



German Vehicle Industry Analysis

BY AONA WANG

CONTENT

01 . Industry Overview

02 . German Car Analysis

03 . Insights



PART 01

Industry Overview

Why automobile matters?

Employment in EU

The European Union's automotive sector supports approximately 13 million jobs, constituting around 7% of the total employment within the EU.

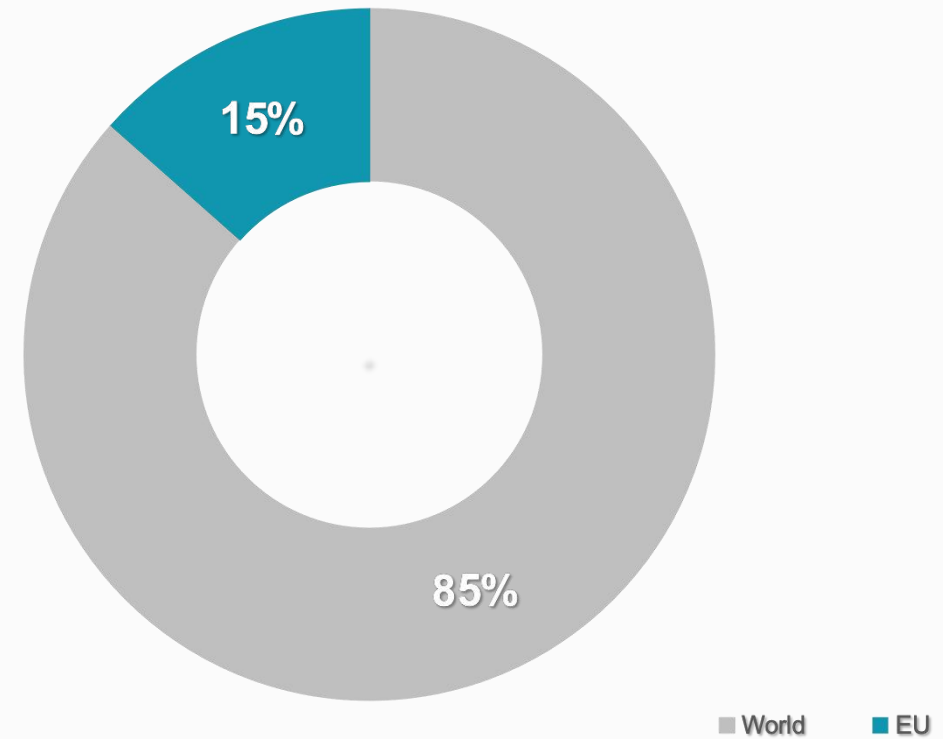
	2016	2017	2018	2019	2020	2021	% change 21/16
Manufacturing direct	2,325,086	2,440,817	2,574,384	2,558,450	2,486,650	2,434,862	+4.7
Manufacturing indirect	670,857	685,580	625,577	725,555	664,023	664,601	-0.9
Automobile use	3,794,824	3,895,863	3,973,070	4,045,496	3,995,144	4,022,111	+6.0
Transport	4,725,816	4,857,960	5,075,954	5,174,657	5,010,690	4,989,975	+5.6
Construction	607,045	662,852	694,767	692,931	767,826	768,650	+26.6
TOTAL	12,123,627	12,543,072	12,943,751	13,197,089	12,924,333	12,880,199	+6.2

Production in EU

The European Union's motor vehicle production, totaling **13.1 million units**, represents approximately **15.3%** of global vehicle production.

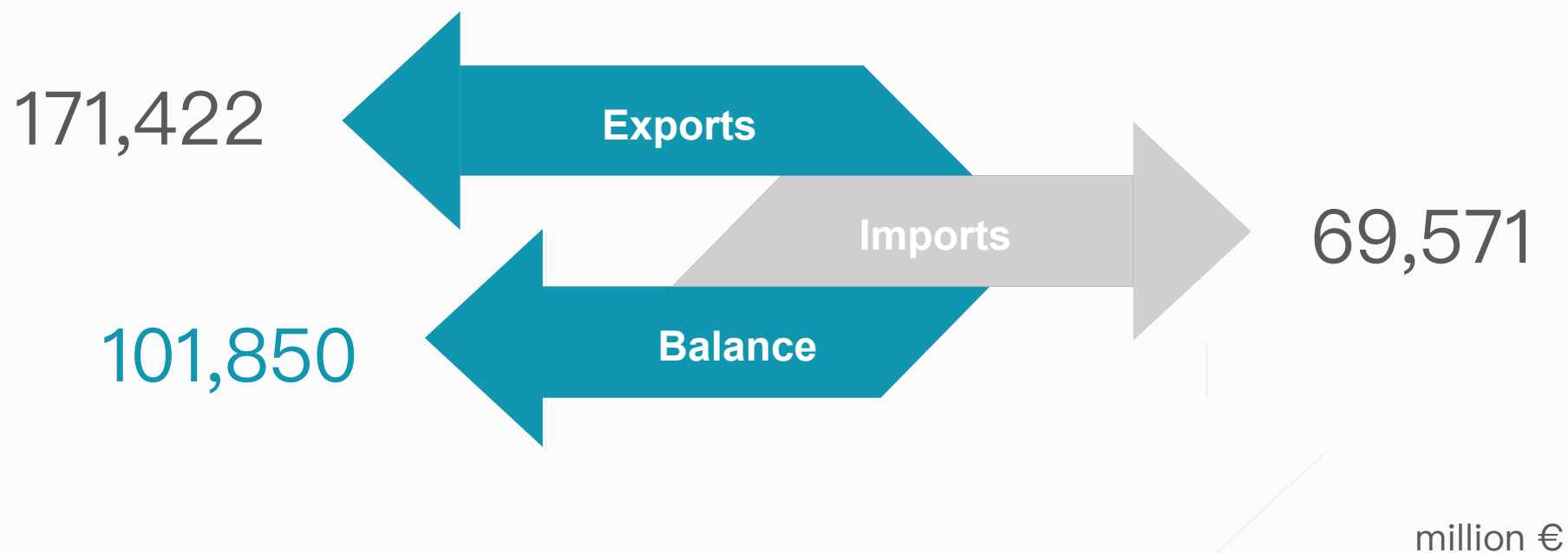
EU passenger car production accounts for **15.9%** of the global car production.

PRODUCTION- MOTOR & PASSENGER CARS



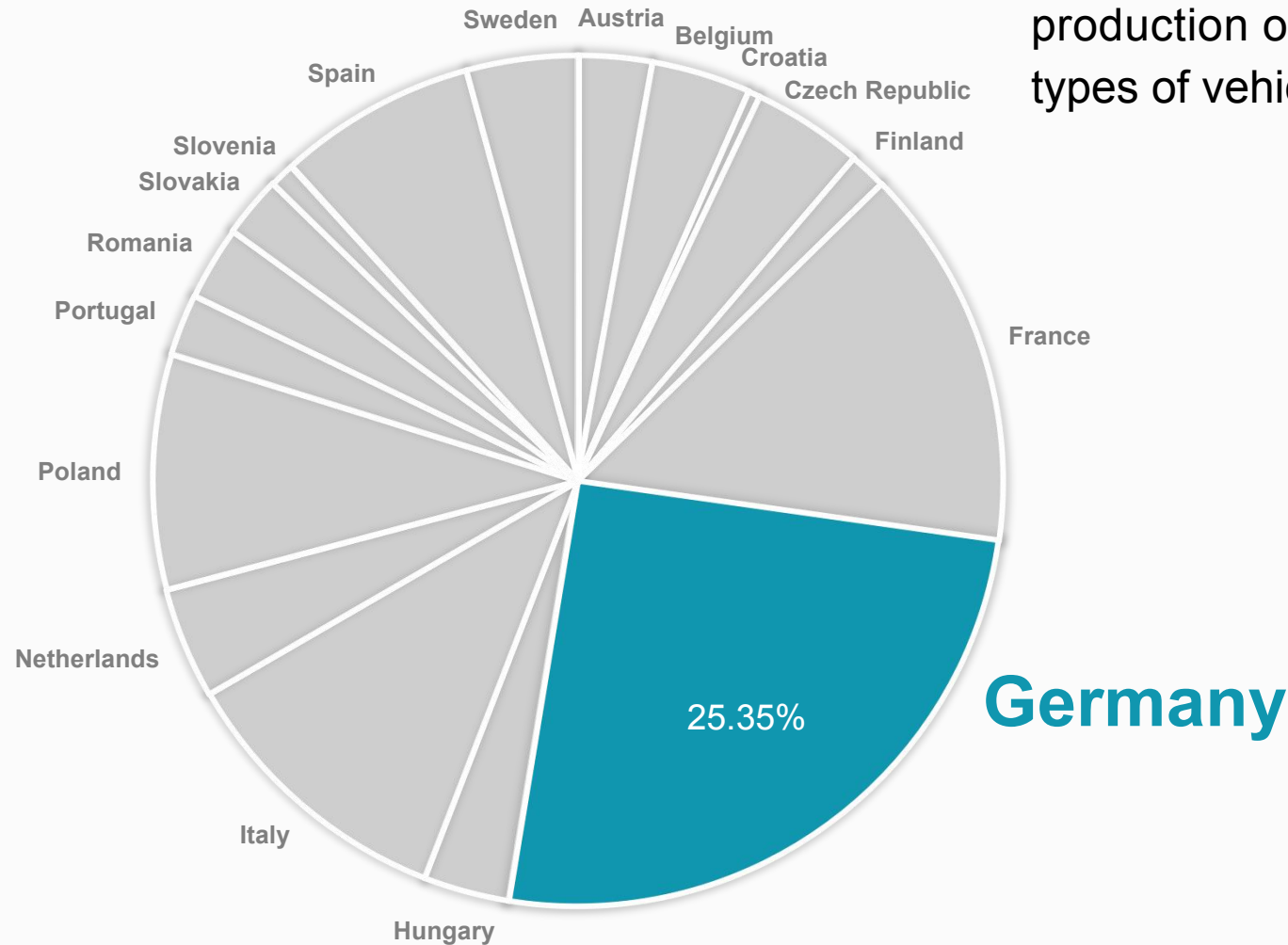
Trade in EU

In 2022, the EU auto industry achieved a trade balance of €101,850 million, marking a significant increase of 13.7% compared to the previous year.

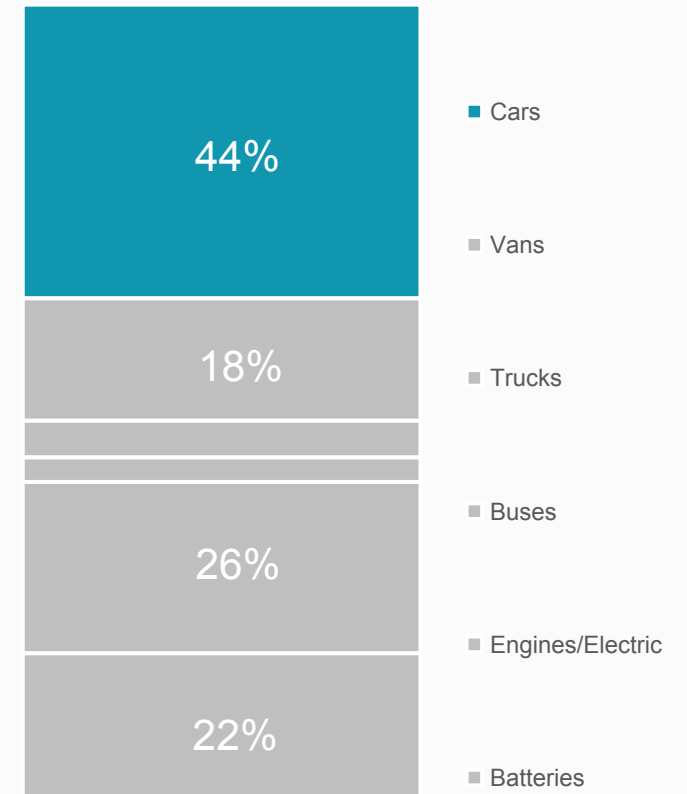


How German Stands?

PRODUCTION PLANTS BY COUNTRY



Germany boasts the **highest** number of auto production plants in Europe, amounting to approximately **25%** of the total. Within these plants, around **44%** focus on the production of cars, surpassing the production of other types of vehicles.





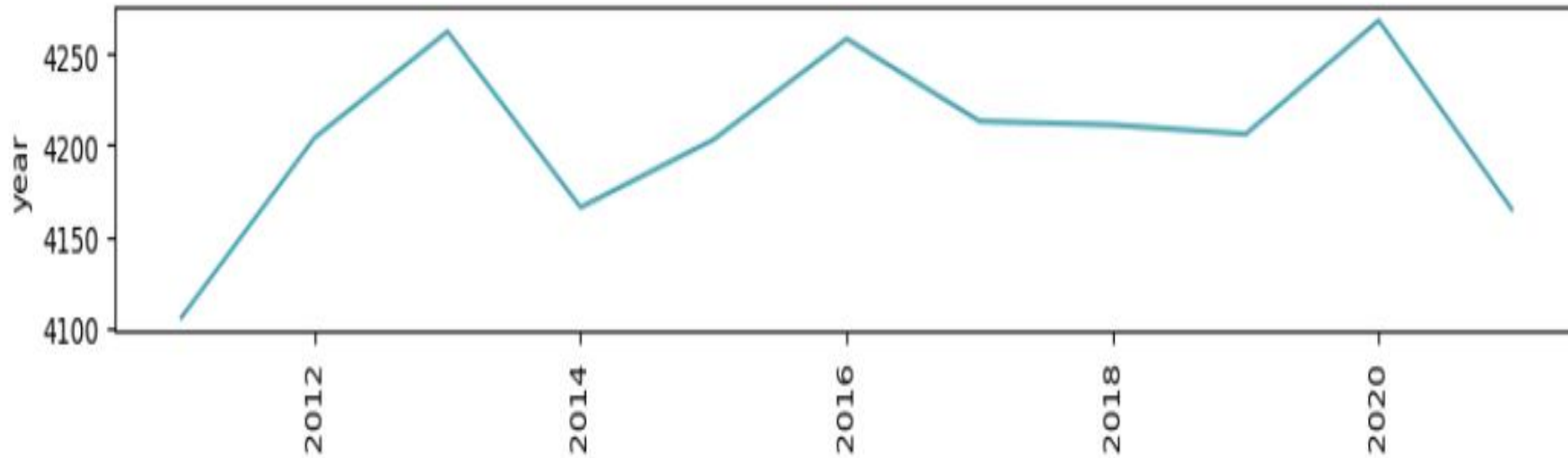
PART

02

German Car Analysis

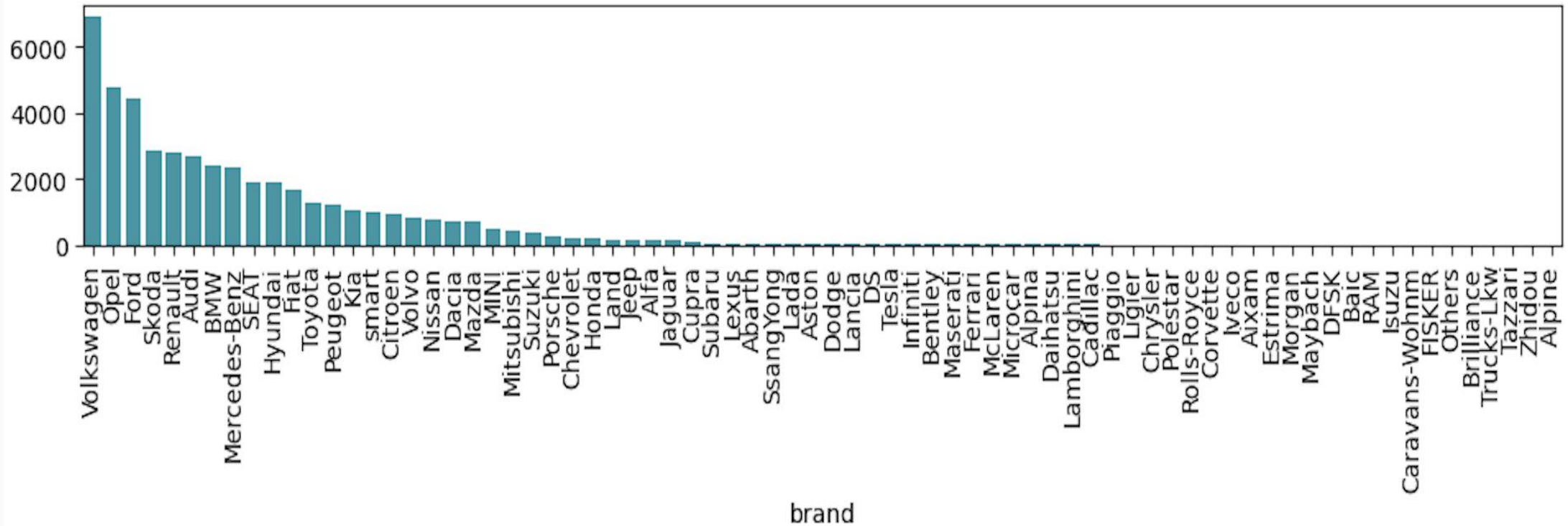
Cars in the Market

The dataset contains information about cars up for sale on a German car marketplace from 2011 to 2021, indicating **slight fluctuations** in the number of cars available in the German market over this period.



Brands in the Market

Volkswagen holds the top position as the most popular automotive brand in the German market, consistently outselling competitors such as Opel, Ford, Skoda, Renault, and Audi.



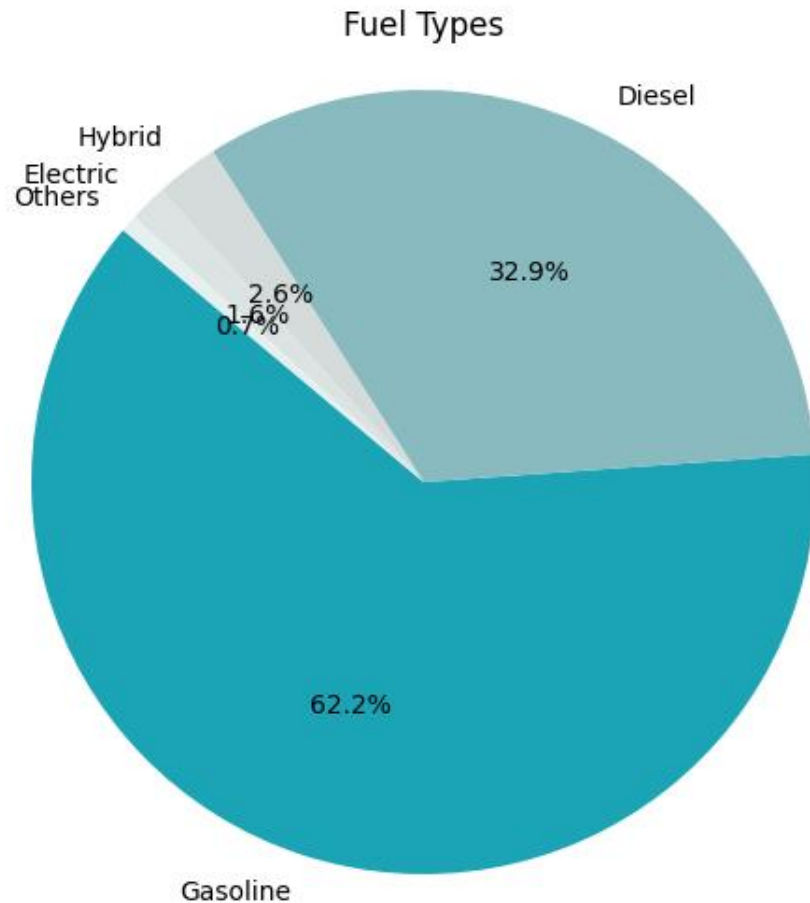
Top10 Brand

Brand	Price(Average)	Mileage(Everage)
Volkswagen	16060.09	80881.04
Opel	10428.03	78416.94
Ford	13793.37	69201.89
Skoda	13715.19	70644.23
Renault	11287.90	57111.05
Audi	30000.23	76796.27
BMW	23431.07	97489.55
Mercedes-Benz	28379.92	96164.90
SEAT	12847.43	66158.88
Hyundai	12852.69	52792.60

Top10 Model

Brand	Model	Price(Average)	Mileage(Everage)
Volkswagen	Golf	13540.55	91738.14
Opel	Corsa	8959.63	55012.01
Ford	Fiesta	9864.22	52437.59
Opel	Astra	9574.46	101118.97
Ford	Focus	12428.89	83752.35
Volkswagen	up!	7622.25	55040.93
Skoda	Fabia	10170.06	55746.15
Volkswagen	Polo	10053.58	68183.68
Smart	forTwo	7878.90	55304.53
Fiat	500	11150.00	25763.86

Fuel Type

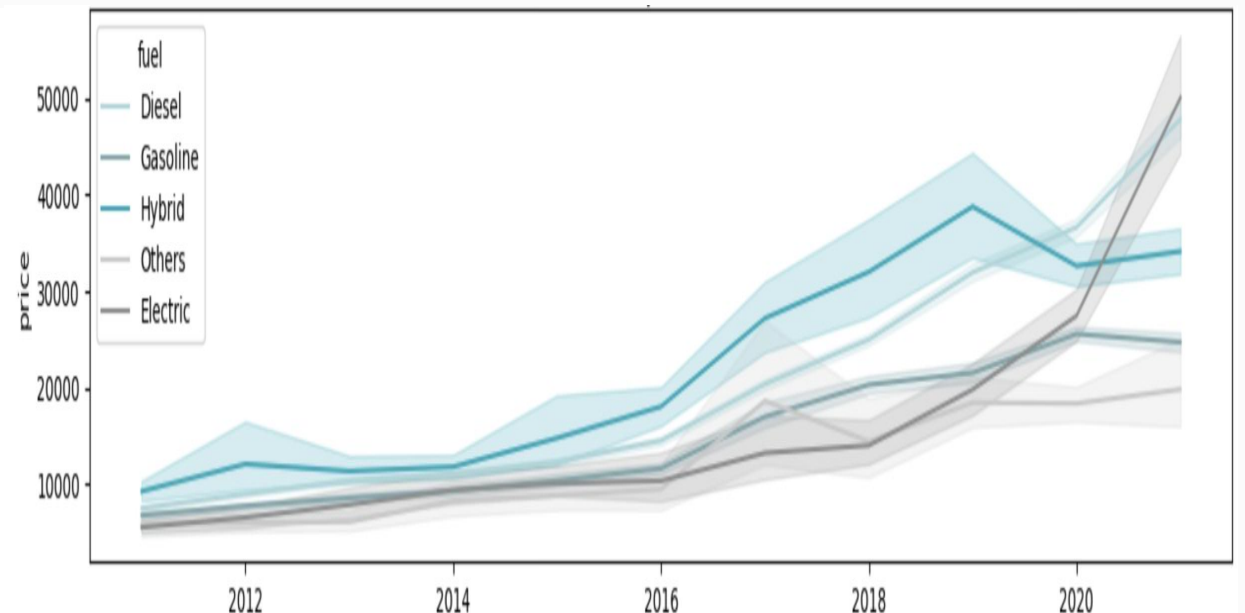
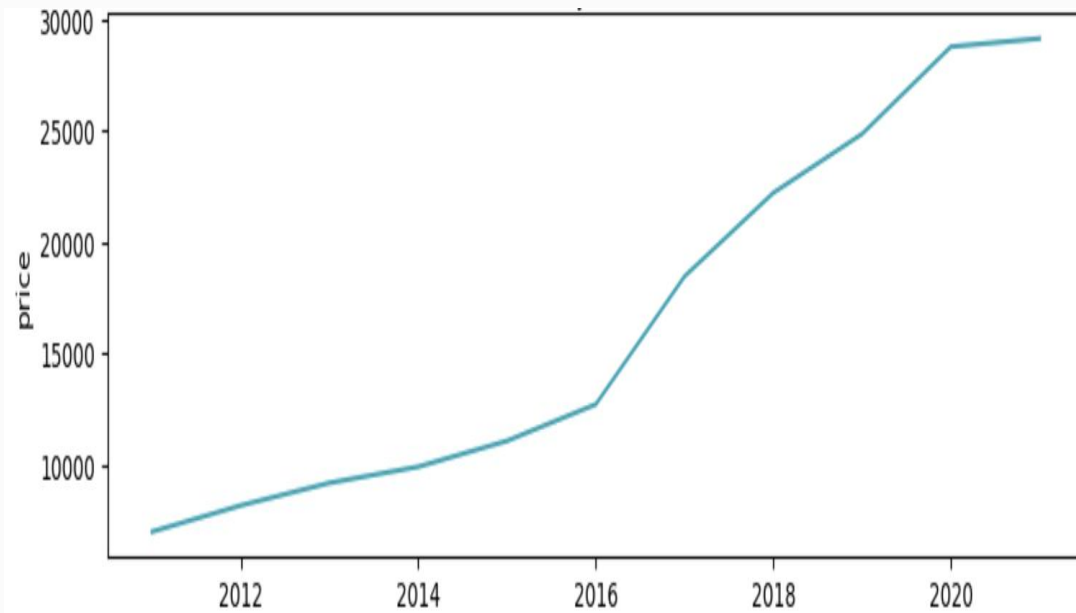


The majority of cars in the German market rely on **traditional fuel** types, with gasoline accounting for approximately **62.2%** and diesel around **32.9%**.

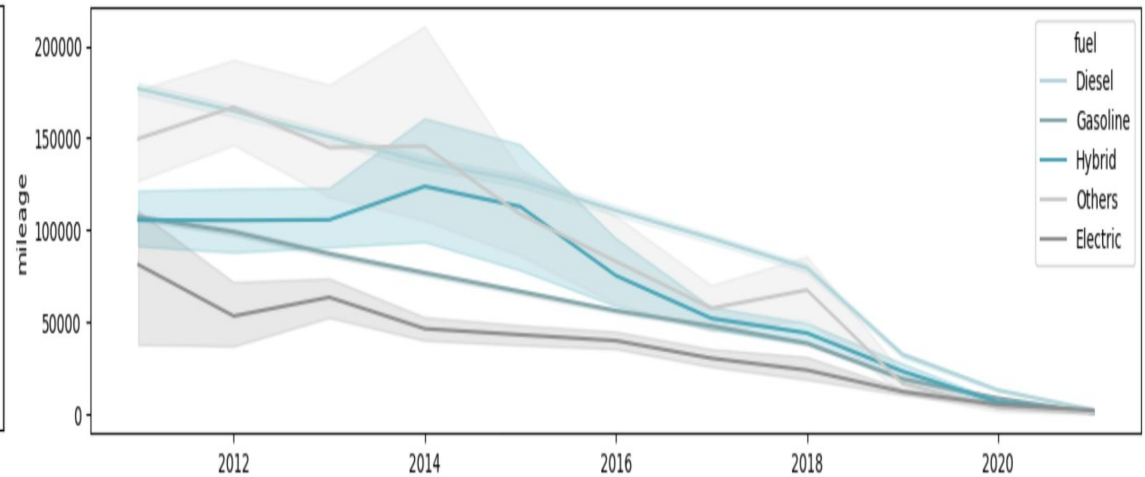
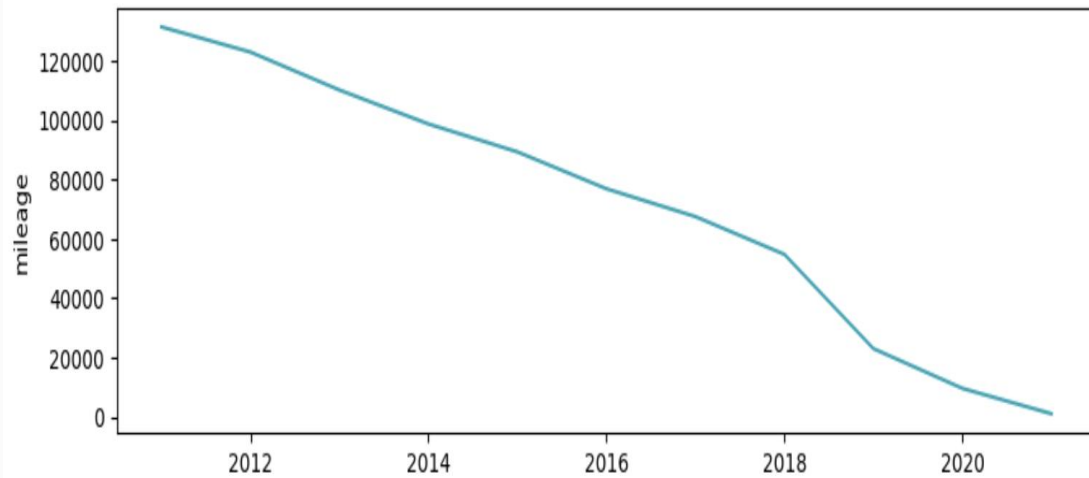
However, the adoption of green fuels such as hybrid and electric vehicles remains **relatively low or insignificant** compared to traditional fuel types.

Change Over Time–Price

The average price of cars in the German market has shown a **steady increase** over the years, with **sharper rises** observed in 2016 and 2019. Notably, within this trend, the price of hybrid cars reached its peak in 2019 before declining, while electric car prices have experienced a dramatic growth since 2020.



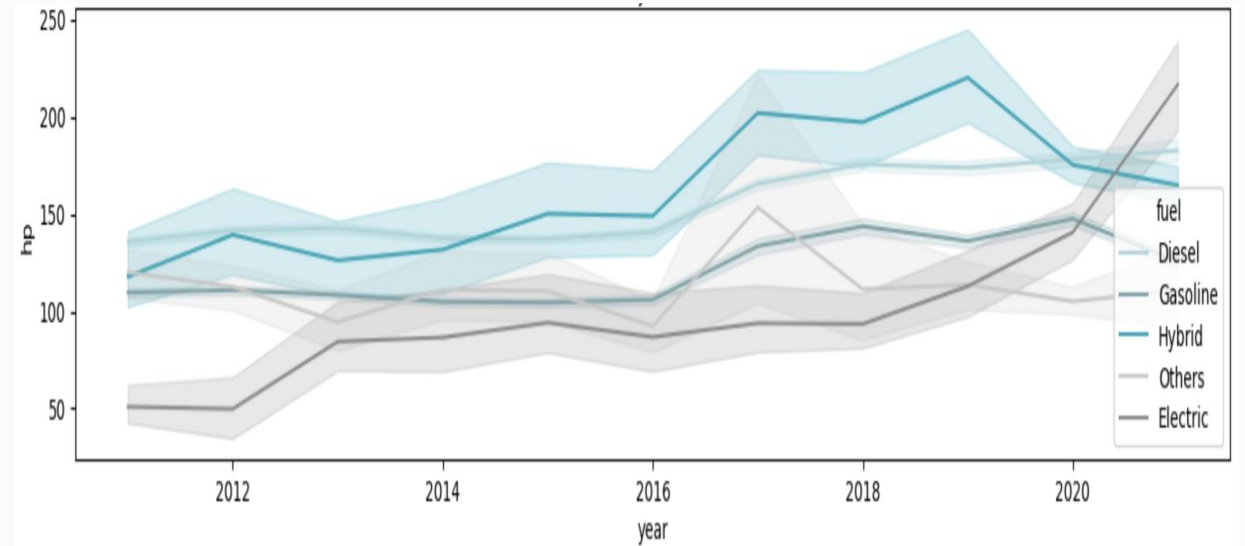
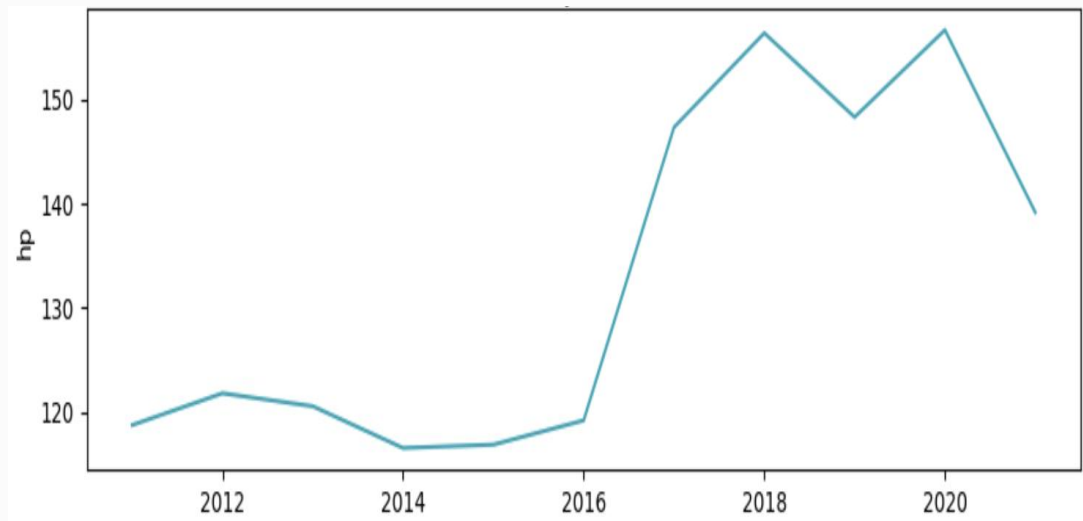
Change Over Time–Mileage



The average mileage of non-hybrid fuel cars gradually **decreases** over time, indicating a tendency for **quicker turnover** in the used car market.

Change Over Time–Horsepower

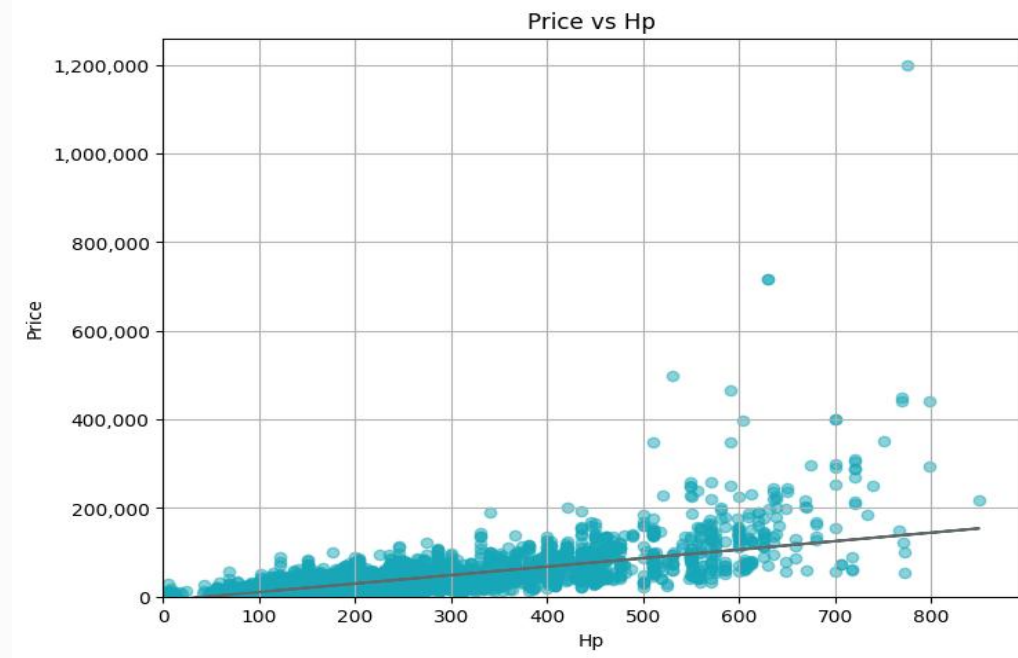
Hybrid and electric cars typically exhibit a **higher average horsepower** compared to vehicles using diesel and gasoline. Over the past decade, diesel and gasoline-powered cars have shown slight fluctuations but have remained largely unchanged in terms of average horsepower.



Correlations

There exists a **negative correlation** between mileage and price, meaning that as mileage increases, the price tends to decrease.

Conversely, there is a **positive correlation** between horsepower and price, indicating that higher horsepower is associated with higher prices.





PART

03

Insights

SWOT



Strength

Reputation for Quality: German car manufacturers are renowned for producing high-quality vehicles known for their precision engineering, reliability, and durability.

Market Leadership: German car brands, including Volkswagen, BMW, Mercedes-Benz, and Audi, hold significant market share globally.

Weakness

Dependence on Traditional Fuel Types: The industry's heavy reliance on traditional fuel-powered vehicles poses challenges amid the increasing demand for alternative energy sources and environmental concerns.

Vulnerability in Supply Chain: Global supply chain disruptions, such as the COVID-19 pandemic and the Russo-Ukrainian War, can significantly impact production schedules and availability of components, affecting its supply chain.

Opportunities

Shift towards Electric Vehicles

As the market for electric vehicles grows, German automakers have an opportunity to make innovative attempt in Electric vehicles.

Expansion & Collaboration

German industry can stay ahead in fields like autonomous driving, connectivity, and mobility services by partnering with technology companies, and other automakers.

ESG Attempt

Car inudstry can seize opportunities related to environmental sustainability, social responsibility, and governance practices to enhance competitiveness, and foster long-term value.

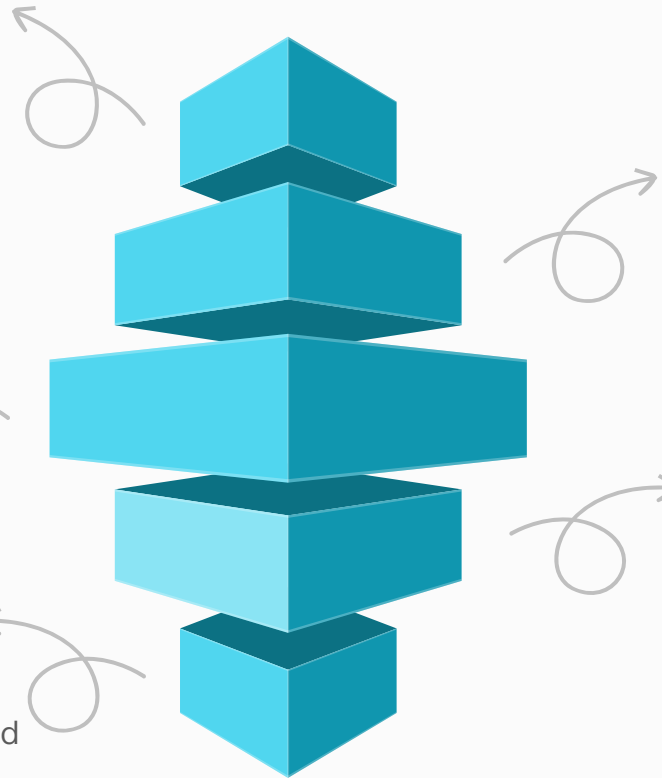
Threats

Fierce Competition

German automakers have to contend with fierce competition from both domestic and foreign rivals, including those from South Korea, Japan, and the US.

Geopolitical Uncertainty

Trade disputes, geopolitical tensions, and policy changes may cause global supply chains to break, impede market access, and affect German automakers' ability to export their products.



Insights–Conclusion

The German vehicle industry plays a **significant role** in the EU auto sector, contributing to trade, manufacturing, and employment opportunities. As a major exporter, it drives revenue growth for the EU.

However, the German market still predominantly relies on **traditional fuel types**, with limited adoption of greener alternatives like hybrid and electric vehicles. The rapid increase in electric car prices presents both a challenge and an opportunity for the German car industry.

[Insights–Conclusion

While the industry faces threats such as [weaknesses in the global supply chain](#), [geopolitical uncertainty](#), and [fierce global competition](#), there's an opportunity for innovation and a shift towards vehicles using greener fuels.

Therefore, while challenges persist, the transition towards greener fuels presents a promising opportunity for the German car industry to remain at the forefront of automotive innovation and sustainability, ensuring its continued relevance and success in the future.

Data Source

Market data: ACEA Figure (European Automobile Manufacturers' Association)

German car data: Kaggle

Photo by Olav Tvedt on Unsplash

*It's important to acknowledge that analysis based on sample data may carry biases and limitations, potentially impacting the representativeness of the findings.