



WeAdvise Capital – Volkswagen AG: Valuation and Strategic Review

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Team Introduction



Nima Jeyrani

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Nima is in his final year at the University of Ottawa with a specialization in Finance. Over the past summer, he worked as a Analyst at HEXO in the Corporate Development team. He is also the leader of the student run investment fund at the Telfer School of Management. In his free time, Nima enjoys skiing, swimming and travel.

Education

- University of Ottawa
(Bachelor, 4th Year Finance)

Key Experiences

- HEXO, Corporate Development
 - EDC, Student Analyst
- Telfer Capital Fund (PML)



Jonathan Khov

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Jonathan is a fourth year finance student from the University of Ottawa. He previously completed a consulting internship at Deloitte in their Strategy & Operations practice and another internship at a search fund in Toronto. During his free time, he enjoys playing soccer, longboarding, and going hiking.

Education

- University of Ottawa
(Bachelor, 4th Year Finance)

Key Experiences

- Spruce Grove Capital Summer Analyst
- Deloitte S&O Consultant Intern
 - Telfer Capital Fund (PML)



Jack Lau

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Ottawa, Canada

Jack is in his final year at the University of Ottawa. He has previously completed a quantitative research analyst internship with Quandl and looks forward to joining Quandl to exploit alpha. During his free time, he enjoys poker, trading options, machine learning, and volunteering.

Education

- University of Ottawa
(Bachelor, 4th Year Finance)

Key Experiences

- Quandl, Quantitative Research Analyst
- Trading Central, Equity Analyst
 - Telfer Capital Fund (PM)



Julia Magahey

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Ottawa, Canada

Julia is in her third year at the University of Ottawa. Over the summer joined the Telfer Capital Fund, as student run investment fund. She recently joined as an analyst Mountain Hut Succession. In her spare time Julia enjoys teaching ridding lessons as well as training for her first marathon.

Education

- University of Ottawa
(Bachelor, 3rd Year Finance)

Key Experiences

- Mountain Hut Succession Search Fund, Analyst
 - Telfer Capital Fund (Analyst)

Executive Summary (Volkswagen Group)

Volkswagen is well-positioned to pursue M&A, joint venture agreements or spin-offs to advance its strategic and operational objectives while benefiting shareholders.

1

Strategic Benefit

- Build on the vision and goals of an all-electric future by 2026.
- Expand use of technology in preparation of an autonomous future.
- Improve public outlook of Volkswagen from the 2015 emission scandal.

2

Operational Benefit

- Reduce costs through expansion into growing economies with lower costs of labour.
- Realize synergies to bring below-industry multiples in line with peers.
- Capture significant global demand for electric vehicles.

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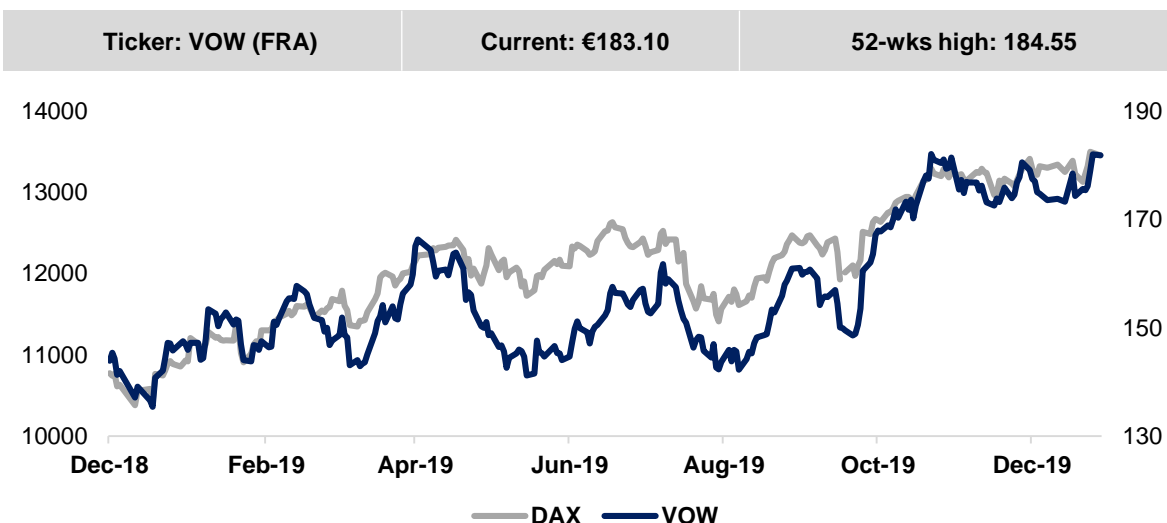
Financial Benefit

- Grow valuation and competitive position to pre-scandal levels.
- Enhance shareholder value through spin-off of a premium brand.
- ESG investors and funds will act favorably to industry leading electrification.

Company Overview

Company Highlights

- **Volkswagen Group** is a multinational auto-manufacturer, with headquarters in Wolfsburg Germany, its comprised of two main operating segments: automotive and financial services.
- **Brand Presence:** Having 12 strong brands within its portfolio, Volkswagen appeals to a diverse customer base, with the most notable being: Audi, Porsche and VW passenger cars.
- **Strategy:** In efforts to reduce environmental impact and in line with market trends Volkswagen is dedicated to transforming its ICE to Electric (PEV, BEV) models, as well as integrating artificial intelligence and autonomy into its coming models.
- **Recent Activity/Transactions:** Recent partial IPO of Traton, to shift focus to lightweight vehicles. Strategic partnerships with Northvolt and Ganfeng to solidify raw material requirements and a partnership with Microsoft to create and launch the Automotive Cloud.
- **Geographic Representation:** Volkswagen has been able to capitalize growth opportunities and is well position to continue to benefit from the automotive growth in China and through JV's.



Segment Breakdown

Key Brands	Revenue Contribution	EBIT Margin
VW Passenger	35%.	3.8%
Audi	24%	7.9%
Skoda	7%	8.0%
Seat	4%	2.5%
Bentley	1%	-
Porsche	10%	17.4%
VW Commercial	5%	6.6%
Man/	6%	3.3%
Scania	5%	10.1%
Financial Services	14%	8.0%

Key Valuation Statistics (€ 2018)

Enterprise Value	€53.8B	Market Cap	€92.3B
EV/EBITDA	1.9x	PE	6.4x
EBIT	17.3B	EBITDA Margin	15.4%
Cap Ex	~5.8%	Net Debt / Group EBITDA	1.8x
Cash	€28.9B	Total Debt	€101.1B

Business Model & Positioning

Revenue Breakdown

Segment (€m)	Total Revenue	% Total	Op Income	Cap Ex
Passenger Vehicle	€171.0	72.6%	€12.2	€15.6
Commercial Vehicle	€29.4	12.5%	€2.0	€2.5
Power Engineering	€3.6	1.5%	€-0.1	€0.2
Financial Services	€31.6	13.4%	€2.8	€0.5

- Automobile sales drive the largest portion of Volkswagen's revenue; with the majority of the revenue attributed to its mass market brands: Volkswagen and Audi.
- Financial service's revenue is mainly through recurring payments on leases and customer financing.
 - An additional 6% of revenue then comes secondary market after the leases expire and vehicles are sold used.
- Strategic partnerships and consistent successful identification of growth opportunities allow Volkswagen to leverage its brand and penetrate new geographic markets.
 - As a result of the EV boom in China, Volkswagen has established several JVs.
- Efficient delivery service has allowed is critical to strong vehicle sales, having 122 factories and 89 retailers world wide allows Volkswagen to ensure fast delivery time.

Competitive Advantages

1

Brand Association: "The People's Car";

- Known for affordable dependability and innovation, the premium in German manufacturing applied across all brands in the portfolio.
- Breadth of products; 12 brands, twice as many as the next leading (FCA with 6).

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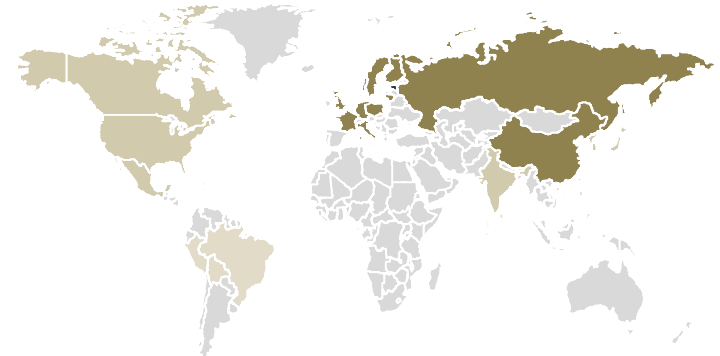
Scale:

- Standardization of their modular bases limits production complexity and allowing cross brand synergies and spreading costs.

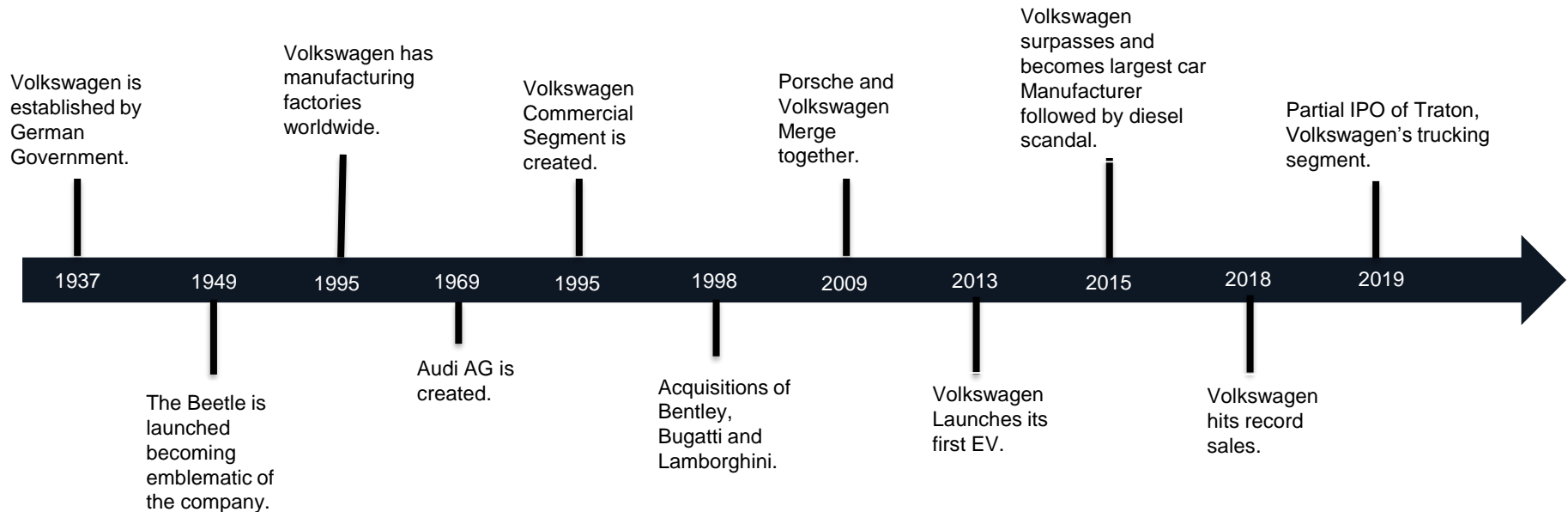
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Global and Demographic Reach:

- Volkswagen sells its vehicles in 122 countries and reaches a variety of economic demographics from minimal income to exotic and elite.



Key Historic Timeline



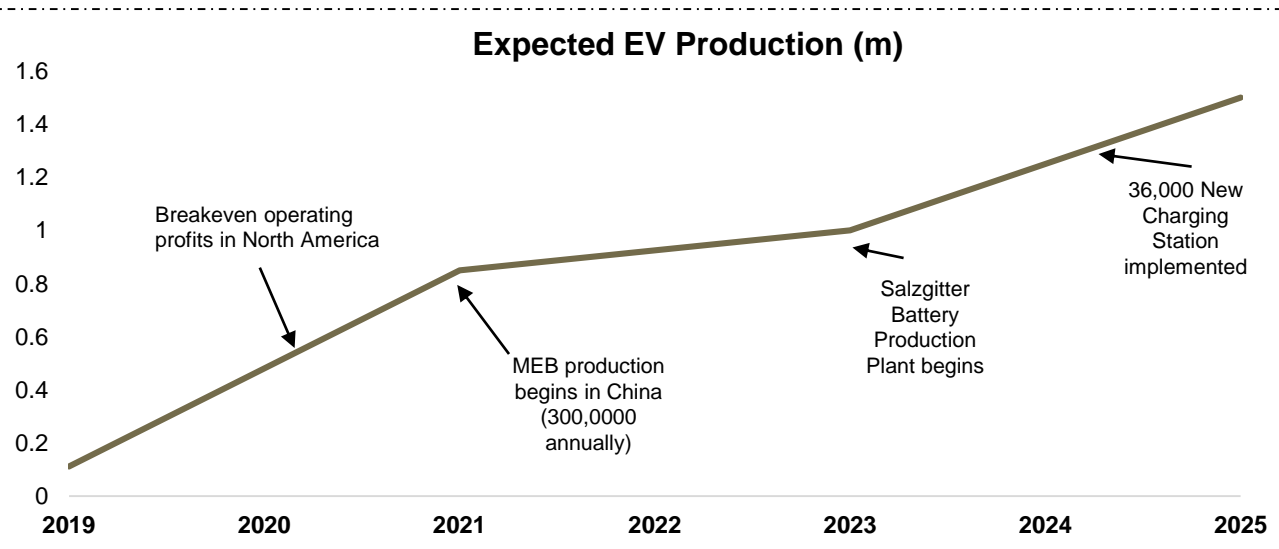
Impacts of Events

- Early on Volkswagen was able to establish a reputation as a dependable vehicle with efficient and innovative processes. This is where its main competitive advantages began: brand power and scale.
- Strategic factory planning allowed the company to penetrate local markets & expand its global reach to virtually every country.
- Acquisitions of Audi, Bentley, Bugatti and Lamborghini broaden Volkswagen's portfolio to now encompass mass market to luxury and exotic vehicle segments. Differentiating itself through establishing performance features such as acceleration and handling, as desirable traits.
- Porsche becomes the first "everyday driveable" luxury performance vehicle, and renowned worldwide. Additionally, merging allowed more cost saving opportunities.
- The launch of the eGolf! was Volkswagen's first venture into electric vehicles.
- While the Diesel Scandal severely tarnished Volkswagen's reputation, it also established the demand for clean diesel high efficiency vehicles and was a catalyst into developing cleaner technologies.

Strategic Plan

Strategic Goals

- **Transformation of the core automotive business:** Restructuring of portfolio to allow for clearer brand identification, optimal positioning and product mix.
 - Streamline portfolio to focus on fewer and higher margin models.
 - Target battery and autonomous driving technologies while slowly phasing out ICE engines.
- **Mobility Solution Expansion:** Mainly through strategic partnerships expand further into connectivity and mobility.
- **Establish digital networks to link information globally:**
 - Implement subscription services and tailor options for customer preferences.
- **Cost Minimization:** Ensure solvency and safe guard the financial structure during its restructuring.
 - Enhancing efficiencies along the supply chain: standardization, increase factory utilization.
 - Cutting redundant costs and excess jobs.
 - Implementation of the MEB base.
- **Improve Customer Satisfaction:** Increase both the customer loyalty rate as well as conquest rate.



Financial Goals

Automotive Segment	2015	2025 Goal
Op Return on Sales	6.0%	7-8%
Auto R&D	7.4%	6%
CapEx/Sales	6.9%	6%
Net Cash Flow	8,887(€m)	>10(€m)
Payout Ratio	-	30%
Auto ROI	-0.2%	>15%

Sustainability Goals

Carbon Neutral: This is expected to be achieved by 2050.







- Reduction in overall emissions largely attributable to ICE to EV conversion
- Offsetting Carbon Capture initiatives for the emissions that cannot be eliminated.
- Responsible and resourceful manufacturing materials.

Production Loop: Aim for vehicles to be 85% recyclable and 95% recoverable.

- Responsible sourcing of raw materials and transparency along supply chain.




Key Brand

Business Model

	FY18 Revenues / EBIT	Strategy	Models	Geography (%)
	84,585 / 3,239	<ul style="list-style-type: none"> Brand: "People's car." Intersection of luxury and mass market cars, with the large portfolio appealing to the widest demographic. Strategy: Strong focus on making vehicle electrification available and appealing to the broad market by implementation of the MEB battery structure and newest launch of the ID. Car Family. 	Tiguan, Polo, Golf, Jetta, Passat, up!, Toureg, Beetle, Fox, Bora, Lavida, Santana	<ul style="list-style-type: none"> North America (53) Europe/ Other (30.6) South America (7.6) Asia Pacific (7)
	59,248 / 4,705	<ul style="list-style-type: none"> Brand: Associated with luxury and sport, Audi is appeals to a large target market, looking for a high performance car. Strategy: Heavy focus on sustainability and repairing reputation by becoming a dominant player in the electric vehicle space, aiming for a 30% reduction in CO2 footprint by 2025 with a current portfolio of 30 electrified models. Lamborghini: Innovation of smart factory technologies to streamline production. 	A Series, Q Series, TT, e-tron, R8 Urus, Huracan, Aventador	<ul style="list-style-type: none"> North America (15.2) Europe/ Other (43.0) South America (1.0) Asia Pacific (40.7)
	23,668 / 4,110	<ul style="list-style-type: none"> Brand: Renown high performance sports cars and SUVs, displaying consistent yearly growth and high price point with a recent launch of its premier electric model: the Taycan EV. Strategy: Continuous improvement in converting its everyday ICE engines to electric, with aggressive target of ensuring half of its deliveries by 2025 are electrified. 	Macan, Cayenne, 911, Panamera, 718 Boxster	<ul style="list-style-type: none"> North America (26.4) Europe/ Other (32.8) South America (1.1) Asia Pacific (39.7)
	17,293 / 1,377	<ul style="list-style-type: none"> Brand: Over 120 year old, operating mainly in Czech it contributes to 8% of the country's total exports and the Skoda is built on sturdy and reliant family vehicles. Strategy: Shifting into digitalization and autonomous driving is the crux of many company initiatives while increasing differentiation between European brands by focusing more on functionality than luxury. 	Octavia, Rapid, Fabia, Karoq, Superb, Citigo	<ul style="list-style-type: none"> North America (0) Europe/ Other (70.2) South America (0.1) Asia Pacific (29.7)
	10,202/ 254	<ul style="list-style-type: none"> Brand: Attractive to the youngest first time European consumer base. Strategy: Enrolling the production of SEAT into China JVs, while simultaneously pushing the models upmarket. El-Born is SEAT's first electric vehicle expected to hit production lines late 2020. 	Leon, Ibiza, Arona, Ateca, Alhambra, Mii, Toledo, Tarraco	<ul style="list-style-type: none"> North America (4.5) Europe/ Other (95.3) South America (0.2) Asia Pacific (0.1)
	1,548/ -	<ul style="list-style-type: none"> Brand: Premium luxury brand, strong association of affluence. Strategy: Launched the world's first luxury hybrid vehicle (Bentayga Hybrid) with a goal to have 100% electrification of the entire fleet by 2025. Additional focus on ensuring materials are responsibly sourced. 	Continental, Flying Spur, Bentayga, Mulsanne	<ul style="list-style-type: none"> North America (21.2) Europe/ Other (46.1) South America (0.1) Asia Pacific (32.6)

Commercial Key Brands

In addition to passenger vehicles, Volkswagen derives revenue from its commercial segment as well as through the financial services offerings.

Business Model				
	FY18 Revenues / EBITDA	Strategy	Models	Geography %
	11,875 / 780	<ul style="list-style-type: none"> <u>Brand</u>: Leading manufacturing in lightweight commercial vehicles. <u>Strategy</u>: Alter the way in which goods are being shipped, by focusing on extending the battery ranges and charges by implementing the MEB modules. Development in the autonomous driving space with the ID. Buzz Cargo concept car able to navigate urban traffic. 	<ul style="list-style-type: none"> Caravelle, Caddy, Amarok, Transporter, Crafter 	<ul style="list-style-type: none"> North America (1.9) South America (8.9) Europe/ Other Markets (83.8) Asia Pacific (5.4)
	13,360 / 1346	<ul style="list-style-type: none"> <u>Brand</u>: Leader in green transport technologies for a several different end markets: trucks, busses, and marine engines. Additionally has a financial services business. <u>Strategy</u>: Strong focus on developing alternative fuels (HVO) to ensure climate goals are met while also launching the Scania Zone which allows traffic updates so drivers are able to find the most efficient route. 	<ul style="list-style-type: none"> Trucks, Buses, Coaches 	<ul style="list-style-type: none"> North America (0.8) South America (15.3) Europe/Other (74.0) Asia Pacific (9.9)
	15,712 / 525	<ul style="list-style-type: none"> <u>Brand</u>: Composed of the commercial vehicles and power engineering segments where environmentally friendly distribution trucks <u>Strategy</u>: Focus on cross company efficiency, by streamlining the product portfolio and limit costs in production network. Potential divestiture of the Man Energy Solutions Unit. 	<ul style="list-style-type: none"> Trucks, Buses, Light Commercial Vehicles 	<ul style="list-style-type: none"> North America (2.0) South America (24.4) Europe/ Other (69.3) Asia-Pacific (4.5)
Financial Services	32,764 / 2612	<ul style="list-style-type: none"> <u>Brand</u>: Ensuring all customer needs and requirements are met in a convenient way by offering customers end-to-end services. <u>Strategy</u>: In addition to enhancing customer financing options, financial services is focusing on expanding into the digitalization space, cloud and subscription services. While also continued marketing of its new app TraviPay. 	<ul style="list-style-type: none"> Leasing, financing, insurance, fleet management. 	

Industry – Overview

Industry Overview

Global Industry Characteristics

Total Debt/EBITDA	4.7x
EBITDA margin	11.3%
EV/EBITDA	8.8x
EBIT/Net Interest	1.1x
Market share held by 5 majors	43.1%

Global Industry Size

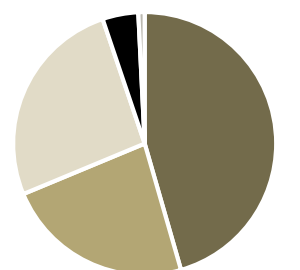
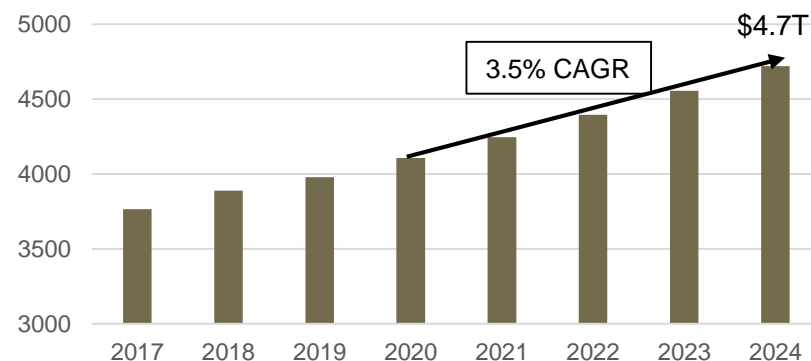
Total revenues 2019	\$3.97B
Forecasted 5-year revenue growth	3.5%

Key Industry Themes

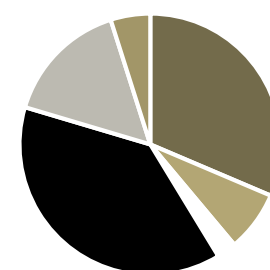
- **Electrification:** – Companies continue to invest in the electrification of automobiles with the current EV market share occupying 1.8% of the total market and expected CAGR of 12.31% to 2024.
- **Advancing Technology:** – The emergence of technology as an expected feature for customers has pushed automakers to invest a projected \$82B throughout 2020 across new vehicle features.
- **Automation:** - Automakers are focused on cutting costs as they push to automate additional elements of the production process due to the simpler assembly lines associated with electronic vehicles.
- **Regulation:** – Emission regulations across all geographies are forcing automakers to find creative cost cutting measures in addition to ramping up the deployment of hybrid and fully electric vehicles.

Key Industry Themes

Global Automotive Revenues



- Asia Pacific
- Europe
- North America
- Latin America
- Africa & Middle East

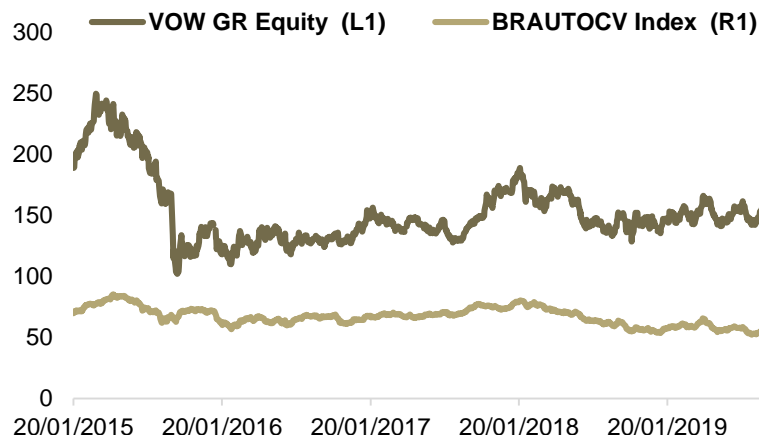


- Passenger Cars
- Sports utility vehicles
- Medium and heavy trucks
- Crossover utility vehicles
- Pickup trucks
- Other

Industry – Recent Performance

Automaker performance over the past five years has stalled as trade tensions, regulations, and slower sales in developing markets are unable to offset the softening market sales in developed regions

Global Automotive Index vs Volkswagen



Softening Demand

- Sales in China, the world's largest auto market, have declined due to weakening economic growth for 18 consecutive months with posted vehicle deliveries at 25.9m and concerns over stagnant deliveries.
- The emergence of ridesharing services and shifting consumer mobility behaviors have decreased the need for personal vehicle use and dampened overall demand for cars.
- Decreasing freight transport demand will correspondingly result in softening demand for new commercial fleets.
- Protectionist measures caused increases in new vehicle prices and high stock for unsold inventories have forced automakers into discounting older models.

Geographic Demand

- **Europe:** – Demand for vehicles has been declining as a result of consumer purchasing patterns in addition to a highly competitive market which has forced automakers to keep prices down.
- **North America:** – Demand for overall vehicles has remained relatively flat with the overall decrease in demand for traditional passenger vehicles (-3.5%) being offset by increases in light commercial vehicle sales (8.1%) throughout 2018.
- **Asia Pacific:** – Market growth in Asia has contracted due to the weakening passenger car market (-4.6%) with average expected growth of 6% between 2012 and 2020. The added effects of trade disputes has significantly weighed down car sales in China which have declined 12% over the past year.
- **Latin America:** – Brazilian market was the core driver at 13.8% growth in 2018 while the rest of the region suffered from falling unit exports primarily being driven by the falling demand in Argentina as a result of the macroeconomic deterioration.

Margin Compression

- Impact of trade tensions have increased raw material costs and the overall costs throughout vertical integration for OEMs which has put pressure on margins.
- Vehicle pricing has stayed flat in real terms and OEMs adapted by focusing on annual cost improvements between 3-4%, yet the emissions and safety controls will add further costs per vehicle and causing margin compression.
- Increasing production complexity to satisfy derivatives for vehicle models is adding additional costs per vehicle and limits the ability for OEMs to produce higher volumes on fewer derivative models.

Industry – Market Segments

Emerging market demand, shifting consumer mobility preferences alongside increasing environmental regulations are dictating the future growth outlook for each market segment.

Auto Industry Segments

Passenger Cars

- **Compact Vehicles:** Compact vehicles sales have been growing in emerging markets given their affordability and more demand for passenger cars amongst the middle class.
- **Mid-Sized Vehicles:** Developed markets are expected to continue to push mid-sized vehicles for family purposes and competition will heat up in this market as many EVs will be introduced within this segment.
- **Luxury Vehicles:** Looser access to credit and consistent demand for luxury vehicles through electrification represents 17.5% of the passenger market with expectations to continue growing in the future.
- **Large Sedans:** Rising income levels across global markets and consumer preference for larger vehicles have caused demand for this segment to grow fastest within the North American market.

Commercial Vehicles

- **Pick-up Trucks:** Accounts for 15% of global car and automobile revenues with expectations to grow faster than other smaller product segments due to multi-purpose nature and a push from automakers to appeal to different demographics.
- **Light Commercial Vehicles:** Demand for light commercial vehicles is directly tied to freight tonnage which has risen over the past 5 years, however recent slowdowns in trading volumes may slowdown future demand.
- **Buses:** The industry has lost product share leading for the five years leading up to 2020 and is exacerbated by consumer demand for passenger vehicles as the global countries have limited orders for buses.
- **Heavy Trucks:** Vehicle production costs are being affected by increasing raw material prices thus squeezing margin on sales. Oil prices and volatile economic environment are restraining fleet owners to purchase additional trucks.

Power Engineering

- **Marine Market:** Demand is dictated by merchant shipping and passenger vessels with the outlook remaining relatively flat for 2018 and in the near future as macroeconomic factors have dampened new deliveries and customers undergo increased environmental scrutiny.
- **Power Generation:** A slight upward trend is anticipated as prices for turbomachinery are expected to increase in core customer sales markets, yet the existing overcapacity and introduction of renewable energy sources may impact growth for power generation.

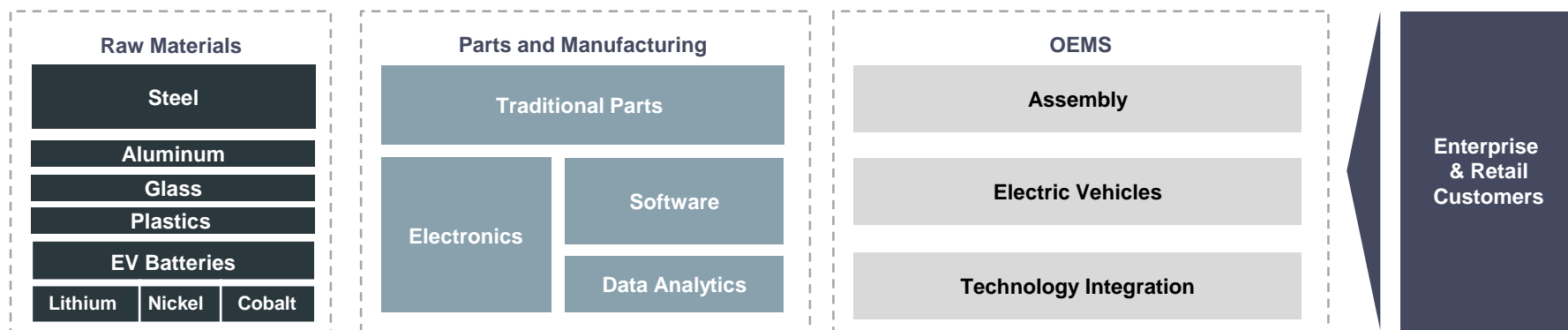
Financial Services

- **Passenger Vehicles:** Emerging markets will continue to seek financial services where market penetration has been low, while established markets will prioritize upselling integrated service products such as insurance and maintenance packages.
- **Commercial Vehicles:** Customers require the support of financial services providers to optimize mobility management beyond their fleet management services and demand in emerging markets is anticipated to rise as financial solutions are essential to vehicles sales.

Industry – Future Value Chain

The automotive value chain will drastically change over the next several years as companies adopt new strategies to remain competitive within an increasingly innovation-driven environment.

Automotive Supply Chain



- Raw material prices have risen for the production of vehicles which are absorbed by suppliers and OEMs.
- Components of EV batteries demand has drastically risen, causing pricing for lithium, nickel, cobalt and other precious metals to rise and increases production costs.
- EV battery production dominated by players in China, Japan and Korea will need to satisfy growing demand.
- Suppliers will expand with a greater emphasis on major tech companies delivering specialized services to advance innovation in a highly competitive market.
- Suppliers will become more deeply integrated with the delivery of future vehicles and will be at arm's length to OEMs.
- Horizontal integration with technology companies will become more commonplace as OEMs compete to deliver vehicles with better features.
- OEMs will progressively reorganize their factories to deploy further automation and achieve better cost savings. Certain brands will compete through customized premium vehicles.
- Adoption of electric vehicles will match the speed of regulation and deployment of widespread charging infrastructure.
- Technological integration has the potential to expand revenue streams beyond typical vehicles sales. Recurring revenues from data connectivity services, software upgrades, and remote services are disruptive opportunities to grow automaker revenues.
- Traditional dealerships should focus on financing, insurance and maintenance to offset falling sales.
- Technology and the internet have introduced online secondary platforms to purchase vehicles and forced dealers to operate through e-commerce at lower margins.

Industry – Overview Automotive

The automotive industry is being dominated by the adoption of EV's and the trend to more autonomous and connected vehicles

	Key Market Trends	How Volkswagen is Capitalizing
Electrification	<ul style="list-style-type: none"> Adoption of BEV/PHEV: There has been a significant increase in conversion from ICE to electric powered. Within the next ten years the market share of EV is expected to grow from 11% to 59%. Raw Material and Manufacturing Costs: The demand for rare earth metals will continue to drive prices, however overall battery costs continue to decrease and verge on cost parity to ICE. Infrastructure As the adoption of EV grows so does the demand for access to public and private charging stations, as well as shifting the timing of peak demand. Incentives/Policies: Many countries offer tax breaks and incentives to support purchases BEV and PHEV. 	<ul style="list-style-type: none"> Volkswagen has ambitious goals to roll out 18 new models by the end of 2020 and have a complete electric fleet by 2030. In order to help scale up this production Volkswagen has established many JVs across the globe and is standardizing its manufacturing process. Volkswagen has a significant portion of it's lithium requirements set for the forthcoming years with strategic alliances involving Northvolt, Gungfeng, and Guoxan. Part of the IONITY JV, Volkswagen is establishing public charging stations across Europe with 203 stations currently operating with a goal as of 400 by year end. Implementation of the WTLF standard ensures emission standards are adhered to while advancing on their goal to be carbon neutral by 2050.
Autonomy	<ul style="list-style-type: none"> Driverless Vehicles: Recent push towards autonomous driving as and the idea of mobility as a service, with estimated 25% of all miles driven by 2030 will be through self driving vehicles. Connectivity: As data and transparency become more sought out the ability to easily access and share information becomes critical. Development of connect cars will aid increasing efficiency and cutting down costs. Ride Hailing and Sharing: With increase migration from rural to urban centers and the convenience of ride hailing, the amount of users of ride sharing/hailing services is expected to increase 5x in the next 5-6 years. 	<ul style="list-style-type: none"> Recent partnership with Argo AI allows Volkswagen to integrate their self-driving technologies into their current and future MEB models. Partnership with Microsoft to launch the Automotive Cloud for better passenger convenience, while also implementing the car.software into many of its vehicles, on its way to establishing Volkswagen's own operating system. Online pilot partnership with Drover to offer subscription based service allowing customers vehicle ownership for a preset amount of time, with fuel add on as the only costs.
Global	<ul style="list-style-type: none"> China/ US Squeeze: As tensions remain between the United States and China, Germany has now been thrown into a difficult spot. US urges Germany to ban Huawei otherwise face repercussions from them, however by banning Huawei, China in return would stop purchases of German cars. 	<ul style="list-style-type: none"> Volkswagen has not only expanded into China, but has branched out into other emerging markets such as India and Qatar.

Industry – Corporate Activity

Global automakers are evaluating strategic opportunities to consolidate their platforms and capitalize on technological and EV capabilities to emerge successfully from a rapidly shifting industry.

Automotive Corporate Activity

Automotive M&A

Key Theme: M&A activity within the auto industry related to electric vehicles and autonomous driving rose to approximately \$21bn in 2018 as automakers compete to advance their future mobility capabilities.

- The \$50bn Fiat Peugeot merger is focused on consolidating resources to advancing electric and autonomous driving features.
- Honda and Hitachi agree to merge component supplier businesses to form a \$17bn business that will cut development costs and scale the production of electrification components.

Electric Activity

Key Theme: Automakers are racing to partner up with battery suppliers to ramp up their supply chains for demand of electric batteries and spread the investment costs of converting into EVs.

- GM \$2.3bn partnership with LG Chem to enhance their supply chain for electric battery supply.
- Volkswagen and Northvolt agree to an equal JV to build a European factory for lithium-ion batteries.
- BMW to increase JV ownership of BMW Brilliance to 75% by 2022 for \$4.2bn in a bid to capture future electric vehicle sales in China.







Technology Joint Ventures

Key Theme: Automaker partnerships increased by 43% from 2017 to 2018 due to technology JVs to advance the deployment of emerging technology across the automotive landscape.

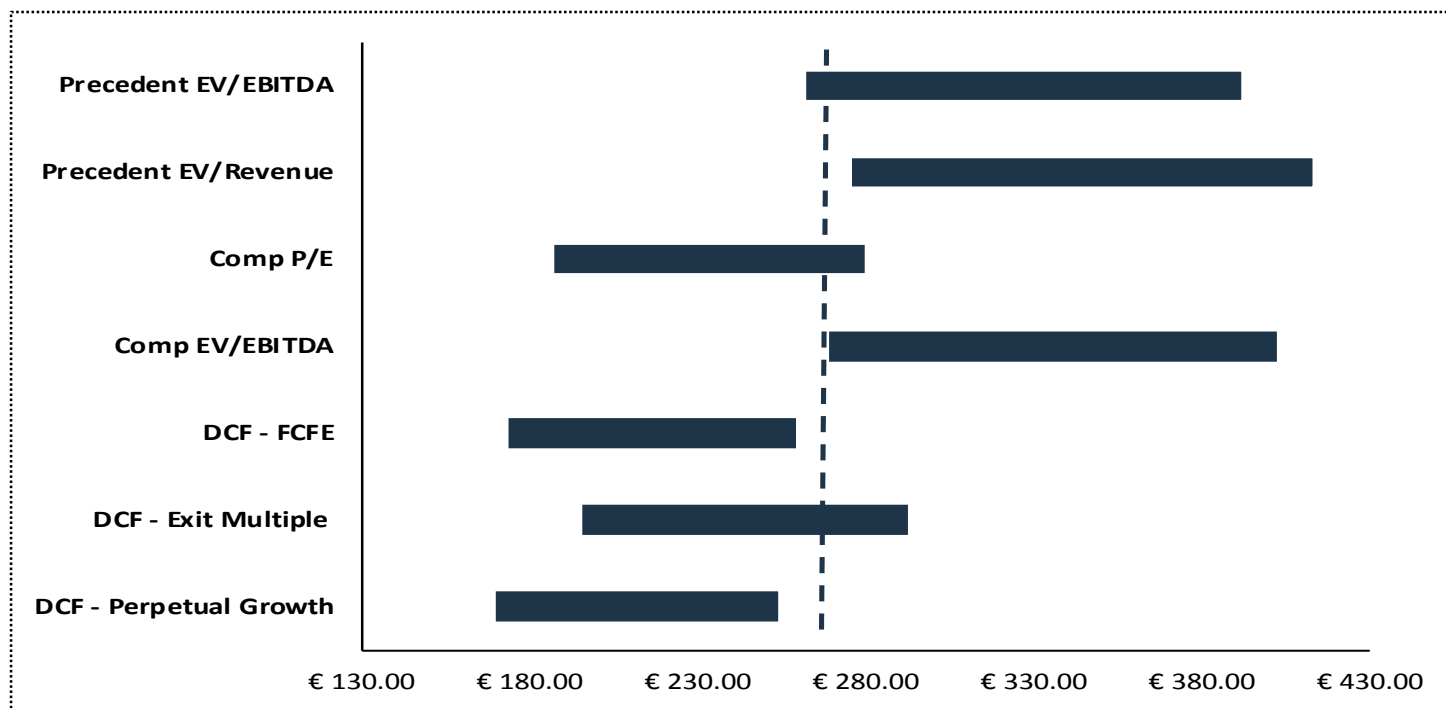
- Volkswagen \$2.6bn investment into Ford-backed autonomous vehicle start-up Argo AI.
- Hyundai \$1.6bn investment with auto supplier Aptiv accelerates autonomous vehicle launch by 2022.
- Daimler and BMW announce \$1.1bn partnership to develop a mobility platform that rivals Uber and other ride hailing services.

Major Competitors

Major automakers are adopting various strategies in a race to launch a new generation of vehicles with advanced technological and electrical capabilities to secure their long-term growth

Business Model				
	LTM Revenues / EBITDA	Strategy	Electric Capabilities	Geography
 TOYOTA	\$282bn / \$39.5bn (14%)	<ul style="list-style-type: none"> Strategy: Focusing on mobility of the future by advancing core automotive capabilities in electrification, information and intelligent technologies. Strength: Scalable production and industry leading brand reliability. Weakness: A number of product recalls in recent brands increased reputational risk. 	<ul style="list-style-type: none"> ■ On Par – All Toyota models will have EV versions by 2025 	<ul style="list-style-type: none"> ■ North America (35.3%) ■ Japan: (24.4%) ■ Asia Pacific (17.7%) ■ Other: (22.5%)
 DAIMLER	\$189bn / \$11.5bn (11.2%)	<ul style="list-style-type: none"> Strategy: Ramp up the deployment of future-oriented vehicles across all their business segments. Strength: Established presence in China with a large portfolio of recognized vehicles. Weakness: Battery cell supply bottleneck and production issues has delayed their entry into EVs. 	<ul style="list-style-type: none"> ■ On Par – Release of 10 EV models by 2022 while slowly electrifying the remaining portfolio 	<ul style="list-style-type: none"> ■ Europe (52%) ■ North America (23%) ■ Other (25%)
 FIAT CHRYSLER AUTOMOBILES	\$119bn / \$10.3bn (8.7%)	<ul style="list-style-type: none"> Strategy: Merger with Peugeot increases global revenue streams and accelerates EV capabilities. Strength: Strong portfolio of light truck vehicles drive higher EBIT margins. Weakness: Limited presence and organic growth opportunities in Asia Pacific 	<ul style="list-style-type: none"> ■ Lagging - Lack of emphasis on electric vehicles 	<ul style="list-style-type: none"> ■ North America (69%) ■ International (31%)
 GM	\$144bn / \$13.6bn (9.4%)	<ul style="list-style-type: none"> Strategy: Recent restructuring will prioritize the company investments in all-electric vehicles. Strength: Major presence within the US across trucks and SUVs. Weakness: Limited presence outside of a flat growth North American market with JVs in China accounting for majority of sales outside North America. 	<ul style="list-style-type: none"> ■ On Par – Chevrolet Bolt and investments into electric trucks 	<ul style="list-style-type: none"> ■ North America (100%)
 TESLA	\$24.4bn / \$2.2bn (8.9%)	<ul style="list-style-type: none"> Strategy: Accelerate vehicle technology development and adoption of EVs. Strength: Strong brand perception and industry leading vehicles. Weakness: Unit production limitations and below average quality control. 	<ul style="list-style-type: none"> ■ Leading – Industry leading portfolio of EV capabilities 	<ul style="list-style-type: none"> ■ North America (76%) ■ Europe (23%) ■ Other (1%)
 Volkswagen	\$273.6bn / \$29.6m (10.8%)	<ul style="list-style-type: none"> Strategy: Become a leader in sustainable mobility and capitalize on global scale to deliver the next generation of vehicles as quickly as possible. Strength: Diversified global revenue streams will benefit from significant investments into EVs. Weakness: Emission scandal damaged the brand image and may have lingering effects to regain consumer trust. 	<ul style="list-style-type: none"> ■ On Par – with 70 EV models expected by 2030 	<ul style="list-style-type: none"> ■ Europe (61%) ■ International (39%)

Valuation Football Field Analysis



Precedent EV/EBITDA	€ 326.87
Precedent EV/Revenue	€ 344.85
Comparables P/E	€ 233.32
Comparables EV/EBITDA	€ 355.90
DCF – FCFE	€ 216.53
DCF – Exit Multiple	€ 244.08
DCF – Perpetual Growth	€ 211.66

Multiple valuation methods have concluded that Volkswagen has an average fair value per share of **€ 273.31**

* Note that precedent transactions heavily boost the average fair value per share due to the premium paid

DCF Overview

Benchmark rate	1.77%
Expected market return	6.0%
Market risk premium	4.2%
Beta	1.18
CAPM Cost Of Equity	6.8%
Cost of debt	4.0%
Tax rate	30.0%
After Tax Cost Of Debt	2.8%
Target gearing	15.5%
WACC	6.15%
Perpetual growth of firm cash flows (post year 5)	2.00%

Valuation Date	30-Nov-19
Next Year End Date	31-Dec-19

Core Assumptions

- Assumptions grounded in company guidance and industry wide trends.
- Exit EV/EBITDA multiple derived from the average comparables of 3.0x
- Exit P/E used in FCFE derived from the average comparables of 8.0x
- Sum of parts used to value the FCFF, with the automotive, financial services and China JV all valued separately.
- China JV valued at 10.0x earnings.
- Financial services valued at 1.0x book value.
- Volkswagen should be trading with an intrinsic value between €211.66 – €244.08 (Currently trading approximately 16%-27% discount)

(€ in millions of Euro except per share amounts)

	Projected Fiscal Years Ending March 31												
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Automotive Free Cash Flows													
Automotive Revenues	177,872	187,391	189,713	198,856	203,085	210,286	216,636	222,609	228,600	234,143	238,967	243,746	248,621
Automotive Opex	(167,077)	(176,487)	(177,195)	(184,275)	(188,593)	(193,687)	(200,194)	(206,454)	(212,662)	(218,260)	(223,270)	(228,136)	(233,188)
Automotive EBIT	10,795	10,904	12,518	14,581	14,492	16,598	16,442	16,154	15,938	15,883	15,697	15,610	15,433
Less: Tax (EBIT * Tax Rate)	(3,239)	(3,271)	(3,755)	(4,374)	(4,348)	(4,979)	(4,933)	(4,846)	(4,781)	(4,765)	(4,709)	(4,683)	(4,630)
Add: D&A PP&E	8,761	9,743	10,100	10,562	11,034	9,193	9,510	9,285	9,560	9,675	9,469	9,526	9,582
Add: D&A development costs	3,006	3,262	3,586	3,734	3,668	3,677	3,804	4,256	4,382	4,434	4,940	4,970	4,999
Less: Investments in PP&E	(12,012)	(13,213)	(13,151)	(13,052)	(13,729)	(12,257)	(12,679)	(12,548)	(12,919)	(13,253)	(12,971)	(13,231)	(13,495)
Less: Investments in development costs	(4,601)	(5,021)	(5,750)	(5,260)	(5,234)	(4,903)	(5,072)	(5,751)	(5,921)	(6,074)	(6,768)	(6,903)	(7,041)
Less: Automotive working capital requirements	1,117	(2,149)	(744)	(556)	(8,127)	(1,948)	(2,493)	(2,929)	(2,635)	(1,770)	(3,115)	(1,779)	(2,115)
Free Automotive Cash Flows to the Firm (FCFF)	3,828	255	2,804	5,635	(2,244)	5,381	4,579	3,622	3,623	4,130	2,543	3,511	2,732
Portion of year included in valuation						0.08	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Years to discount						0.08	1.08	2.08	3.08	4.08	5.08	6.08	7.08
Cost of capital						6.1%	6.1%	6.1%	6.1%	6.1%	6.1%	6.1%	6.1%
Discount factor						1.00	0.94	0.88	0.83	0.78	0.74	0.70	0.66
PV Free Automotive Cash Flows to the Firm (FCFF)						5,354	4,293	3,198	3,014	3,237	1,878	2,442	1,791

Comparables Overview

Company Name	Market Cap.	Enterprise Value ⁽¹⁾	Cash & S-t Inv.	Revenue NTM	EBITDA NTM	EPS NTM	EV/Revenue ⁽²⁾			EV/EBITDA ⁽²⁾			P/E ⁽²⁾		EBITDA CAGR ⁽²⁾		Revenue CAGR ⁽²⁾		EBITDA Margin (%)	WACC
							LTM	NTM	2020E	LTM	NTM	2020E	LTM	NTM	3-Yr Hist.	2-Yr Fcst.	3-Yr Hist.	2-Yr Fcst.		
<i>(all figures presented in EUR millions, except per share figures or where noted)</i>																				
Fiat Chrysler	22,848	27,454	11,601	118,361	12,162	2.69	0.3x	0.2x	0.2x	2.8x	2.3x	2.2x	3.5x	5.9x	12.2%	6.8%	2.0%	2.2%	9.7%	6.7%
General Motors	50,042	57,541	24,333	133,463	20,230	4.64	0.4x	0.4x	0.4x	2.9x	2.8x	3.6x	6.1x	6.9x	11.6%	9.9%	2.7%	3.8%	12.3%	4.6%
Daimler AG	57,536	24,870	27,063	179,411	15,911	5.65	0.1x	0.1x	0.1x	1.8x	1.6x	1.5x	13.9x	7.4x	(0.9%)	11.5%	6.0%	1.4%	9.9%	3.0%
Toyota Motor Corp.	182,595	138,844	48,323	247,451	26,630	6.58	0.5x	0.6x	0.6x	3.9x	5.2x	4.9x	11.6x	11.8x	(0.6%)	0.8%	2.1%	2.3%	14.1%	4.4%
Volkswagen AG	90,760	53,558	55,557	252,829	30,234	29.13	0.2x	0.2x	0.2x	2.0x	1.8x	1.5x	6.4x	7.0x	35.3%	5.7%	5.6%	1.8%	15.4%	3.6%

Company Name	EV/EBITDA NTM	P/E NTM
Fiat Chrysler	2.3x	5.9x
General Motors	2.8x	6.9x
Daimler AG	1.6x	7.4x
Toyota Motor Corp.	5.2x	11.8x
Volkswagen AG	1.8x	7.0x

Selected Industry Multiple	3.0x	8.0x
Volkswagen AG Metric (NTM)	\$30,234	\$29.13
Total Enterprise Value	89,785	233.32
- Net debt (as of valuation date)	21,502	
- Pension Liability (as of valuation date)	-42,374	
+ BV of Financial Services Company	27,898	
+ Fair Value of China JV	29,830	
Equity Value	168,385	
Shares Outstanding (m)	501	
Fair Value Share Price	335.90	

Takeaways

- Selected comparable companies include: Fiat Chrysler, General Motors, Daimler and Toyota.
- Group of comparables were selected that best represent Volkswagen's size, geographic reach and vehicle brand portfolio.
- Volkswagen is still recovering financially from the emission scandal, as reflected by the 3-year historical EBITDA CAGR.
- Volkswagen leads the industry in revenue and EBITDA margins.
- Analyst consensus that Volkswagen revenue growth will be at the lower end of all comparables.
- European conglomerates tend to trade at a discount to all other comparables.
- Volkswagen trades at 1.8x EV/EBITDA and 7.0x P/E while the average of selected comparables trades at 3.0x and 7.0x respectively.

Precedents Overview

Selected Relevant Precedent Transaction

May 27,
2019

- Fiat proposes a 50-50 merger with Renault with an **implied enterprise value of € 64.8B**.
- Transaction rationale was to enhance shareholder value through scale and cost synergies.
- Transaction multiple of **1.1x EV/Revenue** and **9.3x EV/EBITDA**.
- Chosen due to being the most recent transaction with revenue and EBITDA multiples capturing current industry premiums.

March 27,
2017

- BPI France acquires a 12.7% stake in Peugeot with an implied enterprise value of **€ 12.6B**.
- Transaction rationale was for the French government to protect the interest of the public through ownership.
- Transaction multiple of **0.2x EV/Revenue** and **2.6x EV/EBITDA**.
- Most recent transaction with a European conglomerate, with Peugeot holding a portfolio of brands designed for mass market.

March 3,
2017

- Peugeot acquires the Adam Opel brand from GM with an implied enterprise value of **€ 1.2B**.
- Transaction rationale was that Peugeot could better manage the Opel brand in Europe than GM could in North America.
- Transaction multiple of **0.1x EV/Revenue** with an LTM EBITDA less than € 0.
- Captures the value of a mass market brand as a stand alone business, similar to Seat (GM had also been mismanaging the brand).

October
29, 2014

- Fiat Chrysler completes a spin off of its Ferrari brand as a stand alone business with an implied enterprise value of **€ 9.6 B**.
- Transaction rationale was that Ferrari can demand a higher multiple as a stand alone business and enhance shareholder value.
- Transaction multiple of **3.4x EV/Revenue** and **15.0x EV/EBITDA**.
- Captures the value of a premium sports brand, similar to Porsche and Lamborghini .

Target	EV/Revenue	EV/EBITDA
	LTM	LTM
Ferrari	3.4x	15.0x
Adam Opel Ag	0.1x	
Peugeot	0.2x	2.6x
Renault SA	1.1x	9.3x
Average	1.2x	9.0x

Precedents trade at significant premium to current multiples.

Target	EV/Revenue	EV/EBITDA
	LTM	LTM
Total Enterprise Value¹	308,195.60	299,186.71
- Debt (Group)	(190,883)	(190,883)
+ Cash (Group)	55,557	55,557
Equity Value	172,869.60	163,860.71
Shares Outstanding (millions)	501	501
Fair Value Share Price	344.85	326.87

Transaction – Opportunities Overview (VW)

Corporate Finance Activity

Horizontal Integration

Acquire Asian Conglomerates: Explore growth opportunity through further expanding into Emerging areas such as China, India and Brazil.

- (e.g. Walmart acquired Fipkart).

Take opportunity from R-N-M breakup: Renault is under cash crunch deal to Renault and Nissan's continuous decrease in their unit sales.

- (e.g. Daimler selling off Chrysler to Cerberus Capital).

Vertical Integration

Joint Venture in China: Rising EV initiative in China allows a great opportunity for JVs between battery makers, EV makers & auto makers.

- (e.g. Volkswagen acquired 20% stake in Guoxuan).

Joint Venture with Big Tech: Vertical integration provides a great opportunity in autonomous driving car

- (e.g. Google's waymo and Fiat Chrysler).

Acquisition of EV Maker: Further expand their segment into growing areas.

- (e.g. GM acquired Cruise).

Shareholder Value

Splits/Spin Offs: Splits/spin-offs VW's major brand such as Lamborghini and Porsche to optimize shareholder value.

- (e.g. Fiat Chrysler and Ferrari).

Cost – Return - Risk



VALUATION OVERVIEW

American Conglomerates:

- **EV/EBITDA:** 2.2x – 2.9x
- **EV/Revenue:** 0.2x – 0.4x
- **P/E:** 5.9x – 9.7x

European Conglomerates :

- **EV/EBITDA:** 1.5x – 2.3x
- **EV/Revenue:** 0.1x – 0.3x
- **P/E:** 6.4x – 7.4x

Asian Conglomerates:

- **EV/EBITDA:** 1.5x – 2.3x
- **EV/Revenue:** 1.5x – 2.3x
- **P/E:** 1.5x – 2.3x

Luxury Manufactures:

- **EV/EBITDA:** 5.4x – 13.9x
- **EV/Revenue:** 1.3x – 4.7x
- **P/E:** 33.1x
- Luxury brand tend to trade at extreme high premium.

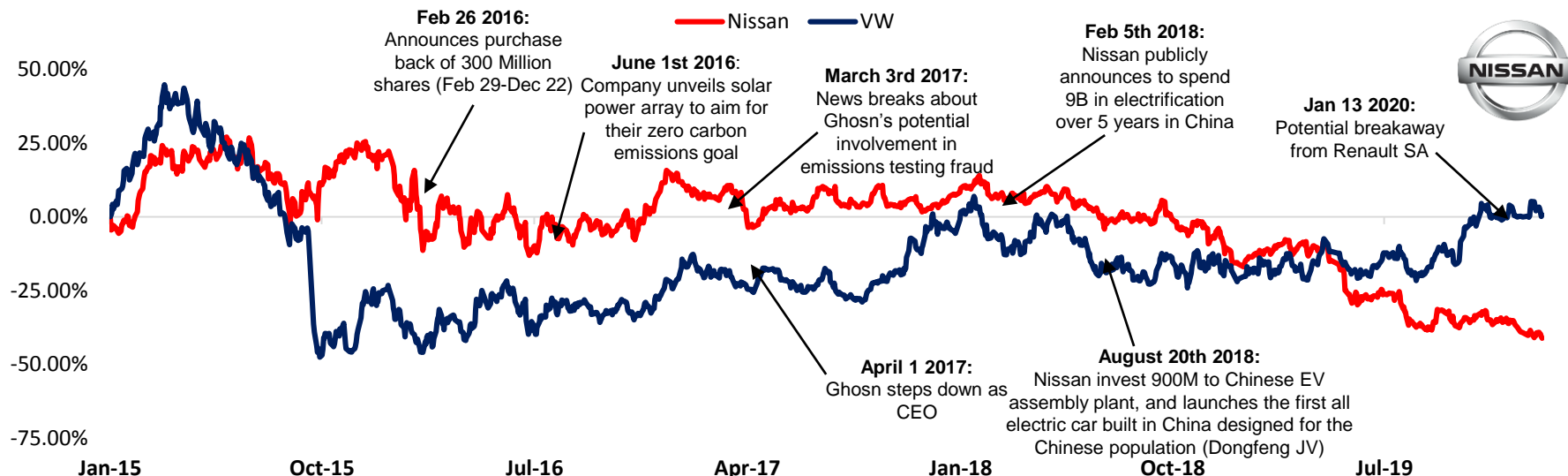
R-N-M Alliance:

- **EV/EBITDA:** 1.7x – 15.2x
- **EV/Revenue:** 0.2x – 0.8x
- **P/E:** 3.8x – 9.6x

All multiples are NTM

Recommendation 1 – Acquisition of Nissan

Relative 5 Year Price Performance



Rationale

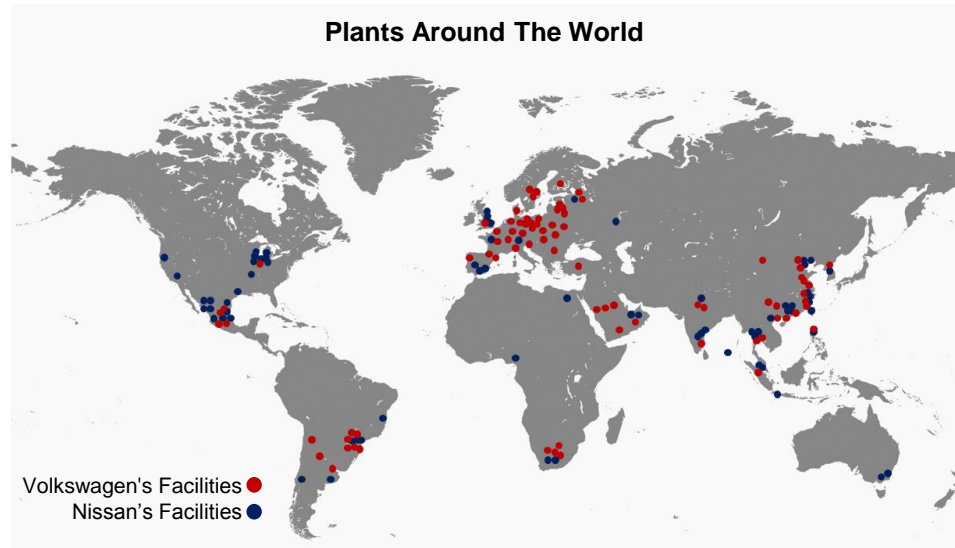
- Relative size and the slow down in auto industry's business cycle provides a perfect acquisition in both timing and target.
- Deteriorating relationship between the RNM alliance and Fiats proposed merger gives an optimal opportunity for an acquisition of Nissan.
- Both VW and Nissan have similar presence in NA, while Nissan has stronger a presence in Asia, while VW dominates Europe.
- Expands its Asia and North America presence with strong synergies between the two companies.
- Strengthen its EV exposure through access to Nissan's EV brand, the Nissan Leaf and new brands coming in the near term
- Improve business efficiency through combining both companies factory plant portfolio.

Risk

- Potential shareholder resistance may arise as Renault currently holds a 43.4% voting stake in Nissan, however this recommendation could help alleviate the cash strain Renault is currently feeling.
- The current alliance structure between the Nissan - Mitsubishi - Renault creates a trickier and more complex landscape for integration, however thanks to successful current JVs, Volkswagen understands how to navigate these risks and how to mitigate their impact.

Recommendation 1 – Acquisition of Nissan Cont.

Facilities for both Nissan and Volkswagen



Key Facts & Statistics

Volkswagen:

- €111B in PP&E as of 2019 Q3
- Automotive EBITDA Margin of 15.4% as of 2018
- VW operates ~122 production plants in the globe, where 71 of them are located in Europe, 33 in Asian, 5 in North America, 9 in South America and 4 in Africa.

Nissan:

- €43.8B in PP&E as of 2019 Q3
- Automotive EBITDA Margin of 12.3% as of 2018
- VW operates ~41 production plants in the globe, where 5 of them are located in Europe, 29 in Asian, 7 in North America, 4 in South America and 3 in Africa.
- **Estimated Cost Synergy: ~1.25 – 2.50%**

Takeaway

- RNM reported a total of €5.7B in synergies through their strategic alliance relationship.
- Volkswagen and Nissan both share a similar sub segment of the automotive industry, and Volkswagen's expertise can enhance Nissan's profitability and reach.
- Volkswagen will be able to expand its brand portfolio to include Nissan, Infiniti and Datsun, alongside to further its presence in emerging market.



Recommendation 1 – Acquisition of Nissan Cont.

Access to Nissan's EV Portfolio

2019 U.S. EV SALES	TOTAL
Tesla Model 3*	158925
Toyota Prius Prime*	23630
Tesla Model X*	19225
Chevrolet Bolt EV*	16418
Tesla Model S*	14100
Nissan LEAF*	12365
Honda Clarity PHEV*	10728
Ford Fusion Energi*	7524
BMW 530e*	5862
Chrysler Pacifica Hybrid*	5723
Audi e-tron*	5369
Chevrolet Volt*	4910
Volkswagen e-Golf*	4863
BMW i3 (BEV + REX)	4854
Kia Niro PHEV*	3881
Mitsubishi Outlander PHEV	2810
Jaguar I-Pace*	2594
Mercedes GLC 350e*	2459
Mercedes C350e*	2172
Porsche Panamera E-Hybrid*	2060
Hyundai Kona Electric*	1723
Volvo XC90 T8 PHEV*	1672
Hyundai IONIQ PHEV*	1621
Volvo XC60 PHEV*	1603
Mercedes GLE 550e*	1509
Kia Niro EV*	1166
Porsche Cayenne S-E*	1140
BMW i8	1102
Subaru Crosstrek Hybrid*	970

Pre-Acquisition Total EV Sales by Automaker

Tesla	192250
GM	27075
Toyota	23630
Volkswagen	13999
BMW	13315
Nissan	12365
Honda	11470
Ford	7524
Daimler AG	7200
KIA	5469
Hyundai	4511
Volvo	3731
Mitsubishi	2810
Fiat	615

Post-Acquisition Total EV Sales by Automaker

Tesla	192250
GM	27075
Volkswagen + Nissan	26364
Toyota	23630
BMW	13315
Honda	11470
Ford	7524
Daimler AG	7200
KIA	5469
Hyundai	4511
Volvo	3731
Mitsubishi	2810
Fiat	615

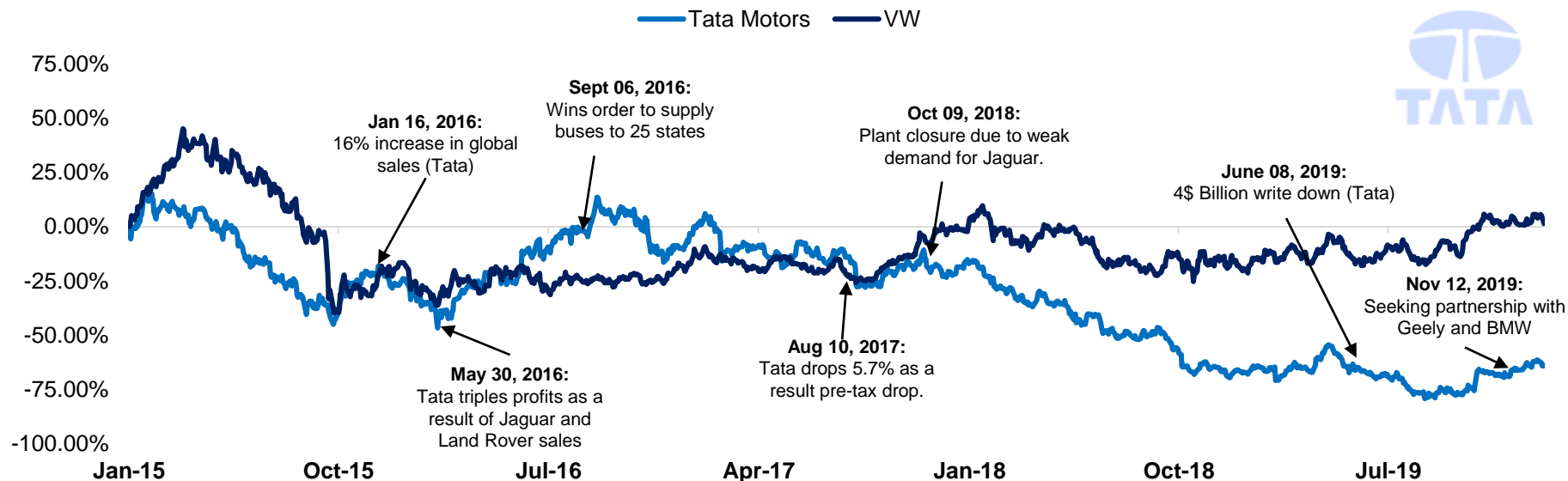


Rationale

- The trend in the auto-industry is to focus on increasing production in EV, while Volkswagen was lagging, and had limited effort into making a pivot towards their business model.
- By combining the EV's portfolio for both Volkswagen and Nissan, Volkswagen's EV presence will doubled as well as Volkswagen will be able to leverage its recent afford in acquisition of many EV battery companies to improve both companies EV presence.
- Combined, they are aimed to take over GM and catch up with the competition against Tesla.

Recommendation 2 – Controlling interest in Tata Motors

Relative 5 Year Price Performance



Rationale

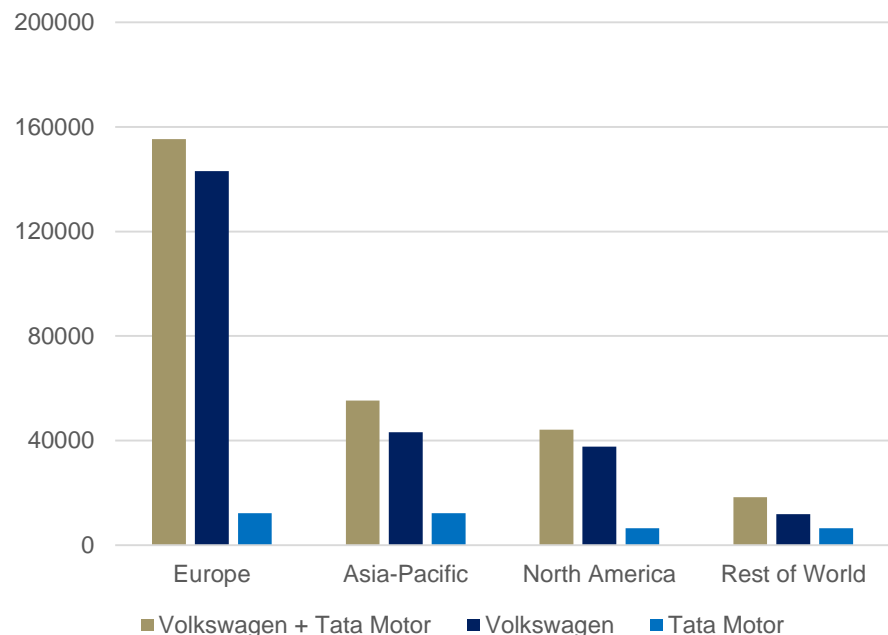
- Expands VW's exposure in emerging market such as Asia and India.
- Strength's VW's strategic alliance relationship through acquiring controlling interest in Tata Motors.
- Furthered effort to develop cheap vehicle platform for Asian market through realizing strong cost synergies between the two company.
- Restrictive access to VW's portfolio on track to further dominate Indian's market.

Risk

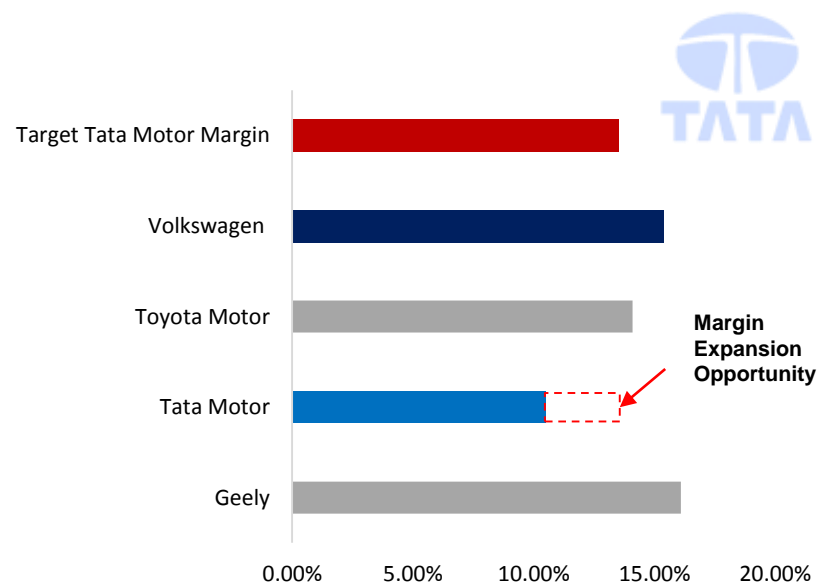
- Expands VW's exposure in emerging market such as Asia and India.
- Strength's VW's strategic alliance relationship through acquiring controlling interest in Tata Motors.

Recommendation 2 – Controlling interest in Tata Cont.

Revenue in millions(€)



EBITDA Margin (%)



Takeaway

- Tata Motor dominated the Indian market with owning more than 44% and 5.1% of the commercial vehicles and passenger vehicles market share, respectively. With Volkswagen expertise in both product lines, Tata can further extend their domination through producing cheap and reliable cars.
- Tata Motor current has the lowest EBITDA margins compared to its peers in other Asian markets. Volkswagen has a great economy of scale effect. With both of them developing strategic partnership together, Tata's margin is expected to growth between 2.5% – 3.5%.
- India government is planning to turn 250M of vehicles into electric in the next 10 years. Volkswagen will be able to leverage Tata Motor's brand to expand their EV plan into India.

Recommendation 3 – Spin-off Lamborghini

Porsche Case Study



<u>Target</u>		<u>Buyer</u>		<u>EV/LTM (2)</u>		
Company	Type	Company	Type	EV (1)	Revenue	EBITDA
<i>(all figures presented in EUR millions, except per share figures or where otherwise noted)</i>						
Daimler-Benz	Public Corp	Chrysler Corp	Public Corp	NA	0.8x	13.3x
Mitsubishi Corp	Public Corp	DaimlerChrysler	Public Corp	NA	0.7x	14.3x
DaimlerChrysler AG	Public Corp	Cerberus Capital	Private Corp	NA	0.2x	NA
Ferrari	Public Corp	Spin-off (by Fiat Chrysler)	Public Corp	27,454	3.4x	15.0x
Daihatsu Motor Co	Private Corp	Toyota	Public Corp	138,844	0.5x	4.4x
Adam Opel Ag	Public Corp (GM)	Peugeot	Public Corp	12,375	0.1x	NA
Peugeot	Public Corp	BPI France	Gov't Agency	NA	0.2x	2.6x
Renault SA	Public Corp	Fiat Chrysler	Public Corp	27,454	1.1x	9.3x

Rationale

- Maximizing Shareholder's value through spinning off its premium luxury brand, as premium models tend to trade at significantly higher multiplies (3.4x revenue and 15x EBITDA vs. peers average of 1x revenue and 10x EBITDA).
- Using half the EV/Rev multiple from the Ferrari spin-off, a Porsche spin-off results in a **€40B implied valuation**. Unknown revenue for Lamborghini.
- Leveraged the power of Lamborghini brand to help fund the company's expansion plan aimed in expanding its presence in Asia and EV.
- Lamborghini would be an ideal spin off, but due to limited financial transparency, it would be difficult to determine an implied valuation.

Risk



- Loss of engineering expertise and potential change in corporate and operational structure from the spin-off can cause weakening in Volkswagen's brands and increase the business risks.
- Premium risk can occur, due to the lack of financial visibility on Lamborghini and potential dilution as a result of a second premium sports car entering the public market.
- Therefore a spin-off of Lamborghini is a much better choice.

Recommendation 4 – Set of Private Companies

Rationale

- The cost of electrification is significant for OEM's, acquisitions offer opportunity for integration of pre-existing technologies to enhance growth.
- Integrating unique technologies of smaller private companies with the scale of Volkswagen amplifies the pace of development.
- Expansion into North America through acquisitions offers the opportunity to expand their global reach into underpenetrated areas.
- Specific valuations are hard to determine, due to virtually all companies in the space being private.

Potential Targets

Company	Rationale	Considerations	Acquisition Price (implied)
RIVIAN	Increase the EV portfolio with a particular focus on trucks and SUVs. Supplier deal with Amazon of 100,000 delivery vans 2021. High price point.	Recently investment by Ford to create an electric F150.	€5.5B
 Faraday Future	Solid pipeline of coming EVs, approved for JV with The9 for manufacturing and selling in China.	Recently filed for Chapter 11 bankruptcy, still operating; heavily distressed.	€1.13B
SONO  MOTORS	Creation of the first solar charged electric vehicle and bidirectional charging technology.	Equity crowdfunding can result in difficulties in acquiring controlling interests	€1.0B

Risk

- Potential dissonance and friction may arise when merging the companies as a result of differences in company cultures and a lack of transparency between them.
- Difficulty recognizing synergies and under-estimation of the time required, thus in turn reducing shareholder expectations and diverting resources away from more valuable areas of growth.

Recommendation 5 – Enhancing Existing JV's

Vehicle Joint Ventures

SAIC – Formed in 1984, this was the second automobile manufacturing joint venture in China, after American Motors. Sells cars under the Volkswagen and Skoda brand.

FAW – Formed in 1991, the FAW-Volkswagen Automobile joint venture manufactures and sells cars in China under the Audi and Volkswagen brand.

JAC – Formed in 2017, the joint venture between Volkswagen and JAC Automobile Group is the first dedicated NEV JV in China. Plant currently in development with production capacity of 100,000 electric battery cars a year and 14 new models to be release in the near term.

Ford-VW – Ford and Volkswagen have recently announced plans to expand collaboration in the autonomous and electric vehicle space.

Technology Joint Ventures

IONITY – Partnership between BMW, Daimler, Ford and Volkswagen with the goal of building high power charging network for electric vehicles along major highways in Europe.

Volkswagen Automotive Cloud – Announced in 2018, Volkswagen and Microsoft have partnered to develop a more sophisticated cloud based platform designed for the automotive industry.

Apple-VW – Announced in 2018, Apple and Volkswagen are working in a partnership towards autonomous vehicles, starting with shuttles that will be used by Apple employees.

Aeris-VW – Announced in 2020, Volkswagen and Aeris have created a joint venture to develop connected vehicle platform technologies.

Rationale

- Volkswagen has been able to partner with several key players in the last few decades to expand its lineup of vehicles and bolster its technology.
- The SAIC, FAW, and JAC ventures have been essential in Volkswagen's expansion into the Chinese market and reducing Opex.
- Volkswagen has been able to work on its autonomous technology through partnerships with Aeris, Apple, Microsoft, and infrastructure developments through the IONITY partnership with BMW, Daimler and Ford.
- We identify that advancements in technology and autonomous driving is a weak point for Volkswagen when compared to competition.
- We recommend for Volkswagen to continue pursuing **technology joint ventures** with large technology companies such as Samsung and Amazon while also further investing into existing ventures with Microsoft and Apple.



Appendix D: Model Output Templates

NIBC 2020 Global Competition | First Round

Discounted Cashflow Valuation | Operating Cashflows (1/6)

DCF Summary - Operating Cashflows													
*All euro amounts in millions	2014	2015	2016	2017	2018	Cashflow Forecast							
						2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E
Volksw agen Revenues	100,843	106,240	105,651	79,979	84,585	88,560	92,546	95,785	98,658	101,125	103,147	105,210	107,314
Audi Revenues	55,452	58,420	59,317	60,128	59,248	55,397	52,627	50,785	50,277	50,277	50,780	51,796	52,832
Porsche Revenues	20,439	21,533	20,710	21,674	23,668	25,230	26,744	28,215	29,626	30,811	31,735	32,370	33,017
Skoda Revenues	11,852	12,486	13,705	16,559	17,293	19,887	21,876	23,516	24,692	25,680	26,450	26,979	27,519
SEAT Revenues	8,137	8,572	8,894	9,892	10,202	11,936	13,369	14,438	15,160	15,767	16,240	16,564	16,896
Bentley Revenues	1,838	1,936	2,031	1,843	1,548	1,858	1,950	2,048	2,130	2,194	2,238	2,282	2,328
Commercial: Volksw agen Revenues	9,816	10,341	11,120	11,909	11,875	11,281	11,056	11,056	11,111	11,222	11,390	11,618	11,851
Commercial: Scania Revenues	9,947	10,479	11,303	12,789	13,360	14,028	14,659	15,246	15,779	16,253	16,578	16,909	17,247
Commercial: MAN Revenues	13,006	13,702	13,598	14,372	15,712	16,340	17,076	17,759	18,380	18,932	19,310	19,697	20,091
Less: Intercompany Eliminations	(53,457)	(56,318)	(56,616)	(30,289)	(34,406)	(34,233)	(35,266)	(36,239)	(37,214)	(38,116)	(38,902)	(39,680)	(40,473)
Automotive Revenues	177,872	187,391	189,713	198,856	203,085	210,286	216,636	222,609	228,600	234,143	238,967	243,746	248,621
Financial Services Revenues	24,585	25,901	27,554	31,826	32,764	34,861	36,953	38,800	40,546	41,965	43,014	43,875	44,752
Total Revenues	202,457	213,292	217,267	230,682	235,849	245,146	253,588	261,409	269,146	276,108	281,981	287,621	293,373
Revenue growth		5%	2%	6%	2%	4%	3%	3%	3%	3%	2%	2%	2%
Automotive cost of sales	(167,077)	(176,487)	(177,195)	(184,275)	(188,593)	(193,687)	(200,194)	(206,454)	(212,662)	(218,260)	(223,270)	(228,136)	(233,188)
Financial services expenses	(22,683)	(23,980)	(25,449)	(29,366)	(30,152)	(32,177)	(34,181)	(35,890)	(37,505)	(38,923)	(39,896)	(40,694)	(41,620)
Total Cost of Sales	(189,760)	(200,467)	(202,644)	(213,641)	(218,745)	(225,864)	(234,375)	(242,344)	(250,167)	(257,182)	(263,166)	(268,830)	(274,808)
Distribution expenses	(20,292)	(23,515)	(22,700)	(20,859)	(20,510)	(21,029)	(21,664)	(23,374)	(24,003)	(24,585)	(26,286)	(26,812)	(27,348)
Administrative expenses	(6,841)	(7,197)	(7,336)	(8,126)	(8,819)	(8,411)	(8,232)	(8,459)	(9,144)	(9,366)	(9,559)	(9,994)	(10,566)
Total SG&A	(27,133)	(30,712)	(30,036)	(28,985)	(29,329)	(29,440)	(29,896)	(31,833)	(33,147)	(33,951)	(35,845)	(36,806)	(37,915)
Volksw agen EBIT	2,081	2,102	1,869	3,301	3,239	4,428	4,165	3,831	3,453	3,034	2,579	2,367	2,146
Audi EBIT	5,083	5,134	4,846	5,058	4,705	4,321	4,079	3,809	3,771	3,896	3,935	4,144	4,227
Porsche EBIT	3,370	3,404	3,733	4,003	4,110	4,314	4,546	4,797	5,036	5,315	5,554	5,665	5,778
Skoda EBIT	906	915	1,197	1,611	1,377	1,591	1,750	1,881	2,037	2,119	2,248	2,293	2,339
SEAT EBIT	(10)	(10)	153	191	254	418	434	433	417	394	365	331	296
Bentley EBIT	109	110	112	55	(288)	149	146	143	149	143	134	131	128
Commercial: Volksw agen EBIT	378	382	455	853	780	564	553	525	528	505	484	465	444
Commercial: Scania EBIT	1,017	1,027	1,072	1,289	1,346	1,529	1,539	1,563	1,578	1,625	1,616	1,606	1,595
Commercial: MAN EBIT	274	277	424	555	525	654	640	622	643	568	531	492	402
Less: Intercompany EBIT	(2,413)	(2,437)	(1,343)	(2,335)	(1,556)	(1,369)	(1,411)	(1,450)	(1,675)	(1,715)	(1,751)	(1,885)	(1,922)
Automotive EBIT	10,795	10,904	12,518	14,581	14,492	16,598	16,442	16,154	15,938	15,883	15,697	15,610	15,433
Financial Services EBIT	1,902	1,921	2,105	2,460	2,612	2,684	2,771	2,910	3,041	3,042	3,119	3,181	3,133
Share of equity-accounted investment income (China JV)	3,957	4,366	3,433	3,482	3,369	3,201	3,073	2,980	2,921	2,892	2,892	2,920	2,979
Other operating income & special adjustments	31	(16,872)	(7,456)	(3,222)	(3,184)	(3,184)	(3,184)	(3,184)	(3,184)	(3,184)	(3,184)	(3,184)	(3,184)
Total EBIT	16,685	319	10,600	17,301	17,289	19,299	19,102	18,861	18,715	18,633	18,523	18,527	18,360
EBIT growth		(98%)	3223%	63%	(0%)	12%	(1%)	(1%)	(1%)	(0%)	(1%)	0%	(1%)
EBIT margin	8%	0%	5%	7%	7%	8%	8%	7%	7%	7%	7%	6%	6%

Discounted Cashflow Valuation | Segmented Operating Metrics (2/6)

DCF Summary - Segmented Operating Metrics													
*All euro amounts in millions	2014	2015	2016	2017	2018	Cashflow Forecast							
						2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E
Volkswagen Revenue Growth		5%	(1%)	(24%)	6%	5%	4%	3%	3%	2%	2%	2%	2%
Volkswagen Revenue %	50%	50%	49%	35%	36%	36%	36%	37%	37%	37%	37%	37%	37%
Volkswagen EBIT Margin	2%	2%	2%	4%	4%	5%	5%	4%	4%	3%	3%	2%	2%
Audi Revenue Growth		5%	2%	1%	(1%)	(6%)	(5%)	(4%)	(1%)	–	1%	2%	2%
Audi Revenue %	27%	27%	27%	26%	25%	23%	21%	19%	19%	18%	18%	18%	18%
Audi EBIT Margin	9%	9%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
Porsche Revenue Growth		5%	(4%)	5%	9%	7%	6%	5%	5%	4%	3%	2%	2%
Porsche Revenue %	10%	10%	10%	9%	10%	10%	11%	11%	11%	11%	11%	11%	11%
Porsche EBIT Margin	16%	16%	18%	18%	17%	17%	17%	17%	17%	17%	18%	18%	18%
Skoda Revenue Growth		5%	10%	21%	4%	15%	10%	8%	5%	4%	3%	2%	2%
Skoda Revenue %	6%	6%	6%	7%	7%	8%	9%	9%	9%	9%	9%	9%	9%
Skoda EBIT Margin	8%	7%	9%	10%	8%	8%	8%	8%	8%	8%	9%	9%	9%
SEAT Revenue Growth		5%	4%	11%	3%	17%	12%	8%	5%	4%	3%	2%	2%
SEAT Revenue %	4%	4%	4%	4%	4%	5%	5%	6%	6%	6%	6%	6%	6%
SEAT EBIT Margin	(0%)	(0%)	2%	2%	2%	4%	3%	3%	3%	3%	2%	2%	2%
Bentley Revenue Growth		5%	5%	(9%)	(16%)	20%	5%	5%	4%	3%	2%	2%	2%
Bentley Revenue %	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Bentley EBIT Margin	6%	6%	6%	3%	(19%)	8%	8%	7%	7%	7%	6%	6%	6%
Commercial: Volkswagen Revenue Growth		5%	8%	7%	(0%)	(5%)	(2%)	–	0%	1%	1%	2%	2%
Commercial: Volkswagen Revenue %	5%	5%	5%	5%	5%	5%	4%	4%	4%	4%	4%	4%	4%
Commercial: Volkswagen EBIT Margin	4%	4%	4%	7%	7%	5%	5%	5%	5%	5%	4%	4%	4%
Commercial: Scania Revenue Growth		5%	8%	13%	4%	5%	4%	4%	3%	3%	2%	2%	2%
Commercial: Scania Revenue %	5%	5%	5%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
Commercial: Scania EBIT Margin	10%	10%	9%	10%	10%	11%	11%	10%	10%	10%	10%	10%	9%
Commercial: MAN Revenue Growth		5%	(1%)	6%	9%	4%	4%	4%	3%	3%	2%	2%	2%
Commercial: MAN Revenue %	6%	6%	6%	6%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Commercial: MAN EBIT Margin	2%	2%	3%	4%	3%	4%	4%	4%	4%	3%	3%	3%	2%
Financial Services: MAN Revenue Growth		5%	6%	16%	3%	6%	6%	5%	4%	3%	2%	2%	2%
Financial Services: MAN Revenue %	12%	12%	13%	14%	14%	14%	15%	15%	15%	15%	15%	15%	15%
Financial Services: MAN EBIT Margin	8%	7%	8%	8%	8%	8%	8%	8%	8%	7%	7%	7%	7%

Discounted Cashflow Valuation | EBITDA by Segment (3/6)

DCF Summary - EBITDA by Segment													
*All euro amounts in millions	2014	2015	2016	2017	2018	Cashflow Forecast							
						2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E
Group EBIT	16,685	319	10,600	17,301	17,289	19,299	19,102	18,861	18,715	18,633	18,523	18,527	18,360
Less: Non-Automotive EBIT	(5,859)	(6,287)	(5,538)	(5,942)	(5,981)	(5,885)	(5,844)	(5,890)	(5,962)	(5,934)	(6,010)	(6,101)	(6,112)
Add: D&A PP&E	8,761	9,743	10,100	10,562	11,034	9,193	9,510	9,285	9,560	9,675	9,469	9,526	9,582
Add: D&A development costs	3,006	3,262	3,586	3,734	3,668	3,677	3,804	4,256	4,382	4,434	4,940	4,970	4,999
Add: Stock-based compensation	-	-	-	-	-	-	-	-	-	-	-	-	-
Add: Other income statement items	767	773	(353)	(1,311)	(99)	967	967	967	967	967	967	967	967
Add: Integration and restructuring activities	(1,146)	853	1,002	144	860	-	-	-	-	-	-	-	-
Automotive EBITDA	22,214	8,663	19,397	24,488	26,771	27,251	27,539	27,478	27,662	27,776	27,889	27,889	27,796
Automotive EBITDA growth		(61%)	124%	26%	9%	2%	1%	(0%)	1%	0%	0%	0%	(0%)
Automotive EBITDA margin	12%	5%	10%	12%	13%	13%	13%	12%	12%	12%	12%	11%	11%
Financial Services EBIT	1,902	1,921	2,105	2,460	2,612	2,684	2,771	2,910	3,041	3,042	3,119	3,181	3,133
Add: D&A lease assets	5,024	6,651	7,107	7,734	7,689	7,590	8,179	8,487	8,712	8,872	9,034	9,277	9,462
Share of equity-accounted investment income (China JV)	3,957	4,366	3,433	3,482	3,369	3,201	3,073	2,980	2,921	2,892	2,892	2,920	2,979
Group EBITDA	33,097	21,601	32,042	38,164	40,441	40,726	41,561	41,856	42,336	42,582	42,932	43,267	43,370
Group EBITDA growth		(35%)	48%	19%	6%	1%	2%	1%	1%	1%	1%	1%	0%
Group EBITDA margin	16%	10%	15%	17%	17%	17%	16%	16%	16%	15%	15%	15%	15%

Discounted Cashflow Valuation | Financing Cashflow (4/6)

DCF Summary - Financing Cashflows													
						Cashflow Forecast							
*All euro amounts in millions	2014	2015	2016	2017	2018	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E
Automotive EBITDA	22,214	8,663	19,397	24,488	26,771	27,251	27,539	27,478	27,662	27,776	27,889	27,889	27,796
Non-Automotive Contributions	10,883	12,938	12,645	13,676	13,670	13,475	14,023	14,378	14,673	14,806	15,044	15,378	15,574
Group EBITDA	33,097	21,601	32,042	38,164	40,441	40,726	41,561	41,856	42,336	42,582	42,932	43,267	43,370
Investment in PP&E and Intangibles	(12,012)	(13,213)	(13,151)	(13,052)	(13,729)	(12,257)	(12,679)	(12,548)	(12,919)	(13,253)	(12,971)	(13,231)	(13,495)
Capitalized Development Costs	(4,601)	(5,021)	(5,750)	(5,260)	(5,234)	(4,903)	(5,072)	(5,751)	(5,921)	(6,074)	(6,768)	(6,903)	(7,041)
Provision for income taxes	(3,726)	(59)	(1,912)	(2,210)	(3,490)	(3,148)	(2,819)	(3,454)	(3,120)	(3,133)	(2,950)	(2,919)	(2,929)
Working capital and other adjustments	(10,795)	5,110	1,582	(32,468)	(22,845)	(19,313)	(20,175)	(22,105)	(20,527)	(19,590)	(22,347)	(19,556)	(21,395)
Group Free Cashflows for Capital Providers	1,963	8,418	12,811	(14,826)	(4,857)	1,105	817	(2,001)	(152)	531	(2,104)	659	(1,491)
Interest expense	(2,658)	(2,393)	(2,955)	(2,317)	(1,547)	(1,820)	(1,820)	(2,063)	(2,431)	(2,636)	(2,823)	(3,124)	(3,325)
Issuance / repayment of long-term debt	3,860	(1,222)	(9,339)	12,402	20,018	-	6,004	9,064	5,082	4,605	7,427	4,964	7,316
Sale (purchase) of investments	(2,812)	(3,271)	(2,002)	1,174	(2,413)	-	-	-	-	-	-	-	-
Acquisitions and disposals	326	354	225	630	(214)	-	-	-	-	-	-	-	-
Cashflow Available for Equity Distributions	679	1,886	(1,260)	(2,937)	10,987	(715)	5,000	5,000	2,500	2,500	2,500	2,500	2,500
Equity issuance / repurchase	(1,603)	2,457	(3)	3,473	1,463	-	-	-	-	-	-	-	-
Dividends paid	(1,962)	(2,516)	(364)	(1,332)	(2,375)	(8,223)	(2,500)	(2,500)	(2,500)	(2,500)	(2,500)	(2,500)	(2,500)
Net Cashflows	(2,886)	1,827	(1,627)	(796)	10,075	(8,938)	2,500	2,500	-	-	(0)	0	(0)
Ending Cash Balance	19,123	20,871	19,265	18,457	28,938	20,000	22,500	25,000	25,000	25,000	25,000	25,000	25,000
Ending Debt Balance	68,416	73,292	66,358	81,628	101,126	101,126	107,130	116,194	121,276	125,881	133,308	138,273	145,589
Ending Net Debt Balance	49,293	52,421	47,093	63,171	72,188	81,126	84,630	91,194	96,276	100,881	108,308	113,273	120,589
Interest Expense	2,658	2,393	2,955	2,317	1,547	1,820	1,820	2,063	2,431	2,636	2,823	3,124	3,325
Group EBITDA	33,097	21,601	32,042	38,164	40,441	40,726	41,561	41,856	42,336	42,582	42,932	43,267	43,370
Group EBIT	16,685	319	10,600	17,301	17,289	19,299	19,102	18,861	18,715	18,633	18,523	18,527	18,360
Group Free Cashflows for Capital Providers	1,963	8,418	12,811	(14,826)	(4,857)	1,105	817	(2,001)	(152)	531	(2,104)	659	(1,491)
Net Debt to Group EBITDA	1.5 x	2.4 x	1.5 x	1.7 x	1.8 x	2.0 x	2.0 x	2.2 x	2.3 x	2.4 x	2.5 x	2.6 x	2.8 x
Group EBITDA / Interest Expense	12.5 x	9.0 x	10.8 x	16.5 x	26.1 x	22.4 x	22.8 x	20.3 x	17.4 x	16.2 x	15.2 x	13.9 x	13.0 x
Group EBIT / Interest Expense	6.3 x	0.1 x	3.6 x	7.5 x	11.2 x	10.6 x	10.5 x	9.1 x	7.7 x	7.1 x	6.6 x	5.9 x	5.5 x
Group Free Cashflow / Interest Expense	0.7 x	3.5 x	4.3 x	(6.4 x)	(3.1 x)	0.6 x	0.4 x	(1.0 x)	(0.1 x)	0.2 x	(0.7 x)	0.2 x	(0.4 x)
Basic shares outstanding (millions)	496	501	501	501	501	501	501	501	501	501	501	501	501
Diluted shares outstanding (millions)	496	501	501	501	501	501	501	501	501	501	501	501	501
Diluted adjusted earnings (loss) per share	€ 22.31	-€ 2.71	€ 10.73	€ 22.87	€ 24.24	€ 30.52	€ 30.78	€ 28.55	€ 28.19	€ 27.59	€ 27.36	€ 26.83	€ 26.08
Dividend per share (diluted)	€ 3.96	€ 5.02	€ 0.73	€ 2.66	€ 4.74	€ 16.40	€ 4.99	€ 4.99	€ 4.99	€ 4.99	€ 4.99	€ 4.99	€ 4.99
Equity cashflow per share (diluted including debt drawdc	€ 45.73	€ 6.53	-€ 3.12	€ 2.61	€ 28.01	€ 16.40	€ 4.99	€ 4.99	€ 4.99	€ 4.99	€ 4.99	€ 4.99	€ 4.99

Discounted Cashflow Valuation | Valuation Results (5/6)

DCF Summary - Automotive Free Cashflow to Firm Valuation Results

*All euro amounts in millions	2014	2015	2016	2017	2018	Cashflow Forecast							
						2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E
Automotive Free Cash Flow s to the Firm Valuation (FCFF)	3,828	255	2,804	5,635	(2,244)	5,381	4,579	3,622	3,623	4,130	2,543	3,511	2,732

Enterprise Value EBITDA Multiple Method

EBITDA multiple	3.0x
Terminal year EBITDA	30,980
Revenue multiple	0.0x
Terminal year Revenue	-
Present value of terminal value	60,294
Present value of forecast FCF	25,207
Enterprise Value	85,501
- Net debt (as of valuation date)	21,502
+ BV of Financial Services Company	27,898
+ Fair Value of China JV	29,830
- Pension Liability (as of valuation date)	(42,374)
Equity Value (Market Cap)	122,357
Shares outstanding	501
Fair Value Share Price	€ 244.08

Enterprise Value Perpetual Growth Method

Perpetual growth of firm cash flow s	2.00%
Present value of terminal value	44,041
Present value of forecast FCF	25,207
Enterprise Value	69,248
- Net debt (as of valuation date)	21,502
+ BV of Financial Services Company	27,898
+ Fair Value of China JV	29,830
- Pension Liability (as of valuation date)	(42,374)
Equity Value (Market Cap)	106,104
Shares outstanding	501
Fair Value Share Price	€ 211.66

WACC Assumptions

Valuation date	30-Nov-19
10-yr US government bond rate	1.8%
Expected market return	6.0%
Market risk premium	4.2%
Beta	1.18
CAPM Cost of Equity	6.8%
Cost of debt	4.0%
Tax rate	30.0%
After Tax Cost of Debt	2.8%
Target gearing	15.5%
WACC	6.1%

DCF Summary - Group Free Cashflow to Equity Valuation Results

*All euro amounts in millions	2014	2015	2016	2017	2018	Cashflow Forecast							
						2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E
Group Free Cash Flow s to Equity Valuation (FCFE)	(4,455)	(8,694)	(20,587)	(5,291)	5,700	(715)	5,000	5,000	2,500	2,500	2,500	2,500	2,500

FCFE Fair Value Multiple Method

PV FCFE	17,654
Last Forecasted Earnings	13,073
Terminal Earnings Multiple	8.0x
Terminal Equity Value	104,706
+ PV Terminal Equity Value	68,619
+ Cash on Hand	22,274
PV Total Equity Value	108,547
Shares Outstanding	501
Share Price	€ 216.53

Cost of Equity Assumption

Valuation date	30-Nov-19
10-yr US government bond rate	1.8%
Expected market return	6.0%
Market risk premium	4.2%
Beta	1.18
CAPM Cost of Equity	6.8%

Discounted Cashflow Valuation | Assumptions Document (6/6)

Operating Assumptions		
Assumption	CAGR/Avg	Justification
Total Revenue (CAGR '18-'26)	2.6%	Stagnating growth in Europe and uncertain global outlook resulting in weak growth near term. Long term growth matching perpetual growth rate of 2%
Total EBIT Margin (Avg '19-'26)	6.9%	Pricing pressure in the EV market will lead to the lower end of historical EBIT margins
Total EBITDA (CAGR '18-'26)	0.4%	Revenue and OPEX growing at similar levels will result in weak EBITDA growth
Total EBITDA Margin (Avg '19-'26)	10.2%	Pricing pressure in the EV market will lead to the lower end of historical EBITDA margins
Capex (% of revenue) (Avg '19-'26)	7.0%	Guidance targets on R&D and focus on artificial intelligence
Valuation Assumptions		
Assumption	Key Metric	Justification
Beta	1.18	5 year adjusted beta
Risk-free rate	1.8%	10 year U.S. bond yield as of January 22nd
Cost of debt (pre-tax)	4.0%	Low cost of debt with high interest coverage ratio and low debt/group ebitda. Capacity for significant debt load on balance sheet. Based on recent issuance of debt.
Perpetual growth rate	2.0%	Long term global economic growth rate
Exit multiple	3.0x	Comp list average EBITDA multiple

Trading Comparables Valuation | Summary (1/2)

Company Name	Market	Enterprise	Cash &	Revenue	EBITDA	EPS	EV/Revenue ⁽²⁾			EV/EBITDA ⁽²⁾			P/E ⁽²⁾		EBITDA CAGR ⁽²⁾		Revenue CAGR ⁽²⁾		EBITDA	WACC
	Cap.	Value ⁽¹⁾	S-t Inv.	NTM	NTM	NTM	LTM	NTM	2020E	LTM	NTM	2020E	LTM	NTM	3-Yr Hist.	2-Yr Fcst.	3-Yr Hist.	2-Yr Fcst.	Margin (%)	
(all figures presented in EUR millions, except per share figures or where noted)																				
American Conglomerates																				
Fiat Chrysler	22,848	27,454	11,601	118,361	12,162	2.69	0.3x	0.2x	0.2x	2.8x	2.3x	2.2x	3.5x	5.9x	12.2%	6.8%	2.0%	2.2%	9.7%	6.7%
Ford	32,531	25,074	30,814	145,524	10,389	1.15	0.2x	0.2x	0.2x	2.2x	2.4x	2.3x	22.4x	9.7x	(8.3%)	12.0%	2.3%	(0.4%)	7.2%	3.4%
General Motors	50,042	57,541	24,333	133,463	20,230	4.64	0.4x	0.4x	0.4x	2.9x	2.8x	3.6x	6.1x	6.9x	11.6%	9.9%	2.7%	3.8%	12.3%	4.6%
Average							0.3x	0.3x	0.3x	2.7x	2.5x	2.7x	10.7x	7.5x	5.2%	9.6%	2.4%	1.9%	9.7%	4.9%
Eurpoean Conglomerates																				
BMW AG	49,083	31,914	17,654	104,498	13,461	9.13	0.3x	0.3x	0.3x	2.3x	2.4x	2.3x	9.7x	6.4x	1.5%	8.7%	4.0%	1.8%	18.0%	3.0%
Daimler AG	57,536	24,870	27,063	179,411	15,911	5.65	0.1x	0.1x	0.1x	1.8x	1.6x	1.5x	13.9x	7.4x	(0.9%)	11.5%	6.0%	1.4%	9.9%	3.0%
Peugeot S.A.	21,996	12,375	16,397	79,357	8,724	3.91	0.2x	0.2x	0.2x	1.5x	1.4x	1.4x	6.7x	7.3x	18.5%	2.5%	12.9%	2.4%	9.7%	7.4%
Average							0.2x	0.2x	0.2x	1.9x	1.8x	1.7x	10.1x	7.0x	6.4%	7.6%	7.7%	1.9%	12.5%	4.5%
Asian Conglomerates																				
Geely	16,088	14,952	1,823	14,637	1,634	0.13	1.1x	1.0x	1.1x	7.8x	9.2x	7.2x	12.2x	9.3x	55.5%	13.3%	49.8%	9.5%	16.1%	14.3%
Tata Motors	7,402	15,582	5,346	38,849	4,262	0.19	0.4x	0.4x	0.4x	4.7x	3.7x	4.0x	N/A	N/A	(8.3%)	9.9%	1.9%	0.2%	10.5%	11.7%
Toyota Motor Corp.	182,595	138,844	48,323	247,451	26,630	6.58	0.5x	0.6x	0.6x	3.9x	5.2x	4.9x	11.6x	11.8x	(0.6%)	0.8%	2.1%	2.3%	14.1%	4.4%
Average							0.7x	0.7x	0.7x	5.5x	6.0x	5.4x	11.9x	10.6x	15.5%	8.0%	17.9%	4.0%	13.6%	10.1%
Luxury Manufacturers																				
Aston Martin	135,694	1,778	170	1,329	326	0.14	1.5x	1.3x	1.1x	19.8x	5.4x	4.8x	N/A	N/A	35.1%	36.7%	23.4%	27.2%	15.8%	6.1%
Ferrari	27,838	17,216	720	3,667	1,288	3.75	4.6x	4.7x	4.2x	13.9x	13.4x	11.8x	37.9x	33.1x	18.2%	13.0%	8.4%	8.3%	32.6%	8.8%
Tesla Motors	57,246	52,181	3,345	19,478	3,765	5.22	2.4x	2.7x	2.0x	23.9x	13.9x	17.2x	N/A	N/A	NA	49.2%	74.4%	21.3%	7.0%	6.4%
Average							2.8x	2.9x	2.4x	19.2x	10.9x	11.3x	37.9x	33.1x	26.6%	33.0%	35.4%	18.9%	18.5%	7.1%
Casual Manufacturers																				
Mazda Motor Corp.	5,265	4,720	5,826	29,183	1,389	0.54	0.2x	0.2x	0.2x	3.4x	3.4x	3.5x	11.5x	10.1x	(5.4%)	0.6%	4.2%	1.1%	6.7%	4.4%
Subaru Corporation	19,387	12,429	7,890	25,874	3,004	2.16	0.5x	0.5x	0.4x	4.0x	4.1x	3.8x	13.7x	16.0x	(1.3%)	20.4%	3.5%	5.2%	14.9%	8.4%
Suzuki Motors	20,504	17,063	5,794	31,695	3,332	2.99	0.6x	0.5x	0.6x	5.1x	5.1x	5.0x	20.4x	14.0x	18.2%	(4.5%)	7.1%	0.4%	14.0%	6.4%
Average							0.4x	0.4x	0.4x	4.1x	4.2x	4.1x	15.2x	13.4x	3.8%	5.5%	4.9%	2.2%	11.9%	6.4%
R-N-M Alliance																				
Mitsubishi	37,942	24,755	11,411	131,838	7,305	3.04	0.2x	0.2x	0.2x	4.0x	3.4x	3.8x	8.8x	7.8x	21.1%	0.7%	(0.9%)	1.4%	8.9%	3.5%
Renault S.A.	13,512	9,353	16,362	61,553	5,642	8.57	0.2x	0.2x	0.2x	1.4x	1.7x	1.5x	5.6x	3.8x	9.9%	6.7%	10.5%	2.4%	10.9%	2.2%
Nissan	25,004	77,290	11,268	94,756	5,082	0.49	0.8x	0.8x	0.9x	9.2x	15.2x	16.9x	21.9x	9.6x	1.7%	(9.8%)	1.2%	(2.3%)	12.3%	2.1%
Average							0.4x	0.4x	0.4x	4.9x	6.8x	7.4x	12.1x	7.1x	10.9%	(0.8%)	3.6%	0.5%	10.7%	2.6%
Cumulative Average							0.8x	0.8x	0.7x	6.4x	5.4x	5.4x	13.7x	10.6x	10.5%	10.5%	12.0%	4.9%	12.8%	5.9%
Volkswagen AG	90,760	53,558	55,557	252,829	30,234	29.13	0.2x	0.2x	0.2x	2.0x	1.8x	1.5x	6.4x	7.0x	35.3%	5.7%	5.6%	1.8%	15.4%	3.6%

Sources: Bloomberg, Company Information

(1) Enterprise Value is calculated on a automotive basis.

(2) *Based on analyst consensus forecasts*

Trading Comparables Valuation | Valuation (2/2)

Company Name	Yes	EV/EBITDA	Yes	P/E	Valuation Rationale
	Incl.?	NTM	Incl.?	NTM	
American Conglomerates					
Fiat Chrysler	Yes	2.3x	Yes	5.9x	Operates in the same major markets as VW with a similar portfolio of automotive brands
Ford	No	0.0x	No	0.0x	
General Motors	Yes	2.8x	Yes	6.9x	Largest American automobile manufacturer w ith similar presence in Asia as VW. Large international presence w ith diverse portfolio of brands
Average Selection		2.6x		6.4x	
Eurpoean Conglomerates					
BMW AG	No	0.0x	No	0.0x	Direct competitor in Europe to Volksw agen in the premium space. Grow ing its electric lineup.
Daimler AG	Yes	1.6x	Yes	7.4x	
Peugeot S.A.	No	0.0x	No	0.0x	Direct competitor in Europe to Volksw agen in the premium space. Competes internationally in the commerical space
Average Selection		1.6x		7.4x	
Asian Conglomerates					
Geely	No	0.0x	No	0.0x	International compeitor to VW w ith massive global presence. Large lineup of electric vehicles built for the mass market
Tata Motors	No	0.0x	No	NA	
Toyota Motor Corp.	Yes	5.2x	Yes	11.8x	
Average Selection		5.2x		11.8x	
Luxury Manufacturers					
Aston Martin	No	0.0x	No	NA	
Ferrari	No	0.0x	No	0.0x	
Tesla Motors	No	0.0x	No	NA	
Average Selection		NA		NA	
Casual Manufacturers					
Mazda Motor Corp.	No	0.0x	No	0.0x	
Subaru Corporation	No	0.0x	No	0.0x	
Suzuki Motors	No	0.0x	No	0.0x	
Average Selection		NA		NA	
R-N-M Alliance					
Mitsubishi	No	0.0x	No	0.0x	
Renault S.A.	No	0.0x	No	0.0x	
Nissan	No	0.0x	No	0.0x	
Average Selection		NA		NA	
Cumulative Selection					
		3.0x			8.0x
Volkswagen AG					
		1.8x			7.0x
Selected Industry Multiple		3.0x	Selected Industry Multiple		8.0x
Volkswagen AG Metric (NTM)		\$30,234	Volkswagen AG Metric (NTM)		\$29.13
Total Enterprise Value		89,785	Fair Value Share Price		233.32
- Net debt (as of valuation date)		21,502			
- Pension Liability (as of valuation date)		-42,374			
+ BV of Financial Services Company		27,898			
+ Fair Value of China JV		29,830			
Equity Value		168,385			
Shares Outstanding (m)		501			
Fair Value Share Price		335.90			
Note: Use "Incl.?" column to indicate w hether a company should be included in the valuation [0 - No; 1 - Yes]					

Precedent Transactions Valuation | Summary (1/2)

Target		Buyer			Transaction				LTM (USD)		LTM (EUR)		EV/LTM ⁽²⁾	
Company	Type	Company	Type	EV ⁽¹⁾	Date	Year	Rationale	Impl, EV	Revenue	EBITDA	Revenue	EBITDA	Revenue	EBITDA
(all figures presented in EUR millions, except per share figures or where otherwise noted)														
Daimler-Benz	Public Corp	Chrysler Corp	Public Corp	NA	May-06-1998		Geographic expansion	48,381	68,947	4,014	62,577	3,643	0.8x	13.3x
Mitsubishi Corp	Public Corp	DaimlerChrysler	Public Corp	NA	Mar-28-2000		Geographic expansion	19,498	31,312	1,504	28,419	1,365	0.7x	14.3x
DaimlerChrysler AG	Public Corp	Cerberus Capital	Private Corp	NA	May-14-2007		Profit seeking	8,959	62,210	-	56,462	-	0.2x	NA
Ferrari	Public Corp	Spin-off (by Fiat Chrysler)	Public Corp	27,454	Oct-29-2014		Enhance shareholder value	9,558	3,083	703	2,798	638	3.4x	15.0x
Daihatsu Motor Co	Private Corp	Toyota	Public Corp	138,844	Jan-29-2016		Horizontal integration	6,797	14,764	1,694	13,400	1,537	0.5x	4.4x
Adam Opel Ag	Public Corp (GM)	Peugeot	Public Corp	12,375	Mar-03-2017		Horizontal integration	1,207	18,685	-	16,958	-	0.1x	NA
Peugeot	Public Corp	BPI France	Govt Agency	NA	Mar-27-2017		Public sector interest	12,649	57,036	5,292	51,766	4,803	0.2x	2.6x
Renault SA	Public Corp	Fiat Chrysler	Public Corp	27,454	May-27-2019		Scale and cost synergies	64,786	63,373	7,654	57,518	6,947	1.1x	9.3x
Average													0.9x	9.8x
Volkswagen AG													0.2x	2.0x

Precedent Transactions Valuation | Valuation (2/2)

	Segmented				
	EV/Revenue		EV/EBITDA		
Target	Incl.?	LTM	Incl.?	LTM	Relevance to Target Valuation
(all figures presented in EUR millions, except per share figures or where otherwise noted)					
Daimler-Benz	No	0.00	No	0.00	Revenue and EBITDA multiples capture the value of the luxury market, similar to Porsche
Mitsubishi Corp	No	0.00	No	0.00	
DaimlerChrysler AG	No	0.00	No		
Ferrari	Yes	3.4x	Yes	15.0x	
Daihatsu Motor Co	No	0.00	No	0.00	
Adam Opel Ag	Yes	0.1x	No		Most recent acquisition of a specific brand, EBITDA excluded due to unprofitability
Peugeot	Yes	0.2x	Yes	2.6x	Most recent transaction with a european conglomerate, captures mass market segment
Renault SA	Yes	1.1x	Yes	9.3x	Most recent precedent, revenue and EBITDA multiples follow current industry averages
Average		1.2x		9.0x	
Volkswagen		253,792		33,312	
Implied Enterprise Value		308,196		299,187	
Total Enterprise Value ¹		308,195.60		299,186.71	
- Debt (Group)		(190,883)		(190,883)	
+ Cash (Group)		55,557		55,557	
Equity Value		172,869.60		163,860.71	
Shares Outstanding (millions)		501		501	
Fair Value Share Price		344.85		326.87	

Team Introduction



Nima Jeyrani

njeyr071@uottawa.ca
+1 (613) 219-0374
Ottawa, Canada

Nima is in his final year at the University of Ottawa with a specialization in Finance. Over the past summer, he worked as a Analyst at HEXO in the Corporate Development team. He is also the leader of the student run investment fund at the Telfer School of Management. In his free time, Nima enjoys skiing, swimming and travel.

Education

- University of Ottawa
(Bachelor, 4th Year Finance)

Key Experiences

- HEXO, Corporate Development
 - EDC, Student Analyst
- Telfer Capital Fund (PML)



Jonathan Khov

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+1 (613) 710-9129
Ottawa, Canada

Jonathan is a fourth year finance student from the University of Ottawa. He previously completed a consulting internship at Deloitte in their Strategy & Operations practice and another internship at a search fund in Toronto. During his free time, he enjoys playing soccer, longboarding, and going hiking.

Education

- University of Ottawa
(Bachelor, 4th Year Finance)

Key Experiences

- Spruce Grove Capital Summer Analyst
- Deloitte S&O Consultant Intern
 - Telfer Capital Fund (PML)



Jack Lau

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+1 (416) 570-1395
Ottawa, Canada

Jack is in his final year at the University of Ottawa. He has previously completed a quantitative research analyst internship with Quandl and looks forward to joining Quandl to exploit alpha. During his free time, he enjoys poker, trading options, machine learning, and volunteering.

Education

- University of Ottawa
(Bachelor, 4th Year Finance)

Key Experiences

- Quandl, Quantitative Research Analyst
- Trading Central, Equity Analyst
 - Telfer Capital Fund (PM)



Julia Magahey

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+1 (519) 494-8494
Ottawa, Canada

Julia is in her third year at the University of Ottawa. Over the summer joined the Telfer Capital Fund, as student run investment fund. She recently joined as an analyst Mountain Hut Succession. In her spare time Julia enjoys teaching ridding lessons as well as training for her first marathon.

Education

- University of Ottawa
(Bachelor, 3rd Year Finance)

Key Experiences

- Mountain Hut Succession Search Fund, Analyst
 - Telfer Capital Fund (Analyst)

Team Member Accomplishments

EXPERIENCES

Nima Jeyrani (Undergrad | Finance 2020)



- **HEXO:** Corporate Development Analyst
- **EDC:** Student Analyst
- **TCF:** Portfolio Manager Leader

Jonathan Khov (Undergrad | Finance 2020)



- **Spruce Grove Capital (Toronto):** PE Summer Analyst
- **Deloitte S&O (Ottawa):** Consulting Intern
- **Telfer Capital Fund:** Portfolio Manager Leader
- **UROP:** Research project on online security behaviour

Jack Lau (Undergrad | Finance 2020)



- **Quandl:** Quantitative Research Analyst (Alternative Data)
- **Trading Central:** Equity Analyst
- **Telfer Capital Fund:** Portfolio Manager
- **Homesail:** Co-Founder & CEO

Julia Magahey (Undergrad, Finance 2021)



- **Mountain Hut Succession:** Private Equity Analyst
- **Telfer Capital Fund:** Equity Analyst
- **Molson Coors:** Sales Representative

SKILLS & ACHIEVEMENTS

Corporate Development, Financial Modeling, Debate

- **CFA Level 2 Candidate**
- Bloomberg Certificate, Valuation modeling training (BIWS)
- **Merit Scholarship** at the Telfer School of Management
- Two time JDCC debate competitor, judge for the Ontario Student Debating Union

Private Equity, Consulting, Leadership

- Dean's Honour Roll
- Robotic Process Automation (RPA) primer materials
- 1 of 40 students selected to work as Page in House of Commons
- Lead the on-campus consulting development program

Quantitative Research, Investment Research, Investment Research

- **Dean's Honor List** (top 10% of class)
- **Ranked 5th in 52 Schools** during Rotman International Trading Competition
- Co-Founded a start-up that Raised ~\$20,000 in funding
- **Passed CFA Level I**

Corporate Finance, High-Performance Competition, Leadership

- **Canadian Securities Certification**
- Equity research (Bloomberg Certificate), Valuation modeling training
- Telfer Finance Society



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Ottawa, Canada

Professional Experience

HEXO

Ottawa, Canada
Summer 2019

- Worked 5 months in the corporate development team at HEXO, predominately focusing on internal M&A and JV partnerships in the cannabis space
 - Assisted with three statement model creation and supporting schedules
 - Created PowerPoint slides that would be used by senior leadership and executives
 - Conducted extensive market research and due diligence on potential deals



Education & Skills

- **Bachelor of Commerce (uOttawa)**
Finance Specialization, 4th Year
- **Other Education & Skills Training**
Financial Modeling
Corporate Finance Research
CFA Level 2 Candidate
Fluent in English, French and Farsi

Export Development Canada (EDC)

Ottawa, Canada
March 2018 – December 2018

- EDC financially and operationally supports Canadian exporters compete in the global economy
- Worked in an agile environment with a team of external consultant on the automation of underwriting
 - Adjusted team needs and adapted to frequent changes with the legal and financing stakeholders



Telfer Capital Fund

2017 - Present

- Been a member in the student ran investment fund under the Telfer School of Management for the last 3 years
- Voted by group of peers to become the Portfolio Manager Leader (PML)
- Pitched companies under the Energy and Utilities sector and voted on by current members
- Supported pitches with professional slide decks and financial models



Awards & Achievements

- **Jeux du Commerce Centrale**
Debate team member for 2017 & 2018
- **World Taekwondo Federation**
Silver medalist in sparring, Junior division
- **National Lifeguard & CPR C**
Lifeguard and CPR certification
- **Ontario Student Debating Union**
Volunteer in 2018 & 2019

Iranian Student Association (ISAO)

2018 – Present

- Volunteer with the university in the ISAO to promote culture and embrace Iranian celebrations
- Help international students with the culture change of coming to Canada
- Yearly fundraising that's used to fund scholarships for select new international students





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Ottawa, Canada

Education & Skills

- **Bachelor of Commerce (uOttawa)**
Finance Specialization, 4th Year
- **Other Education & Skills Training**
Financial Modeling
Corporate Finance
Tech transformation

Awards and Achievements

- UROP Research Scholarship
- 1st Place JDCC Strategy Case Competition
- Podium finish DECA Queen's

Professional Experience

Spruce Grove Capital
Toronto, Canada
Summer 2019

- Conducted deal sourcing for 200+ prospective companies between \$2-5M EBITDA and subsequently recommended a top 10 shortlist based on research comprised of industry growth metrics, fragmentation, and cyclical effects
- Completed a value-chain analysis on the insurance industry and summarized key growth opportunities to the Partners
- Analyzed acquisition targets' financial statements and built an operating model projecting a 3-year forecast

Deloitte S&O
Ottawa, Canada
Winter 2019

Technology Service Transformation Project

- Supported the project management redesign of a \$100M+ multi-year IT service transformation project
- Implemented a progress reporting tool that forecasted teams were 10% behind schedule due to staffing shortages
- Coordinated workload decomposition across delivery teams eliminating project backlog overlap by ~5%

Youth Digital Strategy Launch Project

- Assessed the client's current digital strategy and developed individual value propositions for 10+ customer segments
- Synthesized workshop discussions and analysis to validate digital strategy approach and develop medium-term plans

Telfer Capital Fund
Ottawa, Ontario
2018 – Present

- Co-lead a long-term value fund specializing in North American equities with over \$300K in committed capital
- Routinely initiate the review of strategic investment theses for 30+ equities across all portfolio sectors
- Lead weekly meetings for 25 member-team, present and evaluate stock pitches, evaluate portfolio performance, and provide overall training and mentorship guidance to junior members

Street Smart Living
Ottawa, Ontario
2020 – Present

- Supporting a pro-bono consulting engagement to increase visibility of issues amongst teenage homelessness
- Engaging with corporate partners to pitch initial funding requirements
- Outlay proof of concept objectives and consolidate initial research to support medium-term project objectives





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Ottawa, Canada

Education & Skills

- **Bachelor of Commerce (uOttawa)**
Finance Specialization, 4th Year
- **Other Education & Skills Training**
Financial Modeling
Python & SQL
Quantitative Research
Robotics

Awards & Achievements

- **Ranked 5th in 52 Schools**
Rotman International Trading Competition
- **1st Overall**
TMX Finance Case Competition
- **MVP & 2nd in Stock Stimulation**
Omnium Financier
- **1st Overall**
Telfer Equity Valuation Competition
- **1st Overall**
Skills Canada Provincial Robotics Competition

Professional Experience

Quandl

Toronto, Canada
2018 - 2019

- Used Python, SQL, Spark and mathematical models such as regression and time-series analysis to develop quantitative research insights with alternative data:
 - Used Corporate Aviation data to develop predictive algorithms to track M&A deal signals
 - Assisted on patent value's long-short strategies including back testing and time-series analysis.
 - Built the foundation of Tesla European sales tracker that predicts Tesla's quarterly sales numbers.

Trading Central

Ottawa, Canada
Summer 2018

- Analyzed the impact mergers, acquisitions, and other business practices will have on the market and economy through Bloomberg.
- Covered major economic release and earning reports for clients such as hedge funds and wealth management firms worldwide.
- Built trading ideas for multiple asset classes (e.g. equities, forex, futures, commodities, indices & bonds).

Telfer Capital Fund

Ottawa, Canada
2016-2019

- Presented investment pitches with valuation models such as DCF and Relative Valuation, updates on the current and prospective holdings in the TMT sector, and made value-based investment decisions for the \$300k AUM portfolio.
- Developed performance and risk matrix such as VAR and Sharpe for portfolio holdings using Excel and VBA.
- Analyzed fund account inflows and outflows in collaboration with risk committee, reporting results to portfolio managers and investment board to support top level decision making.

Homesail

Ottawa, Canada
2016-2017

- Our mission is to build a community where households and home service professionals can interact seamlessly.
- **Co-Founder & CEO**
 - Raised ~\$20,000 in funding from friends and family, pitched at startup competitions, pitched to potential investors.
 - Led the business development





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jmaga062@uottawa.ca

Ottawa, Canada

Education & Skills

- **Bachelor of Commerce (uOttawa)**
Finance Specialization, 3rd Year
- **Other Education & Skills Training**
Financial Modeling
Corporate Finance Research
Canadian Securities Certification
Level 1 NCCP Equestrian Instruction
and Competition Coach

Professional Experience

Mountain Hut Succession

Ottawa, Canada
(Current)

- Currently an analyst for a Toronto based search fund focussing on local markets.
 - Active in deal sourcing and reaching out to potential clients.
 - Performing valuation techniques and analysis on target companies.
 - Conducting due diligence and aiding in developing deal structures.

Telfer Capital Fund

Ottawa, Canada
(Current)

- Telfer Capital Fund is a student run investment fund, focussed on bottom-up valuation.
 - Perform valuation techniques to provide recommendations about potential acquisitions.
 - Work effectively with a team to help manage a diverse portfolio.

Molson Coors

Ottawa, Canada
(Summer 2019)

- Worked as a summer sales representative, effectively managing 72 different accounts across.
 - Helped generate new accounts and ensure current accounts were anticipated.
 - Spearheaded charities and bottle drives to help bolster Molson's image and give back to communities.

Venturing Hills Farm

Val-Des-Mont, Quebec

- Worked as a equestrian competition coach for upcoming eventing and show- jumping prospects.
 - Travelled nationally and internationally to expose team to the most competitive environments.
 - Ensured diverse range of skills through cross training exercises.

