grow during the next 5 years, reaching respectively 451.8 $ and 99.5 $ in 2026. The direct costs incidence on revenues is expected to remain fairly stable over the covered period 2022-2026, being nearly 78-79% of revenues.

The over/under recovery is projected to have a positive impact passing from -3.3 $ in FY2021 to +3.2 $ in FY2026 benefitting again from an increase in business' volumes and a better usage of fixed cost structures.

The upward trend of the Other Costs item, below the Gross Margin, is driven by the growing in structure costs related to the commercial expansion in new and covered markets and to sustain the foreseen increase in

volumes. However, must also be underlined that also the R&D costs are projected increasing over the period: they include the costs needed to conduct feasibility studies, products development and advance research also in order to improve the time to market of new projects.

Not least, both EBIT and EBITDA are forecasted to steadily grow over the BP period.

Table.6: Target's Business Plan 2022-2026 (Vendor Scenario) ($).

	Profit & Losses							
Values in $	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**CUM 22-26**	**CAGR 22-26**
Backlog BoP		**1172.3**	**1262.4**	**1351.0**	**1445.5**	**1483.2**	**6714.3**	**6.1%**
Order Intake (+)		**358.2**	**420.9**	**469.3**	**475.9**	**490.0**	**2214.3**	**8.1%**
Revenues (-)		**(268.0)**	**(332.4)**	**(374.9)**	**(438.1)**	**(451.8)**	**(1865.2)**	**13.9%**
from Backlog		(212.8)	(171.2)	(81.2)	(67.3)	(28.8)	(561.4)	-39.3%
from Pipeline		(55.2)	(161.2)	(293.7)	(370.8)	(423.0)	(1303.9)	66.4%
Backlog EoP	**1172.3**	**1262.4**	**1351.0**	**1445.5**	**1483.2**	**1521.3**	**7063.4**	**4.8%**
Revenues	**247.1**	**268.0**	**332.4**	**374.9**	**438.1**	**451.8**	**1865.2**	**13.9%**
Direct costs	(197.6)	(211.6)	(262.7)	(295.0)	(341.9)	(352.3)	(1463.4)	
Direct Margin	**49.5**	**56.4**	**69.7**	**79.9**	**96.3**	**99.5**	**401.8**	**15.3%**
DM Margin %	*20.0%*	*21.0%*	*21.0%*	*21.3%*	*22.0%*	*22.0%*		
Over (+) / under (-) recovery	0.2	(3.3)	(2.3)	0.5	2.6	3.2	0.7	
Gross Margin	**49.7**	**53.1**	**67.5**	**80.4**	**98.9**	**102.7**	**402.5**	**17.9%**
Gross Margin %	*20.1%*	*19.8%*	*20.3%*	*21.4%*	*22.6%*	*22.7%*		
Other Costs	(18.4)	(23.4)	(24.0)	(26.4)	(27.5)	(28.2)	(129.6)	
EBIT	**31.3**	**29.7**	**43.5**	**53.9**	**71.3**	**74.5**	**273.0**	**25.8%**
EBIT Margin %	*12.7%*	*11.1%*	*13.1%*	*14.4%*	*16.3%*	*16.5%*		
Added-back D&A	9.8	12.1	13.3	12.7	15.6	15.6	69.3	
EBITDA	**41.1**	**41.9**	**56.8**	**66.6**	**86.9**	**90.1**	**342.3**	**21.1%**
EBITDA Margin %	*16.6%*	*15.6%*	*17.1%*	*17.8%*	*19.8%*	*19.9%*		

Source: internal elaboration.

Approximately 30% of the 5-year cumulated expected revenues have been already secured. Indeed, cumulated revenues are related for nearly 30% to backlog projects (561.4 $) while 70% are coming from pipeline ones (1303.9 $).

At the end of the BP period, revenues will be almost entirely generated by the pipeline (about 93.7%), while backlog revenues incidence will be circa 6.3%.

The End of Period Backlog is expected to grow substantially as it presents a CAGR of 4.8%, driven by a strong expansion in order intake for LoB1, LoB3 and LoB5.

In Table.7 it is also provided a focus on revenues and DMs per LoB projected for the entire BP period. Revenues growth is mainly driven by LoB1 and LoB5 in absolute terms, but LoB3 and LoB4 are the ones predicted to have a way more than average CAGR over the period analyzed. LoB2 instead shows a slight increase in growth rate as compared to the historical values shown in Table.5, even though it is projected as the least growing business.

Note also that the caveat figures are way more significant than the ones experienced over the historical period 2019-2021. This is due to the Target management's aim to use them as adjustment to give a more conservative view of the BP: in particular, the value for FY2022 has been estimated to give evidence of a possible slowdown in the execution of a project related to LoB2, while the values reported for the period 2023-2026 take into account a possible lower level of Order Intake.

Table.7: Target's Business Plan 2022-2026 per LoB (Revenues and Margin) (Vendor Scenario) ($).

Values in $	Revenues & Margin per LoB BP 22-26								
	2021	2022	2023	2024	2025	2026	CUM 22-26	%	CAGR 22-26
LoB1	100.4	103.6	130.8	145.8	143.4	158.0	681.6	36.5%	11.1%
LoB2	46.9	77.8	86.1	130.5	127.2	93.3	514.8	27.6%	4.6%
LoB3	32.9	24.7	52.1	76.8	35.2	63.8	252.5	13.5%	26.8%
LoB4	12.9	24.4	44.8	56.1	80.9	96.8	302.9	16.2%	41.2%
LoB5	53.6	53.3	60.0	82.8	111.0	107.5	414.7	22.2%	19.2%
Caveat	0.3	(15.7)	(41.5)	(117.1)	(59.6)	(67.5)	(301.4)		
Revenues	**247.1**	**268.0**	**332.4**	**374.9**	**438.1**	**451.8**	**1865.2**	**100.0%**	**13.9%**
LoB1	20.2	21.9	27.9	32.0	32.7	35.3	149.8	37.3%	12.6%
% margin	*20.1%*	*21.2%*	*21.3%*	*22.0%*	*22.8%*	*22.3%*			
LoB2	10.3	15.8	14.8	26.6	28.4	20.8	106.5	26.5%	7.1%
% margin	*21.9%*	*20.3%*	*17.2%*	*20.4%*	*22.3%*	*22.4%*			
LoB3	1.6	3.2	6.2	7.9	3.8	8.1	29.2	7.3%	26.3%
% margin	*4.7%*	*12.9%*	*12.0%*	*10.3%*	*10.7%*	*12.7%*			
LoB4	0.9	4.2	7.6	10.1	14.4	17.3	53.5	13.3%	42.9%
% margin	*6.7%*	*17.1%*	*16.9%*	*18.0%*	*17.8%*	*17.9%*			
LoB5	17.4	17.7	19.4	26.8	35.3	32.8	131.9	32.8%	16.7%
% margin	*32.5%*	*33.2%*	*32.3%*	*32.3%*	*31.8%*	*30.5%*			
Caveat	(0.9)	(6.4)	(6.2)	(23.5)	(18.2)	(14.8)	(69.1)		
% margin	*-250.0%*	*40.4%*	*14.9%*	*20.1%*	*30.6%*	*21.9%*			
Direct Margin	**49.5**	**56.4**	**69.7**	**79.9**	**96.3**	**99.5**	**401.8**	**100.0%**	**15.3%**

Source: internal elaboration.

Overall the marginality is forecasted to increase benefitting from both an expansion of the business volumes and various costs saving initiatives. DM's growing trend is mainly driven by LoB3 and LoB4, which show respectively a CAGR of 26.3% and 42.9%.

LoB1's DM increases during the BP period mainly thanks to pipeline projects marginality even though partially offset by the decrease of backlog margins starting from FY2023.

DM for LoB2 is expected to double in FY2026 with also a better marginality. These projected results are related to the forecasted acquisition of important tenders starting from FY2024. The negative performance in FY2023 is driven by the termination of backlog projects which shows a marginality above the average.

Lob3 improvement is instead expected to be generated by pipeline projects since backlog is expected to terminate in FY2024.

LoB4 is the most prolific line in terms of DM's growth in absolute value due to a higher level of volumes sold, however this will not lead to a higher relative marginality since DM% remains fairly flat over the BP period at about 17-18%.

Finally, although LoB5 increases in absolute terms, it is projected to downturn in terms of percentage of revenues because of the termination of important backlog projects in FY2023. Pipeline marginality is also expected to decrease due to expected acquisition of projects in a particular country which generally shows a lower profitability.

3.2 Due Diligence: elaboration of two possible scenarios

The Business Plan provided by the Vendor shows a growth rate strongly reliant on Order Intake as it generates 69.9% of total BP revenues from 2022 to 2026, with LoB4 (92%) and LoB2 (77%) being the LoBs mostly relying on new orders to meet BP targets.

Every M&A deal requires a due diligence process in order to confirm the reliability of the financial records before negotiating and finalizing a transaction with another party. This process is needed to analyze and offset potential risks arising from the deal completion. Clearly, also in this case a due diligence process involving Fincantieri and a management consulting company has been put in place in order to challenge Vendor BP.

In particular, the BP presented in the previous paragraph (Table.6) has been challenged and reviewed using four main lenses: revenues, profitability, R&D and structure costs.

For what concern revenues and profitability, a project-by-project analysis in pipeline has been performed in order to assess the confidence of each program to be launched by the various clients, the actual probability of the Target to be awarded with the program and the level of marginality historically feasible in the specific project type.

The R&D expenses instead were evaluated LoB by LoB to ensure that the spending level was in line with market benchmarks and structure costs have been assessed against competitors to guarantee a realistic optimization curve in line with market best practices.

Must be underlined that while for revenues and profitability level of detail in the analysis is pretty high, it is more limited for the evaluation of R&D and structure costs due to a lack of data.

Other than various quantitative discounts applied to mitigate such an aggressive plan proposed by the Target's management, some other risks are needed to be taken into account as they could further negatively affect the financial performance of the Vendor. First of all, a major increase in production capacity is needed to match the volumes growth as projected to be in the BP, thus the 31.8 $ CapEx for production capacity increase (out of a total CapEx of 52.8 $) included in the BP have to be carefully monitored for implementation. Secondly, to fulfill volumes it is required to substantially increase the labor workforce, implying risks to sustain the intake curve. In this case, the BP could suffer from delays in the ability of the Target to perform the intake needed. Thirdly, although the reliability of programs has been evaluated and included in the new BP, delays or cancelation of major programs are not and could have a disruptive impact on the Target's BP.

The results of this kind of analysis have been two alternative scenarios to the Vendor one: a Base case which could be considered as the most likely to happen in the next 5 years, and a Bearish case which is a more conservative scenario where Fincantieri's commercial team has been very critical and selective in programs awarding.

The following pages describes the analysis carried out to challenge the Vendor plan starting with revenues related to OI and moving forward to DM%, R&D and structure costs.

Before to introduce the step-by-step analytical process, it is good to remind the main characteristics of the four lenses in the Vendor Business Plan:

- *Revenues:* characterized by strong increase in all segments, with spikes in LoB4 (+41.2% CAGR) and LoB3 (+26.8% CAGR).
- *Profitability:* increase in project marginalities with overall DM% raising from 21% to 22% in 2026.

- *R&D:* overall growth in R&D costs, however characterized by a significant decrease in all segments in 2025 and 2026.
- *Structure costs (SG&A):* strong optimization on structure cost with incidence in revenues decreasing from circa 6% to 4.3% in 2026.

Revenues

Revenues analysis is the only one presenting a substantially different approach while assessing the Vendor BP to draw up respectively the Base Scenario and the Bearish Scenario.

The working streams were basically the same: the credibility of the top line was indeed assessed looking at the reliability of the underlying programs and their possible time shifts, the Target's right to win, the number of unidentified programs and lastly eventual program delays. However, the Base Scenario is the result of a very objective analysis based only on Jane's database and the management consulting expertise, while the Bearish Scenario englobes also the projections confidence of Fincantieri's commercial team which has the know-how to understand which programs could be feasible and accessible rather than not.

First of all, must be underlined that cumulated BP revenues have been divided among the ones coming from backlog and the ones related to OI.

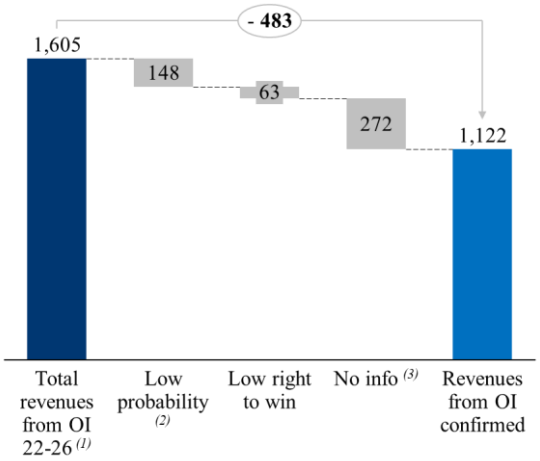
The potential challenges identified for revenues from backlog were timing of realization and contingencies incurring during the production process. However, no risk was detected and all the revenues were confirmed.

The main object of analysis was indeed the revenues from OI figure. The cumulated Vendor BP revenues were assessed in terms of confidence through the probability of the programs to be financed and their timing, while the analysis in terms of rightness was based on whether the projects were for captive or foreign market, the competitive positioning and the historical sales on specific product and geography.

Lastly, a deeper investigation was provided for orders with basically no information and as a consequence they were prudentially discounted or even discarded.

In the next page are provided the revenues from OI breakdown for both the Base Scenario (Graph.11) and Bearish Scenario (Graph.12).

Graph.11: BP Review Base Scenario – Revenues breakdown ($).



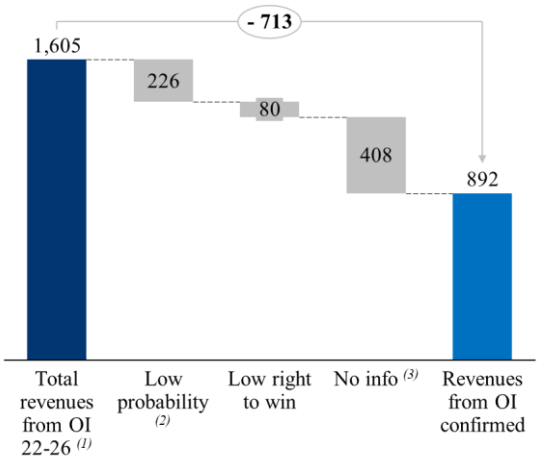
(1) Total revenues excluding Caveat.
(2) Programs probability estimated using Jane's database.
(3) No information on orders.

Source: internal elaboration.

First of all, note that in both the graphs the cumulated revenues from OI were calculated by adding back the caveat figure as it was originally used by the Target's management to discount the revenues supposed for the period 2022-2026. In this way, the values reported in the first column represents the actual total revenues from OI projected by the Vendor.

For what concern the Base Scenario above, the revenues were weighted with program likelihood to mitigate low programs confidence and they were moderately reduced when there was quite a low right to win or no sufficient information to make a consistent analysis.

Graph.12: BP Review Bearish Scenario – Revenues breakdown ($).



(1) Total revenues excluding Caveat.
(2) Programs probability estimated using Jane's database and Fincantieri's market know-how.
(3) No information on orders.

Source: internal elaboration.

Graph.12 provides the cumulated BP revenues breakdown in the Bearish Scenario. Being a more conservative case and being subject to Fincantieri's market and programs know-how it presents a much higher value of revenues discarded. In particular, all the unlikely programs were excluded rather than adopt precautionary percentages and a strong reduction of program values was recorded for cases with low right to win and no information orders.

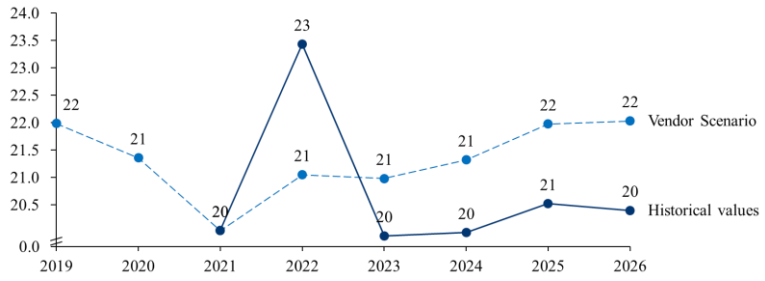
Profitability

The profitability reported in Vendor BP seemed to be a bit too aggressive with respect to what was the marginality at historical level. Consequently, the average program margin has been aligned to historical profitability of projects in each LoB and it was increased the incidence of LoB3 and LoB4 as they are the ones showing lower % profits.

The average 2022-2026 DM% for both Base and Bearish cases was reduced by 1 percentage point with respect to the Vendor BP, passing from 22% to 21% on average. The 22% average supposed by the Target's management was even including the caveat, thus on the result with the added-back caveat this reduction would have been larger.

Below (Graph.13) it is provided the total DM% comparison between the Vendor Scenario and the historical values in the period range 2019-2026. Keep in mind that even if for Base and Bearish cases, the trend is basically the same, there are some slight differences in DM%, but they are quite irrelevant for valuation purposes.

Graph.13: BP Review – Total DM%: Vendor vs. historical values 2019-2026 (in % of revenues).



Source: internal elaboration.

R&D

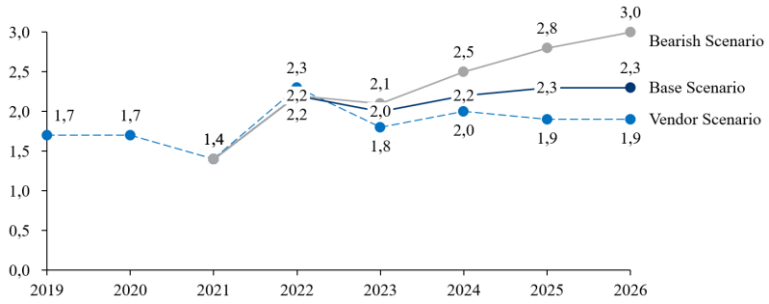
The other two streams on which a deeper assessment was carried out were R&D and structure costs.

In particular, the R&D total expenditure was increased to sustain the out-of-BP business, aligning 2025 and 2026 to previous BP years.

The R&D costs were reviewed moving up to even 3% in the most conservative scenario. The analysis process consisted into stress-test the values of the BP against market benchmark and in particular to challenge the drop in the final years of the plan.

Graph.14 provides evidence of the outcomes of the process and shows the R&D costs % with respect to total revenues for both Base and Bearish scenarios.

Graph.14: BP Review – R&D incidence comparison 2019-2026 (in % of revenues).

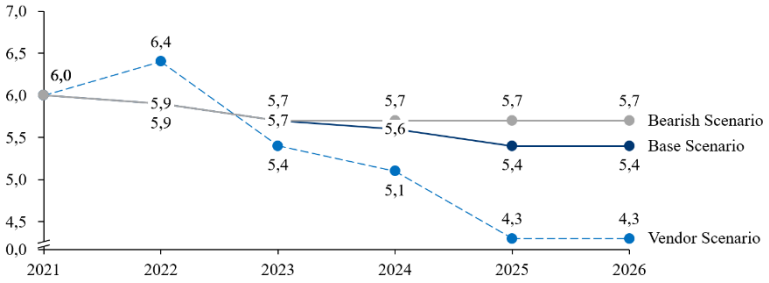


Source: internal elaboration.

Structure costs

The structure costs have been evaluated against market best practices to define the expected improvement of structure costs weight on revenues using competitors' values as a benchmark. The scope was to align them to the sector benchmark reducing the cost optimized dynamics projected by Vendor. As a result, the average SG&A% coming from the Vendor BP 2022-2026 was raised by 0.50% and 0.65%, respectively in Base and Bearish Scenario.

Graph.15: BP Review – SG&A evolution 2021-2026 (in % of revenues).



Source: internal elaboration.

This analysis reports the main logics behind the two scenarios elaborated by challenging the Vendor case. Overall, the BP has been substantially challenged over the four streams highlighted. The revenues net of the caveat from order intake have been reviewed for 483-713 $ (Graph.11 and Graph.12 to recall) in the plan horizon and the programs profitability has been reduced by 1% on average after a project-by-project analysis made for each single LoB. R&D costs and SG&A have both been increased respectively due to an alignment to historical values and to be in line with the best practices reported by competitors.

The following tables (Table.8 and Table.9) report the final Base Scenario and Bearish Scenario elaborated after deep analysis, part of which is described above.

Table.8: Vendor vs. Base Business Plan 2022-2026 ($).

Values in $	VDD Scenario – Profit & Losses								Base Scenario – Profit & Losses					
	2021	2022	2023	2024	2025	2026	CUM 22-26	CAGR 22-26	2021	2022	2023	2024	2025	2026
Revenues	**247.1**	**268.0**	**332.4**	**374.9**	**438.1**	**451.8**	**1865.2**	**13.9%**	**247.1**	**267.5**	**321.2**	**346.3**	**375.3**	**395.3**
Direct costs	(197.6)	(211.6)	(262.7)	(295.0)	(341.9)	(352.3)	(1463.4)		(197.6)	(204.8)	(257.1)	(277.1)	(298.3)	(314.6)
Direct Margin	**49.5**	**56.4**	**69.7**	**79.9**	**96.3**	**99.5**	**401.8**	**15.3%**	**49.5**	**62.7**	**64.0**	**69.2**	**77.0**	**80.6**
DM Margin %	*20.0%*	*21.0%*	*21.0%*	*21.3%*	*22.0%*	*22.0%*			*20.0%*	*23.4%*	*19.9%*	*20.0%*	*20.5%*	*20.4%*
Over (+) / under (-) recovery	0.2	(3.3)	(2.3)	0.5	2.6	3.2	0.7		0.2	(1.7)	(0.5)	0.1	0.7	1.2
Gross Margin	**49.7**	**53.1**	**67.5**	**80.4**	**98.9**	**102.7**	**402.5**	**17.9%**	**49.7**	**60.9**	**63.5**	**69.3**	**77.7**	**81.8**
Gross Margin %	*20.1%*	*19.8%*	*20.3%*	*21.4%*	*22.6%*	*22.7%*			*20.1%*	*22.8%*	*19.8%*	*20.0%*	*20.7%*	*20.7%*
Other Costs	(18.4)	(23.4)	(24.0)	(26.4)	(27.5)	(28.2)	(129.6)		(18.4)	(21.6)	(24.5)	(26.7)	(29.1)	(30.5)
EBIT	**31.3**	**29.7**	**43.5**	**53.9**	**71.3**	**74.5**	**273.0**	**25.8%**	**31.3**	**39.4**	**39.0**	**42.5**	**48.6**	**51.3**
EBIT Margin %	*12.7%*	*11.1%*	*13.1%*	*14.4%*	*16.3%*	*16.5%*			*12.7%*	14.7%	12.1%	12.3%	13.0%	13.0%
Added-back D&A	9.8	12.1	13.3	12.7	15.6	15.6	69.3		9.8	12.1	12.7	12.7	15.6	15.6
EBITDA	**41.1**	**41.9**	**56.8**	**66.6**	**86.9**	**90.1**	**342.3**	**21.1%**	**41.1**	51.5	51.7	55.2	64.2	66.9
EBITDA Margin %	*16.6%*	*15.6%*	*17.1%*	*17.8%*	*19.8%*	*19.9%*			*16.6%*	*19.3%*	*16.1%*	*16.0%*	*17.1%*	*16.9%*

Source: internal elaboration.

Table.9: Vendor vs. Bearish Business Plan 2022-2026 ($).

Values in $	VDD Scenario – Profit & Losses								Bearish Scenario – Profit & Losses					
	2021	2022	2023	2024	2025	2026	CUM 22-26	CAGR 22-26	2021	2022	2023	2024	2025	2026
Revenues	**247.1**	**268.0**	**332.4**	**374.9**	**438.1**	**451.8**	**1865.2**	**13.9%**	**247.1**	**261.3**	**301.5**	**304.1**	**307.6**	**311.0**
Direct costs	(197.6)	(211.6)	(262.7)	(295.0)	(341.9)	(352.3)	(1463.4)		(197.6)	(199.9)	(241.2)	(242.7)	(244.6)	(247.2)
Direct Margin	**49.5**	**56.4**	**69.7**	**79.9**	**96.3**	**99.5**	**401.8**	**15.3%**	**49.5**	**61.4**	**60.2**	**61.4**	**63.0**	**63.8**
DM Margin %	*20.0%*	*21.0%*	*21.0%*	*21.3%*	*22.0%*	*22.0%*			*20.0%*	*23.5%*	*20.0%*	*20.2%*	*20.5%*	*20.5%*
Over (+) / under (-) recovery	0.2	(3.3)	(2.3)	0.5	2.6	3.2	0.7		0.2	(1.9)	(1.0)	(0.9)	(0.8)	(0.7)
Gross Margin	**49.7**	**53.1**	**67.5**	**80.4**	**98.9**	**102.7**	**402.5**	**17.9%**	**49.7**	**59.5**	**59.3**	**60.5**	**62.1**	**63.0**
Gross Margin %	*20.1%*	*19.8%*	*20.3%*	*21.4%*	*22.6%*	*22.7%*			*20.1%*	*22.8%*	*19.7%*	*19.9%*	*20.2%*	*20.3%*
Other Costs	(18.4)	(23.4)	(24.0)	(26.4)	(27.5)	(28.2)	(129.6)		(18.4)	(21.3)	(23.6)	(24.9)	(26.2)	(26.9)
EBIT	**31.3**	**29.7**	**43.5**	**53.9**	**71.3**	**74.5**	**273.0**	**25.8%**	**31.3**	**38.2**	**35.6**	**35.6**	**35.9**	**36.1**
EBIT Margin %	*12.7%*	*11.1%*	*13.1%*	*14.4%*	*16.3%*	*16.5%*			*12.7%*	*14.6%*	*11.8%*	*11.7%*	*11.7%*	*11.6%*
Added-back D&A	9.8	12.1	13.3	12.7	15.6	15.6	69.3		9.8	12.1	12.7	12.7	15.6	15.6
EBITDA	**41.1**	**41.9**	**56.8**	**66.6**	**86.9**	**90.1**	**342.3**	**21.1%**	**41.1**	**50.3**	**48.3**	**48.3**	**51.5**	**51.7**
EBITDA Margin %	*16.6%*	*15.6%*	*17.1%*	*17.8%*	*19.8%*	*19.9%*			*16.6%*	*19.3%*	*16.0%*	*15.9%*	*16.7%*	*16.6%*

Source: internal elaboration.

3.3 Valuation

The due diligence assessment provided (just partially) in the previous paragraphs is key to move forward the next fundamental step in an M&A deal process: valuation.

Corporate valuation is a major topic in the field of corporate finance often considered as an actual art (Damodaran, 2022), which consists in an analytical and quantitative process to determine the fair value of an investment, such as for instance a stock, an asset or a company.

A spontaneous question that could now arise is: what is value then?

Value can be defined as the worthiness again of a stock, an asset or a company, but also of a liability or obligation (CFI, 2022). Koller defined value as "*the defining dimension of measurement in a market economy"* which allows people to determine whether their investments have sufficiently grown above their costs to compensate them for the risk undertaken (Koller et al., 2010).

Thus corporate valuation is basically a way to value value.

Analysts and bankers in general are divided among those who claimed valuation as an exact science, which does not allow for various spaces for human maneuvers, and others who think it is an actual art easily manipulatable (Damodaran, 2022). The famous professor of Corporate Finance at Stern School of Business – NYU underlines that the truth is always in the middle and that as it is performed by human beings, valuation will always bring some biases.

To further proceed in presenting the main mechanics underlying the valuation field, below is provided the subdivision among the main three approaches to valuate a company:

- *Intrinsic valuation:* the value of an asset or a business is derived by analyzing its capacity to generate cash flows. The most famous model concerning intrinsic valuation is the Discounted Cash Flow (DCF), which is based on the idea that the value of an asset is equal to the present value of its future free cash flows. This model strongly relies on the individual's expectation about how the business will evolve, and it is very sensitive to both growth and discount rate.

- *Relative valuation:* the business value is derived by looking at comparable assets or companies (Trading Comps) or even transactions (Transaction Comps). The logic here is to value an asset by looking to what is the market valuation given to similar assets or deals (Damodaran, 2022; Koller et al., 2010). Generally, trading comps implies that multiples such as EV/EBITDA, EV/EBIT or P/E are assessed for peer groups and then the average or median value[7] is applied to the EBITDA, EBIT or E of the Target company in order to determine its enterprise value. Transaction comps instead requires to look at multiples of similar companies recently acquired.

- *Contingent claim valuation:* over the last decades this new kind of valuation method has taken more and more relevance. A contingent claim model is basically an option pricing model applied to assets, investments and companies, which are then referred to as real options. The underlying logic is based upon the concept of option, which is an asset paying off only under certain contingencies (Damodaran, 2022; CFA, 2022): in the case of a call option when the value of the underlying asset exceeds the strike value, while in the case of a put option, when it is less than the strike (Hull, 2017).

Note that these three main categories of valuation methods do not constitute the overall framework of tools dedicated to this scope, however, they are considered as the most common to use nowadays.

[7] Note that median is often preferred to the mean because it mitigates the effects of eventual outliers.

However, the third model about contingent claims is relatively new and even if it is growing at a very fast pace, it is not easily implemented in most of the companies as it is pretty much complicated to develop and apply consistently. Not least, as it relies on the concept of optionality, it uses an extension of Black and Sholes and Binomial Models to determine the value of the investment, thus basing the analysis on the same formulas. Consequently, there are two main drawbacks for this model. First of all, the idea to keep variance and dividend yields as constant could be feasible in case of short-term options while not in the context of long-term ones. Secondly, when dealing with assets or businesses which are not so often traded between two parties, the inputs concerning underlying asset and variance need to be estimated as they cannot be derived from observing the market (Damodaran, 2022).

The other two approaches are way more common to be used in practice. Generally, they are both carried out when dealing with the valuation of a company for an M&A transaction as they can be a sort of sanity check of the assumptions made.

DCF is considered as the direct and sophisticated way to measure value, and therefore it is the most common and academic model for corporate valuation. One of its main advantages is that it is considered as independent to the market and based solely on assumptions on fundamentals of the business. However, this statement is just partially correct as DCF relies on the CAPM and its β to determine the discount rate (WACC when calculating the enterprise value, Cost of Equity when evaluating the equity value).

DCF is also strongly criticized for its sensitivity to assumptions and the challenges it brings when trying to forecast cash flows for a very long-time horizon.

Another major drawback of DCF modeling is the determination of the terminal value. There are two main approaches to evaluate the terminal value: growth in perpetuity approach and exit multiple approach.

The first one is also called Gordon Growth Model and evaluates the terminal value assuming that the last forecasted cash flow is going to grow perpetually at a specific g-rate.

The formula to determine it is the following (Fazzini, 2020):

$$Terminal\ Value = \frac{FCFF_{t+1}}{(r\ -\ g)}$$

The other approach calculates the TV through the application of a peer's multiple on a financial metric reported by the Target in the terminal year (CFI, 2022). This way to evaluate the terminal value in a DCF model is harshly criticized as it mixes notions of intrinsic valuation with relative ones.

Both these ways to measure the terminal value are subject to criticism as the value they generate generally accounts for about three quarters of the final valuation.

Relative valuation such as trading comps, which is more common than transaction comps, relies more on market expectations to determine what is the company's value. The drawbacks in this case are relative to the fact that an actual peer group cannot exist, implying that the valuation exercise will always compare "apples to oranges" and to the fact that the market can be wrong. Lastly, DCF is often criticized due to the large number

of assumptions it made, however the same number of conjectures is made also in relative valuation methods even though implicitly.
This introduction was necessary to introduce the modeling work done in the next paragraph to determine a price range for the M&A deal covered by this report. Note that although a trading comps and a transaction comps analysis have also been made for internal purposes, only the DCF model is provided for the purpose of this report and only a few hints and confirmations from the other two models are reported.

3.3.1 Discounted Cash Flow analysis

In this paragraph are provided the assumptions and the main characteristics of the valuation exercise made to evaluate the intrinsic value of the Target and to create a base price to start the negotiation process.
First of all, note that the excel database underlying the outcomes reported below was structure with a scenario manager able to let the user choose which kind of scenario to perform (Vendor, Base or Bearish) and within it, to further make choices relative to other factors and assumptions needed for valuation purposes.
Before introducing the assumptions related to the specific case of this M&A deal, it is needed to present a bit of theory in order to be able to walk through a DCF model.
The first step of a DCF implies the forecasting of the unlevered free cash flows (FCFF), which are the cash flows to the firm before the impacts of debt and cash (Street of Walls, 2013), for a horizon which is generally 5 to 10 years. The FCFF are calculated through the following formula:

$$FCFF = NOPAT + D\&A \pm \Delta NWC - CapEX$$

Next, the model requires to evaluate the value of all the unlevered FCFF beyond the forecasted horizon in previous step. The ways to calculate TV are the ones described before, growth in perpetuity approach and exit multiple approach. In general, the former approach is way more used than the latter one and the same applies indeed also in this specific case.
In order to perform the Gordon Growth Model however it is needed to have already estimated the discount rate and the g-rate. While the g-rate is often approximated to GDP growths or inflation, the discount rate requires a deeper analysis. The discount rate to determine the enterprise value is the weighted average cost of capital (WACC), which formula is the following:

$$WACC = \frac{E}{D+E}(r_e) + \frac{D}{D+E}(r_d)(1-t)$$

r_e and r_d are respectively cost of equity (calculated through CAPM) and cost of debt, while E is the market value of equity and D is the market value of debt.
The next step is to discount both the expected cash flows and the terminal value to the current valuation date using the WACC. In this way a value for the enterprise is established.
Once a valuation is provided, analysts are used to realize sensitivity tables to show how the assumptions adopted impact the implied enterprise value.

However, the price paid in an M&A transaction is not the enterprise value determined through the application of the various steps described above, but rather the equity value of the company. In order to determine the equity value, it is needed to subtract net debt and all the non-equity claims from the enterprise value.

This kind of assessment is often presented in the form of a bridge, which starts from enterprise value and arrives to the potential price to be paid. Note that the bridge to equity analysis is provided in the next paragraph. Here it is proposed the specific analysis made to evaluate the Target.

First of all, note that the valuation date is December 31st 2022 as the M&A deal is expected to see the closing after the beginning of next year and the BP was not forecasted to substantially change (however this is surely going to change after the approval of new defense budgets). The last year considered is instead 2026: the Terminal Value is indeed evaluated on December 31st 2026.

This is given by another assumption made for valuation purposes which is the activation of the mid-year convention, which allows to correct the wrong assumption generally made in most of models for which cash flows are received at the end of the financial year. The mid-year convention implies that the free cash flows are generated at the middle of each year, which is an effective compromise as in general they are received throughout the entire financial year, except for some cases of cyclical business.

Below are reported the tables presenting the free cash flows and terminal value respectively for Base Scenario (Table.10) and Bearish Scenario (Table.11).

Table.10: FCFF and TV for DCF – Base Scenario ($).

Values in $		2023E	2024E	2025E	2026E	TV
Revenues	**$**	**321.2**	**346.3**	**375.3**	**395.3**	**395.3**
EBITDA Adj.	**$**	**45.6**	**47.9**	**55.9**	**59.0**	**59.0**
% of revenues	%	*14.2%*	*13.8%*	*14.9%*	*14.9%*	*14.9%*
Bad debt & SM&O	$	*(5.2)*	*(5.6)*	*(6.1)*	*(6.4)*	*(2.7)*
% of revenues	%	*(1.6)%*	*(1.6)%*	*(1.6)%*	*(1.6)%*	*(0.7)%*
EBIT Adj.	**$**	**28.5**	**31.6**	**36.4**	**39.3**	**43.2**
% of revenues	%	*8.9%*	*9.1%*	*9.7%*	*9.9%*	*10.9%*
Taxes	$	*(8.6)*	*(9.5)*	*(10.9)*	*(11.8)*	*(13.0)*
Tax rate	%	*30.0%*	*30.0%*	*30.0%*	*30.0%*	*30.0%*
NOPAT	**$**	**20.0**	**22.1**	**25.5**	**27.5**	**30.3**
% of revenues	%	*6.2%*	*6.4%*	*6.8%*	*7.0%*	*7.7%*
D&A	$	*11.8*	*10.7*	*13.4*	*13.4*	*13.2*
% of revenues	%	*3.7%*	*3.1%*	*3.6%*	*3.4%*	*3.3%*
Δ Working capital	$	*(18.0)*	*9.6*	*(16.2)*	*(5.2)*	*0.0*
% of revenues	%	*(5.6)%*	*2.8%*	*(4.3)%*	*(1.3)%*	*0.0%*
CapEx	$	*(12.7)*	*(9.8)*	*(9.8)*	*(9.8)*	*(13.2)*
% of revenues	%	*(4.0)%*	*(2.8)%*	*(2.6)%*	*(2.5)%*	*(3.3)%*
FCFF	**$**	**1.1**	**32.6**	**12.9**	**25.9**	**30.3**
% of EBITDA	%	*2.5%*	*68.1%*	*23.1%*	*43.9%*	*51.2%*
FCFF to be actualized	**$**	**1.1**	**32.6**	**12.9**	**25.9**	**339.5**

Source: internal elaboration.

Note that the same assumptions are adopted in both scenarios, even though the tables present differences given by the use of different business plans, which are those elaborated in paragraph 3.2.

The first assumption made was related to tax rate, which was assumed to be a generic 30% as for confidentiality reasons I am not allowed to disclose the actual rate.

Then, most of the assumptions related to both Table.10 and Table.11 are related to the calculation of terminal value. First of all, note that revenues were supposed to be constant from 2026 onwards and EBITDA was chosen to be kept at the same rate reported for 2026. The alternative could have been to use the average EBITDA for 2022-2026 period, however this choice would have been more conservative.

The Bad Debt & SM&O[8] item was reduced to 0.7% of revenues (both in Base Scenario and Bearish Scenario) for the calculation of TV, differently from the 1.6% maintained constant for the entire horizon of BP. This choice was made to reflect just the negative effect of bad debt as SM&O was considered to be 0 after 2026 end.

D&A has been assumed to be in line with CapEx from 2026 onwards, which is 3.3% in Base Scenario and 3.7% in Bearish Scenario. CapEx though was supposed to be equal to the average CapEx% shown in the scenarios' horizon evaluated.

Last consideration was relatively to Δ Working capital, which was forecasted to be 0 from 2026 onwards.

Table.11: FCFF and TV for DCF – Bearish Scenario ($).

Values in $		2023E	2024E	2025E	2026E	TV
Revenues	**$**	**301.5**	**304.1**	**307.6**	**311.0**	**311.0**
EBITDA Adj.	**$**	**42.3**	**41.2**	**43.5**	**44.2**	**44.2**
% of revenues	%	*14.0%*	*13.5%*	*14.2%*	*14.2%*	*14.2%*
Bad debt & SM&O	$	*(4.9)*	*(4.9)*	*(5.0)*	*(5.0)*	*(2.1)*
% of revenues	%	*(1.6)%*	*(1.6)%*	*(1.6)%*	*(1.6)%*	*(0.7)%*
EBIT Adj.	**$**	**25.6**	**25.5**	**25.2**	**25.8**	**30.5**
% of revenues	%	*8.5%*	*8.4%*	*8.2%*	*8.3%*	*9.8%*
Taxes	$	*(7.7)*	*(7.7)*	*(7.5)*	*(7.7)*	*(9.2)*
Tax rate	%	*30.0%*	*30.0%*	*30.0%*	*30.0%*	*30.0%*
NOPAT	**$**	**17.9**	**17.9**	**17.6**	**18.1**	**21.4**
% of revenues	%	*5.9%*	*5.9%*	*5.7%*	*5.8%*	*6.9%*
D&A	$	*11.8*	*10.7*	*13.4*	*13.4*	*11.6*
% of revenues	%	*3.9%*	*3.5%*	*4.4%*	*4.3%*	*3.7%*
Δ Working capital	$	*(21.9)*	*6.7*	*(12.4)*	*(1.7)*	*0.0*
% of revenues	%	*(7.3)%*	*2.2%*	*(4.0)%*	*(0.5)%*	*0.0%*
CapEx	$	*(12.7)*	*(9.8)*	*(9.8)*	*(9.8)*	*(11.6)*
% of revenues	%	*(4.2)%*	*(3.2)%*	*(3.2)%*	*(3.2)%*	*(3.7)%*
FCFF	**$**	**(4.8)**	**25.5**	**8.8**	**20.0**	**21.4**
% of EBITDA	%	*(11.4)%*	*61.9%*	*20.2%*	*45.1%*	*48.3%*
FCFF to be actualized	**$**	**(4.8)**	**25.5**	**8.8**	**20.0**	**239.8**

Source: internal elaboration.

Terminal value was calculated using Gordon Growth Model, using a g-rate chosen among four possible assumptions: a rate of 3.3% which corresponds to the world GDP growth rate in 2026 forecasted by IMF, another one of 2.4% which is the forecast growth for advanced economies' GDP, an alternative assumption of 1.7% which is the forecast for GDP growth in Europe (IMF, 2022), and finally, an internal assumption of H% (non-disclosable) which represent a conservative projection of the business. The g-rate used to perform the DCF is the latter, as it allows to account for the steadiness of the defense business. The g-rate chosen to perform the DCF is the last one, as it is the result of deep analysis realized by Fincantieri's commercial experts' team.

In order to conclude with the description of the assumptions needed for valuation, some considerations related to WACC have to be done.

[8] Service, Maintenance & Operations.

Fincantieri has a long story of M&A transactions within the sector of naval shipbuilding and this experience matured over the years has permitted to understand that the reference WACC in its particular industry is nearly C% (non-disclosable). The DCF outputs provided below were indeed obtained by applying a C% WACC, which was confirmed to be reasonable by the investment bank of the transaction which reported that respectively the average and median WACC brokers consensus in the naval shipbuilding sector are A.1% and A%.

Below the results of the DCF, respectively for Base and Bearish Scenario. For each case are reported the sensitivity analysis[9] for EV and EV/EBITDA 2022 multiple (EBITDA Adj. 2022 of 40.1 $ and 39.0 $ respectively for Base and Bearish Scenario).

Table.12: EV and EV/EBITDA 2022 sensitivity tables – Base Scenario ($).

		WACC				
		A%	B%	C%	D%	E%
g-rate	F%	303	283	266	251	237
	G%	309	**289**	271	**255**	241
	H%	316	295	**276**	260	245
	I%	323	**301**	282	**265**	249
	J%	331	308	288	270	254

		WACC				
		A%	B%	C%	D%	E%
g-rate	F%	7.5x	7.1x	6.6x	6.2x	5.9x
	G%	7.7x	**7.2x**	6.8x	**6.4x**	6.0x
	H%	7.9x	7.3x	**6.9x**	6.5x	6.1x
	I%	8.0x	**7.5x**	7.0x	**6.6x**	6.2x
	J%	8.2x	7.7x	7.2x	6.7x	6.3x

Table.13: EV and EV/EBITDA 2022 sensitivity tables – Bearish Scenario ($).

		WACC				
		A%	B%	C%	D%	E%
g-rate	F%	211	198	186	175	165
	G%	216	**202**	189	**178**	168
	H%	221	206	**193**	181	171
	I%	226	**210**	197	**185**	174
	J%	231	215	201	188	177

		WACC				
		A%	B%	C%	D%	E%
g-rate	F%	5.4x	5.1x	4.8x	4.5x	4.2x
	G%	5.5x	**5.2x**	4.9x	**4.6x**	4.3x
	H%	5.7x	5.3x	**4.9x**	4.6x	4.4x
	I%	5.8x	**5.4x**	5.0x	**4.7x**	4.5x
	J%	5.9x	5.5x	5.1x	4.8x	4.5x

Source: internal elaboration.

Note that the enterprise value and EV/EBITDA are way far from reality in the VDD Scenario (**Appendix.6: Details about Vendor Scenario valuation**), thus are provided Base and Bearish Scenario as they are more consistent with results return by relative valuation approaches.

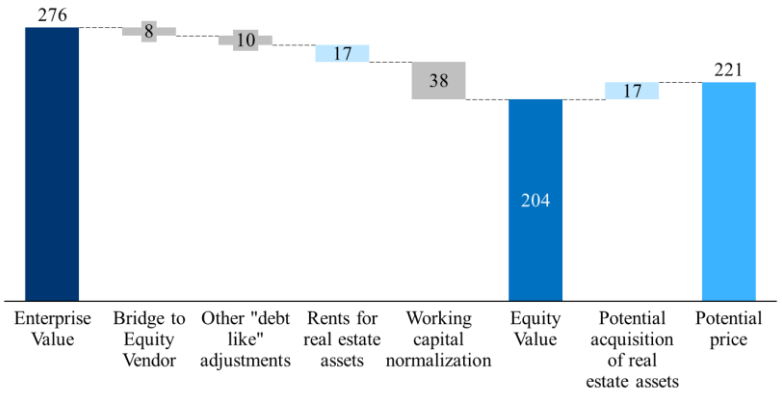
Indeed, the EV/EBITDA multiples shown in the tables above for Base and Bearish Scenario are in line with both the ones exhibited by peers in the defense sector and the ones paid in similar transactions within the same industry. In particular, the scenario which seems to be more realistically likely is the Base one as it shows financial metrics perfectly within the industry standards and current expectations, thus it should have to be considered as the starting point for negotiations.

[9] WACC varies by 50 bps, while g-rate varies by 20 bps in the sensitivity tables.

3.3.2 Bridge to Equity

As described in the previous paragraph, the last step of a DCF Model is to adjust the enterprise value obtained by deducting the so-called "debt like" items and non-equity claims in order to determine the equity value.
The bridge to equity for the Target is provided below (Graph.16). Note that the bridge to equity is provided only for the Base case as it is the most likely plan to occur and that this graph presents a neutral approach where up-front advances from customers on the orders are not assumed to be as "debt like" items.

Graph.16: Bridge to Equity (Neutral approach) – Base Scenario ($).



Source: internal elaboration.

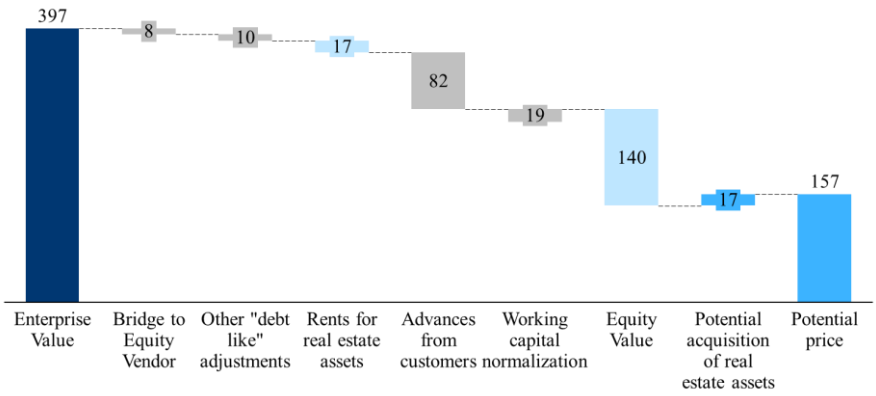
Graph.16 shows the various adjustments to arrive at the equity value, which should correspond to the potential price to be paid to acquire the Target. The first reduction to the enterprise value is related to "debt like" items highlighted by the Vendor BP, such as factoring, severance pay and restructuring provisions. After a careful revision by both the reference management consultancy and Fincantieri, the number of "debt like" items was increased due to the presence in the BP of overdue payables to suppliers, employee benefits, payables to employees, provisions and unallocated WIPs, and thus the enterprise value is reduced by 10 $.
Another potential consideration made to arrive at the equity value of the Target is related to the subtraction of the NPV of the value of the rents (net of the tax shield) for the real estate assets potentially subject to acquisition (WACC and g-rate kept constant with respect to the valuation exercise). During the due diligence process it was discovered that a large number of manufacturing facilities were subject to leases and not owned by the Target. The value by which the EV needs to be reduced has yet to be formalized as we are waiting for a more accurate estimate from a consultancy specialized in real estate valuation.
Last item deducted derives from the normalization of working capital, which is a key consideration in purchase price adjustments, as at the closing of the deal the level of working capital transferred should be sufficient for normal operations from day one onwards (Oraa, 2019). In case working capital is not sufficient to sustain the ordinary operations of the business at the closing date, the buyer might have to inject liquidity or borrow cash to keep going the activities. The WC Peg can be defined as a benchmark amount of net working capital which is negotiated *ex ante* in an M&A deal between buyer and seller and determined after the financial due diligence. It represents the amount of WC which is expected at the transaction closing, however if the actual net working

capital is different from the pre-defined peg at the closing of the deal, an impact on the final price is expected to occur. The logic is that if at the closing of the transaction net working capital is higher than the peg, the buyer can pay the seller the exact amount of the difference between the two thus increasing the final purchase price, while in the case in which at the closing of the deal, the real working capital is lower than the peg, the buyer can pay the seller a final amount reduced again by the exact difference between the two WC values (Oraa, 2019).

Under the neutral approach, the Peg required is equal to 45% of revenues reported in 2022.

Note that the adjustment for rents payment is added back at the end of the bridge analysis as Fincantieri is also evaluating the acquisition of the real estate assets, so as to have another plausible view of the total amount to be paid.

Graph.17: Bridge to Equity (Aggressive approach) – Base Scenario ($).



Source: internal elaboration.

Graph.17 presents instead the bridge to equity for the Target under the aggressive approach.

Note that most of the adjustments remain unvaried, however there is a new item appearing which is related to advances from customers and the amount deducted for the normalization of the working capital is reduced with respect to the previous approach.

The new element in the graph is related to the hypothesis related to consider the up-front advances from customers as “debt like” items, as they are not strictly correlated to the reference EBITDA.

For the normalization of working capital it is supposed a lower reduction with respect to the one assumed under the neutral approach, even though in this scenario a Peg of at least 70–75% of revenues of 2022 is required. This lower reduction is the result of the separation of advances from customers from working capital for the purposes of the stand-alone analysis of the former. Indeed, under the neutral approach the up-front advances from customers are considered as an operative component and thus normally included in working capital.

The final range price for the transaction is 157 – 221 $ where a mid-point could be the best solution.

Conclusion

The future of the defense industry is bound to be interesting as the prospected CAGR at both global and European level have jumped after Ukraine war outbreak and they are not forecasted to be recalibrated on the short-term.

Along with this context Fincantieri wants to try to exploit the trends undertaken by the military sector being in line with the expansionary strategy set for its Naval Vessels Division over the last years. The Group is acting proactively towards this changing world, looking around to build relationships with partners to capitalize on opportunities at both national and supranational level to further expand its global business and scouting the market to find potential targets to proceed through a path of inorganic growth made of M&A.

Fincantieri is moving in perspective of a raising in the Italian defense budget and of consolidation of the military sector in Europe, however history has shown that this path of inorganic growth in such a peculiar industry is often affected by various uncontrollable factors.

The first issue encountered by players operating in the defense industry is the public opinion towards the theme: war is indeed a very hard subject to digest both at political and electoral level. Consequently to this premise, defense companies, which strongly depends on domestic markets and thus national budgets for defense, are negatively affected by governments choices to mitigate the expenditure for bellicose purposes.

Second issue already experienced by Fincantieri in the attempt to acquire STX France is that most of the times these large multinational players of the defense industry show the presence of a government share in their ownership, especially in Europe. Being a strategic sector, it is not strange to see the government playing a role in the board of directors of these companies, however their presence is often reason for slowdown of the process or even for a shutdown of the deal. States have indeed the possibility to exercise golden power or to call out Antitrust bodies if they suspect that the deal could menace national or supranational equilibriums.

To come to end, the analysis carried out in this report shows how the defense industry, which has achieved highly advanced technological levels today, requires ever greater integration in the production process, especially among allied countries (NATO's countries for instance). However, the determinant factors to let such large-sized M&A operations to achieve the "deal" and thus to satisfy industrial and strategic needs of the market are not - in this particular sector - only of economic, financial and patrimonial kind, but also strictly political, diplomatic and social.

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Appendices

Appendix.1: Focus on defense spending by Country

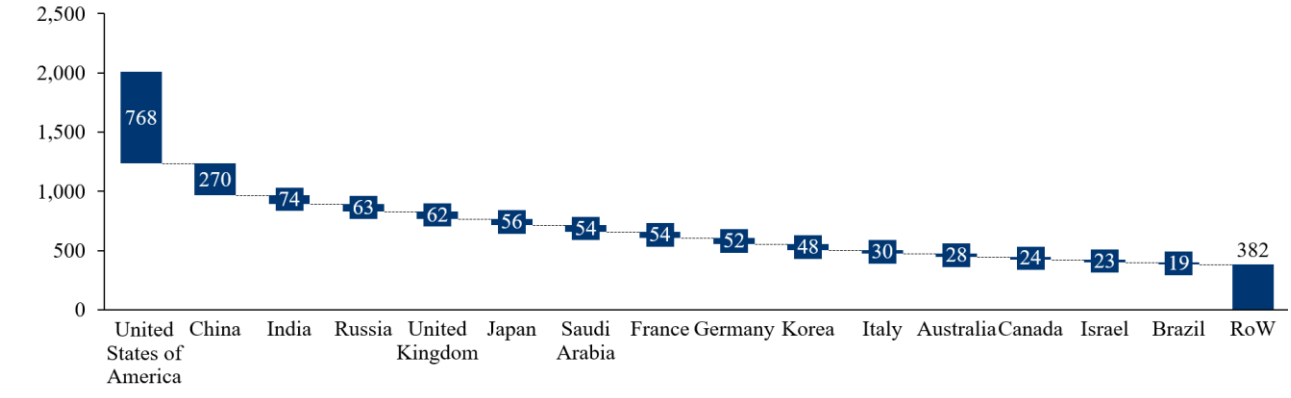
In addition to the increase in global spending in 2021, it is interesting to assess the subdivision of the defense budget between the various countries of the world. The graph below (Graph.18) reports how much of the worldwide spending is invested by each country and it gives clear evidence that the spending is decentered towards US, even in the face of the solid growth that China has been pursuing since the beginning of the XXI century.

After the US and China, there are basically no players able to significantly differentiate themselves, as their defense budgets are pretty much in line with one another. However, there are three other countries that emerge the most and these are India, Russia and United Kingdom: all of them present quite high DB[10]/GDP %.

Not least, the data provided in the table at the bottom of the graph are able to explain what is the trend, or at least what was the trend before the war in Ukraine, of expenditure for each individual country. The United States is certainly the largest investor in absolute terms and the reasons behind it are the highest level of GDP in the world and one of the largest ratios of DB/GDP % per year. The annual DB/GDP % for China is also very high, while very low for more or less all the countries of European Union.

Furthermore, Saudi Arabia and Israel are respectively first and second in terms of GDP share in the ranking of the Top15 countries for budget invested in the defense industry.

Graph.18: Worldwide defense expenditure by Country (B $).



	United States of America	China	India	Russia	United Kingdom	Japan	Saudi Arabia	France	Germany	Korea	Italy	Australia	Canada	Israel	Brazil	RoW
2021 World share	38.3%	13.5%	3.7%	3.2%	3.1%	2.8%	2.7%	2.7%	2.6%	2.4%	1.5%	1.4%	1.2%	1.1%	0.9%	19.0%
GDP share (%)	3.5%	1.7%	2.7%	4.1%	2.2%	1.1%	6.6%	1.9%	1.3%	2.8%	1.5%	2.0%	1.3%	5.2%	1.2%	1.8%
GDP share ranking	4	10	6	3	7	15	1	9	12	5	11	8	13	2	14	n.a.

Source: internal elaboration based on SIPRI and Jane's data.

[10] Defense Budget.

A deep internal assessment has allowed to identify the key element to categorize the defense market into four macro clusters: the level of technology imported. Indeed, as already mentioned, the military sector is very sensitive to technological development.

The first cluster has only one member, which is the US. The United States is the undiscussed global leader in the defense industry: its position comes from the level of resources annually invested in this strategic sector and from the incomparable level of technology developed over the years. Indeed, it is an importer only of specifically selected cutting-edge technology.

However, due to the raising of the defense budgets of various countries, US is currently facing an increase of competition on the export market but is still firmly in command of the global ladder given the biggest internal market worldwide.

The second cluster is characterized by a very low level of imported technology and is made up of China and Russia. It is probably not surprising that they are the ones with the lowest import rate, as they rely on their own resources and capabilities more strongly than any other nation.

Both China and Russia are indeed historically closed markets with very high ambitions regarding their confirmation at the top of the major spenders in defense of the globe. Their defense companies are allowed to purchase only internal technology and cannot open up to any international player, even if more competitive than a national one.

The third cluster is the so-called consolidated market of defense (consolidated MoD). The countries that fall in this segment are mostly the European ones, even though with some exceptions. These countries have been able to develop local defense champions even in the face of historically limited budgets and under the presence of lots of players lacking in critical size. As a result, it is observed a very fragmented landscape, with lot of national champions able to win only in their own country thanks also to quite a high level of imported technology from cross borders.

The last cluster identified is the developing market of defense (developing MoD). The countries falling in it are for instance India, Australia, and Brazil, which are strong importers of technologies as they do not have the capabilities to develop a solid national defense industry entirely by themselves yet. However, they are trying to develop local champions, even though continuing in their trend of import from main foreign players.

Appendix.2: Focus on factors influencing global defense budget

As shown in Figure.1, the last decade of the past century was characterized by a decrease in the worldwide defense budget, which presented a negative CAGR of -3%. This decreasing trend was the result of a disarmament process started in the last years of Cold War.

Already at the end of World War II, the United Nations Organization was trying to push for a general de-army, but both US and USSR started intensifying their own research among the development of nuclear weapons: in particular, US was trying to further expand the results already obtained by the Manhattan Project, while USSR had the target to develop its own nuclear bomb and to strengthen its army.

These deplorable ambitions led the two global superpowers to start a frenetic and grueling competition to develop ever more sophisticated and lethal weapons, and thus to begin what took the name of Cold War.

The Cold War officially ended with the fall of the USSR in 1991, but the foundations for the beginning of a new equilibrium were already laid with the fall of the Berlin Wall. Indeed 1989 was exactly the turning point where global defense spending began to decline most dramatically.

In the 1988-1999 period there were also other factors influencing the decreasing of the military expenditure. Besides the end of the Cold War, the 1990s were basically characterized only by the Yugoslav wars, as the conflicts in Afghanistan and in Iran/Iraq ended respectively in 1989 and 1991. Albeit extremely harmful and inhuman, the wars in the Balkans were mostly fought with armory coming from already available reserves and they had not the global dimension to sufficiently induce a raising in the worldwide spending.

Being the largest spender in defense, it is important to detect the role played by the President of the US.

The democratic Bill Clinton succeeded to the republican George Bush and led the country from 1993 to 2001. Even though his presidency was characterized by many military episodes, the Battle of Mogadishu and the participation to the Yugoslav wars as main examples, the significancy and the scope of them limited the funds disposed to further enlarge the military power of the US.

Although Chinese spending has partially mitigated the negative trend undertaken at international level, all the countries of Middle East and Europe have not been able to counteract the decline in numbers caused by the other factors. Indeed, Middle East presented a CAGR of 1% and the European situation was showing a completely stagnant growth rate.

However the negative trend in the defense budgets shown in the 1990s was completely offset by a strong increase in the first decade of the XXI century, where more or less all the factors analyzed presented significant shifts as compared to the past, except Europe which showed weak signs of recovery.

First of all, both China and Middle East increased their CAGR respectively to 10% and 5%.

The new President of United States, George W. Bush, started a raising of defense expenditure in response to the increased risk of terrorism after the World Trade Center attack in September 2001. There were two major conflicts, in Afghanistan and Iraq, that also played an important role in boosting the military budgets.

The 2010-2017 period was instead characterized by a steady level of expenditure. The figure of the President of the United States has probably played a major role in this period of stable spending, as Barack Obama decided to keep investments in the AD&S industry stable and to negotiate peace because of his democratic orientation. The other factors were kept unchanged.

The last temporal range highlighted (2017-2021) shows a new increase in CAGR (+3%). In this case the upward trend is mostly given by two events: the new administration of the United States, as the republican Donald Trump raised the level of funds to be dedicated to military concerns (Rolander, 2022), and the outbreak of the Covid-19 pandemic in 2020.

If Trump's contribution was partially mitigated by his successor Biden, the spreading of Covid-19 probably brought the largest consequences on the global military budget.

Indeed, the aggregated military production was able to increase even in the face of a global economic downturn of nearly 3.1% in 2020 (Jackson et al., 2021). The resiliency exhibited by the defense industry in front of Covid-19 shock was determined by four main elements. First of all, the sector was sustained by the expansionary monetary policies put in place by governments and by the unchanged level of demand for

armaments. Secondly, in order to offset the negative effect of the sanitary measures on the defense companies, such as lockdowns and curfews, the governments rolled out various interventions such as accelerated payments and order rescheduling (Marksteiner et al., 2021). Thirdly, most of the companies operating in the military sector were able to keep their economic performance unvaried, or even improved, thanks to the length of the defense procurement contracts. The results of both FY2020 and FY2021 were given by orders backlog. Fourthly, the expenditure for cybersecurity (which entered the military spending) boomed in 2020 due to the raising of cyber-attacks already started the previous year. The overuse of global networks highlighted the weakness of the cyber domain, which therefore required greater protection and safety and consequently higher investments. Even though global funds dedicated to cybersecurity slightly downturned in 2021, with the only exception of Italy and Japan (Frollà, 2022), spending on this domain is not set to return to the low levels of the past.

However, it would be false to declare that military producers were completely untouched by the effects of Covid-19 because on many occasions the pandemic kicked in supply chains and delayed deliveries (Marksteiner et al., 2021). Despite of that, it is true that most of the companies involved in the production of both civilian and military goods and services experienced an increase of the percentage of defense related revenues on total ones, confirming a substantial differentiation between their economic cycles.

The factors influencing the level of spending are clearly subject to updates and new entrance, however it seems very straightforward that geopolitical context and influence of superpowers have the largest effects among the overall funds for military issues.

Appendix.3: Constellation of M&A in US defense market

The American AD&S market has seen quite a large number of M&A operations along the last years. In 2018 Orbital ATK has been acquired for nearby 9.2 billion $ by Northrop Grumman Corporation (Reim, 2018), while in 2019 there has been the merger between L3 and Harris Technologies (Prometeia, 2021), which gave the birth to the 10th company in the Top100 groups in defense today. Raytheon Technologies is a company born in 2020 formed by the merger of other two key players in the worldwide market, which were Raytheon and United Technologies Corporation (Marksteiner et al., 2021; Prometeia, 2021). Besides the creation of Raytheon Technologies group, 2020 has also seen the acquisition of Centauri by KBR, with the scope to further improve the latter's military capabilities and intelligence activities (Vasquez and Ivy, 2020).

Also 2021 saw some major deals, with the mixed acquisition in cash and stocks of FLIR Systems by Teledyne Technologies for nearly 8 billion $ including debt (VanWess, 2021), or with Peraton acquiring Perspecta and merging it with its portfolio for an overall amount of 7.1 billion $ (Cordell, 2021), with the expectation to double its size after the closing of the deal.

Appendix.4: History and evolution of Fincantieri Group

The success of Fincantieri is built upon a history of over 230 years of evolution and more than 7,000 ships delivered (Fincantieri's website, 2022). Despite of the wide temporal extension of its history, the Group was a

global leader in the maritime industry in the past and is still holding the position of first Western shipbuilder, even in the face of a raising competition, especially in the cruise segment.

Over the course of its operativity, Fincantieri has built some of the most iconic ships at global level, such as the training ship *Amerigo Vespucci*, the ocean liner *Rex*, winner of the world record for the fastest Atlantic crossing of a ship with passengers, and *Destriero*, winner of the world record for the fastest Atlantic crossing without refueling (Fincantieri's website, 2022). All of them were the result of the Italian shipbuilding tradition, which made Italy a significant global reference point in maritime since 1786.

The construction of these ships is *ante* 1959, when the Institute for Industrial Reconstruction gave the birth to the company known today, even if at first it was a holding for naval construction companies (*Finanziaria Cantieri Navali Italiani* from which comes the name of Fincantieri), and it was only in 1984 that it became an operating company.

With the beginning of the 1990s, the Group entered the new business of modern cruises, upon which was able to gain the leadership developing skills in the design and construction of complex vessels, as well as in creating a global network of highly qualified suppliers (Fincantieri's prospectus for IPO, 2014). By the end of the 1990s and beginning of 2000s, Fincantieri shaped its business towards two macro segments that were cruise and naval, however, the Group was globally known only in the cruise market, while was more a national operator in the military business, with the Italian Navy as only client.

With the arrival of the new management in 2002, Fincantieri went through a deep reorganization process implementing a strategy based on diversification of the business and internationalization (Fincantieri's prospectus for IPO, 2014).

The path to become a global leader was not easy, however Fincantieri was able to consolidate its relationships with both the Carnival Group in the cruise segment and with the Italian Navy in the naval one, even in the face of a reduction in budget by the latter over the first decade of the XXI century.

The Group was also able to widen its portfolio, expanding its activities in the mega yachts and ferries area, in naval components and systems and finally, in the activities of refit and repair.

Lastly, it leveraged the high manufacturing level of its naval vessels to be awarded with many orders for various Navies worldwide, even in the face of a military business known for being extremely focused on domestic market.

Another key point of Fincantieri's modern history, is the Great Financial Crisis period in 2008. The maritime world was significantly affected by the crisis, which in particular kicked in the smaller operating companies, even obliging some of them to leave the market due to the lowering of prices and the decreased demand for new orders.

Fincantieri acted proactively during this period, being able to anticipate the effects of the crisis, not deleting or delaying any order and even improving its positioning with much higher order backlog.

Not least, the Group started a plan to raise the efficiency of operational activities in Italy through the negotiation of a national agreement to restore the equilibrium between Fincantieri's large production capacity and a reduced demand in both cruise and naval market and to implement more flexibility.

The period between 2008 and 2013 was characterized by many M&A transactions, which allowed Fincantieri to expand its activities into new markets. It started with the acquisition of three shipyards in US in partnership with Lockheed Martin, thus entering the American defense market (Fincantieri's website, 2022). This operation was followed by a huge investment plan of over 100 million $ disposed to improve the American shipyard facilities and allowing the Group to be awarded with a large order by the US Navy few years later.
In the same period, the Group established two JVs in order to further expanded its activities: in the Middle East zone it created a JV to build and repair vessels for foreign navies, and in 2009, give the birth to Seastema, a joint venture with ABB, a Swiss company operating in the segment of automation and energy technology. Seastema was then completely acquired in 2014 and merged into Fincantieri NexTech in January 2022.
In 2012 Fincantieri decided to further diversify its business entering the offshore vessels market. To do so, it acquired Vard for nearly 500 million € the following year. Vard is a Norwegian Group producing vessels like semi-submersible drilling platforms needed in the production of oil and gas. It was listed on the Singapore Stock Exchange, but few years after the acquisition, Fincantieri proceeded with the process of delisting, which is ended in 2018 (Fincantieri's prospectus for IPO, 2014).
Even though the aim of this operation was to further enlarge the product portfolio of the company, the hoped results were, and actually are still, not achieved, as Vard absorbed lots of resources, not being profitable both from an economical and financial point of view, mainly caused by oil crisis. However, there has been a substantial increase of the offshore segment over the last months as revenues signed a 98.7% raise with respect to 2021 (Fincantieri's website - Results of March 31st 2022, 2022).
A more solid positioning in all its core businesses led Fincantieri to went public on the Milan Stock Exchange in July 2014 (Fincantieri's prospectus for IPO, 2014).
Also the period after the IPO was characterized by an expansion of business activities in new geographical areas and segments, always safeguarding specific national skills. The Group acquired Santarossa S.p.A. under a perspective of backward vertical integration, as the target company was a supplier of ship furniture and cabins.
There were also other initiatives that helped Fincantieri in this process of internationalization. Other than many orders from Navies from all over the world, the Group created a JV with China State Shipbuilding Corporation in order to build the first cruises for the local market and to establish a collaboration among activities such as R&D in various shipbuilding fields (Fincantieri's website, 2022).
Along the last years it is also trying to move towards a consolidation in Europe. In 2018 Fincantieri signed an agreement to acquire 50% of STX France, however the deal experienced many difficulties as the European Union Commission opened an inquest to investigate if there were the reasons to be aware of a potential restriction of competition leading to the stop of the deal (European Commission, 2020). In 2018 Fincantieri created also a JV with Naval Group in order to join forces to face a growing competition, developing common R&D projects, optimizing procurement operations and widening the offer of both the groups to fulfill the needs of their customers.

This evolution led to what today is Fincantieri, a global leader in cruise and naval markets able to counteract the negative effects of the Covid-19 pandemic and to further enhanced its competencies and skills even in the infrastructure sector with the construction of the new Morandi Bridge in Genova and the ongoing project of the MSC Terminal in Miami.

Appendix.5: Deep-dive into NVD product portfolio

Shipbuilding

Among the ships with highest level of complexity there are Frigates, Corvettes and Submarines as main categories.

Frigates are multi-mission vessels characterized by anti-air, anti-surface and anti-submarine warfare, able to change easily and efficiently the mission profile. To the same class enters the Destroyer, which is a bigger Frigate with a larger proportion of combat system payload.

Corvettes are also called Light Frigates, as they are a little smaller and less heavy than Frigates also due to the lower level of CMS on board. They are fast vessels that can be adapted to various purposes, such as for coastal defence, sea patrol, search and rescue or for combat.

Moving down in the graph, we find smaller combatants, such as Fast Attack Craft. They are characterized by the same features of the ships with larger dimensions described above, as they present hull and superstructures shapes that enable the installation of various CMSs (Fincantieri's website, 2022).

Offshore Patrol Vessels are very flexible ships that can be used for various purposes, such as for sea patrol, search and rescue, anti-pollution, and fishery control, as well as combat in their most armed version. They are one of the most ordered kind of vessels.

For what concern ships with medium level of complexity, on the rightest part of the graph there is the section dedicated to aircraft carriers and amphibious docks, which both have as their main scope to transport personnel, troupes, trucked and wheeled vehicles, helicopters and airplanes (the latter by aircraft carriers only). They are used for air operations, air power projection and dual use operations for disaster relief and as logistic support unit.

Even though NVD is focused on naval vessels, it produces also some special and auxiliary units. This kind of ships are oceanographic, special transport units such as for radioactive material and hydrographic research ships.

All the other categories are not within the NVD product portfolio (Mine Hunter, (Littoral) Patrol Boat and Small/Para-military vessels), as they are very small units.

Customer Logistic Support

In particular, Customer Logistic Support can be divided into three main clusters, which are the following:

- *Integrated Logistic Support (ILS):* it is composed by all the services related to the life cycle of the naval vessel. Its scope is to optimize the engineering system of the ship in order to reduce the life cycle

costs and to minimize the logistic efforts required in maintenance operations. NVD though already equips its ships with the needed spare provisioning, provides them with technical documentation and manuals in line with military standards (both national and international) in order to effectively maintain the systems and apparatuses and offers training to crews and maintenance team of the Navies.

- *In-Service Support (ISS):* it comes after the ship delivery, and it helps the clients in familiarizing with the product. Fincantieri offers a medium to long term maintenance schedule in order to ensure the best performance and to avoid any kind of malfunction; this is also helpful to keep updated the technical documentation. Clearly, the difference with ILS is given by the scope of the two services, as the first one is a sort of optimization of maintenance process which is planned before the delivery, while the second one is related to an actual intervention made after the clients received the vessel.

- *Refitting:* Fincantieri provides its customers also with a service of refitting and repair in order to modernize the structures and to update the engineering systems, through mid-life upgrades and life extension operations.

Appendix.6: Details about Vendor Scenario valuation

Below (Table.14) are provided the details about the calculation of the FCFF and TV for the Vendor case, obtained relying on the Business Plan provided by the Target's management and the assumptions reported also for Base and Bearish Scenario.

Table.14: FCFF and TV for DCF – Vendor Scenario.

Values in $		2023E	2024E	2025E	2026E	TV
Revenues	**$**	**332.4**	**374.9**	**438.1**	**451.8**	**451.8**
EBITDA Adj.	**$**	**50.8**	**60.1**	**79.7**	**82.9**	**82.9**
% of revenues	%	*15.3%*	*16.0%*	*18.2%*	*18.3%*	*18.3%*
Bad debt & SM&O	$	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
% of revenues	%	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
EBIT Adj.	**$**	**38.6**	**49.0**	**66.1**	**69.6**	**68.3**
% of revenues	%	*11.6%*	*13.1%*	*15.1%*	*15.4%*	*15.1%*
Taxes	$	*(11.6)*	*(14.7)*	*(19.8)*	*(20.9)*	*(20.5)*
Tax rate	%	*30.0%*	*30.0%*	*30.0%*	*30.0%*	*30.0%*
NOPAT	**$**	**27.0**	**34.3**	**46.3**	**48.7**	**47.8**
% of revenues	%	*8.1%*	*9.2%*	*10.6%*	*10.8%*	*10.6%*
D&A	$	*12.2*	*11.1*	*13.6*	*13.3*	*14.5*
% of revenues	%	*3.7%*	*3.0%*	*3.1%*	*2.9%*	*3.2%*
Δ Working capital	$	*10.2*	*6.4*	*(22.4)*	*6.0*	*0.0*
% of revenues	%	*3.1%*	*1.7%*	*(5.1)%*	*1.3%*	*0.0%*
CapEx	$	*(12.6)*	*(9.2)*	*(6.2)*	*(5.5)*	*(14.5)*
% of revenues	%	*(3.8)%*	*(2.5)%*	*(1.4)%*	*(1.2)%*	*(3.2)%*
FCFF	**$**	**36.9**	**42.6**	**31.3**	**62.5**	**47.8**
% of EBITDA	%	*72.5%*	*70.9%*	*39.3%*	*75.5%*	*57.7%*
FCFF to be actualized	**$**	**36.9**	**42.6**	**31.3**	**62.5**	**536.8**

Source: internal elaboration.

Starting from the input above, it is provided the valuation of the Target under the Vendor Scenario. Note that the enterprise value seems to be way far from what comes out in the Base and Bearish case, implying that, as normally happen, the seller's management tried to play the field being too optimistic among the numbers.

Table.15: EV and EV/EBITDA 2022 sensitivity tables – Vendor Scenario.

		WACC				
		A%	**B%**	**C%**	**D%**	**E%**
g-rate	**F%**	527	496	468	443	421
	G%	537	**505**	476	**450**	427
	H%	548	514	**484**	458	434
	I%	559	**524**	493	**465**	440
	J%	571	534	502	473	448

		WACC				
		A%	**B%**	**C%**	**D%**	**E%**
g-rate	**F%**	14.2x	13.4x	12.6x	12.0x	11.4x
	G%	14.5x	**13.6x**	12.8x	**12.2x**	11.5x
	H%	14.8x	13.9x	**13.1x**	12.4x	11.7x
	I%	15.1x	**14.1x**	13.3x	**12.6x**	11.9x
	J%	15.4x	14.4x	13.6x	12.8x	12.1x

Source: internal elaboration.

Further confirmation indeed is given by the EV/EBITDA 2022 (EBITDA Adj. 2022 of 37.0 $ in Vendor Scenario) which varies in a range between 12.1x and 14.2x. These values are way higher than the sector average which generally varies between 6x and 8x multiple.