

**Universidade do Minho**  
Escola de Economia e Gestão

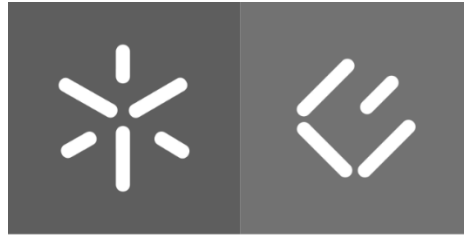
Luís Ricardo Araújo Carneiro

**Equity Research Report:  
Ferrari N. V.**

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**Equity research report: Ferrari N. V.**

Master Project  
Master in Finance

Work performed under the supervision of  
**Professora Doutora Florinda Silva**

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## **ACKNOWLEDGMENTS**

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To my friends, thanks for the laughs, the good advice, and sticking around. You've been there through it all.

And to myself, for daring to dream and for having the courage to pursue those dreams, thank you. This journey has taught me the power of resilience, determination, and self-belief.

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## SUMÁRIO EXECUTIVO

No âmbito do projeto final do mestrado em Finanças da Universidade do Minho, foi realizada uma avaliação da Ferrari seguindo as recomendações do Instituto CFA. O objetivo deste relatório de avaliação é determinar o preço-alvo da Ferrari, empresa líder na indústria de carros de luxo, a fim de emitir uma recomendação de investimento relativamente ao seu preço de mercado.

A seleção da Ferrari deve-se ao seu posicionamento único no mercado de carros de luxo e ao seu histórico de performance na Fórmula 1, que acrescenta um valor significativo à sua marca. Tendo em consideração as diversas metodologias de avaliação, concluiu-se que o modelo de avaliação de Fluxos de Caixa Descontados (DCF), representa a abordagem mais adequada para a Ferrari.

A recomendação é de Compra, projetando-se um preço-alvo de 445.34€, com um potencial de subida de 18.66% face ao preço da ação a 30 de Maio de 2024.

**Palavras Chave:** Avaliação; Modelo de Fluxo de Caixa Descontado; Ferrari; Indústria de Carros de Luxo



## ABSTRACT

As part of the final project for the Master's in Finance at the University of Minho, a valuation of Ferrari was conducted following the recommendations of the CFA Institute. The objective of this valuation report is to determine the target price of Ferrari, a leading company in the luxury car industry and the most successful racing team in Formula 1 history, in order to issue an investment recommendation regarding its market price.

The selection of Ferrari is due to its unique positioning in the luxury car market and its performance history in Formula 1, which adds significant value to its brand. Considering the different valuation methods, it was concluded that the Discounted Cash Flow (DCF) valuation model, represents the most suitable approach for Ferrari.

The investment recommendation is to Buy projecting a target price of €445.34, with a potential upside of 18.66% compared to the stock price as of May 30, 2024.

**Keywords:** Valuation; Discounted Cash Flow Model; Ferrari; Luxury Car Industry

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# Ferrari N. V.



Consumer Cyclical | Auto Manufacturers | Luxury

## Driving Excellence: Ferrari in the Fast Lane

The current analysis on Ferrari (RACE) is a **BUY** recommendation with 2024YE target of €445.34, implying a +19.25% Total Return, including a dividend yield of +0.59% and an upside of +18.66% on the 30<sup>th</sup> May 2024 closing price (€375.30). Ferrari's attraction lies in being the height of luxury and performance, based on its rich brand history and top-tier Italian craftsmanship.

## Unveiling Untapped Opportunities

Ferrari's growth potential is still developing, presenting various unexplored opportunities. The BUY rating is grounded in i) Ferrari's strategic diversification, ii) proven pricing power, and iii) promising long-term prospects. Ferrari's strategy involves maintaining brand exclusivity, transitioning clients to higher-margin segments, and leading the way in the hybrid revolution.

## Luxury Rarity Amid Automotive Giants

Outperforming the broader auto sector, Ferrari's shares have soared since its IPO (Figure 1), defying the cyclical nature of the industry. Valuation metrics align with luxury brands like Hermès, LVMH, and Kering, underscoring Ferrari's unique position. Controlled growth, exceptional profitability ratios, a selective clientele, and organic growth potential contribute to this distinct valuation, highlighting the extraordinary nature of the Ferrari brand.

## Financial Resilience Fuels Ferrari's Forward Momentum

Ferrari's financial robustness is the engine driving its future plans. With a solid balance sheet and consistent cash generation, Ferrari is well-equipped to navigate the challenges in the high-performance auto industry. In anticipation of growing competition, the company is committed to substantial long-term investments.

This commitment involves a planned annual increase in capital expenditure (CAPEX) from 2023 onwards, reinforcing Ferrari's dedication to enhancing its capabilities. Simultaneously, significant investments in research and development (R&D) underscore the company's focus on staying ahead in automotive innovation. Backed by a prudent financial structure with minimal debt, Ferrari positions itself to deliver substantial returns to shareholders.



Figure 1 - Ferrari stock price chart (Source: Yahoo finance, author estimates)

**BUY**

Price:	€375.30
Target Price 2024FY:	€445.34
Upside:	+18.66%
Dividend Yield:	0.59%

## Listing Details

Trading symbol "RACE" on:

- NYSE
- Euronext Milan

## Market data

Main shareholders:

Exor N.V.	24.44%
Piero Ferrari	10.39%
BlackRock, Inc.	5.69%
T. Rowe Price, Inc.	4.48%
Other	55.00%

Shares outstanding:	181.95M
Market cap:	68.56B

## Stock data

52 Week High:	€403.64
52 Week Low:	€249.30
Avg. volume (3m):	312.8k
Float:	311.M

# Business Description

## Introduction

Enzo Ferrari established Scuderia Ferrari in 1929 as a racing team, competing in prestigious events like Mille Miglia (Figure 2), 24 Hours of Le Mans, and latter one in Formula 1. The company transitioned into car manufacturing in 1947 when its first streetcar was made. In 1988, FIAT, a minority shareholder for nearly two decades, assumed control following Enzo Ferrari's passing. Despite this transition, RACE continued to thrive both in motorsport and commercially, earning recognition as the most successful team in motorsport history and one of the world's most unique brands, according to Brand Finance. In 2016, RACE underwent a spin-off from the FCA Group (Appendix 1), emerging as an independent entity known as Ferrari N.V.

RACE presents a concise revenue stream size and derives its revenue from four primary streams (Appendix 2), as determined by the Ferrari (Figure 3): i) Cars and spare parts (85.75% of 2023 Revenue), ii) Sponsorship, commercial, and brand activities related to F1 participation (9.58%), iii) Engines provided to Maserati and other Formula 1 teams (2.12%), and iv) Other, encompassing Ferrari Financial Services, management of the Mugello Circuit, and other miscellaneous activities (2.55%).

**Cars and spare parts (C&SP)** serve as the core revenue driver for RACE, contributing €5.970 million in revenues. RACE dominates the luxury performance car market, focusing on vehicles with over 500 horsepower and retail prices exceeding €150,000. Opting for a strategy focused on low-volume production enriches exclusivity while preserving scarcity. The product lineup includes four main pillars: Range, Special Series, Icona models and the upcoming "Supercar" (Appendix 3).

- The **Range** segment offers high-performance vehicles for two main categories: Pilot and Sports Car Driver, where "Pilot" category favor performance over comfort, leveraging state-of-the-art vehicle dynamics and components.
- **Special Series** models are designed from time to time, which can be limited in time or volume and are usually based on some of the Range models but introduce novel product concepts (Ferrai, 2023).
- The **Icona** pillar presents a unique concept, drawing inspiration from historical icons and reinterpreting them in a modern manner. This blend of timeless design targets affluent and loyal customers with limited-edition cars priced at €1.6 million, all of which were sold out upon their launch.
- **Supercars** pillar are in line with the company tradition starting with the GTO in 1984 and including the Enzo in 2002, LaFerrari in 2013 and the LaFerrari Aperta introduced in 2016, Ferrari also produce limited edition Supercars.

Most sales occur in developed markets (Figure 4), with Europe accounting for about 48% of total shipment in 2023. Americas (mainly United States) represent about 30% of total shipments. RACE operates over 52 markets worldwide (Figure 5) through a network of 178 authorized dealers operating 196 points of sale as of the end of 2023 (Ferrai, 2023).

**Sponsorship, commercial and brand (SC&B)** can be divided further into:

- **Commercial & Brand:** The company grants licenses for the Ferrari brand to chosen luxury goods makers and sellers. They also sell Ferrari-branded items through their network stores, franchises, and website. It also makes money through royalties from theme parks and museums.
- **Scuderia Ferrari:** Formula 1, represented by Charles Leclerc and Carlos Sainz as of Dec. 2023 (Figure 6), plays a vital role in Ferrari's strategy for value creation by bolstering brand visibility and enhancing its image of exclusivity, innovation, and high performance. Net revenues generated in this segment for 2023 were €572 million, an increase of 14.6% from the previous year.

**Engines (EN)** encompasses revenues from selling engines to Maserati for their vehicles and leasing engines to other Formula 1 teams. The agreement for selling engines to Maserati is set to conclude by the end of 2023.

**Others** mainly involve financial services, management of the Mugello racetrack, and other sports-related endeavors.



Figure 2 - Mille Miglia Race (Source: company website)

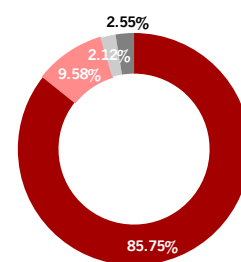


Figure 3 - Revenue by segment (2023) (Source: company 2023 annual report)

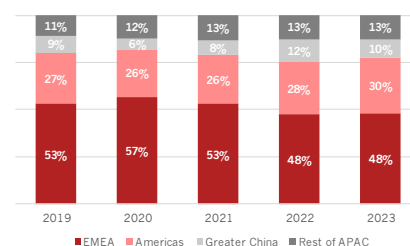


Figure 4 - Revenues breakdown by geography (%) (Source: company annual report)

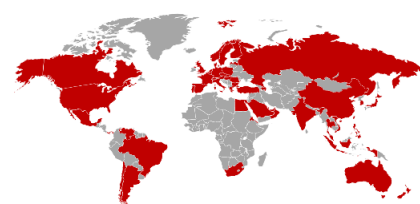


Figure 5 - Ferrari authorized dealers worldwide. (Source: author estimates)



Figure 6 - Charles Leclerc and Carlos Sainz (Source: company website)

## Business Strategy

Ferrari aims to maintain its leadership position in the luxury car market through controlled growth, innovative development, and diversification of its portfolio. Specifically, its mission to craft vehicles symbolizing Italian excellence, excelling both on the road and track, is supported by the following business strategy:

**1. Stability through Low-Volume Strategy:** Ferrari's low-volume production strategy contributes to stability in production volumes, a contrast to the volatility experienced by competitors. This stability is attributed to Ferrari's careful balance between meeting demand and preserving exclusivity, further solidifying its position as a leader in the luxury automotive sector, in line with the founder's philosophy of "selling one car less than the market demand".

**2. Broadening Product Portfolio while Maintaining Exclusivity:** Ferrari aims to expand its product portfolio to attract a larger customer base while firmly maintaining a low-volume production strategy (Figure 7). This approach ensures that each Ferrari maintains its exclusivity and scarcity, reinforcing the brand's appeal among selective buyers.

**3. Controlled Growth in Emerging Markets:** The company prioritizes controlled growth, particularly in emerging market countries exhibiting substantial potential. By strategically expanding its presence in these markets, Ferrari seeks to capitalize on growing demand while preserving its exclusive brand image.

**4. Embracing Electric and Hybrid Technologies:** In accordance with their strategy, Ferrari acknowledges the importance of electric and hybrid technologies in enhancing performance and meeting stringent emissions requirements (Figure 8). By integrating these advancements into their vehicles, Ferrari not only addresses evolving consumer preferences but also ensures continued relevance in an increasingly environmentally conscious market.

**5. Cultivating Exclusivity and Luxury:** Central to Ferrari's marketing strategy is the cultivation of exclusivity and luxury, achieved through limited model production and carefully managed waiting lists. This deliberate approach not only amplifies the brand's appeal but also influences premium pricing, underscoring Ferrari's commitment to uncompromising quality and craftsmanship (Figure 9).

By skillfully balancing tradition with innovation, Ferrari's business strategy ensures the continued association of its prancing horse emblem with excellence, performance, and exclusivity for years to come.

## Industry Overview & Competitive Positioning

### Luxury Performance Car Industry (LPCI)

The Luxury Performance Cars industry (LPCI) is a segment within the automotive sector that has seen growth over the past few years, presenting a +9.93% compound annual growth rate (CAGR) 2019-2023 in the quantity of vehicles sold, comprising approximately 145,000 units worldwide in 2023 (Figure 10 and Appendix 4). The market's key participants can be divided into two groups: the majority are luxury-focused automotive manufacturers (Aston Martin, Bentley, Ferrari, Lamborghini, McLaren, and Rolls Royce), while for others, the LPCI represents a small portion of their shipments (Audi\* and Porsche\*).

### Industry attractiveness

The luxury car industry presents significant barriers to entry, owing to high capital requirements, strong brand identification, and proprietary technology. Despite low production volumes industry-wide, these factors create significant **barriers of new entrants**. **Internal rivalry** within the industry it is considered medium, with a moderate concentration of competitors. However, Ferrari's distinct brand and unique positioning serve to alleviate direct competition, contributing to its market resilience. While other luxury goods pose a potential **substitution risk**, Ferrari's brand prestige and commitment to quality standards fortify its position in the market. In terms of **supplier dynamics**, luxury carmakers such as Ferrari have considerable bargaining power, using their volume and brand reputation to secure favorable terms. **Customers** within the luxury car segment exhibit low price sensitivity, prioritizing luxury, status, and

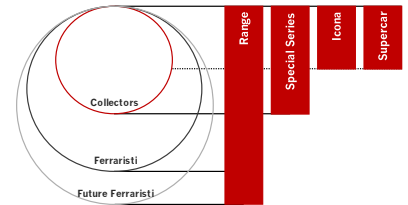


Figure 7 - Strategic pillars (Source: company 2023 annual report)

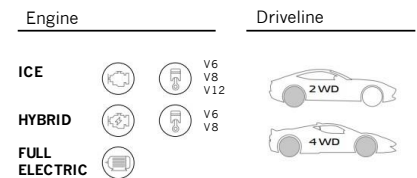


Figure 8 - Ferrari architecture. (Source: company 2023 annual report)

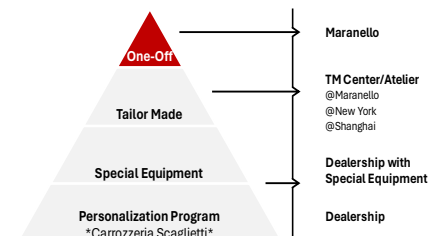


Figure 9 - Personalization Offer (Source: company 2023 annual report)

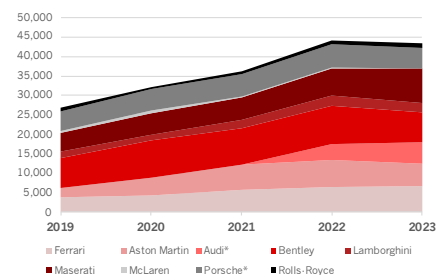


Figure 10 - Cars sold by manufacturer (LPCI) (Source: author estimates)

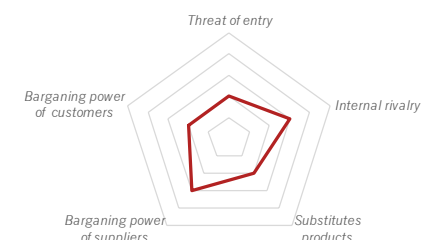


Figure 11 - LPCI Porter's five forces analysis (Source: author estimates)



emotional factors over cost considerations (Figure 11 and Appendix 5). This affords Ferrari greater control over pricing strategies.

Ferrari navigates an industry characterized by significant barriers to entry, moderate internal rivalry, low threat from substitutes, substantial bargaining power over suppliers, and minimal bargaining power among customers. These factors collectively shape the industry's attractiveness and Ferrari's competitive position within it.

## Industry trends

To assess the trajectory of Ferrari within the luxury performance car industry, it is necessary to examine the industry's dual nature, combining elements from both the automotive and luxury sectors.

**1. Environmental Regulations Drive Electrification:** Luxury automakers face increasing pressure from tightening emission regulations, compelling a strategic shift towards electrification. This necessitates substantial investments in hybrid and electric powertrains, reflecting an industry-wide commitment to environmental sustainability (McKinsey & Company, 2022).

**2. Shift Towards Electric Luxury:** Electrification is poised to revolutionize the luxury car landscape (Figure 12), with battery-electric vehicles (BEVs) expected to dominate the market by 2031 (OliverWyman, 2022). Driven by consumer demand for sustainability and technological advancements, this transition underscores a pivotal industry-wide shift towards greener mobility solutions. Luxury car manufacturers must strategically embrace this trend, leveraging innovative technologies to deliver high-performance electric vehicles that meet the discerning standards of luxury consumers (McKinsey & Company, 2022).

**3. Regional Dynamics Redefine Markets:** Traditional luxury car markets in North America and Europe are ceding ground to emerging markets, particularly China and the Middle East (Figure 13). This regional reorientation mirrors shifting consumer demographics and preferences, necessitating tailored strategies to capitalize on diverse global opportunities (OliverWyman, 2022).

**4. Expanding High-Net-Worth Consumer Base:** The growing population of high-net-worth individuals (HNWIs) and ultra-high net-worth individuals (UHNWI), notably in emerging markets like China, presents a lucrative growth opportunity for luxury car brands (Figure 14). This demographic evolution signifies changing consumer preferences and wealth distribution patterns (Figure 15), offering manufacturers avenues for market expansion (OliverWyman, 2022). The luxury segments are expanding at a CAGR of 8 to 14 percent through 2031 (McKinsey & Company, 2022), and the primary reason for the growth in the luxury-car segment involves the continued increase of HNWH.

**5. Strategic Adaptation for Future Success:** In response to these transformative industry trends, luxury car manufacturers must proactively adapt their business models and product portfolios to thrive in an increasingly competitive landscape (OliverWyman, 2022). This entails strategic investments in sustainable technologies, customization options to meet evolving consumer preferences, and targeted expansion efforts in high-growth markets. By embracing innovation and agility, luxury car brands can position themselves for long-term success and maintain their leadership in the evolving automotive landscape (McKinsey & Company, 2022).

## Competitive positioning

The primary **factors** influencing competition in the LPCI: i) Brand recognition and image are crucial, influencing purchasing decisions, ii) Product quality and performance are essential, with buyers expecting superior craftsmanship and driving dynamics. iii) Innovation is essential for addressing changing consumer needs and setting luxury vehicles apart. iv) Creating exceptional customer experiences and services is vital for building loyalty and satisfaction, while the exclusivity and rarity of luxury cars enhance their appeal, while v) environmental and social responsibility are increasingly important considerations. Understanding and effectively addressing these industry drivers are essential for luxury car companies to maintain their competitive edge and meet the expectations of discerning customers.

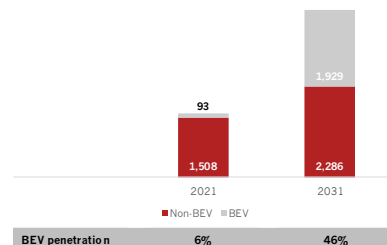


Figure 12 - Global luxury and ultra-luxury sales volume by powertrain (thousands) (Source: OliverWyman, 2022)

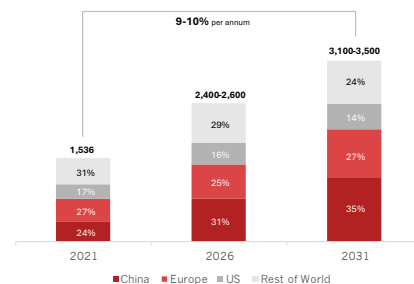


Figure 13 - Projected volume of luxury vehicles by geography (thousands) (Source: McKinsey & Company)

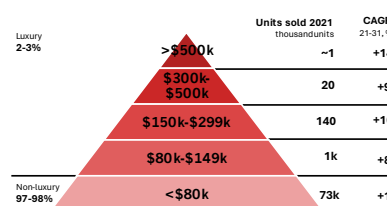


Figure 14 - Segmentation of car market by vehicle cost range (Source: McKinsey & Company)

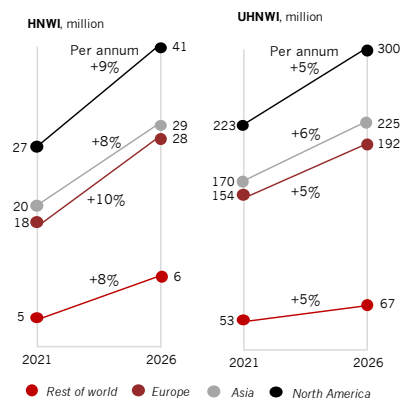


Figure 15 - HNW and UHNWI by geography (Source: McKinsey & Company)

Recognized as the strongest brand worldwide for consecutive years (Brand Finance, 2022), Ferrari solidifies its superior status, especially in terms of i) **brand recognition**. When considering ii) **cars' quality**, RACE stands out, providing unmatched performance and thrilling driving experiences, along with a higher level of personalization – an important trend in the luxury space (Ferrari, 2022). The Company dedication to top-tier design ensures its driving encounters meet the highest industry standards. Regarding iii) **innovation**, Ferrari will keep producing its core components in-house, as it always has. Strategic partnerships will provide access to advanced technologies. The company will invest in three powertrains: ICE, Hybrid, and Electric, each offering unique driving experiences. Additionally, RACE places significant emphasis on iv) **customer care**, cultivating a loyal base of repeat buyers and emphasizing its commitment to outstanding service. Ferrari is taking deliberate actions to achieve carbon neutrality by 2030 in respect to their v) **environmental and social responsibility**, by integrating biomethane for the trigenerator, installing photovoltaic panels and fuel cell-based systems, and embracing electrification, the CO<sub>2</sub> emissions during the vehicle use phase can be diminished.. Mirroring the traits of personal luxury brands, RACE's competitive advantages (Figure 16) lie in controlled growth, demand that surpasses supply, and a formidable brand strength, epitomizing its resonance within the personal luxury sphere (Figure 17).

## Competitive financial analysis: Unveiling the Luxury Essence of RACE

The competitive strengths and business approach of RACE, centered on waiting lists, exhibit notable similarities to prominent luxury brands such as Burberry, Kering, Hermès, LVMH, Moncler, and Richemont. Typical traits include limited production to meet high demand, a steadfast focus on brand appeal and legacy, and notable pricing authority. A comprehensive financial evaluation was conducted to determine the primary identity of RACE (whether automotive or luxury).

RACE's strong financial profile distinguishes it from most other players in the automotive industry such as Aston Martin, Maserati, McLaren and Porsche, particularly evident in its limited sales volatility and best-in-class margins (Figure 18). Among these peers, Porsche emerges as the closest to RACE, although with notable differences. Firstly, RACE focuses on the high-end market, while Porsche caters to a more mainstream customer base, reflected in their respective gross margins (RACE 49.82% vs. Porsche 28.73% in 2023). Additionally, RACE ships significantly fewer cars than Porsche (13,221 Ferrari vs. 320,221 Porsche in 2023) and demonstrates more substantial improvements in profitability over time.

From a strategic standpoint and growth consistency, RACE mirrors personal luxury firms. Return metrics like ROE and EBITDA margin exceed the average of its luxury peers, further highlighting its luxury essence.

## Historical Analysis

### Start: a company ready for glory

Since the spin-off from the FCA Group, the company has enjoyed a track record of success: i) the number of cars shipped has consistently risen at a +7.76% CAGR 2019-2023, surpassing the industry rate of +4.62% (author estimates), ii) revenues grew at a +12.20% CAGR 2019-2023 and iii) margins expanded from a 33.70% EBITDA margin and 24.16% EBIT margin in 2019 to 38.18% and 27.09% in 2023.

### Revenue: RACE employs strategies to maintain controlled growth

**1. C&SP:** Accounting for 85.75% of revenues in 2023, with a CAGR of +15.01% from 2019 to 2023, this segment is driven by factors such as **volume**, product enhancements, geographical sales mix, **personalization**, and **pricing** adjustments (Figure 19). Revenue growth in this area over the past five years has been primarily fueled by increased volume, particularly from Range models like the SF90, F8, and 488, as well as Special Series and Icona cars. However, there was a slight negative impact on revenue mix due to the conclusion of limited series production for models like the Ferrari Monza SP1 and SP2 in early 2022 (Ferrari, 2023).

**2. Other activities:** Accounting for 14.25% of revenues in 2023, with a CAGR of 0.30% from 2019 to 2023 (Figure 20), this segment comprises volatile revenue streams undergoing restructuring. i) SC&B represents 9.58% of revenues in 2023, with a slight increase in CAGR of 1.52% from 2019 to 2023 but a notable recovery since the Covid-

STRENGTHS	
Brand Prestige	
Innovation and Engineering Excellence	
Heritage and Tradition	
Personalization and Customization Services	
Limited Production and Exclusivity	
WEAKNESSES	
Environmental Regulations	
Dependence on Economic Conditions	
Heavy R&D Expenditures	
OPPORTUNITIES	
Electric and Hybrid Vehicles	
Emerging Markets	
Launch new models & enter new segments	
THREATS	
Competitive Pressure	
Economic Fluctuations	
Rising Production Costs	
Supply Chain Disruptions	

Figure 16 - LPCI competitive drivers (Source: author estimates)

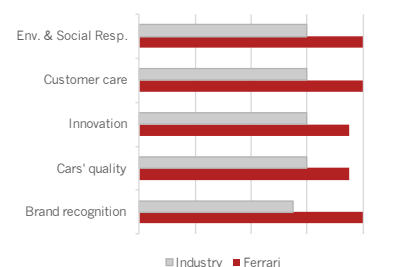


Figure 17 - LPCI competitive drivers (Source: author estimates)

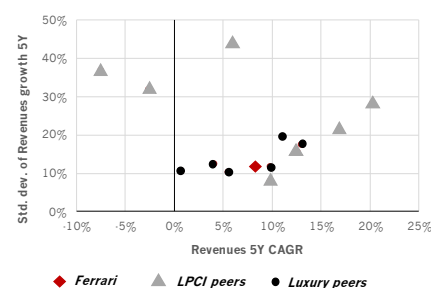


Figure 18 - Peer group definition (Source: company 2023 annual report, author estimates)

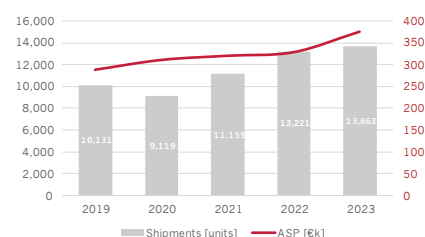


Figure 19 - Volume and price/mix effects (Source: company 2023 annual report, author estimates)

19 pandemic hiatus with a CAGR of 13.60% from 2020 to 2023. The performance of the Formula 1 team has been inconsistent, marked by occasional victories but overall challenges in sustaining championship contention due to technical issues and driver errors. ii) **Engine** sales, accounting for 2.12% of revenues, have seen a decline in CAGR of -10.59% from 2019 to 2023, attributed to fluctuating demand linked to expected sales at Maserati, that concluded by the end of 2023, when the contract for producing such engines concluded. iii) **Other revenue**, representing 2.55% of revenues, has shown growth since 2019, generating €152 million in 2023, a notable increase of €32 million, or 27.12%, from the previous year. This growth is primarily driven by an increase of financial services activities (Figure 20).

## Margins and returns: excellence among automakers

RACE's EBITDA margin of 38.18% and EBIT margin of 27.09% have shown steady improvement over the past five years, despite a slight decrease in gross margin (from 52.07% in 2019 to 50.18% in 2023) and a slight decrease in SG&A and R&D expenses as a percentage of revenues (from 27.67% in 2017 to 22.51% in 2023). This improvement in margins can be attributed to several factors: i) introduction of Special Series, Iconas, and Hypercars, targeting recurring and price-insensitive customers, has contributed to higher contribution margins (Figure 21), ii) substitution of Range and Special Series models with equivalent cars at higher prices has helped offset cost increases, iii) decrease in engine shipments to Maserati since 2018, which had previously impacted margins, iv) as shipment volumes have grown, overhead expenses have been diluted, contributing positively to margins.

However, despite these margin improvements, RACE's ROIC ex. goodwill has seen a decline, attributed to significant investments in CAPEX. These investments, aimed at expanding the car portfolio, have temporarily depressed capital turnover, leading to a decrease in ROIC until 2022, with a recovery in 2023 (from 27.33% in 2019 to 24.33% in 2022 and 27.77% in 2023). This decline in ROIC and recovery shown in 2023 reflects the company's long-term strategic focus, prioritizing medium to long-term growth over short-term profitability. While the revenues from new models may fall short of the initial investments for their development, RACE remains committed to thriving in the medium to long term, despite short-term adverse effects on ROIC.

## Cash flows: RACE cash for investments and investors

**1. Cash machine.** Ferrari has ample cash reserves (industrial FCF/EBIT of 52.57% in 2023, author estimates) and skillfully oversees operating working capital (113 DPO vs. 16 DSO). In previous years, abundant cash flows were utilized, and they will continue to be deployed in the future for: i) CAPEX (CAPEX/Revenues average of last 5y of 17.4% vs. 13.4% 2015-2018) (Figure 22), ii) dividends (dividend payout of 30% will increase to 35% of adjusted net income from 2022 onward) and iii) buyback program of ~€2 billion from 2022 to 2026 (Ferrari, 2022).

**2. Cash flows bring strength and stability to RACE and its stakeholders.** RACE is making significant strides in managing its financial health, with a keen focus on its cash flow statement metrics (Figure 23). Following its spin-off from the FCA Group in 2016, RACE has diligently managed its cash flow. Initially faced with challenges, the company's cash flow from operations has seen notable improvement, reaching €1,707 million in 2023 (author estimates). Despite fluctuations, RACE has maintained a balanced capital structure, underscored by its Debt/Equity ratio, which stands at 0.8. These efforts signify RACE's unwavering commitment to strengthening its financial resilience and adaptability amidst the ever-evolving business landscape.

## Highlights: Ferrari's Distinctiveness in a Unique Era

Ferrari operates within a business domain characterized by investment cycles, marking pivotal moments in its trajectory. The CAPEX cycle (Appendix 6) spanning 2007-2010 was pivotal, reflecting investments directed towards the development of turbo engines. Fast forward to the present, Ferrari embarks on a fresh CAPEX cycle initiated in 2018, strategically aligned with the creation of new models, notably the debut of their first-ever SUV, Purosangue, and advancements in hybrid powertrains. Forecasts indicate a substantial CAPEX allocation of +€4 billion spanning 2022-2026, as per management guidance. This signals the start of a pivotal phase in Ferrari's 2030 electrification strategy, with plans for a product lineup consisting of 20% ICE, 40% hybrid, and 40% full electric models (Figure 24).

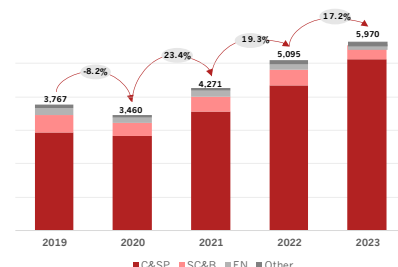


Figure 20 - Revenue by segment (€ thousand) and YoY growth (Source: company 2019-2023 annual report)

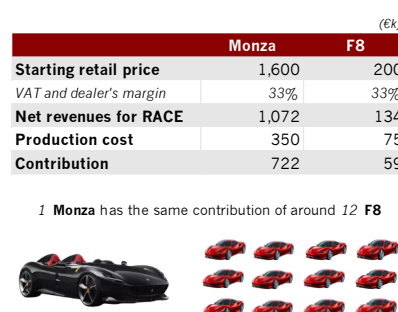


Figure 21 - Monza equivalents (Source: author estimates)

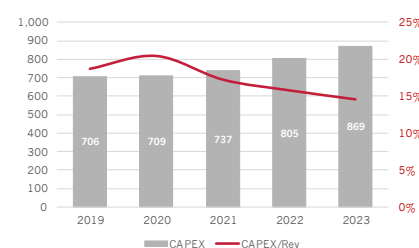


Figure 22 - CAPEX analysis (€ thousands) and CAPEX ratio (%) (Source: author estimates)

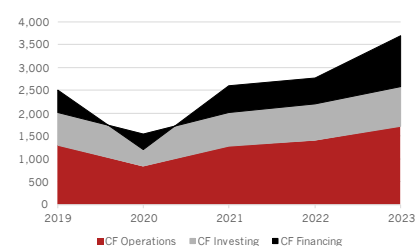


Figure 23 - Cash Flow analysis (€ thousands) (Source: author estimates)

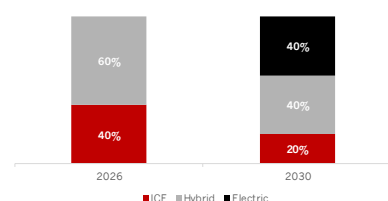


Figure 24 - Product offering 2026 and 2030 (%) (Source: company 2023 annual report)

# Future Analysis and valuation assumptions

## Introduction: Steering Towards Success

In the short-term (2022-2026), RACE's financial outlook relies on: i) active launch of new models to achieve the planned expansion (Figure 25, and Appendix 7), ii) an escalating presence of hybrid vehicles (expected to comprise 60% of the mix by 2026, per management guidance), iii) the decision not to renew the engine supply contract with Maserati, iv) Formula 1's targeted breakeven by 2024 following the introduction of a budget cap in 2022 (imposed by FIA) and future enhancement and developments with Lewis Hamilton on the team starting 2025, and v) heightened CAPEX intensity. In the midterm (2026-2030), Ferrari's financials will be characterized by: vi) a growing presence of electric vehicles to meet electrification targets (aiming for 40% of the mix by 2030, as per management guidance), and vii) strategic initiatives aimed at achieving carbon neutrality by 2030.

Based on forecasts, revenues growth will be primarily driven by an increase in sales volumes, projected to rise from 13,663 units in 2023 to 15,710 units in 2026, alongside a rise in average selling prices from €375k to €430k during the same period. As a result, it is foreseen a strengthening of its EBIT margin and EBITDA margin by +188 basis points and +1,086 basis points, respectively, between 2022 and 2026 (Figure 26), slightly below management guidelines. The expansion is mainly due to the rising significance of C&SP and SC&B segments, along with the discontinuation of low-margin Engines to Maserati, alongside the consolidation of the Icona pillar and enhanced personalization. The financial statements are present on Appendix 8.

## Methodology: A Thorough Examination of RACE's Distinctive Position

**1. C&SP: new launches impact in the mid-term.** In projecting RACE's primary revenue sources for the period 2022-2026, a bottom-up approach was utilized, focusing on internal factors rather than external ones. This strategy was adopted because sales are mainly influenced by RACE's decisions and production capacity, rather than customer demand. By closely examining trends in product launches and analysis of management guidance, a detailed estimation was conducted for future launches, volumes, and product mix. The forecast predicts 15 new launches over the period, accompanied by an increase in hybrid vehicle production to align with the company's goal of achieving 60% hybrid shipments by 2026.

**2. SC&B: capitalizing on Enhanced Visibility.** Scuderia Ferrari maintains strong visibility across both traditional and digital media platforms, consistently drawing significant sponsorships. The recent announcement of Lewis Hamilton joining the Ferrari team is anticipated to enhance the team's profile and appeal significantly. Hamilton's addition is expected to attract new sponsors, enhance fan engagement, and further reinforce Ferrari's brand presence. Together with the team's competitive Formula 1 ranking and lifestyle initiatives, this strategic acquisition holds the promise of substantial value creation. With considerable investments in CAPEX, R&D, and ongoing efforts to fortify the Formula 1 team, Ferrari is positioned exceptionally well to capitalize on this high-profile addition for sustained future growth.

**3. Engines and Others: decreasing effect over time.** Predicting the remaining turnover, Engines stream to be almost null at the end of the projection years and Others to remain stable.

## Revenues: Driving value

**1. C&SP (+9.71% CAGR 2024-2026 vs. +14.32% CAGR 2026-2033).** Car sales will remain the primary growth driver, with shipments expected to exceed 15,000 by 2026 and grow at a 4.76% CAGR from 2026 to 2033, in line with historical averages. This growth is based on assumptions about both i) shipments and ii) ASP increases. **Shipments** - Ferrari plans to launch 15 new models from 2023 to 2033, with five already released in 2023 (Roma Spider, SF90 XX Stradale, SF90 XX Spider, 296 Challenge, and 499P Modificata). Projections for shipment growth consider model lifecycles, launch schedules, segment distribution, and average shipments per model (Figure 27). **ASP** - Maintaining exclusivity will require consistent ASP increases, forecasted to rise from approximately €375k in 2023 to €430k in 2026, followed by a 6.51% CAGR from 2026 to 2033, based on historical trends (Figure 28). Personalization and the sale of high-end models will further boost ASP growth, as indicated by management.



Figure 25 - 15 new launches between 2023 and 2026 (Source: company strategy plan)

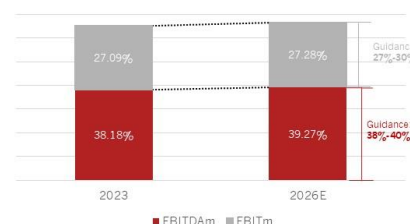


Figure 26 - EBITDA and EBIT margin (%) (Source: author estimates)

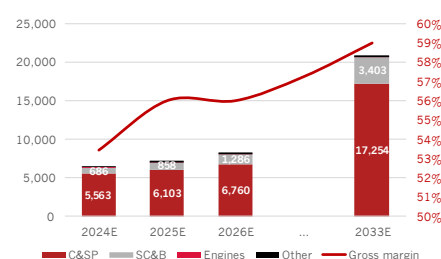


Figure 27 - Revenues (€ thousands) by segment and Gross Margin (%) (Source: author estimates)

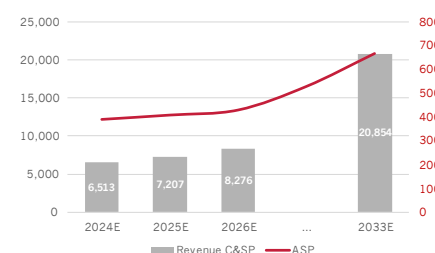


Figure 28 - Revenue C&SP and ASP (€ thousands) (Source: author estimates)

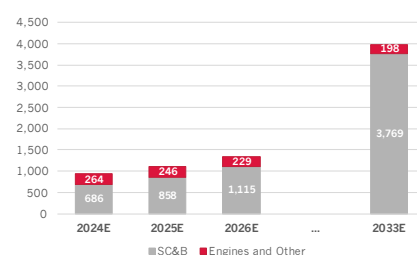


Figure 29 - SC&B, Engines and Other Revenues (€ thousands). (Source: author estimates)



**2. SC&B (+31.04% CAGR 2024-2026 vs +14.91% CAGR 2026-2033).** SC&B revenues (Figure 29) are expected to grow in the long run, driven by i) Ferrari's optimistic Formula 1 activities and ii) enhanced client services such as Ferrari Challenge, Endurance, Formula 1 Clienti, Corse Clienti, and the XX Programme. This segment is projected to double its pre-pandemic sales by 2026 (per management guidance), reaching approximately €1,286 million. From 2026 to 2033, growth is anticipated to be slightly above the historical average CAGR, buoyed by the positive outlook related to Hamilton's involvement with the Formula 1 team.

**3. Engines and Other (-6.90% CAGR 2024-2026 vs -1.24% CAGR 2027-2033).** The decline and termination of contracts for engine sales to Maserati will result in a negative impact on overall revenue, primarily due to the decrease in non-core revenue streams.

## OPEX, CAPEX and R&D: expenses shaping tomorrow's success

Operating expenses (OPEX): i) **Cost of goods sold (COGS)** will fluctuate based on the target gross margin, projected to be 57% in 2027 and stabilize at 59% in the long term, ii) **Selling, general, and administrative (SG&A)** expenses are anticipated to experience a slight increase from 7.75% of revenues in 2023 to a target of 10% in 2026, due to enhanced communication and marketing efforts to support the product range, lifestyle, network, and organizational development (Ferrari, 2022), and then stabilize at 9% in the long term. The **R&D** expenditure is forecasted to grow significantly in the medium term (2023-2026) at a 20.20% CAGR, reaching 18.50% of revenues by 2026, and to continue growing from 2026 to 2033 at a 12.19% CAGR, stabilizing at 17.50% of revenues by 2033 (Figure 30). Cumulated **CAPEX** of approximately €5.5 billion is expected from 2022 to 2026 to support product development and infrastructure. From 2026 to 2033, a CAPEX CAGR of 14.32% is anticipated, with investments primarily focused on upgrading products and manufacturing facilities, especially those related to electric technology.

## Margins and returns: RACE in its luxury role

RACE's EBIT and EBITDA are expected to grow at a 11.76% and 12.55% CAGR, respectively, from 2023 to 2026, reaching €2.3bn and €3.2bn by 2026. This growth is driven by increased volumes, operating leverage, and the launch of high-margin high-end and hybrid vehicles. These measures will further boost EBIT and EBITDA margins to around 34% and 46%, respectively, in the mid-term (2026-2033) (Figure 31). RACE's ROIC, excluding goodwill, will remain around the 2019-2023 average of 32.39%, with slight increases in 2024 and 2025 due to investments in car pipeline and hybrid/electric expansion (Figure 32). The quality of these investments will significantly enhance ROIC, excluding goodwill, reaching 49.16% by 2033, starting an upward trend in 2026 as the CAPEX cycle concludes (Figure 33).

## Cash flows: navigating challenges to reach new heights

**Increasing industrial FCF.** RACE's industrial free cash flow (FCF) is expected to rise dramatically from €-209mn in 2020 to €1,923mn in 2026. Cumulative industrial FCF for 2022-2026 will double compared to 2016-2021, according to management guidance, driven by increasing profitability despite the impact of cumulative CAPEX and other operating changes (Ferrari, 2022). Post-2026, RACE will see substantial and unprecedented industrial FCFs, with a projected €2,214mn in 2026 and a 16.76% CAGR from 2026 to 2033 (Figure 34). Despite high CAPEX, a 35% payout ratio, and consistent share repurchases, RACE will maintain ample cash flow after 2023, providing balance sheet flexibility and future opportunities.

	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E	2033E
<b>Revenues</b>	<b>6,486,426</b>	<b>7,091,431</b>	<b>7,819,057</b>	<b>8,940,239</b>	<b>10,343,483</b>	<b>12,003,842</b>	<b>13,772,058</b>	<b>15,672,717</b>	<b>17,845,536</b>	<b>20,492,928</b>
C&SP	5,536,310	5,987,428	6,475,305	7,274,885	8,250,490	9,444,999	10,862,850	12,493,545	14,369,035	16,526,066
SC&B	686,111	857,639	1,114,930	1,449,409	1,884,232	2,355,290	2,708,583	2,979,442	3,277,386	3,768,994
Engines and Other	264,005	246,365	228,822	215,945	208,761	203,554	200,625	199,730	199,116	197,869
<b>Gross profit</b>	<b>3,465,547</b>	<b>3,971,202</b>	<b>4,378,672</b>	<b>5,095,936</b>	<b>5,947,502</b>	<b>6,962,228</b>	<b>8,056,654</b>	<b>9,168,539</b>	<b>10,439,639</b>	<b>12,090,828</b>
Gross margin	53%	56%	56%	57%	58%	58%	59%	59%	59%	59%
<b>EBITDA</b>	<b>2,596,429</b>	<b>2,923,449</b>	<b>2,914,215</b>	<b>3,513,007</b>	<b>4,222,261</b>	<b>5,077,745</b>	<b>6,016,021</b>	<b>6,906,240</b>	<b>7,842,387</b>	<b>9,032,154</b>
EBITDA margin	40%	41%	37%	39%	41%	42%	44%	44%	44%	44%
<b>EBIT</b>	<b>1,872,839</b>	<b>2,097,659</b>	<b>1,976,606</b>	<b>2,416,488</b>	<b>2,925,069</b>	<b>3,544,656</b>	<b>4,238,949</b>	<b>4,941,505</b>	<b>5,671,194</b>	<b>6,614,983</b>
EBIT margin	29%	30%	25%	27%	28%	30%	31%	32%	32%	32%
<b>Industrial FCF</b>	<b>1,560,968</b>	<b>2,108,369</b>	<b>1,923,337</b>	<b>1,801,848</b>	<b>2,296,510</b>	<b>2,905,378</b>	<b>3,618,420</b>	<b>4,272,276</b>	<b>4,976,029</b>	<b>5,785,427</b>
<b>CAPEX</b>	<b>1,094,017</b>	<b>1,213,787</b>	<b>1,377,425</b>	<b>1,619,636</b>	<b>1,847,993</b>	<b>2,114,627</b>	<b>2,357,260</b>	<b>2,604,218</b>	<b>2,858,186</b>	<b>3,282,199</b>
ROIC ex. goodwill	36%	37%	31%	34%	36%	38%	40%	43%	44%	46%

Figure 34 - Metrics and Ratios (€ thousands) (Source: author estimates)

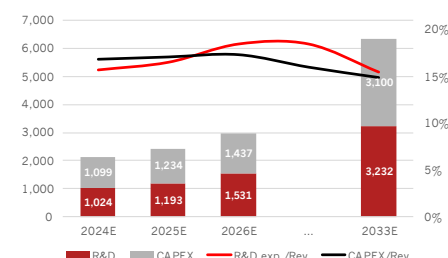


Figure 30 - R&D and CAPEX (€ thousands), ratios (%) (Source: author estimates)

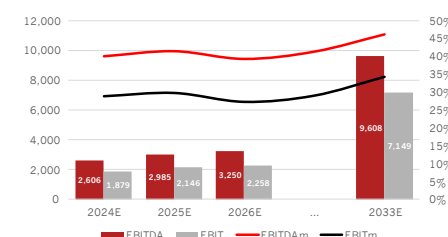


Figure 31 - EBITDA and EBIT (€ thousands), ratios (%) (Source: author estimates)

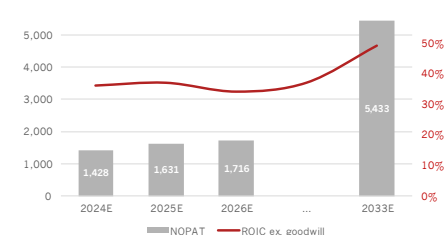


Figure 32 - NOPAT (€ thousand) and ROIC ex. goodwill (%) (Source: author estimates)

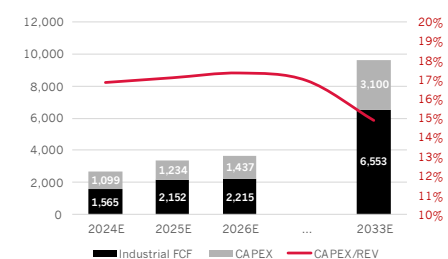


Figure 33 - Industrial FCF vs CAPEX (€ thousands), ratios (%) (Source: author estimates)

# Investment Summary

## About the company

With a market capitalization of €68.560 billion and revenues of around €6bn, Ferrari is celebrated as a symbol of luxury and performance worldwide. Based in Maranello (Figure 35), Italy, Ferrari has a rich racing heritage, notably in Formula 1. The company's influence spans over 60 countries, with a diverse product portfolio including Range models, Special Series models, limited edition Icona models, Supercars, and One-Off cars.

## Ferrari: Don't floor it if you can't handle the speed

The foundation of the Company's success is rooted in careful and conservative management, which sets achievable growth goals for both the short and medium term. The aim is to ensure sustainable growth without compromising the brand's integrity, upholding top-tier quality standards, and preserving the exclusivity of the marque. This strategy has led Ferrari to consistently exceed expectations: since its IPO in 2015, Net Revenues (Figure 36) and reported EBITDA have, on average, surpassed company projections. This trend is expected to continue, with the projected 2024 EBITDA anticipated to be 2% above the company's mid-plan targets and the 2024 Net Revenues forecasted to be 1.4% higher than the targets.

## Premium price for unparalleled exclusivity: Ferrari passes another milestone

The success of the SF90 and the two Icona models (Monza SP1 & SP2) and the new Daytona SP3 (Figure 37) has once again demonstrated Ferrari's ability to gradually increase the ASP of its vehicles. The SP1 and SP2 had a limited production of 499, and SP3 accounts for 599 with starting prices of €2.25 million (Figure 38), sold out immediately upon their unveiling. This strategy of raising ASP boosts profitability and margins without impacting the waiting list or exclusivity, as production volumes can grow more slowly. Projections indicate that the ASP will almost double (x1.79) by 2033.

## Ferrari's Gallop: Navigating Economic Challenges with Elegance

Ferrari's ability to withstand economic downturns was evident during the 2008 crisis, with revenues only dropping by 7% compared to a 13% sector-wide plunge before swiftly recovering to pre-crisis levels in 2009. This resilience is attributed partly to Ferrari's production model, which is not solely dependent on market demand, and its wealthy clientele, less affected by economic downturns. During the COVID-19 pandemic, Ferrari once again proved its defensive strength. Despite market disruptions, the company quickly resumed production, attracting significant preorders for luxury cars, minimizing negative economic impacts.

## Ferrari developments

The company's financial prowess is showcased through a strong revenue growth of +15.76% CAGR from 2019 to 2023, impressive margins (38.18% EBITDA margin in 2023), and robust returns (33.76% ROIC ex. goodwill in 2023). Ferrari's success is underpinned by a dedicated team of 4,988 professionals, diligently crafting over 10 thousand cars annually. As Ferrari continues to innovate and expand its product range, it remains a symbol of exclusivity and driving passion, captivating a discerning and loyal clientele worldwide.

## Valuation summary and investment action

The 2024YE price of €428.18 is determined through an asset-side valuation, arrived at using a Discounted Cash Flow (DCF) model. This approach, incorporating a 6.68% WACC and a terminal growth rate of 2.58%, is deemed the most suitable for evaluating i) the distinctiveness of RACE's business model, ii) the significant future growth driven by the ongoing CAPEX cycle, and iii) the realignment of activities beyond the automotive sector. Despite selecting comparables for the relative valuation from the luxury car performance market and personal luxury industry, it is important to acknowledge that Ferrari's business model possesses unique characteristics that may not align perfectly with these comparables. While they offer insights into Ferrari's relative position within these sectors, they may not fully capture Ferrari's distinctiveness. The DCF analysis indicates that RACE stock presently reflects a discount relative to its full potential, suggesting potential upside for investors (Figure 39).



Figure 35 - Maranello Ferrari Factory (Source: company website)

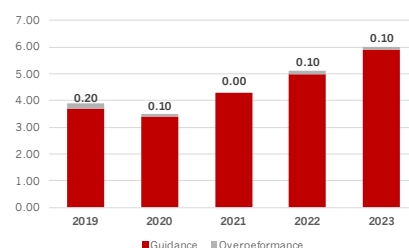


Figure 36 - Ferrari Net Revenues (€bn) guidance vs actual overperformance (Source: company 2019-2023 annual report)



Figure 37 - Daytona SP3 (Source: company website)

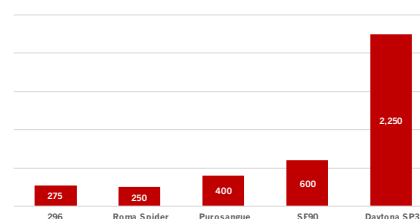


Figure 38 - Ferrari price range (€ thousand) (Source: author estimates, company website)

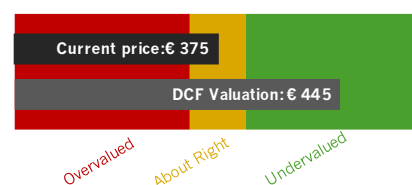


Figure 39 - Valuation outputs (Source: author estimates)

## Valuation

A **3-stage DCF** approach was used to arrive at the target price of €445.34, representing a 18.66% upside from 30/05/2024 close. Given Ferrari's management's demonstrated ability to set realistic goals and their track record of underpromising and overdelivering, they are considered adept at "hiding" the company's true potential in both the short and mid-term. The current analysis considers the following key factors: i) the launch of 15 new models, ii) a consistent increase in the ASP across the lineup, and iii) there is "physical" room for expansion in the Maranello's facilities of approximately 100,00 square meters (Ferrai, 2023).

### Discounted Cash Flows

The 3-stage DCF (Figure 40 and Appendix 9) was performed to take into account the i) strategic goals establish by the management for 2022-2026, ii) revenue growth slowdown period and iii) a perpetuity.

**1. First stage (2022-2026): strategic goals.** As per the projections outlined in the Future analysis, revenues and EBIT are anticipated to grow at a CAGR of 11.50% and 11.76% respectively. Throughout this period, the analysis factored in heightened CAPEX, the maturation of the Icona pillar, and the breakeven point of the Formula 1 segment.

**2. Second stage: stable organic growth.** Starting in 2026, Ferrari is forecasted to achieve stable shipment growth of 7.33% annually until 2033, bringing total volumes to over 25,000 units per year by 2033. The ASP is expected to grow at a flat rate of 6.51%. These assumptions, combined with a projected 14.91% CAGR for SC&B and a -2.05% CAGR for Engines and Others, enable Ferrari to deliver a total revenue CAGR of 14.11% from 2026 to 2033.

**3. Third Stage: 2.58% terminal growth rate.** About 76% of the Equity Value is accounted for by the Terminal Value, computed using the perpetuity formula based on the FCFF forecasted for 2034. Although Ferrari's operations and production facilities are based in Italy, the company is considered a "Global Company" due to i) its business model, ii) the geographical distribution of its revenues. The 2.58% growth rate was derived by considering IMF long-term GDP growth (IMF, 2024) estimates for EMEA (2.3%), Americas (2.2%), APAC (4%), and China (3.3%), and weighting these by Ferrari's 2023 shipments in those markets (Figure 41). This growth rate is viewed as conservative, given Ferrari's potential for expansion, especially in high-growth markets like China and APAC, where the brand's exclusivity remains strong. Additionally, this rate does not account for further growth opportunities from increased brand exploitation.

### WACC

A 6.68% WACC was computed for Ferrari (Figure 42). Given the valuation currency, a risk-free rate of 2.65% was utilized, based on Germany 10-year bond. With Ferrari maintaining an unlevered capital structure, the WACC is primarily influenced by a 4.60% equity risk premium (ERP). The WACC was determined based on the parameters presented and following explanation is presented on Appendix 10.

The following Figure 43 presents the FCFF estimated used for the valuation.

	Strategic goals 22-26								Fading out period with revenue growth slows down							TV
DCF	2019	2020	2021	2022	2023	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E	2033E	2034E
EBIT	917	716	1,075	1,227	1,617	1,879	2,146	2,258	2,716	3,232	3,874	4,621	5,383	6,180	7,149	7,148
% margin	24%	21%	25%	24%	27%	29%	30%	25%	27%	28%	30%	31%	32%	32%	32%	32%
Tax rate	20%	9%	20%	20%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%
NOPAT	732	654	859	979	1,229	1,428	1,631	1,716	2,064	2,457	2,944	3,512	4,091	4,697	5,433	5,433
+ D&A	352	427	456	546	662	727	839	992	1,147	1,339	1,569	1,819	2,013	2,226	2,460	2,460
- CAPEX	706	709	737	805	869	1,099	1,234	1,437	1,587	1,784	2,023	2,251	2,483	2,720	3,100	3,100
- Change in NWC	-226	48	137	173	188	-252	79	52	57	62	73	81	80	90	111	0
FCFF	604	324	441	548	835	1,308	1,157	1,219	1,567	1,949	2,418	2,999	3,540	4,113	4,681	4,792
Terminal value																116,850
WACC						6.68%	6.68%	6.68%	6.68%	6.68%	6.68%	6.68%	6.68%	6.68%	6.68%	6.68%
Discounted value						1,267	1,085	1,071	1,291	1,505	1,750	2,035	2,251	2,451	2,616	63,710

Figure 43 - FCFF estimation (€ thousands) (Source: author estimates)

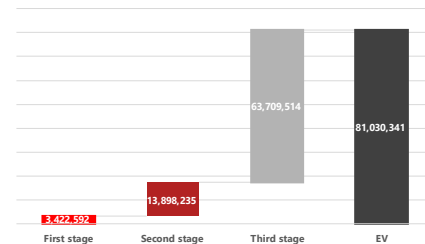


Figure 40 - DCF breakdown (€ thousand) (Source: author estimates)

Market	Exp. GDP CAGR	% Ship.
AMERICAS	2.2%	30%
APAC	4.0%	13%
EMEA	2.3%	48%
CHINA	3.3%	10%
<b>Weighted Average</b>	<b>2.58%</b>	<b>100%</b>
World	3.10%	

Figure 41 - Terminal growth rate computation. (Source: IMF, Company data, author estimates)

#### Capital Structure

Number of Shares outstanding	181,953,498
Current Market Price per share	376.80 €
<b>Market value of the firm's equity</b>	<b>68,560,078,046</b>
<b>Market Value of debt</b>	<b>3,248,970,228</b>
<b>Debt-to-Total Capitalization</b>	<b>4.52%</b>
<b>Equity-to-Total Capitalization</b>	<b>95.48%</b>

#### Cost of Debt

Cost-of-Debt	4.11%
Tax Rate	24.00%
<b>After-tax Cost of Debt</b>	<b>3.12%</b>

#### Cost of Equity

Risk-free Rate	2.65%
Equity Risk Premium	4.60%
Beta	0.91
<b>Cost of Equity</b>	<b>6.85%</b>

#### WACC

6.68%

Figure 42 - WACC parameters (Source: author estimates)

## Sensitivity analysis

The target price sensitivity analysis, considering variations in the WACC and terminal growth rate (Figure 44), reveals that the **BUY** scenario is the most frequent. This suggests that under different assumptions for WACC and terminal growth rate, the conditions are mostly favorable for a buy recommendation.

## Relative valuation

Given Ferrari's unique business model, identifying comparable companies within the automotive and luxury goods industries is challenging. Automotive companies face lower pricing power, higher production volumes, macroeconomic exposure, and increasing competition, resulting in lower margins and growth prospects. Luxury Industry (LI) goods companies, meanwhile, produce different products and have lower investment needs.

Within luxury car manufacturers, only Porsche, Rolls-Royce and Aston Martin are the only listed companies and: i) Porsche is part of a big conglomerate and the numbers are not exclusive for their luxury cars, ii) Rolls-Royce has a big part of its revenue numbers from aerospace segment, and iii) Aston Martin faces significant difficulties, unlike Ferrari. Therefore, the relative valuation is used as a supplementary check rather than the primary method.

Ferrari presented multiples (Figure 45) of EV/EBITDA at 24.4x, EV/EBIT at 34.3x, and a P/E ratio of 44.0x, placing Ferrari at a significant premium compared to luxury companies like LVMH, Hermès, Burberry. This premium is justified by Ferrari's brand strength, pricing power, and robust growth prospects (Appendix 11).

The relative valuation of Ferrari presents a price target of €251.94 and €231.10 using the ratio EV/Sales and EV/EBITDA, respectively (Figure 46).

## Investments risks

Ferrari anticipates a prosperous future, yet it encounters several challenges in the years ahead, particularly arising from its present strategic direction and the transformative shifts occurring in the market (Figure 47). These challenges entail the risk of eroding pricing power and potentially lowering its valuation from luxury standards to automotive industry norms. However, Ferrari has already implemented robust mitigation strategies to address these concerns (Figure 48).

## Operational Risks

**1. Brand Dilution (BD):** The foundation of Ferrari's business model lies in its exclusivity and brand prestige. Any compromise to the brand's integrity, whether due to factors like excessive production, inadequate customer relations, or unsuitable licensing agreements, poses a threat to demand, pricing power, and overall profitability. While existing management strategies effectively manage order books and waiting lists, preserving brand exclusivity remains of paramount importance.

**2. Dependence on Maranello Plant (MP):** Ferrari's manufacturing operations are predominantly centered on its sole facility located in Maranello, Italy. This reliance on a single location leaves the company vulnerable to various risks, including those arising from natural disasters or unforeseen spikes in production demands that the plant might find challenging to meet. Such occurrences could adversely affect production rates and potentially impact the allocation of CAPEX for PPE.

**3. Devaluation of Secondary Market (SM):** Part of Ferrari's brand strength is linked to its high resale values. A decrease in the secondary market worth of Ferrari vehicles could erode their appeal, leading to adverse effects on both new car sales and brand reputation.

**4. Dependence on New Launches (NL):** The demand for luxury performance cars is shaped by the introduction of new models. Ferrari must consistently innovate and introduce new products to maintain its competitive advantage and fulfill market demand. Neglecting to do so could compromise its market position and profitability.

**5. Poor Formula 1 Performances (F1):** Success in Formula 1 significantly enhances Ferrari's brand image. Constant underperformance in Formula 1 races could damage the brand's appeal, particularly among new generations of enthusiasts.

WACC	Terminal growth rate (g)									
	1.6%	1.8%	2.1%	2.3%	2.6%	2.8%	3.1%	3.3%	3.6%	
5.2%	560	593	631	676	730	795	875	977	1,111	
5.7%	485	509	536	568	604	647	698	760	837	
6.2%	426	444	465	487	514	543	578	619	668	
6.7%	379	393	409	426	445	467	492	521	554	
7.2%	341	352	364	377	392	409	427	448	472	
7.7%	309	318	327	338	349	362	376	392	410	
8.2%	282	289	297	305	315	325	336	348	361	

Figure 44 - Sensitivity analysis (Source: author estimates)

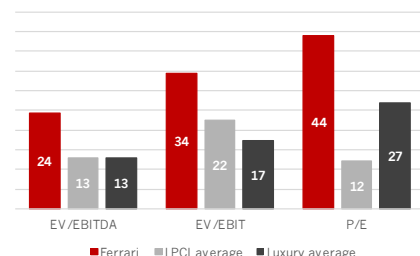


Figure 45 - Ferrari's Luxury 2023 multiples. (Source: company, author estimates)

Company	EV/Sales	EV/EBITDA
Aston Martin	1.28	6.73
Porsche	4.76	4.72
Rolls-Royce	15.7	7.18
<b>Average</b>	<b>7.25</b>	<b>6.21</b>
<b>Price Target:</b>	<b>237.74</b>	<b>77.80</b>

Burberry	3.28	14.70
Hermès	15.17	32.93
LVMH	4.88	16.70
<b>Average</b>	<b>7.78</b>	<b>21.44</b>
<b>Price Target:</b>	<b>255.19</b>	<b>268.66</b>

<b>Weighted:</b>	<b>251.93</b>	<b>231.19</b>
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Figure 46 - Relative Valuation analysis (Source: author estimates)

Impact	Probability				
	Low	Medium	High		
High	1. BD				
Medium		6. CI		8. ER	
		10. CS	5. F1	4. NL	
Low	2. MP	7. IR	3. SM	9. TP	

Figure 47 - Ferrari's Investment Risks MATRIX. (Source: author estimates)



Financial Risks

**1. Capital Intensity (CI):** High capital expenditures for R&D, as well as for maintaining production facilities, are ongoing and significant for Ferrari. An increase in these expenses due to technological advancements or heightened competition could strain Ferrari's cash flow and financial stability.

**2. Interest Rate Changes (IR):** Potential increases in interest rates are estimated to have negligible effects on Ferrari. The company maintains a low level of net debt, estimated at 0.59 Net Debt/EBITDA for 2023, despite business growth.

Regulatory Risks

**1. Tightening Emission Regulations (ER):** More stringent global emission standards might require Ferrari to make considerable investments in R&D to align with new regulations. Although Ferrari has historically met emission targets, forthcoming regulations could present challenges and demand substantial resources.

**2. Changes in Trade Policies (TP):** Ferrari's worldwide sales expose it to risks stemming from shifting trade policies and tariffs, especially in crucial markets such as the EU, US, and China. Substantial alterations in trade policies could impact profitability and necessitate revisions in pricing strategies.

Governance Risks

**1. Concentration of Shareholders and Conflict of Interest (CS):** The concentration of voting power among Ferrari's primary shareholders, Exor N.V. and Piero Ferrari, presents potential governance risks and conflicts of interest. Choices that prioritize entities controlled by these shareholders could influence Ferrari's strategic course and financial outcomes.

Environmental, Social & Governance (ESG)

The **framework developed to evaluate ESG performances** draws inspiration from established methodologies in the industry. It considers various environmental, social, and governance parameters, resulting in a comprehensive index with a maximum score of 300 points. These parameters are equally distributed across Environmental (E), Social (S), and Governance (G) dimensions. (Figure 49 and Appendix 12).

Ferrari's performance was compared against industry averages, encompassing automotive and luxury sectors. With a final ESG score of 192/300, Ferrari exceeded the automotive sector's average of 168/300 but fell below the luxury sector's average of 218/300 (Figure 50). Notably, environmental performance aligns with the automotive sector's average, while significant improvements have been observed in social and governance practices. To validate these findings, results were cross-referenced with the "Standard Ethics rating" provided by the independent agency "Standard Ethics." In July 2022, Ferrari received an upgrade EE- (Adequate) rating with "Positive" outlook, from the previous E+ (Low) (Standard Ethics Research Office, 2023), indicating a "good" level of anticipated future ESG practices. The alignment between these results and the Standard Ethics rating enhances the credibility of the evaluation model.

Environmental – Finding the Right Green Path

RACE scores 44 in environmental performance, compared to 39 for the automotive industry average and 67 for the luxury industry average. The company is actively involved in efforts to lower its average fleet emissions to anticipate potential future regulatory challenges. Assessing the environmental impact of RACE vehicles is complex. While performance cars typically exhibit high emissions (with average fleet CO2 emissions at 400 g/km in 2023), the limited production volume and the low annual mileage driven by customers help mitigate this impact. These cars are often regarded as collectible items rather than primary modes of transportation, further diminishing their overall environmental footprint. RACE is directing investments toward hybrid and electric technologies to gradually reduce emissions in line with the ongoing industrial plan. They prioritize adherence to regulatory standards, establish improvement targets, and monitor progress via KPIs. Ferrari is dedicated to reducing greenhouse gas emissions, minimizing water consumption, promoting waste reuse, and employing cutting-edge technologies for efficient production processes. Their commitment reflects a comprehensive approach to environmental sustainability.

Risk	Current mitigation strategy
<b>Operational Risks:</b>	
Brand Dilution (BD)	Limited edition releases and personalizations
Dependence on Maranello Plant (MP)	100,000 square meters transformation and expansion
Devaluation of Secondary Market (SM)	Ownership programs
Dependence on New Launches (NL)	Agile product development processes to accelerate time-to-market for new models
Poor Formula 1 Performances (F1)	Team restructuring; Lewis Hamilton acquisition
<b>Financial Risks:</b>	
Capital Intensity (CI)	Joint ventures for R&D projects
Interest Rate Changes (IR)	Consider long-term fixed-rate debt instruments
<b>Regulatory Risks:</b>	
Tightening Emission Regulations (ER)	Electrification strategy
Changes in Trade Policies (TP)	Market presence diversification
<b>Governance Risks:</b>	
Concentration of Shareholders and Conflict of Interest (CS)	Corporate governance practices and transparency

Figure 48 - Risk Mitigation Strategy (overview). (Source: company, author estimates)

E	S	G
Impact on climate change	Employess	Board structure
Waste	Institutions	Remuneration policy
Natural resources consumption	Communities	Audit & Risk
		Shareholder interests

Figure 49 - ESG framework. (Source: author estimates)

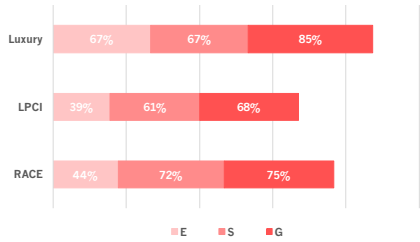


Figure 50 - ESG score. (Source: author estimates)

## **Social – Unleashing the Power of RACE's Human Capital**

RACE scores 72 in social performance, compared to 61 for the automotive industry average and 67 for the luxury industry average. The company places significant emphasis on monitoring its societal influence on both its external and internal stakeholders. Prominent strengths encompass an internal Code of Conduct that underscores the company's commitment to ethical practices, extensive training, and health support for employees and their families, and a strong safety record evidenced by minimal accident occurrences and ISO 45001 certification. The minimal turnover rate (4.9%) reflects high employee contentment, and there is gender pay equity.

Nevertheless, there are areas requiring enhancement: the gender balance is uneven, with males constituting 84% of the workforce; the company requires more stringent controls on social criteria for its suppliers; contributions to charitable activities are minimal. Ferrari believes that conducting business with ethics and integrity, grounded in the dignity of every individual, is a fundamental value of the Ferrari Group and a crucial driver for the success of its operations.

To confirm and reinforce its dedication to upholding the fundamental human rights outlined by the laws and regulations of each country of operation, as well as to promote a corporate culture rooted in inclusivity and mutual respect, Ferrari has embraced the Practices concerning human rights and diversity & inclusion ("Practices"). Through these Practices, Ferrari provides all members of the Board of Directors, managers, employees, and partners, as well as all stakeholders, with the values, principles, and guidelines that must be upheld and adhered to in order to ensure, under all circumstances, the highest level of protection of the human rights of all individuals directly or indirectly affected by Ferrari's activities.

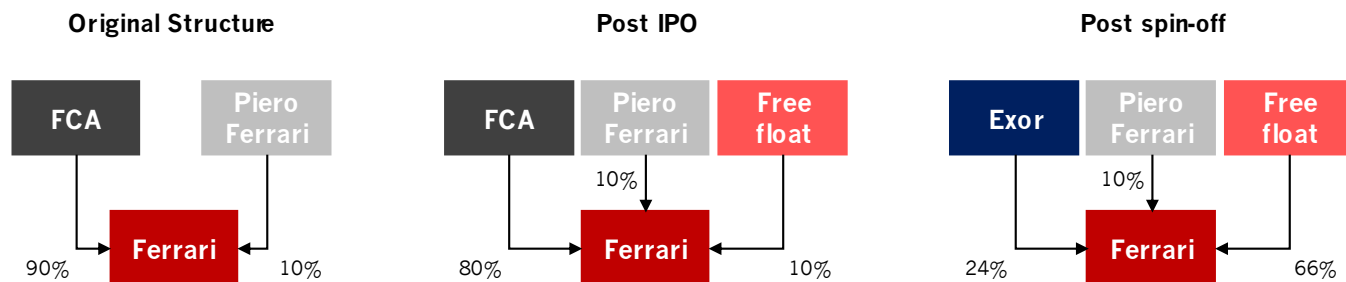
## **Governance – Anchoring RACE's ESG Compass**

RACE scores 75 in governance, compared to 68 for the automotive industry average and 85 for the luxury industry average. RACE's governance structure was assessed across 20 parameters, drawing from optimal approaches outlined in the Italian Code and Dutch Governance Code. This dual compliance reflects RACE's incorporation under the laws of the Netherlands.

RACE's governance structure exhibits notable strengths alongside areas of concern. Committees such as Governance & Sustainability, Compensation, and Audit contribute to effective oversight. However, challenges arise from the presence of multiple voting rights, an executive serving as Chairman, and non-independent members in each committee. Addressing these concerns could enhance transparency and reinforce shareholder confidence in governance practices. Ferrari's Tax Strategy aligns with its core values and business objectives. They prioritize compliance with tax laws, ethical tax planning, and engagement with tax authorities in a collaborative and transparent manner. Through their Tax Strategy, Ferrari aims to mitigate tax risks, ensure fairness in taxation, and promote a culture of compliance and integrity throughout the organization.

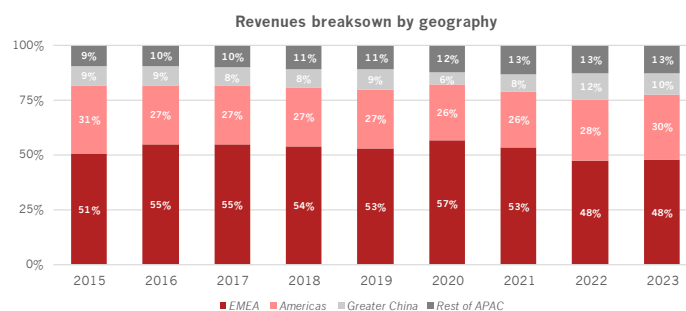
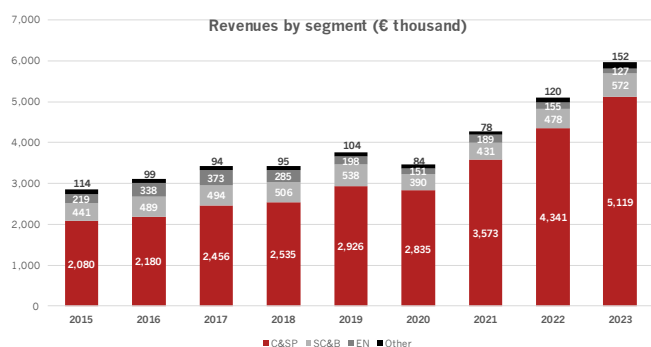
## Appendix 1 – Ferrari spin-off

In 2015, Fiat Chrysler Automobiles (FCA) conducted an intra-group restructuring to secure \$48 billion in funding for its ambitious business strategy aimed at elevating three of its brands—Alfa Romeo, Jeep, and Maserati—to global status. The spin-off of Ferrari (RACE) played a pivotal role in FCA's plan, contributing to the realization of these goals and reinforcing its financial position. Subsequent post-IPO outcomes illustrated the feasibility of FCA and Ferrari's pursuits.



## Appendix 2 – Analysis by segment (2015-2023)

The following figures present an analysis of revenue by segment and geography:



## Appendix 3 – Product portfolio

As of the publication date of this coverage initiation, the RACE Range Model comprised 9 cars, the Special Series consisted of 2, and the Icona lineup included 2 models:

Range Models				
296 GTB	296 GTS	SF90 Stradale	SF90 Spider	Roma
V6 Hybrid	V6 Hybrid	V8 Hybrid	V8 Hybrid	V8
Roma Spider	Portofino M	812 GTS	Purosangue	
V8	V8	V12	V12	
Special Series		Icona		
812 Competizione/A	SF90 XX	Monza SP1/SP2	Daytona SP3	
V12	V8 Hybrid	V12	V12	

## Appendix 4 – Luxury cars sold by manufacturer

The market for cars with over 500 horsepower and priced above €150k reached approximately 145k units in 2023. This figure slightly exceeds the data provided in the RACE report (120k), as it encompasses global sales, whereas RACE considered only the top 25 countries.

LPCI	2015	2016	2017	2018	2019	2020	2021	2022	2023
<b>Ferrari</b>	<b>7,664</b>	<b>8,014</b>	<b>8,398</b>	<b>9,251</b>	<b>10,131</b>	<b>9,119</b>	<b>11,155</b>	<b>13,221</b>	<b>13,663</b>
Aston Martin	2,615	3,687	5,098	6,441	5,862	3,394	6,182	6,412	7,017
Audi*	2,074	3,688	3,547	1,785	2,312	1,761	8,783	11,110	12,158
Bentley	10,100	11,023	11,089	10,494	11,006	11,206	14,788	16,365	17,908
Lamborghini	3,707	3,579	4,056	6,571	8,664	7,250	8,303	9,855	10,784
Maserati	27,062	32,385	36,786	31,727	19,300	16,900	24,200	25,900	28,342
McLaren	1,654	3,286	3,340	4,829	4,662	1,659	2,138	2,188	2,394
Porsche*	22,802	23,583	32,617	31,796	33,019	44,437	42,591	44,437	47,798
Rolls-Royce	3,785	4,011	3,362	4,353	5,455	3,776	5,912	6,239	6,827
<b>Total</b>	<b>81,463</b>	<b>93,255</b>	<b>108,293</b>	<b>107,247</b>	<b>100,411</b>	<b>99,502</b>	<b>124,052</b>	<b>135,727</b>	<b>146,892</b>

\*part of big conglomerate (only considerer luxury segments)

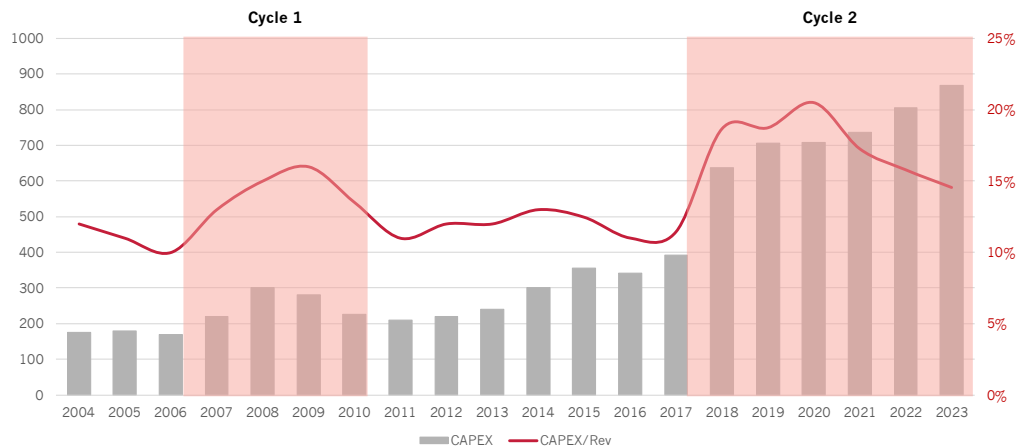
Source: Companies annual reports, author estimates

## Appendix 5 – Porter Analysis

Threat of entry	
Economies of scale	Not a significant barrier due to low production volumes in the luxury car industry.
Product differentiation	Strong brand identification, design, and history act as substantial deterrents for new entrants.
Capital requirements	High capital intensity for acquiring and maintaining physical assets and investing in R&D.
Switching costs	Low for customers, but distribution channels present entry barriers as luxury carmakers often use licensed sale points.
Distribution channels	Limited access to licensed sale points poses a significant entry barrier; establishing direct sales points may increase fixed distribution costs.
Cost disadvantages independent of scale	Presence of proprietary technology, access to top-quality suppliers, location advantages, learning experience curve, and lobbying power create high entry barriers.
Government policy	No significant governmental limitations for potential entrants into the luxury car industry.
Internal rivalry	
Concentration and size of competitors	Moderate concentration with a discrete number of key competitors in the luxury car industry.
Industry growth	Positive growth trend in the luxury performance car market, indicating a favorable environment for incumbents.
Fixed costs	High fixed costs, leading to EBITDA margin fluctuations during CapEx cycles.
Product variation	Key driver with preferences for design, performance, brand heritage, and personalization reducing competition among incumbents.
Capacity increased substantially	Limited by the niche nature of the industry, with no significant economies of scale advantage.
Variety of competitors	Competitors in the luxury car industry exhibit diverse origins, styles, and personalities, targeting specific consumer preferences and reducing direct competition.
Strong exit barriers	Specialized assets, fixed costs of exit, strategic interrelationships, emotional barriers, and limited government and social restrictions collectively contribute to high exit barriers in the luxury car industry.
Change in competition	While historical competition drivers have remained constant, the advent of new technologies, such as hybridization and electrification, suggests the potential for a future shift in the dynamics of rivalry within the luxury car industry.
Substitutes products	
Number of substitutes	Other luxury items such as vacation homes, sailboats, watches, yachts, jewelry, and apparel present a possible substitution threat.
Relative price	Price doesn't heavily influence substitution; differentiation and status are key determinants.
Relative quality	High expectations for quality and brand recognition contribute to the appeal of luxury cars.
Bargaining power of suppliers	
Supplier industry centralization	Heterogeneous concentration levels across relevant supplier industries, but overall, luxury carmakers hold bargaining power.
Substitute products from suppliers	Parts suppliers face threats from technologically advanced substitutes, especially in electrical engines and autonomous systems.
Product distinctiveness	Higher impact parts are highly differentiated, giving luxury carmakers some bargaining power.
Supplier scale	Varies from small local manufacturers to large multinationals.
Reliance on the sector	Because of the limited production volumes of luxury cars, the impact on suppliers' revenues is minimal.
Vertical integration into downstream	Minimal risk of forward integration by suppliers due to the high capital and specific capabilities required in the luxury car industry.
Bargaining power of customers	
Buyer consolidation	Atomistic concentration among high net worth individuals (HNWI) who form the customer base of luxury performance cars.
Product uniqueness	High differentiation based on brand and design, making each product unique.
Price responsiveness	Low price sensitivity, as the customer base is focused on luxury, status, and emotional factors rather than price.
Transition expenditures	Almost negligible, both monetary and psychological, contributing to a low likelihood of customers switching between luxury car brands.

## Appendix 6 – CAPEX Cycles (€ thousands)

The following figure shows the CAPEX most notorious cycles identified since 2004:



## Appendix 7 – Pipeline forecast

Model/year of delivery	Engine	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>RANGE MODELS</b>																	
296 GTB	V6 Hybrid																
296 GTS	V6 Hybrid																
New Model*	V6 Hybrid																
SF90 Stradale	V8 Hybrid																
SF90 Spider	V8 Hybrid																
New Model*	V8 Hybrid																
458 Italia	V8																
458 Spider	V8																
488 GTB	V8																
488 Spider	V8																
F8 Tributo	V8																
F8 Spider	V8																
Roma	V8																
Roma Spider*	V8																
Portofino/M	V8																
California T	V8																
New Model*	V12 Hybrid																
FF	V12																
GTC4Lusso/T	V12																
Purosangue*	V12																
F12 Berlinetta	V12																
812 GTS	V12																
812 Superfast	V12																
New Model*	Full Electric																
New Model*	Full Electric																
New Model*	Full Electric																
<b>Total Range</b>		5,135	5,450	5,879	6,661	6,990	6,839	10,820	12,692	12,707	12,821	12,625	13,163	14,317	15,461	16,584	17,872
		81%	81%	70%	72%	69%	75%	97%	96%	93%	90%	85%	85%	87%	88%	88%	88%
<b>SPECIAL SERIES</b>																	
458 Speciale	V8																
458 Speciale A	V8																
488 Pista	V8																
488 Pista Spider	V8																
F8 Speciale*	V8																
New Model*	V8																
F12tdf	V12																
LaFerrari	V12																
LaFerrari Aperta	V12																
812 Competizione	V12																
812 Competizione A	V12																
SF90 XX Stradale	V12																
SF90 XX Spider	V12																
New Model*	V12																
		2,529	2,564	2,519	2,590	3,039	2,097	112	397	820	1,140	1,485	1,549	1,481	1,493	1,602	1,726
		19%	19%	30%	28%	30%	23%	1%	3%	6%	8%	10%	10%	9%	9%	9%	9%
<b>ICONA</b>																	
Monza SP1/SP2	V12																
Daytona SP3*	V12																
New Model*	V12																
		0	0	0	0	101	182	223	132	137	427	743	774	658	615	660	711
		0%	0%	0%	0%	1%	2%	2%	1%	1%	3%	5%	5%	4%	4%	4%	4%
<b>TOTAL</b>		7,664	8,014	8,398	9,251	10,131	9,119	11,155	13,221	13,663	14,246	14,853	15,486	16,456	17,569	18,846	20,309

Appendix 8 – Financial Statements

Consolidated i/s	2019	2020	2021	2022	2023	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E	2033E	2034E
Revenues	3,766,615	3,459,790	4,270,894	5,095,254	5,970,146	6,513,113	7,207,425	8,275,708	9,354,910	10,675,039	12,287,438	14,098,242	16,055,490	18,294,157	20,854,251	20,853,222
Growth YoY%	10.12%	-8.15%	23.44%	19.30%	17.17%	9.09%	10.66%	14.82%	13.04%	14.11%	15.10%	14.74%	13.88%	13.94%	13.99%	0.00%
Cost of sales	1,805,310	1,686,324	2,080,613	2,648,953	2,995,877	3,033,308	3,171,267	3,641,312	4,022,611	4,536,892	5,160,724	5,850,770	6,663,028	7,592,075	8,550,243	8,549,821
% of Revenues	47.93%	48.74%	48.72%	51.99%	50.18%	46.57%	44.00%	44.00%	43.00%	42.50%	42.00%	41.50%	41.50%	41.50%	41.00%	41.00%
<b>Gross Profit</b>	<b>1,961,305</b>	<b>1,773,466</b>	<b>2,190,281</b>	<b>2,446,301</b>	<b>2,974,269</b>	<b>3,479,805</b>	<b>4,036,158</b>	<b>4,634,397</b>	<b>5,332,299</b>	<b>6,138,147</b>	<b>7,126,714</b>	<b>8,247,471</b>	<b>9,392,462</b>	<b>10,702,082</b>	<b>12,304,008</b>	<b>12,303,401</b>
Gross margin	52.07%	51.26%	51.28%	48.01%	49.82%	53.43%	56.00%	56.00%	57.00%	57.50%	58.00%	58.50%	58.50%	58.50%	59.00%	59.00%
SG&A	343,179	336,126	348,024	427,974	462,580	561,556	681,709	827,571	912,104	1,014,129	1,136,588	1,268,842	1,444,994	1,646,474	1,876,883	1,876,790
% of Revenues	9.11%	9.72%	8.15%	8.40%	7.75%	8.62%	9.46%	10.00%	9.75%	9.50%	9.25%	9.00%	9.00%	9.00%	9.00%	9.00%
R&D expensed	559,582	526,831	573,632	517,842	538,903	647,767	778,624	1,075,842	1,192,751	1,334,380	1,505,211	1,691,789	1,846,381	2,103,828	2,398,239	2,398,120
% of Revenues	14.86%	15.23%	13.43%	10.16%	9.03%	9.95%	10.80%	13.00%	12.75%	12.50%	12.25%	12.00%	11.50%	11.50%	11.50%	11.50%
R&D amortized	139,629	180,554	194,472	257,730	342,656	376,670	414,061	455,164	491,133	533,752	583,653	634,421	682,358	731,766	834,170	834,129
% of Revenues	3.71%	5.22%	4.55%	5.06%	5.74%	5.78%	5.74%	5.50%	5.25%	5.00%	4.75%	4.50%	4.25%	4.00%	4.00%	4.00%
Other Expenses	4,991	18,475	5,561	21,548	18,898	21,429	23,713	27,228	30,778	35,122	40,427	46,384	52,824	60,189	68,612	68,609
% of Revenues	0.13%	0.53%	0.13%	0.42%	0.32%	0.33%	0.33%	0.33%	0.33%	0.33%	0.33%	0.33%	0.33%	0.33%	0.33%	0.33%
Result from investments	3,522	4,647	6,896	6,175	6,137	7,057	7,809	8,967	10,136	11,567	13,314	15,276	17,396	19,822	22,596	22,595
% of Revenues	0.09%	0.13%	0.16%	0.12%	0.10%	0.11%	0.11%	0.11%	0.11%	0.11%	0.11%	0.11%	0.11%	0.11%	0.11%	0.11%
<b>EBIT</b>	<b>917,446</b>	<b>716,127</b>	<b>1,075,488</b>	<b>1,227,382</b>	<b>1,617,369</b>	<b>1,879,440</b>	<b>2,145,860</b>	<b>2,257,559</b>	<b>2,715,669</b>	<b>3,232,332</b>	<b>3,874,148</b>	<b>4,621,311</b>	<b>5,383,300</b>	<b>6,179,646</b>	<b>7,148,700</b>	<b>7,148,347</b>
EBIT margin	24.36%	20.70%	25.18%	24.09%	27.09%	28.86%	29.77%	27.28%	29.03%	30.28%	31.53%	32.78%	33.53%	33.78%	34.28%	34.28%
Net Financial Expenses	42,082	49,092	33,257	49,616	15,015	15,015	15,015	15,015	15,015	15,015	15,015	15,015	15,015	15,015	15,015	15,015
% of Revenues	1.12%	1.42%	0.78%	0.97%	0.25%	0.23%	0.21%	0.18%	0.16%	0.14%	0.12%	0.11%	0.09%	0.08%	0.07%	0.07%
<b>Profit before taxes</b>	<b>875,364</b>	<b>667,035</b>	<b>1,042,231</b>	<b>1,177,766</b>	<b>1,602,354</b>	<b>1,864,425</b>	<b>2,130,845</b>	<b>2,242,544</b>	<b>2,700,654</b>	<b>3,217,317</b>	<b>3,859,133</b>	<b>4,606,296</b>	<b>5,368,285</b>	<b>6,164,631</b>	<b>7,133,685</b>	<b>7,133,332</b>
% of Revenues	23.24%	19.28%	24.40%	23.11%	26.84%	28.63%	29.56%	27.10%	28.87%	30.14%	31.41%	32.67%	33.44%	33.70%	34.21%	34.21%
Income tax expense	176,656	58,155	209,096	238,473	344,897	447,462	511,403	538,211	648,157	772,156	926,192	1,105,511	1,288,388	1,479,511	1,712,084	1,712,000
Effective tax rate	20.20%	8.70%	20.10%	20.20%	24.00%	24.00%	24.00%	24.00%	24.00%	24.00%	24.00%	24.00%	24.00%	24.00%	24.00%	24.00%
<b>Net profit</b>	<b>698,708</b>	<b>608,880</b>	<b>833,135</b>	<b>939,293</b>	<b>1,257,457</b>	<b>1,416,963</b>	<b>1,619,442</b>	<b>1,704,333</b>	<b>2,052,497</b>	<b>2,445,161</b>	<b>2,932,941</b>	<b>3,500,785</b>	<b>4,079,897</b>	<b>4,685,120</b>	<b>5,421,601</b>	<b>5,421,333</b>
Non-controlling interest	2,890	1,063	2,369	6,680	5,409	8,502	8,907	6,827	8,222	9,795	11,749	14,024	16,344	18,768	21,718	21,717
Net profit for shareholders	695,818	607,817	830,766	932,613	1,252,048	1,408,461	1,610,535	1,697,506	2,044,275	2,435,366	2,921,192	3,486,761	4,063,553	4,666,352	5,399,882	5,399,615
D&A	351,946	426,637	455,989	546,225	662,305	726,566	839,297	992,367	1,147,379	1,338,773	1,569,309	1,819,161	2,012,720	2,225,774	2,459,790	2,459,669
%PPE	32.90%	34.78%	33.70%	37.47%	42.05%	37.68%	38.68%	39.18%	39.43%	39.68%	39.78%	39.88%	39.98%	40.08%	40.18%	40.18%
<b>EBITDA</b>	<b>1,269,392</b>	<b>1,142,764</b>	<b>1,531,477</b>	<b>1,773,607</b>	<b>2,279,674</b>	<b>2,606,006</b>	<b>2,985,157</b>	<b>3,249,926</b>	<b>3,863,048</b>	<b>4,571,105</b>	<b>5,443,458</b>	<b>6,440,472</b>	<b>7,396,020</b>	<b>8,405,421</b>	<b>9,608,490</b>	<b>9,608,016</b>
EBITDA margin	33.70%	33.03%	35.86%	34.81%	38.18%	40.01%	41.42%	39.27%	41.29%	42.82%	44.30%	45.68%	46.07%	45.95%	46.07%	46.07%



Consolidated b/s		2019	2020	2021	2022	2023	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E	2033E	2034E
<b>ASSETS</b>																	
Inventories		420,051	460,617	540,575	674,662	948,514	802,778	839,289	986,281	1,089,560	1,228,857	1,397,827	1,584,733	1,804,740	2,056,380	2,315,908	2,315,794
Trade receivables		231,439	184,260	185,000	232,414	261,380	322,287	386,291	426,509	482,128	550,164	633,263	726,587	827,459	942,834	1,074,775	1,074,722
Receivables from financing activities		966,448	939,607	1,143,968	1,399,997	1,451,158	1,494,693	1,539,534	1,585,720	1,633,291	1,682,290	1,732,759	1,784,741	1,838,284	1,893,432	1,950,235	1,950,235
Current tax receivables		21,078	12,438	14,306	16,054	11,616	11,964	12,323	12,693	13,074	13,466	13,870	14,286	14,715	15,156	15,611	15,611
Other current assets		92,830	76,471	122,224	153,183	130,228	142,072	157,217	180,520	204,061	232,857	268,028	307,528	350,222	399,054	454,898	454,876
Current financial assets		11,409	40,084	13,500	87,301	61,130	62,964	64,853	66,798	68,802	70,866	72,992	75,182	77,438	79,761	82,154	82,154
Cash and cash equivalents		897,946	1,362,406	1,344,146	1,388,901	1,121,981	1,648,482	2,243,936	2,603,053	2,830,569	2,909,343	2,938,462	2,726,425	2,649,762	2,551,121	2,418,774	2,556,611
<b>Total current Assets</b>		<b>2,641,201</b>	<b>3,075,883</b>	<b>3,363,719</b>	<b>3,952,512</b>	<b>3,986,007</b>	<b>4,485,240</b>	<b>5,243,443</b>	<b>5,863,574</b>	<b>6,321,485</b>	<b>6,687,843</b>	<b>7,057,202</b>	<b>7,219,483</b>	<b>7,562,619</b>	<b>7,937,739</b>	<b>8,312,355</b>	<b>8,450,002</b>
Goodwill		785,182	785,182	785,182	785,182	785,182	785,182	785,182	785,182	785,182	785,182	785,182	785,182	785,182	785,182	785,182	785,182
Intangible assets		837,938	979,290	1,138,173	1,307,388	1,419,699	1,649,638	1,789,456	2,013,311	2,205,697	2,410,206	2,651,378	2,901,130	3,223,614	3,581,622	3,978,565	3,978,368
Property, plant and equipment		1,069,652	1,226,630	1,353,165	1,457,825	1,575,200	1,928,293	2,169,890	2,532,889	2,909,968	3,373,986	3,945,043	4,561,671	5,034,410	5,553,432	6,122,040	6,121,737
Investments and other financial assets		38,716	42,841	54,509	59,534	67,671	69,701	71,792	73,946	76,164	78,449	80,803	83,227	85,724	88,295	90,944	90,944
Deferred tax assets		73,683	152,221	168,757	203,382	217,553	217,553	217,553	217,553	217,553	217,553	217,553	217,553	217,553	217,553	217,553	217,553
<b>Total non-current Assets</b>		<b>2,805,171</b>	<b>3,186,164</b>	<b>3,499,786</b>	<b>3,813,311</b>	<b>4,065,305</b>	<b>4,650,367</b>	<b>5,033,873</b>	<b>5,622,881</b>	<b>6,194,564</b>	<b>6,865,376</b>	<b>7,679,959</b>	<b>8,548,763</b>	<b>9,346,483</b>	<b>10,226,084</b>	<b>11,194,283</b>	<b>11,193,785</b>
<b>TOTAL ASSETS</b>		<b>5,446,372</b>	<b>6,262,047</b>	<b>6,863,505</b>	<b>7,765,823</b>	<b>8,051,312</b>	<b>9,135,608</b>	<b>10,277,316</b>	<b>11,486,455</b>	<b>12,516,049</b>	<b>13,553,219</b>	<b>14,737,161</b>	<b>15,768,246</b>	<b>16,909,102</b>	<b>18,163,823</b>	<b>19,506,639</b>	<b>19,643,787</b>
<b>EQUITY</b>																	
Equity attributable to owners of the parent		1,481,290	1,785,186	2,205,898	2,592,857	3,060,888	3,535,888	4,010,888	4,485,888	4,735,888	4,854,285	4,975,642	5,100,033	5,227,534	5,358,223	5,492,178	5,629,483
Non-controlling interests		5,998	4,018	5,518	9,630	9,734	9,734	9,734	9,734	9,734	9,734	9,734	9,734	9,734	9,734	9,734	9,734
<b>TOTAL EQUITY</b>		<b>1,487,288</b>	<b>1,789,204</b>	<b>2,211,416</b>	<b>2,602,487</b>	<b>3,070,622</b>	<b>3,545,622</b>	<b>4,020,622</b>	<b>4,495,622</b>	<b>4,745,622</b>	<b>4,864,019</b>	<b>4,985,376</b>	<b>5,109,767</b>	<b>5,237,268</b>	<b>5,367,957</b>	<b>5,501,912</b>	<b>5,639,217</b>
<b>LIABILITIES</b>																	
Debt		421,323	889,228	516,119	979,393	740,873	852,004	1,022,405	1,175,765	1,352,130	1,554,950	1,788,192	1,967,012	2,163,713	2,380,084	2,618,092	2,618,092
Other liabilities		758,915	641,462	656,075	902,325	982,821	1,012,306	1,042,675	1,073,955	1,106,174	1,139,359	1,173,540	1,208,746	1,245,008	1,282,358	1,320,829	1,320,829
Trade payables		711,539	713,807	797,832	902,968	930,560	1,123,768	1,174,878	1,349,018	1,490,280	1,680,809	1,911,924	2,167,569	2,468,491	2,812,681	3,167,659	3,167,502
Current tax payables		7,106	15,895	112,910	58,563	89,271	89,271	89,271	89,271	89,271	89,271	89,271	89,271	89,271	89,271	89,271	89,271
<b>Total Current Liabilities</b>		<b>1,898,883</b>	<b>2,260,392</b>	<b>2,082,936</b>	<b>2,843,249</b>	<b>2,743,525</b>	<b>3,077,348</b>	<b>3,329,228</b>	<b>3,688,010</b>	<b>4,037,855</b>	<b>4,464,389</b>	<b>4,962,927</b>	<b>5,432,598</b>	<b>5,966,483</b>	<b>6,564,394</b>	<b>7,195,851</b>	<b>7,195,695</b>
Debt		1,668,414	1,835,517	2,113,892	1,832,386	1,736,313	1,996,760	2,396,112	2,755,529	3,168,858	3,644,187	4,190,815	4,609,896	5,070,886	5,577,974	6,135,772	6,135,772
Employee benefits		88,116	59,985	101,200	110,807	123,045	126,736	130,538	134,455	138,488	142,643	146,922	151,330	155,870	160,546	165,362	165,362
Provisions		165,572	155,335	150,868	180,694	187,276	192,894	198,681	204,642	210,781	217,104	223,617	230,326	237,236	244,353	251,683	251,683
Deferred tax liabilities		82,208	113,474	95,973	126,507	136,846	140,951	145,180	149,535	154,021	158,642	163,401	168,303	173,352	178,553	183,910	183,910
Other financial liabilities		14,791	2,140	36,520	19,993	13,539	13,945	14,364	14,794	15,238	15,695	16,166	16,651	17,151	17,665	18,195	18,195
Other liabilities		41,100	46,000	70,700	49,700	40,146	41,350	42,591	43,869	45,185	46,540	47,936	49,375	50,856	52,381	53,953	53,953
<b>Total Non-Current Liabilities</b>		<b>2,060,201</b>	<b>2,212,451</b>	<b>2,569,153</b>	<b>2,320,087</b>	<b>2,237,165</b>	<b>2,512,638</b>	<b>2,927,466</b>	<b>3,302,823</b>	<b>3,732,571</b>	<b>4,224,811</b>	<b>4,788,858</b>	<b>5,225,881</b>	<b>5,705,350</b>	<b>6,231,473</b>	<b>6,808,875</b>	<b>6,808,875</b>
<b>TOTAL LIABILITIES</b>		<b>3,959,084</b>	<b>4,472,843</b>	<b>4,652,089</b>	<b>5,163,336</b>	<b>4,980,690</b>	<b>5,589,986</b>	<b>6,256,694</b>	<b>6,990,833</b>	<b>7,770,427</b>	<b>8,689,200</b>	<b>9,751,785</b>	<b>10,658,479</b>	<b>11,671,833</b>	<b>12,795,867</b>	<b>14,004,726</b>	<b>14,004,570</b>
<b>TOTAL EQUITY AND LIABILITIES</b>		<b>5,446,372</b>	<b>6,262,047</b>	<b>6,863,505</b>	<b>7,765,823</b>	<b>8,051,312</b>	<b>9,135,608</b>	<b>10,277,316</b>	<b>11,486,455</b>	<b>12,516,049</b>	<b>13,553,219</b>	<b>14,737,161</b>	<b>15,768,246</b>	<b>16,909,102</b>	<b>18,163,823</b>	<b>19,506,639</b>	<b>19,643,787</b>

Consolidated CF		2019	2020	2021	2022	2023	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E	2033E	2034E
<b>Net income</b>		<b>698,708</b>	<b>608,880</b>	<b>833,135</b>	<b>939,293</b>	<b>1,257,457</b>	<b>1,416,963</b>	<b>1,613,442</b>	<b>1,704,333</b>	<b>2,052,497</b>	<b>2,445,161</b>	<b>2,932,941</b>	<b>3,500,785</b>	<b>4,079,897</b>	<b>4,685,120</b>	<b>5,421,601</b>	<b>5,421,333</b>
D&A		351,946	426,637	455,989	546,225	662,305	726,566	839,297	992,367	1,147,379	1,338,773	1,569,309	1,819,161	2,012,720	2,225,774	2,459,790	2,459,669
Change in NWC		-225,747	47,943	137,027	173,198	187,790	-251,794	79,381	51,648	56,910	61,807	72,818	81,276	80,359	89,898	111,122	-33
Extraordinary events and other non-cash expense		481,186	-245,249	-143,425	-255,376	-390,915	0	0	0	0	0	0	0	0	0	0	0
<b>Cash flow from operations</b>		<b>1,306,093</b>	<b>838,211</b>	<b>1,282,726</b>	<b>1,403,340</b>	<b>1,716,637</b>	<b>1,891,735</b>	<b>2,538,120</b>	<b>2,748,348</b>	<b>3,256,786</b>	<b>3,845,741</b>	<b>4,575,069</b>	<b>5,401,222</b>	<b>6,172,976</b>	<b>7,000,793</b>	<b>7,992,513</b>	<b>7,880,968</b>
CAPEX		-705,612	-708,996	-737,143	-804,619	-868,910	-1,098,518	-1,233,641	-1,437,180	-1,587,178	-1,784,466	-2,023,280	-2,250,961	-2,483,182	-2,719,655	-3,100,245	-3,100,092
CAPEX/Revenues		18.7%	20.5%	17.3%	15.8%	14.6%	16.9%	17.1%	17.4%	17.0%	16.7%	16.5%	16.0%	15.5%	14.9%	14.9%	14.9%
CAPEX/D&A		2.00	1.66	1.62	1.47	1.31	1.51	1.47	1.45	1.38	1.33	1.29	1.24	1.23	1.22	1.26	1.26
Extraordinary events		4,539	969	4,405	-789	2,458	0	0	0	0	0	0	0	0	0	0	0
<b>Cash flow from investing activities</b>		<b>-701,073</b>	<b>-708,027</b>	<b>-732,738</b>	<b>-805,408</b>	<b>-866,452</b>	<b>-1,098,518</b>	<b>-1,233,641</b>	<b>-1,437,180</b>	<b>-1,587,178</b>	<b>-1,784,466</b>	<b>-2,023,280</b>	<b>-2,250,961</b>	<b>-2,483,182</b>	<b>-2,719,655</b>	<b>-3,100,245</b>	<b>-3,100,092</b>
Change in Industrial debt		12,322	18,081	-8,037	11,241	-970											
Change in debt of Financial Services Activities		-3,516	-1,740	121,385	-46,091	177,500											
Change in Debt		8,806	16,341	113,348	-34,850	176,530	181,826	187,281	192,899	198,686	204,647	210,786	217,110	223,623	230,332	237,242	244,359
Dividends		-194,784	-211,029	-161,455	-251,788	-333,521	-453,428	-534,416	-596,517	-718,374	-855,806	-1,026,529	-1,225,275	-1,427,964	-1,639,792	-1,897,560	-1,897,466
Non-controlling interests		-2,120	-2,929	-1,354	-2,266	-4,890											
Parents of the company		-192,664	-208,100	-160,101	-249,522	-328,631	-500,000	-500,000	-500,000	0	0	0	0	0	0	0	0
Buybacks		-386,749	-129,793	-230,899	-396,522	-460,629	0	0	0	0	0	0	0	0	0	0	0
Extraordinary events		71,198	664,164	-300,666	129,600	-491,787	0	0	0	0	0	0	0	0	0	0	0
<b>Cash flow from financing activities</b>		<b>-501,529</b>	<b>339,683</b>	<b>-579,672</b>	<b>-553,560</b>	<b>-1,109,407</b>	<b>-771,602</b>	<b>-847,135</b>	<b>-903,618</b>	<b>-519,688</b>	<b>-651,160</b>	<b>-815,743</b>	<b>-1,008,165</b>	<b>-1,204,341</b>	<b>-1,409,460</b>	<b>-1,660,319</b>	<b>-1,653,108</b>
<b>Change in cash</b>		<b>104,282</b>	<b>464,460</b>	<b>-18,260</b>	<b>44,755</b>	<b>-266,920</b>	<b>21,615</b>	<b>457,344</b>	<b>407,551</b>	<b>1,149,920</b>	<b>1,410,115</b>	<b>1,736,045</b>	<b>2,142,096</b>	<b>2,485,453</b>	<b>2,871,677</b>	<b>3,231,949</b>	<b>3,127,768</b>
Net Cash - Ending Balance		897,946	1,362,406	1,344,146	1,388,901	1,121,981	1,143,596	1,600,940	2,008,491	3,158,411	4,568,526	6,304,570	8,446,666	10,932,119	13,803,796	17,035,745	20,163,513
Net Cash - Beginning Balance		793,664	897,946	1,362,406	1,344,146	1,388,901	1,121,981	1,143,596	1,600,940	2,008,491	3,158,411	4,568,526	6,304,570	8,446,666	10,932,119	13,803,796	17,035,745



## Appendix 9 – DCF

DCF	Strategic goals 22-26									Fading out period with revenue growth slows down							TV
	2019	2020	2021	2022	2023	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E	2033E	2034E	
<b>EBIT</b>	<b>917</b>	<b>716</b>	<b>1,075</b>	<b>1,227</b>	<b>1,617</b>	<b>1,879</b>	<b>2,146</b>	<b>2,258</b>	<b>2,716</b>	<b>3,232</b>	<b>3,874</b>	<b>4,621</b>	<b>5,383</b>	<b>6,180</b>	<b>7,149</b>	<b>7,148</b>	
% margin	24%	21%	25%	24%	27%	29%	30%	25%	27%	28%	30%	31%	32%	32%	32%	32%	
Tax rate	20%	9%	20%	20%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	
<b>NOPAT</b>	<b>732</b>	<b>654</b>	<b>859</b>	<b>979</b>	<b>1,229</b>	<b>1,428</b>	<b>1,631</b>	<b>1,716</b>	<b>2,064</b>	<b>2,457</b>	<b>2,944</b>	<b>3,512</b>	<b>4,091</b>	<b>4,697</b>	<b>5,433</b>	<b>5,433</b>	
+ D&A	352	427	456	546	662	727	839	992	1,147	1,339	1,569	1,819	2,013	2,226	2,460	2,460	
- CAPEX	706	709	737	805	869	1,099	1,234	1,437	1,587	1,784	2,023	2,251	2,483	2,720	3,100	3,100	
- Change in NWC	-226	48	137	173	188	-252	79	52	57	62	73	81	80	90	111	0	
<b>FCFF</b>	<b>604</b>	<b>324</b>	<b>441</b>	<b>548</b>	<b>835</b>	<b>1,308</b>	<b>1,157</b>	<b>1,219</b>	<b>1,567</b>	<b>1,949</b>	<b>2,418</b>	<b>2,999</b>	<b>3,540</b>	<b>4,113</b>	<b>4,681</b>	<b>4,792</b>	
<b>Terminal value</b>																	<b>116,850</b>
WACC						6.68%	6.68%	6.68%	6.68%	6.68%	6.68%	6.68%	6.68%	6.68%	6.68%	6.68%	6.68%
<b>Discounted value</b>						<b>1,267</b>	<b>1,085</b>	<b>1,071</b>	<b>1,291</b>	<b>1,505</b>	<b>1,750</b>	<b>2,035</b>	<b>2,251</b>	<b>2,451</b>	<b>2,616</b>	<b>63,710</b>	

The following tables present the calculation of the Enterprise value and the Implied Equity Value & Share Price.

(thousand €)		(thousand €)	
<b>Terminal value</b>		<b>Enterprise value</b>	<b>81,030,341</b>
EBIT n+1 (1-t)	5,432,744	Debt	3,248,970
g	2.58%	Noncontrolling Interest	9,734
ROIC	44.83%	Cash and Cash Equivalents	1,648,482
Reinvestment rate	5.76%	<b>Market Cap</b>	<b>76,123,155</b>
<b>Terminal value</b>	<b>116,850,389</b>	Shares	181,953
Discount factor	10.0000	<b>Price</b>	<b>445.34</b>
<b>Present Value of TV</b>	<b>61,199,553</b>		
% of EV	75.53%		

## Appendix 10 – WACC Calculation

### Beta

The beta was computed based on the regression beta against a world benchmark by regressing Ferrari returns on the Italian Stock Exchange against the MSCI World (in EUR), what resulted in a beta of 0.91. This value is in line with the average of the regressions against other world indexes like MSCI World Net EUR, Vanguard FTSE Developed World, MSCI International World Gross Real, The Global Dow EUR, MSCI World Hedged Net.

Date	RACE.MI		MSCI World EUR	
	Adj. Close	Return	Adj. Close	Return
01/06/2019	142.80	14.90%	284.66	4.30%
01/07/2019	145.65	2.00%	292.59	2.79%
01/08/2019	143.20	-1.68%	289.77	-0.96%
01/09/2019	141.55	-1.15%	298.94	3.16%
01/10/2019	143.45	1.34%	299.55	0.20%
01/11/2019	153.40	6.94%	311.54	4.00%
01/12/2019	147.90	-3.59%	315.18	1.17%
01/01/2020	152.50	3.11%	317.30	0.67%
01/02/2020	141.55	-7.18%	293.06	-7.64%
01/03/2020	141.55	0.00%	254.56	-13.14%
01/04/2020	143.40	1.31%	282.87	11.12%
01/05/2020	151.90	5.93%	291.99	3.22%
01/06/2020	151.85	-0.03%	296.83	1.66%
01/07/2020	151.35	-0.33%	295.42	-0.48%
01/08/2020	163.20	7.83%	311.61	5.48%
01/09/2020	156.65	-4.01%	306.84	-1.53%
01/10/2020	153.15	-2.23%	299.42	-2.42%
01/11/2020	176.80	15.44%	328.85	9.83%
01/12/2020	188.65	6.70%	335.13	1.91%
01/01/2021	172.25	-8.69%	334.16	-0.29%
01/02/2021	161.50	-6.24%	343.04	2.66%
01/03/2021	178.35	10.43%	366.06	6.71%
01/04/2021	178.15	-0.11%	374.03	2.18%
01/05/2021	172.95	-2.92%	373.57	-0.12%
01/06/2021	174.00	0.61%	390.89	4.64%
01/07/2021	183.85	5.66%	397.92	1.80%
01/08/2021	183.70	-0.08%	409.67	2.95%
01/09/2021	180.95	-1.50%	399.95	-2.37%
01/10/2021	205.00	13.29%	423.22	5.82%
01/11/2021	231.70	13.02%	425.59	0.56%

Date	RACE.MI		MSCI World EUR	
	Adj. Close	Return	Adj. Close	Return
01/12/2021	227.50	-1.81%	439.25	3.21%
01/01/2022	202.90	-10.81%	422.02	-3.92%
01/02/2022	192.75	-5.00%	410.54	-2.72%
01/03/2022	198.70	3.09%	425.81	3.72%
01/04/2022	203.00	2.16%	411.79	-3.29%
01/05/2022	181.40	-10.64%	405.83	-1.45%
01/06/2022	175.20	-3.42%	379.82	-6.41%
01/07/2022	206.20	17.69%	420.35	10.67%
01/08/2022	193.20	-6.30%	408.43	-2.84%
01/09/2022	191.70	-0.78%	380.26	-6.90%
01/10/2022	199.50	4.07%	403.97	6.24%
01/11/2022	211.90	6.22%	414.73	2.66%
01/12/2022	200.20	-5.52%	383.13	-7.62%
01/01/2023	228.90	14.34%	403.14	5.22%
01/02/2023	245.30	7.16%	402.93	-0.05%
01/03/2023	249.30	1.63%	405.45	0.63%
01/04/2023	252.30	1.20%	406.00	0.14%
01/05/2023	266.60	5.67%	416.24	2.52%
01/06/2023	299.50	12.34%	431.34	3.63%
01/07/2023	291.40	-2.70%	441.16	2.28%
01/08/2023	293.00	0.55%	437.44	-0.84%
01/09/2023	279.70	-4.54%	429.09	-1.91%
01/10/2023	285.50	2.07%	417.33	-2.74%
01/11/2023	330.60	15.80%	442.19	5.96%
01/12/2023	305.20	-7.68%	458.21	3.62%
01/01/2024	323.7	6.06%	471.56	2.91%
01/02/2024	389.9	20.45%	493.42	4.64%
01/03/2024	404	3.62%	510.29	3.42%
01/04/2024	387.2	-4.16%	496.27	-2.75%
01/05/2024	375.6	-3.00%	507.73	2.31%

Summary output for the regression:

Regression Statistics	
Multiple R	0.57
R Square	0.32
Adjusted R Square	0.31
Standard Error	0.06
Observations	64

ANOVA					
	df	SS	MS	F	Significance F
Regression	1	0.101	0.101	29.508	0.0000010
Residual	62	0.213	0.003		
Total	63	0.314			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95%	Upper 95%
Intercept	0.012	0.008	1.587	0.118	-0.003	0.027	-0.003	0.027
X Variable 1	<b>0.91</b>	0.17	5.43	0.00	0.58	1.25	0.58	1.25

### Risk-free rate

The risk-free rate was determined based on the 10-year government bond of Germany (2.645%). This approach was adopted considering the main business of Ferrari currency reported and currency of the valuation.

### Equity risk premium and Cost of equity

Regarding the equity risk premium, it was calculated based on the market risk premiums of Germany (4.60%), which is the same for the United States (referencing Damodaran's "Country Default Spread and Risk Premiums"). Using the Capital Asset Pricing Model (CAPM) and considering the standpoint of RACE investors, the cost of equity was determined. The final value stands at 6.68%.

### Cost of Debt

In calculating the cost of debt, RACE's perspective was taken into account. The company's future borrowing rate is expected to align with Euro area yields for two reasons: i) RACE historically borrows in Euros, and ii) all its vehicle production takes place in Italy, incurring operating costs in Euros. Additionally, borrowing in Euros is more cost-effective compared to other currencies like the USD. The average spread between RACE securities and corresponding Triple A rated bonds in the eurozone was computed. This spread was then applied to the 10-year risk-free rate, resulting in a 4.11% cost of debt for RACE. The decision to consider only Triple A rated bonds in the Euro area was based on the fact that most of RACE's debt is denominated in Euros.

The following table present a summary of the WACC calculations and assumptions:

WACC assumptions		
<b>Beta (<math>\beta</math>)</b>	<b>0.91</b>	Since RACE has a global presence with more relevance for the developed markets, a regression beta estimation was done with a world benchmark (MSCI World - Developed countries). This analysis covered a period of five years (2019-2023) with monthly intervals.
<b>Risk free rate (<math>R_f</math>)</b>	<b>2.65%</b>	The risk-free rate corresponds to the 10-year German government bond yield for the Eurozone. Since the valuation is done in Euros it should be the reference rate.
<b>Equity risk premium (ERP)</b>	<b>4.60%</b>	The equity risk premium was determined by the implied equity risk premium for the European market. (Damodaran, "Country Default Spread and Risk Premiums").
<b>Cost of equity (<math>k_e</math>)</b>	<b>6.85%</b>	The Capital Asset Pricing Model was applied: $k_e = R_f + \beta \cdot ERP$
<b>Cost of debt</b>	<b>4.11%</b>	The implicit long-term cost of debt for RACE was computed based the average value of the spreads between RACE securities (Bonds and Notes) and the respective Triple A rated bonds in the eurozone.
<b>Marginal tax rate (<math>t</math>)</b>	<b>24.00%</b>	Applicable corporate tax rate in effect in Italy
<b>Leverage (<math>D/(D+E)</math>)</b>	<b>4.52%</b>	The current leverage was considered, including the market value of the total debt and market capitalization as of December 2023.

## Appendix 11 – Relative Valuation

In order to complete the Relative Valuation and analysis, Ferrari was compared with both peer groups: LPCI and Luxury. Even though Ferrari has its particularities and comparing its unique business to a LPCI like Aston Martin or a Luxury company like Burberry might not be enough.

2023	Size, growth and stability			Margins			Returns		CAPEX		Liquidity	
	Revenues	Revenues 5Y CAGR	Std. dev. of revenues growth 5Y	Gross margin	EBITDAm	EBITm	ROA	ROE	CAPEX/ Revenues	CAPEX/ D&A	DOL	Net Debt/ EBITDA
RACE												
Ferrari	5,970	9.65%	11.13%	49.82%	38.18%	27.09%	15.27%	40.95%	0.15	1.31	1.85	0.59
LPCI (Luxury Performance Car Industry)												
Aston Martin	1,633	13.58%	43.76%	39.10%	18.73%	-4.88%	-0.67%	-2.32%	0.24	1.03	-1.79	2.84
Bentley	3,384	16.93%	21.18%	17.46%	38.92%	17.41%	5.58%	4.17%	0.04	1.62	-0.59	1.53
Lamborghini	2,380	12.51%	15.61%	20.58%	28.78%	25.90%	7.44%	6.26%	0.06	2.10	1.08	1.26
Maserati	2,320	-2.72%	31.95%	6.00%	12.80%	9.20%	3.07%	4.72%	0.15	1.70	4.00	2.30
McLaren	627	-7.52%	36.96%	19.39%	2.34%	-22.06%	-34.56%	33.19%	0.27	0.97	-8.57	56.12
Porsche	37,630	9.70%	7.96%	28.73%	26.47%	17.99%	10.00%	24.80%	0.10	1.15	1.69	0.58
Rolls-Royce	3,011	20.17%	28.28%	22.93%	15.77%	10.30%	10.42%	14.80%	0.20	0.59	2.69	1.96
<b>Median</b>	<b>2,380</b>	<b>12.51%</b>	<b>28.28%</b>	<b>20.58%</b>	<b>18.73%</b>	<b>10.30%</b>	<b>5.58%</b>	<b>6.26%</b>	<b>0.15</b>	<b>1.15</b>	<b>1.08</b>	<b>1.96</b>
<b>Average</b>	<b>7,283</b>	<b>8.95%</b>	<b>26.53%</b>	<b>22.03%</b>	<b>20.54%</b>	<b>7.69%</b>	<b>0.18%</b>	<b>12.23%</b>	<b>0.15</b>	<b>1.31</b>	<b>-0.21</b>	<b>9.51</b>
<b>Weighted average</b>	<b>50,984</b>	<b>10.28%</b>	<b>12.99%</b>	<b>26.44%</b>	<b>25.60%</b>	<b>16.24%</b>	<b>8.41%</b>	<b>20.30%</b>	<b>0.11</b>	<b>1.21</b>	<b>1.44</b>	<b>1.59</b>
Luxury companies												
Burberry	2,826	0.67%	10.50%	70.60%	41.37%	26.26%	11.00%	25.00%	0.06	0.51	2.21	0.21
Kering	20,351	5.42%	10.29%	74.70%	35.65%	27.46%	11.04%	25.35%	0.05	0.64	0.00	0.32
Hermès	12,420	9.69%	11.88%	70.80%	43.12%	39.96%	21.60%	30.80%	0.04	1.41	1.13	2.42
LVMH	79,184	11.08%	19.69%	68.44%	35.01%	25.88%	11.30%	27.60%	0.06	2.11	0.39	0.94
Moncler	2,603	12.99%	17.59%	76.33%	34.34%	29.75%	15.10%	25.10%	0.28	2.80	1.24	0.54
Richemont	13,400	4.01%	12.43%	66.70%	24.01%	12.66%	10.40%	17.60%	0.08	0.18	77.76	0.67
<b>Median</b>	<b>12,910</b>	<b>7.56%</b>	<b>12.15%</b>	<b>70.70%</b>	<b>35.33%</b>	<b>26.86%</b>	<b>11.17%</b>	<b>25.22%</b>	<b>0.06</b>	<b>1.03</b>	<b>1.19</b>	<b>0.61</b>
<b>Average</b>	<b>21,797</b>	<b>7.29%</b>	<b>13.73%</b>	<b>71.26%</b>	<b>35.58%</b>	<b>27.00%</b>	<b>13.41%</b>	<b>25.24%</b>	<b>0.10</b>	<b>1.28</b>	<b>13.79</b>	<b>0.85</b>
<b>Weighted average</b>	<b>130,784</b>	<b>9.15%</b>	<b>16.50%</b>	<b>69.67%</b>	<b>34.88%</b>	<b>26.20%</b>	<b>12.21%</b>	<b>26.42%</b>	<b>0.06</b>	<b>1.59</b>	<b>8.38</b>	<b>0.93</b>

The following multiples were obtained:

Company	EV/EBITDA	EV/EBIT	EV/SALES	P/S	P/E	EV/FCFF	PEG
Ferrari	24	34	9	10	44	47	3
LPCI average	13	22	3	1	12	21	-2
Luxury average	13	17	5	5	27	32	2

Taking into consideration the previous analysis a relative valuation was performed based on the EV/Sales and EV/EBITDA multiples for some selected comparable, leading to the following results:

Company	Ticker	Market Cap (Bn)	EV/Sales	EV/EBITDA
Aston Martin	AML.L	1.87	1.28	6.73
Porsche	PAH3.DE	14.19	4.76	4.72
Rolls-Royce	RR.L	32.61	15.7	7.18
<b>Average</b>			<b>7.25</b>	<b>6.21</b>
<b>Price Target:</b>			<b>237.74</b>	<b>77.80</b>
Burberry	BRBY.L	6.51	3.28	14.70
Hermès	RMS.PA	225.51	15.17	32.93
LVMH	MC.PA	408.47	4.88	16.70
<b>Average</b>			<b>7.78</b>	<b>21.44</b>
<b>Price Target:</b>			<b>255.19</b>	<b>268.66</b>
<b>Weighted:</b>			<b>251.93</b>	<b>231.19</b>

Based on the relative valuation conducted for Ferrari using two peer groups, LPCI and the LI, it is important to note the limitations and inaccuracies inherent in this comparison. The LPCI group included Aston Martin, Porsche, and Rolls Royce, while the LI group included Burberry, Hermes, and LVMH. While the LPCI peers share similarities in the automotive sector, they do not fully capture Ferrari's unique market position. Similarly, the LI peers share Ferrari's luxury and exclusivity but produce entirely different types of goods. Consequently, this valuation may not be the most accurate representation of Ferrari's true value.

Considering these results, a Sell recommendation might appear suitable. However, as previously discussed, Ferrari's unique business model and market position make it challenging to find truly comparable companies. Therefore, the LPCI and LI comparisons should be viewed with caution, and this valuation should not be heavily relied upon in making investment decisions.

## Appendix 12 – Corporate Governance

		RACE	Avg. automotive	Avg. luxury
Environmental				
Impact on Climate Change	CO2 emissions [g/Revenues]	13 (vs 22.8 in 2019)	17	5
	Energy consumption [MWh/Revenues]	112.5	64	21
	Energy derived from renewable sources [%]	33%	40%	45%
	Adherence to emissions limits	Yes	Yes	NA
	Annual vehicle emissions [ton CO2]	300	190	NA
Waste	Waste generated [ton/Revenues]	9	7	4
	Waste recycled [%]	62%	65%	70%
Natural Resources Consumption	Water consumption [m3/Revenues]	3	4	3
	Intensive use of animal leather and fur	Yes	Yes	Yes
Social				
Employees	Gender mix [%]	16% F / 84% M	20% F / 80% M	45% F / 55% M
	Employee training hours [h/year]	84	42	25
	Safety [Injury rate (IR) / ISO certifications]	IR: 0.9 / ISO 45001	IR: 1.3 / Various	IR: 0.2 / Various
	Employee turnover [%]	5%	12%	10%
Institutions	Tax transparency	Yes	Yes	Yes
	Law infringements	No	Yes	No
Communities	Code of conduct	Yes	Yes	Yes
	Workers with disability	Yes	Yes	Yes
	Charity initiatives	Yes	Yes	Yes
Governance				
Board Structure	How many directors serve on the board?	11	10	12
	The board is 50% independent?	Yes (82%)	Yes	Yes
	Is there a distinction between the chairman and CEO roles?	Yes	Yes	Yes
	Is the chairman impartial?	No	No	Yes
	Has the company appointed a senior independent director or an independent Lead Director?	Yes	Yes	Yes
	Does the company have audit, compensation, governance, and sustainability committees?	Yes	Yes	Yes
	Is the chair of the nominating committee impartial?	Yes	Yes	Yes
	Are there executives serving on the compensation committee?	Yes	Yes	No
Remuneration Policy	What is the proportion of women on the board?	33%	30%	40%
	Do directors participate in equity-based plans?	Yes	Yes	Yes
	Does the company provide information about the remuneration of individual executives or inside directors?	Yes	Yes	Yes
	What vesting periods are stipulated in the plan documents for executives' restricted stock?	3 years	3 years	3 years
Audit & Risk	Has the company disclosed a provision for recoupment or penalty?	Yes	Yes	Yes
	Has the auditor provided a negative opinion in the previous year?	No	No	No
	Has a regulatory body taken enforcement measures against the company within the last two years?	No	Yes	No
Shareholders Interest	Does the company utilize a slate ballot during its most recent shareholders' meeting?	Yes	Yes	Yes
	Does the company have multiple classes of stock with varying voting privileges?	Yes	Yes	No
	Does the company uphold preemptive rights in case of a takeover attempt?	Yes	Yes	Yes
	Are there ownership elements that impact takeover defenses?	Yes	Yes	Yes
		Yes	Yes	No

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