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Chinese Automotive and heavy vehicle industries



Handed in by
Mandy Chao, K11845825
Turbo He, K11845986
Eva Kao, K11845327
Sarah Lindert, K1455819
Sydney Wilson, K11845849

Table of Contents

Introduction and General Overview.....3
 Passenger Automotive Industry Overview3
 Truck and Bus Industry Overview7
 Construction Equipment Overview.....9
 Opportunities..... 10
Company Information 11
 Automotive 12
 Truck21
 Bus24
 Construction Equipment.....26
Appendix29
References36

Introduction and General Overview

Currently, China is a market that is of serious interest to a multitude of different industries, and for good reason. Despite a population growth rate of under 1%, the population is still approximately 1.4 billion people, (Worldometer, 2019) with a 2018 GDP growth rate of 6.8%, which was more than expected (Update China, 2018). Additionally, China's middle class is growing at a significant rate. Once only making up 4% of the urban population, it is now over 30% and is expected to reach 75% by 2022 (Lang, 2017). This, in combination with the booming construction and infrastructural growth occurring within the last several years creates significant demand in the automotive and heavy vehicle industries. As requested for the use of Business Upper Austria, specifically the Automotive Cluster, the following report will provide several things: an overview of the Chinese automotive industry; an overview of the Chinese bus and truck industries; an overview of the Chinese construction equipment industry; the opportunities to be found in these industries for Austrian automotive companies who plan to expand into the Chinese market; and a list of domestic Chinese OEM and Tier 1 companies in these industries that could make attractive prospective customers for the Austrian suppliers participating in the Roadmap to China project.

Passenger Automotive Industry Overview

The automotive industry in China has held the attention of international brands for several years now, as it has grown in leaps and bounds. However, a major decrease in the industry's growth rate in the past year means that any company or supplier that wants to gain a foothold must re-examine their strategy to do so. While in previous years, the growth rate was as high as 25% annually (Branchenreport China, 2015), it dropped in 2018 to 0-3% in the commercial vehicle sales, depending on the source quoted (Han, 2018; CAAM, 2018; Branchenprofil China, 2018), and is forecast to be 1% in 2019 (Kang, 2019; Li 2019c). In contrast, the new energy vehicle market (NEV) is expected to grow by 30% in 2019 (Li, 2019c; Automotive sales, 2019). Part of this is due to the natural slowing of the market as it becomes more mature, but part of it is also due to the removal or lowering of some government subsidies that customers had

previously relied on in order to purchase their vehicle. Additionally, in some of the major cities, there are restrictions placed on the number of vehicles that can be on the road. Cities such as Shanghai, Guangzhou, and Beijing limit car registrations through a license plate lottery - only a portion of those who apply are granted license plates (Zhang, 2019). This restriction on license plate registration significantly affects the auto market because people are not able to buy a car without winning the license plate lottery. Additionally, Chinese companies have faced some difficulties in the last several years due to the trade war with the United States. Automotive Tier 1 and Tier 2 companies in particular have been hit by American trade tariffs because most rely heavily on exports; automotive OEMs, on the other hand, have had slightly less difficulties because the domestic brands generally are still heavily concentrated within the local market due to lower competitiveness in international markets (Kang, 2019).

However, there is still hope. In total, over 28 million cars were sold in 2018. Chinese automotive brands hold 42.09%, German brands hold 21.43%, Japanese brands hold 18.75%, American brands hold 10.45%, South Korean brands hold 4.98%, French brands hold 1.29% and others hold 1,01% of the Chinese car market in 2018. In comparison to data in 2017, significant declines are the 8% in Chinese brands, -18% in American brands and -33% in South Korean brands. Despite a drop of 4% in the passenger vehicle sector, there was an increase in the commercial vehicle sector of 5% in 2018 (Marketlines, 2019). Even though SUVs experienced a strong growth in the past few years (e.g. 13% in 2017) (Branchenprofil, 2018), the current growth rate is negative with 2.5% this year (Marketlines, 2019). This shows that as the Chinese middle class grows, and as tax cuts are implemented by the government, their preferences are shifting away from small vehicles and towards SUVs. Additionally, studies of buyer preferences have shown that they are beginning to pay more attention to the quality and safety standards of the vehicles they purchase, and not just to cost (Federico, 2016; Kang, 2019). This means that local producers in particular are having to shift how they design their vehicles, and where they source their supplies from.

Another major shift setting in is the market shares of domestic vs. international or joint-venture brands. A recent change in government policy means that international automotive OEMs will from 2022 on no longer need to form a joint-venture in order to

produce and sell in China (Li, 2018), thereby lifting the regulation that has limited the market share they could attain in the past. There is now more flexibility in how they can be formed, particularly surrounding the previous need for joint ventures to be 50:50. While most will still maintain these joint ventures due to high investments in the past and long-term contracts, there is now the opportunity for international OEMs to strive for the majority of voting rights, which in turn has an impact on the long-term stability of these joint ventures (Tian & Zhang, 2018). The majority of cars sold in China have always leaned very heavily towards those produced by joint-ventures, with the top 10 best-selling cars coming from joint-venture brands (Sohu, 2019). Even though the current market shares indicates a decline in Chinese car brands, domestic brands produce more competitive vehicles at a lower price than their joint-venture counterparts can match. To boost the local economy, the government implemented more subsidies for domestic produced brands, which have declined in recent times (Li, 2019b). Additionally, due to previous joint ventures, many domestic brands have gained significant knowledge and networking opportunities from their international partners that they are now beginning to implement on their own (Branchenprofil China, 2018).

New Energy Vehicles (NEVs) are another sector of the automotive market that has seen major growth in recent years. For years, China is the biggest NEV market worldwide. It has grown by +80% in the last year, and looks set to continue this trajectory (Zhang, 2019; Zhu, 2019). In February 2019, about 52,9000 NEV were sold in China which is an increase of 53.6% year on year (Xinhua, 2019). One of the largest encouragements for the growth in this sector is the implementation of new policies and standards by the government, such as allowable emission levels. The government has also implemented many subsidies in order to encourage growth in the domestic NEV industry, including lowering purchase tax on domestically produced vehicles (The U.S. commercial service, 2017). Rising gas prices have also combined with the aforementioned factors in encouraging consumers to purchase a vehicle that is both economical and environmentally friendly. The government aids to the industry have combined to allow Chinese NEV OEMs to produce their cars at extremely competitive prices compared to foreign or joint-venture NEVs, giving them a major advantage. However, this growth may slow somewhat in the coming years. As mentioned

previously, international OEMs will soon no longer need to form joint ventures to enter the market (Li, 2018), and brands such as Tesla have already announced plans to build their own factories in China in cooperation with the government (Cheng, 2019; Russel, 2019). This represents a real threat for local NEV producers, as international NEV firms still hold market leadership in terms of technology and quality standards (Tian & Zhang, 2018). Additionally, the subsidy for NEVs will be decreased by approximately 50% in 2019, and in 2020 the subsidy for NEVs will be removed all together (Li, 2019b). For example, the subsidy for a fully electric car with fuel range from 250 KM to 300 KM would be 34,000 RMB (approx. 4,500€) and for fuel range 300 KM to 400 KM the subsidy would be 45,000 RMB (approx. 5,950€). However, under the new policy, there are only two fuel range categories that will satisfy the subsidy restrictions; 250 KM to 400 KM will receive an 18,000 RMB (approx. 2,400€) subsidy, and over 400 KM will receive a 45,000 RMB (approx. 5,950€) subsidy (Li, 2019b). Due to the huge increase in subsidized NEV purchases in recent years, new problems have been created such as lack of parking space and lack of charging stations. The new policy aims to tackle these problems by investing more in infrastructure development that would ultimately help promote the NEV market (Branchenprofil China, 2018).

The automotive industry in China has begun to see some interest from unexpected quarters. Companies such as Alibaba, Baidu, and Tencent have begun investing in the interest of jumpstarting growth in the digitalization and electrification of cars. As mentioned previously, NEVs are becoming hugely popular, and this is in part due to the support of these tech giants. They want to claim some of the gains from this growing industry, while also exploring what other alternative ways tech can be integrated into cars. This includes the expected ideas such as voice recognition controls, but also ideas such as artificial intelligence, car sharing apps, and e-mobility in general. This interest promises that while there may be slowing growth in some of the more conventional market segments, there is a high likelihood for ongoing growth in the automotive market as a whole (Branchenprofil China, 2018).

All of these factors combine to make an attractive space for Austrian suppliers to move into. However, one point that works even more in their favour is that domestic Chinese automotive brands are very eager for international cooperation. For those who

are already performing well, such as Geely, cooperation will help them to become more competitive with joint-venture brands. Those who are not performing as well, such as Chang'an, believe that the technology and expertise that Western companies can bring to the table will help them to overcome their current struggles, and raise their market share and reputation (Chang'an, 2019). Austrian companies can use this desire to their advantage when negotiating with Chinese companies.

Truck and Bus Industry Overview

Similarly to China's automotive industry, its commercial vehicle industry is highly attractive to consider. According to statista.com (2019) 3.88 million trucks and 485,000 buses were sold in China last year. This means the truck sector has seen a growth of 5.5% and the bus sector has seen a decline of 7.8% in 2018 (Commercial vehicle sales, 2019). For example, the total sales of heavy-trucks were 1.14 million in 2018. The bus sector has seen a decline of 16% in 2018, with 207,300 busses longer than 5 meters sold. However, of the busses sold, 91,600 of these were new energy busses longer than 6m, making this portion of the market extremely attractive. The recent drop in overall bus growth is very heavily influenced by national policies; government restrictions in 2014 and 2015 saw a decline in production volume, but subsequent subsidies in 2016 have helped production volumes to recover (Zheng & Zhou, 2019). Additionally, adoption of a toll-by-load policy on highways has led to greater preference for light trucks. In the truck industry in particular, the government plays a major roll, as all five of the top truck companies are state-owned. Several of these companies are also not publicly listed, so the government will play a larger role in their governance.

The bus and truck industries are of interest to international suppliers intending to begin producing in China as these sectors are extremely heavily skewed towards local producers, and high market concentrations. Currently, the top 10 truck producers in China are all local, holding over 95% of total truck sales, and the top 5 local truck producers hold about 80% of the heavy truck sector (Chang, 2018). In the bus sector, the top 10 producers hold over 70% market share (Business Wire, 2017). This means that any supplier who can gain a contract with the top producers will likely maintain a significant amount of business, even if overall market growth is fairly low. One

contributor to the supremacy of domestic producers in this area is the high import taxes that make it far too expensive for international companies to bring their products into the country; instead they must form joint-ventures. Domestic companies are simply able to offer more cost competitive products which means international brands can just enter the market in a high-quality niche on their own.

One factor influencing commercial vehicle growth is the boom in construction and infrastructure across the country. China has enacted a new plan called “One Belt One Road”, the aim of which is to connect China to Central Asia, Europe, Africa, and the Middle East in order to facilitate more trade overland (Global water partnership China, 2018). With this goal in mind, significant work is being done to build the necessary roads, highways, and infrastructure that will support the forecasted increase in traffic. These new highways and roads also serve another purpose; they support the continually growing online shopping trend. Better roads are being built into rural areas that previously had poor accessibility, meaning that online vendors can reach a wider range of potential customers, and that people can more easily travel in the area (Perkowski, 2018). More busses are needed to service these newly accessible regions, and more trucks are needed to transport the increasing flood of goods moving over the border and within the country.

One development in the bus industry that is of particular interest to Austrian suppliers is the increased trend towards electric power sources. In the last several years, the Chinese government has made a major push to support the domestic development of NEVs in general, and this has extended to include busses. Currently, the government is offering many subsidies to electric bus manufacturers and purchasers, although as with other types of NEVs, these subsidies are being scaled back. However, this has led to electric busses being integrated extremely successfully into infrastructure across the country; Some of the “point cities” are already having high portion of new energy buses. For example, Shenzhen is the first city worldwide which has an all-electric public transport system including taxis, cars, buses, cleaning trucks, etc. Further, of the currently 385,000 electric buses worldwide, 99% drive on China’s streets. In contrast, less than 2% of all European vehicles are electric and even less, namely 0.5%, are on US streets (Aldama, 2019). Shanghai also now has over 201,500

electrical buses, and the government is targeting having 100% new energy vehicles in 2020 (CNEV, 2019). Producers in China are now so far ahead of their global competitors that they are expanding their products globally. As described by the Chinese ambassador, the city of Graz is currently running a pilot project with two electric busses produced by CRRC, in order to see how well the busses can be integrated into the city. If the pilot project proceeds well, the city will likely purchase more of the busses (as per interview with the Chinese ambassador).

Construction Equipment Overview

In comparison with domestic producers in the automotive and commercial vehicle industries, Chinese construction equipment manufacturers are highly successful and well ranked on a global scale, not just within the local market. Currently, 12 of the top 50 construction equipment producers in the world are Chinese, showing the broad scale of success that they have achieved (Zhu, 2018). This also makes the Chinese construction equipment sector extremely attractive, as there is the potential for a higher quantity of sales to be made. As of 2017, industry revenue from exports were estimated at €214 billion, a 19.3% increase from the previous year (China industry news, 2018). As mentioned previously, the domestic automotive and commercial vehicle segments are both growing, but they are still somewhat limited in their scope. As well, given the internationally recognized status of these construction equipment manufacturers, they have a higher reputation for suppliers to associate their products with. Construction equipment is also still seeing significant growth levels; the top 25 excavator producers, which are used as an indicator of overall market robustness, saw growth of approximately 45% in 2018 (Shanghai securities news, 2019).

A large portion of the growth rate and export revenues currently seen in this industry is attributable to the “One Belt One Road” policy. As already stated, the “One Belt One Road” policy aims to connect China economically to Central Asia, Europe, Africa, and the Middle East by improving the infrastructure between these regions (Global water partnership China, 2018). Subsequently in the years since it began, construction has boomed, and sales of construction equipment have as well. Equipment sales within China have expanded, but the top producers have also seen a large portion

of their international sales being made to countries that are along the “One Belt One Road” path (Sany, 2018).

Within China, the construction boom caused by “One Belt One Road” has some consequences in addition to the need for more equipment. Construction companies are finding that they also must replace older machinery that may have worked adequately for previous work volumes, but are simply not up to the current pace (Shanghai securities news, 2019). Where end users may previously have tried to extend the usefulness of their equipment, the flood of work has put them in a position where it is more worthwhile to purchase new machinery. However, as customers are upgrading to new machinery, they are also aiming to upgrade to higher quality equipment than they have in the past. As in the automotive and commercial vehicle sectors, studies have shown that construction equipment customers are also paying more attention to quality, where they may have just considered cost in the past (Prospective industry research institute, 2019). This is possibly due to higher quality equipment standing up better over time to the higher usage in current times.

Opportunities

The Chinese market has a great deal of opportunities for Austrian suppliers to integrate into and make the most of. While the country’s explosive growth from past decades has slowed somewhat in recent years, this does not mean that it has stopped. One change in recent decades is the growth of China’s middle-class population, particularly in the urban setting. Where previously, the middle class only made up approximately 4% of the urban population, it has since grown to over 30%, and is estimated to reach 75% by 2022 (Lang, 2017). This means that a greater proportion of the population is able to afford a vehicle than in the past, and this group is still buying. Additionally, this group is also beginning to pay more attention to the safety and quality of the vehicles they purchase than in the past (Branchenreport China, 2015). While this has led to the current trends in joint-venture vehicles, domestic brands are working to catch up. Given that Austrian companies are known for the high quality and technologically advanced processes of their products, they are in a strong position to

make contracts with domestic brands who aim to improve their reputations (Branchenprofil China, 2018).

The period of upgrading in construction, as outlined above, creates another strong opportunity for Austrian suppliers to step into. Purchasing in general is increasing, but also purchasing of higher quality equipment is increasing. This is a valuable opening to step into as Chinese competitors try to keep up with demand. The companies of the Roadmap to China project already have the high levels of quality and know-how that Chinese construction equipment manufacturers and users are looking for, therefore making them very desirable. This is especially true given the high export rates in this industry; The reputation of Austrian products will give an additional advantage against Chinese suppliers.

The new focus on green energy in China is another area that gives Roadmap to China companies an advantage. As explained above, all of the business sectors this paper explores are at varying stages of shifting their focus towards more environmentally friendly processes. This is due to both customer demand, and government regulation. However, in order to do so, manufacturers must find suppliers who either already have established green processes and products, or suppliers who are willing to make the shift. In this, Austrian suppliers are ahead of their Chinese competitors, as they are already well known and regarded for their environmental focus in production and product use. In fact, Austrian suppliers have many advantages over domestic competitors in general for similar reasons. While Chinese suppliers may be able to offer lower costs, they do not yet have the quality, safety, or environmental technology that Austrian suppliers do.

Company Information

In this section of the paper, we aim to outline the Chinese OEM and Tier 1 companies in each market sector that we believe are of most interest to the Automotive Cluster, and some background information on each of them. Each company was chosen due to a combination of their market share, sales, current growth rate, and future growth potential. Images of each company's main product offerings can be found in the appendix.

Automotive

1. Geely

... is the market leader amongst Chinese brands, and is well-known globally for its acquisition of Volvo. Additionally, it is popular due to its technology for safety, production efficiency, and design. Consumers are appealed to with their exterior design, quality, and price. With 20 % growth in sales volume, 1.5 million cars were sold in 2018 (Uauto, 2019). For detailed information about the company structure see Branchenreport China (2015).

Company Name	Geely
Industry	Automotive
Type	OEM
Website	http://global.geely.com/
CEO	Li Shufu
Founding Year	1997
Employees	50.000
State Owned	No
Publicly Listed	Yes
If Yes, Where	Hong Kong
Headquarters	Zhejiang
Production	Lanzhou
	Jinan
	Xiangtan
Research & Development	Shanghai
	Jinan
	Ningbo
Import License	Yes
International Cooperations	Daewoo
	NXP Semiconductors
Financial Standing	Good
Contact Information	Innovation Centre Sweden, +46(0) 313097570, partnerships.gic@geely.com

2. Great Wall

... owns two subsidiary brands called Haval and WEY, both of which focus on production of SUVs. These subsidiaries are very popular for their modern exterior design and cheap price with premium features (such as leather seats, LED lighting systems, and modern interior design). However, Great Wall itself did not do well in recent years due to lack of design, quality and brand building. With a 3.7% decrease in sales growth, there were still 0.91 million cars sold in 2018 (Uauto, 2019). For detailed information about the company structure see Branchenreport China (2015).

Company Name	Great Wall Motor
Industry	Automotive
Type	OEM
Website	http://www.gwm-global.com/index.html
CEO	Wei Jianjun
Founding Year	1984
Employees	60.000
State Owned	No
Publicly Listed	Yes
If Yes, Where	Hong Kong
Headquarters	Hebei
Production	Baoding Tianjin
Research & Development	Boading
Import License	Yes
International Cooperations	BMW
Financial Standing	Good
Contact Information	R&D Centre Austria, Dr. Xiaojing Chen, +43 660 704 8729

3. Chang'an

... originally produced minivans, and has multiple subsidiary brands under its joint venture with JMC. However, they have done poorly in recent years due to their designs not looking good, and their technology being outdated. Therefore, with 19% sales decrease, there were 0.86 million cars sold in China. Due to this, Chang'an is looking for investors who have experience in the auto industry to develop and improve their technology through a joint venture relationship (Uauto, 2019). For detailed information about the company structure see Branchenreport China (2015).

Company Name	Chang'an
Industry	Automotive
Type	OEM
Website	http://www.changan.com.cn/
CEO	Zhang Baolin
Founding Year	2005 (1957)
Employees	93.000
State Owned	Yes
Publicly Listed	Yes
If Yes, Where	Shenzhen
Headquarters	Chongqing
Production	Chongqing
	Beijing
	Hebei
Research & Development	Beijing
	Shanghai
	Japan
	Italy
	England
Import License	Yes
International Cooperations	TRW, Benteler, Faurecia, Ford, Suzuki, Mazda
Financial Standing	Average, Low Revenue
Contact Information	Partnership/ Investment Contact, Li Zhuo, lizhou@changan.com.cn, +86 023 675 90329

4. GAC

... group is a large automobile manufacturing group with many subsidiary brands through joint venture. Trumpchi is one of their brands focused on SUV production, which offers fairly cheap prices for appealing features such as LED lighting systems, digital media systems, and sporty exterior designs. Trumpchi's SUVs are very popular in China due to its cheap prices and other attractive features. With 5.2% sales growth, there were 0.535 million cars sold in 2018 (Uauto, 2019). For detailed information about the company structure see Branchenreport China (2015).

Company Name	GAC Motor
Industry	Automotive
Type	OEM
Website	https://www.gac.com/
CEO	Feng Xingya
Founding Year	1997
Employees	9.000
State Owned	Yes
Publicly Listed	Yes
If Yes, Where	Shenzhen
	Shanghai
Headquarters	Guangzhou
Production	Guangzhou
	Xinjiang
	Hanzhou
Research & Development	Los Angeles, Silicon Valley
Import License	Yes
International Cooperations	Gargash
Financial Standing	Good
Contact Information	GAC R&D Centre, gaei@gaei.com, +86-20-22933888

5. BYD

... is well known for its electric cars. They previously manufactured gasoline engine vehicles, but when sales were not good, they decided to focus more on electric car production. One of their models is called the Tang, which has 0-100 km/h acceleration in 4.5s, comparable to many sports cars. They recently hired a designer from Audi to improve their exterior design, and these new designs have been very appealing to consumers; BYD's electric cars occupy the top 5 best-selling models in the electric car market in China. With 22.5% growth, there were 0.52 million cars sold in 2018. Due to the government's intent to promote NEVs, BYD is considered one of the most potential growth companies in the market because of its mature technology and market share (Uauto, 2019). For detailed information about the company structure see Branchenreport China (2015).

Company Name	BYD
Industry	Automotive
Type	OEM
Website	http://www.byd.com/en/index.html
CEO	Wang Chuanfu
Founding Year	2003
Employees	200.000
State Owned	No
Publicly Listed	Yes
If Yes, Where	HongKong
Headquarters	Shenzhen
Production	Shenzhen
	Beijing
	Changsha
	Xian
	Shanghai
Research & Development	Shanghai, Shenzhen
Import License	Yes
International Cooperations	Daimler
Financial Standing	Good
Contact Information	General Contact, bydauto@byd.com

6. BAIC BJEV

... is another large auto group which, similarly to GAC group, has many joint ventures with foreign companies. BAIC BJEV is a subsidiary founded in 2009 which mainly focuses on electric car production. With over 80% growth in 2018, 0.147 million cars were sold. With the government's intention to promote NEVs, BAIC BJEV is also thought to have huge potential growth in the future. They have developed an R&D center in Germany in cooperation with the Dresden University of Technology, focused on developing batteries and lighter weight cars (Uauto, 2019). For detailed information about the company structure see Branchenreport China (2015).

Company Name	BAIC BJEV
Industry	Automotive
Type	OEM
Website	http://www.bjev.com.cn/
CEO	Ma Fanglie
Founding Year	2009
Employees	2.500
State Owned	Yes
Publicly Listed	No
If Yes, Where	-
Headquarters	Beijing
Production	Beijing
	Qingdao
	Changzhou
Research & Development	Qingdao
	Germany
Import License	Yes
International Cooperations	Dresden University of Technology
Financial Standing	Good
Contact Information	R&D Centre, Chief Scientist, werner.hufenbach@tu-dresden.de

Tier 1 suppliers

1. Weichai

... originally produced diesel engines and commercial trucks, but are now manufacturing auto parts through the acquisition of several auto parts manufacturers, and joint ventures with foreign companies such as Bosch, Ceres Power, and FEV. Their main product lines include engine components, electrical systems, and transmissions. Their revenue in 2018 was 152.9 billion RMB (approx. €20.1 billion), a growth of 5.1% (Weichai, 2019).

Company Name	Weichai
Industry	Automotive
Type	Tier 1
Website	https://en.weichai.com/wmdgs/tjj/
CEO	Tan Yuguang
Founding Year	1946
Employees	80.000
State Owned	Yes
Publicly Listed	Yes
If Yes, Where	Hong Kong
	Shenzhen
Headquarters	Weifang
Production	Weifang
	Chongqing
Research & Development	Weifang, Yangzhou, Shanghai, Hangzhou, Xian, Chingqing
Import License	Yes
International Cooperations	Germany KION group
Financial Standing	Good
Contact Information	General Contact, weichaialerts@weichai.com

2. Huayu (HASCO)

... the second largest Chinese Tier 1 company, mainly produces electronic and mechanical components, and exterior and interior trim parts. They developed a competitive auto parts supply chain system, and are suppliers for VW, GM, Ford, GAC, and Great Wall. Their sales in 2018 were 120 billion RMB (approx. €15.8 billion), a growth of 15% (Huayu, 2019).

Company Name	HASCO Automotive
Industry	Automotive
Type	Tier 1
Website	http://www.huayu-auto.com/english/gsgk/gsjj/index.shtml
CEO	Chen Hong
Founding Year	1992
Employees	80.000
State Owned	No
Publicly Listed	Yes
If Yes, Where	Shanghai
Headquarters	Shanghai
Production	Shanghai
	Wuhan
	Kunshan
Research & Development	Shanghai
Import License	Yes
International Cooperations	Rheinmetall
	Magna
Financial Standing	Good
Contact Information	General Contact, +86 21 22016988

3. BHAP

...main product lines include lighting systems, air conditioners, seating, and engine components. They have joint ventures with Adient, Delphi, Lear, and Visteon, and are suppliers for Mercedes, BMW, Audi, and others in the Chinese market. Their sales in 2018 were 58.8 billion RMB (approx. €7.7 billion), a growth of 14.8% (BHAP, 2019).

Company Name	BHAP
Industry	Automotive
Type	Tier 1
Website	http://www.bhap.com.cn/html/es/index.html
CEO	Cai Suping
Founding Year	2008
Employees	17.000
State Owned	Yes
Publicly Listed	No
If Yes, Where	
Headquarters	Beijing
Production	Beijing
	Hunan
Research & Development	Binzhou
Import License	Yes
International Cooperations	Mercedes Supplier
	BMW
	Audi
	Visteon
	Lear
	Delphi
	Adient
Financial Standing	Good
Contact Information	General Contact, +86 010 63173722

Truck

1. FAW Jiefang

... is the subsidiary of FAW group that is responsible for truck production. This subsidiary was founded in 2003, and in 2018 listed 261,013 heavy trucks sold, an increase of 1.2% (Chang, 2018). For detailed information about the company structure see Branchenreport China (2015).

Company Name	FAW
Industry	Heavy Vehicle (Truck)
Type	OEM
Website	http://www.fawjiefang.com.cn/
CEO	Hu Hanjie
Founding Year	2003
Employees	23.000
State Owned	Yes
Publicly Listed	Yes
If Yes, Where	Shenzhen
Headquarters	Changchun
Production	Changchun
Research & Development	Changchun
Import License	Yes
International Cooperations	WABCO
Financial Standing	Good
Contact Information	General Contact, jfgszb_jfgs@faw.com.cn, Fax:043185732011

2. Sinotruck

... is a well-established company, as it began in 1956. In 2018 it listed 189,705 heavy trucks sold, a decline of 0.5% (Chang, 2018). However, it should be known that due to state ownership and no public listing, the government will have a high level of involvement in the running of the company.

Company Name	Sinotruk
Industry	Heavy Vehicle (Truck)
Type	OEM
Website	http://www.sinotruck.cc/
CEO	Tan Xuguang
Founding Year	1956
Employees	28.900
State Owned	Yes
Publicly Listed	No
If Yes, Where	-
Headquarters	Jinan
Production	Jinan
	Hangzhou
	Chingqing
Research & Development	Jinan
Import License	Yes
International Cooperations	MAN
Financial Standing	Good
Contact Information	Service Contact, howo@sinotrucks.net

3. Dongfeng

... is a large company group which touches on many markets. Its commercial vehicle subsidiary was founded only recently in 2013, however. In 2018 it listed 217,027 heavy trucks sold, a decrease of 0.4% (Chang, 2018). As with Sinotruck, it should be known that government involvement in the company is high due to state ownership and no public listing. For detailed information about the company structure see Branchenreport China (2015).

Company Name	Dongfeng Motor Corporation
Industry	Heavy Vehicle (Truck)
Type	OEM
Website	http://www.dfcv.com.cn/Index.aspx
CEO	Yang Ching
Founding Year	2013
Employees	160.000
State Owned	Yes
Publicly Listed	No
If Yes, Where	-
Headquarters	Wuhan
Production	Hubei
	Wenzhou
	Shiyan
Research & Development	Wuhan
Import License	Yes
International Cooperations	Nissan
Financial Standing	Good
Contact Information	Service Contact, http://www.dongfengtrucks.com/contact/

Bus

1. Yutong

... is the largest bus manufacturer in the industry, including both traditional and electric busses (Sohu, 2019). It currently holds a 23% market share (btime, 2019), and sold 61,000 busses in 2018. While this was a decrease of 10.05% to 2017, 22,534 of those busses sold in 2018 were electric, and Yutong's decrease was still small enough to allow it to maintain the size of its market share against its competitors.

Company Name	Yutong
Industry	Heavy Vehicle (Bus)
Type	OEM
Website	http://www.yutong.com/
CEO	Tang Yuxiang
Founding Year	1963
Employees	17.302
State Owned	No
Publicly Listed	Yes
If Yes, Where	Shanghai
Headquarters	Zhenzhou
Production	Zhenzhou Henan
Research & Development	Henan
Import License	Yes
International Cooperations	Taiwanese company
Financial Standing	Good
Contact Information	Sales Department, +86 371 66718999

2. CRRC

... is of interest not necessarily because it is the largest competitor, but because it is already present in Austria. CRRC is in both the railway and bus industries, and as of June 30, 2018, has 84.6 billion RMB (approx. €11.1 billion) in bus sales, a drop of 2.56% (CRRC, 2018). However, it is currently in the midst of a pilot program with the city of Graz; two 18-meter-long CRRC electric busses are currently being run in Graz, integrated into the city's regular transit system. The busses are designed so that they do all required charging in the space of 30 seconds as they are at each stop along their route (as per interview with the Chinese ambassador).

Company Name	CRRC
Industry	Heavy Vehicle (Bus)
Type	OEM
Website	http://www.crrcgc.cc/en/g6779.aspx
CEO	Liu Hualong
Founding Year	2015
Employees	183.061
State Owned	Yes
Publicly Listed	Yes
If Yes, Where	Shanghai
	Hong Kong
Headquarters	Hunan
Production	Hunan
Research & Development	Hunan
Import License	Yes
International Cooperations	Merger of CSR and CNR in 2015 to form CRRC
Financial Standing	Good
Contact Information	Head Office, +86 10 51862188, crrc@crrcgc.cc

Construction Equipment

1. XCMG

... is the first construction equipment manufacturer that we chose, because it is extremely strong in the international market. Currently, it is ranked as the 6th in the global industry, and is well known around the world (Zhu, 2018), with products exported to 183 countries. Their main products are cranes, excavators, and road rollers (XCMG, 2019). As mentioned by Mr. Reeves, Senoplast has already made some contact with XCMG, supporting our reasons for choosing it. Financially, XCMG is very strong - they had revenues in 2017 of \$6.984 billion USD (approx. €6.1 billion), a growth of 72% over the previous year (XCMG, 2017). Global sales accounted for 11.4% of their 2017 revenue (Jun Lin Group, 2018).

Company Name	XCMG
Industry	Heavy Vehicle (Construction Equipment)
Type	OEM
Website	http://www.xcmg.com/en-ap/
CEO	Wan Ming
Founding Year	1989
Employees	13.620
State Owned	Yes
Publicly Listed	Yes
If Yes, Where	Shenzhen
Headquarters	Xuzhou
Production	Xuzhou
	Jiangsu
	Nanjing
Research & Development	Xuzhou, India, Brazil, Germany, USA
Import License	Self-Operated Importing & Exporting
International Cooperations	Doosan
	<u>Uzbekistan National Railway Company</u>
Financial Standing	Good
Contact Information	Sales in EU, +86 516 87739218, sunzan@xcmg.com

2. Sany

... is ranked 8th in the global industry, following closely behind XCMG (Iron Armor Engineering Machinery, 2018). Sany has research & development and production locations around the world, and supplies products to 150 countries (Guoxin research, 2019). Their main products are excavators and loaders. Their revenue in 2017 was \$5.930 billion USD (approx. €5.2 billion), a growth of 64% from the previous year (SANY, 2018), with global sales accounting for 30% of this revenue (Jun Lin Group, 2018). Additionally, 70% of this international revenue came from countries along the One Belt One Road path (Sany, 2018).

Company Name	Sany
Industry	Heavy Vehicle (Construction Equipment)
Type	OEM
Website	https://www.sanyglobal.com/
CEO	Liang Wengeng
Founding Year	1944
Employees	14.149
State Owned	No
Publicly Listed	Yes
If Yes, Where	Shanghai
Headquarters	Beijing
Production	Beijing
	Shanghai
	Xinjiang
	Jiangsu
	Hunan
	Zhejiang
Research & Development	Beijing, Shanghai, Xinjiang, Brazil, Germany, India, USA
Import License	Self-Operated Importing and Exporting
International Cooperations	Palfinger
Financial Standing	Good
Contact Information	Global Sales, sales31@sanygroup.cn, Overseas Service, CRD@sany.com.cn

3. Zoomlion

... is ranked 13th in the international market (Iron Armor Engineering Machinery, 2018). Similarly to Sany, it has research & development locations around the world, and supplies products to 100 countries. Their main products are cranes and concrete machinery (Zoomlion, 2018). Their revenue in 2017 was \$3.796 billion USD (approx. €3.3 billion) (Iron armor engineering machinery, 2018), about 43% growth from the previous year (Zoomlion, 2018), with global sales accounting for 10% of revenue (Jun Lin Group, 2018).

Company Name	Zoomlion
Industry	Heavy Vehicle (Construction Equipment)
Type	OEM
Website	http://en.zoomlion.com
CEO	Zang Chunxin
Founding Year	1992
Employees	30000
State Owned	Yes
Publicly Listed	Yes
If Yes, Where	Shenzhen
Headquarters	Hunan
Production	Hunan
	Shaanxi
	Shanghai
	Anhui
	Henan
	Jilin
	Zhejiang
Research & Development	Hunan, Shaanxi, Shanghai, US R&D Center, India Industrial Park, Brazil Industrial Park, Germany M-Tec Industrial Park, Italy CIFA Industrial Park
Import License	Sel-Operated Importing and Exporting
International Cooperations	MAZ, Electromech
Financial Standing	Good
Contact Information	General Contact, http://en.zoomlion.com/

Appendix

Appendix 1 – Product Pictures

Geely



Great Wall



Chang'an



GAC Motor



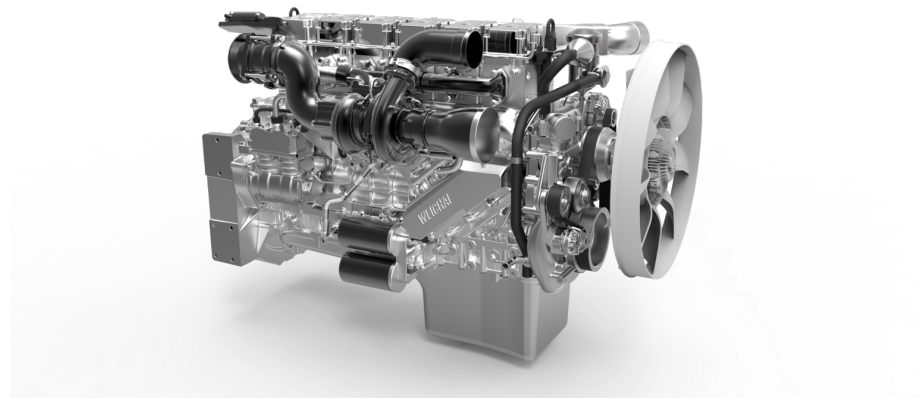
BYD



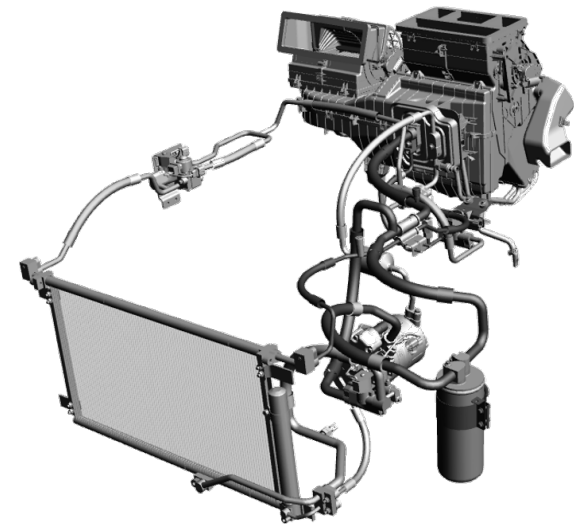
BAIC BJEV



Weichai



Huayu (HASCO)



BHAP



FAW Jiefang



Sinotruck



Dongfeng



Yutong



CRRC



XCMG



Sany



Zoomlion



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