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PIAGGIO SHIFT TO ASIA – UNDERSTANDING PIAGGIO'S KEY DRIVERS

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Abstract

This report, which intends to develop an Equity analysis of the company Piaggio, will start with an Introduction, explaining the structure of the project carried out as a master thesis. It explains the division between the joint report and the individual report. Consequently, it's presented the analysis developed in terms of the company overview, with a special focus on the financial analysis. It will also be approached with the performance of the competition in the same period. After this analysis, it will be explained how the company is forecasted to grow. The report will end with a multiple valuation.

Keywords: Emerging countries; Electric Vehicles; Efficient Poducts;

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This report is part of the “The Piaggio shift to Asia” report (annexed), developed by Ricardo José Correia de Jesus and Rodrigo Miguel Guedes Rosa and should be read as an integral part of it.

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Introduction

The joint report, “The Piaggio shift to Asia”, intended to evaluate Piaggio & C. Spa., which is an Italian-based motorcycle manufacturer present in several geographies and, to provide a financial recommendation on whether the company could provide investor with interesting returns. To develop a final recommendation, it was analysed several topics that might condition the evolution of cash flows of the company and the respective valuations methods. The joint report is divided into 6 topics: 1. Company Overview, describing the business model of the group and past financial performance; 2. Industry Overview, which was analysed the main market trends, macro and of the industry, including competitors; 3. Forecast and Drivers, where it’s explained the main assumptions that supported the valuation of the company and it’s outcomes; 4. Valuation: using cash-flow methods (DCF) and EV multiples; 5. Scenario Analysis: where it was developed different frameworks to evaluate potential risks; 6.Conclusion: where it was provided a final recommendation. After an extensive analysis, it was recommended that Piaggio could offer potential gains to investors within 1 year (+0.50 € per share, with a total capital gain of +17.7% over the amount invested). To support this recommendation, are the projected increase in the company’s revenues, namely in Asia and Indian geographical segments, which offer the group with the highest returns on invested capital.

In this individual report, it was covered some of the topics mentioned above. In terms of company overview and financial analysis, this study was relevant to understand what the current situation of the company was. To illustrate, the financial analysis highlighted the importance of the growth in revenues of the Asian segment, which will be a pivot for value creation in the company. To complete the analysis of context of Piaggio, the development of a framework of competitors allowed to take conclusions that ended up significantly impacting the valuation of the company. As example, through the comparable analysis it was possible to identify that Piaggio presented lower levels of productivity when compared with its peers. It also allows that Piaggio has some pricing advantage over some of its most direct competitors. To build the revenues forecasts for the company, it was needed to understand which type of drivers would impact the most the evolution of the net sales. In the financial model developed, the revenues driver selected, was the urban population of the 3 different geographical segments. Scooters are a way of transport choose to reach faster and in an efficient way any point in an urban area. The revenue growth of the segment in Asia and India will also be driven by the increase in the middle and upper classes, which will start looking for other alternatives to public transport. In addition, the energetic transition will create new business opportunities for Piaggio, which already has electric vehicles in its portfolio. The evolution of operational expenditures is always a key driver in a company valuation and Piaggio still has space for improvement special in the employee productivity ratios. In terms of valuation, the multiples valuation plays an important role to compare our valuation with the valuation “realized” using market values of the companies’ peers.

To conclude, this individual report helps understanding the current situation of Piaggio and some of its value drivers and, complement with the analysis for the joint report, provides a comprehensive analysis of the company and of the potential gains for investors.

Company Overview

The Piaggio Group, established in 1884 by Rinaldo Piaggio, is one of the largest scooter and motorcycle manufacturer and one of the world leaders in the industry.

Since 2003 the Piaggio Group has been controlled by Immsi S.p.A., an industrial holding listed on the Italian stock exchange. Piaggio completed its IPO in 2006.

Currently, the company has 8 production plants, with its most recent opening in Indonesia during November 2022, and has 7 R&D centres. Piaggio is operationally segmented by three geographies: i) EMEA and Americas, ii) India and iii) Asia Pacific. Each of the segments is responsible to develop, manufacture and distribute two-wheeler, light commercial vehicles, as well as new mobility solutions.

Figure 1 – Source: Piaggio Group

The Group sells two-wheeler vehicles under the brands Piaggio, Vespa, Aprilia, Moto Guzzi, Gilera, Derbi and Scarabeo and commercial vehicles under the brands Ape and Porter. Piaggio Group also has a robotics division, with Piaggio Fast Forward, that is conducting research into innovative mobility and transport solutions. In 2021, Piaggio Group registered Net Revenues of €1.7 billion, confirming a 27% growth compared to 2020. What's more, only in the first 9 months of 2022, the Company reached €1.6 billion in sales, which represents a 23% growth compared with the first 9 months of 2021.

Financial Analysis and Stock Performance

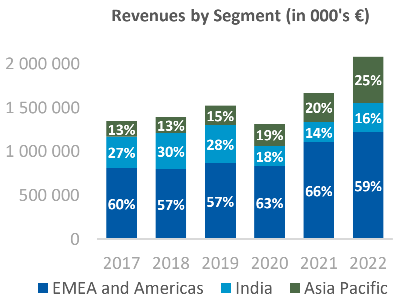


Figure 2 – Source: Piaggio's Annual Report

Piaggio Group concluded FY2021 with consolidated Revenues of 1,6€ billion. Compared with FY2020, the year of the Covid-19 outburst, the turnover of the group in 2021 grew by 27%. This was also the year with the highest turnover value in the last 10 years. For 2022, the group already achieved 1.6 € billion in Net Revenues until September, resulting in a projection of 2 € billion in revenues in 2022.

The revenues of the group presented a CAGR of 5.6% from 2017 to 2021. Analysing the geographic segments of the company, EMEA and America represent 66% of the total revenues, followed by Asia Pacific with 20% and finally India with the remaining 14%. In the two-wheeler segment, the CAGR of the total revenues in the previous 5 years was of 7.6%. The increase in revenues was mainly driven by the strong performance of the Asian market with a CAGR of

13.6% of its total revenues, pushed by the increase in the units sold presenting a CAGR of 11.6%. In the commercial vehicles segment, the net revenues of the group contracted in the last 5 years (CAGR of -5.2%), mainly justified by the weak performance of the Indian market (-11.8% of CAGR).

For the FY 2022E results, where the revenues are projected to increase 58.7% (vs 2020), Asia is expected to represent 48% of the total increase in revenues. In Europe, the increase in revenues is driven by the growth in the ARPV of 8.6%. The Company assumed in the Q3 2022 Earnigs Call that has been benefiting from a price mixing effect. Since motorcycles have higher selling prices, the good performance of brands like Aprilia and Motto Guzzi increased the revenues of the group during 2022.

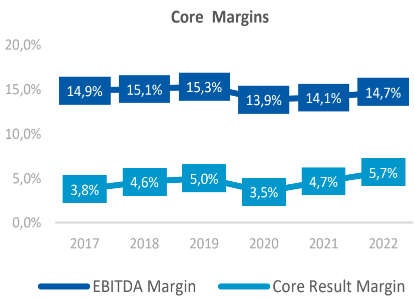


Figure 3 – Source: Piaggio's Annual Report

In terms of profitability the group maintain its EBITDA margin over the last 5 years at a ratio of 14.5% of the Net Revenues, while the profit margin increased from 1.5% in 2017 to 3.6% in 2021. The liquidity of the firm has also improved increasing its cash ratio from 0.21 in 2017 to 0.32 in 2021, however still below the average cash ratio of its comparable (0.42 in 2021). The interest coverage ratio of the group increased in 2021 to a ratio of 4.52, from a ratio of 5.58 in the previous year.

Piaggio & C SpA trades under the "PIA.MI" ticker symbol. The security can be traded on the MIL (Milan Stock Exchange or Borsa Italiana), Italy's stock exchange market. The company executed their Initial Public Offering, and the 1st trading day was on the July 11, 2006, issuing 137.2 million shares at 2.30€ each, raising approximately €315 million.

Since 2017, PIA.MI's daily stock returns showed a skewness of 0.17, which indicates that the distribution of returns is fairly symmetrical and excess kurtosis of 0.42, meaning that the dataset has slightly heavier tails than a normal distribution (more in the tails).

The lowest closing price during the last 5 years was €1.43 (early April 2020) and the highest was €3.58 (June 2021). As of December 13th, 2022, the price was at 2.85€ per share. As of 31 December 2021, share capital comprised 358,153,644 ordinary shares. 50.07% controlled by Immsi, 5.54% owned by Diego Della Valle & C Srl, 44.10% owned by other shareholders and 0.29% in Treasury Shares.

Industry Overview

Competitors

- Pierer Mobility AG

Pierer Mobility AG is a European based manufacturer of powered two-wheelers. The group is based in Austria, where 82% of its employees are employed and where most part of its motorcycles are produced. The group competes with Piaggio in the motorcycle segment, having a portfolio of well-known brands of sport motorcycles such as: KTM, Husqvarna and Gasgas. Similar to Piaggio, around 56% of its revenues are held in Europe, followed by North America and Mexico (23%) and the remaining 21% spread globally. In the last 5 years (2017-2021) the group had a CAGR in revenues of 10.8%, superior to the growth presented by Piaggio. Comparing the revenues of the group in Europe to the revenues of Piaggio in the same geographical area, Pierer Mobility presented a CAGR of 12.4% in revenues since 2017 to 2021, while Piaggio had a CAGR of 8% in the same period. The EBITDA margin of the group in the last 5 years was of 15.6%, higher than the consolidated margin presented by Piaggio.

The ARPV in Europe in 2021 was around 7,721€, considerably higher when compared with the same metric for Piaggio 2W in Europe. Nevertheless, considering that Pierer Mobility AG is the main player in premium sport motorcycles, it's not possible to compared directly the ARPV of the two groups, since Piaggio sells around 70% of scooters in this segment, which has a lower selling price. Therefore, Pierer Mobility competes with Piaggio within the motorcycle brands, such as Aprilia and Moto Guzzi.

Through on of its subsidiaries, Pierer Mobility has established a partnership with Indian Bajaj Group, the second largest Indian motorcycle manufacturer, strengthening its position worldwide and in one of the markets with a higher potential for growth. This partnership enables Pierer Mobility to produce and sell its brands in India, benefiting from the experience and extensive network of Bajaj Auto.

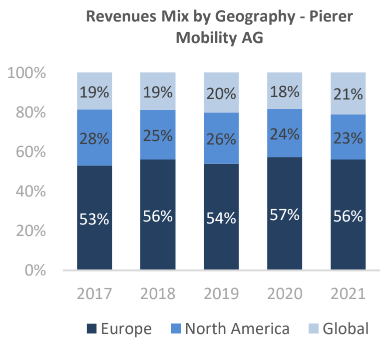


Figure 4 – Source: Pierer's Annual Report

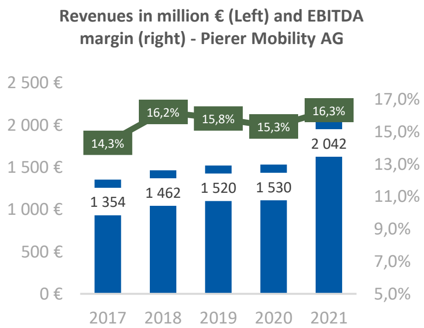


Figure 5 – Source: Pierer's Annual Report

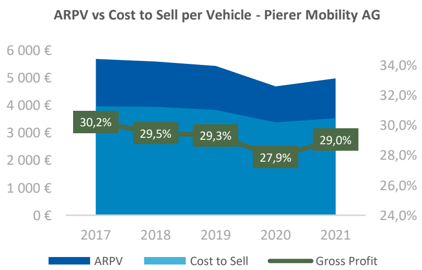


Figure 6 – Source: Pierer's Annual Report

- Harley-Davidson Inc

Harley-Davidson Inc is an American motorcycle manufacturer, producing motorcycles under the brand of Harley Davidson and motorcycle parts, accessories, and apparel. The group sells mainly in the North American market, which represents 67% of the global revenues. From 2017 to 2021 the revenues of the group decreased at a CAGR of -2%, mainly due to the decrease in the number of units sold (-6% CAGR) despite the increase in the ARPV that grew at a CGAR of 4.3%. The company is having difficulties in attracting younger

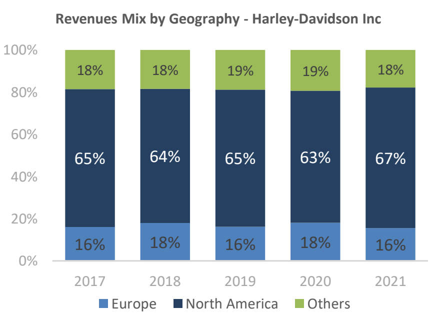


Figure 7 – Source: Harley-Davidson's Annual Report

generations in the US domestic market and to compete with different consumer behaviours that preferred more efficient and lighter bikes, rather than expensive ones.[1] The company has assumed that aims to expand its operations in Asia, followed by an increase in demand in this geographical segment.

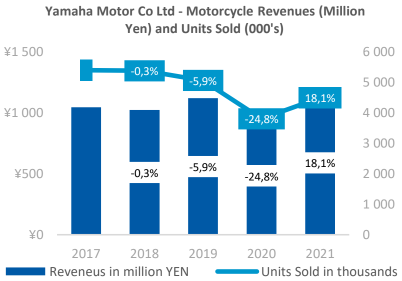


Figure 8 – Source: Yamaha's Annual Report

- Yamaha Motor Corp, Ltd

Yamaha Motor Corp, Ltd is a Japanese-based manufacturer, operating in 3 different segments: Land Mobility, Marine Products and Robotics. The Land Mobility segment, which accounts for 65% of the global revenues of the company, consists of a wide range of products, including motorcycles, under the Yamaha brand, all-terrain vehicles, electrically power-assisted bicycles, among others. This segment had in the last years a CAGR of 3.1%[2] in terms or revenues (207-2021). Breaking down the revenues of the segment, in 2021, 65% of the turnover was originated from emerging market and 21% from developed markets. The company strategy will be focused in increasing the earnings in emerging markets within its premium segment. The group wants to take advantage of the increase in the upper class in Asian countries (India/Indonesia/Philippines), expected to increase 1.8x by 2030 (Yamaha Annual Report).

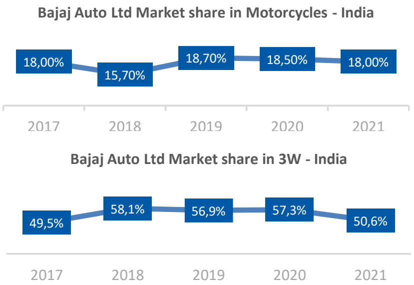


Figure 9 – Source: Bajaj Auto's Annual Report

- Bajaj Auto, Ltd

Bajaj Auto, Ltd is an Indian-based manufacturer of motorcycle and three-wheelers vehicles. In the Indian market, the company has a market share of around 18% for the motorcycles segment and, in the last 5 years presented a negative growth in terms of unit's sales, with a CAGR of -2.5%, following the decrease of units sold in the industry[3]. For the three-wheeler segment, the company presented a decline of -18.9% (CAGR) from 2017 to 2021, at the same time the industry decreased at a CAGR of 19.4%. If in the Indian market the units sold decreased, in terms of exports, the units sold in the motorcycles segment rose at a CAGR of 15.9%. In terms of profitability, the EBITDA margin of the group has been decreasing over the last years, passing from 21.7% in 2017 to 18.3 in 2021.

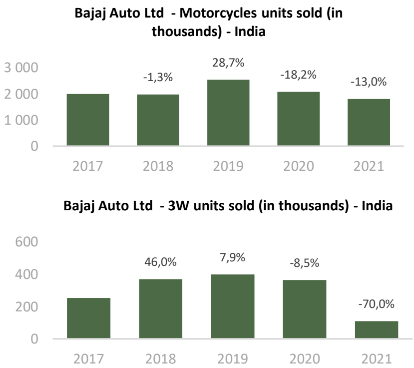


Figure 10 – Source: Bajaj Auto's Annual Report

Due to the similarity of products offer by Bajaj Auto in India in both Piaggio segments (2W and LCV), the company is a direct competitor of Piaggio in India. Whitin the scooters segment, Bajaj Auto competes with Piaggio by offering an electric scooter, Chetak EV. Comparing the pricing of both brands, Vespa VXL presented on average lower selling prices. When comparing the Ape model of

[1] "Harley-Davidson's sales growth struggle sends shares tumbling", Reuters
[2] Please note that the consolidated revenues are accounted in Japanese yen.
[3] Industry values based in Bajaj Auto Ltd Annual Reports.

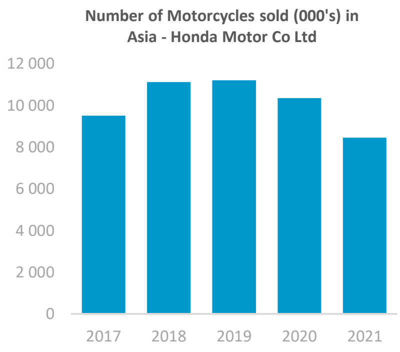


Figure 11 – Source: Honda's Annual Report

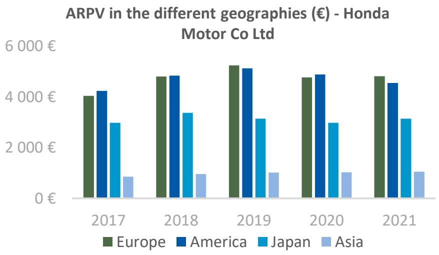


Figure 12 – Source: Honda's Annual Report

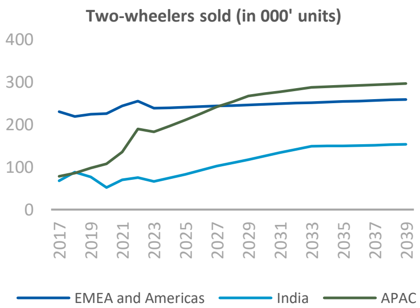


Figure 13 – Source: Nova SBE Equity Research and Annual Report

Piaggio and Maxima C of Bajaj Auto, Piaggio continues to have a competitive advantage in terms of pricing.

- Honda Motor Co, Ltd

Honda Motor Co, Ltd is a Japanese based company that operates in 4 different business segments: motorcycles, automobile, financial services and life creation. Despite the revenues of the motorcycles segment representing only 14% of the total revenues of the company, as referred to in the industry analysis, it's one of the main players in the motorcycles industry. In FY2021[4], the Net Revenues of the group in the motorcycle segment exceeded the 13 billion euros. The Covid-19 and the shortage in the semiconductors negatively impact the sales in 2020 and 2021, declining - 11% (CAGR) in two years. The main segment is the Asian market that represents 64% of the sales in the motorcycles segment. In terms of gross profit, Honda presented much higher cost margins around 70% and 73%. According to Zigwheels website, the selling price of Vespa Sprint was around 51.2 to 53.7 million rupees, while the price for Honda's scooter, Honda Scoopy was around 21.55 to 22.32 million rupees. The lower prices from Honda Motors are also noticed in its Income Statement for the Asian market. While Piaggio had an ARPV of 2.460 € in 2021, Honda presented 1.0144 € in the same segment for 2021.

Forecast and Drivers

Revenues

In the FY2021 Annual Report, Piaggio assumed that aims to strengthen its leadership position in the European two-wheeler and Indian light commercial vehicles market, growing as well in other international markets, with reference to the Asian region. The group also intends to develop its electric vehicles range taking into view the transition towards the use of renewable energy sources. Based on the goals published by the group, the market and competitive framework of the industry and the macroeconomic context, a forecast for revenues was estimated for the three different geographical segments. By 2030, 30% of the Net Revenues will be originated in the Asia Pacific market, with a revenue multiple of 1.74x (compared to 2022 baseline); the Indian market will represent 20% of the revenues of the group, with a multiple of 1.84x; the European will continue to be the number 1 market for Piaggio with a weight in Total Net Revenues of 49%.

EMEA and America

[4] Please note the consolidated reports of Honda Motor Co Ltd, considered FY end at March

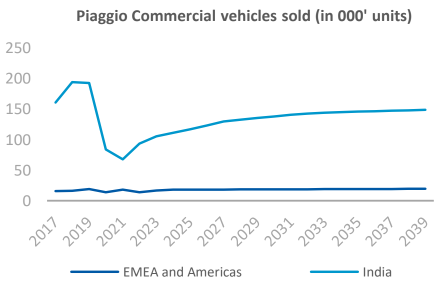


Figure 14 – Source: Nova SBE Equity Research and Annual Report

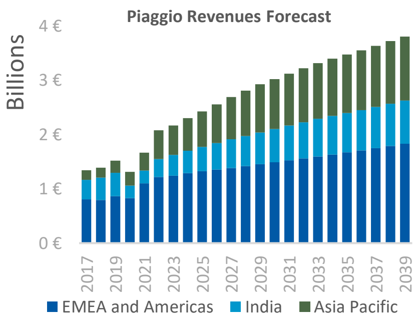


Figure 15 – Source: Nova SBE Equity Research and Annual Report

As previously mentioned, the European and American markets for two-wheelers are concentrated particularly in urban areas, targeting customers who look for faster and more efficient ways of transport. Therefore, it was used the urban population of the main geographies of Piaggio' sales to extrapolate a breakdown for the market. To forecast the urban population of the countries used as a benchmark[5], it was used the urban population rates from The Economist Intelligence data centre. The forecast for the rates assumes that the urban population over all population will growth close to 2 percentage points. Using past historical data for the number of vehicles registered in each geographical segment[6], it was calculated a penetration rate for the industry. In the last 6 years, the penetration rate (vehicles registered over total urban population) in EMEA and America was situated around the 0.13% in the scooter segment and 0.22% in the motorcycles segment. In both segments, the rates have been increasing over the analysed period. The forecast assumes that the rate for the scooter segment will be maintained at 0.13% and for the motorcycles segment it was considered a rate of 0.22%. The European and American segments are already a concentrated market; thus, it shall follow the growth of its population. Moving to Piaggio's units sold, it was used the forecasted market share for Piaggio. In the two-wheeler segment, the Piaggio's market share decreased in the last 6 years, passing from 13% in 2017 to 11% in 2022E (estimated). Assuming that Piaggio will not be able to gain a competitive advantage in Europe and America, as competitors, such as Pierer Mobility, are also consolidating its position and Europe is already a consolidated market, Piaggio is projected to maintain a market share of 12% (average of the last 6 years).

In 2023, the units sold are expected to decrease 6.7%. Despite the success of the Piaggio's brands recently, 2023 is set to be a challenge year in the motorbikes industry segment. As stated in the macroeconomic analysis, European consumers will continue to be impacted with a reduction in their economic purchasing power, as consequence of inflation. In the short-term, the reduction in the economic strength and confidence of consumers will negatively impact the sales of Piaggio. Furthermore, the motorcycles segment, considered as a more leisure segment, is expected to decrease its revenues, as consumers will reduce their spending in non-essential goods. After 2023, it is being considered a growth in line with the population growth (0.6% per year). In terms of pricing, it grows in line with inflation, which will result in a sustained CAGR of 2.5% from 2023 to 2030, and 2.3% onwards. The success of Aprilia Racing, its new satellite team (RNF) for the Moto GP 2023 season and the introduction of

[5] Italy, France, Spain, Netherlands, Germany, Greece, United Kingdom and the USA.
[6] The historical market data used for forecasting purposes was retrieved from Piaggio's Annual reports. For the two-wheeler market, the data available is split between scooters and motorcycles.

new pilots, are all factors expected to contribute to the brand recognition and revenue improvement, namely within the new products launched, such as Aprilia SR GT and MP3. As for the scooter segment, with the changes in consumer trends, looking for more efficient ways of transport, the brand shall be able to maintain a sustained growth. Moreover, in order to forecast the Indian market, it was also used the forecasted rate of urban population for the next years. The Economist Intelligence forecasts a growth in the urbanization rate of 35.8% in 2022 to 38.2% in 2027. In terms of population growth, by 2027 the Indian population is projected to increase 4.4%, the highest growth in the three geographical segments. The average penetration rate of the last years was of 1.12% in the scooters segment, 2.4% in the motorcycles segment and 0.1% in the LCV. To forecast the growth in the penetration rate, it was used a forecast from The Economist, which projected an increase of 3% per year in number of vehicles per 1000 people until 2027, assuming a constant penetration rate onwards. The increase in the penetration rate will be driven by the increase in the middle-class disposable income, which will increase the demand for new ways of transport, other than public transports. The market share of Piaggio in the two-wheeler segment in India is increasing since 2017, with a projected market share of 0.55% in 2022, while the market share in the LCV was on average 28.7% in the last 6 years. As explained in the competition analysis section, a major player in the Indian 2W segment, Bajaj Auto, is focusing on exports and losing market share in the domestic market. In addition, Piaggio has a pricing competitive advantage compared to Bajaj Auto thus its projected an increase in the market share of Piaggio, reaching long-term market share of 1%. In the LCV the market share of the group is projected to be maintained, due to its consolidation in India.

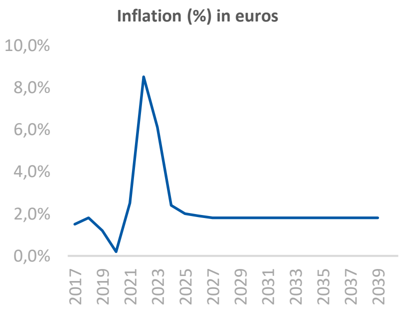


Figure 16 – Source: The Economists, EIU

In 2023 the Net Revenues of the group in India are projected to grow 14.2%, with a strong contributor from the light commercial vehicles that have not fully recovered from the pre-pandemic level, and thus it will depart from a lower baseline. By 2030 the CAGR of revenues in the 2W segment will be of 11.7% and in the LCV is projected to be 5.9%.

The Indian government is recently following a policy to incentivize the use of electric vehicles. Section 80EEB will provide households with tax deductions on interest paid on loan amounts, in the purchasing of electric vehicles. The Managing Director of Piaggio Vehicles, the subsidy based in India, assumed the electric two-wheeler vehicles would represent 30% to 40% of the total market.[7] In December of 2022, Piaggio announced the launch 2 new LCV vehicles under Ape brand. We are confident that Piaggio will be able to gain market share in a

[7] "Piaggio's Diego Graffi: 'India's electric two-wheeler penetration will be 30-40% in 3-4 years", Autocar Professional

new segment that is being created and with significant potential. The brand recognition and solid market share of Piaggio in the three-wheeler segment in India, will impulse the revenues of the group.

Asia Pacific

For forecasting purposes, it was used the Vietnamese and Indonesian regions as benchmarks since they are the most representative in the Asia Pacific market for Piaggio. In both countries, the urbanization rate if projected to increase to 43% in Vietnam (compared with the current 35.8% in 2022) and to 62% in Indonesia (compared to the current 58% in 2022). The two-wheeler penetration rate of the industry, slightly decreases in the last 6 years from 1.8% in 2017 to 1.3% in 2022. The increase in the rate was projected taking into consideration the increase in the number of vehicles per 1000 people, which it's projected to grow around 1.4% until 2027. The market share of the group in the Asia Pacific segment will continue its growth trajectory, reaching 8.25% by 2029. In 2021, the market share of Piaggio was 5.42% while in 2017 was only 2.38%. The units sold by Piaggio will grow at a CAGR of 5.8% until 2030. The increase in the middle and upper class of the Asian emerging market is expected to increase the demand for motorcycles and scooters. Yamaha, for example, expects the demand in the segment will increase 1.8x by 2030.

OPEX

For the valuation and forecast of the OPEX, we gave special attention to Piaggio main operations expenditures: Costs with Materials and Employee Costs.

Costs with Materials

Cost of Materials is Piaggio's main operational expenditure, representing on average 61% of the total Net Revenues of the company. Piaggio does not detail the composition of the raw materials used in the production of its motorbikes and commercial vehicles. From research, the main materials used in the production are usually metal, plastic and rubber, all which have been under price pressure given the inflationary scenario.

Analysing the costs by region, we observed that the Indian segment presented consecutively higher cost margins than the other two segments (around 63% of Net Revenues). The Asian segment, on the other side, presented the lowest cost margin (around 54%). In the Half-year report of 2022, the group's costs margins slightly increased to 65%. This increase is mainly justified, as previously mentioned, by the effect of inflation in energetic products as well in raw materials, particular in Europe and America. Therefore, in 2023 the cost margin in Europe will continue to be higher than the average of the past years, ending the year with a margin of 65%. This projection estimates than in the Indian and Asian markets' cost margins also increase in the following years, concluding, in the long-term, with margins of 71% for India and 67% for Asia. In terms of its peers, Bajaj Auto presented a cost margin of 70%, Pierer Mobility of 71% and Yamaha of 72% in FY2021.

Employee Costs

Representing 11.7% of the total revenues, costs with employees is the main item in the operational expenditures of the group. Piaggio has in the last 5 years consecutively been able to decrease this margin, passing from 15.5% of revenues in 2017 to the 11.7% previously stated. Most of the costs are coming from the EMEA and America segments, which represent around 90% of the total amount. This region not only accounts for most of the workforce, with 58% of the total employees, but it also the region with substantially higher wages. In Europe, the company have been able to decrease the margin of employee costs to Net Revenues, passing from 24% in 2017 to 19% in 2021.[8] In terms of workers in Europe, in 2022, 88% accounted for collar workers, focused on the production of vehicles. The ratio of number of units sold in relation to the number of collar workers have been slightly increasing, reaching a ratio of 75.000 units produced by one employee in one year. It's main competitor in Europe, Pierer Mobility, presented a ratio of 79 units produced per employee. For forecasting purposes, it was assumed that Piaggio would reach and maintain a ratio of 79 units produced per employee, representing a CAGR of 0.5% in the long term. Concerning the costs with the management, which have higher salaries, but a smaller number of people compared with collars, it was assumed a ratio in terms of revenues in last 6 years. In terms of salary increase, it is expected to grow with inflation. The employee costs margin will stabilize around 19% in the long-term.

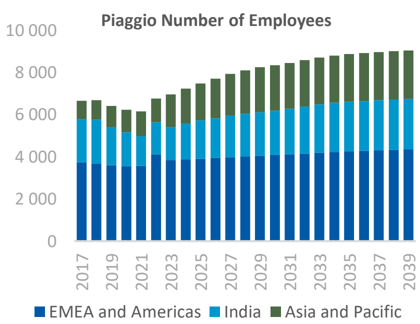


Figure 17– Source: Nova SBE Equity Research and Annual Report

In India, collar employees accounted for 92% of the total workforce in the segment in 2022 and presented a ratio of 121 units produced per 1 employee. The ratio has decreased during COVID-19. In 2019 the ratio was at 172 thousand of units produced. Bajaj Auto, the peer selected for the business unit in India, had and average ratio in the last 6 years of 270 units produced. Considering the most recent investments in Indian's Piaggio factories and the increase in the education levels of the India population, with was estimated that Piaggio would achieve a productivity ratio of 60% of the ratio achieved by Bajaj Auto, which would represent around 162 units produced per employee. For the most skilled workers,

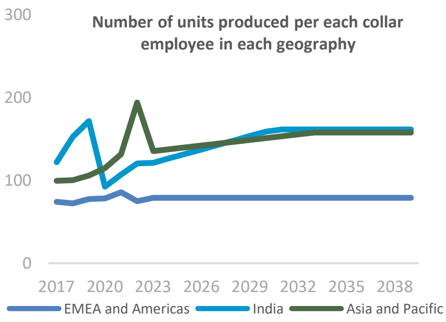


Figure 18– Source: Nova SBE Equity Research and Annual Report

[8] Please note, that in our reformulation analysis the salary per worker was estimated based on the median salary of other manufacturing companies' operation in India (Atul Auto) and in Vietnam (Vin Group).

it was maintained the ratio of number of employees per worker. However, due to strong income inequalities in India, which from an google research was possible to observe that management workers can earn 10x more than unskilled workers, the salaries per employee are significantly higher for management workers, resulting in 70% of the total salaries expenses in India. The employee cost margin will increase to 4% in the long-term, driven by stronger increases in salaries when compared with productivity gains.

In Asia, for the collar workers, it was selected as comparable, Yamaha, which has a ratio of units produced per employee of 226. Currently, the collar workers have a ratio of 194 units in 2022, presenting significant gains in productivity during the last years. Piaggio is expected to reach 70% of the targeted ratio from Yamaha in the long-term. Likewise, due to income inequalities in Vietnam the salary per employee for specialized workers are also significantly higher, resulting in 80% of the total salaries expenses in Asia. The employee cost margin will increase to 4% in the long-term, driven by stronger increases in salaries when compared with productivity gains.

In the long-term, Asia will account for 25% of the total number of employees, India for 27% and Europe for 48%. The employees' costs margin will increase be stable at around 11% of total Net Revenues.

Multiples

Valuation Multiples are values used to compare the ratio of one entity that will lead to the value of its peer. These financial metrics are widely utilized to make companies more comparable, as their unique values are normalized through a ratio. For our valuation, we used the EV/EBITDA multiples

For the valuation through an Enterprise Value multiple, it was selected two peers and the multiple that is attributed by the market to Piaggio. The peers selected were Pierer Mobility AG and Yamaha Motor Co Ltd. These peers were chosen based on its similarities to the business of Piaggio and financial metrics. Pierer Mobility, like Piaggio, has a strong presence in Europe (56%) and a partnership with Bajaj Auto, a competitor of Piaggio in India as well. Financially, the company presents an EBITDA margin of 15.2% and an EV of 2.2B €, both metric like Piaggio. The market is valuing Pierer Mobility at an EV/EBITDA of 7.8x. Yamaha, despite having other segments not correlated with Piaggio are an important player in the motorcycles segment with strong presence in Asia Pacific, which is a geography where Piaggio will expand in the following years. In addition, the group has as brand, Yamaha Delight, which incorporates the scooter segments, crucial to Piaggio. The EV/EBITDA of Yamaha in 2021 was 5.7x. Finally, we also used the Piaggio multiple in 2021 to incorporate the market valuation of Piaggio.

The multiple was of 4.9x. From an average of the three multiples, we performed a 12M forward valuation considering a multiple of 6.2x, which valued the company at an EV of 1.7B € and an Equity value of 1.12B €. The market share price computed was of 3.30 €, which is equal to the share price we achieved through our DCF valuation. We decided to not analyse the company using the P/E multiple, since this multiple would ignore the Capex Investments of the group in the first years. Therefore, considering that this industry is capex intensive, it would be misleading to value this company through this multiple.

Annex – Piaggio & C. SpA's Equity Research

PIAGGIO & C. SPA

COMPANY REPORT

AUTOMOBILE

16TH DECEMBER 2022

STUDENT: RICARDO JESUS & RODRIGO ROSA

31819@novasbe.pt & 44547@novasbe.pt

The Piaggio shift to Asia

Summary

- In FY2021, Piaggio's Net Revenues grew over 27%, reaching the highest value of sales in the last ten years with a consolidated amount of €1,7B (billion). In FY2022, the group is estimated to close the year with revenue growth of 24,6%.
- In FY21 the main contributor to the increase in revenues was the EMEA and Americas segment, which saw an increase in 2W Net Revenues of 30,6%. For 2022, the revenues in Asia are expected to grow 58,7%, representing 48% of the total Net Rev.
- The revenues of the Indian segment are forecasted to increase 1.23x by 2026 (vs 2022) and the revenues in the Asia Pacific segment are estimated to increase 1,31x by 2026 (vs 2022).
- The Group is projected to continue increasing its Capex investment. Piaggio opened a new plant in Indonesia to follow the fast-paced surge in the revenues in this geographical segment and a planned increase in capacity in the Italian Moto Guzzi plant by 2025
- Electric Vehicles in India are expected to represent 30%-40%, in 3 to 4 years of the sales in the two-wheeler market. Piaggio is launching new product lines of electric 2W and LCV in India.

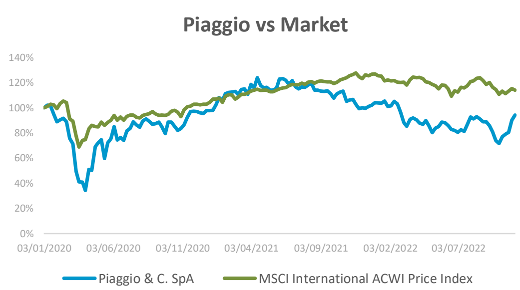
Company description

The Piaggio Group is a motorcycle manufacturer that operates in three geographic segments: i) EMEA and Americas, ii) India and iii) Asia Pacific.
The group founded in 1884 produced around 536 million vehicles in FY2021, and has 2 product segments: two-wheelers and light commercial vehicles.
The group operates under the brands: Piaggio, Vespa, Gilera, Aprilia, Moto Guzzi, Derbi, Scarabeo, Ape and Porter.

Recommendation:	BUY
Price Target FY21:	**3.30 €**
Upside/Downside:	*+15.7%*
Price (as of 16-Dec-22)	**2.85 €**
Bloomberg: PIA:IM	

52-week range (€)	2.06 -2.99
Market Cap (€m)	1,020,767,885 €
Outstanding Shares (m)	358,153,644

Source: Bloomberg



Source: Bloomberg

(Values in € millions)	2021	2022E	2023F
Revenues	1,669	2,079	2,166
EBITDA	235	306	279
Net Profit	60	98	89
EPS	0.17	0.27	0.25
ROIC	9.4%	14.4%	11.1%

Source: Annual Report and Valuation

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Company Overview

Figure 1 – Source: Piaggio Group

The Piaggio Group, established in 1884 by Rinaldo Piaggio, is one of the largest scooter and motorcycle manufacturer and one of the world leaders in the industry.

Since 2003 the Piaggio Group has been controlled by Immsi S.p.A., an industrial holding listed on the Italian stock exchange. Piaggio completed its IPO in 2006.

Currently, the company has 8 production plants, with its most recent opening in Indonesia during November 2022, and has 7 R&D centres. Piaggio is operationally segmented by three geographies: i) EMEA and Americas, ii) India and iii) Asia Pacific. Each of the segments is responsible to develop, manufacture and distribute two-wheeler, light commercial vehicles, as well as new mobility solutions.

The Group sells two-wheeler vehicles under the brands Piaggio, Vespa, Aprilia, Moto Guzzi, Gilera, Derbi and Scarabeo and commercial vehicles under the brands Ape and Porter. Piaggio Group also has a robotics division, with Piaggio Fast Forward, that is conducting research into innovative mobility and transport solutions. In 2021, Piaggio Group registered Net Revenues of €1.7 billion, confirming a 27% growth compared to 2020. What's more, only in the first 9 months of 2022, the Company reached €1.6 billion in sales, which represents a 23% growth compared with the first 9 months of 2021.

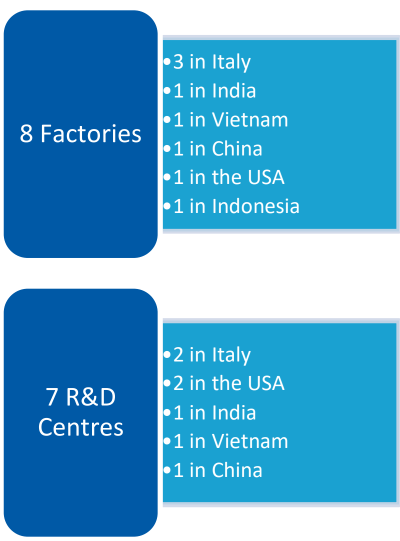

Figure 2 – Source: Piaggio's Annual Report

Business Model and Corporate Strategy

Piaggio is organized in geographic segments that have their own production plants and a sales dealers dedicated to customers in that specific region. EMEA and the Americas and India have production sites and deal with the distribution and sale of two-wheeler and light commercial vehicles, while in Asia Pacific, despite having production sites, only distributes two-wheeler motorbikes.

The two-wheeler (2W) business unit accounted for 82% of revenues in 2021. This segment includes mainly scooters (69% of 2W unit revenues in 2021), motorcycles (21%) and spare parts and accessories (10%). Furthermore, the commercial vehicles unit (CV) comprehend three- or four-wheel vehicles (3w, 4w), which are vehicles that have a gross weight of more less 3.5 tons and represented 18% of total revenues in 2021. The Indian LCV segment contributes to the majority of the revenues in this business unit (55% in 2021), however,

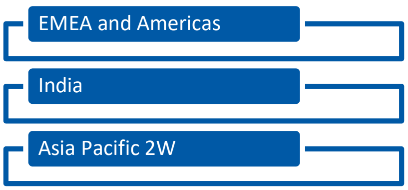

Figure 3 – Source: Piaggio's Annual Report

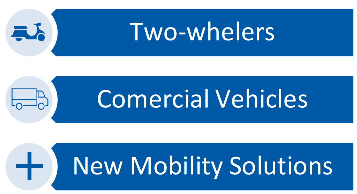

Figure 4 – Source: Piaggio's Annual Report

EMEA and Americas is growing significantly with a 52% year-on-year (YoY) growth, compared to a total revenue growth of 27% YoY.

In 2015, the Group created Piaggio Fast Forward, an affiliate based in Boston, in the United Sates. This area focuses on the research of new mobility products, developing technological and innovative products aiming to meet the new needs of the market. To illustrate, since 2019, Piaggio Fast Forward started selling the GITA, an electric-powered smart robot equipped with sensors and cameras, that allows follow people and avoid obstacles, able to transport goods up to 40 pounds.

Strategically, Piaggio plans to strengthen its position in the European two-wheeler and Indian light commercial vehicle markets, with special focus on new sustainability trends and more demanding regulatory requirements (for specific examples, please refer to Industry Analysis section). Additionally, the company projects to accelerate the international expansion in new geographies, particular in Asia and increase overall efficiency on all company's processes, mainly industrial productivity. The company's strategic direction, its drivers and some concrete targets were included for forecasting and valuation purposes (please refer to the Forecasting and Drivers section to explore the estimations used). Lastly, it is also relevant to mention the growing importance of ESG, which has the potential to drive or affect the valuation, and financial performance of a company or even the capital funds it receives. Piaggio has a system in place that pursues total compliance with district regulations across the multiple geographies in which it operates. The company's MSCI ESG Research score is at AA (in 2021), the 2nd highest score on a scale of 7 figures.

Financial Analysis and Stock Performance

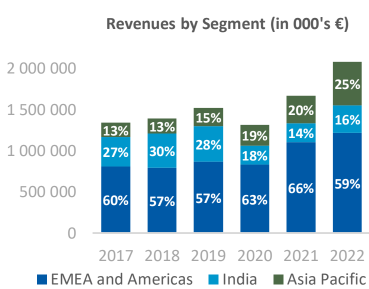

Figure 5 – Source: Piaggio's Annual Report

Piaggio Group concluded FY2021 with consolidated Revenues of 1,6€ billion. Compared with FY2020, the year of the Covid-19 outburst, the turnover of the group in 2021 grew by 27%. This was also the year with the highest turnover value in the last 10 years. For 2022, the group already achieved 1.6 € billion in Net Revenues until September, resulting in a projection of 2 € billion in revenues in 2022.

The revenues of the group presented a CAGR of 5.6% from 2017 to 2021. Analysing the geographic segments of the company, EMEA and America represent 66% of the total revenues, followed by Asia Pacific with 20% and finally India with the remaining 14%. In the two-wheeler segment, the CAGR of the total revenues in the previous 5 years was of 7.6%. The increase in revenues was mainly driven by the strong performance of the Asian market with a CAGR of 13.6% of its total revenues, pushed by the increase in the units sold presenting a CAGR of 11.6%. In the commercial vehicles segment, the net revenues of the group contracted in the last 5 years (CAGR of -5.2%), mainly justified by the weak performance of the Indian market (-11.8% of CAGR).

For the FY 2022E results, where the revenues are projected to increase 58.7% (vs 2020), Asia is expected to represent 48% of the total increase in revenues. In Europe, the increase in revenues is driven by the growth in the ARPV of 8.6%. The Company assumed in the Q3 2022 Earnigs Call that has been benefiting from a price mixing effect. Since motorcycles have higher selling prices, the good performance of brands like Aprilia and Motto Guzzi increased the revenues of the group during 2022.

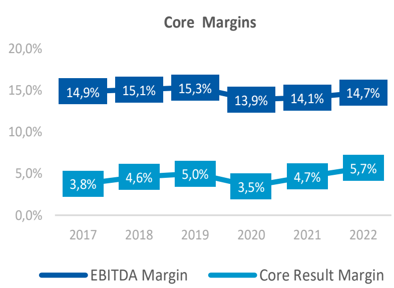

Figure 6 – Source: Piaggio's Annual Report

In terms of profitability the group maintain its EBITDA margin over the last 5 years at a ratio of 14.5% of the Net Revenues, while the profit margin increased from 1.5% in 2017 to 3.6% in 2021. The liquidity of the firm has also improved increasing its cash ratio from 0.21 in 2017 to 0.32 in 2021, however still below the average cash ratio of its comparable (0.42 in 2021). The interest coverage ratio of the group increased in 2021 to a ratio of 4.52, from a ratio of 5.58 in the previous year.

Piaggio & C SpA trades under the "PIA.MI" ticker symbol. The security can be traded on the MIL (Milan Stock Exchange or Borsa Italiana), Italy's stock exchange market. The company executed their Initial Public Offering, and the 1st trading day was on the July 11, 2006, issuing 137.2 million shares at 2.30€ each, raising approximately €315 million.

Since 2017, PIA.MI's daily stock returns showed a skewness of 0.17, which indicates that the distribution of returns is fairly symmetrical and excess kurtosis of 0.42, meaning that the dataset has slightly heavier tails than a normal distribution (more in the tails).

The lowest closing price during the last 5 years was €1.43 (early April 2020) and the highest was €3.58 (June 2021). As of December 13th, 2022, the price was at 2.85€ per share. As of 31 December 2021, share capital comprised 358,153,644 ordinary shares. 50.07% controlled by Immsi, 5.54% owned by Diego Della Valle & C Srl, 44.10% owned by other shareholders and 0.29% in Treasury Shares.

Industry Overview

Macroeconomic Environment

FY 2021 was the year when economies recover from the impact of Covid-19. According to IMF the Real GDP of the global economy grew 6.1%, after an economic recession of -3.1% in 2020. The year 2022 was characterized by a complex macroeconomic situation with some concerns arising from the increase in the prices of raw materials, transport logistics disturbs, the Russia-Ukraine war and consequent international geopolitical tensions. In Europe, the HICP index reached a historical high, exceeding the 10% threshold. In the US, inflation soared over 9%. This means that production costs for Piaggio are consequently increasing, which may lead to changes in the supply and demand curves for the company's products. These inflation records forced Central Banks to end the monetary policy of low-interest rates observed in the last decade. The ECB is projected to raise deposit interest rates by 50 bps to 2% until the end of the year, and in the US, the Fed has raised interest rates to 4.5%. For valuation purposes, such shifts have severe consequences, as interest rates rise the discount factor is larger, which reduces the present value of the security, in this case, Piaggio's share price. Since Piaggio uses reverse factoring to pay its suppliers, the increase in interest rate can force commercial banks, that guarantee these amounts and serve as intermediaries, to renegotiate the interest involved in such transactions.

The contributors to such levels of inflation were the combination of shifts in demand caused by the pandemic and consequent labour shortages with lockdowns and an increase in fuel and natural gas prices, following the conflict in Ukraine. There is a significant risk for Europe to enter into a larger economic recession which may negatively impact the performance of Piaggio. In a period where families may lose purchasing power, the consumption of non-essential goods is likely to be reduced.

Market Analysis[1]

- Two-wheeler vehicles

The two-wheeler market is primarily defined by the existence of a small group of well-established players. These range across all geographies, however, more than 25% of global motorcycle sales belong to the Japanese Big Four (Honda, Yamaha, Suzuki, and Kawasaki). In the US, the largest firm is Harley-Davidson with a 23% market share and in Europe, among the largest companies, there is

[1] The Market Analysis section was perfomed with support data from European Union Law, Statista, Grand View Research, Fortune Business Insights and Salary Budget Report by WTW.

Piaggio, Pierer Mobility, BMW Motorrad and Triumph. Lastly, the Indian two-wheeler market, which accounts for around 18% of global unit sales has one key characteristic: the Indian Original Equipment Manufacturers (ORMs) represent 77% of its total market that includes firms such as Ashok Leyland and Bajaj Auto. For more details on specific peers, please refer to the Competitors section.

Concerning the two-wheeler vehicle type, these can be split in 3 groups based on the different characteristics that each consumer is looking for in different contexts: on-road motorcycles, off-road motorcycles and scooters. The first is designed to be ridden on paved roads and contributed with a revenue share more than 50% in 2021. Besides that, on-road bikes have an engine volume greater than 125cc (cubic centimetres), and some categories can reach over 1000cc. Off-road motorcycles, also known as “dirt” bikes, are manufactured for sports end, such as off-road racing events or on irregular paved tracks. The second segment are scooters. These type of vehicles are preferred among multiple riders, due to its light weight and easy-to-ride features. Generally, their engine capacities range from 50cc to 650cc and contain more built-in storage space than the traditional two-wheelers. Scooters also attract consumers looking for a more efficient way of transport, especially younger adults, as their first transport vehicle.

Recently, with the COVID-19 pandemic, the market observed a decline of more than 10% in geographies such India, Vietnam, Thailand and the Philippines, in 2020. The main reason for the decline were explained by the suspension of motorcycle operation plants in the largest manufacturing nations, such as China, Japan, India and ASEAN. To illustrate, Honda announced in November 2022 that it has paused operations for three auto plants in Wuhan, China, as continuous lockdowns were being implemented. As supply-chain is being distorted, global production is consequently being affected and therefore, exports of motorcycles have declined during the pandemic. After the COVID pandemic, the world continues to understand the changes the last two years had on people. After having experienced a health crisis that changed the way people interact and alert people to the spreading of virus and infections, the industry is still trying to understand if there will be changes in consumer behaviours, such as, the increase in demand for private transports, rather than public transports.

On top of that, new trends are shaping the industry: the future pattern for the motorcycle sector is an increase in the production of electric vehicles, as larger companies are launching their new EV products with new integrated features. The LiveWire One is an example of a new offering that has made significant developments in this category. Faster charging, longer mileage, Bluetooth and cellular connectivity, improvements in safety, such as the introduction of the

Antilock Braking System (ABS) and modifications in the ergonomic design, are factors that are impacting the motorcycle industry going forward. What's more, several governments are adopting policies and tax incentives to accelerate the EV transition and ensure a cleaner environment. In the forefront of such policies is the Indian government, which announced a plan (in 2019) to reduce Goods and Services Tax (GST) on EVs from 12% to 5% and indicates that it plans to sell only electric motorcycles from 2025 onwards.

The process of urbanization is an important driver within the industry of two-wheeler vehicles. New mobility needs and accessible prices will create an opportunity for Piaggio to continue to pursue growth. Despite the European and American aging of the population, the urban population is expected to continue to increase. Likewise, in emerging countries, the same trend is verified where the urban population in Vietnam is expected to increase by 26% by 2030, when compared with 2021 levels.

- Light Commercial vehicles

The global commercial vehicles (CV) market size was estimated to be valued at USD 1,275 billion in 2021. This market is segmented into light vehicles, heavy vehicles, and buses. A Light Commercial Vehicle (LCV) can be defined as a commercial transporter vehicle with a weight below 3.5 metric tons. A truck that transports cargo and generally carries specialized material is considered as a heavy commercial vehicle. Lastly, a bus is a public road vehicle made to transport significantly more passengers than the average vehicle.

As occurs with the motorcycle market, the technical advances in the CV field are constantly evolving, and some of these improvements ended up becoming mandatory requirements. To illustrate, starting in 2025, new light-commercial vehicles must have a 15% fleet-wide reduction in CO_2 emissions compared to 2021, and by 2030 the requirement will climb to 31%.

As mentioned above, Piaggio operates only in the European and Indian light commercial vehicles market. In Europe, Piaggio operates mainly in urban areas offering low environmental impact products, while in India Piaggio it's a major player with vehicles designed for suburban areas.

In the last years, the semiconductor shortage forced interruptions in the overall automobile market, and the LCV is no exception. General Motors temporarily stopped production, and Toyota announced its plan to cut annual production from 9.7 million units to 8.5 million units in 2021. Since then, not only Europe introduced the European Chips Act, but also the United States government passed the CHIPS act to boost the domestic production of chips and protect the industry from such significant risk for its growth.

Likewise, the rising levels of population, urbanization, and disposable income in both developing and developed countries (average wage of employees in India rose 9.5% in 2022 and it is estimated that its increase will go to 10% in 2023) and the continued infrastructure development also contribute for the health and long-term perspective of such sector.

Competitors

- Pierer Mobility AG

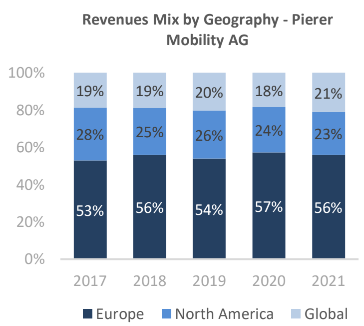

Figure 7 – Source: Pierer's Annual Report

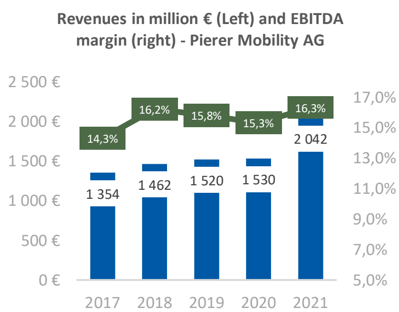

Figure 8 – Source: Pierer's Annual Report

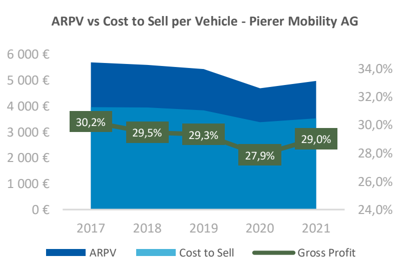

Figure 9 – Source: Pierer's Annual Report

Pierer Mobility AG is a European based manufacturer of powered two-wheelers. The group is based in Austria, where 82% of its employees are employed and where most part of its motorcycles are produced. The group competes with Piaggio in the motorcycle segment, having a portfolio of well-known brands of sport motorcycles such as: KTM, Husqvarna and Gasgas. Similar to Piaggio, around 56% of its revenues are held in Europe, followed by North America and Mexico (23%) and the remaining 21% spread globally. In the last 5 years (2017-2021) the group had a CAGR in revenues of 10.8%, superior to the growth presented by Piaggio. Comparing the revenues of the group in Europe to the revenues of Piaggio in the same geographical area, Pierer Mobility presented a CAGR of 12.4% in revenues since 2017 to 2021, while Piaggio had a CAGR of 8% in the same period. The EBITDA margin of the group in the last 5 years was of 15.6%, higher than the consolidated margin presented by Piaggio.

The ARPV in Europe in 2021 was around 7,721€, considerably higher when compared with the same metric for Piaggio 2W in Europe. Nevertheless, considering that Pierer Mobility AG is the main player in premium sport motorcycles, it's not possible to compared directly the ARPV of the two groups, since Piaggio sells around 70% of scooters in this segment, which has a lower selling price. Therefore, Pierer Mobility competes with Piaggio within the motorcycle brands, such as Aprilia and Moto Guzzi.

Through on of its subsidiaries, Pierer Mobility has established a partnership with Indian Bajaj Group, the second largest Indian motorcycle manufacturer, strengthening its position worldwide and in one of the markets with a higher potential for growth. This partnership enables Pierer Mobility to produce and sell its brands in India, benefiting from the experience and extensive network of Bajaj Auto.

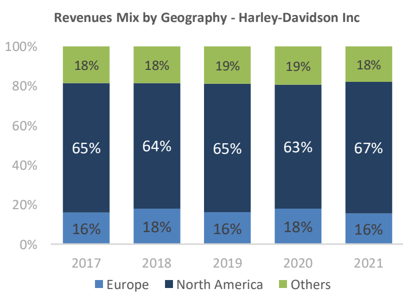

Figure 10 – Source: Harley-Davidson's Annual Report

- Harley-Davidson Inc

Harley-Davidson Inc is an American motorcycle manufacturer, producing motorcycles under the brand of Harley Davidson and motorcycle parts, accessories, and apparel. The group sells mainly in the North American market, which represents 67% of the global revenues. From 2017 to 2021 the revenues of the group decreased at a CAGR of -2%, mainly due to the decrease in the number of units sold (-6% CAGR) despite the increase in the ARPV that grew at a CGAR of 4.3%. The company is having difficulties in attracting younger generations in the US domestic market and to compete with different consumer behaviours that preferred more efficient and lighter bikes, rather than expensive ones.[2] The company has assumed that aims to expand its operations in Asia, followed by an increase in demand in this geographical segment.

- Yamaha Motor Corp, Ltd

Yamaha Motor Corp, Ltd is a Japanese-based manufacturer, operating in 3 different segments: Land Mobility, Marine Products and Robotics. The Land Mobility segment, which accounts for 65% of the global revenues of the company, consists of a wide range of products, including motorcycles, under the Yamaha brand, all-terrain vehicles, electrically power-assisted bicycles, among others. This segment had in the last years a CAGR of 3.1%[3] in terms or revenues (207-2021). Breaking down the revenues of the segment, in 2021, 65% of the turnover was originated from emerging market and 21% from developed markets. The company strategy will be focused in increasing the earnings in emerging markets within its premium segment. The group wants to take advantage of the increase in the upper class in Asian countries (India/Indonesia/Philippines), expected to increase 1.8x by 2030 (Yamaha Annual Report).

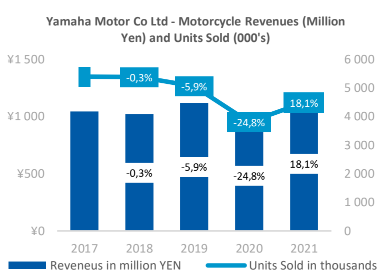

Figure 11 – Source: Yamaha's Annual Report

- Bajaj Auto, Ltd

Bajaj Auto, Ltd is an Indian-based manufacturer of motorcycle and three-wheelers vehicles. In the Indian market, the company has a market share of around 18% for the motorcycles segment and, in the last 5 years presented a negative growth in terms of unit's sales, with a CAGR of -2.5%, following the decrease of units sold in the industry[4]. For the three-wheeler segment, the company presented a decline of -18.9% (CAGR) from 2017 to 2021, at the same time the industry decreased at a CAGR of 19.4%. If in the Indian market the units sold decreased, in terms of exports, the units sold in the motorcycles segment

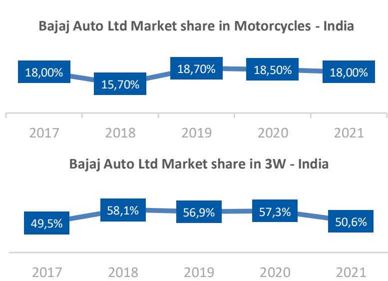

Figure 12 – Source: Bajaj Auto's Annual Report

[2] "Harley-Davidson's sales growth struggle sends shares tumbling", Reuters
[3] Please note that the consolidated revenues are accounted in Japanese yen.
[4] Industry values based in Bajaj Auto Ltd Annual Reports.

rose at a CAGR of 15.9%. In terms of profitability, the EBITDA margin of the group has been decreasing over the last years, passing from 21.7% in 2017 to 18.3 in 2021.

Due to the similarity of products offer by Bajaj Auto in India in both Piaggio segments (2W and LCV), the company is a direct competitor of Piaggio in India. Whitin the scooters segment, Bajaj Auto competes with Piaggio by offering an electric scooter, Chetak EV. Comparing the pricing of both brands, Vespa VXL presented on average lower selling prices. When comparing the Ape model of Piaggio and Maxima C of Bajaj Auto, Piaggio continues to have a competitive advantage in terms of pricing.

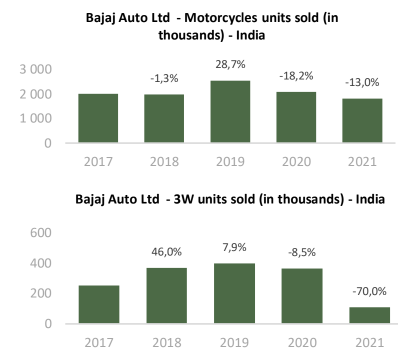

Figure 13 – Source: Bajaj Auto's Annual Report

- Honda Motor Co, Ltd

Honda Motor Co, Ltd is a Japanese based company that operates in 4 different business segments: motorcycles, automobile, financial services and life creation. Despite the revenues of the motorcycles segment representing only 14% of the total revenues of the company, as referred to in the industry analysis, it's one of the main players in the motorcycles industry. In FY2021[5], the Net Revenues of the group in the motorcycle segment exceeded the 13 billion euros. The Covid-19 and the shortage in the semiconductors negatively impact the sales in 2020 and 2021, declining - 11% (CAGR) in two years. The main segment is the Asian market that represents 64% of the sales in the motorcycles segment. In terms of gross profit, Honda presented much higher cost margins around 70% and 73%. According to Zigwheels website, the selling price of Vespa Sprint was around 51.2 to 53.7 million rupees, while the price for Honda's scooter, Honda Scoopy was around 21.55 to 22.32 million rupees. The lower prices from Honda Motors are also noticed in its Income Statement for the Asian market. While Piaggio had an ARPV of 2.460 € in 2021, Honda presented 1.0144 € in the same segment for 2021.

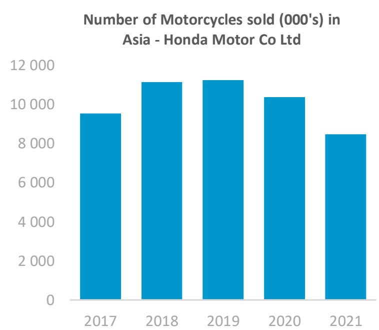

Figure 14 – Source: Honda's Annual Report

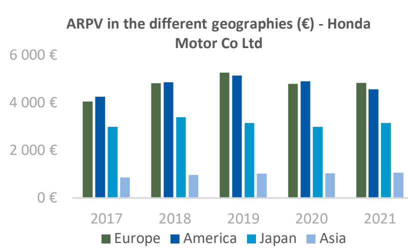

Figure 15 – Source: Honda's Annual Report

Forecast and Drivers

Revenues

In the FY2021 Annual Report, Piaggio assumed that aims to strengthen its leadership position in the European two-wheeler and Indian light commercial vehicles market, growing as well in other international markets, with reference to the Asian region. The group also intends to develop its electric vehicles range taking into view the transition towards the use of renewable energy sources.

[5] Please note the consolidated reports of Honda Motor Co Ltd, considered FY end at March

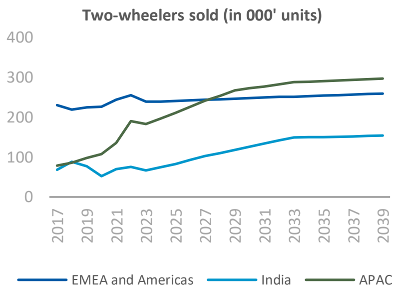

Figure 16 – Source: Nova SBE Equity Research and Annual Report

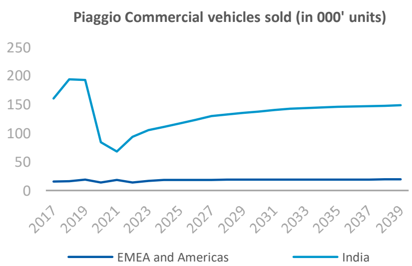

Figure 17 – Source: Nova SBE Equity Research and Annual Report

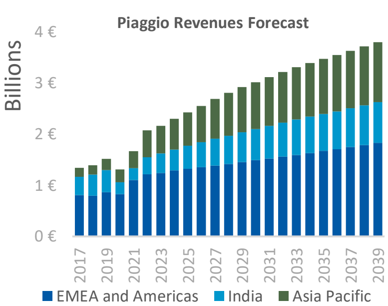

Figure 18 – Source: Nova SBE Equity Research and Annual Report

Based on the goals published by the group, the market and competitive framework of the industry and the macroeconomic context, a forecast for revenues was estimated for the three different geographical segments. By 2030, 30% of the Net Revenues will be originated in the Asia Pacific market, with a revenue multiple of 1.74x (compared to 2022 baseline); the Indian market will represent 20% of the revenues of the group, with a multiple of 1.84x; the European will continue to be the number 1 market for Piaggio with a weight in Total Net Revenues of 49%.

EMEA and America

As previously mentioned, the European and American markets for two-wheelers are concentrated particularly in urban areas, targeting customers who look for faster and more efficient ways of transport. Therefore, it was used the urban population of the main geographies of Piaggio' sales to extrapolate a breakdown for the market. To forecast the urban population of the countries used as a benchmark[6], it was used the urban population rates from The Economist Intelligence data centre. The forecast for the rates assumes that the urban population over all population will growth close to 2 percentage points. Using past historical data for the number of vehicles registered in each geographical segment[7], it was calculated a penetration rate for the industry. In the last 6 years, the penetration rate (vehicles registered over total urban population) in EMEA and America was situated around the 0.13% in the scooter segment and 0.22% in the motorcycles segment. In both segments, the rates have been increasing over the analysed period. The forecast assumes that the rate for the scooter segment will be maintained at 0.13% and for the motorcycles segment it was considered a rate of 0.22%. The European and American segments are already a concentrated market; thus, it shall follow the growth of its population. Moving to Piaggio's units sold, it was used the forecasted market share for Piaggio. In the two-wheeler segment, the Piaggio's market share decreased in the last 6 years, passing from 13% in 2017 to 11% in 2022E (estimated). Assuming that Piaggio will not be able to gain a competitive advantage in Europe and America, as competitors, such as Pierer Mobility, are also consolidating its position and Europe is already a consolidated market, Piaggio is projected to maintain a market share of 12% (average of the last 6 years).

In 2023, the units sold are expected to decrease 6.7%. Despite the success of the Piaggio's brands recently, 2023 is set to be a challenge year in the

[6] Italy, France, Spain, Netherlands, Germany, Greece, United Kingdom and the USA.
[7] The historical market data used for forecasting purposes was retrieved from Piaggio's Annual reports. For the two-wheeler market, the data available is split between scooters and motorcycles.

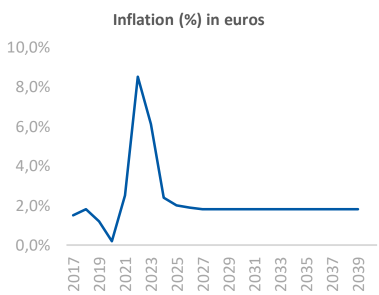

Figure 19 – Source: The Economists, EIU

motorbikes industry segment. As stated in the macroeconomic analysis, European consumers will continue to be impacted with a reduction in their economic purchasing power, as consequence of inflation. In the short-term, the reduction in the economic strength and confidence of consumers will negatively impact the sales of Piaggio. Furthermore, the motorcycles segment, considered as a more leisure segment, is expected to decrease its revenues, as consumers will reduce their spending in non-essential goods. After 2023, it is being considered a growth in line with the population growth (0.6% per year). In terms of pricing, it grows in line with inflation, which will result in a sustained CAGR of 2.5% from 2023 to 2030, and 2.3% onwards. The success of Aprilia Racing, its new satellite team (RNF) for the Moto GP 2023 season and the introduction of new pilots, are all factors expected to contribute to the brand recognition and revenue improvement, namely within the new products launched, such as Aprilia SR GT and MP3. As for the scooter segment, with the changes in consumer trends, looking for more efficient ways of transport, the brand shall be able to maintain a sustained growth. Moreover, in order to forecast the Indian market, it was also used the forecasted rate of urban population for the next years. The Economist Intelligence forecasts a growth in the urbanization rate of 35.8% in 2022 to 38.2% in 2027. In terms of population growth, by 2027 the Indian population is projected to increase 4.4%, the highest growth in the three geographical segments. The average penetration rate of the last years was of 1.12% in the scooters segment, 2.4% in the motorcycles segment and 0.1% in the LCV. To forecast the growth in the penetration rate, it was used a forecast from The Economist, which projected an increase of 3% per year in number of vehicles per 1000 people until 2027, assuming a constant penetration rate onwards. The increase in the penetration rate will be driven by the increase in the middle-class disposable income, which will increase the demand for new ways of transport, other than public transports. The market share of Piaggio in the two-wheeler segment in India is increasing since 2017, with a projected market share of 0.55% in 2022, while the market share in the LCV was on average 28.7% in the last 6 years. As explained in the competition analysis section, a major player in the Indian 2W segment, Bajaj Auto, is focusing on exports and losing market share in the domestic market. In addition, Piaggio has a pricing competitive advantage compared to Bajaj Auto thus its projected an increase in the market share of Piaggio, reaching long-term market share of 1%. In the LCV the market share of the group is projected to be maintained, due to its consolidation in India.

In 2023 the Net Revenues of the group in India are projected to grow 14.2%, with a strong contributor from the light commercial vehicles that have not fully recovered from the pre-pandemic level, and thus it will depart from a lower baseline. By 2030 the CAGR of revenues in the 2W segment will be of 11.7% and in the LCV is projected to be 5.9%.

The Indian government is recently following a policy to incentivize the use of electric vehicles. Section 80EEB will provide households with tax deductions on interest paid on loan amounts, in the purchasing of electric vehicles. The Managing Director of Piaggio Vehicles, the subsidy based in India, assumed the electric two-wheeler vehicles would represent 30% to 40% of the total market.[8] In December of 2022, Piaggio announced the launch 2 new LCV vehicles under Ape brand. We are confident that Piaggio will be able to gain market share in a new segment that is being created and with significant potential. The brand recognition and solid market share of Piaggio in the three-wheeler segment in India, will impulse the revenues of the group.

Asia Pacific

For forecasting purposes, it was used the Vietnamese and Indonesian regions as benchmarks since they are the most representative in the Asia Pacific market for Piaggio. In both countries, the urbanization rate if projected to increase to 43% in Vietnam (compared with the current 35.8% in 2022) and to 62% in Indonesia (compared to the current 58% in 2022). The two-wheeler penetration rate of the industry, slightly decreases in the last 6 years from 1.8% in 2017 to 1.3% in 2022. The increase in the rate was projected taking into consideration the increase in the number of vehicles per 1000 people, which it's projected to grow around 1.4% until 2027. The market share of the group in the Asia Pacific segment will continue its growth trajectory, reaching 8.25% by 2029. In 2021, the market share of Piaggio was 5.42% while in 2017 was only 2.38%. The units sold by Piaggio will grow at a CAGR of 5.8% until 2030. The increase in the middle and upper class of the Asian emerging market is expected to increase the demand for motorcycles and scooters. Yamaha, for example, expects the demand in the segment will increase 1.8x by 2030.

OPEX

For the valuation and forecast of the OPEX, we gave special attention to Piaggio main operations expenditures: Costs with Materials and Employee Costs.

[8] "Piaggio's Diego Graffi: 'India's electric two-wheeler penetration will be 30-40% in 3-4 years", Autocar Professional

Costs with Materials

Cost of Materials is Piaggio's main operational expenditure, representing on average 61% of the total Net Revenues of the company. Piaggio does not detail the composition of the raw materials used in the production of its motorbikes and commercial vehicles. From research, the main materials used in the production are usually metal, plastic and rubber, all which have been under price pressure given the inflationary scenario.

Analysing the costs by region, we observed that the Indian segment presented consecutively higher cost margins than the other two segments (around 63% of Net Revenues). The Asian segment, on the other side, presented the lowest cost margin (around 54%). In the Half-year report of 2022, the group's costs margins slightly increased to 65%. This increase is mainly justified, as previously mentioned, by the effect of inflation in energetic products as well in raw materials, particular in Europe and America. Therefore, in 2023 the cost margin in Europe will continue to be higher than the average of the past years, ending the year with a margin of 65%. This projection estimates than in the Indian and Asian markets' cost margins also increase in the following years, concluding, in the long-term, with margins of 71% for India and 67% for Asia. In terms of its peers, Bajaj Auto presented a cost margin of 70%, Pierer Mobility of 71% and Yamaha of 72% in FY2021.

Employee Costs

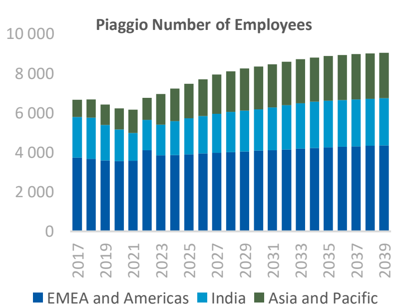

Figure 20 – Source: Nova SBE Equity Research and Annual Report

Representing 11.7% of the total revenues, costs with employees is the main item in the operational expenditures of the group. Piaggio has in the last 5 years consecutively been able to decrease this margin, passing from 15.5% of revenues in 2017 to the 11.7% previously stated. Most of the costs are coming from the EMEA and America segments, which represent around 90% of the total amount. This region not only accounts for most of the workforce, with 58% of the total employees, but it also the region with substantially higher wages. In Europe, the company have been able to decrease the margin of employee costs to Net Revenues, passing from 24% in 2017 to 19% in 2021.[9] In terms of workers in Europe, in 2022, 88% accounted for collar workers, focused on the production of vehicles. The ratio of number of units sold in relation to the number of collar workers have been slightly increasing, reaching a ratio of 75.000 units produced by one employee in one year. It's main competitor in Europe, Pierer Mobility, presented a ratio of 79 units produced per employee. For forecasting purposes, it

[9] Please note, that in our reformulation analysis the salary per worker was estimated based on the median salary of other manufacturing companies' operation in India (Atul Auto) and in Vietnam (Vin Group).

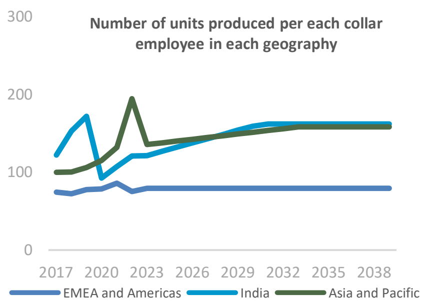

Figure 21 – Source: Nova SBE Equity Research and Annual Report

was assumed that Piaggio would reach and maintain a ratio of 79 units produced per employee, representing a CAGR of 0.5% in the long term. Concerning the costs with the management, which have higher salaries, but a smaller number of people compared with collars, it was assumed a ratio in terms of revenues in last 6 years. In terms of salary increase, it is expected to grow with inflation. The employee costs margin will stabilize around 19% in the long-term.

In India, collar employees accounted for 92% of the total workforce in the segment in 2022 and presented a ratio of 121 units produced per 1 employee. The ratio has decreased during COVID-19. In 2019 the ratio was at 172 thousand of units produced. Bajaj Auto, the peer selected for the business unit in India, had and average ratio in the last 6 years of 270 units produced. Considering the most recent investments in Indian's Piaggio factories and the increase in the education levels of the India population, with was estimated that Piaggio would achieve a productivity ratio of 60% of the ratio achieved by Bajaj Auto, which would represent around 162 units produced per employee. For the most skilled workers, it was maintained the ratio of number of employees per worker. However, due to strong income inequalities in India, which from an google research was possible to observe that management workers can earn 10x more than unskilled workers, the salaries per employee are significantly higher for management workers, resulting in 70% of the total salaries expenses in India. The employee cost margin will increase to 4% in the long-term, driven by stronger increases in salaries when compared with productivity gains.

In Asia, for the collar workers, it was selected as comparable, Yamaha, which has a ratio of units produced per employee of 226. Currently, the collar workers have a ratio of 194 units in 2022, presenting significant gains in productivity during the last years. Piaggio is expected to reach 70% of the targeted ratio from Yamaha in the long-term. Likewise, due to income inequalities in Vietnam the salary per employee for specialized workers are also significantly higher, resulting in 80% of the total salaries expenses in Asia. The employee cost margin will increase to 4% in the long-term, driven by stronger increases in salaries when compared with productivity gains.

In the long-term, Asia will account for 25% of the total number of employees, India for 27% and Europe for 48%. The employees' costs margin will increase be stable at around 11% of total Net Revenues.

Long-Term Assets

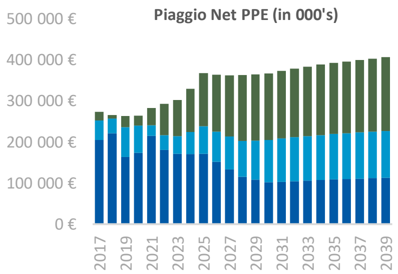

Figure 22 – Source: Nova SBE Equity Research and Annual Report

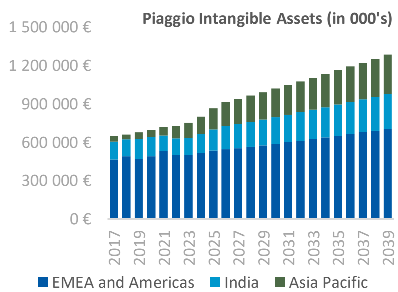

Figure 23 – Source: Nova SBE Equity Research and Annual Report

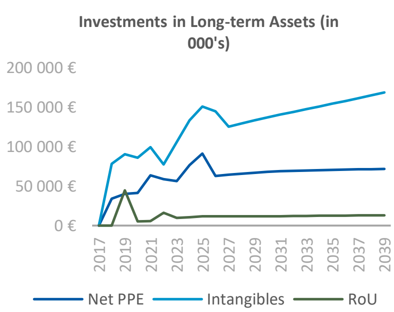

Figure 24 – Source: Nova SBE Equity Research and Annual Report

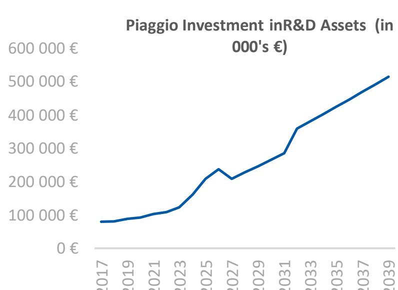

Figure 25 – Source: Nova SBE Equity Research and Annual Report

Long-term assets are originated from investments made that are expected to benefit the company for multiple years. These consist of Property, Plant and Equipment (PPE), Intangible Assets (IA) and Rights of Use (RoU). Starting with Property, Plant and Equipment (PPE), the Capital Expenditure required for each period, was estimated by forecasting its future needs, namely the forecasted units sold for the next 5 years. This means that the company is anticipating by 5 years what it is planning to be selling in that time span. In the short-term, until 2025, the CAPEX will be higher than the long-term target to tackle energy transition challenges, particularly in India, where this effect is accelerating. That is why, in 2023, Net PPE in India is projected to grow by 20% YoY, while in the entire group rises only 3% in this line item. It is worth mentioning that in November of 2022, Piaggio announced the opening of a new product facility in Indonesia that will manufacture Vespa scooters for the local market. Also, in Italy, the group is currently redeveloping its manufacturing plant in Mandello del Lario where produces Moto Guzzi motorcycles. Similarly, Intangibles were computed with a method derives investments in IA by the forecasted revenues in the following 5 years, and not the units, as what happens with PPE. Within the Intangibles section, investments in Research and Development (R&D) are anticipated to be the most relevant, as new market opportunities arise, Piaggio will need to keep investing to face forcing competition in a rapid changing environment. India is leading the growth (+80% YoY), followed by Asia (22% vs 2021), but Europe continues to be the most representative segment within R&D assets, representing more than 50% in 2023. However, in the long-run, EMEA and Americas are forecasted to decrease its weight to 43%. Rights of use assets are considered to be mainly the discounted value of lease payments and therefore, its investment was estimated as a percentage of Net PPE with a value of 3% thought the period.

Depreciation and Amortizations (D&A)

The group classified in 2021 a total operating cost of 128 million euros related to depreciation and impairment costs of PP&E, amortization, and impairment costs of intangible assets and depreciation of right of use. In 2021, these costs represented 7.7% of the total revenues of the company. For the forecast of the depreciation of fixed assets (PP&E), which represented 35% of the total depreciation/amortization classified, we considered a long-term depreciation rate of 17% of the Net PP&E value the previous period, increasing around 1 p.p. from the average of the past 5 years. To forecast the amortization of intangible assets it was assumed a long-term amortization rate of 11%, in line with the trend since 2018 that shows values between 10% and 11%. Lastly, the D&A split between geographic segments follows the drivers of units sold and revenues for the Depreciation of Net PPE and Amortization of IA, respectively, in line with the entire estimation for Piaggio's long-term assets.

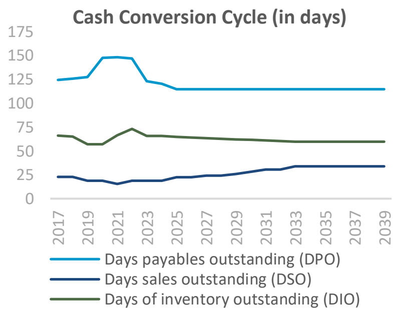

Figure 26 – Source: Nova SBE Equity Research and Annual Report

Cash Conversion Cycle Forecast

For the estimation of the Cash Conversion Cycle, the focus of the forecast was made with the turnover on Inventories, Trade Receivables and Payables. Firstly, given the recurrent supply-chain disruptions since March 2020, Piaggio is projected to adopt an inventory build-up strategy to reduce the exposure of such risk and therefore have enough final and intermediate goods in inventory to face customer demand. In 2022, Piaggio is in line to increase its Inventory levels 35% (vs 2021) to €375m. In the long-term, Inventory turnover is projected to follow industry levels with a ratio of 6.1. Secondly, due to Piaggio's close and long-term relationship with its dealer network, the Receivables turnover is expected to remain above the industry levels. This will enable the company, compared with its peers, to receive money faster from its customers and hence achieve a turnover of 10.8. The operating cycle, in days, of the company ranges between 84 and 93 days during the forecasted period (2023-2039). It is also important to mention that, to improve credit conditions with suppliers, Piaggio has in place factoring agreements that allow the retention of cash for a longer period of time. That is why its Payables turnover was forecasted to follow the industry level, including the impact of such cash flow management benefit, reaching a long-term Payables turnover ratio of 3.2. The Cash Conversion Cycle was estimated to move from -55 days (2022) to a long-term value of -21 days, meaning that the company's Inventory is sold before having to pay for it. In other words, customers are financing Piaggio's core business operations.

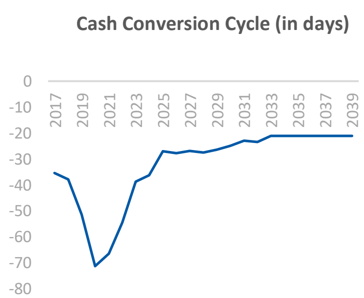

Figure 27 – Source: Nova SBE Equity Research and Annual Report

Capital Structure

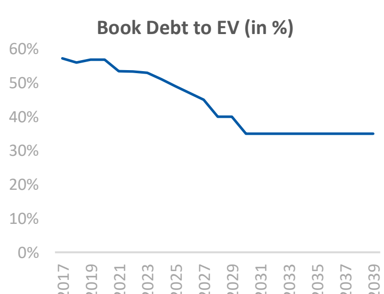

Figure 28 – Source: Nova SBE Equity Research and Annual Report

Net Debt to Equity ratio in 2022 is estimated to be 1.1, which means that net debt is 1.1 times higher than its equity. On top of that, the company will target a long-term capital structure that is in line with its main competitors of 0.5 (Toyota has a value of Net Debt to EBITDA of 0.6). As mentioned by the CEO in the 2022 Q3 conference call, Piaggio has the commitment to reduce leverage. The change will take place in the short to medium term and, empirically, this originates a lower default risk, since there is lower interest payments and increased financial flexibility, which makes Piaggio a firm better equipped to absorb downturns and logically, with a lower cost to borrow debt.

Valuation

Cost of Capital

- ### Cost of Equity

The cost of equity for Piaggio Group was estimated to be 10.7%. This is computed using a risk-free rate of 1.9%, an equity beta of 1.04, and a Market Risk Premium of 8.5%. The risk-free rate used was the AAA German 10-year Government Bond, which was assumed to be free from risk, such as the default or counterparty risk. The equity beta was calculated by regressing the weekly excess returns of each Piaggio's peers, with the excess returns of the market, since January 2019. The index assumed to represent the market returns was the MSCI International ACWI Price Index and all the values were inputted in euros. The unlevered beta was reached by utilizing the median unlevered beta of the selected peers (0.79) and for reference, the unlevered beta of Pierer Mobility was 0.81. Therefore, we concluded that the number computed was consistent for valuation purposes. The target market value of Net Debt to EV was found through a similar method and the ratio was 29% (Yamaha registered 17%). The target used was in line with Piaggio's goal of reducing its levels of debt in the following periods, objective mentioned by the CEO, Roberto Colaninno in the Q3 2022 Earnings Call. Next, in order to re-lever the beta, a tax rate of 24% was used to reach a final equity beta of 1.04 (Yamaha's equity beta is 1.08). The market risk-premium was computed by taking the average of the excess returns of the market (yearly returns of the MSCI International ACWI Price Index) subtracted by the risk-free rate (German AAA 10y government bond) during the last 10 years, which we considered to be a credible proxy for what shareholders are expecting to earn.

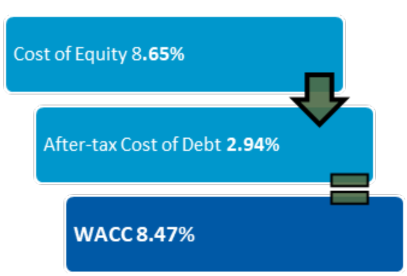

Figure 29 – Source: Nova SBE Equity Research and Annual Report

- ### Cost of Debt

Moreover, the pre-tax cost of debt for Piaggio of 3.9% was taken from the Yield-to-Maturity (YTM) of an outstanding bond (4.6%) maturing in April 2025, that pays semi-annual coupons. From the YTM, was taken the historical Probability of Default by rating (BB-/Ba3) multiplied by the Loss Given Default (or 1-Recovery

Rate). After adjusting for the marginal corporate tax rate, Piaggio reaches at an after-tax cost of debt of 2.9%.

- WACC

As mentioned above, Piaggio was estimated to target a level of debt that is similar to its industry peers, reaching a market equity-to-value ratio of 69% (Honda registers 57%). Taking all the above inputs into account we reached a weighted average cost of capital (WACC) of 8.47%.

ROIC and Long-Term Growth

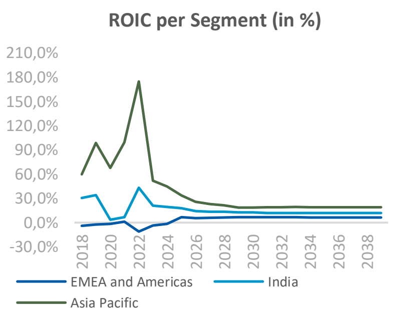

Figure 30 – Source: Nova SBE Equity Research and Annual Report

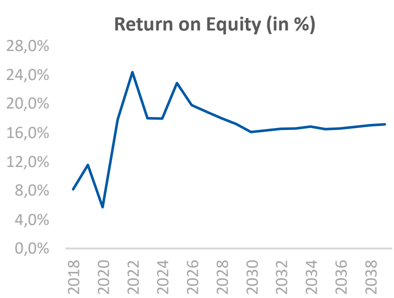

Figure 31 – Source: Nova SBE Equity Research and Annual Report

ROIC gives a sense of how well a company is using its capital to generate profits. Comparing a company's ROIC with its weighted average cost of capital (WAAC) reveals whether invested capital is being used effectively to generate shareholder value.

Within the three geographical segments, Asia Pacific is currently generating the higher return (174.3% in 2022E), followed by India (43% in 2022E) and finally EMEA and America (-11% in 2022E). The group consolidated ROIC is 14.4% in FY2022E, above the WACC and therefore creating value. In the long-term, the group's ROIC is expected to reach the 11.4%. The EMEA and America segment will improve its ROIC to 6.4% in the long-term, while the Indian and Asian segment will decrease to 12.1% and 18.9%, respectively, as competition pressure intensifies in those regions.

In Europe, value is being destroyed due to a negative core margin. This segment is considerably impacted by high employees' costs, which have a cost margin of 17%, while for the Indian segment is of 7.8% and in Asia is 4%. The recognition of more than 70% of Intangible Assets in Europe and Americas, reduces the asset turnover of the segment. The main contributor to the total Assets of the company is Goodwill, representing 41% of the total assets and, 61% is registered in Europe. This segment is also accountable for the licenses and trademarks of the group. Therefore, the amortizations of intangible assets strongly impact the core margin of the firm. Our forecast estimates that with the increase of the business in Asia and India will demand investments in development costs and patent rights, which will by its turn balanced the effect in Intangible assets split on the different geographies. As previously said, the expected investment in Capex in India and Asia, with the development of new plants (for example, with the new factory opening in Indonesia), will also reduce the current returns in Asia and India. The long-term growth of Piaggio was achieved by stabilizing the cash-flows of the different segments. We are estimating a long-term growth of 2.6%. This rate is calculated taking into consideration that the business growth will be capped by the nominal growth of the economy, as the cash flows are including inflation.

DCF

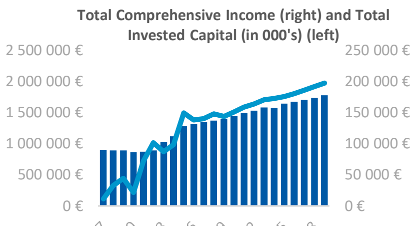

Figure 32 – Source: Nova SBE Equity Research and Annual Report

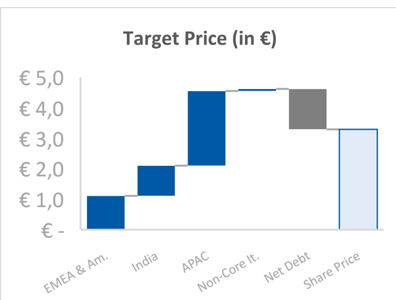

Figure 33 – Source: Nova SBE Equity Research and Annual Report

For valuation purposes and to better understand the main sources of value that the company is generating, a segment split was made in the DCF. Piaggio is operating across distinct segments concerning their levels of expected growth, it has been done throughout the entire analysis, the valuation method follows a segmentation by geography. The Unlevered Core Free Cash Flows of each segment was discounted with the company WACC of 8.47% (for more details on the WACC, please refer to the Cost of Capital section). Firstly, EMEA and Americas, with a long-term growth rate of 2.7% generates a present value of € 395 million. India, with a long-term growth rate of 2.8%, is creating € 356 million in value. Asia Pacific, the segment with the largest value generated for the group, was estimated with a long-term growth rate of 2.6% and a value of € 878 million (for more details on the growth rates calculated, please refer to the Growth section). Then, by adding the 3 segments, we reach a combined Enterprise Value of € 1,629 million, which means that the Asia Pacific segment is generating approximately 50% of Piaggio Group's value. After adjusting for the non-core items (€ 26 million) and the market value of Net Debt (€ 474 million), we finally reach an Equity Value of € 1,181 million, which divided by the total number of shares outstanding (358 million), gives a Share Price Target of € 3.30, above the actual € 2.85 observed on Dec. 13th, 2022.

Support Table	EMEA & Am.	India	APAC	Non-Core It.	Net Debt	Share Price
EV	394 993	356 097	877 644	25 888	-473 701	1 180 922
Share Price	€ 1,10	€ 0,99	€ 2,45	€ 0,07	€ (1,32)	€ (3,30)
# Shares	358 154					

Figure 34 – Source: Nova SBE Equity Research and Annual Report

Multiples

Valuation Multiples are values used to compare the ratio of one entity that will lead to the value of its peer. These financial metrics are widely utilized to make companies more comparable, as their unique values are normalized through a ratio. For our valuation, we used the EV/EBITDA multiples

For the valuation through an Enterprise Value multiple, it was selected two peers and the multiple that is attributed by the market to Piaggio. The peers selected were Pierer Mobility AG and Yamaha Motor Co Ltd. These peers were chosen based on its similarities to the business of Piaggio and financial metrics. Pierer Mobility, like Piaggio, has a strong presence in Europe (56%) and a partnership with Bajaj Auto, a competitor of Piaggio in India as well. Financially, the company presents an EBITDA margin of 15.2% and an EV of 2.2B €, both metric like Piaggio. The market is valuing Pierer Mobility at an EV/EBITDA of 7.8x. Yamaha, despite having other segments not correlated with Piaggio are an important player in the motorcycles segment with strong presence in Asia Pacific, which is a geography where Piaggio will expand in the following years. In addition, the group has as brand, Yamaha Delight, which incorporates the scooter segments, crucial to Piaggio. The EV/EBITDA of Yamaha in 2021 was 5.7x. Finally, we also used the Piaggio multiple in 2021 to incorporate the market valuation of Piaggio. The multiple was of 4.9x. From an average of the three multiples, we performed a 12M forward valuation considering a multiple of 6.2x, which valued the company at an EV of 1.7B € and an Equity value of 1.12B €. The market share price computed was of 3.30 €, which is equal to the share price we achieved through our DCF valuation. We decided to not analyse the company using the P/E multiple, since this multiple would ignore the Capex Investments of the group in the first years. Therefore, considering that this industry is capex intensive, it would be misleading to value this company through this multiple.

Scenario Analysis

Given the composition of the firm, Piaggio is exposed to multiple forms of risks. For valuation purposes, these can have a significant impact, which is going to be broken down in this section. Firstly, the uncertain environment in today's market forces companies to adopt strategies to mitigate such risks and Piaggio Group is no exception. For example, with geopolitical tensions and the possibility of a large economic recession in Europe, if revenues in this segment are less 5% every year of what it was estimated, the share price would decline to € 2.91, still above the value registered of € 2.85 on December 13th, 2022. Additionally, across Asia, there are some risks related with recent regulations on gas emissions of vehicles. With a government decree of 5 April 2022, in Vietnam, 5 major cities (Hanoi, Ho Chi Minh, Danang, Cao Tho and Hai Phong) were suggested to implement by 2030 a provision to limit the transit of motorbikes, in line with the improvement of conditions for public transport and infrastructure, as a measure to lower pollution levels. It is worth mentioning that Ho Chi Minh city has more than 7 million motorcycles and a population of around 9 million people, making it one of the cities with the largest ratio of motorcycle per person in the world. Interestingly, even if the revenue exercise is applied to the other two segments, Asia Pacific and India, the target share price would not decrease below the € 2.85 level. Additionally, with current inflation projections being modified on a regular basis, there is the need to understand what type of impact this has on the valuation. By rising inflation levels to 9.1% and 6.4% in 2023 and 2024, respectively, the model suggests a share price rise to € 3.68. Please note that this impact does not include any possible shifts in demand or supply curves driven from this inflation scenario. Likewise, if inflation in the 2020's decade remains with a level above 1% of what it is being predicted in base scenario, the share price goes to € 3.50. As discussed in the Macroeconomic Overview section, interest rates are rising across the globe and as contractionary policies are being implemented, for Piaggio this could mean a higher or lower cost to borrow funds. To illustrate, if the Central Bank increases interest rates, and by consequence the risk-free rate also increases by a further 50 bps, the target share price is projected to be fixed at € 3.01. Lastly, there is the scenario in which governments may adjust corporate tax rate. In the case of Piaggio, if its value increases by 5%, given the tax benefits it generates, the target share price increases to € 3.35. On the other hand, if its marginal tax rate lowers 5%, then the value would also go down to € 3.25.

Conclusion/ Final Recommendation

Considering the valuation computed using a Discount Cash Flow model, we are projecting a share price of 3.30 €, representing a share premium of 15.7% on the capital gains. The valuation represents a total market capitalization of € 1.18B, for a total of 358 million shares outstanding. In addition to the capital gained through the share price appreciation, we are projecting a cash gain of 0.06€ per share, as result with transactions with shareholders during the year of 2023.

Based on this valuation, our recommendation on December 16th of 2022 is to buy Piaggio's stock, which is expected to generate a total gain of 0.50 € per share (+17.7%).

From the research developed, Piaggio will be able to increase its revenues due to the stable increase in the group revenues across the 3 geographies. The value of the company is mainly driven by the expected good performance of the Asian and Indian segment, which are also the segments with higher ROIC. It was projected that the group will be able to create new products that meet the increasing market demands of a more ecological customer base.

The group is already present in over 100 countries and has a global sales network of more than 4,000 dealerships, but most importantly, it is operating with a close relationship with partners in the geographies that drive the most value to its shareholders. The increase in urban population and rise in the disposable income of emerging middle and upper classes in India and Asia Pacific countries is believed to create an opportunity for expansion, compared to more consolidated markets as Europe.

To conclude, the analysis performed is estimating a target share price of 3.30€, which translates in a “Buy” recommendation with potential upside of 18% of considering both cash and capital gains.

Appendix

Income Satatement

IN THOUSAND EUR	2020	2021	2022E	2023P	2024P	2025P	2030P	2035P	2039P
EMEA and Americas									
Net Revenues	**831 026**	**1 104 422**	**1 218 252**	**1 244 445**	**1 290 256**	**1 323 018**	**1 488 547**	**1 670 082**	**1 829 756**
5 Cost for materials	-519 899	-697 665	-884 024	-853 584	-875 690	-811 954	-913 541	-1 024 952	-1 122 946
6 Cost for services and leases and rentals	-121 757	-163 063	-178 962	-185 557	-192 388	-197 273	-221 955	-249 023	-272 832
7 Employee costs	-180 670	-205 149	-214 068	-218 660	-225 346	-233 315	-270 508	-313 439	-343 407
9 Other operating income	59 500	78 521	64 997	66 394	68 838	70 586	79 418	89 103	97 622
10 Net reversals (impairment) of trade and other receivables	-1 852	-996	-1 438	-1 469	-1 523	-1 561	-1 757	-1 971	-2 159
11 Other operating costs	-6 996	-9 901	-9 830	-10 041	-10 411	-10 675	-12 011	-13 475	-14 764
EBITDA	**59 351**	**106 170**	**-5 072**	**41 529**	**53 737**	**138 826**	**148 194**	**156 325**	**171 271**
EBITDA margin %	*7,1%*	*9,6%*	*-0,4%*	*3,3%*	*4,2%*	*10,5%*	*10,0%*	*9,4%*	*9,4%*
8 Depreciation and impairment costs of property, plant and equipment	-26 441	-34 392	-36 964	-19 776	-19 625	-20 808	-21 804	-20 998	-21 786
8 Amortisation and impairment costs of intangible assets	-43 628	-56 839	-55 298	-45 798	-46 311	-48 106	-53 687	-59 963	-66 279
8 Depreciation of rights of use	-5 581	-6 247	-7 166	-5 627	-5 457	-5 410	-5 496	-5 702	-5 958
EBIT	**-16 298**	**8 691**	**-104 500**	**-29 672**	**-17 655**	**64 502**	**67 207**	**69 662**	**77 247**
Taxes	5 187	-2 381	33 883	9 413	5 601	-20 462	-21 320	-22 100	-24 506
Result after Taxes	**-11 111**	**6 310**	**-70 618**	**-20 259**	**-12 054**	**44 039**	**45 886**	**47 563**	**52 742**
India									
Net Revenues	**233 031**	**231 159**	**333 074**	**380 217**	**414 984**	**449 774**	**611 659**	**726 883**	**796 379**
5 Cost for materials	-162 755	-169 088	-214 172	-260 797	-284 644	-308 507	-428 379	-514 325	-563 498
6 Cost for services and leases and rentals	-38 116	-39 520	-43 357	-59 615	-65 067	-70 521	-95 904	-113 970	-124 867
7 Employee costs	-6 961	-6 799	-7 808	-9 501	-13 150	-15 373	-22 521	-28 851	-31 609
9 Other operating income	16 683	16 438	17 770	24 545	26 789	29 035	39 485	46 923	51 410
10 Net reversals (impairment) of trade and other receivables	-580	-241	-348	-398	-434	-471	-640	-760	-833
11 Other operating costs	-2 190	-2 400	-2 381	-2 719	-2 967	-3 216	-4 373	-5 197	-5 694
EBITDA	**39 111**	**29 548**	**82 778**	**71 733**	**75 511**	**80 721**	**99 327**	**110 703**	**121 288**
EBITDA margin %	*16,8%*	*12,8%*	*24,9%*	*18,9%*	*18,2%*	*17,9%*	*16,2%*	*15,2%*	*15,2%*
8 Depreciation and impairment costs of property, plant and equipment	-10 066	-4 101	-4 408	-13 305	-14 134	-16 051	-21 587	-22 734	-23 587
8 Amortisation and impairment costs of intangible assets	-16 608	-6 778	-6 594	-13 993	-14 895	-16 354	-22 061	-26 098	-28 847
8 Depreciation of rights of use	-2 125	-745	-855	-1 719	-1 755	-1 839	-2 258	-2 482	-2 593
EBIT	**10 313**	**17 923**	**70 921**	**42 716**	**44 727**	**46 477**	**53 422**	**59 390**	**66 260**
Taxes	-3 282	-4 910	-22 995	-13 551	-13 781	-14 331	-16 533	-18 402	-20 532
Result after Taxes	**7 031**	**13 014**	**47 926**	**29 165**	**30 946**	**32 146**	**36 889**	**40 988**	**45 728**
Asia Pacific									
Net Revenues	**249 633**	**333 108**	**528 614**	**541 489**	**595 530**	**651 177**	**921 661**	**1 074 969**	**1 177 745**
5 Cost for materials	-133 030	-191 101	-253 001	-293 223	-339 686	-394 935	-618 872	-721 814	-790 826
6 Cost for services and leases and rentals	-31 155	-44 666	-51 218	-71 536	-78 675	-86 026	-121 760	-142 013	-155 591
7 Employee costs	-17 191	-18 663	-20 803	-32 638	-35 854	-39 084	-54 993	-65 282	-71 524
9 Other operating income	17 871	23 683	28 203	27 074	29 776	32 559	46 083	53 748	58 887
10 Net reversals (impairment) of trade and other receivables	-474	-273	-394	-1 083	-1 191	-1 302	-1 843	-2 150	-2 355
11 Other operating costs	-1 790	-2 712	-2 813	-4 249	-4 673	-5 110	-7 232	-8 435	-9 241
EBITDA	**83 865**	**99 376**	**228 588**	**165 835**	**165 228**	**157 279**	**163 044**	**189 023**	**207 095**
EBITDA margin %	*33,6%*	*29,8%*	*43,2%*	*30,6%*	*27,7%*	*24,2%*	*17,7%*	*17,6%*	*17,6%*
8 Depreciation and impairment costs of property, plant and equipment	-3 756	-6 679	-7 179	-14 155	-14 947	-16 900	-22 278	-22 302	-23 140
8 Amortisation and impairment costs of intangible assets	-6 197	-11 039	-10 739	-19 928	-21 375	-23 677	-33 241	-38 596	-42 661
8 Depreciation of rights of use	-793	-1 213	-1 392	-2 449	-2 519	-2 663	-3 403	-3 670	-3 835
EBIT	**73 120**	**80 445**	**209 278**	**129 304**	**126 386**	**114 039**	**104 122**	**124 454**	**137 458**
Taxes	-23 271	-22 036	-67 855	-41 020	-38 941	-35 164	-32 224	-38 561	-42 593
Result after Taxes	**49 848**	**58 409**	**141 423**	**88 284**	**87 445**	**78 875**	**71 898**	**85 893**	**94 865**
Non-Core Result before taxes	**10 943**	**11 979**	**-4 792**	**10 802**	**13 854**	**17 064**	**19 831**	**24 646**	**29 233**
Taxes	-4 176	-10 384	1 555	195	650	872	1 312	2 081	2 821
Other comprehensive income	-10 044	11 712	3 300	-2 771	-2 771	-2 771	-2 771	-2 771	-2 771
Non-Core Result	**-3 277**	**13 307**	**63**	**8 226**	**11 733**	**15 165**	**18 373**	**23 956**	**29 283**
Financial Result before Taxes	**-27 911**	**-25 360**	**-23 382**	**-24 868**	**-26 897**	**-28 266**	**-29 785**	**-30 865**	**-33 911**
Statuory Taxes	6 699	6 086	5 612	5 968	6 455	6 784	7 148	7 408	8 139
Financial Result	**-21 273**	**-19 272**	**-17 802**	**-18 931**	**-20 473**	**-21 513**	**-22 668**	**-23 489**	**-25 804**
Total CI	**21 217**	**71 768**	**100 993**	**86 485**	**97 597**	**148 712**	**150 377**	**174 912**	**196 814**

Balance Sheet

	IN THOUSAND EUR	2020	2021	2022E	2023P	2024P	2025P	2030P	2035P	2039P
	EMEA and Americas									
Assets	Core Inventories	121 015	183 698	245 437	204 827	212 571	209 149	228 117	249 509	273 364
	Core Trade receivables	43 455	47 139	63 014	63 968	66 323	81 609	114 774	154 525	169 299
	Core Other receivables	27 805	32 614	32 127	37 068	38 433	38 194	43 226	48 576	53 208
	Operating Cash	41 551	55 221	60 913	62 222	64 513	66 151	74 427	73 066	75 004
	Core Intangible assets	490 143	531 822	499 517	499 558	515 405	534 038	586 156	649 798	705 155
	Core Property, plant and equipment	173 778	215 493	181 069	171 592	170 764	171 803	101 919	109 006	112 761
	Core Rights of use	21 830	23 394	23 091	23 397	23 496	24 161	25 595	27 030	28 169
	Core Tax Receivables	15 973	17 503	32 466	33 164	34 385	35 258	39 669	44 507	48 763
Liabilities	Core Trade payables	312 292	411 246	491 285	384 657	390 795	369 293	424 675	478 865	524 649
	Core Provisions	17 147	20 920	19 102	22 690	23 704	23 558	26 509	29 819	32 660
	Core Tax payables	8 278	12 111	25 060	16 008	17 535	19 181	21 747	24 199	26 538
	Core Other payables	17 402	28 592	38 849	30 085	33 190	35 615	39 546	44 247	48 501
	EMEA and Americas CORE RESULT	580 432	634 016	563 338	642 357	660 667	712 716	701 406	778 889	833 376
	India									
Assets	Core Inventories	37 884	44 522	59 462	62 581	68 369	71 102	93 736	108 596	118 978
	Core Trade receivables	12 184	9 868	17 228	19 544	21 331	27 744	47 162	67 255	73 685
	Core Other receivables	7 796	6 828	8 784	10 847	12 231	12 808	17 449	20 776	22 758
	Operating Cash	11 652	11 558	16 654	19 011	20 749	22 489	30 583	36 344	39 819
	Core Intangible assets	153 125	120 406	128 516	131 702	146 606	165 125	210 226	243 941	270 369
	Core Property, plant and equipment	66 154	25 698	35 599	42 752	53 252	66 650	103 294	110 478	114 283
	Core Rights of use	8 310	2 790	4 540	4 456	4 539	4 742	4 302	4 578	4 771
	Core Tax Receivables	4 479	3 664	8 876	7 907	8 561	9 437	13 168	15 550	17 045
Liabilities	Core Trade payables	97 764	99 671	119 023	117 525	125 691	125 545	174 504	208 420	228 347
	Core Provisions	5 368	5 070	4 628	7 311	8 102	8 386	11 288	13 492	14 774
	Core Tax payables	2 591	2 935	6 071	4 963	5 716	6 494	8 807	10 417	11 420
	Core Other payables	5 448	6 930	9 412	9 503	11 060	12 356	16 379	19 483	21 349
	India CORE RESULT	190 413	110 727	140 524	159 499	185 070	227 317	308 941	355 705	385 818
	Asia Pacific									
Assets	Core Inventories	30 965	50 318	70 242	89 125	98 114	102 941	141 243	160 599	175 954
	Core Trade receivables	13 052	14 218	27 343	27 834	30 612	40 167	71 064	99 462	108 971
	Core Other receivables	8 352	9 837	13 940	15 447	17 551	18 542	26 292	30 724	33 654
	Operating Cash	12 482	16 655	26 431	27 074	29 776	32 559	46 083	53 748	58 887
	Core Intangible assets	52 379	67 981	96 679	119 479	139 243	164 574	222 184	268 809	307 977
	Core Property, plant and equipment	24 684	41 850	76 471	87 919	105 841	128 889	161 809	173 061	179 022
	Core Rights of use	3 101	4 543	9 752	9 283	9 791	10 617	13 120	14 176	14 773
	Core Tax Receivables	4 798	5 279	14 087	11 261	12 285	13 662	19 841	23 141	25 353
Liabilities	Core Trade payables	79 908	112 647	140 602	167 374	180 375	181 763	262 946	308 227	337 696
	Core Provisions	4 387	5 730	5 467	8 172	8 964	9 391	13 142	15 423	16 888
	Core Tax payables	2 118	3 317	7 172	5 496	6 277	7 198	10 147	11 785	12 919
	Core Other payables	4 453	7 832	11 118	10 545	12 187	13 753	18 942	22 126	24 244
	Asia Pacific CORE RESULT	58 946	81 155	170 586	195 837	235 410	299 846	396 459	466 158	512 845
	Total CORE RESULT	829 792	825 898	874 448	997 693	1 081 146	1 239 880	1 406 806	1 600 752	1 732 039
	Non-Core Assets	105 005	115 164	83 681	103 884	116 726	127 642	125 146	134 477	139 062
	Non-Core Liabilities	73 948	73 396	69 605	77 996	83 825	89 027	93 012	99 417	102 209
	NON-CORE RESULT	31 057	41 768	14 076	25 888	32 901	38 615	32 134	35 061	36 852
	FINANCIAL RESULT	488 690	463 431	473 701	542 498	568 164	626 463	503 629	572 535	619 112
	EQUITY (COMMON STOCK)	372 159	404 235	414 823	481 083	545 883	652 032	935 311	1 063 279	1 149 779

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Report Recommendations

Buy	Expected total return (including expected capital gains and expected dividend yield) of more than 10% over a 12-month period.
Hold	Expected total return (including expected capital gains and expected dividend yield) between 0% and 10% over a 12-month period.
Sell	Expected negative total return (including expected capital gains and expected dividend yield) over a 12-month period.

This report was prepared by Ricardo Jesus and Rodrigo Rosa, Master in Finance students of Nova School of Business and Economics ("Nova SBE"), within the context of the Field Lab – Equity Research.

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This report was supervised by a Nova SBE faculty member, acting merely in an academic capacity, who revised the valuation methodology and the financial model.

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