GLACIER CAPITAL

Luxembourg, 25th November 2019

Dear Limited Partners,

I will start with a brief presentation of the performance, followed by an analysis of the general market situation and an update of the car manufacturing sector and finish with news on two of our positions.

I. Performance Analyses

The performance of the fund was 1.49% during the third quarter.

The three best performers were:

- Netflix Short: +2.22%
- Express Long: + 0.51%
- Thyssenkrupp Long: + 0.45%

The three worst performers were:

- Hershey Short: - 0.58 %
- SAP Long: - 0.33%
- Coty Long: -0.30%

II. General Market Situation

Throughout July to September, the S&P500 gained 0.5%, whereas Eurostoxx 600 increased by just over 1%.

Markets are, still among other things by the China-US trade conflict, and Brexit.

I do not want to make any prediction on the outcome of the if, when or how of the exit of Great Britain from the European Union. However, I am still as confident as I was a year ago that there will be no trade deal between China and the United States on any important issues like IP protection or state financing anytime soon. The problem is not about tariffs, but about an emerging country that managed to outgrow the United States (US) and Europe (EU) by a factor of around ten over the last fourty years and is slowly catching up in major technological developments.

Currently, China is growing its Gross Domestic Product (GDP) around 6% per year, more than double the speed of the United States and around five times the speed of the European Union (EU). What western leaders fear more is that if this growth difference continues during the following decades, China will not only be the economic leader of the world but probably also the military.

Why is China growing faster? Many parts of the EU and US economy are disfavored because of stricter rules regarding intellectual property rights, state intervention, state subvention, and private property rights. Furthermore, China still benefits from vast numbers of cheap labor. Currently, still only 58.52% of the total population lives in urban areas; however, this is a dramatic increase from 17.92% in 1978. Finally, given its one-party political system, it can make faster decisions and can implement long term goals without the risk of being reconsidered during the next legislature. Mr. XI was even recently allowed to remain president for life (1990 implemented two terms rules, which was abolished under his leadership).

I would not want to argue for one or the other economic models, but I consider any non-democratic form of state as unstable. Most Chinese born, or those growing up during the reign of Mao Zedong, saw a continuous improvement of their overall living conditions. They may have reasons to accept to sign a stricter “social contract” by giving up essential decisions on how they want society to evolve. Europe faced many of those crises of too-centralized power in the past. This is why significant rights, that the Chinese population does not benefit of, are written down in our Constitution.

The “made in China 2025” government plan aims to move away from being the "world's factory" (producing cheap, low-technolgoy goods due to lower labor costs) and move toward creating higher-value products and services. The plan focuses on high-tech fields, including the pharmaceutical industry, automotive industry, aerospace industry, semiconductors, IT and robotics, etc., which are presently the purview of foreign companies.

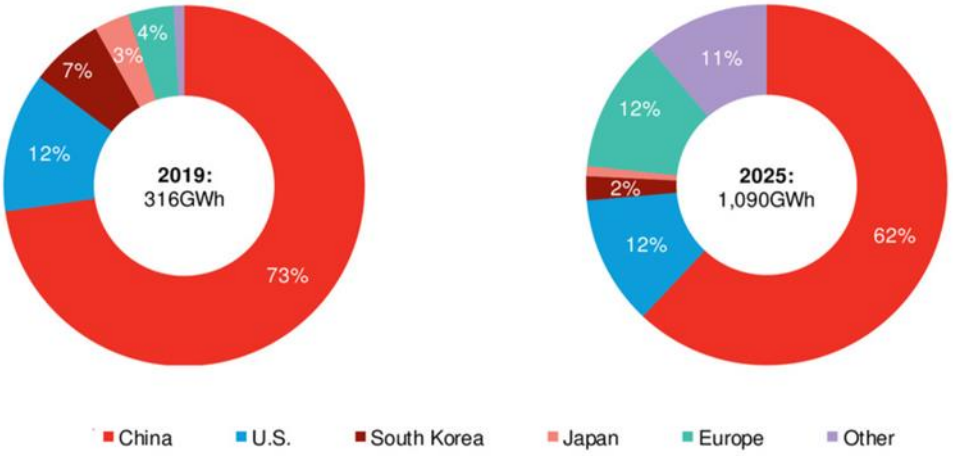
Adding this to the construction of a new silk road and the more influential role in Asia we can deduct that China might be able to exceed the western world's technology sooner than we think. This will be the case if the government manages to keep its current form of state and economic model. This is precisely where the US and EU have a card to play, by pushing pressure on the Chinese government to do reforms. I believe that one political party system is more under pressure to satisfy the needs of its population.

The United States, as the military leader of the world, and having the USD as the world reserve currency (since the end of the first world war) has many privileges. The balance of power has changed many times during the past, and we might be in a very deterministic moment once again. Of course, those are long-lasting structural changes that take generations, but maybe future generation will look back to our time of being, at last, a very significant factor.

Over time, I think stock markets will get used to a constellation of two large political and economic blocs.

However, regarding the fundamental underlying, I think many EU and US high tech companies will face more problems to keep up with Chinese companies on the Chinese home market. As you can see in the following chart, the made in China 2025 plan is already far advanced in the battery technology for electric vehicles (EV), it represents 73 % of the world lithium-ion battery capacity. Furthermore, there are over 500 EV manufacturers in China. Many will disappear, but some state-owned or financed companies can become essential competition for established manufacturers.

Figure 138: Lithium-cell manufacturing capacity by region of plant location



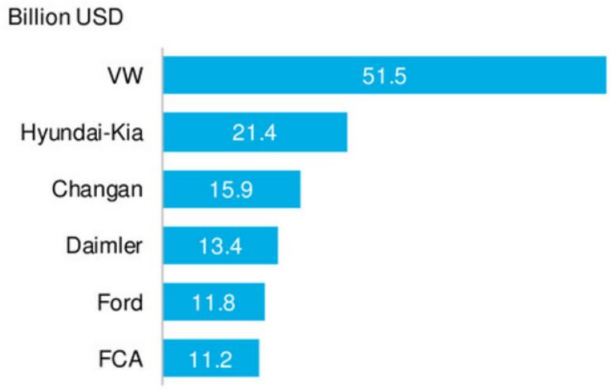
The EU automobile sector is forecasted to be stable over the next decade as the US one is only growing slightly. By far, most growth comes out of China, where the competition is going to be tougher than it was for Internal Combustions Engines cars.

III. Future of mobility

The broader automobile sector currently faces three major disruptions: electrification (1), autonomous driving (2), and ridesharing (3). What all three potential disruptions have in common is that they need significant upfront investments and might be future necessary conditions for a consumer to buy a car. In other words, companies cannot afford to not invest. However, future revenues related to that Research & Development (R&D) are still unknown.

In the following chart, you can see that the German car manufacturer VW is leading the race regarding investments in Electrification. TESLA has around 75% of the market capitalization of VW and spends around $1 billion on R&D in 2019. In total, car manufacturers committed over $130 billion to EV.

Figure 22: Electrification investments announced by selected automakers



Source: BloombergNEF, Marklines, company press releases. N

To reduce this risk, most major car manufacturers started cooperating with suppliers, technology companies and even other car manufacturers.

Who would have imagined five years back that DAIMLER and BMW would implement a company on car sharing (share now), or that BMW and FIAT would work together on autonomous driving? Or even VW allowing FORD to use its modular platform MEB to build EV.

There are also many collaborations between large tech companies like WAYMO (owned by GOOGLE), INTEL, NVIDIA and major car producers.

1. Electrification

Two million EV were sold in 2018 compared to 85 million Internal Combustion Engines (ICE) Cars and this in a limited geographical area (China, California, Norway, Netherlands).

Reading the headlines of most newspapers can make you imagine that the numbers are the other way around.

Why do EV get so much attention? The VW Diesel scandal, as well as the overall higher sensitivity of millennials to environmental subjects, may be two reasons. The success of TESLA cars might be another reason. Finally, the fact that the EU and China took a leading role firstly by heavily subsiding EVs and secondly by punishing car companies that don't produce enough clean cars (in terms of CO2).

The policy support mechanisms for EVs remain strong in the European Union countries and the supply side is responding with ambitious plans for the launch of dozens of vehicles in the next few years. The EU's CO2 emissions targets were finalized in early 2019 and require emissions reductions of 15% and 37.5% by 2025 and 2030, with respect to the industry's 2021 levels. These will require EVs to be as much as 50% of new sales by 2030 in order to meet these rules (Figure 56). If the mix is tilted more towards BEVs, the percentage adoption required drops to just over 30% of sales.

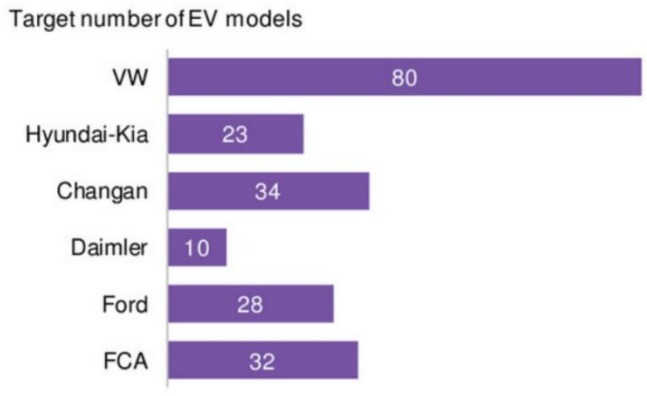
In the following chart, you can see the current EV share in certain countries. You can see that Norway is leading the race by heavily subsidizing EV and giving other advantages to EV cars like preferred lane driving and parking. You also notice that many countries have very ambitious objectives to ban the sale of ICE all together.

Table 3: ICE bans proposed and announced in major economies

Economy	Target date	New vehicles sales in 2018	EV share of 2018 vehicle sales	Year announced
Norway	2025	0.15 million	49%	2016
Netherlands	2030	0.45 million	8%	2016
Slovenia	2030	0.09 million	<1%	2017
Scotland	2032	0.19 million	2%	2017
France	2040	2.10 million	2%	2017
Taiwan	2040	0.23 million	<1%	2017
U.K.	2040	2.30 million	3%	2017
Denmark	2030	0.22 million	1%	2018
Iceland	2030	0.02 million	1%	2018
Ireland	2030	0.13 million	7%	2018
Israel	2030	0.27 million	1%	2018
Sweden	2030	0.35 million	6%	2019
Canada*	2040	1.99 million	2%	2019
Costa Rica	2050	0.05 million	<1%	2019

We can deduct that car manufactures are forced to invest in cleaner technologies like EV and fuel cell technology. VW is leading the race with an estimated launch of 80 new EV by 2025.

Figure 23: Number of EV models to be launched by selected automakers by 2025

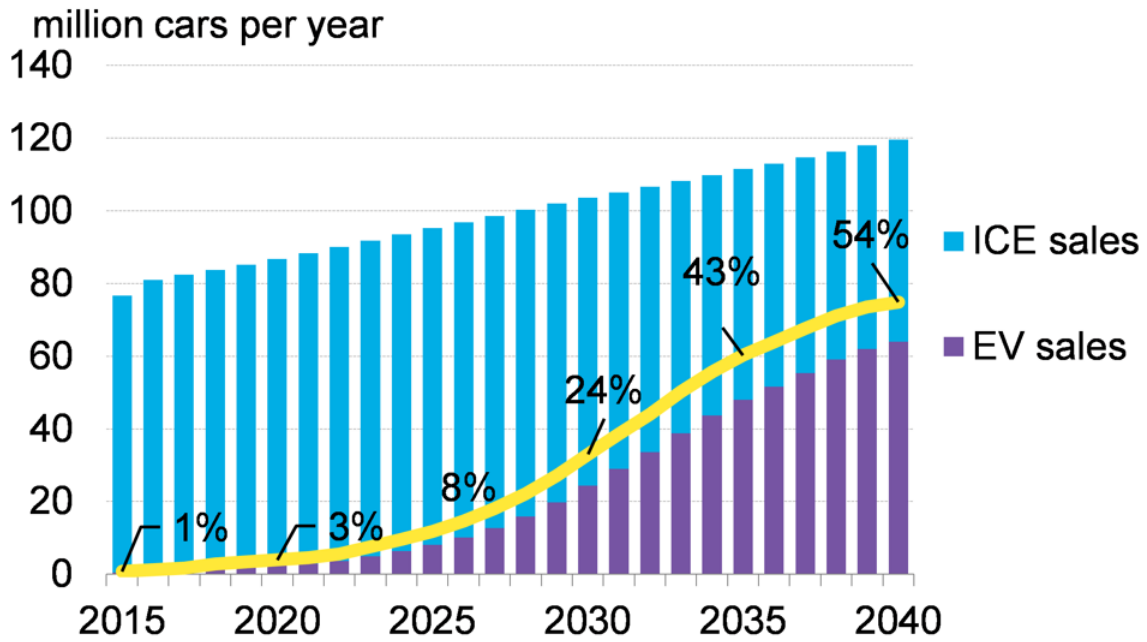


Furthermore, the company estimates to launch more than 300 models by 2030 and sell over 2.5 million cars by 2025. TESLA sold around 700,000 cars since it was established in 2003.

The strong push forward to more EV models will increase the part of EV in total light-vehicle sales to over 50% in 20 years from the current 3%. We can deduct that even in 20 years, ICE sales still

represent half of the global sales. However, the EV percentage of sales will probably be much higher in China and the European Union.

Figure 1: Annual global light-duty vehicle sales

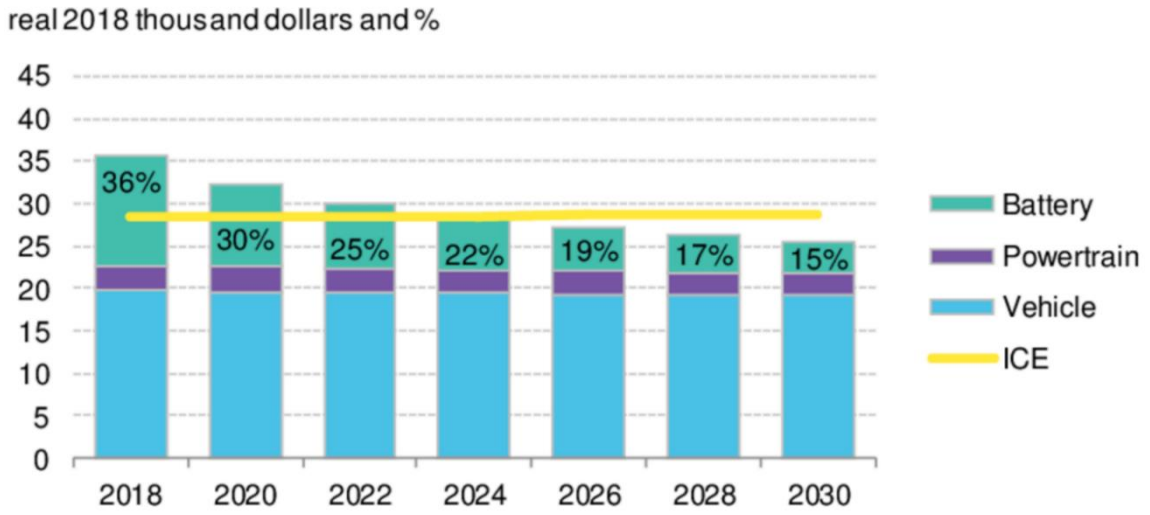


Source: Bloomberg New Energy Finance

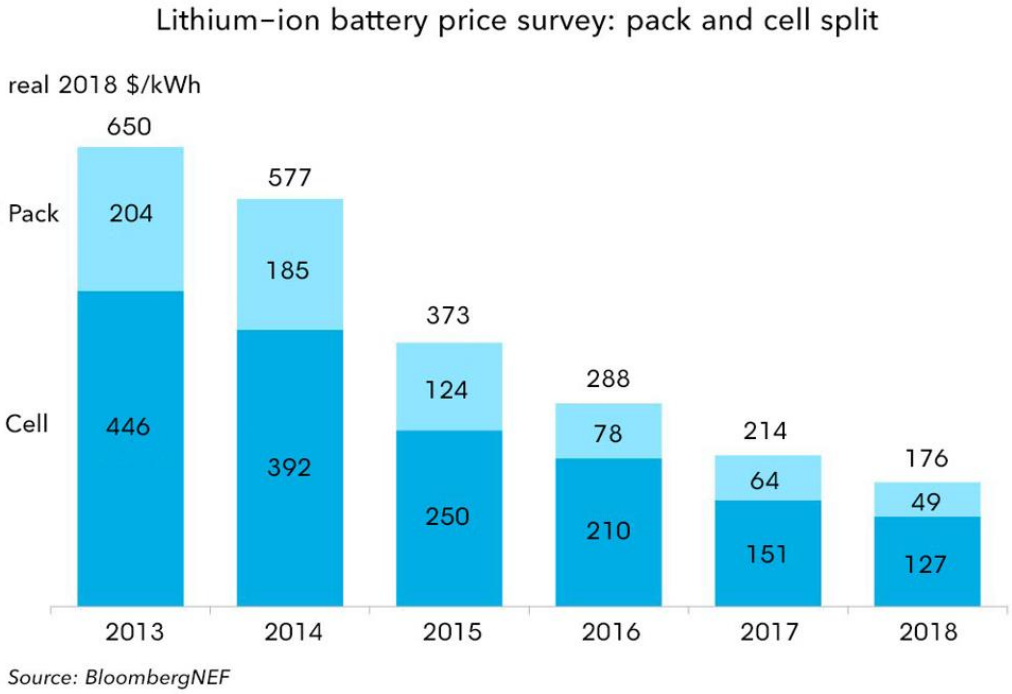
The increased need of R&D and the uncertainties linked to the EV are not the only burdens that companies operating in the sector face.

Electrical engines have fewer parts (an electric car has one-fourth of the parts of an ICE car, 7000 to 30000) and especially fewer moving parts. Additionally, as the name suggests, they have no internal combustion that increases the use of lubricants and usury of parts, which decreased the potential revenues on after-sales. Furthermore, electrical engines can be placed directly on the axes or even directly next to each tire, which avoids having a central crankshaft among other things. Given the skateboard platform, EV offer more interior room and Frunk (Front Trunk).

As you can see in the following chart, battery packs, composed of battery cells, battery management system and battery packaging make up about a third of the production costs of a vehicle.

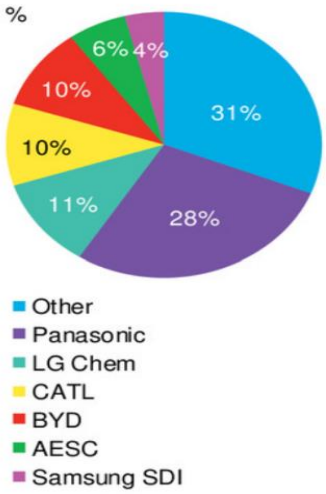


The next chart shows that battery cells are the major cost point of a battery pack.



Those battery cells are mostly produced by Chinese (CATPL) and South Korean (LG, SAMSUNG), as well as Japanese companies (PANASONIC).

Figure 18: Global market share for passenger EV lithium-ion batteries in 2018



Source: BloombergNEF, Marklines. Note: The total includes Li-ion battery demand for HEVs.

What is important to know is that most established car manufacturers currently don't produce their own battery cells, which currently makes around 25% of the value of a car. Even the world's largest car manufacturer supplier, BOSCH, stopped the development of its own battery cells this year after having invested several billion Euros. This year only VW invested 1 Billion Euros in Northvolt, a pure European player implemented by two former TESLA managers, but the factory is still in the building phase.

Why are those established car manufacturers taking a different approach than TESLA for example, who invested heavily (especially for a constant cash flow negative company). There are several reasons for this. The first battery needs huge investment in factories. Even if the technology of battery cells is evolving fast, there are many questions behind the technology regards to autonomy and charging time. We cannot say that EV's are accepted by constumers at this state. As you can see in the chart hereafter, a large part of the price depends on prices of commodities like Lithium, Cobalt and Nickel, for example. In fact, the objective is to reduce the price by replacing rarer, more expensive commodities like Cobalt and increasing autonomy and charging time.

Table 4: Lithium-ion cathode material metrics

Cathode material	Raw material cost ($/kWh)	12-month change (%)	Energy density (Wh/kg)	Cell voltage (V)
LMO	10.75	-13.5	429	3.9
LFP	8.40	-11.5	528	3.35
NMC (111)	32.55	-42.0	573	3.7
NMC (532)	27.37	-32.0	610	3.7
NMC (622)	26.23	-34.0	666	3.7
NMC (811)	21.87	-22.0	758	3.7
NCA	26.34	-27.0	684	3.7
NCA+	25.99	-14.0	629	3.7

Source: BloombergNEF, BASF, Johnson Matthey, NEI and academic reports. Note: Prices correct as of April 25, 2019. This is at the active material level, not the cell level. Cell and battery-pack engineering can improve the overall energy density of packs significantly. Inefficiencies in manufacturing or capacity loss due to formation cycles are not included. Cell voltage assumes a graphite anode.

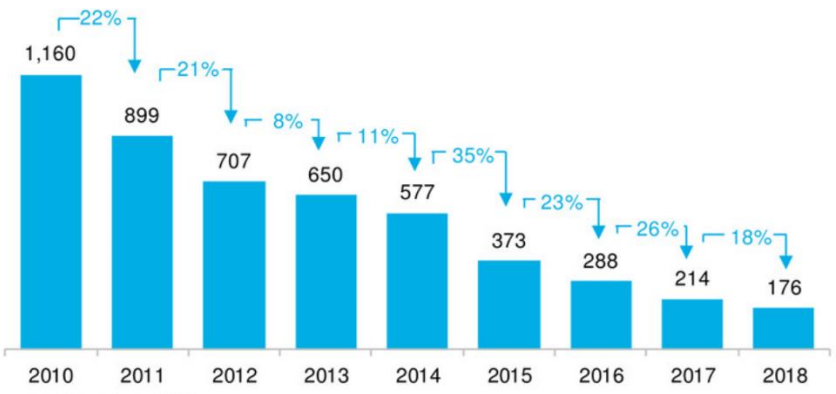
To be among the winner needs lots of cash and knowhow, and the Asian Lithium-Ion battery suppliers benefit from a headstart due to their year-long experience in producing batteries for mobile devices, like laptops or cellphones.

Furthermore, many EU and US companies learned their lesson from the solar panel business and are careful to confront especially Chinese companies on the production of a good where the price is highly determined by the price of commodities.

Indeed, as you can see hereafter, the price of lithium-ion battery packs decreased by more than 80% over the last decade. Producing a good where the price falls that fast is a difficult task.

Figure 20: Volume weighted average lithium-ion pack price

Real 2018 USD



Source: BloombergNEF

In addition to the high R&D, the less potential of added value in EV and the fact that established car manufacturers are currently not producing a main asset of an EV (battery cells), the European Car market is only supposed to grow about 10% during the next decade and the US one around 15%.

The Chinese car market, currently already the largest in the world, is supposed to grow by about 50%. German Car manufacturers currently sell around 40% of their cars in China. The pie is not growing a lot over the next years in Europe and the United States. Competition tends to increase due to electrification and China's strive to the top established car manufacturers need to at least keep their market participation stable in the Chinese market. This might be difficult to achieve as many Chinese EV manufactures receive the highest ratings in quality and safety (which was problematic in the past) and are often much cheaper than their European and American competition. Furthermore, the state-owned and heavily subsidized companies may benefit of an advantage.

Given the before mentioned low number of EV sales, we can't say that consumers accept this technology yet. Two factors, as to say price and number of car models, will improve very fast over the following years. The price per KW/h battery pack is supposed to decrease to under $100 compared to $176 in 2018 and over $1000 in 2010. However, the problem around the charging time, autonomy and lack of chargers is more difficult to resolve.

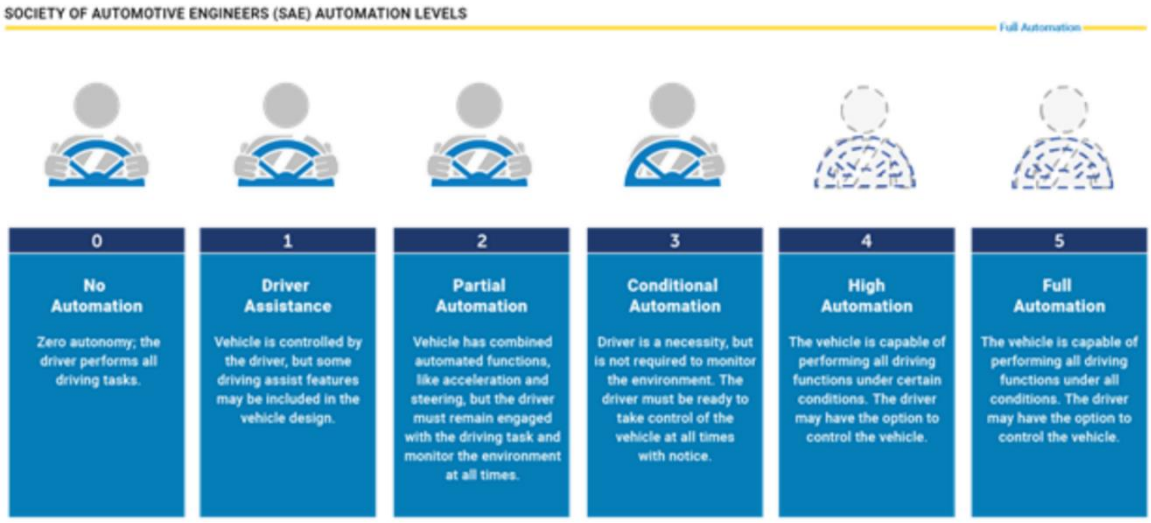
Finally, there is still the big question regarding profitability. Herbert Diess, the CEO of VW just declared last week that production costs of the ID3 are 40% lower than of the EV Golf. I believe that firstly, he has to say that to defend his decision to commit the Billion Euros in EV technology. Secondly, there is a huge question mark behind the price competition. Nobody knows at what price they can sell those cars.

The fact is also that TESLA had four profitable quarters (not the last four) over the last seventy-four quarters and that recently, DYSON, having decades of knowledge in battery and electric engines, ended its plans to build to commercialize an EV mainly because of profitability issues.

2. Autonomous driving

GOOGLE launched in 2009 its autonomous driving arm, called WAYMO, and TESLA started selling its fully autonomous package in 2016. Since then, autonomous driving became one of the favorite topics of main street media. This is also understandable; the system could save up to 1.4 million human lives yearly that are lost in accidents involving cars.

However, there has been a lot of confusion about the exact definition of Autopilot, mainly because of the inappropriate use of the name Autopilot by TESLA. Hereafter, you see the recognized classification of the different levels of autonomation driving.



TESLA's Autopilot currently offers between two and three autonomations. These are mainly passive assistant programs that have been there for many years, like forwarding collision warnings, distance and lane keeper.

Passive means that there is a constant need for human supervision that can create complex situations. Indeed, the computer is supposed to react faster, but humans are supposed to supervise, meaning react when the computer does not react. This is one reason why WAYMO chose to directly attack Level 4 autonomous driving. This problem along with the several deadly accidents by TESLA autopilot and the deadly UBER accident in Phoenix last year, allows us to understand that this technology is far from being commerciable anytime anywhere. I like to compare it with the pharmaceutical business where there is huge potential, but also very high risks for human life.

Just like EV technology, established car manufacturers are forced to invest in this technology without knowing the outcome. To reduce risk and get access to the necessary technology, most of them entered into a collaboration with technology companies like WAYMO, INTEL or MOBELEYE (bought by INTEL in March 2017). Others just bought whole companies like GM did with Cruise. Only TESLA took the solo way. Given that it is a Silicon Valley based company located nearer to the software world, an independent path might be more logical than for an established car manufacturer. However, given the constant lack of capital of TESLA and the fact that the company already chose to go the solo way with battery technology and supercharger network, this additional, huge upfront investment might be too much.

There is another important difference between TESLA and competitors seeking autonomous driving. TESLA is not using any LIDAR, a remote sensing technology that uses the pulse from a laser to collect measurements, which can then be used to create 3D models and maps of objects and environments. LIDAR works similarly to Radar and Sonar yet uses light waves from a laser instead of

radio or sound waves. Elon Musk believes that there is no need for LIDARS, and that the visual capacity of cameras combined with radars and a strong processor is enough.

You can see in the following picture that the LIDAR system is not only very expensive, but also bulky.

As previously mentioned, TESLA has already been selling full autonomous driving since 2016. The $6,000 cost for the Full Self-driving option is well-needed capital for the company. TESLA cannot consider it directly as revenues and profit, but as deferred revenues. Several clients sued TESLA over the still not working Full Self-driving option. This didn't stop TESLA from transforming part of these deferred revenues into Revenues and Profit after the last update that gave users access to the summon feature, which allows you to call your car with your cellphone on a parking lot.

We can conclude that TESLA in 2016 and still today could never sell cars with LIDAR. First, the cars would be too expensive and second, the bulky system would not fit their elegant style. Furthermore it would be very expensive for TESLA to admit that its cars need LIDAR for full autonomy (what about all the cars sold without LIDAR since 2016) and even more importantly, in my opinion, Elon Musk's image as a genius would suffer.

However, the potential of being able to build fully self-driving cars before anyone else, and with a less expensive technic, gives the company stock price a huge potential. In case it manages to achieve Level 5 autonomy, the company could stop selling cars and using any car it produces for its worldwide car-sharing program.

Why do people believe this affirmation? It is probably a mix of lack of statistical background and emotional based thinking versus a person that wants to save the planet. I believe that any forecast needs a precise period, a precise probability and an exact description. Furthermore, to evaluate a person's capacity for forecasting we should consider his total number of forecasts. How would Mr. Musk perform?

I don't think this is possible in the next decade, but the company needs to keep the illusion alive because it constantly needs fresh capital from the financial markets. Two years ago, Elon Musk promised fully autonomous cars that drive itself from New York to Los Angeles and even charge themselves. Just a couple of months back, he affirmed that next year 1 million of those Robot cars would be on the road.

My opinion is based on practical experience. TESLA's autopilot, despite the huge data that the company apparently collects (in my knowledge, TESLA never published what kind and size of data the company collects) didn't improve a lot over the last years. As soon as there is no road marking and no preceding car, the systems get in trouble. To be able to have Level 5 autonomous driving and monetize a Robot car flee, the company needs to solve a sheer unlimited number of edge cases. Furthermore, most major car manufacturers retracted from their previous, very optimistic forecast. Except for TESLA, no one foresees Level 5 autonomous driving any time soon. The widely accepted leader WAYMO is currently testing Level 4 autonomous driving in some American cities and seeks to deploy its first commercially available self-driving fleet in 2020. As previously mentioned, not only the number of variables increase substantially from Level 4 to 5 (in practice Level 4 limits the variables whereas Level 5 must handle currently unknown variables), but also the revenue potential.

Furthermore, I think many technology specialists currently overestimate the power of computers and underestimate the function of our brains. We are still at a level where the output depends on the input of data. There is no common sense. Don't we know what data TESLA connects and how much of that data? We don't even know what information we use to make decisions while driving. Most of the information that enters our brain through the five senses bypasses our conscious. However, we use that information even during driving. The brain is, even for modern science, still mostly a mystery. Driving a car in anywhere in any condition might finally be more difficult than imagined.

The market seems to have a different opinion. Last year, TESLA generated only one-tenth of VW revenues. The company spent less than one-tenth of VW's R&D and lost around 800 million Euros, whereas VW generated a profit of around 15 billion Euros. However, TESLA's current market capitalization is just 25% under VW's. The

3. Shared mobility

It is probably UBER that made shared mobility famous. In contrary to TESLA, UBER is a real disrupter because it creates a market that didn't exist before. Furthermore, it is much closer to the Silicon Valley-based software business model of low fixed costs. It might be able to "blitz scale" it's business and create a moat by being the first mover.

Autonomous driving could bring costs per mile down to $1 from the current $3 because the human driver is the biggest cost point. Imagine how many people, even in the less dense areas, would not buy a car anymore. This could have a huge impact on the number of cars sold, the size sold, and the whole appearance of cities could be in question.

Just last month, Sharenow (the company owned by DAIMLER and BMW) announced that is going stop offering its services in most American and European cities after suffering from continuous heavy losses. Does that reduce carmakers to simple suppliers of cars in a future autonomous world? Just as INTEL provides the processors for computers?

We understand why UBER is so keen to develop its autonomous driving branch, but what about companies like EUROPCAR or SIXT? The potential client base decreases a lot if prices of ridesharing continue to decrease. What happens to those companies if a company manages to commercialize fully autonomous cars and deploy its fleet instead of figuring as a supplier?

I conclude that car manufactures do only face harder market conditions and probably future higher competitor in the main growth market China, but have despite all this negative headwinds to invest heavily in new technologies where nobody can forecast the potential revenues. Bankruptcies and further mergers are inevitable.

Despites its current very high market capitalization, TESLA is in my opinion on of the weakest players.

The company chose to go solo in the autonomous driving technology and charging infrastructure deployment and invest heavily together with PANASONIC in its own battery factory. If

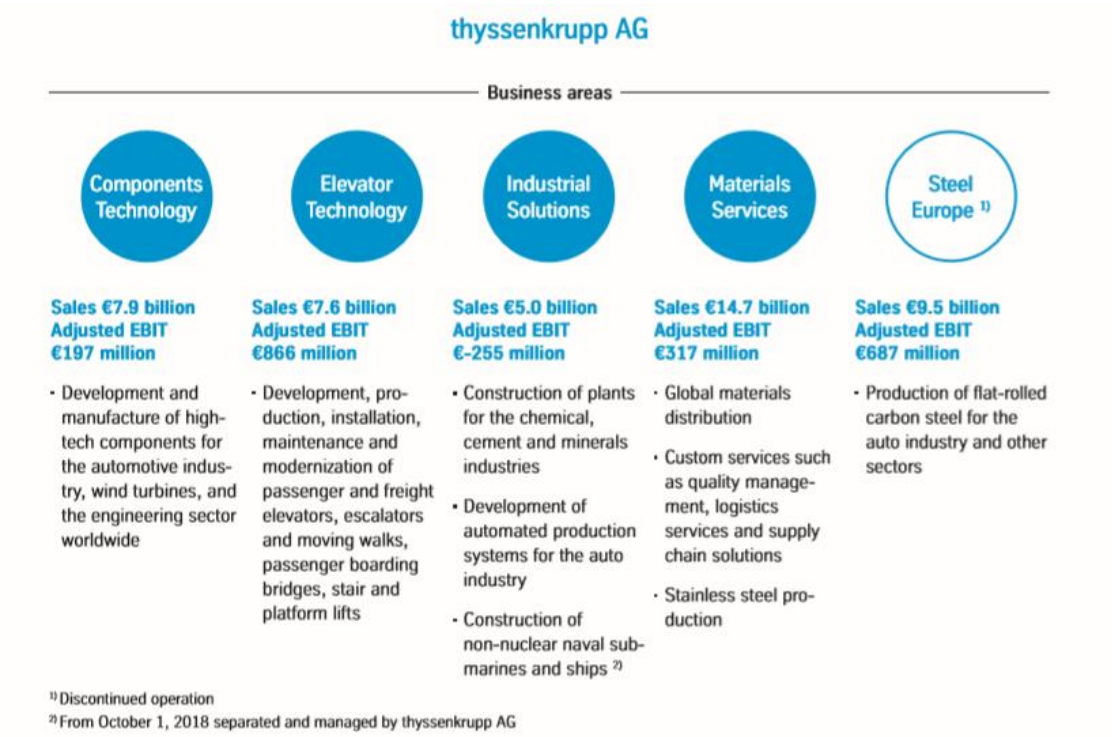
market conditions change, the company might be exlcluded from capital that it needs to expand its production capacity that amounts currently to only about 500.000 cars a year.

IV. Position Update

1. THYSSENKRUPP

THYSSENKRUPP is an “event driven” position based on the sale or IPO of its elevator division. The company’s market cap is around 8.5 billion Euros.

The company has over 150,000 employees and is divided into five segments, as you can see from the following graph.



As you can see in the following chart, the stock price decreased by over 30% over the last decade.

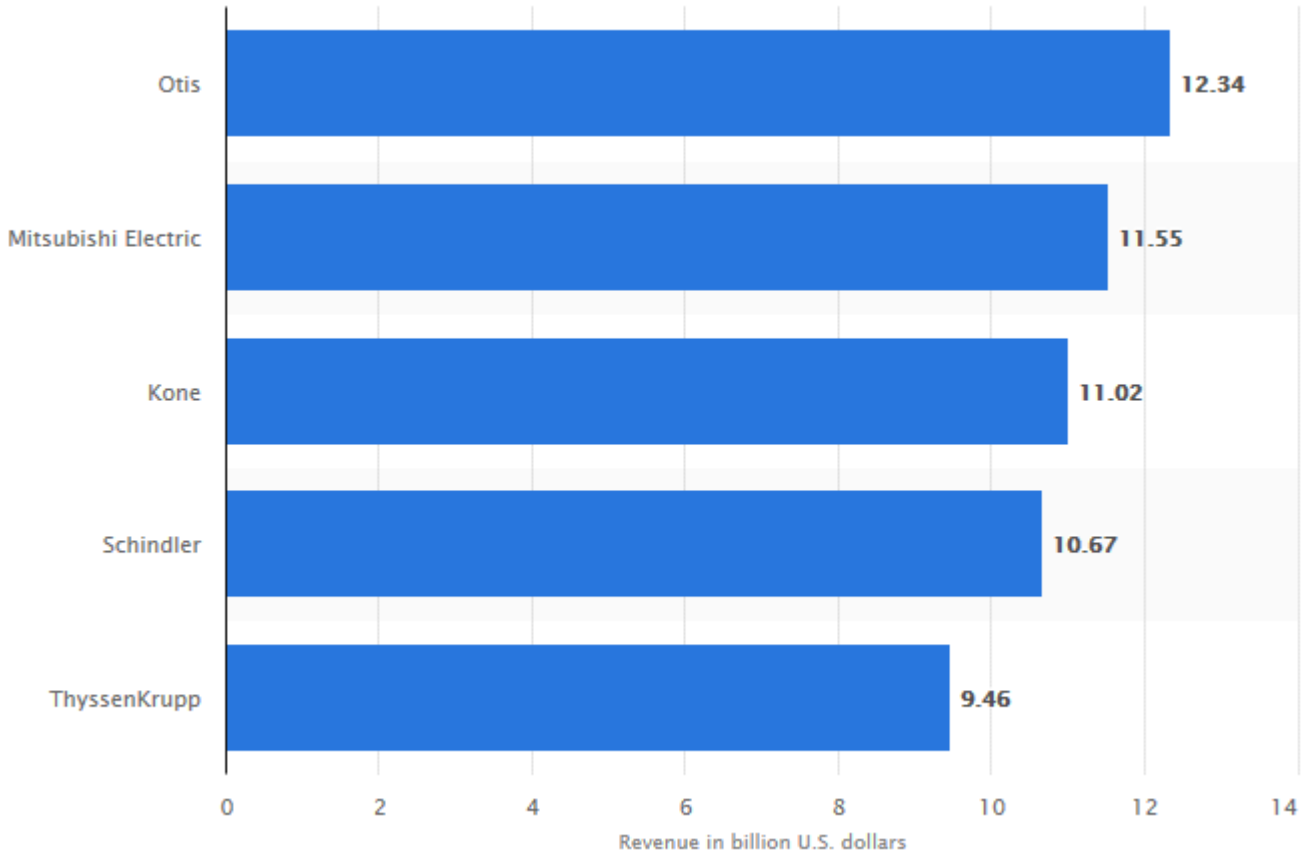
THYSSENKRUPP sold its Brazil division in 2017, losing over 8 billion Euros. The exposure to the lagging car and steel sector was also not beneficial. I also believe that many shareholders had enough of the constant turmoil, management change and declining stock price. Furthermore, the huge debt load scares many new investors away. Net debt currently amounts to 8.5 billion Euros. The company also must pay around 3 billion euros of taxes on the profit of a potential sale.

I believe that the market underestimates the value of the Elevator business and over evaluates the exposure to the automobile sector. THYSSENKRUPP has around 25% exposure to the car sector over its five divisions. Its portfolio is very diversified. Two years of negative Cash Flow, combined with active shareholders (Cevian Capital and Harris Associates), pushes the company to sell the elevator division.

In a current low yield environment and time of economic expansion, stable cash-generating businesses like the elevator business is in demand. The elevator business is a less cyclical business because service contracts represent a major part of its revenues and profits. Furthermore, the transportation of people is a regulated business that protects it from new entrants and decreases the potential of technical disruption.

The value of the elevator business, if we compare it to publicly listed peers like KONE and SCHINDLER, is between 15 and 20 billion Euros. THYSSENKRUPP's profitability is a little bit under KONE's or SCHINDLER's. However, this is mainly linked to the burden of being part of a larger unproductive group. Thyssenkrupp is more focused on the US market, whereas Kone is more focused on China. This makes KONE an interesting bidder.

Something noteworthy is that at the beginning of next year OTIS will be split off from UNITED TECHNOLOGIES, a Dow Jones company. By buying THYSSENKRUPP, KONE would become the largest Elevator company in the World.



The management still follows its plans of an integral IPO, also to keep pressure on potential bidders. We don't currently know if the division is going to be sold/listed totally or partially.

The two activist shareholders pushed for a special dividend from the Sales Proceeds. However, this is off the table after an intervention by the main shareholder (the Krupp family) and because of strong labor unions.

I believe THYSSENKRUPP should merge the elevator business with KONE and keep a minority shareholder position combined with a strong shareholder agreement guaranteeing a steady cash flow for the years to come. The proceeds could be used to renew many of its steel plants. If the company manages to increase the efficiency of its corporate structure, I believe the stock has more potential on the upside than on the downside, combined with a higher probability for the upside-

2. TESLA

You may have read about TESLA planning to build a new factory in Germany. What you probably didn't read about was the publication of depositions (some under oath) in the SolarCity Tesla merger.

To recapitulate, Tesla bought SOLARCITY in June 2016, a company that marked, manufactured and installed residential and commercial solar panels in the US. The company was founded by Elon Musk, together with his cousins. Moreover, Elon Musk was chairman of the board. At that time the company was bleeding cash and facing a serious liquidity crisis. SpaceX, another company, founded by Mr. Musk, granted a $200 million injection of liquidity.

We know from the before mentioned depositions that SolarCity was desperately contacting banks for new loans. Investment banks didn't find any potential buyers. The TESLA board, as well as major shareholders, were skeptical about the takeover.

In October 2016, Musk, who knew about the liquidity crises, whipped up solar-product excitement by unveiling a “solar roof” on the old set of ABC’s “Desperate Housewives” to convince them. The roof-integrated solar cells with shingles were sold through Tesla stores and available for commercial deployment. The shingle Musk held turned out not to be a commercially viable product, but that was not known when Tesla shareholders voted to acquire SolarCity in November 2016. TESLA finally bought SolarCity just a couple of weeks after it had its own capital raise, for a premium amounting to $2 billion, without a competing offer.

The case is fixed to be discussed in Court in March 2020. The stock price didn’t react to the news and the news wasn’t covered a lot by the mainstream media.

I hope you enjoyed reading.

Kind Regards,

Marc Daubenfeld