

Should Tesla Motors Inc. Enter the Formula E?

By

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ABREVIATIONS

BMW: Bayerische Motoren Werke (German Car Manufacturer)

BN: Billion (American Measurement)

CEO: Chief Executive Officer

CFO: Chief Financial Officer

EBITDA: Earnings Before Interest Depreciation and Amortization

EPS: Earnings Per Share

EV: Electric Vehicle

F: Ford Motors (American Car Manufacturer)

FIA: Federation International de l'Automobile

Formula E: Formula Electric

GM: General Motors (American Car Manufacturer)

GP: Grand Prix

HR: Human Resources

IE: Instituto de Empresa

IPO: Initial Public Offering

KMH: Kilometres per hour

KW: Kilowatt (energy measurement)

M: Million

MPH: Miles per hour

S&P 500: Standard and Poor 500 Richest Companies

SUV: Sport Utility Vehicle

TEV: Total Enterprise Value

US: United States

YoY: Year on Year (Comparison between two years)

EXECUTIVE SUMMARY

The world is changing and with it the automobile car manufacturers and competition industry. This paper analyses the opportunity of Tesla, electric car manufacturer leader in the US, entering the Formula E competition, a series of car races characterized by its electric power trains and urban racetracks.

This paper is structured in four main blocks, Tesla, Formula E, Analysis and Conclusion. For which a description of influential factors is applied to each block and used to estimate the future result of a possible combination of both Tesla and the Formula E. Included are also the financial data and valuation methods (multiples and ratios) to assess the viability of the car manufacturing and the financial challenges related to the competition.

The methodology used to analyse the factors influencing both Tesla and the Formula E consists of a deductive method which proposes hypothetically situations including beneficial and issue results from the entry in the industry. The data used to support the analysis includes articles about Tesla and the Formula E, an interview with Alejandro Agag, founder and CEO of Formula E and Manolo Cendoya, Bank of Santander vice-president, and a business case provided by Bank of Santander detailing the enter of Santander as a sponsorship in the Formula 1.

The analysis includes financial, market, advertising and technological factors to assess the viability of the electric car manufacturer entering the competition. In addition, the results include an analysis of the interview conducted and the Formula 1 case, which contribute significantly in the advertising and market sections of the paper.

Conclusion about the project has resulted in a positive benefit and value added for Tesla to enter the Formula E. Given the factors analysed and the opportunity for Tesla to fulfil its objectives and expectations. Formula E is considered as the perfect market to keep the development of the car manufacturer to improve many aspects including financially, technologically, branding and internationalization strategies.

Further research can be developed in this situation, as more factors can be taken into consideration for assessment of the viability and the use of other data which rise different challenges and solutions for the successful entering in the industry.

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1. INTRODUCTION

This paper analyses the potential introduction of Tesla Motors Inc., a leading American electric car producer, in the automobile competition industry of Formula E, a motorsport electric powered competition all around the world.

To determine the viability of Tesla entering the motorsport competition, we first must analyse the company itself, the industry of motorsport and the effect it has on firms and lastly other producers who already took the step of entering motorsport and electric power combined. Using the factors influencing we can estimate the performance of Tesla in Formula E. The financial and performance analysis of these firms can illustrate a reasonably close perspective of how Tesla would perform in the electric competition world.

The analysis of the environment and the financial obligations when entering the industry are very important to assess whether Tesla can cope with the tough and constant race for innovation and electric power development. However, automobile competition today is not only about racing, other interests are involved and factors influencing team decisions, these include advertising and investment opportunities for example.

The objective of this paper is to establish the interest of both, Tesla in entering and participating and the Formula E competition. By analysing different scenarios and the factors influencing I will be able to conclude on whether entering the industry is a strategic decision and the most suitable time to enter.

The project includes an analysis of most of the factors influencing a company when entering a new competition industry, although this is not a typical market penetration, this market is very restricted and exclusive.

The factors analysed include the financial, technology, market and advertising. Each factor is described for both Tesla and the Formula E and then analysed as a combination in the analysis and results section. For the financial factors, I take into consideration the projections for the key stats for Tesla both out and inside the competition, the difference gives a value increment that should be higher than the total investment costs, which are described in the financial factors for the Formula E.

2. LITERATURE REVIEW

This research paper is very characteristic and unique because there is no specific research done about Tesla entering the competition industry of Formula E. However, since the beginning of Formula E, the industry has gained audience and importance in the automobile competition world.

Formula E and Tesla have different things in common, but the most significant is the electric power and the pursuit for innovation and efficiency and therefore the environmental sustainability. Tesla as an electric car producer and Formula E known for being the toughest and most innovative electric competition in the world. With the help of the previous research we can understand the advantages and disadvantages of the revolutionary power supply that day by day improves and expands. Also, how the industry works and the players within it.

There is no specific research on Tesla entering the Formula E as the viability of such transaction. This project introduces the analysis of economic, technological and marketing factors for the assessment of the new player in the competition. New relevant information has been collected through a unique interview with a trusty primary source to complement the research previously done.

In my research, I found four relevant articles about the topic:

1. The first relevant research about the topic I found was developed during the Spring of 2016 by Quinn Jasha Bryan Sullivan, "**The Design, Implementation, Evaluation of a race Car for the Formula SAE Electric Competition**". In his paper, Quinn evaluates the constraints of the competition rules, finances, HR, etc. The design including the implementation of existing components such as battery cells and electric motors. And finally, the simulation of the car, comparing the data with past simulations. This paper is very helpful to understand what it takes to build the car and adapt it to the regulated competition, which is a must for a car producer such as Tesla if they decided to enter the competition. The paper does not include any mention of Formula E, the research was done during the introduction of the competition. The main purpose and most important aspects of this research are the functioning of the electric engines and all the factors related to make it successful.

2. It is important to analyse the company from a more subjective point of view; this new view is the strategy and "the way things are done". The article "**Tesla Motors Inc.: Pioneer towards a new strategy approach in the automobile industry along the open source movement**" written by Manuel Mortiz in 2015 gives a clear insight of the paradigm shift from traditional value creation towards co-creation and open production

approaches used by Tesla. It is relevant to highlight, the fact that Tesla is giving away all its patents with good faith to anyone who wants to use them. They aim to foster the advancements of electric vehicles to compete with conventional vehicles and give zero-emissions mobility a push.

3. One of the most relevant articles I have found; "**Overcoming Barriers to Entry in an Established Industry**" written by Edward Peter Stringham in 2015, analyses the barriers to entry of Tesla using Porters Forces of the automobile industry. However, someone can argue the electric vehicle is not absolutely inside the classic automobile industry but developing a new one. Consumer for instance that look for an electric vehicle, consider they abandon the petrol market, although the needs for a vehicle are still the same with some slight variance. Electric vehicles serve the economic and environmental need of consumer and will shift towards the power and performance need over the coming years. Concerns arise daily about this technology, range and power supply vary by the power train and the batteries used.

4. The fourth article that I analyse is "**Marketing Plan for Tesla Motors' Model S**", written by Key Lee Roselo in 2014, two years after the launch of the Car Model in 2012. This article analyses the marketing mix followed by the company in the selling of the Model S, a luxury car manufactured to compete with BMW and Mercedes top of the business line cars. This article gives a clear insight of how the company advertises its products and positions them at the ideal spot to sell it. Also, the article mentions the strategy followed by Tesla to attract their customers and how to keep them loyal to the brand.

5. Additional literature material includes articles from automobile websites, which provide information about inside sources of Tesla and Formula E, their strategy and technology implemented to legal road cars. Also, a business case developed by IESE and Harvard to assess the viability of Santander as an entrant to sponsor the Formula 1 and a valuation case for Coca-Cola, used to predict the financial projections for a financial plan, provided by IE University and used in Corporate Finance Courses.

3. TESLA MOTORS INC

3.1 HISTORY AND KEY FIGURES

“Tesla Motors Inc. is an automotive and energy company from United States, based in Palo Alto, California. Tesla specializes in electric car and solar panel manufacturing. It also operates multiple production plants across the US.” (Capital IQ, n.a)

“Tesla is founded in July 2003 by two engineers, Martin Eberhard and Marc Tarpenning, who called the company Tesla Motors. The name is a tribute to Nikola Tesla, who is known for being a Serbian inventor and electrical engineer, he significantly contributed to the design of the alternating current (AC) electricity supply system.” (Wikipedia, n.a)

Since its foundation, Tesla has always been the industry leader on US electric power innovation. Tesla implements the latest technology such as AI for the semi-autonomous driving feature all the company cars include. Tesla is increasing its presence through its manufacturing and construction of Fast Charge Stations all around the US.

Martin Eberhard and Marc Tarpenning financed the company until Series A round, Elon Musk joined the company’s board of directors as its chairman. Musk took active role in

the company in 2004 and led the development of the Roadster, an electric performance car with superior electric engineering and technology plugs.

Tesla's target consumer is an enthusiast of electric cars which include luxury but also because they can perform. In the customer's mind, there are also environmental friendly issues related and economic influence, as electric cars are cheaper to "refuel" and don't emit toxic gases for the environment. Customers are characterized for been loyal to the brand and to the power source.

Key Figures (31 Dec 2018):¹

- **Revenue:** \$21,461.3 M (82.5% growth YoY)
- **Employees:** 48,817
- **EBITDA:** \$1,634.9 M
- **Net Income:** (976.1) M
- **Business lines:**
 - o Automotive (92%) - Energy Generation and Storage (8%)
- **Share Price:** \$305.64 (172.7 m shares out.)
- **Market capitalization:** \$52,790.6 M
- **Enterprise Value:** \$64,322.6 M

KEY PROFESSIONALS

Name	Title
Musk, Elon R.	Founder, CEO & Director
Kirkhorn, Zachary	Chief Financial Officer
Taneja, Vaibhav	Chief Accounting Officer
Baglino, Andrew D.	Chief Technology Officer

Source: S&P Capital IQ

¹ Figures obtained from Capital IQ, Tesla Inc. (Tear-sheet, 31 Dec 2018)

3.2 FINANCIAL SITUATION

This section of the project includes all the relevant financial data about Tesla. The financial analysis is a fundamental part of the factors influencing for the viability of the company entering Formula E. The competition involves financial obligations and a huge investment (\$81,6 million the first year).

In Appendix **Tables 1 to 7** show the relevant financial data for the analysis of its current situation and predictions for the future. **Graph 1** shows a comparison of the stock market for Tesla with a benchmark of S&P 500 and other electric car manufacturers (General Motors and Ford). It is important to mention, the benchmark involves producers with petrol engine cars business lines, so their price level is less volatile than tesla, which only has one business line.

Table 1 shows an increase in sales. The Compound Annual Growth Rate (CAGR) for the actual sales it 43% and expected to 37% until 2021. The expected figure is lower given two additional years are used in the calculation. Net income is expected to reach \$2.3 bn, reason why, when results published, the public gained trust and stocks raised by 30%. EBITDA and margins are constant, Tesla hasn't achieved economies of scale and with higher sales, costs are increasing too. Earnings per Share (EPS) are expected to increase from (0,51) to 11,5 (113 % growth from 2020 to 2021).

Table 3 shows the multiples computed using the financial data. This is very helpful to see the valuation of the company with its current value. TEV/Revenues figure decreases with the increase in revenues through the years, TEV (Enterprise Value) is constant.

TEV/EBITDA is constant as mentioned before, margins are keep similar due to both increase in sales and costs which keeps the contribution per unit sold with little variation.

Table 4 includes the balance sheet for Tesla, this chart shows Tesla has increased its debt and uses it as its main financing channel. Debt to Equity ratio shown in **Table 7** for 2019 has decreased (195%) over the years but remains significant compared to equity. The current ratio for 2019 is 1,1. This ratio is the ability of the company to paid its debt using its current assets, Tesla experienced a below 1 ratio in 2017 and 2018 but it has been able to recover it as well as its liquidity capabilities in case of bankruptcy.

Cash flow shown in **Table 6** is positive, the lost that leads to negative income is due to the interest expense the company holds from all the long-term debt it uses to finance itself. In addition, **Table 7** includes the main return percentages, showing a positive but low increase in ROA and ROC, where ROE is negative but expected to increase over the next years.

In 2010, the company debuts on the Nasdaq at \$17 a share. The company's IPO raises \$226 million. Toyota Motors invests \$50 million and enters a joint venture to develop electric cars and parts. The evolution since the announcement of Tesla becoming a listed company has vary significantly. Due to the negative results and customers not receiving their cars ordered the company suffered a continuous decrease of the price level, also, 2010 still had investors' confidence very stroked by the financial crisis and the market was paralyzed. During 2019 (18 Oct) The company has experienced a 30% increase in the price level due to the announcement of results for the third quarter (2019Q3), which show the company is expected to make a \$2.3 bn Net Income profit. The increase can

also be attributed to the new launch of the Roadster and success of Space X (Elon Musk Company) in the recycled rockets which were fundamental for the survival of both companies.

3.3 MARKET ANALYSIS AND ADVERTISING

“Tesla became a major force in the auto industry without spending a dime on advertising. That made a certain amount of sense in the past, when the upstart automaker had far more demand for its cars than it could supply, and customers had to wait months if not years on waiting lists to get the car they had ordered. But the days of excess demand are pretty much over. Tesla's bestselling vehicle, the Model 3, can now be delivered in less than two weeks, which is essentially as quick as a new order can be built and delivered.”

(Chris Isidore, 2019)

“Tesla is facing increased competition for electric car buyers from established automakers, all of whom are willing to spend big on advertising to attract customers to their products. And it still faces competition from buyers who are willing to buy either a gas or electric vehicle, whichever they find is the best fit for them.” (Chris Isidore, 2019)

The article written by Key Lee, where he analyses Tesla's marketing mix proves the strategy is successful and affirms “*Tesla provides value to its target customer through their product*” means the company must take into consideration the new entrants and adapt their marketing mix to keep with competition and stay top of the market in terms of sales.

“Since the Model S has about a 244-mile range on one charge, Tesla has built Supercharger stations across the United States to facilitate cross-country travel. CEO

Elon Musk promised these Supercharger stations will always be free to Tesla owners. To promote its product, Tesla avoids a traditional advertising and retailing but focuses on creating awareness through word-of-mouth and social media.” (Key Lee, 2014) The stations are located all over the world (64 in the US), since the start the number of stations has increased significantly (1,659 worldwide and 115 in construction). However, there are cities which takes a 2-hour drive to the nearest. Conventional charger stations (23,963) can also be found, but offering a lower charging speed (150 kW) than the supercharger stations (450 kW).

USA Electric Vehicle Comparison

Manufacturer	Electric Car	Company Revenues (2018A)	EV Units Sold
1 General Motors	Bolt EV	US\$ 116,582,000	4,867
2 Hyundai	Ioniq EV	US\$ 33,685,000	15,076
3 Tesla	Model 3	US\$ 14,871,000	139,730
4 Volkswagen	e-Golf	US\$ 43,114,000	1,354
5 Nissan	Leaf	US\$ 60,467,000	14,715
6 BMW	i3	US\$ 18,420,000	6,117
7 Toyota	Prius	US\$ 99,566,000	87,590

**EV Sales Estimated (Computed by Average Selling Price x Units Sold)*

Sources: Company Annual Reports

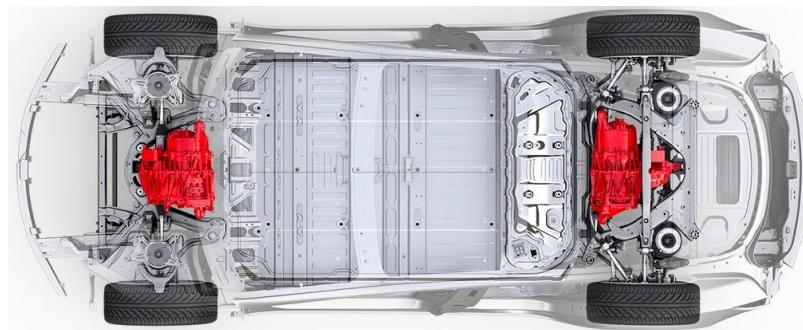
The table above shows the different car manufactures, which are direct competitors to Tesla and their annual revenue for the Actual Year, data has been obtained from Capital IQ and contrasted with the Annual Reports for each company. The table also illustrates the number of electric vehicles sold in the US during 2018 by each car manufacturer.

From this table, it can be observed the performance in the US market by each manufacturer and the relevancy of the electric vehicle sales in the portfolio and the impact it has on the overall company revenues (US). The market is focused in the US because Tesla location base and being the most relevant market for the automobile industry, specially for the electric vehicle in terms of sale units. Price ranges vary from country to

country, where in some countries with higher environmental regulations (Japan & India) the final selling price is affected by government subsidies granted to customers with the purchase of electric and hybrid vehicles.

3.4 TECHNOLOGY INNOVATION

Tesla batteries work like your phone, they use lithium-ion batteries. The main difference is the size and the weight. Tesla cars are compound of millions of cells that can add up to a thousand pounds. Tesla manufactures its own batteries and utilizes heating technology, this technology allows the battery to recover energy and released in another moment, improving the efficiency and capacity, the energy is recovered through the brake and engine recovery system, which ensures 100% functioning even in cold water. Batteries are charged using special fast charging ports installed at client's homes or from any 100-volt outlet.



Source: Electrek Website

The picture shows the location of the two electric motors in each of the axels, therefore Tesla cars are four-wheel-drive. The car has more off-road capabilities and stabilization control. Every Tesla car includes a computer able to distribute power to each axel when needed, therefore it performs better on curves and close turns. The power of electric cars is superior to conventional engines due to the power response time, been electric cars

more response and efficient. Electric motors have also been proved to be more efficient and powerful than petrol engines. In the following chart, we can observe a comparison between the electric engine and the petrol engine from the two most powerful production cars yet. The Tesla Roadster 2020 and the Bugatti Chiron 2019.

HYPER-CAR COMPARISON			
	Tesla Roadster (2020)	Bugatti Chiron (2019)	Variance
Acceleration (0-60 mph)	1,9	2,4	26%
Top Speed (mph)	250+	265	-6%
Range (miles)	620	290	113%
Seats	4	2	50%
Price	200.000	3.000.000	-1500%

Source: Company Portfolio Reports

The Chiron is known for having the actual speed record of 424 km/h. The Chiron is a 16-valve turbo supercharged producing 1500 horsepower of force. In the other hand, the Tesla Roadster has no official speed limit, but it is estimated to be capable of the same speeds. The technology developed by Tesla is clear, the results speak by themselves.

Also, Tesla has developed charging technology that allows customers to charge 50% (150 miles) in only 20 minutes. To understand why Tesla could be a potential new entrant in the Formula E, we must first analyse the technology behind the production cars and how it works. One of the companies most interesting and revolutionizing features is the AI systems which allow the car to drive itself. Tesla's number of car incidents (Level 2 Fatalities) rises to 6 from 2016, the incidents are cause by the cars failure in their AI self-driving systems. However, Tesla is the only company offering self-driving technology (1 incident per 1.98 million miles), and has proven to be very secure and advance. This feature increases the value for customers and their products, nowadays you can find it in any Tesla car as a standard option.

“With the increased environmental concern and tax credits given to those who buy eco-friendly cars, Tesla prices its luxury Model S rather cheaply compared to its competition.” (Key Lee, 2014) Which can be seen in the comparison above.

Tesla's current R&D costs are \$1.5 bn annual investment. This development searches for efficient and solutions to current technology, which adds value to Tesla's cars and allows it to position to compete with luxury cars. Tesla's technology can be considered leader in the market and a key feature in the success of the company so far.

4. FORMULA E

4.1 HISTORY AND KEY FIGURES

Formula E is the first fully-electric car competition, the first race was debuted in September 2014. In this race championship, 12 teams and 24 drivers compete to each other in 12 Gran Prixes celebrated in large cities across five continents. The competition is organized by FIA (“Fédération Internationale de l’Automobile”), which is also in charge of Formula 1. The objective is to appeal younger people and a totally different concept of racing.

Formula E is very like Formula 1, the most extreme and dangerous car competition in the word, the main difference is that cars engines are electrics and the track where the race takes place is urban. Because there is no air and sound contamination, the track is build using conventional streets in cities like New York or Hong Kong.

Environmental friendliness, sustainability and economy are the focus if this racing concept. The Formula E aims to provide a competitive environment and the advancement of the electric car manufacturing and commercialization.

The Formula E competition is like any other company, founded by Alejandro Agag, there is a profit and a performance to analyse.

4.2 FINANCIAL SITUATION

The actual value of the Formula E has raised to \$870 million (Forbes, 2018) after 4 consecutive years of loses raising the lost to \$140 million (Forbes, 2014). Financial projections show a substantial increase, “*Alejandro Agag, chairman and founder of Formula E, said the company’s revenues were more than €200m (€1m profit) in the year to July 31, a period that covers the group’s fifth racing season*”. (Murad Ahmed, 2019)

The costs involved in running a Formula E team are composed of car, R&D, logistics, personal and a premium entrance, in addition to the purchase of a team the first year. In terms of car costs, the average cost for a season 5 cars are \$0.8 million (season 1 cars were estimated to be \$300,000), because Formula E is a very recent competition costs tend to vary from year to year, with a tendency to grow. Logistics play a huge role in the costs of a Formula E team during the season, this is because the races are disputed in all 5 continents and all the team personal, car, mechanics and others must be moved from city to city over the year, which involves a significant investment of \$10 million. The other investment remains of \$5 million are destined to team personal, which involves all the mechanics, racing expertise, management, drivers and engineers. Research and development costs are estimated to be \$10 million, based on the average spending by the

other teams, the result of increasing this figure or reducing it will depend on the manufacturer. Tesla's technology is very advance, the innovation required should be lower than other teams, but the investment should be allocated to racing expertise.

The overall sum of the investment required for entering and maintaining a Formula E, for the actual season is from \$20 to \$25 million. Frank Baldet, Venturi Formula E Director, said "*There is a minimum amount of money needed to compete. We could say 10 million and then if you increase to 15 million or 20 million you can improve.*" He also added that Formula E is a very interesting competition because teams with lower budget can also perform very well, differently to Formula 1, where investment and team budget are considered key successful factors.

	FORMULA E		
	Year 1	Year 2	Year 3
Revenues	20.000.000	50.000.000	70.000.000
Personal	(5.000.000)	(5.000.000)	(5.000.000)
Cars	(1.600.000)	(2.500.000)	(3.500.000)
Logistics	(10.000.000)	(10.000.000)	(10.000.000)
R&D	(10.000.000)	(15.000.000)	(20.000.000)
Premium	(25.000.000)		
Team Purchase	(50.000.000)		
Total	(81.600.000)	17.500.000	31.500.000
			(32.600.000)

*All Revenues and Costs have been estimated with actual Formula E teams' balance sheets for last season

The table above shows simplified hypothetical revenues and costs Tesla must assume for the first 3 years in the competition. First noticeable, the first year the team would lose money because costs will be higher the first year and revenues lower. However, after the first season revenues increase by 150% and costs are reduced (entrant premium paid only the first year). The overall balance for the first 3 year is predicted to be (\$32.600.000).

Revenues in Formula E are obtained from the sponsorship of the team and merchandising. This vary for every team, the team with highest victories and more podium will be able to charge more, therefore it is very important to perform well and win races. Seasonal costs are steady, except for R&D and Cars, these tend to increase because the competition becomes harder and required for teams to invest more in development. The FIA (Regulatory body) adapts regulations to cars for every season, to make it more fair and entertaining. This regulation is translated to costs and new power trains, in other words, higher car costs and new parts, which is why the car costs increases (15%) for every year.

4.3 MARKET ANALYSIS AND ADVERTISING

Advertising in the Formula E Championship is a very important factor why some car producers participate. Formula E is becoming the reference for the electric car competition, car producers believe being part of this competition shows the race for innovation and development of the electric power system.

FORMULA E TEAMS				
Team	Country	Wins	Podiums	Races
Audi Sport Abt Schaeffler	Germany	12	40	58
BMW i Andretti Motorsport	United States	1	10	58
DS Techeetah	China	8	22	37
Envision Virgin Racing	United Kingdom	10	25	58
Geox Dragon	United States	2	9	58
Mahindra Racing	India	4	18	58
Mercedes-Benz EQ	Germany	0	1	13
Nio 333	China	2	6	58
Nissan e.Dams	France	16	32	58
Panasonic Jaguar Racing	United Kingdom	1	4	37
Tag Heuer Porsche	Germany	0	0	0
Venturi Racing	Indonesia	1	6	58

Source: FIA Formula E

The table above shows the teams competing in the Formula E up to date and the number of wins and races since their debut in the competition. The amount spent by each team is not disclosed, but an estimation by Mr. Agag mentioned during the interview allocates

between \$15 million and \$25 million per team in costs. Each team develops its own power trains but with strict regulations that assure the compete and fairness nature of racing.

In terms of image rights, the CEO of Formula E, Alejandro Agag owns them. This means that all revenues obtained from the utilization of the brand and TV rights are exclusive to him. This represents a significant portion of all revenues considering the broadband and importance of these in the competition. However, they can be used by the manufacturers for the individual corporation advertising. Audi for instance advertises its electric cars giving mention of the competition and its benefits.

The teams' table shows the direct electric car producers who compete with Tesla in the market for electric competition cars. *"Hosting a Formula 1 race boosts the economy of a host city and country by stimulating consumer spending and creating new opportunities in the secondary and tertiary sectors of the economy. The Formula 1 United States Grand Prix held at The Circuit of the Americas (COTA) has contributed substantially toward the local economy, with total economic impact to the Austin Metro area between 2012 and 2015 valued at \$2.8bn."* (Ben Avison, 2018) This valuation is adjusted to Formula 1, which is a competition with more spectators (1.8 billion, sourced from F1 Stats) and influence, also the race is held in a racing track with room for more spectators (200,000, sourced F1 Stats) and logistic capabilities. The relevancy of this article is to prove the impact and opportunity in the local economy and the influence in the competitions' financial sustainability.

4.4 TECHNOLOGY INNOVATION

"For automakers like BMW, Audi, and Jaguar, making EVs for the track is a natural way to hone EVs for the streets. One key reason is telling the world about the benefits of

electric vehicles—not only the benefits from an environmental point of view, with emissions, but also showcasing the technology and the performance,” says James Barclay, who runs Jaguar’s Formula E team. “The reality is there are real translations in the technology from Formula E to our future production cars.” (Brett Berk, 2019)

“The Indian conglomerate Mahindra has been manufacturing electric vehicles for 18 years, but it focused on low-cost, low-voltage applications. Being a part of the racing series has jump-started its experience with more powerful vehicles and helped it plan for a new round of more upscale consumer EVs, says team principal Dilbagh Gill.” (Brett Berk, 2019) Technology utilized in the race cars can be developed for road legal cars and then implemented in the competition, such as better range and efficiency, for example, Tesla utilizes a different arranged battery cells which has proven to be better (3 times more density of battery cells), this innovation could be implemented to future seasons and obtain better results than competitors. In Formula E, the battery power is regulated, but the amount of energy it can store allows room for teams to improve and innovate. Tesla would surpass any other team in terms of battery efficiency because of the technology.

“The route from track to assembly line isn’t always a one-way street. Nissan, which has been mass-producing the Leaf for nearly a decade, has put tech it made for the all-electric compact into Formula E. And it translates what it learns there into its next generation of EVs. What Nissan calls the “Road to Race to Road” process focuses on the minutia of energy efficiency.” (Brett Berk, 2019) Formula E has proven to be an industry to develop technology, most of the manufactures which already entered are benefiting from this advantage. Electric cars are the future of automobilism and none wants to be left behind.

5. METHODOLOGY AND DATA DESCRIPTION

5.1 METHODOLOGY

5.1.1 DEDUCTIVE METHOD

“Deductive reasoning is a basic form of valid reasoning. Deductive reasoning, or deduction, starts out with a general statement, or hypothesis, and examines the possibilities to reach a specific and logical conclusion.” (Alina Bradford, 2017)

This means that the conclusion of whether Tesla entering the Formula E is based on hypothetical situations concerning different factors influencing. On base of the analysis of these factors and applied to the future environment Tesla could be evolved, it is concluded whether these factors and their development have a positive effect on the financial, technological, industry and marketing strategies implemented on the company before the opportunity.

5.2 DATA DESCRIPTION

5.2.1 PRIMARY RESEARCH

Primary research information is sourced from an interview with Mr. Agag, CEO and founder of Formula E Holdings, including questions about Formula E and Tesla from a subjective point of view. The answer to those questions are a complement to the research and an overview of the current situations for both players. The interview with Mr. Agag is conducted through voice call and transcript to written.

The process taken to get in contact has been very challenging and slow, Mr. Agag is considered the highest rank in the electric automobile competition industry. However, the persistence and enthusiasm has lead us to meet and exchange thoughts about the project,

for which he has shown interest and support. The full interview can be found in the Appendix, this includes all the information relevant to the Thesis and its analysis.

The aim of the questions through the interview is to gain a deeper understanding of how Formula E works and what it takes a car producer to enter the industry and all the factors included. From initial investment to image rights contract. To evaluate the possibility and realism of Tesla entering Formula E it is important to know and understand every step in the transaction process. Also, talking with Mr. Agag allowed me to sense the disposition of the Formula E and the availability in the industry for a new player to step in, as well as the consequences and limitations involved.

The overall conclusion from this interview is very positive because of the relevancy to the project, also the acknowledgement of the unique opportunity to have discussed with Mr. Agag about his creation and business dream idea.

5.2.2 SECONDARY RESEARCH

Secondary research is based in the research of articles that explain the factors influencing for both Tesla and the Formula E. As mentioned before there is no research available which anticipates Tesla entering the Formula E. The development and structure of the project is composed of the explanation of the factors influencing the entering in the Formula E (financial, technology, market and advertising) and analysed together to assess the viability and constraints related to these, applied to Tesla and the Formula E.

To assess the financial viability, data was obtained from Tesla Annual Reports (2014 to 2019) and an estimation for the year ending, being a listed company these were available.

Obtained from Capital IQ and contrasted with Bloomberg analysis, all the relevant data is included in Appendix (Cash Flows, Income Statements, Multiples Valuation, Market Capitalization, etc.). As said, Tesla is a listed company, the financial data includes a graph with S&P 500 as a benchmark and most relevant competitions. Tesla's stock price should vary (detailed in Financial Analysis) if they decide to enter the Formula E, as investor confidence increases. Data for factors influencing such as Market (industry) and Technology have been obtained through the research of articles, written by authors experts in the matter including information relevant for the research. These citations have an informative and descriptive intention, all analysis is done by Hugo Pasqual del Pobil, utilizing the information researched.

The rest of the data, concerning advertising has been obtained from articles (Marketing Mix analysis) and a business case provided by Banco Santander (Analysis for the entry of Formula 1) which provides a clear view of the process followed and factors taken into consideration by the financial entity.

6. ANALYSIS AND RESULTS

6.1 DATA ANALYSIS

6.1.1 PRIMARY RESEARCH ANALYSIS

The interview analysis summarizes the key points raised during the questions asked to Mr. Agag and the relevance they may have in relation to the question we are trying to ask, whether Tesla should enter the Formula E competition next season (2020-2021).

The first point is the willingness of the Formula E team to introduce Tesla into the competition. Similar competitions like Formula 1 and Rally Cross have a huge demand

to enter and it is the competition management team itself who must decline offers and accept only a small selection of car manufactures. This isn't different in Formula E, car manufactures line up to enter the competition. As Mr. Agag said, "*we would do anything to bring Tesla into Formula E*", *this interest is very important and relevant for Tesla to enter next season.*"

Another relevant point covered in the interview is related to initial and maintenance costs of a Formula E team. Today, Tesla isn't making any profits, in fact, it has never made any profit yet it has been able to survive and keep meeting the demand, which shows a great management and organization culture and experience. However, in 2021 the company is expected to make \$2.3 billion profit, this huge increase of cash for the company allows it to cover all the costs and initial investments (\$80 million approx.) and to keep up with the competition innovation and average costs.

Tesla is known for their huge degree of innovation in the power train for electric motors and technology implementation in their vehicles. If Tesla decided to step down and reject the possibility to enter the Formula E by buying a team and assuming all the related costs, an alternative would be possible for Tesla to benefit from the agreement. Mr. Agag mentioned the possibility to become a third-party supplier for electric power trains.

One of the most significant barriers of entry for Tesla is the racing expertise and management team. Tesla lacks on this, they have always produced cars with no interest in the competition, so there was no need for this kind of expertise. Some of the most successful racing teams in the world like Red Bull or McLaren have built a relationship with their racing managers that has lead them to success. This issue for Tesla is not solved

by hiring the managers, but to build relations with them and to generate trust and motivation.

Therefore, the possibility to supply power trains is very attractive. It allows Tesla to introduce itself into the competition and to generate knowledge about it and to access a new market where they can profit. Because Tesla development and innovation in the power train is not question, soon they would be able to step as their own team and compete with the other manufactures. The overall analysis of the interview is very positive. The analysis states very clear that the possibility of Tesla entering the Formula E is an agreement of both side, Tesla and Formula E. The first step has been done by the competition and it is now the turn of Tesla to ask themselves whether this possibility is the correct one and when it is the right moment to do it.

6.1.2 SECONDARY RESEARCH ANALYSIS

This chapter of the project examinees Tesla's strategy in the automobile industry. By analysis the different strategies implemented in the company we can transfer this to the Formula E competition and conclude whether they supposed an advantage or disadvantage for the possible new entrant.

“Tesla’s unconventional strategic and marketing approach could rather be referred to a high-tech company than to a traditional manufacturer. Although rapidly growing, Tesla still is a small (2015) but highly innovative company compared to other players in the car industry” (Manuel Moritz, 2015). Tesla's strategy so far has been to become very notorious and to build a strong brand image, like a technology company where products

are very similar and high differentiation is a key to become successful. They have been doing this since the beginning which has lead them to their current situation.

“Tesla has been a highly innovative company with a skilled engineering workforce. The technological know-how, however, was not only used for their own cars but also offered to other car makers (Daimler and Toyota), Tesla is the leading EV car maker concerning performance and range. Their lithium batteries have a density 3 times higher than other competitors and they cost half as high. In addition, they develop the fast charging, able to charge 50% in 20’.” (Manuel Moritz, 2015) Tesla’s is aware of the market it operates and what customers want, they invest hugely in improving their innovation to offer a better car with better performance and better range. This knowledge and culture to every day develop a better power train and better batteries is the kind of culture you can find in a Formula E team, where everything is done to improve the car and to make it faster and to last longer.

“In Michael Porter’s model, a generic competitive strategy represents the company’s approach to competing in the market. In this business analysis case of Tesla, the generic strategy reflects the company’s focus on using advanced technologies in its electric vehicles and related products, as a way of competing” (Christine Worland, 2018) As mentioned before, it is very clear Tesla’s intention is to keep as the technology leader in the electric vehicle market. I like to compare Tesla with Apple, they are very similar because of the approach to simplicity but with technological advance that attracts customers. People buy Tesla and Apple products because they are beautifully build, easy to use, technology advanced and socially accepted. These key features have lead both companies to become the leader of the sector. Tesla has a huge opportunity to become

even more technology advanced with the introduction to the Formula E and to strengthen their brand image. These two strengths can help the company continue growth and expansion to new markets.

Analysing the strategies implemented by Tesla shows how the company focuses on the product and targets its customers by differentiating their products using the latest and most advanced technology. This strategy and innovation path can be transferred successfully to the Formula E and implemented in the racing strategy. The competition involves a high demand for keeping up with latest innovations and regulations, which Tesla has proven to be very capable on their legal electric car production and development.

The Santander and Formula 1 analysis gives a clear idea of how the company advertising value is increases through the competition and the benefits translated to the company's operations (sales, brand awareness, market exposure and customer perception).

6.2 FACTORS INFLUENCING

6.2.1 FINANCIAL ANALYSIS

The financial impact both in the Formula E and Tesla are very relevant to assess the viability of the entry the future development of the team. It is important to consider that the financial factor is variable as it is affected by race performance. Winning teams have a greater opportunity to become self-sustained because sponsorship revenues increase.

To begin with Tesla, the major financial benefits obtained from the entry to the Formula E are the increase in sales, due to the increase awareness of the brand and entry into new

markets (Asia Continent). This allows Tesla to increase its margin and diversify costs through economies of scale, the higher units sold the lower costs per unit. Market capitalization is also going to experience an increase due to the better performance by the manufacturer. Future results will attract new investors and increase the valuation. Entering the competition also obliges the electric manufacturer to keep R&D of its technology to stay competitive.

The costs related to this innovation can be allocated through the company itself, as the technology is implemented to the cars, value added to the product and benefits from it. From entering the Formula E, Tesla can increase sales, reach new market and reach future customers (Target Customers), the company also is able to shift its brand image to a more competitive and performance focused. All these objectives are reached with the costs than involves being a player in the Formula E. The costs of reaching the same objectives and results through conventional methods is significantly greater, average advertising value for a single GP last season was \$6 million². Formula E counts with 411 million audience and it is expected to increase it by 24%. The advertising value to reach this amount of people annually is significantly greater through conventional methods than through the Formula E which costs the overall costs of participating in the competition.

As mentioned before, Formula E is like any other company and includes revenues and a profit. With the entry of Tesla audience will increase (Tesla enthusiasts) and because Tesla will provide a greater entertainment and competitiveness in the competition. Formula E will own Tesla image rights from which it obtains a revenue (\$20 to \$25 million annual).

² Estimation using Formula 1 advertising value for Monaco GP 2018 (2.8 bn audience)

The balance of the first 3 years is estimated at (\$32.6 million). Seen that Tesla will make benefits of \$2.3 bn in 2021, the cost compared to the increase in sales and company improvements in technology and specially the marketing benefits and brand awareness can be considered cheap, contrasted with conventional methods. The possibility of becoming self-sustained is evolved with race performance. This is because the more races won the higher revenues obtained from sponsorship. Winning enough races means the team can profit from being in the Formula E and reinvest the profit to improve and continue in the competition developing new technology, entering new markets and improving brand recognition.

Image rights from all the competition revenues are kept all by Formula E Holdings, in addition to the sponsorship, merchandising, racing Grand Prixes and premiums paid by the teams. Teams would be able to increase their revenues if this were kept private. The reason why the contract is structured this way is because the competition it very new and to grow and become more notorious Formula E uses this source of revenue to finance itself.

6.2.2 MARKET ANALYSIS AND ADVERTISING

Looking at the market opinion, it seems coherent that Tesla didn't want to spend on advertising during the first years of product life. However, as seen above, other automobile producers have spotted the demand, a bit late to be honest, and started commercializing their own electric vehicles. To keep up with competition and stay top of the market Tesla must find a way to highlight and show its value to its actual customers and future ones.

For Tesla, there are different options available now, but Elon Musk is not interested in the conventional advertising methods. Tesla's customers average age is below any other car producer and they must use that in their favour. Also, Formula E target audience matches perfectly with Tesla target customer, so they can both add to each other in increasing their awareness and attracting both audience and future customers.

All the producers above have something in common Tesla doesn't, all produce electric cars and petrol engines, on the other hand, Tesla only produces electric cars. The effect of entering the Formula E will have a different magnitude and response from the customers, as customers tend to be more loyal to electric manufactures than others.

“Overall, Tesla marketing mix is quite effective in creating value for its customers through its environmentally conscious product, free charging stations, and tax credits. However, to progress its current market offering, Tesla should invest in a small inventory of cars for test-driving, not charge customers large sums of money to test-drive its cars, and invest in more other forms of promotion than word-of-mouth and social media” (Key Lee, 2014) The author states that Tesla should look into another advertising method, this is because the market is changing and Tesla will struggle to highlight as he did before, when other manufactures were not interested in electric cars. With this shift, if Tesla wants to stay leader they will have to fight for their share. An efficient promotion method could be the Formula E and its advertising benefits. *“Formula E said the cumulative television audience had grown 24% year-on-year to more than 411 million with 72% of fans on social media aged under 35.”* (Sports News, 2019) The audience of Formula E is perfect for Tesla's target customer, specially because they are aware of the environmental impact and social responsibility.

As seen in the table comparison for US EV Manufactures, Tesla is not the biggest producer, but leads the market with sale to size units. In other words, Tesla although being smaller than other manufacturers like General Motors, leads the market in sales and market share (16%) for electric vehicles in the US. This leadership is very important for Tesla and for the Formula E, because of the brand reputation they have built.

The Formula E is disputed over the world, one of the benefits of competing is the brand awareness generated in new and emerging markets. Tesla sales are mainly segmented in EEUU and Europe. This is an opportunity to increase sales through new markets and expand the operations.

Through Formula E, manufactures can shift their brand image to a more competitive and performance focused. Tesla is known for producing very efficient and technology developed car, but it is not known by its performance, although it has proven to have huge capabilities when comparing it with other petrol engine cars. Tesla has launched a hyper car this year and if they decide to enter Formula E, their future production cars will perform better due to the technology applied. Ferrari for instance, without its presence in the Formula 1 wouldn't had achieved the brand awareness and wouldn't had become a motorsport referent in the world and specially achieved the sales they have during the last decades. For Tesla, Formula E is an opportunity to become a referent and increase the brand awareness. As Alejandro Agag said, "Tesla could become the Ferrari of the electric competition". For marketing purposes this advertising value implies a great contribution to operations and company future in the industry.

Tesla is known for using alternative promotion methods, last year they launched a Roadster to space, televised and expected by millions of people. Through Formula E, with all the track sponsorship and spectator (increasing every year) Tesla can increase the brand recognition and fight for the market share with other established car manufacturers like Audi, BMW and Mercedes.

6.2.3 TECHNOLOGY INNOVATION

Tesla is willing to revolutionize the hyper car niche market. It is also well-known that to keep up with expectations and competition you need development and there is no better place than the Formula E to invest and obtain the maximum from its technological advantages. *"BMW simultaneously introduced an electronic brake-by-wire system in its Formula E car and in its X5 and X7 SUVs and 8-Series coupe this year.* (Brett Berk, 2019)

Technology is Tesla's biggest strength; the company invests hugely in its development and implementation to their products. Analysing their technology and evolution over their models, Tesla has proven to be very risky, which had its consequences, both positive and negative. Tesla benefits from its technology with the ability to add value to their cars and company. The downsizes are in relation with the AI technology which has led to uncertainty about its applications and security. However, these constraints do not apply to the Formula E competition.

Tesla's main technology development is its power electric engine and battery system, which is considered the most technological advance in the market. As seen before, Tesla is now producing super cars able to cope and exceed speed records, this new business line

and market gives the company a new face and locates its positioning far from luxury-environmental-friendly cars. Formula E offers the possibility for Tesla to continue the development and innovation research of the electric car capabilities that can further be implemented into the new cars.

Through Formula E Tesla can increase its competitiveness, as mentioned before the electric car industry is growing and established manufacturers are starting to commercialize electric cars of their own. Using the technology developed for the competition can give Tesla a competitive advantage in the industry to continue as sales leader and increase its market share. Tesla recently developed a hyper car capable of breaking speed and track records, seems like they are willing to continue the production of hyper cars, which involves competing with Ferrari, Aston Martin, McLaren and many others who implement technology from the Formula 1 in their own cars.

Using Ferrari as an example. Ferrari is a company who has been competing in the Formula 1 for a long time, they can be considered the referent of the automobile industry. Ferrari is capable of add value to their product because of his history and the technology other manufacturers don't use in their cars (active aerodynamics, consist of aerodynamics that adapt to increase the grip in the road at high speeds). Tesla could add value to its cars by developing unique technology and write its history as the next Ferrari for the electric car industry, which is considered the future of the automobile competition and every day car use for consumers.

7. CONCLUSIONS

The conclusion structure begins with the definition of the objectives for Tesla, then the main arguments including the factors influencing described through the project and the analysis and results obtaining from these, to the contribution in the achievement of those objectives and the role of the Formula E. The structure concludes with a recommendation and opinion.

As seen in Tesla's current situation, the company is experiencing the beginning of an increase in its operations through the increase of sales and positive profits for the first time in history. This increase can be translated and proven in the recent increase in the stock market, which has lead for a higher company value and it is speculated to continue increasing. The companies' objectives are to solidify and assure itself the expansion in the next years, increasing sales (margins) and benefits. To achieve this, Tesla must find a new strategy to increase its brand awareness and to be capable to target and enter new markets. Formula E is a market which can offer the possibility to achieve its objective and many other benefits.

Through the introduction of Tesla in the Formula E, the company benefits from the huge audience and markets the competition counts with. Becoming a player and assuming the costs of it implies accessing the wide variety and options of advertising competing car manufacturers benefit from. This includes presence in new markets and target customers who's wants include electric car and sustainability, combined with performance and efficiency. Seeing Tesla's technology and market dominance in the US, the company is a perfect fit to satisfy these needs. Through the Formula E advertising channel, Tesla can

reach and transmit its message efficiently and fast, this is because the cost is significantly cheaper than through conventional methods and yet the same results.

Tesla is opting for a more competitive and performance related brand image to transmit to its customers and to the market (competition). With the introduction of its hyper-car and faster engines and powerful batteries. This brand image is also supported by the fact that Formula E requires greater innovation and development of technology which is later implemented to the manufactures cars, improving the performance and adding value.

Not all would be benefits and the perfect future. Tesla is known for being a market leader and producer of the best electric cars. Tesla could fear to lose the current perception from its customers, competing in the Formula E puts the company on the ground where it has the possibility to lose against its competitors and show the mortal side it has had always, surviving and anticipating its competitors and leading it to success. Tesla has never had benefits, but despite that, its products are perceived as the top and its management and technology capacity pioneer in the industry.

Describing the past situation, the current situation of expansion and the offer by the Formula E and its benefits, Tesla should consider the possibility to enter next season and start competing. This new market gives Tesla more strength in the automobile industry, which is changing and increasing its competition day by day, as current manufactures are developing electric car. Tesla could use this opportunity to stay ahead and anticipate what's coming, develop new technology and assure a solid financial and technological advanced position for when that competition arrives.

In addition to all the argumentation above, it is very important to mention Tesla is adding value to its company and products through the Formula E. Talking with Juan Manuel Cendoya and Enrique Geijo, vice-president and sponsorship responsible for Bank of Santander respectively, two important personalities who were in charge of Santander as a new entrant in the Formula 1, agree with my conclusion and the value added to Tesla, arguing a similar situation for Santander, with the slight difference of them being a sponsorship, but with the marketing and financial factors applying significantly. Tesla adds value firstly, because the cost of reaching new audiences and increase awareness compared to conventional methods is less, saving time and money for the company. Secondly, because being in Formula E can be considered exclusive and given the opportunity to beat its competitors and become even more valued in the automobile electric market. And lastly, because of the rigorous technological development which oblige the company to stay top of the line, which adds value to the whole company strategy.

The Formula E also benefits from Tesla as a new entrant. This is because audience increases as well as revenues. Having a new team implies revenues and an image rights contract from which only the competition benefits due to the clauses of the contract which are exclusive to Alejandro Agag. In other words, both players benefit from the entering of Tesla, reason why I believe it's about time the step is taken by both parties and it becomes a reality.

From the beginning to the end of this project my recommendation and opinion have been that Tesla should enter the Formula E. Time will decide whether Tesla becomes the next Ferrari of the future electric competition and how it will make it happen, this just started.

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9. APPENDIX

9.1 ALEJANDRO AGAG PROFILE³



Alejandro Agag Longo

Founder and CEO of Formula E (Holdings)

In 2012, Agag together with his business partner Enrique Bañuelos, a London-based real estate entrepreneur, created Formula E Holdings Ltd. After a period of negotiation, the company signed an agreement with the FIA to exclusively promote the new FIA Formula E Championship featuring racing cars powered solely by electricity. Agag's motor racing and business credentials earned him the position of CEO of Formula E.

The clean energy Championship debuting in 2014 will be held in the heart of global cities, where environmental concerns and rapid urban growth are calling for urgent clean mobility solutions. Agag sees the research and development of electric racing cars as a catalyst for the development of tomorrow's clean city cars. With over a decade of motorsports experience and years of shaping global and social issues as a politician, Agag is determined to revolutionize the world of clean mobility on the racetrack, city streets and consumer markets.

With a passion for technological innovation and a proven skill for turning things around, his biggest challenge yet will be to leave a legacy of clean mobility innovation in our 21st Century racetracks and cities.

³ Source of profile: Biography, Alejandro Agag and Formula E (Unknown Author)

9.2 JUAN MANUEL CENDOYA PROFILE⁴



Juan Manuel Cendoya Méndez de Vigo

*Vice-president, Communication, Marketing and
Studies General Manager at Banco Santander*

In 1994, entered the “Cuerpo de Abogados del Estado”. In 1999, he was announced director of the “Asesoria Juridica y Fiscal” at Bankinter. From July 2001, occupies the charge of managing director for Marketing and Communications in Banco Santander.

He is member of the Global Bank Committee and he is globally in charge or all marketing, communications, institutional relations, corporate social responsibility, study services and public policy. In 2006, he was announced vice-president of Santander Spain. In 2009, he was awarded with the Vocento Prize in Communication Trajectory. Juan Manuel Cendoya is figure of the “The 100 Influencers”, from the 100 dircoms more influential in the world.

As vice-president, he supports the president, Rodrigo Echenique, and country head, Rami Aboukhair, in the bank’s institutional relations in Spain, including the interlocution with local governments, patronal, bank and financial institution associations, communication media, tertiary sector and other collectives. His role in Banco Santander is very important as he was the responsible to develop the study for the sponsorship of the Formula 1, collaboration that has lead the image brand of Santander to improve and be known all over the world. Becoming a reference in the financial industry.

⁴ Source of profile: Expansion Financial Newspaper and Santander Profiles

9.3 INTERVIEW

to Mr. Alejandro Agag, CEO and Founder of Formula E Holdings

What inspired you to start an ambitious project such as the Formula E?

“First communication started from communications with sponsors that were in Formula 1 at the time. I spent several years working in the Formula 1 in areas such as TV rights, management and talent seeking and brokers via with sponsors. And many of those sponsors started experiencing concerns about sustainability, many of the big multinational corporations in the world were shifting their corporate social responsibility policy towards more sustainable options and basically Formula 1 was not considered as a green alternative. So out of those concerns we had to find a green option for the sponsors. The motivation was purely financial, although I always had concerns about the climate change and the environment, but the creation of a complete championship was around a business idea consideration”.

Which have been the key factors that lead Formula E to its success?

“The first one would be the electric positioning of formula E and the second one the huge amount of capital that was raised in a “Silicon Valley” way from different venture capitals and other institutions”.

What is your future vision about the Formula E? Confidential information?

“The next step is to grow on funding (Race-Day) because Formula E has been very successful on the B2B and now we need to build a great audience, the future is going to be more electric and cars will be faster and faster and to become the leading race car championship in the world”.

Do you believe Formula E is an efficient promoter of road legal electric cars?

"I think it is a great promotor, electric cars have different problems to become a mass market, price or range for example. So, Formula E brings electric cars closer to the people in the urban cities where we race, we have improved the technology of the cars, for example the distance they can last in only 4 years. We really send strong messages to people to buy electric cars".

If Tesla decided to enter the Formula E competition, which would be the process to follow, from first communications to the first race debut?

"I have been discussing this possibility with Elon Musk, I met him a year before I started the Formula E to convince him to join the championship, but Elon answered hi wanted his engineers to focus on the delivery of the production cars because we were delayed already. For Tesla to enter the Formula E they would have to buy one of the current teams, the contract with all the teams states only 24 drivers will race at once. They would have to buy a whole independent team like Audi and Nissan have done.

Do you believe Tesla is more interested now to enter the Formula E with the launch of the faster production car in the world, the Roadster?

"Definitely, they could become the Ferrari of Formula E. They are a special brand, we haven't had contact in a long time. But we would love to have Tesla in Formula E in the future. Elon Musk might not be interested in racing other production cars, he is very "my way or no way".

In matters of costs, what is the average expenditure for a team?

“Depends on how big they are and how much they want to spend in innovation, but between 15 and 25 million”.

Which are the most significant barriers of entry in Formula E?

“They must buy a team, that would have a cost of 50 million. Secondly, they must find racing experts and engineers and mechanics (extra challenge for Tesla because they have never raced before). And to develop their own power train.”

Could Tesla become a power train provider?

“They could do that by homologating the power trains with the FIA and improve their financial risk by opening new markets and opportunities.”

What are the requirements for a car producer to enter the Formula E? (minimum investment, structure, image rights).

“Me as a promoter I own all the image rights in the championship. However, they can use some image rights from the competition for their corporate advertising. We keep all the revenue, we don’t split like in Formula 1”.

What is your opinion about Tesla Inc. as a potential new entrant in the Formula E competition?

“I would love to have them, we would do anything possible to bring them in. But the other dependent is Elon Musk and I have no idea what is in his mind”.

9.4 TABLES AND GRAPHS

TABLE 1 – TESLA KEY STATS

Source: Annual Reports, Bloomberg & S&P Capital IQ

For the Fiscal Period Ending	LTM							
	12 months Dec-31- 2015A	12 months Dec-31- 2016A	12 months Dec-31- 2017A	12 months Dec-31- 2018A	12 months Sep-30- 2019A	12 months Dec-31- 2019E	12 months Dec-31- 2020E	12 months Dec-31- 2021E
	Currency in millions	USD						
Total Revenue	4.046,0	7.000,1	11.758,8	21.461,3	24.420,3	24.350,35	29.565,05	36.834,53
Growth Over Prior Year	26,5%	73,0%	68,0%	82,5%	39,4%	13,46%	21,42%	24,59%
Gross Profit	923,5	1.599,3	2.222,5	4.042,0	4.121,0	-	-	-
Margin %	22,8%	22,8%	18,9%	18,8%	16,9%	16,47%	18,71%	20,33%
EBITDA	(294,0)	301,5	29,7	1.634,9	2.178,9	2.724,62	4.072,94	6.048,96
Margin %	(7,3%)	4,3%	0,3%	7,6%	8,9%	11,19%	13,78%	16,42%
EBIT	(716,6)	(645,6)	(1.606,3)	(252,8)	152,2	(222,9)	1.093,0	2.176,59
Margin %	(17,7%)	(9,2%)	(13,7%)	(1,2%)	0,6%	-	3,70%	5,91%
Earnings from Cont. Ops.	(888,7)	(773,0)	(2.240,6)	(1.062,6)	(696,6)	-	-	-
Margin %	(22,0%)	(11,0%)	(19,1%)	(5,0%)	(2,9%)	-	-	-
Net Income	(888,7)	(674,9)	(1.961,4)	(976,1)	(827,1)	(74,61)	1.038,66	2.268,49
Margin %	(22,0%)	(9,6%)	(16,7%)	(4,5%)	(3,4%)	(0,31%)	3,51%	6,16%
Diluted EPS Excl. Extra Items³	(6,93)	(4,68)	(11,83)	(5,72)	(4,77)	(0,51)	5,4	11,5
Growth Over Prior Year	NM	NM	NM	NM	NM	-	-	113,03%

TABLE 2 – TESLA MARKET CAPITALIZATION (18/11/2019)

Source: Annual Reports, Bloomberg & S&P Capital IQ

Current Capitalization (Millions of USD)	
Currency in millions	USD
Share Price	\$349,99
Shares Out.	180,2
Market Capitalization	63.083,9
- Cash & Short Term Investments	5.338,0
+ Total Debt	14.636,0
+ Pref. Equity	-
+ Total Minority Interest	1.442,0
= Total Enterprise Value (TEV)	73.823,9
Book Value of Common Equity	6.040,0
+ Pref. Equity	-
+ Total Minority Interest	1.442,0
+ Total Debt	14.636,0
= Total Capital	22.118,0

TABLE 3 – TESLA VALUATION MULTIPLES

Source: Annual Reports, Bloomberg & S&P Capital IQ

Multiples Detail	In Millions of the reported currency, except per share items.					
For Quarter Ending		Dec-31-2018	Mar-29-2019	Jun-28-2019	Sep-30-2019	Nov-18-2019
TEV/LTM Total Revenue	Average	4,09x	3,16x	2,37x	2,18x	2,55x
	High	4,79x	4,09x	2,89x	2,58x	3,04x
	Low	3,39x	2,63x	1,94x	1,95x	2,10x
	Close	3,94x	2,79x	2,29x	2,16x	3,02x
TEV/NTM Total Revenues	Average	2,39x	2,22x	1,97x	1,98x	2,28x
	High	2,66x	2,51x	2,25x	2,18x	2,62x
	Low	2,07x	2,03x	1,64x	1,81x	1,94x
	Close	2,38x	2,17x	1,96x	2,00x	2,61x
TEV/LTM EBITDA	Average	113,66x	59,58x	30,15x	24,46x	28,01x
	High	124,37x	116,16x	37,88x	32,32x	34,06x
	Low	94,30x	34,57x	24,31x	20,87x	22,41x
	Close	112,11x	36,62x	28,70x	23,13x	33,88x
TEV/NTM EBITDA	Average	17,16x	16,29x	16,49x	17,34x	17,71x
	High	20,29x	17,72x	19,38x	18,77x	18,57x
	Low	15,04x	15,32x	13,57x	14,52x	16,97x
	Close	16,58x	18,14x	16,98x	17,55x	17,80x
TEV/LTM EBIT	Average	NM	NM	NM	156,69x	165,59x
	High	NM	NM	NM	169,97x	173,03x
	Low	NM	NM	NM	145,88x	156,64x
	Close	NM	NM	NM	161,70x	NM
TEV/NTM EBIT	Average	39,90x	48,65x	104,35x	196,86x	127,29x
	High	54,61x	61,86x	136,17x	256,80x	207,94x
	Low	33,03x	34,58x	59,88x	51,29x	61,96x
	Close	36,92x	62,04x	134,46x	205,31x	68,05x
P/LTM EPS	Average	NM	NM	NM	NM	NM
	High	NM	NM	NM	NM	NM
	Low	NM	NM	NM	NM	NM
	Close	NM	NM	NM	NM	NM
P/NTM EPS	Average	69,66x	48,61x	86,56x	204,89x	110,56x
	High	161,84x	52,44x	120,42x	289,82x	174,78x
	Low	42,34x	44,45x	47,35x	79,67x	55,75x
	Close	47,70x	52,07x	113,58x	170,96x	60,85x
P/LTM Normalized EPS	Average	NM	NM	NM	NM	NM
	High	NM	NM	NM	NM	NM
	Low	NM	NM	NM	NM	NM
	Close	NM	NM	NM	NM	NM
P/BV	Average	12,68x	10,85x	8,62x	7,74x	8,82x
	High	14,34x	13,22x	10,23x	9,81x	10,50x
	Low	10,94x	9,13x	6,75x	6,63x	7,25x
	Close	12,66x	9,81x	8,43x	7,55x	10,43x

TABLE 4 – TESLA BALANCE SHEET (END OF THE YEAR)

Source: Annual Reports, Bloomberg & S&P Capital IQ

Balance Sheet						
Currency	Balance Sheet as of:					
	Restated		Restated			
	Dec-31-2014	USD	Dec-31-2015	USD	Dec-31-2016	USD
ASSETS						
Cash And Equivalents	1.905,7	1.196,9	3.393,2	3.367,9	3.685,6	5.338,0
Total Cash & ST Investments	1.905,7	1.196,9	3.393,2	3.367,9	3.685,6	5.338,0
Accounts Receivable	226,6	169,0	499,1	515,4	949,0	1.128,0
Total Receivables	226,6	169,0	499,1	515,4	949,0	1.128,0
Inventory	953,7	1.277,8	2.067,5	2.263,5	3.113,4	3.581,0
Prepaid Exp.	76,1	108,4	194,5	268,4	365,7	660,0
Restricted Cash	17,9	22,6	105,5	155,3	192,6	233,0
Other Current Assets	-	7,3	-	-	-	-
Total Current Assets	3.180,1	2.782,0	6.259,8	6.570,5	8.306,3	10.940,0
Gross Property, Plant & Equipment	2.971,7	5.982,4	16.454,1	23.168,8	23.343,4	24.453,0
Accumulated Depreciation	(375,7)	(787,6)	(1.417,1)	(2.677,2)	(3.652,2)	(4.608,0)
Net Property, Plant & Equipment	2.596,0	5.194,7	15.036,9	20.491,6	19.691,2	19.845,0
Long-term Investments	-	-	-	5,3	12,2	1,0
Goodwill	-	-	-	60,2	68,2	186,0
Other Intangibles	-	12,8	376,1	361,5	282,5	351,0
Accounts Receivable Long-Term	-	-	506,3	456,7	421,5	398,0
Other Long-Term Assets	54,6	78,4	484,9	709,5	957,7	1.074,0
Total Assets	5.830,7	8.067,9	22.664,1	28.655,4	29.739,6	32.795,0
LIABILITIES						
Accounts Payable	777,9	916,1	1.860,3	2.390,3	3.404,5	3.468,0
Accrued Exp.	123,0	227,4	803,8	1.207,3	921,0	1.983,0
Curr. Port. of LT Debt	669,3	675,2	1.211,0	963,9	2.283,7	1.643,0
Curr. Port. of Cap. Leases	21,0	1,3	-	14,9	427,5	610,0
Curr. Income Taxes Payable	71,2	101,2	152,9	185,8	348,7	-
Unearned Revenue, Current	191,7	424,0	763,1	1.015,3	630,3	1.045,0
Other Current Liabilities	311,2	513,1	1.044,7	1.897,3	1.976,6	1.397,0
Total Current Liabilities	2.165,4	2.858,3	5.835,8	7.674,7	9.992,1	10.146,0
Long-Term Debt	1.818,8	2.021,1	6.053,9	9.486,2	8.460,9	10.138,0
Capital Leases	31,4	201,4	1.323,3	1.665,8	2.655,2	2.245,0
Unearned Revenue, Non-Current	292,3	446,1	851,8	1.177,8	990,9	1.140,0
Other Non-Current Liabilities	611,1	1.457,3	2.694,2	3.018,5	1.326,9	1.644,0
Total Liabilities	4.919,0	6.984,2	16.759,0	23.023,1	23.426,0	25.313,0
Common Stock	0,1	0,1	0,2	0,2	0,2	-
Additional Paid In Capital	2.345,3	3.409,5	7.773,7	9.178,0	10.249,1	12.348,0
Retained Earnings	(1.433,7)	(2.322,3)	(2.997,2)	(4.974,3)	(5.317,8)	(6.188,0)
Treasury Stock	-	-	-	-	-	-
Comprehensive Inc. and Other	0	(3,6)	(23,7)	33,3	(8,2)	(120,0)
Total Common Equity	911,7	1.083,7	4.752,9	4.237,2	4.923,2	6.040,0
Minority Interest	-	-	1.152,2	1.395,1	1.390,4	1.442,0
Total Equity	911,7	1.083,7	5.905,1	5.632,3	6.313,6	7.482,0
Total Liabilities And Equity	5.830,7	8.067,9	22.664,1	28.655,4	29.739,6	32.795,0

TABLE 5 – TESLA INCOME STATEMENT

Source: Annual Reports, Bloomberg & S&P Capital IQ

Income Statement							
For the Fiscal Period Ending	Reclassified						LTM Sep-30-2019
	12 months Dec-31-2014	12 months Dec-31-2015	12 months Dec-31-2016	12 months Dec-31-2017	12 months Dec-31-2018	12 months Sep-30-2019	
Currency in millions	USD	USD	USD	USD	USD	USD	USD
Revenue	3.198,4	4.046,0	7.000,1	11.758,8	21.461,3	24.420,3	
Other Revenue	-	-	-	-	-	-	
Total Revenue	3.198,4	4.046,0	7.000,1	11.758,8	21.461,3	24.420,3	
Cost Of Goods Sold	2.316,7	3.122,5	5.400,9	9.536,3	17.419,2	20.299,2	
Gross Profit	881,7	923,5	1.599,3	2.222,5	4.042,0	4.121,0	
Selling General & Admin Exp.	603,7	922,2	1.410,5	2.450,7	2.834,5	2.614,5	
R & D Exp.	464,7	717,9	834,4	1.378,1	1.460,4	1.354,4	
Depreciation & Amort.	-	-	-	-	-	-	
Other Operating Expense/(Income)	-	-	-	-	-	-	
Other Operating Exp., Total	1.068,4	1.640,1	2.244,9	3.828,8	4.294,9	3.968,9	
Operating Income	(186,7)	(716,6)	(645,6)	(1.606,3)	(252,8)	152,2	
Interest Expense	(100,9)	(118,9)	(191,8)	(477,1)	(653,2)	(748,2)	
Interest and Invest. Income	1,1	1,5	8,5	19,7	24,5	41,5	
Net Interest Exp.	(99,8)	(117,3)	(183,3)	(457,5)	(628,7)	(706,7)	
Currency Exchange Gains (Loss)	2,0	(45,6)	26,1	(52,3)	1,5	96,5	
Other Non-Operating Inc. (Exp.)	(0,2)	3,9	(10,6)	(9,4)	10,5	17,5	
EBT Excl. Unusual Items	(284,6)	(875,6)	(813,4)	(2.125,5)	(869,5)	(440,5)	
Restructuring Charges	-	-	-	-	(91,8)	(114,8)	
Merger & Related Restruct. Charges	-	-	(21,7)	-	-	-	
Impairment of Goodwill	-	-	88,7	(57,7)	-	-	
Asset Writedown	-	-	-	-	(13,3)	(0,3)	
In Process R & D Exp.	-	-	-	-	-	(47,0)	
Legal Settlements	-	-	-	-	(30,1)	(4,1)	
Other Unusual Items	-	-	-	(25,8)	-	-	
EBT Incl. Unusual Items	(284,6)	(875,6)	(746,3)	(2.209,0)	(1.004,7)	(606,7)	
Income Tax Expense	9,4	13,0	26,7	31,5	57,8	89,8	
Earnings from Cont. Ops.	(294,0)	(888,7)	(773,0)	(2.240,6)	(1.062,6)	(696,6)	
Earnings of Discontinued Ops.	-	-	-	-	-	-	
Extraord. Item & Account. Change	-	-	-	-	-	-	
Net Income to Company	(294,0)	(888,7)	(773,0)	(2.240,6)	(1.062,6)	(696,6)	
Minority Int. in Earnings	-	-	98,1	279,2	86,5	(130,5)	
Net Income	(294,0)	(888,7)	(674,9)	(1.961,4)	(976,1)	(827,1)	

TABLE 6 – TESLA CASH FLOW

Source: Annual Reports, Bloomberg & S&P Capital IQ

Cash Flow						
For the Fiscal Period Ending	12 months	12 months	Restated	Restated	12 months	LTM
	Dec-31-2014	Dec-31-2015	Dec-31-USD	Dec-31-USD	Dec-31-2018	Sep-30-USD
	Currency	USD	USD	USD	USD	USD
Net Income	(294,0)	(888,7)	(674,9)	(1.961,4)	(976,1)	(827,1)
Depreciation & Amort.	231,9	422,6	947,1	1.636,0	1.887,8	2.026,8
Depreciation & Amort., Total	231,9	422,6	947,1	1.636,0	1.887,8	2.026,8
Other Amortization	69,7	78,1	94,7	91,0	158,7	175,7
(Gain) Loss From Sale Of Assets	14,2	37,7	34,6	105,8	161,4	97,4
Asset Writedown & Restructuring Costs	-	-	(88,7)	57,7	13,3	47,3
Stock-Based Compensation	156,5	198,0	334,2	466,8	749,0	822,0
Other Operating Activities	21,2	121,1	(77,0)	40,0	45,8	253,8
Change in Acc. Receivable	(183,7)	46,3	(216,6)	(24,6)	(496,7)	39,3
Change In Inventories	(1.050,3)	(369,4)	(632,9)	(178,9)	(1.023,3)	(397,3)
Change in Acc. Payable	414,9	263,3	750,6	388,2	1.722,9	236,9
Change in Unearned Rev.	209,7	322,2	383,0	468,9	406,7	747,7
Change in Other Net Operating Assets	352,6	(755,7)	(978,0)	(1.150,2)	(551,6)	(1.007,6)
Cash from Ops.	(57,3)	(524,5)	(123,8)	(60,7)	2.097,8	2.214,8
Capital Expenditure	(969,9)	(1.634,9)	(1.440,5)	(4.081,4)	(2.319,5)	(1.337,5)
Cash Acquisitions	-	(12,3)	342,7	(114,5)	(17,9)	(55,9)
Divestitures	-	-	-	-	-	-
Sale (Purchase) of Intangible assets	-	-	-	-	-	(5,0)
Invest. in Marketable & Equity Securt.	(16,7)	-	16,7	-	-	-
Net (Inc.) Dec. in Loans Originated/Sold	-	-	-	-	-	-
Other Investing Activities	(3,8)	(26,4)	-	-	-	-
Cash from Investing	(990,4)	(1.673,6)	(1.081,1)	(4.195,9)	(2.337,4)	(1.398,4)
Short Term Debt Issued	-	-	-	-	-	-
Long-Term Debt Issued	2.303,3	887,7	3.622,7	7.649,4	6.176,2	-
Total Debt Issued	2.303,3	887,7	3.622,7	7.649,4	6.176,2	9.348,2
Short Term Debt Repaid	-	-	-	-	-	-
Long-Term Debt Repaid	(11,2)	(203,8)	(1.904,5)	(4.263,8)	(6.087,0)	-
Total Debt Repaid	(11,2)	(203,8)	(1.904,5)	(4.263,8)	(6.087,0)	(8.553,0)
Issuance of Common Stock	100,5	856,6	1.865,6	659,3	295,7	1.090,7
Total Dividends Paid	-	-	-	-	-	-
Special Dividend Paid	-	-	-	-	-	-
Other Financing Activities	(249,4)	(17,0)	160,2	370,0	188,9	(390,1)
Cash from Financing	2.143,1	1.523,5	3.744,0	4.414,9	573,8	1.495,8
Foreign Exchange Rate Adj.	(35,5)	(34,3)	(6,6)	39,7	(22,7)	(9,7)
Net Change in Cash	1.059,8	(708,8)	2.532,5	198,1	311,4	2.302,4

TABLE 7 – RETURNS AND RATIOS

Source: Annual Reports, Bloomberg & S&P Capital IQ

Ratios		LTM					
For the Fiscal Period Ending		12 months Dec-31-2014	12 months Dec-31-2015	12 months Dec-31-2016	12 months Dec-31-2017	12 months Dec-31-2018	12 months Sep-30-2019
Profitability							
Return on Assets %		(2,8%)	(6,4%)	(2,6%)	(3,9%)	(0,5%)	0,3%
Return on Capital %		(4,9%)	(12,0%)	(4,4%)	(6,2%)	(0,8%)	0,5%
Return on Equity %		(37,2%)	(89,1%)	(22,1%)	(38,8%)	(17,8%)	(10,4%)
Return on Common Equity %		(37,2%)	(89,1%)	(23,1%)	(43,6%)	(21,3%)	(15,8%)
Margin Analysis							
Gross Margin %		27,6%	22,8%	22,8%	18,9%	18,8%	16,9%
SG&A Margin %		18,9%	22,8%	20,1%	20,8%	13,2%	10,7%
EBITDA Margin %		1,4%	(7,3%)	4,3%	0,3%	7,6%	8,9%
EBITA Margin %		(5,8%)	(17,7%)	(9,2%)	(13,7%)	(1,2%)	0,6%
EBIT Margin %		(5,8%)	(17,7%)	(9,2%)	(13,7%)	(1,2%)	0,6%
Earnings from Cont. Ops Margin %		(9,2%)	(22,0%)	(11,0%)	(19,1%)	(5,0%)	(2,9%)
Net Income Margin %		(9,2%)	(22,0%)	(9,6%)	(16,7%)	(4,5%)	(3,4%)
Net Income Avail. for Common Margin %		(9,2%)	(22,0%)	(9,6%)	(16,7%)	(4,5%)	(3,4%)
Normalized Net Income Margin %		(5,6%)	(13,5%)	(5,9%)	(8,9%)	(2,1%)	(1,7%)
Levered Free Cash Flow Margin %		(23,1%)	(26,3%)	8,2%	(12,4%)	(4,3%)	4,1%
Unlevered Free Cash Flow Margin %		(23,3%)	(26,4%)	8,6%	(10,6%)	(3,1%)	5,3%
Asset Turnover							
Total Asset Turnover		0,8x	0,6x	0,5x	0,5x	0,7x	0,8x
Fixed Asset Turnover		1,7x	1,0x	0,7x	0,7x	1,1x	1,2x
Accounts Receivable Turnover		23,2x	20,5x	21,0x	23,2x	29,3x	21,4x
Inventory Turnover		3,6x	2,8x	3,2x	4,4x	6,5x	5,9x
Short Term Liquidity							
Current Ratio		1,5x	1,0x	1,1x	0,9x	0,8x	1,1x
Quick Ratio		1,0x	0,5x	0,7x	0,5x	0,5x	0,6x
Cash from Ops. to Curr. Liab.		NM	NM	NM	NM	0,2x	0,2x
Avg. Days Sales Out.		15,7	17,8	17,5	15,7	12,5	17,1
Avg. Days Inventory Out.		101,9	130,4	113,3	82,9	56,3	62,0
Avg. Days Payable Out.		67,4	89,7	82,1	79,7	57,9	62,7
Avg. Cash Conversion Cycle		50,3	58,6	48,7	18,9	10,9	16,4
Long Term Solvency							
Total Debt/Equity		278,7%	267,5%	145,4%	215,4%	219,0%	195,6%
Total Debt/Capital		73,6%	72,8%	59,3%	68,3%	68,7%	66,2%
LT Debt/Equity		202,9%	205,1%	124,9%	198,0%	176,1%	165,5%
LT Debt/Capital		53,6%	55,8%	50,9%	62,8%	55,2%	56,0%
Total Liabilities/Total Assets		84,4%	86,6%	73,9%	80,3%	78,8%	77,2%

GRAPH 1 – TESLA STOCK PRICE COMPARISON

Source: Bloomberg & S&P Capital IQ



F: Ford Motors Inc.

GM: General Motors Inc.

SPX: Standard and Poor 500 Index

TSLA: Tesla Motors Inc.