



# GNAM Investment Competition

## European School of Management and Technology Top Investment Pick

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Alejandro Molina

Ayla Haddenhorst

Benjamin Topper

Galen Evans

Thomas Miller-Jones

# Investment recommendation for VOW3



## Key informations

Type of product	Stock
Price	126 (Oct 30)
Currency	EUR
Market cap. (billions)	55.31 EUR
Stock Exchange	Xetra
ISIN/WKN	ISIN DE0007664039, WKN 766403
Headquarters	Wolfsburg, Germany
CEO	Matthias Müller
Web	<a href="http://www.volkswagenag.com">www.volkswagenag.com</a>
Industry	automotive



## A closer look at the fundamentals

Volkswagen AG is one of the leading automobile producers in the world and the largest producer in Germany. In 2014 the company increased delivery of vehicles to customers to 10,137 million. They have a world market share of 12.9%.

The recent emission crisis has significantly lowered stock prices, but there are signs of recovery now.

Key financial ratios	
Operating margin	6.28%
Net margin	5.15%
ROA	3.10%
ROE	11.67%
P/E	4.80%
Debt/Equity	1.45
Return on investment	4.92%
Beta	1.44

- Large global market share
- Strong brand portfolio
- Possibility of buying low and selling high
- The stock value is likely to return to at slightly below pre-crisis values
- Many investors may be pursuing this possibility
- Uncertainty about provisions and future fines
- Somewhat speculative





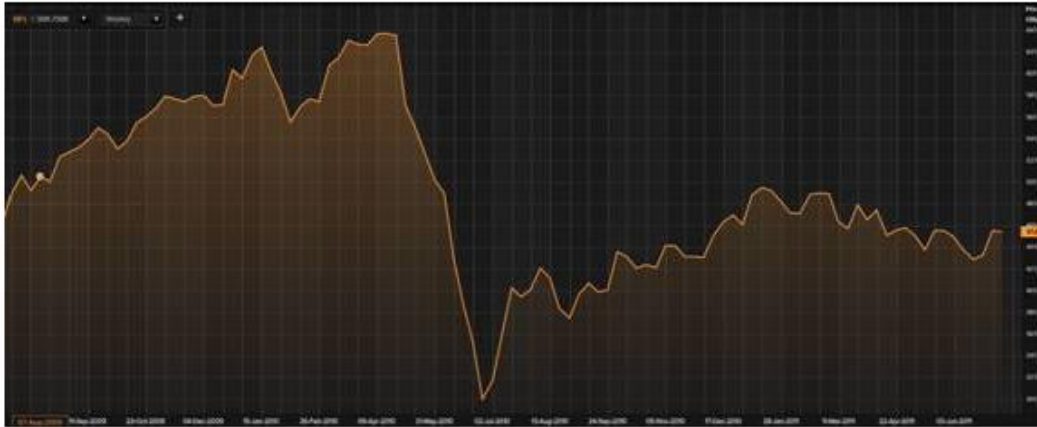
## Eye of the scandal: Consequences

- The CEO Martin Winterkorn resigned in September after the fraud was exposed being replaced by Matthias Müller, CEO of Porsche.
- All affected cars will be recalled and their systems will need to be replaced, at the expense of VW.
- VW estimates it will cost 6.5 billion euros to recall the affected cars.
- The stock price took a plunge of more than 32% over the first few days after the scandal broke.
- VW has been sued by car owners in the UK, US as well as by investors.



# Eye of the scandal: comparing to BP

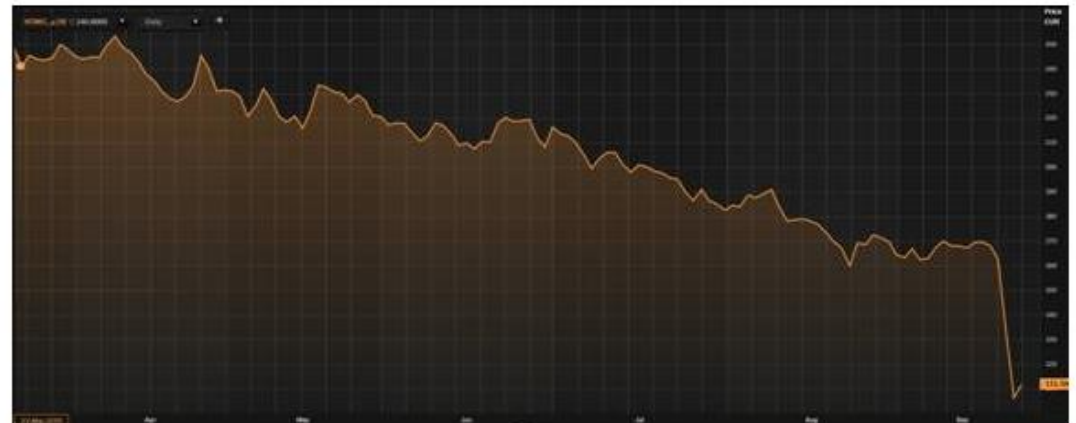
BP (NYSE: **BP**) – July 2009 – July 2011



British Petroleum (BP) had a fast rebound after its 2010 oil spill scandal.

Volkswagen (OTC: **VLKAY**) – March 2015 – September 2015

Can we expect a similar behavior for VW?





## A closer look at the chart

- Market analysts are divided on recommendations. Mainly say hold.
- German Auto Manufacturers performing well and with similar up trend.



## Final Recommendation



- Overall, we believe that Volkswagen AG shares provide a promising investment opportunity, because the stock is likely to be undervalued.
- We are expecting the prices to recover of the next six months yielding a return between 10-20%.

# ESMT INVESTMENT CLUB



**GNAM Investment Competition**



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Jones





## Top Pick: Volkswagen AG (VOW3)

Our Top Pick is Volkswagen AG (VW) which is a German car manufacturer headquartered in Wolfsburg, Lower Saxony, Germany. As the second largest automobile manufacturer worldwide and the largest producer in Germany the company represents a cornerstone of the country's economy. The September 18<sup>th</sup> announcement from the Environmental Protection Agency (EPA) revealing that VW had intentionally manipulated emission tests therefore came as a shock to the industry and consumers. As a result, Volkswagen AG share prices fell 20% on the Frankfurt Stock Exchange on the first day of trading following the announcement and a further 12% on the second day. The 2-day cumulative decline of a staggering 32% and a record 4-year low of €101.15 per share on October 2<sup>nd</sup> indicate the severity of the market's punishment for VW's cheating. In recent weeks, however, there have been signs of recovery and we see a good opportunity for investment as we believe the VW stock to be currently undervalued.

### Company Background and History

Volkswagen AG is a company deeply rooted in German history having been founded in 1937 to manufacture the popular Beetle model which became an icon of West German reconstruction and the "Wirtschaftswunder" after World War II. The company developed several successful models such as the Audi F103 series and production grew rapidly in the 1960s and 70s. In 1982 the company made the first steps expanding outside Germany by signing a cooperation with Spanish manufacturer SEAT. In following year Volkswagen became increasingly global and successfully continued its geographical diversification and inorganic growth strategies adding prestige automotive marques to its portfolio including Bentley, Lamborghini and Bugatti in 1998 and Porsche in 2012.

In 2014 the Volkswagen Group delivered 10.14 million cars to customers with a total production of 10.21 million. As of December 31<sup>st</sup> 2014 the company had a total of 592,600 employees worldwide generating a sales revenue of €202.46 billion. Profit after tax was €11.07 billion.

## The NOx Emissions Scandal

In September 2015 it was revealed that Volkswagen had intentionally programmed their turbocharged direct injection (TDI) diesel engines to activate certain emission controls only during laboratory emissions testing. This programming led to a false reading of nitrogen oxide levels that allowed the cars to meet U.S. standards during regulatory testing while in reality they produced 40 times higher NOx output on the roads. After having been tipped off about the poor on-road emissions, EPA repeated tests and contacted VW to explain poor real world emissions. In response VW admitted cheating on the tests and EPA issued an official notice of violation of the Clean Air Act on September 18<sup>th</sup>, 2015.

It is estimated that around 11 million vehicles are affected by the emissions violations. The diesel engines that were previously heralded as a “Clean Diesel” sold well in the U.S. and Europe between 2009 and 2015 winning several environmental awards. The scandal has caused the brand great reputational damage as environmentally-conscious customers were expecting to own a green car and the revelation that the company was intentionally cheating made many consumers feel betrayed by Volkswagen.

The scandal has impacted the company severely and has had the following consequences so far:

1. The CEO Martin Winterkorn resigned in September after the fraud was exposed being replaced by Matthias Müller, CEO of Porsche.

2. All affected cars will be recalled and their systems will need to be replaced, at the expense of VW.
3. VW estimates it will cost 6.5 billion euros to recall the affected cars. The amount has already been separated from the current quarter profits.
4. The stock price took a plunge of more than 32% over the first few days after the scandal broke.
5. VW has been sued by car owners in the UK, US as well as by investors.

At this time the great unknown is how the company will settle the lawsuits and how large governmental fines will be.

## Recent Development of Volkswagen AG Shares

As seen on the 52-week snapshot below, VW has lost over 30% of the stock value compared to a year ago. A sharp dip can be observed on September 21<sup>st</sup>, the first trading day after the announcement from the EPA. Prior to the scandal the stock price was around 165.00€ per share and dropped down to 133.70€ on the first day post-announcement and further to a minimum of 101.15€ in subsequent days. However, on October 30<sup>th</sup>, 2015 the Volkswagen stock opened at a price of 126.00 € showing first signs of recovery with a promising upward trend.

We are expecting a further rebound of the stock price to between 140€ and 150€ within the next six months, which is below the share price prior to the scandal but higher than prices currently. Therefore we expect to make a return of 10-20% on our investment over the next six months.

## Stock Snapshot

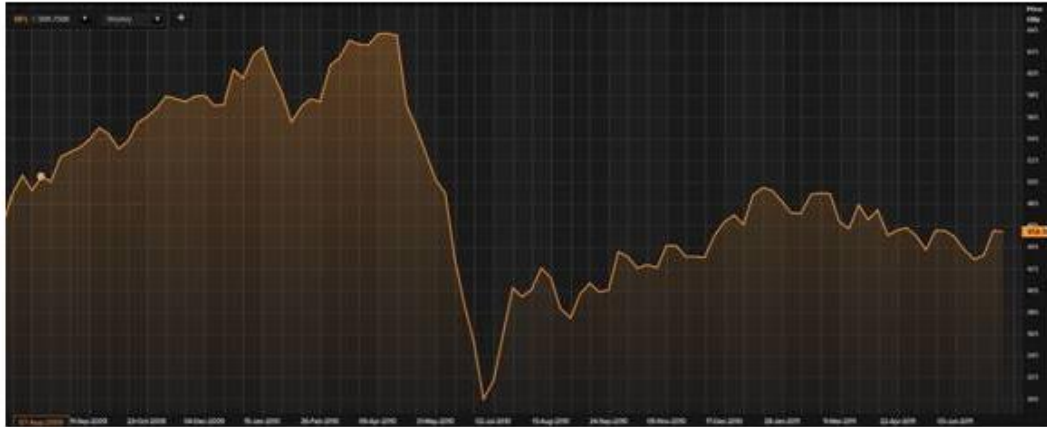


Source: CNBC.com

This expectation is based on observations made about similar cases of companies involved in scandal, where stocks have fallen drastically in the first weeks, but with a considerable rebound within only a few months.

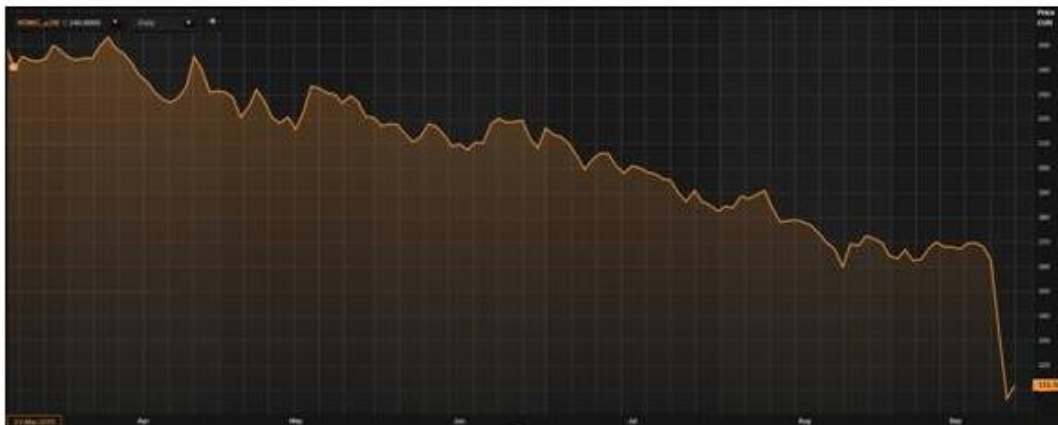
A good comparison is BP, which during July 2009 was involved in a severe oil spill caused by the explosion of a drill tower at the Gulf of Mexico. This event dropped the stock price to half its value in only a few days. Nonetheless the stock price showed substantial rebound and normalization over the next few months. The figures below show the stock prices in response to the scandal of BP and Volkswagen. We believe that the market punished companies too severely following critical events and that market prices will converge back to fair value once uncertainty has been revealed. Once investors have clarity about the costs Volkswagen faces as a result of the emissions scandal and see that VW can implement an effective strategy to continue to be profitable in the future, we expect the share prices to increase.

**BP (NYSE: BP) – July 2009 – July 2011**



Source: Yahoo Finance

**Volkswagen (OTC: VLKAY) – March 2015 – September 2015**



Source: Yahoo Finance

## German Automobile Industry Trends

Despite the scandal involving VW, the other two large automotive manufacturers in Germany, namely Daimler and BMW, continue to maintain good stock performance. Considering that the three companies tend to be highly correlated in the past, we expect VW to continue to follow the same trend in the future.



Overall, the German automotive industry has had a very successful year in 2014. Despite an adverse socio-economic and political environment, the industry managed to increase its turnover to a record €367.9 billion with an annual growth of 2%. This development reinforces the competitive position German automotive manufacturers hold globally. High export revenues posting an 8% increase illustrate the high export orientation and outstanding global reputation of vehicles “made in Germany”.

The automotive industry is cyclical and has historically experiences downturns that were characterized by oversupply and weak demand. There are many factors affecting the industry including consumer confidence, general economic conditions that affect consumer’s personal spending levels, interest rates and the availability of

credit. Taking into consideration the stable economic growth in Europe and the US, which are Volkswagen's largest markets, we believe that a downturn is unlikely to occur within the next six months.

## Key Financials and Ratios

### VALUATION RATIOS

	Company	industry	sector
P/E Ratio (TTM)	8.80	13.51	24.30
P/E High - Last 5 Yrs.	10.96	18.84	27.31
P/E Low - Last 5 Yrs.	3.49	12.77	14.85
Beta	1.41	1.20	1.17
Price to Sales (TTM)	0.26	1.15	4,425.05
Price to Book (MRQ)	0.55	2.07	2.24
Price to Tangible Book (MRQ)	1.70	2.29	2.62
Price to Cash Flow (TTM)	2.33	9.02	60,612.93
% Owned Institutions	—	0.02	0.20

Source: Reuters

Volkswagen AG's P/E ratio is, as expected, below industry levels, as it has been over the past five years. This could indicate that the stock is undervalued while at the same time it may reflect the drop corresponding to the emission scandal.

The value of beta is slightly higher than industry average but is still in low levels. This may also indicate the increased volatility resulting from the emissions scandal.

## Final Recommendation

Overall, we believe that Volkswagen AG shares provide a promising investment opportunity, because the stock is likely to be undervalued. We are expecting the prices to recover of the next six months yielding a return between 10-20%.