Hyperion Asset Management

Company Profile **Tesla Inc**

Main Business Activities

Tesla Inc (Tesla) has two key operating segments, Tesla Motors which designs, manufactures, leases and sells high-performance electric vehicles (EV), and its Tesla Energy business which includes the manufacture and sale of solar panels, stationary battery storage solutions, and virtual power plant (VPP) revenue.

Tesla Motors is the largest operating business and accounted for approximately 86% of group revenue in FY20. Its current production fleet includes the Model S (Premium Sedan), Model X (Premium SUV), the Model 3 (Mass-Market Sedan), and the Model Y (Mass-Market SUV). The business generates additional revenue from its global network of supercharging stations and sale of regulatory credits (most significantly California Zero Emissions Vehicle credits which it sells to other auto original equipment manufacturers (OEMs)). Tesla Motors also provides mechanical services to its fleet, but this is a small part of the motors business (comprising approximately 7% of sales in FY20). Tesla motors distributes its products via a global network of company-owned stores and via its website, which is different from conventional auto OEMs who primarily sell to dealer networks.

Tesla has multiple gigafactories around the world. The Tesla Gigafactory 1 is a battery pack production facility near Reno, Nevada which integrates battery material, cells, modules, and battery pack assembly in one location, with Panasonic a key partner. The 'Tesla Factory' is in Fremont, California, and is currently the company's primary manufacturing factory where the Model S, X, 3, and Y are made. Additionally, Tesla also produces its own battery cells in Fremont. Tesla also has a Gigafactory in Shanghai, China that currently produces Model 3 and Model Y. Furthermore, Tesla's Gigafactory 2 facility manufactures photovoltaic cells (including its solar roof product) in Buffalo, New York. Tesla is currently building Gigafactories in Berlin (Europe), and in Texas (U.S.)

Key Value Proposition to Customers

Tesla has a very strong value proposition as its high performance electric vehicles provide owners with travel ranges that significantly exceed those of other commercially available electric vehicles. Furthermore, a flexible and fast on-board charging system permits recharging from almost any available electrical outlet (including fast charging capability from its network of superchargers). Additionally, instantaneous and sustained acceleration and performance with the most advanced auto-pilot system and safety features which are regularly upgraded and optimised via over-the-air software updates. Finally, a far more attractive cost of ownership via lower fuel costs (electricity) and maintenance cost (fewer moving parts) relative to an internal combustion engine vehicle.

Sustainable Competitive Advantages and Outlook

Tesla's primary competitive advantage is one of cost-leadership derived from superior engineering capability, vertical integration (including sales and distribution), and first mover advantages (technology leadership, high switching costs relating to battery technology for competitors, pre-emption of investment in plant and equipment associated with battery production and supply).

In addition to its cost advantages, Tesla currently has a competitive advantage in data (real world miles), which is likely to prove beneficial in reaching full autonomy and then getting regulatory approval to prove its level of safety.

In Energy, Tesla is the only vertically integrated energy company, providing production (solar), consumption/storage (EVs), storage (Powerwalls, Megapacks), and software (Autobidder). This vertical integration provides Tesla with a strong competitive advantage as the consumer can get everything required from one company. It also provides lower costs, faster technology gains, and products that have better connectivity and telemetry using the one ecosystem. Additionally, Tesla’s batteries are industry-leading in relation to costs and capacity. This is due to their competitive advantages at the cell and pack level.

In addition to its many aspects of vertical integration across the business, Tesla's ability to design and make the machines that make the machines, enables Tesla to be extremely efficient and continually innovate its processes such as reducing the rear body on the Model Y from 70 pieces to two pieces. Tesla's manufacturing competitive advantage is what will separate the company from its competitors once other OEMs reach EV scale. Hyperion believes Tesla's speed of innovation is unmatched in the industry.

Tesla also has a competitive advantage derived from its CEO, Elon Musk, due to his ownership of other companies such as SpaceX. For example, the Cybertruck uses the same steel as Starship and Tesla engineers regularly converse with SpaceX's rocket scientists or engineers on improvements to Tesla's products and manufacturing. Furthermore, Tesla is continually the number one voted place for graduate engineers to work, enabling Tesla to recruit the best minds in the industry and continually improve and innovate.

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Overall Company Growth Options

Hyperion believe Tesla has numerous growth options with the most obvious being increasing the depth and breadth of its production fleet of electric vehicles, including expansion into commercial vehicles (like trucks and vans), and other geographies.

Tesla's biggest growth option is the Tesla Network (Robotaxi), a fully autonomous fleet of electric vehicles that will have a business model similar to Uber (Ridesharing) and Airbnb (renting out your car for others use). This is likely to revolutionise the transport industry and the way society commutes. The possible total addressable market has been estimated in the trillions by UBS and McKinsey. Tesla's software ecosystem will enable it to charge for over-the-air upgrades that materially affect vehicle performance (full autonomy) on a regular and reoccurring basis.

The company's stationary energy storage and solar business are also strong growth options. Tesla's Energy Business has the ability to take advantage of the world transitioning away from fossil fuel energy generation to renewable energy. Those countries following the Paris Agreement must shut all coal-powered stations by 2040. This fossil fuel based power generation must be replaced with renewable energy such as wind, solar, and hydro. According to BloombergNEF (BNEF), Solar PV and onshore wind are now the cheapest sources of new-build generation for at least two-thirds of the global population. Countries within these two-thirds make up 71% of global GDP and 85% of energy generation. Additionally, battery storage is now the cheapest new-build technology for peaking purposes (up to two-hours of discharge duration) in gas-importing regions, like Europe, China, or Japan. The issue with this transition is that renewable energy is intermittent and must be paired with storage to be able to adequately replace fossil fuel energy generation. Additionally, due to this volatility, it also must be paired with a management system such as a VPP, which is currently the best mechanism. This global energy disruption will provide many opportunities as countries transition to renewable energy. As a vertically integrated company, with technological and first-mover advantages in batteries, software, connectivity, combined with VPP experience, Tesla has the capability to take advantage of this disruption.

Furthermore, Tesla Insurance will likely provide additional growth as Tesla will be able to leverage its lead in data and vehicle safety to provide its customers with very low premiums relative to competitor insurance companies. In the U.S. alone, the total addressable market for U.S. personal Auto premiums was $254 billion per annum and approximately $750 billion per annum globally.

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