



ELECTRIC VEHICLE COMPETITION

Tesla vs. Nio vs. Xpen vs. Li Auto

CIMK Report
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Tesla Model 3 Long Range Dual Motor

0 - 100 km/h : 4.4 sec
Top Speed: 233 km/h
Electric Range: 460 km
Battery Capacity: 74.0 kWh
Fast charging (20% - 80% battery): 20 minutes
Fully charging the battery: 6 hours
Price: 249,900RNB (US\$36,805)

Nio SE6

0 - 100 km/h : 4.7 sec
Top Speed: 202 km/h
Electric Range: 510 km
Battery Capacity: 84.0 kWh
Fast charging (20% - 80% battery): 30 minutes
Fully charging the battery: 3.5 hours
Price: 358,000RNB (US\$52,000)



Xpeng G3

0 - 100 km/h : 8.6 sec
Top Speed: 170 km/h
Electric Range: 520 km
Battery Capacity: 66.5 kWh
Fast charging (30% - 80% battery): 38 minutes
Fully charging the battery: 4.3 hours
Price: 159,800RNB (≈US\$24,730)



Li Xiang One

0 - 100 km/h : 6.5 sec
Top Speed: 172 km/h
Electric Range: 180 km
Battery Capacity: 40.5 kWh
Fast charging (80% battery): 40 minutes
Fully charging the battery: 6 hours
Price: 328,000RNB (US\$47,000)



Take Away

If you take a look at Tesla's competitors, you can see that the vehicles from Nio and Li Xiang come in at prices well above those of a Tesla Model 3. Thus, both manufacturers are clearly premium product providers. In terms of pure motor power, Tesla performs best, whereas the batteries' charging times do not differ much. It should also be noted that the Li Xiang One is the only hybrid vehicle and not a pure EV.

FINANCIAL PERFORMANCE

	 TESLA	 NIO	 XPENG	 理想
Market Cap 01/2021	800.961B (100%)	96.57B (12.06%)	40.216B (5.02%)	31.811B (4.0%)
Cars sold Q3 2020	139,593 (100%)	12,206 (8.74%)	8,578 (6.14%)	8,660 (6.20%)
Revenue Growth Q3 2020 YoY	39%	146.4%	342.5%	-
Net income Q3 2020	331M	(154.2M)	(169.2M)	(15.7M)
Gross PPE Q3 2020	11,848,000 (100%)	755,948 (6.38%)	457,694 (3.86%)	367,838 (3.10%)
Long-term borrowings Q3 2020	10,559,000 (100%)	154,604 (1.46%)	245,595 (2.33%)	74,285 (0.70%)
Equity Q3 2020	16,031,000 (100%)	5,065,559 (31.60%)	4,093,996 (25.54%)	3,738,417 (23.32%)
Operational Cash Flow Q3 2020	2,400,000	-	-	136,939

Take Away

In terms of market value, Tesla is ahead, but the other companies are now on the same level as German car manufacturers, while they can only sell just around 10,000 vehicles per quarter. What leads to this high valuation is mainly that they are currently growing year on year, partly by 100% - 300%. It is still a long and challenging way ahead for all three Chinese companies to build up the expensive production capacities in the next few years.

AUTONOMOUS DRIVING

In this section, we provide a brief overview of the current status of all autonomous driving efforts



- Tesla's Autopilot can be classified as level 2 under the SAE International's six levels of vehicle automation
- Tesla Autopilot is a suite of advanced driver-assistance system features offered by Tesla that has lane centering, traffic-aware cruise control, self-parking, automatic lane changes, semi-autonomous navigation on limited-access freeways, and the ability to summon the car from a garage or parking spot
- In all of these features, the driver is responsible, and the car requires constant supervision
- CEO Musk recently said that the "full self-driving" package would be available as a subscription starting 2021



- In January 2021, the Chinese electric carmaker Xpeng Motors has started rolling out its new autonomous highway driving features to eligible customers. It is part of the next generation of Xpeng's XPILOT 3.0 "advanced driver-assistance system" (ADAS)
- The features will allow their vehicles to automatically change lanes, speed up or slow down, or overtake cars and enter and exit highways
- Drivers need to keep their hands on the wheel while using the vehicle's autonomous driving features
- Xpeng says its cars are equipped with 14 cameras and other critical sensors, while Nvidia's Xavier computing system powers the XPILOT 3.0

 Level 2 autonomous driving is live

 Level 2 autonomous driving is live

AUTONOMOUS DRIVING



- Li Auto currently has 60 self-driving scientists and engineers and is planning to triple the size to 200 by early next year
- Li Auto is teaming up with Nvidia and its Chinese partner Desay SV Automotive to develop a self-driving platform based on the Orin chipset and software stack for its next large-sized premium SUV, which will launch in 2022, the companies announced this week



- NIO Pilot is the company's SAE level 2 semi-autonomous system that offers ADAS features
- It was introduced via updates throughout 2018 and 2019 and has the following features such as lane-keeping, adaptive cruise control, lane departure warning, automatic emergency braking, highway pilot, traffic Jam pilot, auto lane change, and more
- NIO Pilot sensor suite consists of a trifocal forward camera, 5 radars, 12 ultrasonic sensors, and a driver monitor camera. NIO was the first automaker to launch a car model utilizing Mobileye's EyeQ4 vision chip
- In November 2019, NIO announced a partnership with Mobileye to develop a consumer car equipped with Mobileye's complete Level 4 self-driving system that could be sold to consumers by 2022

 Autonomous driving is not available yet

 Level 2 autonomous driving is live

Take Away

If you look at the autonomous driving sector, you can see that all companies are actively working on this issue. Tesla, Nio, Xpeng currently offer level 2 autonomous driving. The interesting question now is which of these companies will manage to get Level 3 autonomous driving vehicles approved in China. However, it is noticeable that the Chinese companies cooperate strongly with Nvidia or Intel, whereas Tesla now develops everything itself.



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